



Teachers' Pay and Equality

March 2016

LITERATURE REVIEW

Longitudinal research into the impact of changes to teachers' pay on equality in schools in England

WARWICK INSTITUTE *for*
EMPLOYMENT RESEARCH



Teachers' Pay and Equality: **A literature review**

Longitudinal research into the impact of changes to
teachers' pay on equality in schools in England

March 2016

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EXECUTIVE SUMMARY

Setting the context

National statistics on the school workforce in England report over 1.3 million people working in state-funded schools (Department for Education, 2015). There are 454,900 full-time equivalent teachers of which 74 per cent are female and 87.5 per cent of teachers are white-British. A high proportion of teachers are aged 25-34 years. Female teachers are more likely to work part-time. The average classroom and leadership teacher's salary is £37,400 per year for full-time and part-time qualified classroom and leadership teachers; this is unchanged since 2013. Classroom teachers' average pay has decreased by £100 from an average of £34,400 in 2013 to £34,300 in 2014. Leadership teachers' pay has increased by £500 from an average of £56,000 in 2013 to £56,500 in 2014. In recent years, pay arrangements for teachers in England have undergone significant changes; all schools in England may adopt their own pay policy.

As set out in the 2013 School Teachers' Pay and Conditions Document (STPCD) (Department for Education, 2013a), the Department for Education (DfE) advice to schools recommended that schools establish pay systems to differentiate between teachers (Department for Education, 2013b). It suggests that teachers should only be eligible for pay progression if they have been judged to be at least 'good' and that schools might differentiate between teachers who receive the same judgement on other criteria (such as how challenging were the objectives they met). The document provides model pay policies for schools upon which they could base their teacher assessment policies.

Since September 2014, teachers' pay has been determined by a differentiated performance-based progression. Schools and their governing bodies consider whether each individual teacher's pay is increased or not within the relevant pay ranges (Department for Education, 2014d). They determine how pay progression is governed based on teacher's performance assessed by their annual appraisals and continued good performance as set out by the school. Pay recommendations are forwarded to the governing body. The new national pay structure for teachers simply sets minimum and maximum pay points for teachers on the Main Pay Range and minimum and maximum points for teachers on the Upper Pay Range. All schools in England may adopt their own pay policy. Different pay scales are in place for qualified and unqualified classroom teachers, leading practitioners and those in leadership posts.

Baseline study

This study has been designed to produce a thorough understanding of the pattern of pay differentials, the processes by which teachers' careers are managed within schools and the concerns of teachers about the potential effects of the new pay system on their careers and earnings. It is intended to provide a baseline study for a longitudinal study and comprises four elements: an enhanced literature review; a quantitative analysis of administrative data; an online survey of teachers; and a qualitative study to collect evidence from key stakeholders.

Literature review approach and review question

This report presents evidence from a review of literature on the impact of pay arrangements on teachers in schools. The literature review was undertaken using an established methodology that provided a robust framework within which to conduct a transparent and comprehensive review. It has been enhanced with a small number of interviews with representatives from teaching unions from other countries, including: Australia; Canada; New Zealand; Sweden; and the USA. These representatives also provided materials and evidence for the review. The review identified:

- high quality evidence on the impact of pay arrangements on teachers in schools;
- the impact on different groups of teachers;
- national and international case studies of pay reforms in practice (from the literature and interviews); and
- gaps in current research and evidence to inform recommendations for the next steps of the research.

From these, the following review question and sub-questions were developed. The literature review question is:

- what evidence is there on pay arrangements, on the pay levels and the pay progression of teachers in schools?

With sub questions:

- do these changes impact differently on different groups of teachers (by gender, age, disability, ethnic background, LGBT), on subject taught, the phase of education or the type of school (i.e. maintained, academy, public, private etc.)?
- are there examples, both national and international, on what is happening in practice?
- are there examples of changes to the arrangements for teachers' pay impacting positively or negatively on pupils in schools?

Twenty-four databases were searched using the keyword search strategy from which 12,703 results were screened by title and 507 were included in the database. This included evidence from additional searches and sources from experts. These were screened by title and abstract. In total, 110 relevant studies were included and synthesised according to emergent themes relating to the main review question and sub-questions. Particular emphasis has been given in this review to identifying the impact of pay arrangements on issues of equality.

Overview of evidence

The literature review draws on evidence about pay arrangements and reforms in the teaching profession from England, the rest of the UK and internationally. International evidence is presented from: Australia; Canada; China; Estonia; India; Israel; Kenya; Latin America; New Zealand; Portugal; Sweden; and the USA.

Much of the evidence on measuring the impact of pay arrangements on schools, teachers, pupils and the teaching profession has been derived from the statistical and quantitative analysis of surveys and/or administrative data sets. Measures of impact have variously examined: job satisfaction; pupils' grades, test scores and pass rates; length of probation; pupil retention; plus teacher attendance. Data on teachers' attitudes to recruitment, retention and motivation, rewards for performance and the implementation of pay arrangements have also been found. With few studies adopting a qualitative approach, the individual voices of teachers and the impact of arrangements and reforms on the individual are missing. This is significant because individual stories and experiences are able to illustrate how pay arrangements operate in practice and how they are impacting on the profession. Little evidence has been found of qualitative research undertaken to measure the equality impact of pay arrangements.

The review indicates that there is very limited evidence from England and internationally that looks at the equality impact of pay arrangements, including performance-related pay. Where evidence about inequalities has been identified, it is not the main focus of the research. The findings from studies that do refer to equality matters indicate that women teachers and teachers from black and minority ethnic (BME) backgrounds experience disadvantage, whilst evidence about the impact of age is mixed. One reference to disability was found in the evidence from England; with both men and women reporting low levels of discrimination by disability and ethnicity, but discrimination by gender was considered greater. The impact of this discrimination was not explored. No evidence was found on LGBT. In general, the evidence base on equality impact is very weak, but there is overwhelming evidence that pay arrangements have the potential to operate in ways that are discriminatory. Early indicators show that teachers in England also believe that the new pay arrangements set out in the 2013 School Teachers' Pay and Conditions Document may be implemented in ways that discriminate against particular groups of teachers (O'Beirne and Pyle, 2014). Recent research also indicates that few teachers believe that performance-related pay will reward good teaching or be fair (Marsden, 2015). The research compared the 2000 and 2014 survey responses finding that teachers' views on pay and remuneration have become more negative since the implementation of performance-related pay.

Evidence from England

The evidence from England reveals concerns about the implementation of performance-related pay, including worries related to the career progression of teachers and to pupil outcomes. For example, teachers are concerned with how their performance is measured, including whether decisions are fair and equitable. For the most part, performance-related pay has been shown to have little impact on teaching and teachers in the longer-term. The majority of evidence of pay arrangements in England reported gender inequalities in terms of teachers' career progression.

There have been concerns that the new pay arrangements in the teaching profession will have an adverse impact on recruitment and retention. However, only three studies discussed the impact of pay arrangements on recruitment and retention, reporting a negative impact on the recruitment and retention of those early in the careers and male teachers.

Although school leaders and managers play a key role in implementing and managing the pay arrangements of teachers, only limited evidence was found that examined the leadership and management of pay arrangements. Notably, a lack of support from male head teachers and governors was found to negatively impact on the promotional prospects of female teachers. This suggests that performance based pay could be subjective and open to discrimination.

Substantive evidence on the equality impact of pay arrangements is missing, but drawing on the wider literature it is clear that performance-related pay is open to discrimination. Discrimination is believed to be the result of the individualistic and competitive nature of progression in the system. The potential for subjectivity and favouritism was a major criticism made by teachers. One study found that male teachers were more likely to be critical.

International evidence

The majority of international evidence comes from the US. International evidence finds that performance-related pay systems in education provide few benefits. Also, that the majority of teachers do not believe that performance-related pay benefits the teaching profession, improves pupil outcomes or improves pedagogy. Again, a reoccurring theme was concerns about the fairness of pay arrangements. Performance-related pay arrangements for teachers were found to negatively impact on teachers' morale and stifle creativity and innovation. Evidence about the impact of pay arrangements on the recruitment and retention of teachers is mixed.

Evidence from the OECD (2012) found no relationship between average pupil performance and the use of performance-based pay schemes. However, it reported that pupil performance tended to be better when performance-based pay systems were implemented in countries with low teachers' salaries (less than 15 per cent above GDP per capita). Whereas in countries where teachers' salaries are more than 15 per cent above GDP per capita, performance-related pay schemes had no positive impact on pupil performance. The review found that pupil performance and outcomes are often used to judge teachers' performance, despite the fact that evidence shows that teacher incentive programmes based on pupil performance and outcomes are extremely problematic. The majority of evidence shows that performance-related pay does not result in improved performance or outcomes for pupils.

The research from the US illustrates how pupil attainment and test scores are widely used in performance-related pay systems. Poor implementation of such systems has had a detrimental impact on teachers, schools and the teaching profession. The evidence that does suggest pay incentives for teachers can result in improved pupil outcomes is weak. This is due to the measures used and the number of factors affecting pupil attainments, which are difficult to measure. These pay systems are more likely to be effective in countries where teaching salaries are low. None of the schemes considered the equality impact of the arrangements.

The commentary in some international studies indicates that performance-related pay systems can disadvantage women and people from BME groups, as well as teachers of 'non-core' subjects. The evidence on the impact on teachers of different ages and at different points in their career is more mixed. However, overall, the evidence base on equality impacts is weak.

International evidence on the impact of pay arrangements in practice

The five country cases provide a current perspective of teachers' pay arrangements and their impact on teachers and the profession. Cases provide an overview of how and why pay arrangements for teachers have changed over time. Australia, Canada and New Zealand not only highlight the role of unions in negotiating teachers' salaries, but importantly how salary scales or ladders have positively impacted on the profession. Pay progression in these countries is linked to professional standards and based on qualifications, experience and number of years in teaching. For the most part, the country experts saw these scales as equitable as there is a high level of consistency in pay between teachers. The case of Sweden is interesting as it provides evidence of inequalities resulting from individualised pay. The subjective nature of determining pay is considered inequitable. However, it is suggested that these pay arrangements are accepted by teachers, who believe it is fair to get paid for what you do. The USA country case provides a unique look at how pay for teachers can be linked to pupil outcomes and the problems associated with this measurement. Across the states different pay arrangements are in place and in the majority teachers are not considered to be well paid. It suggests that career ladders may have a positive impact on teachers and their progression. Overall, the evidence on pupil performance and on the teaching practice was very limited and none of the evidence considered equality.

Evidence about equality impact

A range of evidence was sought on issues of equality in terms of pay arrangements for teachers. Evidence was sought on gender, ethnicity, age, disability, sexual orientation, subject taught and type of school. Overall, the review indicates that there is very limited evidence from England and internationally that looks at the equality impact of pay arrangements, including performance-related pay.

Gender

- Evidence of gender inequalities was identified in the review, on the impact of pay arrangements on teachers, undertaken in England and internationally.
- Inequalities were found to exist because the achievements of female teachers are often under-rated and that increased workload and failure to take account of personal circumstances impact adversely on female teachers.
- There have been concerns that the new pay arrangements in the teaching profession will have an adverse impact on recruitment and retention.
- The evidence from England shows that the implementation of performance-related pay has not all been positive in terms of the role and career progression of teachers and pupil outcomes.
- Performance-related pay has been shown to have little impact on teaching and teachers in the longer-term, but gender inequalities in terms of teachers' career progression and transition into leadership roles were reported.
- A lack of support from male head teachers and governors was found to negatively impact on the promotional prospects of female teachers.
- Internationally, discrimination is often seen to be the consequence of the individualistic and competitive nature of the some performance management systems, which is in conflict with the collective nature of teaching and the professional culture of women.
- Evidence suggests that performance-related pay can be subjective and open to discrimination. The potential for subjectivity and favouritism in performance-related pay was a major criticism made by teachers

BME

- Evidence from England indicated that BME teachers face discrimination within pay arrangements.
- BME teachers were more likely to report barriers to progression resulting from their domestic circumstances, similar to findings on gender.
- Networking and collegial support was reported to be key to progression and that the under-representation of BME teachers meant that they were more likely to be isolated and to not have access to such support networks.

Age

- The review highlights the apparent lack of evidence about levels of pay, pay progression and performance management judgements that are associated with both younger and older teachers.
- In England, pay arrangements were reported to have negatively impacted on recruitment and retention particularly for those early in their careers.
- Older teachers in Estonia were found to be more positive about the new pay-for-performance system compared with younger teachers, but the reasons were not explored.
- No international evidence was found that reported on the impact of pay arrangements on younger teachers or those new to the profession.

Disability and LGBT

- No significant evidence, from England or internationally, was found on whether pay arrangements impact on teachers with a disability or LGBT teachers.

Subject taught

- There is some international evidence that points to inequalities that are based on subject taught. The Chinese system linking teacher remuneration to performance indicated that teachers who worked in non-exam subjects were less able to get enhanced pay or access to continuing professional development opportunities.

The need for evidence on equality impacts

There is an urgent need for more research to better understand the risks, the nature and extent of inequalities and the steps that should be taken to prevent and tackle problems. Whilst quantitative data will provide evidence from across the teaching profession, teachers' experiences of the pay arrangements both collectively and individually would also provide an important insight into what is happening in practice. This evidence would help to improve understanding of the relationship between national policy and local practice. Further, it would help to ensure that decisions are fair and both anticipate and take full account of equality matters.

1. INTRODUCTION

The Institute for Employment Research (IER) at the University of Warwick's designed a research project in order to establish a comprehensive baseline study of the effect of the introduction of the new system for setting teachers' pay upon the working conditions and career progression of teachers who share a protected characteristic under the Equality Act (2010). The key aims of the project are to understand the effect of the changes upon teachers from disadvantaged groups, in terms of recruitment into the profession, progression and pay differentials; and to identify other issues, which necessitate in-depth research.

In order to produce a thorough understanding of the pattern of pay differentials, the processes by which teachers' careers are managed within schools and the concerns of teachers about the potential effects of the new system upon their careers and earnings will be explored. This baseline study aims to:

- analyse patterns of teachers' pay and career progression, taking into account factors such as age, gender, ethnic background, disability and geographical location;
- identify any evidence of discrimination or potential discrimination towards particular sections of the teaching workforce; and
- identify the perceptions of teachers and school managers concerning the differentials identified and the existence of discriminatory practices.

This study has been designed to produce a thorough understanding of the pattern of pay differentials, the processes by which teachers' careers are managed within schools and the concerns of teachers about the potential effects of the new system upon their careers and earnings. It is intended to provide a baseline study for a longitudinal study and comprises four elements:

1. an enhanced literature review to create a baseline of evidence and identify evidence about the impact of pay arrangements in schools on teachers;
2. a quantitative analysis of administrative data to create a statistical picture of the pay and career landscape for teachers in England;
3. an online survey to provide information about the processes by which teachers' pay is set focusing on pay determination systems set by individual schools and the experience of them by individual teachers; and
4. a qualitative study that has been conducted sequentially to allow the accumulation of evidence from key stakeholders providing a broad-ranging picture of what is happening in practice around teachers' pay across England.

In the benchmark phase, the project seeks to identify whether there are any differences on teacher's pay progression between different types of school. The longitudinal study will identify and monitor differences over time.

1.1 Building a Baseline of Evidence

This report presents evidence uncovered via a review of literature on the impact of pay arrangements in schools on teachers. The literature review was undertaken using an established methodology that provided a robust framework within which to conduct a transparent and comprehensive review. This methodology was chosen, as the process and search strategy can be clearly documented ensuring that it can be replicated in the future and extended with new evidence. The review encompasses evidence from academic and policy-relevant literature, together with evidence from previous reviews. It creates a baseline of evidence to inform future evidence and aimed to identify:

- high-quality evidence on the impact of pay arrangements on teachers in schools;
- the impact on different groups of teachers;
- national and international case studies of pay reforms in practice (from the literature and interviews); and
- gaps in current research and evidence to inform recommendations for the next steps of the research.

Evidence was sought on Unqualified Teachers and Newly Qualified Teachers (NQTs) through to those that have been in the teaching profession for a number of years or are in leadership roles. The review included for consideration studies with an explicit and documented evidence base, together with good quality evaluation evidence demonstrating impact. This ensures that the resulting literature review is sufficiently robust to inform policy development and practice.

The review was enhanced with a small number of interviews with representatives from teaching unions and key stakeholders from other countries. These interviews complemented and extended the review evidence with the inclusion of case studies of the pay arrangements of teachers in schools in other countries, including: Australia; Canada; New Zealand; Sweden; and the USA. The interviews created a more comprehensive view of pay arrangements in practice, which may be incomplete or out of date in the literature, as well as recommending other sources of information. It was further enhanced through a search of the grey literature and the inclusion of key evidence on pay arrangements in the UK labour market.

1.2. Report Structure

This first chapter of the report provides the background and context to the report. Chapter 2 of the report details the methodology of the literature review, including the review question and sub-questions, the development of the search parameters, keyword search strategy and the results of the review. The different measures of impact are also presented here to demonstrate the range used to measure, examine and evaluate the impact of pay arrangements. Chapter 3 provides an overview of the different pay arrangements for teachers in England and internationally. It includes definitions of different pay-for-performance initiatives and schemes found in the evidences and an overview of pay arrangements in the public and education sectors. It also provides a summary of the pay arrangements for teachers in England and a historical overview of the changes. Chapter 4 presents the evidence of the impact of pay arrangements in England. Key findings from the evidence are presented by theme and, to summarise, focuses on issues of equality. Chapter 5 presents international evidence. Throughout this chapter, the evidence is presented by country to differentiate between different pay arrangements and contexts. Themes variously covered in chapters 4 and 5 include: perceptions of pay arrangements; impact on teachers; recruitment and retention in the profession; pupil performance, attainment and outcomes; school leadership and management; pay reforms, union role, involvement and bargaining; and finally, issues of equality. Chapter 6 presents five case studies on the impact of pay arrangements in practice from Australia, Canada, New Zealand, Sweden and the USA. Conclusions are presented in chapter 7.

2. LITERATURE REVIEW METHODOLOGY

The following provides details on the literature review methodology, search process and results.

2.1 Overview Of Review Methodology

The review methodology implemented for this literature search comprised five phases:

1. setting review parameters: refining review question, defining keywords and developing search strategy;
2. searching: systematic identification of potentially relevant evidence using a keyword strategy;
3. screening: application of pre-determined criteria to report titles, abstracts and full texts derived from the review question and sub-questions;
4. data-extraction: in-depth examination, quality assessment and extraction of evidence; and
5. Synthesis and reporting: developing a framework for analysis and identification of key themes, plus presentation of review findings.

2.2 Review Question And Sub-Questions

The literature review question is:

- What evidence is there on pay arrangements on the pay levels and pay progression of teachers in schools?

With sub questions:

- Do these changes impact differently on different groups of teachers (by gender, age, disability, ethnic background, LGBT), on subject taught, the phase of education or the type of school (i.e. maintained, academy, public, private etc.)?
- Are there examples, both national and international, on what is happening in practice?
- Are there examples of changes to the arrangements for teachers' pay impacting positively or negatively on pupils in schools?

2.3 Review Methodology

The five stages of the review methodology adopted for this review are presented next.

Setting review parameters

During this phase of the review process, the review parameters were developed and tested through an initial search of the evidence. Part of this involved developing a keyword search strategy to ensure that each database was systematically searched and exhausted of potentially relevant literature. This was crucial since it involved setting the rules that guided the information gathering process and ensured coverage and relevance of the findings.

The search strategy was developed using keywords, strings of keywords and synonyms relevant to the review. The keywords were hierarchically applied, meaning that the first searches were conducted using broader terms and subsequent searches added further key words (in addition to or as a substitution for previous terms). Boolean operators, truncation and wildcards were used to extend the searches and ensure optimum coverage of the databases. The following keywords were used:

- Keyword 1: teacher; SEN Allowance; Teaching and Learning Responsibility; Advanced Skills Teacher; Excellent Teacher; Leading Practitioner; performance threshold assessment.
- Keyword 2: pay; pay arrangements; performance related pay; performance pay; pay progression; National Agreement; capability; self-evaluation; performance management; lead practitioner; school leadership; pay reform; upper pay spine; upper pay scale; upper pay range; TLR, AST; merit pay; teacher incentive; value added.
- Keyword 3: (used to refine and/or narrow search results): continuing professional development; pay; CPD; school leadership.

Searching

The keyword strategy was applied to a small number of databases during the exploratory phase of the review in order to refine the strategy. After refining the strategy, it was applied to a number of electronic databases to ensure a comprehensive review. Relevant databases included those containing journal abstracts and websites of organisations that commission or undertake research projects or other initiatives in the areas of interest. The following electronic databases were searched:

ABI Inform	Education Research Complete	Metapress*
ASSIA: Applied Social Sciences Index and Abstracts	Educational Administration Abstracts	Oxford University Press
BHI: British Humanities Index	Emerald	PsycArticles
British Education Index	ERIC	PsycInfo
Business source premier	IBSS: International Bibliography of the Social Sciences	Sage Online
EBSCO e-journals	Ingentaconnect*	Sciencedirect
EBSCO eBook collection	JSTOR*	Sociological Abstracts
Education Abstracts		Teacher Reference Centre
		Wiley online library

** More limited searches were undertaken in these databases due to issues with the search facility and/or the function to export to bibliographic software.*

Searches were also undertaken in open access repositories, including OpenDOAR, Open J-Gate and CORE. Second, a search was undertaken for grey literature on relevant websites, government departments and individual research centres. Third, social bookmarking sites (such as del.icio.us and cite-u-like) and various search engines (e.g. Google Scholar) were explored to capture evidence. Finally, the literature search took into account other relevant reviews and the recommended literature from the key stakeholders interviewed.

Screening

The third phase of the literature review involved a two stage screening process. An initial screening was undertaken by title in the results of the electronic database searches. Screened results were exported to a bibliographic software programme, called Endnote, which was used to manage all the evidence. The second stage involved screening all the evidence assembled by title and abstract for relevance. Explicit criteria were developed from the question and sub-questions to determine which studies were to be included and excluded from the review. The exclusion criteria were applied hierarchically to create a database of references directly relevant to the research question. The following inclusion and exclusion criteria were used.

Studies included:

1. were conducted after 2000;
2. drew on empirical research with a documented evidence base;
3. focused on pay arrangements, pay levels and/or the pay progression of teachers in schools;
4. were concerned with the impact of pay arrangements on teachers and/or the profession;
5. were concerned with the impact of pay arrangements on pupils in schools;
6. Provided examples of good practice in the negotiation and/or implementation of pay arrangements.

Studies excluded:

1. were conducted before 2000;
2. were not based on empirical research (such as those based on single person opinion);
3. were not focused on teacher's pay arrangements, pay levels and/or the pay progression of teachers;
4. were not concerned with the impact of pay arrangements on teachers, pupils and/or the profession;
5. focused on pay arrangements of teachers working in post-compulsory education;
6. Were found not to be relevant or offer substantive evidence on teacher's pay arrangements.

It should be noted that some evidence that did not fit the inclusion criteria were included in the review because it provided interesting results and conclusions supported with a documented methodology.

Data-extraction

During the data extraction phase, an instrument was used to record key information (such as the aims of the study in question, methodological approach and findings) and evidence from each study in a systematic manner (see Annex A). The quality of the evidence was assessed by an analysis of the strengths and limitations of studies. Where studies were deemed to be of

poor quality (such as not documenting the methodology or analytical approach adopted), these were excluded. Any limitations of the evidence included in the review are highlighted. The data extraction proforma was used for each piece of evidence included in the review. While the review strove to obtain all the evidence for the item identified, in a small number of cases evidence was unobtainable (10 in total).

Synthesis and reporting

The evidence collected in the data extractions was analysed and synthesised using a framework designed to answer the key questions addressed by the research. Evidence is presented in chapters 4 and 5.

2.4. Enhancing the Literature Review

The literature review was enhanced with a small number of interviews with representatives from teaching unions from other countries, including: Australia; Canada; New Zealand; Sweden; and the USA. The aim of the interviews was to create a more comprehensive view of pay arrangements in practice, which may be incomplete or out of date in the literature. The topic guide used to interview the experts is presented in Annex B. Interviews lasted between 30 and 60 minutes. The evidence from the interviews complemented and enriched the review evidence with the inclusion of case studies of the pay arrangements of teachers in schools in other countries (presented in chapter 6).

2.5 Overview of Search Results

Twenty-four databases were searched using the keyword search strategy from which 12,703 results were screened by title and 507 were included in the database. This included evidence from additional searches and sources from experts. These were screened by title and abstract. In total, 110 relevant studies were included and synthesised according to emergent themes relating to the main review question and sub-questions. Particular emphasis has been given in this review to identifying the impact of pay arrangements on issues of equality.

The following provides an overview of the search and review results:

Search results screened by title	12,703
Evidence from other sources screened	110
Included in database	507
Duplicates deleted from database	141
Search results screened by title and abstract	372
Exclusions*	
1. Were conducted before 2000	3
2. Were not based on empirical research or focus on single person opinion	108
3. Were not focused on teachers pay arrangements	119
4. Were not concerned with impact of pay arrangements on teachers, pupils and/or the profession	8
5. Focus on pay arrangements of teachers working in post-compulsory education	7
6. Not relevant	7
Total excluded	252
Unobtainable	10
Inclusions	110

**Selected references were reviewed for additional evidence on issues of equality from the UK public sector more broadly.*

2.6 MEASURES OF IMPACT

Much of the evidence on measuring the impact of pay arrangements on schools, teachers, pupils and the teaching profession has been derived from the statistical and quantitative analysis of large scale surveys and/or administrative data sets. Measures of impact have variously examined:

- **Job satisfaction** after implementation of merit pay (see for example Guis, 2013);
- **Pupils' grades, test scores and pass rates** (see for example Allan and Fryer, 2011; Atkinson, Burgess, Croxson, Gregg, Propper, Slater and Wilson, 2004, 2009; Barile, Donohue, Anthony, Baker, Weaver and Henrich, 2004; Chetty, Friedman and Rockoff, 2014; Dolton and Marcenaro-Gutierrez, 2011; Eberts, Hollenbeck and Stone, 2002; Glewwe, Ilias and Kremer 2010; Hendricks, 2014; Goodman and Turner, 2013; Greaves and Sibieta, 2014; Lavy, 2009, 2013; Martins, 2010; Max, Constantine, Wellington, Hallgren, Glazerman, Chiang and Speroni, 2014; Muralidharan and Sundararaman, 2011a, 2011b, 2012; Neal, 2011; Sojourner, Mykerezi and West, 2014; Springer, Ballou, Hamilton, Le, Lockwood, McCaffrey, Pepper and Stecher, 2010; Wang, Lai and Lo, 2014; Woessmann, 2011)
- **Probation length** on salaries in districts that engage in collective bargaining (see for example Brunner and Imazeji, 2010);
- **Pupil retention** (see for example Barile, Donohue, Anthony, Baker, Weaver and Henrich, 2004; Eberts, Hollenbeck and Stone, 2002);
- **Teacher attendance** as a proxy for teacher effort (see for example Goodman and Turner, 2013);
- **Impact on recruitment, retention and motivation** (see for example Evans, 2011; Farrell and Morris, 2004, 2009; Fuller, Goodwyn and Francis-Brophy, 2013; Hendricks, 2014; Mahony, Menter and Hextall, 2004a);
- **Rewards for individual and group performance** (see for example Dolan, Golden, Ndaruhutse and Winthrop, 2012; Irs, 2012; Goodman and Tuner, 2013; Muralidharan and Sundararaman, 2011a, 2011b, 2012);
- **Processes for implementing new pay arrangements** (see for example Adnett, 2003; Allan and Fryer, 2011; Blake, Hanley, Jennings and Lloyd, 2000; Chetty, Friedman and Rockoff, 2014; Eberts, Hollenbeck and Stone, 2002; Goodman and Tuner, 2013; Irs, 2012; Irs and Türk, 2012; Lavy, 2009, 2013; Max, Constantine, Wellington, Hallgren, Glazerman, Chiang and Speroni, 2014; Perry, Engbers and Yun Jun, 2009; Neal, 2011).

Little qualitative research has been undertaken which examines the impact of new pay arrangements on teachers. The qualitative research that was identified focused on understanding perceptions and attitudes towards new pay arrangements (see for example Mahony, Menter and Hextall, 2004a; Webb, Vulliamy, Hämäläinen, Sarja, Kimonen and Nevalainen, 2004), and posts such as the Advanced Skills Teacher (AST¹) (Fuller, Goodwyn and Francis-Brophy, 2013). A review of the empirical evidence on the impact of pay arrangements for teachers in England by theme are presented in chapter 4, while international evidence is presented in chapter 5. The next chapter sets the context of the research and defines some of the different pay arrangements that have been implemented in the education sector.

¹ This was a post within the staffing structure. The AST post was removed and replaced by the Leading Practitioner post in September 2013. See section 3.3 for details on the post.

3. DEFINING PAY ARRANGEMENTS FOR TEACHERS

A number of terms are used to describe pay incentive schemes. Evidence was found on the following pay arrangements and pay incentive schemes in England and internationally:

- **Performance-related pay** – China (Wang, Lai and Lo, 2014), England (Marsden and Belfield, 2004; Marsden, 2015; O’Beirne and Pyle, 2014), Estonia (Irs, 2012, Irs and Türk, 2012), India (Muralidharan and Sundararaman, 2011a, 2011b, 2012), Portugal (Martins, 2010), USA (Sojourner, Mykerezi and West, 2014), Wales (Farell and Morris, 2004, 2009);
- **Performance Threshold Assessment** – England and Wales (Atkinson, Burgess, Croxson, Gregg, Propper, Slater and Wilson, 2004, 2009; Mahony, Menter and Hextall, 2004a, 2004b; Webb, Vulliamy, Hämäläinen, Sarja, Kimonen and Nevalainen, 2004; Wragg, Haynes, Chamberlin and Wragg, 2004);
- **Advanced Skills Teacher (AST) post** (which includes enhanced management-level pay) – England (Blake, Hanley, Jennings and Lloyd, 2000, Fuller, Goodwyn and Francis-Brophy, 2013) (see Annex C for more detail on this post);
- **Teachers’ incentive programmes** – India (Muralidharan and Sundararaman, 2011a, 2011b, 2012), Israel (Lavy, 2009, 2013), Kenya (Glewwe, Ilias and Kremer, 2010), Portugal (Martins, 2010), USA (Springer, Ballou, Hamilton, Le, Lockwood, McCaffrey, Pepper and Stecher, 2010);
- **Team-based incentive pay** – USA (Goodman and Turner, 2013), Bolivia, Chile, El Salvador, Mexico (Mizala and Romaguera, 2004);
- **Merit pay system** – USA (Eberts, Hollenbeck and Stone, 2002; Guis, 2013);
- **Value-added** – USA (Chetty, Friedman and Rockoff, 2014; Hendricks, 2014).

3.1 Defining Performance-related Pay Initiatives and Schemes

The term performance-related pay is used throughout this report to refer to the different forms of performance-related pay, which are defined next.

Performance-related pay

Performance-related pay is a method of remuneration that links pay progression or a pay incentive to performance criteria. It can refer to: payment by time and output; payment by results; organisation incentives; merit pay based on an individual’s contribution to organisational performance; individual performance; profit-related pay; and pay that includes commission (Local Government Association website, 2012²).

In the education sector, research evidence indicates there are two broad motivating factors in adopting approaches to implementing performance-related pay:

1. Those that are linked to teachers’ professional development with the aim of supporting and motivating individuals to improve their performance. These approaches are often accompanied by additional resources to raise professional standards and an expectation of continuing professional development; and
2. Those that focus on rewarding the best performing teachers measured against a range of specific desired educational outcomes. These approaches commonly incorporate elements of competition and are often used as part of a resource saving strategy.

Most approaches to performance-related pay in the education sector adopt the second approach.

Merit pay

Merit pay is a form of bonus awarded to those who have been assessed against measurable output criteria, as performing their job effectively. For teachers, this is based on how well their pupils perform on measures of pupil learning (outputs) rather than the traditional approach, which compensates teachers based on years of experience or qualifications attained (inputs). Output measures can include pupil test scores and outcomes, school-wide performance, classroom observations and measures of pupil progress (Barnett, Ritter, Jensen, Lo and Denny, 2014). In the UK, merit pay is regularly used to reward good performance and in the education sector; it is common within higher education institutions. An increasing number of US schools have begun to change how teachers are compensated and are now providing teachers with the opportunity to earn financial bonuses for demonstrating exceptional work with their pupils.

Value-added models

Value-added pay models focus on the progress that pupils make and a teacher’s contribution to pupil progression. In the USA, for example, a value-added score commonly uses test scores to measure each pupil’s expected progress against

² This was a post within the staffing structure. The AST post was removed and replaced by the Leading Practitioner post in September 2013. See section 3.3 for details on the post.

actual progress. All pupils' results are analysed to determine whether below average, average or above average progress has been made. Evaluators may use these value-added scores to determine teacher effectiveness. In some states, value-added scores are only available for selected subjects (typically English, mathematics and science) and for particular Grades³. Contextual value-added models take into account other factors that impact on pupil performance, such as special educational needs, ethnicity, socio-economic status and frequent movement by pupil between schools.

Teachers' incentive pay

Teachers' incentive pay involves the payment of a bonus or incentive to teachers to take on extra responsibilities and duties, such as extra-curricular activities and other contributions to the school. Examples of this approach to performance-related pay can be found in China, Israel, Portugal and the US. In England, Teaching and Learning Responsibility (TLR) payments are attached to posts where a teacher undertakes additional responsibilities to those of a classroom teacher, which may include leading, managing and developing a subject or curriculum area, or leading and managing pupil development across the curriculum.

Team-based (or group-based) incentive programmes

Team-based (or group based) incentive programmes are designed to reward teachers for team results, effectiveness and cohesion. They may involve rewarding groups of teachers or all teachers in a school. A range of measures may be used to judge performance, including: improved pupil performance in tests; improved pupil and/or teacher attendance; greater collaboration among staff; and the development and implementation of projects to meet specific school objectives.

A number of team-based incentive programmes were highlighted in evidence from the US (including New York, Texas and Tennessee), as well as in Kenya, India and some Latin American countries.

3.2 The Use of Performance-Related Pay in the Public Sector and Education

Performance-related pay schemes are less common in the public than private sector in the UK, which may, in part, be explained by the 'lack of empirical evidence evaluating the effects of performance-based reward programmes' (Hutton, 2011, p.45). In 2009, a review and assessment of UK evidence on performance-related pay in the public services included some evidence for the teaching profession (Marsden, 2009). The review found evidence that incentive pay did not motivate employees, but that it can be associated with improved performance in terms of measureable outputs in a variety of sectors, including education. However, more recently The Hutton Review of Fair Pay (2011) argued that performance-related pay schemes work less well in the public sector due to the complexity of outcomes and goals, difficulties in monitoring, and the proportion of employees who work in teams (and associated lack of evidence of how performance-related pay affects individuals in teams). Additionally, the review noted that public sector workers are often driven by intrinsic motivations and individual incentives may be detrimental.

Hutton (2011) proposed a pay and performance framework to improve public sector performance, creativity and innovation particularly at senior and executive level. The Hutton Review argued that public sector leaders should, as in the private sector, be eligible for additional pay where performance objectives are met and exceeded and that underperformance should be identified and not rewarded. Full disclosure and transparency of executive remuneration was promoted. The review acknowledges that performance-related pay may not be gender-neutral (but that there is little evidence to prove this) and also that those employees who are risk-averse are less likely to opt-in to any voluntary pay scheme with a system of rewards and financial penalties for exceeding or not meeting targets.

Evidence from a review undertaken by Harvey-Beavis (2003) found different performance-related pay schemes for teachers in operation across OECD countries. For example, some were based on individual performance, whilst others were based on the performance of the school; some offered financial compensation and others non-financial compensation. There were also differences in: the duration and scope of rewards; whether teachers' pay levels increased; what was evaluated and who evaluated the teacher; and whether rewards supplemented or replaced pay (Harvey-Beavis, 2003). There was particular evidence from the US education sector of performance-related pay having been in place for a number of years and being used as a strategy to modify the pay scale.

Another review of performance-related pay and the teaching profession found that much evidence was drawn from the US, where performance-related pay and merit pay are common features of remuneration (see Chamberlin, Wragg, Haynes and Wragg, 2002). It was noted that the terms are often used interchangeably, although merit pay is more commonly used in the US. Although the report does not focus on inequalities within these pay systems, it notes that criticisms of merit pay are founded on the subjective nature of the assessments undertaken by supervisors and/or line managers. These subjective assessments are seen as open to bias and favouritism. Much of the evidence points to the difficulties in evaluating and measuring teacher effectiveness and performance.

³ As an example, details of the Louisiana value-added model is available on the Department of Education Louisiana website, <https://www.louisianabelieves.com/teaching/value-added-model>.

There is also some evidence from the US of gender and BME inequality in jobs with performance-related pay, although data⁴ are incomplete and so any conclusions are tentative (see Gittleman and Pierce, 2015; Lemieux, MacLeod and Parent, 2009). Overall, the evidence suggests that performance-related pay schemes are open to discrimination and unfair practices.

3.3 Pay Arrangements for Teachers in England

National statistics on the school workforce in England report over 1.3 million people working in state-funded schools in November 2014 (Department for Education, 2015). There are 454,900 full-time equivalent teachers, of which 74 per cent are female and 87.5 per cent are white British. A high proportion of teachers are aged 25-34 years. Younger teachers are more likely to work in primary schools than secondary schools. The number of part-time teachers has decreased slightly since 2013, with female teachers more likely to work part-time (27 per cent of female teachers and 9 per cent of male teachers). Classroom teachers' average pay has decreased by £100 from an average of £34,400 in 2013 to £34,300 in 2014. Leadership teachers' pay has increased by £500 from an average of £56,000 in 2013 to £56,500 in 2014. However, since 2013, teacher's pay arrangements for teachers in England have undergone significant changes.

The concept of performance-related pay was first discussed in the 1998 Green Paper *Teachers: Meeting the Challenge of Change* and Technical consultation document (Department for Education and Employment, 1998, 1999). This set out proposals to improve the teaching profession by addressing issues of pay and performance alongside proposals to address training, recruitment, leadership and support for teachers. Extra resources were suggested to 'reward good teachers better, recognising its [good teaching] vital role in raising standards' (Department for Education and Employment, 1998, p.4). For head teachers, the Green Paper set out extensions to the pay scale for those who were successful, linking rewards to achievements of agreed objectives and providing 'high quality training' for heads to improve performance. For teachers, it set out proposals to reward teachers for 'high performance' and improve career prospects. It was proposed that the new system would include an annual assessment of performance against agreed targets, and access to a second pay scale for high performing teachers that pass a performance threshold.

The Advanced Skills Teacher (AST) post was implemented in England in 1998 (for more information, see School Teacher's Review Body (2001) and for a review see Fuller, Goodwyn, Francis-Brophy, and Harding, 2010). The AST post included a range of additional responsibilities to increase the quality of teaching and learning by engaging in outreach work in other schools (a requirement of the post was that 20 per cent of a teacher's time was to be undertaken in outreach work). The aim of the post was to recognise, attract and retain excellent teachers who chose to remain working in the classroom rather than following other routes to promotion through leadership. The AST post was defined within the staffing structure, but was removed and replaced by the Leading Practitioner post in September 2013.

In maintained schools, the 2000/01 performance-related pay scheme in England was implemented. It comprised: systematic goal-setting and appraisal for all teachers; a new Upper Pay Scale extending the teachers' pay scale with performance-based increments; and a Threshold Assessment for progression onto the new scale. The new system emphasised personal objectives and development needs that fitted with the school's goals and priorities (see Marsden, 2009). The system only applied to teachers with more than 6 years' experience. Teachers eligible for the scheme had to apply to cross the pay threshold based on a portfolio of evidence compiled by the teacher, which included pupil results, classroom observation data, commitment to professional standards and its impact on classroom performance. The portfolio was assessed by their head teacher and an external assessor. The second part of the process entailed a performance management review, which involved further decisions about whether teachers on the Upper Pay Scale (UPS) should progress further up the pay scale. The scheme was designed to: strengthen school leadership; improve teacher recruitment, retention and motivation; and deploy resources more flexibly and effectively. Overall, the scheme sought to reward excellence in the classroom, but was controversial because of the inclusion of pupil progress as a performance measure.

In 2004, an Agreement on rewards and incentives for post-threshold teachers and members of the school leadership group was agreed by the social partnership (which included ATL, NAHT, NASUWT, PAT, SHA, the National Employers' Organisation and the Department for Education and Skills). This proposed that progression to UPS3 should go ahead and should not be limited by a quota, but that UPS4 and UPS5 should be replaced by the Excellent Teachers Scheme. The scheme drew on the Advanced Skills Teacher standards, but Excellent Teachers were not required to undertake outreach work in other schools, although they were required to support colleagues in their own school.

In 2006, the School Teacher Performance Management Regulations came into force setting out a system for managing teachers' performance and supporting greater professionalism. The Regulations were detailed and prescriptive, further emphasising the direct link between Performance Management and pay progression. Teachers also had to engage in continuing professional development. Alongside these statutory provisions, a national framework of Professional Standards for Teachers was introduced. This provided some context to the teachers' performance management and appraisal discussions, as well as assisting teachers in planning and quantifying their continuing professional development (CPD) and

⁴ Data were from the *Employer Costs for Employee Compensation (ECEC)* (during 1994-2010) and the *Panel Study of Income Dynamics*.

career development activities. This new pay system replaced Management Allowances with Teaching and Learning Responsibility (TLR) payments and the Excellent Teacher scheme. The Excellent Teacher Scheme and the Advanced Skills Teacher Scheme provided a career route to management and leadership posts, but also recognised that some teachers wished to stay in the classroom.

In 2012, the School Teachers' Appraisal System⁵ was implemented, which set out the appraisal process for teachers.

In 2013, the Government ended the national pay structure, which had comprised a six point Main Pay Scale and three point Upper Pay Scale for classroom teachers, together with dedicated pay scales for school leaders. Schools were granted increased freedom to determine pay arrangements. From September 2013, new arrangements for gaining access to the Upper Pay Range came into effect, as set out in the School Teacher's Review Body 23rd Report (2013). New criteria were detailed which replaced the Threshold Assessment. Those teachers with Qualified Teacher Status (QTS) were eligible to be assessed and move to the Upper Pay Range, provided that their application demonstrated high levels of competence and that their achievements and contributions were judged by the school to be substantial and sustained. As set out in the 2013 School Teachers' Pay and Conditions Document (STPCD) (Department for Education, 2013a), the Department for Education recommended that schools establish systems to differentiate between teachers (Department for Education, 2013b). This suggested that teachers should only be eligible for pay progression if they have been judged to be at least 'good' and that schools might differentiate between teachers who receive the same judgement on other criteria (such as how challenging were the objectives they met). The document provides model pay policies for schools upon which they could base their teacher assessment policies.

Since September 2014, teachers' pay has been determined by a differentiated performance-based progression; schools can now make individual progression decisions based on appraisal. Schools and their governing bodies consider whether each individual teacher's pay is to be increased or not within the relevant pay ranges (Department for Education, 2014d). They determine how pay progression is gained based on the teacher's performance, assessed by their annual appraisals and continued good performance as set out by the school. Pay recommendations are then forwarded to the governing body. The new national pay structure for teachers simply sets minimum and maximum pay points for teachers on the Main Pay Range and minimum and maximum points for teachers on the Upper Pay Range. All schools in England may adopt their own pay policy. Different pay scales are in place for qualified classroom teachers, unqualified teachers, leading practitioners and those in leadership posts.

School autonomy on pay is further enhanced by the reforms to leadership pay and allowances introduced in 2014, following the School Teacher's Review Body 23rd report (2013). These changes are seen to allow schools to have more freedom over individual pay decisions, as well as recruitment and retention allowances.

The Department for Education has provided a range of advisory documents on implementation of the new pay reforms, using evidence in appraisals and implementing a school approach (2014a-f).

In Academies, free schools and independent schools, teachers' pay and conditions do not have to follow those set out in the School Teachers' Pay and Conditions Document. These types of schools are able to set their own levels of pay for teachers, regardless of the pay ranges published by the Department for Education.

⁵ For *The Education (School Teachers' Appraisal) (England) Regulations 2012*, see http://www.legislation.gov.uk/uksi/2012/115/pdfs/ukxi_20120115_en.pdf

4. EVIDENCE ON THE IMPACT OF PAY ARRANGEMENTS IN ENGLAND

This chapter provides a review of the evidence on the impact of pay arrangements in England by theme, including: perception of pay arrangements; impact of pay arrangements on teachers performance, motivations, morale and career progression; recruitment and retention; and pupil performance. Whilst much evidence was found on the impact of pay arrangements on teachers, little evidence was found on the equality impact of pay progression on teachers or groups of teachers by protected characteristic. The majority of evidence on pay arrangements in England reported gender inequalities in terms of teachers' career progression.

4.1 Perceptions of Pay Arrangements

Evidence on the perceptions pay arrangements for teachers in England focuses on the introduction and experiences of performance-related pay implemented in 2000/01, the Performance Threshold Assessment and the Advanced Skills Teacher post. Evidence is mixed and the review did not find any evidence that examined equality impact as a specific issue. Research that examined the impact of changes on teachers' perceptions of pay in Wales found that teachers viewed the scheme negatively. Unfairness was a recurring theme in the research findings for both England and Wales and was more likely to be reported by female teachers.

Teachers perceptions of pay, working conditions and the profession

A qualitative study of 24 teachers in York (UK) and 13 in Jyväskylä (Finland) in 1995 and again in 2001 focused on their perceptions of professionalism over the period (see Webb, Vulliamy, Hämäläinen, Sarja, Kimonen and Nevalainen, 2004). The research looked at the impact of changes to pay and working conditions on teachers' and (a few) head teachers' perceptions of teaching and teachers' desire to remain in or leave the profession. It compared and contrasted the views of the English and Finnish teachers. Generally, the English teachers regarded their salary as adequate, particularly for young teachers without family commitments. However, they did not believe that their salary sufficiently reflected their degree entry qualifications, their knowledge and skills and the long working hours required of them. The Performance Threshold Assessment, introduced in 2000, received much criticism.

Research by Farrell and Morris (2004, 2009) examined the attitudes of teachers towards the introduction of performance-related pay in Wales in 2000/2001⁶. The aim of the 2004 survey was to determine if performance-related pay was linked to increased recruitment, retention and motivation and to determine the overall views of teachers to performance-related pay at the implementation stage, allowing greater longitudinal comparisons over time. A random selection of junior and secondary school teachers in Wales were surveyed. The evidence is limited as the study was carried out early in the implementation stage of the performance-related pay scheme. As numbers were small, there is no analysis for different groups of teachers.

The overwhelming majority of teachers who responded to the 2004 survey felt that performance-related pay would not improve recruitment, retention or motivation (Farrell and Morris, 2004). Teachers were unclear about targets and standards and how performance could be measured on an individual basis, especially in primary schools. The majority also viewed the scheme as likely to lead to poorer team-working and greater divisiveness within schools. There were also concerns about the subjective nature of performance-related pay. These general concerns were confirmed by classroom teachers and head teachers. In the case of teachers, the concerns were raised both by those who had been successful and those not successful in their applications for performance-related pay, as well as by those who were eligible and those who were ineligible.

Analysis by Farrell and Morris (2009) found that, while income level motivated teachers, it was only one of a number of important motivating factors. Other important factors included interesting and varied work, job security, contributing to public service and the opportunity to exercise responsibility. Teachers were not strongly in favour of the performance-related pay system either, because they felt that it did not reward excellent classroom performance and rewards were focussed on teachers who left the classroom to go into school administration. Largely, respondents reported that they applied because they could not afford to lose out financially, as they were, in general, underpaid. Overall, 97 per cent of applicants to the scheme passed (Farrell and Morris, 2009). The teachers surveyed thought that the scheme was difficult to implement because it was hard to link work in schools with individual performance due to the amount of work done in teams.

Teachers' perceptions of fairness

Recent research on the new Teacher's Standards, appraisal regulations and pay reforms surveyed 1,524 practising teachers from 1,164 maintained schools (see O'Beirne and Pyle, 2014). The majority of teachers surveyed reported that the Teachers'

⁶ For an overview of teachers' pay and conditions in Wales go to Annex C.

Standards were used during their performance assessments. Responses to a question about the fairness of pay recommendations were mixed. Although the majority reported that they understood that future pay progression was linked to performance, around half thought that the quality of their teaching would not be 'appropriately rewarded' in the new pay arrangements.

More recent research also indicates that few teachers believe that performance-related pay will reward good teaching or be fair (Marsden, 2015). The initial results from a longitudinal study examining the relationship between teachers' pay and performance found that teachers are sceptical about the new performance-related pay implemented in England and Wales in 2013. Less than a quarter of teachers surveyed believed that the system would lead to a fairer allocation of pay or that good teaching would be rewarded (Marsden, 2015). By comparing the 2000 and 2014 responses, it is evident that teachers' views on pay and remuneration have become more negative.

Research in Wales into the performance-related pay scheme implemented in 2000/01 found that over three quarters of teachers surveyed thought that the eligibility criteria would lead to discontentment and demotivate those who were ineligible (see Farrell and Morris, 2009). Respondents reported negative views about the fairness of performance-related pay. These views fell into four categories:

- those related to the methods of assessment, e.g. the extent to which they were able to take account of the characteristics of the pupil cohort in the school or class;
- the potential for subjectivity and favouritism, e.g. head teachers holding different views of what constituted a good teacher and/or being more supportive of some teachers than others, teachers being successful because they were good at writing applications rather than because they were good at teaching;
- the impact on teacher morale, especially the divisive nature of the scheme and possible demotivation for certain teachers, particularly those who were ineligible and those who were unsuccessful;
- the bureaucratic burden (on average the application process took two days) and the extent to which different teachers reported the process as being 'humiliating' or 'demeaning'.

Where performance-related pay has been implemented and researched in Wales, teachers have raised concerns about the fairness of assessing individual performance when much teaching is undertaken in teams (see Farrell and Morris, 2004, 2009). There is evidence that teachers do not think that pupil performance, outcomes or progress should be a central factor in judging teachers in performance-related pay schemes (see Farrell and Morris, 2004, 2009; Mahony, Menter and Hextall, 2004a).

Emotional impact of performance-related pay

A qualitative study by Mahony, Menter and Hextall (2004a, 2004b) examined the emotional impact of performance-related pay on teachers and the profession in England focusing, in particular, on the Performance Threshold Assessment. Between 2001 and 2003, interviews with school staff, threshold assessors, school governors and civil servants were undertaken, as well as interviews with staff from nine case studies of primary and secondary schools. This was supplemented with documentary analysis and findings from a range of large-scale surveys. The research did not include information about the demographics of those who applied for Threshold Assessment, and the study did not explore how the arrangements impacted on different groups of teachers. The research did highlight that the implementation of the Threshold Assessment was difficult in the early stages, as the forms were unsuitable, repetitive and unclear.

The research found that when the Threshold was implemented, the majority of teachers were very negative about it. They were: weary of more assessment; cautious and suspicious; resentful; contemptuous; and angry. It was perceived as being: 'anti-teacher'; insulting; a 'paper exercise' that did not recognise hard work; as well as undermining relationships between the Senior Management Team and the rest of the staff. There were also concerns about it being divisive and unfair. Further, questions were raised about how people who decided not to put themselves forward for assessment would be perceived.

The study found little evidence that the Threshold process motivated teachers, and some teachers were insulted by the idea that they might be motivated by money. Nearly all the teachers surveyed had taken part in the Threshold passed, but the overwhelming feeling they expressed on learning that they had been successful was relief. This did not change their views about the process. Head teachers were more positive about the outcomes, and claimed that their staff were 'elated' when they heard the outcome and that it had improved their self-esteem. The high proportion of teachers who passed the Threshold was considered devastating for the few who did not pass.

Head teachers' perceptions of performance-related pay

A study of the introduction of performance-related pay in the UK examined the views and experiences of primary and secondary head teachers (see Wragg, Haynes, Chamberlin and Wragg, 2004). A random sample of 1,000 head teachers in over 150 local education authorities in England was surveyed. The study did not look specifically at equality issues. Many head teachers reported that the Threshold Assessment had made little or no difference to teachers' performance. The majority of head teachers said they were opposed to performance-related pay and were critical of the process. Training on the process was not judged to be helpful.

Research which examined the impact of pay arrangements on school finances in ten secondary schools in London and East Anglia in the first year of the scheme's introduction found that the majority of heads rejected forced distribution of rewards (see Cutler and Waine, 2004). They thought it undermined performance management in schools and created equality problems in the pay system. Concerns were also raised about the impact on standards if expenditure was to be cut.

4.2 Impact of Pay Arrangements on Teachers

In England, it has been suggested that the move to a performance management system has negatively impacted on the teaching profession and teacher professionalism (see Evans, 2011). One theme to emerge from the literature concerned the impact of pay arrangements on teachers' performance, motivations and morale as well as their career progression. Some studies have looked at the impact of pay reforms on teaching, remuneration and performance. Two studies (based on teacher's own experiences and observations) reported that teachers' teaching style had changed positively as a result of the 2000/01 pay arrangements. One study found that the arrangements had a greater negative impact on female teachers, as they were more likely to under-rate their skills or that their domestic circumstances hindered their ability to complete assessments.

4.2.1 Teacher Performance, Motivations and Morale

Qualitative research on the Advanced Skills Teacher (AST) post suggested that teaching grades that recognise and reward teaching excellence contribute to a teachers' professional identity via an increased sense of recognition, reward and job satisfaction (see Fuller, Goodwyn and Francis-Brophy, 2013). Respondents were clear that the AST role contributes in meaningful ways to their sense of professional efficacy, satisfaction and enjoyment. The post also appears to raise the status of the teaching profession more generally by drawing attention to its top performers. Whilst the study found that the AST award appears to impact in positive ways on a teacher's professional identity, the benefit appears to be more in terms of its intrinsic value, especially in raised self-esteem. No evidence on issues of equality was reported, but 68 per cent of interviewees were female. Earlier research on teachers' perceptions of the role of ASTs found that a majority of respondents thought this role would raise teacher standards, improve career and pay prospects for the best teachers and reduce wastage (see Blake, Hanley, Jennings and Lloyd, 2000). However, a majority also thought the AST role would not attract more able people into teaching. The study did not consider whether there were any differences in the responses of teachers' who share a protected characteristic.

Despite being intended to motivate teachers, another study found little evidence from interviews with teachers that the Performance Threshold Assessment would do so (see Mahony, Menter and Hextall, 2004a). The study found no evidence that the Performance Threshold Assessment encouraged teachers to remain in the profession or led to teaching being viewed more favourably as an occupation. It was noted that in some cases it had caused teachers to look more negatively on their pay in comparison to other professions. Teachers' claimed that the Threshold assessment had no impact on their performance, as they were already 'working as hard as they could' and because they were motivated by their commitment to the children and the love of their job. However, it was suggested that there had been some significant impacts upon practice: first, teachers collected much more evidence of their work and achievements; second, target setting encouraged teachers to play it safe, stifling creativity in the classroom; and finally, there was better monitoring of pupil progress. The majority of teachers thought that they deserved a pay rise and that this should not be dependent on performance. Morale in this instance was affected. Female teachers were reported to under-rate their achievements and cite domestic responsibilities limiting their ability to complete the Threshold Assessment (Mahony, Menter and Hextall, 2004a, 2006). A survey of 1,000 head teachers in England who had responsibility for the Threshold Assessments as part of performance-related pay reported that the assessment had made little or no difference to what happened in classrooms and teachers' performance (see Wragg, Haynes, Chamberlin and Wragg, 2004).

4.2.2 Teachers' Career Progression, Roles and Responsibilities

The review found some evidence in England on the impact of pay arrangements on teachers' roles and responsibilities, and career progression. Taking a developmental approach to performance-related pay, Odden and Kelley (2000) suggested that teachers are intrinsically motivated and should be rewarded for learning new teaching skills and developing, but that this will only be achieved through adequate funding and training opportunities. No evidence was, however, found on the impact of pay arrangements on teachers' continuing professional development or career development opportunities in the UK. However, professional development is seen as key to improving the quality of teachers and effective at managing under-performing teachers (The Sutton Trust, 2011).

Research on female teachers in nursery, primary and secondary schools in England examined the policies and measures that hindered and supported career development (see Moreau, Osgood and Halsall, 2005) and found evidence of gender discrimination. Barriers to career progression were found to be geographical immobility and their domestic situation (including childcare, marital status and breakdown). These in turn led to poor work-life balance. Female teachers were less likely to be found in leadership roles despite education being a female dominated sector. Due, in part, to the lack of women in management positions, the gender pay gap in the education sector is persistent. Caution is required in interpreting these results, because the sample was biased towards white British women, but included variation by age, social class and sexual orientation.

Research in 2007 reported that the British education system disadvantages female teachers in terms of their career progression and transition to leadership roles (McNamara, Howson, Gunter, Sprigade and Onat-Stelma, 2007). Data showed that of those working in primary education for between 5 to 9 years, 20 per cent of male teachers were on the Leadership Scale compared to only 8.5 per cent of female counterparts; this differential increases further as length of service increases. Similar data were found for the secondary school sector. In this instance, BME teachers reported that men are more ambitious than women, so they are more likely to have progressed with their career (McNamara, Howson, Gunter and Fryers, 2008). Men were more likely to report that they felt the need to change schools in order to progress their careers.

4.3 Recruitment and Retention in the Profession

There have been concerns that the new pay arrangements in the teaching profession will have an adverse impact on recruitment and retention. However, only three studies discussed the impact of pay arrangements on recruitment and retention reporting an impact on those early in their careers and men. A review of literature in the UK found that attrition was linked to pay, and this was particularly acute for those early in their careers and men (see Hutchings, 2010). Research (see Farrell and Morris, 2004, 2009) on the performance-related pay scheme introduced in Wales in 2000/01 found that teachers considered the scheme bureaucratic, divisive and likely to demotivate some groups of teachers. One small scale study in England reported that teachers were leaving the profession because of the Performance Threshold Assessment and its requirements (see Mahony, Menter and Hextall, 2004a), but no analysis was undertaken by protected characteristic.

4.4 Pupil Performance, Attainment and Outcomes

A recent study using data from the National Pupil Database and Spring Census from 2006 to 2011 examined teachers' pay and pupil attainments in England (see Greaves and Sibieta, 2014). Issues of equality were not examined. Interestingly, the study found little evidence of a relationship between increases in teachers' pay resulting from performance-related pay and improvements in pupil attainment in national assessments. However, the study suggested that structured rewards may improve teacher quality and this, in turn, might improve pupil performance. This suggestion is supported by other research on the Performance Threshold Assessment and the Upper Pay Scale (Atkinson, Burgess, Croxson, Gregg, Propper, Slater and Wilson, 2004, 2009); Burgess and Croxson, 2001).

Atkinson and colleagues (2004, 2009) undertook an analysis of survey and administrative data comparing pupil performance data for the period September 1997 to June 1999 with that for September 2000 to June 2002. This allowed the longitudinal performance of teachers to be traced through these two periods. The analysis showed that the scheme did improve test score gains, on average by about half a grade per pupil relative to ineligible teachers. However, the performance of teachers was diverse across subjects, with maths teachers showing no improvement. The gender of the teacher, years in school and leadership role made no difference to growth in pupil achievements (Atkinson et al., 2004, 2009). This study can be criticised because it compared less experienced teachers with more experienced teachers.

A small scale study on performance-related pay in Wales noted that the majority of teachers surveyed thought that pay arrangements would have little impact on pupil achievement (see Farrell and Morris, 2009). Again, no differences were found by protected characteristic of the teacher.

The Sutton Trust (2011) found that the difference between a 'good teacher' and a 'bad teacher' in terms of pupil attainment was significant. Classroom observations were used to judge good teaching. The study found that qualification, gender, race and experience do not significantly explain teacher quality. The study concluded that it is problematic to use test performance data as the only measure to assess a teacher. A number of factors can influence pupil performance, including, for example, school factors, non-random assignment to teachers and scaling effects (The Sutton Trust, 2011). It was suggested that performance and pay should be based on improved pupil results, reviews by head teachers and external appraisals. Overall, it was suggested that there is a need to consider 'the nature of teacher training, the professional development of teachers, and the management of under-performing teachers' (The Sutton Trust, 2011, p. 3).

International evidence on the impact of teacher's pay on pupil performance is presented in chapter 5.

4.5 School Leadership and Management

Only limited evidence was found on the role of school leadership and management in the process of implementing pay arrangements. However, the evidence found that they play a vital role in implementing and managing the process. Worryingly, lack of support from male head teachers and governors has been found to negatively impact on the promotional prospects of female teachers (see Moreau, Osgood and Halsall, 2005). The implementation of the Performance Threshold Assessment in England, studied by Mahony, Menter and Hextall (2004a), found that judgements about teachers' performance could be influenced by management priorities and head teachers' responsibilities for managing the whole institution, rather than by an objective assessment of individual performance. Head teachers' training in performance management was regarded as poor. This suggests that performance based pay could be subjective and open to discrimination.

4.6 Summary: Issues of Equality

The evidence presented in this chapter has shown that the implementation of performance-related pay has not all been positive in terms of the role and career progression of teachers and pupil outcomes. Teachers are cautious about the measurement of performance. For the most part, performance-related pay has been shown to have little impact on teaching and teachers in the longer-term. Substantive evidence on the equality impact of pay arrangements is missing, but drawing on the wider literature it is clear that performance-related pay is open to discrimination. Discrimination is believed to be the result of the individualistic and competitive nature of progression in the system. The potential for subjectivity and favouritism was a major criticism made by teachers and, in one study, male teachers were particularly critical. Recent research has captured teachers' perceptions of the new pay arrangements implemented in 2014. Respondents have had mixed feelings on the operation of the new system with fairness a central concern (see Marsden, 2015; O'Beirne and Pyle, 2014). This will need to be further explored as the new pay arrangements are embedded over the next few years.

A range of evidence was sought on issues of equality in terms of pay arrangements for teachers. Evidence was sought by gender, age, ethnic group, disability, LGBT, subject taught and type of school, but little to no evidence was found in England. The review found little evidence that specifically examined impact of pay arrangements and issues of equality. The following sections draw together the evidence found for different groups of teachers.

Gender

Only five studies were identified and reviewed that highlighted differences by gender, but these were not the main foci of the research. First, in England, research suggests that women were more likely to under-rate their achievements in the Performance Threshold Assessment and to proclaim them less than men (see Mahony, Menter and Hextall, 2004a). The Performance Threshold Assessment was thought to potentially discriminate unfairly against women and teachers from minority ethnic backgrounds (see Mahony, Menter and Hextall, 2004b). This discrimination was seen to be the result of the individualistic and competitive nature of progression in the system, which is in conflict with the collective nature of teaching and the professional culture of women. Further, female teachers reported that they were unable to participate in extra-curricula activities to support the school and relevant to the Threshold due to their domestic circumstances. A review of the Excellent Teacher Scheme also reported that those with low levels of confidence were less likely to apply for the scheme and suggested that this had implications in terms of gender, social class background and seniority (Hutchings, Mansaray, Minty, Moreau and Smart, 2009).

A survey of teachers found that men were over-represented in senior leadership posts and were more likely to opt for a mid-career change, whilst women reported that career aspirations affected their decisions to have a family (McNamara, Howson, Gunter, Sprigade and Onat-Stelma, 2007).

Furthermore, a survey of Welsh teachers on their attitudes to performance-related pay in schools evidenced an overwhelmingly negative response with concerns about equality (see Farrell and Morris, 2004). The potential for subjectivity and favouritism was a major criticism made by teachers, particularly male teachers. Teachers, particularly female teachers, favoured centrally determined pay scales based on experience and different duties. Junior school teachers were more concerned about individual appraisals being made on the basis of pupil progress, as there was a more collaborative approach to teaching in junior schools. Overall, few differences in attitudes between junior and senior teachers, and male or female teachers were recorded. However, caution is required when interpreting this evidence as the study was undertaken during the implementation of performance-related pay, so it was not fully embedded.

Finally, both women and men similarly identified gender discrimination as an issue in the recruitment process, with low levels of discrimination by ethnicity and disability (see McNamara, Howson, Gunter and Fryers, 2010). For both women and men, workload was cited as the number one barrier to career progression in the teaching profession. For women, the second commonly cited barrier was caring and family responsibilities, whilst for men it was availability of suitable posts. Research by Moreau, Osgood and Halsall (2005) also found that female teachers were less likely to take up leadership roles citing not only domestic circumstances, but also poor work-life balance and geographic mobility. Lack support from male leaders was also cited as a barrier to progression. The research specifically focused on gender barriers, only one non-white teacher participated in the research. Similar barriers to career progression were cited by BME teachers (see McNamara, Howson, Gunter and Fryers, 2008).

BME

Two pieces of evidence were reviewed that had BME background as an indicator in terms of pay. This evidence was drawn from a project examining the Impact of Performance Threshold Assessment on Teachers' Work (Mahony, 2005). Mahony, Menter and Hextall (2004a) noted that people who supported each other through the process found the experience to be more positive than those who did it in isolation, so raising concerns about Black teachers' access to such support networks. This was also reported in the review of the Excellent Teacher Scheme (Hutchings et al., 2009). Earlier research raised questions about the extent to which there was equal opportunity in terms of promotion and progression particularly for BME teachers (Menter, Hextall and Mahony, 2002). The research examined the Threshold Assessment in England and Wales as

there were concerns that there was 'potential to discriminate unfairly between various cohorts of teachers, including women and minority ethnic teachers' (ibid, p.131). Eligible teachers who met the standards progressed in their careers, received a £2,000 increase in their salaries and were able to access the Upper Pay Range. Documentary analysis, 13 case studies and interviews with key stakeholders were undertaken and evidence was examined in terms of the impact on minority ethnic teachers. The research reported that BME teachers had complex employment situations, which made it difficult to compile evidence for the Assessment and felt isolated during the process. Overall, it was found that there was a lack of equal opportunity monitoring.

Age

Whilst no evidence was reported that examined the impact of pay arrangements for teachers by age, one study reported that pay arrangements negatively impacted on recruitment and retention particularly those early in their careers (see Hutchings, 2010). Another study found that the percentage of male teachers on the Leadership scale increased by length of service and as length of service increased the difference between men and women on the Leadership scale increased (McNamara, Howson, Gunter, Sprigade and Onat-Stelma, 2007).

Disability

Some reference to disability was found in the evidence with one study reporting low levels of discrimination by disability in terms of the recruitment process (see McNamara, Howson, Gunter and Fryers, 2010). However, gender discrimination was viewed as more of a problem.

LGBT

No evidence was found on how pay arrangements impact on LGBT teachers.

5. INTERNATIONAL EVIDENCE ON THE IMPACT OF PAY ARRANGEMENTS

This chapter provides a review of the evidence on the impact of pay arrangements in a number of countries. It should be noted that much of the evidence is from the US.

A brief summary of teachers' pay and conditions for each country, where evidence has been reviewed and is included in this chapter, is presented in Annex C.

5.1 Perceptions of Pay Arrangements

The only research that presented evidence specifically examining teachers' perceptions of the pay-for-performance system implemented was from Estonia. The research found evidence that women had more positive attitudes towards pay-for-performance than men and older teachers; this was explained by the low pay levels of female teachers.

A study undertaken in 2009/10 focused on the introduction of performance management for teachers in Estonia, most especially performance-related pay, by gauging its current usage and teachers' attitudes towards it (see Irs, 2012; Irs and Türk, 2012). The main focus of the two articles was not on the impact of implementation of performance-related pay, but an examination of teachers' and head teachers' opinions about the most effective pay-for-performance system in order to help develop a better working system. Background information about best practices in the implementation of performance-related pay was gathered to inform a pilot study.

At the time of the research, the pay-for-performance system was not common in Estonia. The research found that it was being used in 27.2 per cent of Estonian general education schools. When asked why pay-for-performance had not been implemented, one of the most frequent answers was that the schools' budgets were too restricted and there were insufficient financial resources to reward teachers according to their performance. At the time of the research, salaries were very low and expectations high among teachers (see Irs, 2012). Although teachers would prefer to be paid more based on their work performance, they thought that implementing pay-for-performance was impossible in circumstances where all the financial resources are being reduced. It was found that 41.9 per cent of head teachers and 49 per cent of teachers totally agreed that pay-for-performance would be very motivational for teachers. Significant proportions of head teachers and teachers believed that schools could achieve their objectives better with the implementation of pay-for-performance. However, only 8.2 per cent of the respondents totally agreed that pay-for-performance in their schools was implemented fairly. While reward systems in the Estonian general education schools are mainly concentrated on those teaching the most capable pupils, the respondents felt that more attention should be given to rewarding teachers based on their activities in helping pupils with low academic performance. No explanation was provided as to why there was a focus on capable pupils. Teachers preferred to be rewarded for individual performance, as they felt this would be motivational, whereas head teachers preferred to reward the whole unit, i.e. group performance (see Irs, 2012). Generally, evidence stated that performance-related pay would help the school better achieve its objectives.

Irs and Türk (2012) also found that various factors played an important role in shaping school performance and opinions of teachers and school managers. For instance, schools needed to introduce school development plans and communicate these to key interest groups. They also needed to monitor performance. It is important to note that Irs and Türk (2012) considered the engagement of teachers in these processes to be essential, as this allowed teachers to understand their specific role in the organisation and the roles of evaluation and performance-related pay. Significantly, the study reported that performance-related pay may fail if the performance appraisal system was perceived to be unfair. They found that performance-related pay is often not implemented because of the fear that a fair and good appraisal system is impossible to create. Women were noted to hold more positive attitudes towards pay-for-performance than men and older teachers. This may be because female teachers are generally paid less than men. Also, those with more experience valued it more than younger teachers.

5.2 Impact of Pay Arrangements on Teachers

The research presented next includes evidence about the impact of different pay arrangements and incentives, with most evidence on the impact of merit pay systems linked to pupil performance being drawn from the US. Evidence shows that teachers may change their teaching style in order to achieve the stated goals of a merit pay system and that pay arrangements do not always result in positive outcomes in terms of teacher motivation, teacher morale or pupil outcomes. Teachers' views on performance-related pay are largely negative and there is a lot of dissatisfaction as a result of such pay arrangements. Whilst examined in a number of studies, there is no evidence reported on the impact of pay arrangements on different groups of teachers.

5.2.1 Teacher Performance, Motivations and Morale

Evidence has been found that teachers' performance, motivations and morale have changed as a result of the implementation of new pay arrangements. Teachers were found to adapt their teaching style, adopt a compliant professionalism and be less creative and autonomous. Job satisfaction was also reportedly lower in places where performance-related pay had been implemented.

Evidence from some countries, including India (see Muralidharan and Sundararaman, 2011a, 2011b) and Kenya (see Glewwe, Ilias and Kremer, 2010), showed that teachers working in schools with incentive schemes were found to make greater effort (measured by teacher attendance) and were more likely to organise extra classes outside school hours. A qualitative study of the 2009 reforms to teacher's pay in China evidenced a link between remuneration and performance (see Wang, Lai and Lo, 2014). The pay arrangements led teachers to be more likely to adopt a 'compliant professionalism', for example, being less creative and autonomous and more likely to 'teach to the exam'.

Further evidence about the impact of pay reforms on teacher's behaviour is available from the US. A study of merit pay implemented to improve pupil retention found that teachers changed their teaching style to entice more pupils to stay on their course in order to meet the specified retention goal (Eberts, Hollenbeck and Stone, 2002). The research suggested that teachers did this by introducing a 'less rigorous' curriculum, such as more field trips and in-class parties.

Research, particularly from the US, has focused on the impact of pay arrangements on job satisfaction and morale. It found that where teachers worked in a merit pay district, only those who had received merit pay were likely to be satisfied with the merit pay system. Some have suggested that merit-based pay systems can have a positive impact on teachers and pupils by changing the system to: provide bonuses that focus on raising pupil achievements; recognise and reward teachers' work, which may provide extra incentives for them to stay in that school and/or in the teaching profession; and to identify and reward effectiveness may attract talented new individuals into the profession (Ritter and Barnett, 2013).

A study by Guis (2013) examined a US district-level merit pay system and its effect on levels of job satisfaction among teachers. The aim of the study was to add to previous evidence on the issue. A large-scale dataset of teachers from the 2007 Schools and Staffing Survey (SASS) compiled by the US Department of Education was used to identify and analyse the views of 32,020 full-time public school teachers. The research found no differences in levels of job satisfaction between teachers who worked in districts that use a merit pay system and teachers who worked in districts that do not operate merit pay. However, teachers in merit pay districts were more likely to leave for better pay, including leaving the teaching profession. They were also more likely to report that others did not view teaching as important. The study examined a sample of teachers who worked in merit pay districts. It found that teachers who received merit pay were more satisfied overall with their jobs than teachers in the same district who did not receive merit pay.

Other research (Max, Constantine, Wellington, Hallgren, Glazerman, Chiang and Speroni, 2014) from the US on the implementation of the Teacher Incentive Fund (TIF) reported that teachers working in TIF districts had lower job satisfaction than their counterparts working in non-TIF districts. As part of TIF, schools used a variety of measures to judge teacher performance, including: pupil achievement; the growth of the school (based on school achievements); teacher and/or pupil progress; and the results of classroom observations. The researchers said that lower levels of job satisfaction were due to the greater pressure on teachers to perform and a belief that TIF was not fair (Max et al., 2014). However, the research did not provide any examples of what was considered fair or unfair.

5.2.2 Teachers' Roles and Responsibilities

Research on the impact of performance-related pay systems on teachers' roles and responsibilities in China and Portugal reported negative impacts in terms of teaching and teaching preparation. The time spent preparing for appraisal and the extent to which this took time away from other activities was identified as a key issue in both China and Portugal (see Wang, Lai and Lo, 2014; Martins, 2010). Most of the teachers in China said that they did not have enough creative space to meet their pupils' needs or to benefit pupils' all-round development (see Wang, Lai and Lo, 2014). Significantly, the study by Wang, Lai and Lo (2014) also found that performance-related pay reforms increased inequalities between teachers in the same school, even though the reforms had reduced inequalities between schools. There was greater inequality between teachers based on the subjects taught. It was reported that teachers who taught non-exam subjects were less likely to perform well on the indicators.

In contrast, research from the US found no differences between teachers who worked in incentive pay districts and those who did not in terms of the time dedicated to supervising pupils, lesson preparation and professional development. (Max et al., 2014). No equality differences were reported.

5.2.3 Teachers' Career Development, Progression and CPD

The review found limited evidence about the impact of pay arrangements on teachers' career development and continuing professional development (CPD). Although analyses of sub-groups of teachers were undertaken in some instances, no significant results were noted. Some differences were noted for teachers by subject-taught. A study of OECD countries reported that teachers thought the 'most effective development is through longer programs that upgrade their qualifications

or involve collaborative research into improving teaching effectiveness' (OECD, 2011b, p. 6). It also suggested that educational reforms need to provide quality professional development and adequate career structures (OECD, 2011b), which highlight the importance of CPD.

In the US, a survey of teachers in districts implementing the Teacher Incentive Fund (TIF) found that few were satisfied with the opportunities for professional development, feedback and the school environment (Max et al., 2014). Professional opportunities were defined as the enhancement of skills and intellectual challenge. A small number of teachers reported that the initiative had positively impacted on their career choices, such as influencing choices of where to teach. Teacher responses were analysed by sub-group (including grade-subject and experience), using an experimental design, which could have affected the analyses.

In China, Wang, Lai and Lo (2014) found that those teachers who performed well against empirical performance indicators were given greater opportunities for professional development and remuneration than other teachers.

The review found no other research that looked at the relationship between teachers' pay progression and their CPD. An examination of this very limited evidence suggests that teachers have identified a need for a development-orientated system of performance management with opportunities for further professional learning, which is not linked to pay.

5.2.4 Teachers' Pay and Progression

Limited evidence about the impact of pay arrangements on teachers' pay and progression was found at an international level. Some evidence was concluded that pay arrangements negatively impacted on those new to the profession and a suggestion that women may leave the profession, but this was not evidenced.

Country-level performance-pay measures were combined with PISA-2003 international achievement micro data by Woessmann (2011) to analyse the impact of performance-related pay on pupil achievements in the USA, Japan, Korea, Turkey, Norway, Australia and New Zealand. The cross-country analysis found that better qualified teachers undertaking extra responsibilities received higher pay (see Woessmann, 2011). These extra responsibilities included, for example, taking on management responsibilities, teaching additional classes and teaching in particular areas or subjects. No issues of equality were reported.

Research in the US into the length of probationary period for teachers found that progression out of the probationary period takes longer in some states than others (see Brunner and Imazeji, 2010). Using the 1999-2000 Schools and Staffing Survey (SASS), a nationally representative sample of schools, districts and teachers, Brunner and Imazeji (2010) found that the salaries of teachers new to the profession were measurably higher in districts whose states require a longer probationary period. It was noted that the effect of probation length on salaries is particularly marked in districts that engage in collective bargaining. It was concluded that longer probationary periods resulted in higher quality teachers.

5.3 Recruitment and Retention in the Profession

Most of the evidence about the impact of pay arrangements on recruitment and retention in the teaching profession comes from the US. These studies have concluded that bonus payments have little, if any, impact on retention, but where there is an impact, this is likely to be negative, leading to teachers leaving the profession as rewards were insignificant (see Chetty, Friedman and Rockoff, 2014, Hendricks, 2014). However, one US study found evidence of a positive relationship between pay incentives and teacher recruitment and retention.

Analysis of a survey of a small number of teachers in Florida showed that financial incentives and working conditions play a key role in recruiting and retaining teachers (see Greenlee and Brown, 2009). This was particularly evident in challenging schools and in low income schools. A range of incentives such as salary enhancements and bonuses were found to have a positive impact on recruitment and retention (reported by 34 per cent of teachers). Teachers (22 per cent) also reported that with greater autonomy and resources they would be more likely to choose to teach disadvantaged pupils. The main conclusion from the study was that financial incentives was not the only factor considered key to recruiting and retaining highly qualified teachers to challenging schools. A positive school culture and an environment that enables teachers to achieve teaching excellence were also considered important.

A study in Israel (see Lavy, 2013) on the Teachers' Incentive Programme raised some concerns about women's retention in the profession over the longer term after the implementation of a national merit pay system. Lavy's research (2013) highlights the potential benefits of the scheme, but he noted that the findings may reflect short-term adjustments by teachers. In the longer term, there was a concern that the scheme may have an adverse effect on teaching staff composition. There was no evidence of gender differences in performance under competition in any of the gender mix environments, in teachers' knowledge of the programme, in effort or teaching methods. The study also found that female teachers were more pessimistic about the scheme than their male colleagues. Lavy (2013) suggested that this could mean that the competitive environment would likely to impact of retention rates of female teachers in the future. However, there was no evidence of this happening in the study. Others have suggested that further experimentation with similar ideas in educational systems is needed, but that this kind of rank-order tournament is unique and may not be popular in other countries (see Podgursky and Springer, 2007).

5.4 Pupil Performance, Attainment and Outcomes

Despite the fact that pupil performance and outcomes are often used to judge teacher performance, evidence about teacher incentive programmes that aim to improve pupil outcomes is mixed and evidence problematic. This section looks at the impact of financial incentives, performance-related pay and competition-based pay systems. Very little evidence was found in the review on the impact on different groups of teachers with exception of some evidence on the discrimination of female teachers. Teachers were found to adapt their teaching practise in order to meet the objectives of the pay system. Whether this is to the benefit of all pupils is not explored in the evidence.

Recent research from the US on the gender pay gap reported that teachers are low paid and more women are employed as teachers (AAUW, 2015). Data from 2013 indicates a 10 per cent pay gap between female and male secondary school teachers. This needs to be taken in to consideration when reviewing the evidence from the US where teachers' pay is linked to pupil outcomes.

Interestingly, evidence from the OECD (2012) found no relationship between average pupil performance and the use of performance-based pay schemes. However, the OECD reported that pupil performance tended to be better when performance-based pay systems were implemented in countries with low teachers' salaries (less than 15 per cent above GDP per capita). Whereas in countries where teachers are well-paid (more than 15 per cent above GDP per capita), performance-related pay schemes had no positive impact on pupil performance. No evidence on the impact of issues of equality was found.

Type of performance-related pay and pupil attainment

Research on **performance-related pay based on pupil attainment** generally shows that pupil outcomes are not significantly improved. Recent research on the performance for pay reform in the US has analysed its impact on pupil achievements in reading and mathematics (see Sojourner, Mykerezi and West, 2014). It is reported that performance-related pay can succeed in education when it promotes a process of locally negotiated goal setting. The researchers did not find any evidence that districts linked rewards to 'value-added' measures of teacher effectiveness. The fact that Q-Comp⁷ changed professional development and evaluation procedures as well as compensation criteria may help explain why it was effective, in contrast to reforms focused exclusively on compensation reform.

Financial incentive schemes have had little impact on pupil attainment. A study in 2004 examined the influence of specific teacher evaluation and reward policies on the teacher-pupil relationships (see Barile, Donohue, Anthony, Baker, Weaver and Henrich, 2004). The research analysed data from the Educational Longitudinal Study of 2002. None of the teacher evaluation or reward policies were found to be significantly related to school math achievement or the probability of pupil dropout. A recent review of financial incentive schemes suggested that teachers given financial incentives to improve pupils' value-added scores learnt how to 'game' the system (see Berliner, 2013). A further study on US teachers compared the end-of-year mathematics achievements of pupils whose teachers were offered financial incentives with those of pupils whose teachers were not offered the incentives (see Springer, Ballou, Hamilton, Le, Lockwood, McCaffrey, Pepper and Stecher, 2010). The study found that pupils with mathematics teachers who were offered the financial incentives exhibited mathematics achievement growth that was no better or worse than pupils with teachers who were not offered the financial incentives. Similar findings were found in a study of teachers in Kenya. Glewwe, Ilias and Kremer (2010) researched a Kenyan programme that rewarded teachers on the basis of pupils' examination scores, with penalties for pupils missing the exam. The study reported little evidence that teachers in the program schools made more effort to reduce dropouts or promoted broader learning. There was evidence of greater preparation of pupils for tests.

A study of performance-related pay that compared **individual and school-wide incentives** in the US and India found some positive links between performance-related pay and incentives. First, in Dallas Independent School District, incentivising schools and individuals with financial rewards for improving pupil outcomes was found to be successful (Alger, 2014). Second, in India, an evaluation of a teacher performance pay programme implemented across a large representative sample of government-run rural primary schools in the state of Andhra Pradesh found that individual teacher incentives improved pupil outcomes (see Muralidharan and Sundararaman, 2011a, 2011b, 2012). It must be noted that teachers in India are very low paid, so it would be expected that an incentive for further reward would result in a positive impact in pupil performance and/or teaching practice. Findings, therefore, have limited transferability.

Martins (2010) studied the effect of the introduction of individual teacher incentives in all public-sector schools in Portugal based on pupil performance. The study of the changes to teachers' pay analysed data that included schools present in the

⁷ Q Comp is a bipartisan agreement in the Minnesota Legislature (2005). "It is a voluntary program that allows local districts and exclusive representatives of the teachers to design and collectively bargain a plan that meets the five components of the law. The five components under Q Comp include Career Ladder/Advancement Options, Job-embedded Professional Development, Teacher Evaluation, Performance Pay, and an Alternative Salary Schedule" (see Minnesota Department of Education, <http://education.state.mn.us/MDE/SchSup/QComp/>).

data over an eight year period and pupils' exam results. The study found that the increased focus on individual teacher performance resulted in a significant and sizable relative decline in pupil achievement in national exams. These negative effects increased over time.

A **team-based incentive scheme** for teachers in New York was found to have no overall impact on pupil achievements (see Goodman and Turner, 2013), neither did an incentive scheme in the Metropolitan Nashville Public School District (see Springer et al., 2010). Two other studies of US schools that had implemented a team-based performance pay programme evidenced a slight increase in mathematics, as well as language and reading scores (see Sojourner, Mykerezi and West, 2014) and overall performance rates (see Hendricks, 2014).

In the US, a small scale study on the impact of teachers' **merit pay** found that course completion rates (which was specifically rewarded by the scheme) increased from around half to almost three quarters of pupils (see Eberts, Hollenbeck and Stone, 2002). Another study of merit pay found no significant relationship between the teacher evaluations or reward policies analyse and pupil outcomes (Barile et al., 2004).

In Israel, a national merit pay system was implemented to improve pupil grades and pass rates, as well as improve teacher performance. This unique **competition based pay system** in place for Israeli teachers showed that the incentivising scheme was more likely to change teacher behaviour. The overall results of the Israeli incentive programme showed that the pay incentives resulted in more pupils taking a matriculation exam, increased the pass rate and improved mean test scores (Lavy, 2009, 2013). The increase in pupil results were found to be the result of teaching taking place in smaller groups and the teacher's being able to track pupils' by ability and respond to pupil needs (Lavy, 2009). The changes in teaching methods and pedagogy were supported by the incentive programme. The study concluded that in order to measure teachers' performance multiple outcomes need to be measured, which is a complex. For instance, it is difficult to determine whether teachers are teaching to the test in order to improve exam results.

Finally, in the US, a **value added model** for teachers pay was found to improve pupil outcomes and teachers' performance (see Chetty, Friedman and Rockoff, 2014). These models were developed on the implementation of pay systems that offered financial incentives to teachers whose pupils had good exam results. They were also about saving costs to help manage the school budget. The study found that value-added teachers who raise their pupils test scores improve pupils' outcomes in adulthood (defined as more likely to attend college, earn higher salaries and are less likely to have children as teenagers). Analysis of administrative data also noted positive results through a study of value added teachers in Texas (see Hendricks, 2014). It was argued that paying teachers more improves pupil achievement through higher pupil retention rates. It was, therefore, suggested that adopting a level salary schedule was a cost effective approach to improving pupil performance. No evidence that pay effects vary by the teacher's gender or subject taught was reported.

Value added models can be considered unfair as pupil performance and test scores can be influenced by a number of factors. Teachers who opt to work in more deprived areas will be penalised, as they are more likely to work with less-able pupils whose progress will be slower. There are concerns about what and how outcomes are measured and over what period. For instance, measuring outcomes in terms of teacher effort, pedagogy and teaching methods are difficult. Value added models have been criticised for failing to take into account other factors that impact on pupil performance, such as special educational needs, ethnicity, socio-economic status and frequent movement by pupils between schools (NASUWT, 2013).

The research from the US illustrates how pupil attainment and test scores are widely used in performance-related pay systems. Poor implementation of such systems has had a detrimental impact on teachers, schools and the teaching profession. The evidence that does suggest pay incentives for teachers can result in improved pupil outcomes is weak. This is due to the measures used and the number of factors affecting pupil attainments, which are difficult to measure. These pay systems are more likely to be effective in countries where teaching salaries are low. None of the schemes considered the equality impact of the arrangements.

Comparative research on teachers' pay and pupil achievements

A cross-national time-series and panel regression analysis has provided the most robust data on the impact of teachers' pay on improving pupil achievements (Dolton and Marcenaro-Gutierrez, 2011). It found that a number of factors influence pupil attainments and outcomes of which pay is one factor. The analysis does not provide an examination of equality impact. This international comparative research using econometric modelling analysed indicators of teacher pay and education in 39 countries for a series of years from the OECD Education at a Glance publications (see Dolton and Marcenaro-Gutierrez, 2011). The determinants of teachers' salaries across countries, the relationship between the real (and relative) level of teacher remuneration and the (international) performance of secondary school pupils were analysed. Teacher pay was found to be closely related to experience. Lowering the pupil-teacher ratio was found to increase pupil performance.

The results are also supported by the cross-country analysis of the impact of performance-related pay and other factors on pupil achievements in the USA, Japan, Korea, Turkey, Norway, Australia and New Zealand (see Woessmann, 2011). Combined country-level indicators of the use of performance-related pay from the micro database of the 2003 Programme for International Pupil Assessment (PISA) were used. The analysis was based on data for 190,000 pupils who form a representative sample of 15-year-olds in 28 OECD countries. Pupils in countries that adjust teacher salaries for outstanding

performance in teaching perform was about 25 per cent of a standard deviation higher on the international math test (and also better in reading ability and science) than pupils in countries without teacher performance pay, after controlling extensively for pupil, school, and country measures.

5.5 Pay Reforms, Union Role, Involvement and Bargaining

All four studies of international evidence found on the union role and bargaining in teacher's pay reforms were from the USA with very limited evidence on equality impacts.

First, the role of collective bargaining in setting salaries for probationary teachers was examined in a US study (see Brunner and Imazeji, 2010). However, this was not the main focus of the study, so there is limited evidenced about its role. It was noted that the effect of probation length on salaries is particularly marked in districts that engage in collective bargaining.

Second, a US study on the role of the union in pay reforms found that many teaching union leaders were resistant to performance-related pay (see Hannaway and Rotherham, 2008; Johnson, Donaldson, Munger, Papay and Qazilbash, 2007). However, it was noted that younger teachers may have different needs and priorities than older teachers. It was found that younger teachers were less likely to think of themselves as having a long-term career in teaching and expected unions to support their early CPD needs (Johnson et al., 2007). The role of the union in the educational policy was emphasised.

Thirdly, a study comparing two US schools, one of which had implemented merit pay linked to pupil retention, noted that the merit pay school (which had improved pupil retention) was not unionised, while the traditional system school was unionised (see Eberts, Hollenbeck and Stone, 2002). It is not clear to what extent the different outcomes in the two schools reflect this, although unions have opposed individual merit pay and blocked its application in unionised schools.

Finally, Ballou (2011) in his comparison of US public and private schools found that private schools are more likely to use merit pay, but that it was not used in public education due to union opposition. Overall, this research suggested that the role of the union can be positive in helping to establish whether proposed performance-related pay systems are fair, but there is a need for further documented research particularly on equality impacts.

5.6 Implementing Pay-for-Performance Schemes

The review found one study on the effective implementation of pay arrangements for teachers from Estonia. Whilst the evidence makes little reference to equality impacts, there are clear implications for equality.

A study of the early implementation of pay-for-performance in Estonia provided recommendations for how the system could be better set up and implemented (see Irs, 2012, Irs and Türk, 2012). For example, the study recommended that the government help set up the pay-for-performance scheme, as many schools did not have the necessary tools. It was also recommended that head teachers and teachers must be involved in both the development of the system and its implementation. For instance, head teachers should find leaders in their own schools to manage change, and the views of both head teachers and teachers should be used to develop a system, so that it fulfils both parties' needs. Further, it was suggested that schools need to be able to determine what activities constitute good performance and adjust pay in the light of such performance measures. The study stated that this would provide an incentive for teachers to promote the success of the school. Importantly, the new pay arrangements needed to be perceived as fair.

Overall, there is evidence about the factors that are critical to pay incentive schemes being implemented effectively such as support, tools and resourcing from Government during the implementation phase of new pay arrangements is required. It is also recommended that schools need to constitute what is good performance and be clear on the system for awarding bonuses and incentives. Head teacher and teacher involvement in the process and its development are recommended. The study indicates that successful implementation of performance-related pay systems is dependent on teachers' perception of the equality and fairness of the system. Also, pay incentive schemes linked to the professional development of teachers are viewed more favourably. However, caution is needed when considering the relevance of this international study to England.

5.7 Summary: Issues of Equality

The majority of evidence found in the literature comes from the US and indicates that few benefits of performance-related pay have been found. Teachers largely hold negative views on the impact of performance-related pay on the teaching profession, on pedagogy and on pupil outcomes. There are several studies suggesting that performance-related pay systems linked to pupil test scores have had a negative impact. More positive evaluations of performance-related pay come from countries such as India, but the pay-systems for teachers in these countries are somewhat different to that in the UK, with teachers tending to be poorly paid and working in somewhat insecure conditions. Consequently, it is questionable as to whether and how much of evidence from these countries could be used to inform policy and practice in England.

In comparison to evidence from England, there has been more evidence found on issues of equality in the international studies reviewed. Evidence is presented by protected characteristic and subject taught. However, it must be stressed that the evidence is still limited and that issues of equality were not the main foci of these studies. The commentary in some

studies indicates that some systems disadvantage women and people from BME groups, as well as teachers of non-core subjects, while the evidence on the impact on teachers of different ages and at different points in their career is more mixed. No evidence was found which related to disability or LGBT teachers. Overall, the evidence base on equality impacts is weak.

Cross-cutting inequalities

One study highlights evidence that is crosscutting across a number of inequality dimensions. For instance, in the US, merit pay implemented to take into account experience and education was seen as a positive move to combating gender inequalities in pay. Data on the structure of earnings in public and private schools was compared and analysed taking into a number of demographic variables (Ballou, 2001). An analysis by race and ethnicity, age and undergraduate training were found to have little impact on pay. Gender and marital status, however, were found to impact on pay particularly in the private sector, where married men were more likely to receive better pay.

Gender

Whilst the following studies examined very different teacher pay systems, gender equality impacts were reported in both studies. Evidence was found from Estonia, where female teachers were more likely to be positive about the new pay-for-performance system than men (see Irs, 2012). By contrast, female teachers in Israel were less positive about performance-related pay, which may be a result of the competitive and tournament feel to the programme. In terms of attitudes towards performance-related pay systems, women were found to be more pessimistic about the effectiveness of teachers' performance pay and more realistic than men about their likelihood of winning bonuses (see Lavy, 2009, 2013). The greater pessimism of female teachers towards the Israeli incentive scheme may have the effect of greater drop-out from the profession over the longer-term, affecting the gender balance over time. It was noted that women are paid significantly less than men in Israel, whereas in Estonia teacher pay is low for both men and women. Whilst representing very different pay systems (competitive and performance-related), both studies highlight gender differences based on perceptions and attitudes.

Overall, the evidence about teacher pay arrangements and gender is lacking. Although the review found limited evidence about the impact of pay arrangements on teacher's career development and CPD, there are a number of potential gender issues. For instance, for female teachers, who tend to have family commitments, finding available time to undertake CPD meant they were disadvantaged if CPD took place after school hours or in the evening. Part-time teachers were also at a disadvantage as may get excluded due to their employment status.

BME

Although one study reported that Hispanic teachers in the US were more likely to be satisfied with their job, this was not linked to whether they worked in a merit pay district or not (see Guis, 2013). No other evidence was found that examined the impact of pay arrangements by BME.

Age

Again, the very limited research is found on teachers by age is on attitudes and satisfaction. Older teachers in Estonia were noted to have a more positive attitude towards the new pay-for-performance system than younger teachers (see Irs, 2012). The reasons for this were not explored. The analysis of a large-scale survey of public school teachers in the USA found teachers in merit pay districts and other districts showed no significant differences in satisfaction overall. However, teachers who were older, as well as those who were Hispanic, female and who worked in larger schools that had smaller percentages of minority teachers and pupils, were found to be more satisfied with their jobs than are other teachers (see Guis, 2013). Only one US study, noted that younger teachers were less likely to think of themselves as having a long-term career in teaching and expected unions to support their early CPD needs (see Johnson et al., 2007). The review highlights the apparent lack of evidence about levels of pay, pay progression and performance management judgements that are associated with both younger and older teachers. There is obviously a need for evidence that looks at teachers' experiences of pay and pay progression by age. No international evidence was found that reported on the impact of pay arrangements on younger teachers or those new to the profession.

Disability

No evidence was found on whether pay arrangements impact on teachers with a disability.

LGBT

There was no international evidence found on whether pay arrangements impact on LGBT teachers.

Subject taught

A qualitative study by Wang, Lai and Lo (2014) examined the 2009 reform in teachers' pay in China, linking remuneration to performance measured by pupil test scores. The main aims of the programme were to improve the quality of education by making teachers more diligent and creative and removing the inequality in pay between teachers in different schools. The study revealed that the new pay scheme had resolved the problem of inequality between teachers working in different

schools, which existed before, but had created greater inequality between teachers in the same schools. Only teachers who performed well on empirical performance indicators were given opportunities for professional development and remuneration, whilst teachers who worked in non-exam subjects were less able to get enhanced pay.

6. INTERNATIONAL EVIDENCE OF THE IMPACT OF PAY ARRANGEMENTS IN PRACTICE

This chapter presents evidence collected during interviews and correspondence with union representatives from Australia (Independent Education Union), Canada (Alberta Teachers' Association and Ontario Teachers' Federation), New Zealand (New Zealand Post Primary Teaching Association), Sweden (Laraforbundet) and the USA (AFT). The country case studies illustrate how pay arrangements for teachers are operating in practice and the impact. The illustrative country cases also include data that have been collated from union websites, documented evidence and a number of key websites (including Education International, government websites and trade union websites). The country cases highlight both the positive and negative impact different pay arrangements can have on teachers and the profession.

6.1 Australia: The Drive for Professional Standards

In Australia, pay structures for teachers are based on collective agreements, which have secured automatic pay progression for teachers. It is important to note that teachers' salary has improved significantly over the last few years due, in part, to the shortage of teachers. Generally, there is no cultural inclination towards additional pay. Inequalities in pay do not seem to be an issue within the current pay arrangements for teachers. The Australian country case illustrates how pay arrangements may be linked to professional standards and teacher certification and how funding concerns might undermine attempts to improve teacher quality.

The education sector is undergoing change, with further funding being made available for independent and state schools under the Gonski reforms (see Gonski, Boston, Greiner, Lawrence, Scales and Tannock, 2011). There is a mandatory annual performance appraisal system, which includes: a review with evaluators; school leader self-appraisal; school visit; pupil outcomes; and parent surveys (Mercer, 2013). After their appraisal, teachers are provided with a rating score and a professional development plan.

Teachers' pay in Australia is based on agreed pay scales and standards determined at the State and Territory level, which are also responsible for education in their area. The pay structure for teachers is very similar to other public sector workers. This is an incremental structure where teachers get an automatic payment every year with very few barriers to overcome during progression. In Queensland and New South Wales, and to a less extent in Western Australia, there is a step above the pay scale that teachers can apply for. The number of teachers who apply for these discretionary payments is very small, as the work required to succeed is substantial and the payment is negligible. In Victoria, on the other hand, there are no discretionary steps to the pay scale and the only additional payments are given to teachers who are in supervisory roles or who have taken on extra responsibilities. In the early 1990s, the Advanced Teacher position, which was available to those at the top of the scale, was abolished and the top of the current teacher pay scale is often reserved for those in supervisory positions.

Currently, pay arrangements are being affected by the drive for certification. In 2013 the National Australian Teacher Performance and Development framework was launched, which is driven by the need to certify the workforce. This aims to improve the effectiveness of teaching by creating a culture of teacher quality, feedback and development amongst all teachers within all schools. It sets out the process for appraising, developing and improving teaching practice. As such, teachers are now required to meet standards as part of their professional practice in order to achieve pay increases. These are set in the collective agreements. Only in very limited circumstances do teachers receive discretionary payments. There are different pay structures for head teachers and teachers. New South Wales is the only State that has ardently embraced the standards, which have been rejected by both Queensland and Victoria, which did not want to be seen to be offering more money.

Ministerial control is very popular within Australia, so it is unlikely that responsibility will be devolved to schools. No Australian state has embraced performance-related pay. However, some discrimination has been noted. For instance, primary schools have a preference for newly qualified teachers and, generally, part-time working is not viewed as desirable. As a result, there is a general culture that parents returning from parental leave do not have the option to work part-time.

Source: Independent Education Union, Australia

6.2 Canada: The Role of Collective Bargaining and the Value of Higher Education Qualifications

The Canadian country case illustrates how collective bargaining has secured a provincial-level pay structure. This pay structure or grid, in most instances, recognises and rewards developmental activities, further qualifications and additional teaching responsibilities or roles.

In Canada, provinces and territories are responsible for education and the decisions about pay, including pay scales for teachers. However, pay-for-performance is not part of the teaching pay system in Canada. Instead, pay is determined by the number of years teaching experience, type and number of qualifications, plus the number of years spent in higher education⁸. The main problem with this grid structure is that the distance from the bottom to the top is significant and can take many years to attain, without specific enhancements. For instance, it is not uncommon for a teacher to spend ten years in full-time teaching, or slightly more, before reaching maximum salary, which would approximately double the initial starting salary. However, the grids do allow for movement based on experience, qualifications and qualification enhancement. Higher placement on the grid in Ontario, for example, may be the result of attaining a Master's education degree in addition to an undergraduate qualification. Teachers may also improve their initial placement on the grid by taking specialised training in their area of expertise or other courses that qualify them to teach in more fields.

In Alberta, a university education is valued in terms of pay by the Teachers' Qualification Services, an entity created by deed of trust between the Alberta Teachers' Association and the Alberta School Boards' Association, with representation from Alberta universities. However, there are moves to count alternative teaching qualifications and certificates, such as the Journeyman certificate, a work-based programme of learning, which is gained when an individual has completed his/her apprenticeship and become a certified tradesperson.

Most pay grids comprise six years of initial education, but this is becoming problematic as more universities are moving to a five-year Bachelor of Education course. Although each jurisdiction is a little different, in general, teachers have a four year undergraduate degree plus a one or two year (depending on jurisdiction) postgraduate education degree, which then qualifies them to teach. There is increasing pressure on universities to include a seventh year of education.

In various agreements, modest allowances may be paid in addition to grid salaries either for extra responsibilities (such as department head and consultant duties) or for qualifications not necessarily recognised in the grid. Typically, these additional payments are not large and may, in some instances, be a one-off payment.

In Ontario in 1998, education funding changed significantly from a combination of provincial and local funding (and, therefore, decision-making) to one that is driven by a provincial funding formula. As a result, variations in pay levels based on geography, or the relative wealth of one community versus another, have all but disappeared and pay scales for one part of the province are very close to those in another. Similarly, differences in pay between types of schools, subjects and public or Catholic schools are minimal. The universal funding formula for pupils has led to a very high level of consistency in salary scales.

There are four unions in Ontario that undertake collective bargaining, as well as an umbrella organisation, the Ontario Teachers' Federation (OTF), which acts as a professional association. The OTF also has joint responsibility for teachers' pensions with a Government partner, separate from collective bargaining. There are 72 school boards in Ontario and each local Board has a collective agreement, which features the salary grid for teachers. It should be noted that different agreements can be in place for teachers and occasional teachers, elementary and secondary teachers. Placement on the grid and movement through the qualification element of the grid are determined by the Ontario Secondary School Teachers' Federation (OSSTF) Certification and the Qualifications Evaluation Council of Ontario (QECO). Additional qualifications can improve grid qualification, but importantly they open up opportunities for teachers.

The pay systems for teachers in Canada highlight how collective bargaining has secured a provincial-level pay structure. The pay grid, in most instances, recognises and rewards developmental activities, further qualifications and additional teaching responsibilities or roles. There is nothing inherently discriminatory about the salary structure reported, although women who take time off for maternity leave or work part-time were found to climb the grid more slowly. This has now been compensated for by reducing the number of days required for a year of service and by allowing teachers to combine days from several years to reach one year. Ontario is one example of collective bargaining and consistency in salary scales across one province. There is very little difference in pay noted between types of schools, subjects or whether it is public or Catholic.

Source: Alberta Teachers' Association and Ontario Teachers' Federation, Canada

⁸ Teachers can expect, for example, better placement on the grid if they have taken a postgraduate qualification.

6.3 New Zealand: Raising and Maintaining Professional Standards of Teachers and Promoting Collaboration

The New Zealand country case study illustrates how pay arrangements have moved from a performance-for-pay model to a pay scale, which recognises that teachers should be rewarded for continuing to practice rather than moving into management. It is one model of pay and progression that is linked to professional development and outlines how engagement in professional development activities may be an integral part of raising and maintaining professional teaching standards. A new initiative is also included as an interesting example of a scheme aimed at encouraging and rewarding teachers who collaborate and share good practice with schools within their community.

In 1989, educational reforms, named Tomorrow's Schools⁹, shifted employer responsibility from the Ministry of Education to Boards of Trustees (Mercer, 2013). Awards and salaries for teachers were, and continue to be, negotiated nationally. The Ministry of Education¹⁰ provides funding for schools and negotiates national collective employment agreements, which covers teaching and leadership roles. The salary scale comprises five scales within which there are a number of steps. It has been agreed, amongst teachers and unions, that quantitative measures should not be used. Rather, assessments should be broad, aspirational and holistic, as reflected in the National Curriculum. This model is viewed as being fair and equitable by teachers and the Union and these pay arrangements continue to operate.

The pay system for teachers is organised through a salary ladder to ensure teachers with the same qualifications and experience are paid the same, as is the case in Canada, highlighted above. Teachers are able to move up the salary scale based on qualifications and years of experience, based on the idea that teachers improve with experience. However, there are payments separate to the scale for teachers who have taken on additional duties and responsibilities. Performance is managed through mandatory appraisals. There are set standards that teachers have to meet and maintain in order to progress and retain their position on the pay scale. Progression up the scale is possible for seven years and those who reach the top of the scale continue to be assessed and must meet the standards to maintain their position. The international expert consulted as part of this review see the scales as equitable.

In the 1990s, New Zealand schools were self-governing and able to recruit and dismiss staff, but could not set teachers' pay as national collectives were in place. A few schools paid above the national rates, but most were not able to afford to do this. At the time there were individual fixed-term employment agreements for head teachers. There was an aggressive campaign to have the system changed. In 1999 following the election of a new government, the existing pay system was put in place. There are no moves to return to the old system, as it would destroy the collective agreements for teacher's pay and conditions of service, which include criteria set by the professional body (all teachers in New Zealand have to belong to the professional body). Every three years, teachers are assessed against these criteria in order to renew their practice certificate.

A pay scale for secondary school teachers has been in place since the 1990s. In the mid to late 1990s, professional standards for teachers were added to the system. The professional standards have three levels and were agreed and developed with the Union as part of the collective agreements. The Union has ensured that they were not linked to performance outcomes for pupils.

An estimated 90 per cent of teachers who are employed meet those standards each year and progress up the scale. There have been criticisms about the high number of teachers moving up the scale, but there is no evidence to suggest particular groups of teachers are less likely to progress up.

Within the primary school sector, there have been moves to introduce a new role, the Advanced Classroom Expertise Teacher (ACET). For those at the top of the pay scale, teachers can provide a portfolio of evidence of their effective practice and receive an ACET bonus payment of NZ\$5,000. This is not a widely supported initiative, as it is a highly rationed payment and there are issues in determining who receives the award. There is also a concern that those receiving the bonus have no responsibility or requirement to share their effective practice.

A new pay initiative, Investing in Educational Success (IES), has recently been implemented in New Zealand and aims to set out the career pathways for teachers and to promote collaboration between schools. Currently, there are no structures in place for schools to work collaboratively or share good practice. IES enables teachers' developmental opportunities through mentoring and peering learning roles. This initiative responds to the need to remunerate and reward teachers for good practice and also addresses the issue of teachers wishing to stay in practice rather than move into leadership roles. The scheme includes new roles for teachers and head teachers, which enables them to access more pay and, importantly, be rewarded for practice. This scheme is in the early stages of development, with communities of schools forming early in 2015. The equality impact is yet to be assessed.

Source: *New Zealand Post Primary Teaching Association, New Zealand*

⁹ Taskforce: *Tomorrow's Schools Part One (1989) Ministry of Education, New Zealand: www.education.govt.nz/assets/Documents/Ministry/Initiatives/Taskforce-on-Regulations-Affecting-School-Performance/TaskforceTomorrowsSchoolsPart-One.pdf*

¹⁰ Taskforce: *Tomorrow's Schools Part Two (1989) Ministry of Education, New Zealand: www.education.govt.nz/assets/Documents/Ministry/Initiatives/Taskforce-on-Regulations-Affecting-School-Performance/TaskforceTomorrowsSchoolsPart-Two.pdf*

6.4 Sweden: Individualised Teacher Pay and Inequalities

The Swedish country case illustrates an established individualised pay system that has been in place for a number of years. It also highlights some of the inequalities and variations in pay that occur at management level. There was a marked change in the pay arrangements for Swedish teachers in State schools in 1995/96 and a move away from a fixed system; those changes are still in place today.

Pre-1995/96, a wage ladder was in place which dictated teachers' salaries. Every 18 months a teacher could expect to move up the salary or wage ladder. Larger steps up the wage ladder could be made, but they were dependent on qualification, subject taught and responsibilities. Post-1995/96 reforms led to a more individualised system. Negotiations for pay take place at national level and can include a minimum percentage increase. For example, a 2.5 per cent increase was negotiated for 2014/15. The local municipalities distribute money to schools and head teachers determine each teacher's salary. However, head teachers use different mechanisms to determine a teacher's salary, which suggests that there could be some inequalities in pay.

The school head teacher through an annual review process determines individual pay. It focuses on what has been achieved over the year and how the teacher has contributed to the school. This is measured against local criteria that should have been agreed and discussed in advance. The collective agreements at national level say that these criteria should be based on recruiting, retaining and leading. Goals would have also been set in advance, so teachers understand what they are aiming to achieve. At the end of this review, the head teacher and teacher will agree on how well the teacher has performed: not very well, fair, really well or excellently. The wage rates are supposed to be based on the common achievements and although the overall process is defined as the ideal, this is not always followed in practice.

Recognised problems with the pay system centre upon the poor connection between what teachers do in the classroom and their annual wage. This can lead to inequities.

Teachers can be measured on their role and the number of responsibilities they have, rather than whether or not they are a good teacher. Head teachers often do not have opportunities to see how teachers work, so it is easier to justify pay increases for a particular teacher if they provide evidence of more work. The pay system is, however, accepted as fair by teachers as there is an overriding ethos that individuals should be paid for what they do. There is also a belief that pay is a reflection of what a teacher does and achieves, but importantly that poor performing teachers are not rewarded. This was a major criticism of the pre-1995/96 pay ladder system.

The national experts consulted for this review believe that where the pay system works well, teachers are happy, as they understand what is expected of them and conditions support them in achieving what is expected. However, this seldom happens in practice because a strong leader (head teacher) is required. When the pay system does not work well, teachers become demotivated and no longer feel appreciated. The system is more open to discrimination than the ladder system, as it is subjective. There are no reports of gender discrimination.

There are a number of inequalities in the pay system as a consequence of the individualised system of pay. In practice, pay is based on economic considerations and distributed on what is available. As such, teachers can perform the same tasks and make the same achievements, but can receive very different pay in different contexts. A head teacher can also choose to raise the wages of a particular teacher if there is a demand for their subject area. There are also regional variations and inequalities, as for example in richer municipalities, teachers' pay is higher compared with more rural areas, but differences in pay can also be the result of the political context in the region.

Source: Läraförbundet, Sweden

6.5 USA: Rewards for Pupil Outcomes

The USA county case illustrates how in some states teachers are rewarded for pupil outcomes and attainments.

Education is organised at state level in the US and many state governments encourage or require local school districts to include performance evaluation in their teacher management systems. In some states or local school districts, pay-for-performance or merit pay is also in operation. Across the US, most schools adopt the same pay system. There are very few examples of career systems, but reward systems are common and are based on pupil outcomes. Performance-related pay systems comprise different elements including a review, classroom observations and pupil outcomes. Those that support performance-related pay based on pupil attainments argue that it is about performance management. However, the system is considered to be very unfair, punitive and open to discrimination as the assessment process is very subjective. It is thought that head teachers can use the system to punish teachers who do not fit.

Schools in Baltimore, Cleveland and a few others operate very complicated performance pay systems that focus, at least in part, on growth and improvement, rather than pupil attainments. In contrast, the Washington DC school system is almost entirely based on pupil test scores. The system in DC is criticised, as those teaching in poor neighbourhoods are unlikely to get additional pay. There are a number of examples where the implementation of performance pay systems based on pupil test scores has had unintended and detrimental consequences for schools, such as the dismissal of all teachers in a particular subject, demotivating teachers to teach in a particular grade or in poorer neighbourhoods and districts.

In 2012, it was reported that all 50 states have developed performance policies (see Patrick, 2012). The Federal government also encouraged districts to shift toward performance-based HRM systems through its \$1.6 billion Teacher Incentive Fund and \$4.4 billion Race to the Top program. The performance pay systems vary with a growing trend towards basing evaluations on test scores. For example, Florida mandates that 60 per cent of a bonus is based on test scores, whilst Arizona uses a career ladder as its model of pay-for-performance (see Wisconsin Educational Association Council, 2011). However, not all school districts within each state participate in performance pay systems. Two such examples are Texas, where around one-third of the school districts participate, and Minnesota, where pay systems must be bargained locally. Some states provide bonuses to entire school districts, while others allow for individualised merit pay (see Wisconsin Educational Association Council, 2011). Although the research is considered controversial, Patrick (2012) found that policies were effective at dismissing poor performing teachers and retaining highly qualified teachers.

The pay systems for teachers in the US have remained relatively static over the last few years. Teachers' pay is low compared to other occupations in the US and there is a consensus that teachers should be paid more and it is likely that there will be a move to increase teachers' pay over the next five years (AFT, 2014). However, there is not enough money in the schools' budget and it is anticipated that schools will need to look at reallocating resources to the instructional budget from which teachers are resourced. Over the last few years, there has been a narrative of blaming teachers for the poor performance of pupils across the country, although, there is a general acknowledgement that this needs to change. A number of teacher incentive schemes have been implemented (Alger, 2014; Allan and Fryer, 2011) including:

- Teacher incentive programme in Nashville – math teachers were awarded bonuses if their pupils performed at the 80th percentile and above;
- Teacher incentive programme in New York – schools were provided with financial rewards (to be distributed to teachers) where achievement targets were met;
- Teacher Advancement Program (TAP) in Chicago – teachers' rewards were based on classroom observations and pupil exam results;
- ASPIRE in Houston – where teachers' pupil test score growth was in the top 50 per cent, teachers were rewarded, with the top 25 per cent receiving an extra bonus;
- Public School Performance Incentive Program in Alaska – rewarded schools based on pupil achievements and their continuous improvement;
- Dallas Independent School District School Incentive Programme – aimed at long-term improved in pupil achievement, schools were eligible for bonuses based on pupil performance scores using a value-added model¹¹;
- STAR in Florida – rewarded teachers based on pupil achievements and their continuous improvement.

Across the incentive schemes, teachers' or schools' performance was compared with performance in the district. All of the evidence suggests that the effectiveness of teacher incentives varies and that more research is needed to better understand the impact on pupil achievements and teaching practice. None of the evidence found considers equality issues.

The national experts consulted for this review stated that developing a performance based pay compensation system is a process and not an event. The implementation of performance pay has to be carefully planned and takes a number of years to implement. A robust performance system does not use pupil test scores and lagging indicators. Teachers have to understand what they are being assessed on and why in order to ensure buy-in. There are a number of outstanding questions around recruitment, retention, career advancement, evaluation and professional standards that need to be addressed.

The union is currently promoting career ladders based on responsibility and growth, which can accelerate salary progression.

Source: AFT, USA

6.6 Summary

The five country cases provide a current perspective of teachers' pay arrangements and their impact on teachers and the profession. Cases provide an overview of how and why pay arrangements for teachers have changed over time. Australia, Canada and New Zealand not only highlight the role of unions in negotiating teachers' salaries, but importantly how salary scales or ladders have positively impacted on the profession. Pay progression in these countries is linked to professional standards and based on qualifications, experience and number of years in teaching. For the most part, the country experts saw these scales as equitable as there is a high level of consistency in pay between teachers. The case of Sweden is interesting as it provides evidence of inequalities resulting from individualised pay. The subjective nature of determining pay is considered inequitable. However, it is suggested that these pay arrangements are accepted by teachers, who believe it is fair to get paid for what you do. The USA country case provides a unique look at how pay for teachers can be linked to pupil outcomes and the problems associated with this measurement. Across the states different pay arrangements are in place and in the majority teachers are not considered to be well paid. It suggests that career ladders may have a positive impact on teachers and their progression. Overall, the evidence on pupil performance and on the teaching practice was very limited and none of the evidence considered equality.

¹¹ In Dallas, a recent programme (2014/15) in which 85 per cent of teacher's compensation will be based on performance and pupil test scores was reported by Alger (2014). No detail on the programme was provided.

7. CONCLUSIONS: EVIDENCE ON THE IMPACT OF PAY ARRANGEMENTS AND ISSUES OF EQUALITY

The literature review has considered the range of evidence on the impact of pay arrangements on teachers in England. International evidence was also sought and reviewed. Much of the evidence found is quantitative, largely focusing on teachers' perceptions and opinions of pay arrangements implemented. Evidence was also found which considered the impact of pay arrangements on teachers' career and progression, the teaching profession and pupils. There is little evidence, nationally or internationally, which explicitly examined teachers' pay and pay progression by the equality dimensions of gender, age or ethnicity. Indeed, no studies were found which examined disability or sexual orientation.

In England, pay arrangements based on performance have been found to have a negative impact on women, women with children and BME teachers. The socio-economic class of a teacher was only mentioned in one study as a potential indicator of inequality. Both women and men reported gender discrimination in terms of their pay. Performance-related pay arrangements were also found to negatively impact on the teaching culture and the profession. As there is little documented evidence, caution is required in interpreting the evidence and its wider applicability. New research on the latest changes to teachers' pay again raises concerns on fairness and equality.

There is significant evidence from England and internationally on how pay arrangements impact on teachers' performance, motivations and morale, as well as their responsibilities and career development. Most of the evidence found reported a negative impact on teacher recruitment and retention. However, specialist incentives were found, at individual level, to have a positive impact on job satisfaction and morale. Concerns about the fairness and inequality of pay arrangements for teachers was a recurring theme in evidence from England and internationally.

Pupil performance and attainment have been used as measures to make decisions about pay in a number of countries and US states. However, there is much evidence criticising the use of pupil attainment as a measure for performance-related pay. There is conflicting and contrasting evidence as to whether pay reforms and increasing teachers' salaries improves pupil attainment. Where found, evidence often focused on the immediate impact using pupils' performance and outcomes as a measure. The review found little evidence about the impact of pay arrangements on pupils' performance, teachers' recruitment and retention, and the teaching profession over the longer-term.

Substantive evidence on the equality impact of pay arrangements is missing, but drawing on the wider literature, it is clear that performance-related pay is open to discrimination. Discrimination is believed to be the result of the individualistic and competitive nature of progression in the system.

7.1 Evidence About Equality Impact

A range of evidence was sought on issues of equality in terms of pay arrangements for teachers. Evidence was sought on gender, ethnicity, age, disability, sexual orientation, subject taught and type of school. Overall, the review indicates that there is very limited evidence from England and internationally that looks at the equality impact of pay arrangements, including performance-related pay. The evidence base on equality impact is very weak, but there is overwhelming evidence that pay arrangements have the potential to operate in ways that are discriminatory. Discrimination is believed to be the result of the individualistic and competitive nature of performance-related pay in the system. The potential for subjectivity and favouritism was a major criticism made by teachers.

Where evidence about inequalities has been identified, it is not the main focus of the research that has been published. The findings from studies that do refer to equality matters indicate that women teachers, women with family commitments and teachers from BME backgrounds experience disadvantage. The commentary in some international studies indicates that some systems disadvantage particular groups of teacher, as well as teachers of 'non-core' subjects. The evidence on the impact on teachers of different ages and at different points in their career is more mixed.

The following provides an overview of the evidence by protected characteristics of teachers:

Gender

Evidence of gender inequalities was identified in the review of the impact of pay arrangements on teachers, undertaken in England and internationally.

In England, research suggests that female teachers are more likely to under-rate their achievements in performance-related pay systems and that, due to domestic circumstances, are often unable to take on extra duties or participate in extra-curricula activities. One study from England reported that women's career aspirations and decisions to progress to leadership roles are also affected by their caring and family responsibilities. Both women and men cited workload as the number one barrier to career progression in the teaching profession.

There have been concerns that the new pay arrangements in the teaching profession will have an adverse impact on recruitment and retention. However, only three studies discussed the impact of pay arrangements on recruitment and retention reporting a negative impact on those early in the careers and men. Both women and men similarly identified gender discrimination as an issue in the recruitment process.

The evidence from England also shows that the implementation of performance-related pay has not all been positive in terms of the role and career progression of teachers and pupil outcomes. For example, teachers are concerned with how their performance is measured. For the most part, performance-related pay has been shown to have little impact on teaching and teachers in the longer-term, but gender inequalities in terms of teachers' career progression was reported.

Although school leaders and management play a key role in implementing and managing the pay arrangements of teachers, only limited evidence was found. Notably, a lack of support from male head teachers and governors was found to negatively impact on the promotional prospects of female teachers. This suggests that performance based pay could be subjective and open to discrimination.

Internationally, evidence from Estonia and Israel on female teachers and pay arrangements was mixed with some reporting pessimism about its impact on the profession over the longer-term. In contrast, one US study found that the introduction of merit pay was considered to be a positive move towards combating existing gender inequalities in pay. Discrimination is often seen to be the consequence the individualistic and competitive nature of the some performance management systems, which is in conflict with the collective nature of teaching and the professional culture of women. The potential for subjectivity and favouritism was a major criticism made by teachers.

BME

Evidence from England indicated that BME teachers face discrimination within pay arrangements, as a result of their personal circumstances and the difficulties they encounter accessing key networks. BME teachers were more likely to report barriers to progression resulting from their domestic circumstances, similar to findings on gender. Networking and collegial support was reported to be key to progression and that the under-representation of BME teachers meant that they were more likely to be isolated and not have access to such support networks.

Age

The review highlights the apparent lack of evidence about levels of pay, pay progression and performance management judgements that are associated with both younger and older teachers. Whilst no evidence was reported that examined the impact of pay arrangements for teachers by age, one UK study reported that pay arrangements negatively impacted on recruitment and retention particularly those early in their careers and that those who had been in the profession longer were more likely to be male and on the leadership scale. In terms of international evidence, older teachers in Estonia were found to be more positive about the new pay-for-performance system compared with younger teachers. Whilst in the US, older teachers had higher job satisfaction than other teachers, but that this was no relationship to those working in a merit pay district or not. No international evidence was found that reported on the impact of pay arrangements on younger teachers or those new to the profession.

Disability

No significant evidence, from England or internationally, was found on whether pay arrangements impact on teachers with a disability. One study in England that looked at the recruitment process reported that teachers thought that there were low levels of discrimination by disability.

LGBT

No evidence was found on the impact of pay arrangements on LGBT teachers.

Subject taught

There is some international evidence that points to inequalities that are based on subject taught. A study of the Chinese system linking teacher remuneration to performance found that inequalities between schools and those teaching the same subjects were reduced. However, teachers who worked in non-exam subjects were less able to get enhanced pay or access to continuing professional development opportunities. Controversially, only teachers who performed well on empirical performance indicators were given opportunities for professional development and remuneration.

7.2 Strengths And Limitations Of Evidence About Equality Impact

A major strength of the evidence found in the review is that it is broad, exploring the impact of pay arrangements on: teachers' performance, motivations and morale; roles and responsibilities; career development, progression and CPD; recruitment and retention; plus pupil performance, attainment and outcomes. However, the evidence is limited as it fails to examine equality impact in any depth and raises more questions that need further research and exploration. This is true for research in England and internationally.

Most of the evidence about pay arrangements and reforms and their impact on the teaching profession is quantitative in nature, with few studies adopting a qualitative approach. Evidence about the equality impact of pay arrangements is limited with most evidence examining attitudes and satisfaction levels rather than documented discriminatory practice. For the most part, the individual voices of teachers and the impact of arrangements and reforms at an individual level are lost.

There is documented evidence on the role of unions in national and local negotiations and pay bargaining that includes gender and equality principles. Whilst some evidence makes reference to union involvement and issues of equality, evidence about the role of unions in securing better equality pay outcomes nationally and locally is limited. There is a need to explore the context and factors that support union involvement and positive outcomes.

7.3 Gaps In Evidence and Further Research

There is an absence of research that looks at the demographic profile of the teacher in terms of protected characteristics. There is no evidence on equality differences in career progression. Although there is some evidence of women reporting that their domestic circumstances is a barrier to taking up more senior or leadership roles, there is a lack of research in to how this impacts on their career and (future potential) earnings. Part-time working is also not explored in the research.

There is a significant gap in the evidence that identifies and explores inequalities that may be present in particular types of pay incentives and schemes for teachers. Where evidence about inequalities has been identified, it is often not the main focus of the research. There is overwhelming evidence that pay arrangements generally have the potential to be discriminatory, particularly where there are high levels of autonomy in making pay awards. This is set alongside a number of studies that highlight teachers' perceptions that pay arrangements are subjective and unfair. Inequalities were found to exist due to under-rating achievements, personal circumstances, increased workloads and incentives that contradict the collective nature of teaching.

The review identified one study that discussed the implementation of a pay-for-performance scheme. However, the study did not examine the equality impact of these arrangements. There is a need for research that examines equality matters related to the implementation of performance-related pay systems, including the views of teachers who share a protected characteristic. This might include an examination of perceptions of fairness, whether equality information is used when designing systems, and whether any account is taken of the particular needs of groups of teachers when developing criteria to judge performance.

References

- AAUW. (2015). *The Simple Truth About the Gender Pay Gap*. Washington DC, USA: American Association of University Women (AAUW).
- Adnett, N. (2003). Commentary. *Reforming teachers' pay: incentive payments, collegiate ethos and UK policy*. *Cambridge Journal of Economics*, 27(1), 145-157.
- Alger, V. E. (2014). *Teacher Incentive Pay that Works: A Global Survey of Programs that Improve Student Achievement*. British Columbia, Canada: Barbara Mitchell Centre for Improvement in Education, Fraser Institute.
- Allan, B. M., and Fryer, R. G., Jr. (2011). *The Power and Pitfalls of Education Incentives*. Washington: Brookings Institution Press.
- Atkinson, A., Burgess, S., Croxson, B., Gregg, P., Propper, C., Slater, H., and Wilson, D. (2009). *Evaluating the impact of performance-related pay for teachers in England*. *Labour Economics*, 16(3), 251-261.
- Atkinson, A., Burgess, S., Croxson, B., Gregg, P., Propper, C., Slater, H., and Wilson, D. (2004). *Evaluating the impact of performance-related pay for teachers in England*. Bristol: University of Bristol. Centre for Market and Public Organisation.
- Ballou, D. (2001). *Pay-for-performance in public and private schools*. *Economics of Education Review*, 20(1), 51-61.
- Barile, J. P., Donohue, D. K., Anthony, E. R., Baker, A. M., Weaver, S. R., and Henrich, C. C. (2012). *Teacher-Student Relationship Climate and School Outcomes: Implications for Educational Policy Initiatives*. *Journal of Youth and Adolescence*, 41(3), 256-267.
- Barnett, J., Ritter, G., Jensen, N., Lo, W.-J., and Denny, G. (2014). *Merit Pay Programs for Improving Teacher Retention, Teacher Satisfaction, and Student Achievement in Primary and Secondary Education: A Systematic Review*. Oslo, Norway: The Campbell Collaboration.
- Berliner, D. C. (2013). *Problems with Value-Added Evaluations of Teachers? Let Me Count the Ways!* *Teacher Educator*, 48(4), 235-243.
- Blake, D., Hanley, V., Jennings, M., and Lloyd, M. (2000). 'Superteachers': *The views of teachers and head teachers on the Advanced Skills Teacher grade*. *Research in Education*(63), 48.
- Brunner, E. J., and Imazeki, J. (2010). *Probation length and teacher salaries: does waiting pay off?* *Industrial and Labor Relations Review*, 64(1), 164.
- Chamberlin, R. P., Wragg, T., Haynes, G., and Wragg, C. (2002). *Performance-related pay and the teaching profession: a review of the literature*. *Research Papers in Education*, 17(1), 31-49.
- Chetty, R., Friedman, J. N., and Rockoff, J. E. (2014). *Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood*. *The American Economic Review*, 104(9), 2633-2679.
- Cutler, T., and Waine, B. (2004). 'Performance' Without Pay? *Managing School Budgets Under Performance-related Pay: Evidence from the First Year of PRP*. *Financial Accountability and Management*, 20(1), 57-75.
- Department for Education. (2013a). *School Teachers' Pay and Conditions Document 2013 and Guidance on School Teachers' Pay and Conditions*. London: Department for Education.
- Department for Education. (2013b). *Departmental advice. Reviewing and revising your school's approach to teachers' pay*. London: Department for Education.
- Department for Education. (2014a). *Implementing your school's approach to pay. Departmental advice for maintained schools and local authorities (DFE-00538-2014)*. London: Department for Education.
- Department for Education. (2014b). *Equalities considerations as part of the appraisal and pay determination process. Departmental advice for local authorities, maintained schools, academies and free schools*. London: Department for Education.
- Department for Education. (2014c). *The use of evidence in appraisal and pay decisions. Departmental advice for local authorities, maintained schools, academies and free schools*. London: Department for Education.
- Department for Education. (2014d). *Implementing your school's approach to pay. Departmental advice for maintained schools and local authorities*. London: Department for Education.
- Department for Education. (2014e). *Managing appeals against pay determination. Departmental advice for local authorities, maintained schools, academies and free schools*. London: Department for Education.
- Department for Education. (2014f). *School Teachers' Pay and Conditions Document 2014 and Guidance on School Teachers' Pay and Conditions*. London: Department for Education.
- Department for Education. (2015). *School Workforce in England: November 2014 (Statistical First release SRF 21/2015)*. London: Department for Education.
- Department for Education and Employment. (1999). *Teachers: meeting the challenge of change. Technical Consultation Document on Pay and Performance*. London: Her Majesty's Stationery Office
- Department for Education and Employment. (1998). *Teachers: meeting the challenge of change (Green Paper, CM4164)*. London: Her Majesty's Stationery Office.
- Department of Education Northern Ireland. (2014). *Teachers' pay and allowances from 1 September 2013 (Circular number 2014/13)*. Belfast: Department of Education Northern Ireland.
- Dolan, J., Golden, A., Ndaruhutse, S., and Winthrop, R. (2012). *Building effective teacher salary systems in fragile and conflict-affected states (Policy report)*. Reading: The Center for Universal Education at Brookings and CfBT Education Trust.
- Dolton, P., and Marcenaro-Gutierrez, O. D. (2011). *If you pay peanuts do you get monkeys? A cross-country analysis of teacher pay and pupil performance*. *Economic Policy*, 26(65), 5-55.

- Eberts, R., Hollenbeck, K., and Stone, J. (2002). *Teacher performance incentives and student outcomes*. *The Journal of Human Resources*, 37(4), 911-927.
- European Commission. (2013). *Teachers and School Heads Salaries and Allowances in Europe 2013-2014*. Eurydice Facts and Figures. Brussels: European Commission.
- Evans, L. (2011). *The 'shape' of teacher professionalism in England: Professional standards, performance management, professional development and the changes proposed in the 2010 White Paper*. *British Educational Research Journal*, 37(5), 851-870.
- Farrell, C., and Morris, J. (2009). *Still Searching for the Evidence? Evidence-based Policy, Performance Pay and Teachers*. *The Journal of Industrial Relations*, 51(1), 75-94.
- Farrell, C. M., and Morris, J. (2004). *Resigned compliance: teacher attitudes towards performance-related pay in schools*. *Educational Management Administration and Leadership*, 32(1), 81-104.
- Fuller, C., Goodwyn, A., and Francis-Brophy, E. (2013). *Advanced Skills Teachers: Professional Identity and Status*. *Teachers and Teaching: Theory and Practice*, 19(4), 463-474.
- Fuller, C., Goodwyn, A., Francis-Brophy, E., and Harding, R. (2010). *Advanced Skills Teachers: Summary Report*. Reading: The Institute of Education, The University of Reading.
- Gindin, J., and Finger, L. (2013). *Promoting Education Quality: the Role of Teachers' Unions in Latin America (Background paper prepared for the Education for All Global Monitoring Report 2013/14 'Teaching and learning: Achieving quality for all')*. Paris, France: United Nations Educational, Scientific and Cultural Organization (UNESCO).
- Gittleman, M., and Pierce, B. (2015). *Pay-for-performance and Compensation Inequality: Evidence from the ECEC*. *Industrial & Labor Relations Review*, 68(1), 28-52.
- Gius, M. (2013). *The effects of merit pay on teacher job satisfaction*. *Applied Economics*, 45(31), 4443-4451.
- Glewwe, P., Ilias, N., and Kremer, M. (2010). *Teacher Incentives*. *American Economic Journal. Applied Economics*, 2(3), 205-227.
- Gonski, D. C., Boston, K., Greiner, K., Lawrence, C., Scales, B., and Tannock, P. (2011). *Review of Funding for Schooling: Final Report*. Canberra City: Department of Education, Employment and Workplace Relations, Australian Government.
- Goodman, S. F., and Turner, L. J. (2013). *The Design of Teacher Incentive Pay and Educational Outcomes: Evidence from the New York City Bonus Program*. *Journal of Labor Economics*, 31(2), 409-420.
- Gray, M., Lawson, P., Legge, C., and Marks, T. (2003). *Evaluation of the Teaching Pay Initiative in further education sector colleges (Research report RR468)*. Nottingham: Department for Education and Skills.
- Greaves, E., and Sibieta, L. (2014). *Estimating the effect of teacher pay on pupil attainment using boundary discontinuities (IFS Working Paper W14/03)*. London: Institute for Fiscal Studies.
- Greenlee, B., and Brown Jr, J. J. (2009). *Retaining teachers in challenging schools*. *Education*, 130(1), 96-109.
- Hannaway, J., and Rotherham, A. J. (2008). *Collective Bargaining in Education and Pay-for-performance*. Working Paper 2008-11. Vanderbilt University, USA: National Center on Performance Incentives.
- Harvey-Beavis, O. (2003). *Performance-Based Rewards for Teachers: A Literature Review*. Paper presented at the Third Workshop of Participating Countries on OECD's Activity Attracting, Developing and Retaining Effective Teachers, Athens, Greece.
- Hendricks, M. D. (2014). *Does it pay to pay teachers more? Evidence from Texas*. *Journal of Public Economics*, 109(0), 50-63.
- House of Commons Committee of Public Accounts. (2014). *Whole of Government Accounts 2012-13. Twenty-sixth Report of Session 2014-15*. London: The Stationery Office Limited.
- Hutchings, M. (2010). *What impact does the wider economic situation have on teachers' career decisions? A literature review (Research Report DFE-RR136)*. London: Department for Education.
- Hutchings, M., Mansaray, A., Minty, S., Moreau, M.-P., and Smart, S. (2009). *Excellent Teacher Scheme Review (Research report no. DCSF-RR137)*. London: Department for Children, Schools and Families.
- Hutton, W. (2011). *Hutton Review of Fair Pay in the public sector: Final report*. London.
- Irs, R. (2012). *Pay-for-performance in Estonian general educational schools: the situation for further development*. *Baltic Journal of Management*, 7(3), 302-332.
- Irs, R., and Türk, K. (2012). *Implementation of the performance related pay in the general educational schools of Estonia*. *Employee Relations*, 34(4), 360-393.
- Johnson, S. M., Donaldson, M. L., Munger, M. S., Papay, J. P. and Qazilbash, E. K. (2007). *Leading the Local: Teachers Union Presidents Speak on Change, Challenges*. Education Sector Reports, USA.
- Kremer, M., Chaudhury, N., Rogers, F. H., Muralidharan, K., and Hammer, J. (2005). *Teacher Absence in India: A Snapshot*. *Journal of the European Economic Association*, 3(2/3), 658-667.
- Lavy, V. (2009). *Performance Pay and Teachers' Effort, Productivity, and Grading Ethics*. *The American Economic Review*, 99(5), 1979-2011.
- Lavy, V. (2013). *Gender Differences in Market Competitiveness in a Real Workplace: Evidence from Performance-based Pay Tournaments among Teachers*. *Economic Journal*, 123(569), 540-573.
- Lemieux, T., MacLeod, W. B., and Parent, D. (2009). *Performance pay and wage inequality*. *Quarterly Journal of Economics*, 134(1), 1-49.
- Mahony, P. (2005). *The Impact of Performance Threshold Assessment on Teachers' Work (ESRC Full Research Report, R000239286)*. Swindon: ESRC.

- Mahony, P., Menter, I., and Hextall, I. (2004a). *The emotional impact of performance-related pay on teachers in England*. *British Educational Research Journal*, 30(3), 435-456.
- Mahony, P., Hextall, I., and Menter, I. (2004b). *Threshold assessment and performance management: modernizing or masculinizing teaching in England?* *Gender and Education*, 16(2), 131-149.
- Marsden, D. (2015). *Teachers and Performance Pay in 2014: First Results of Survey (CEP Discussion Paper No.1332)*. London: Centre for Economic Performance, London School of Economics and Political Science.
- Marsden, D. (2009). *The Paradox of Performance-related Pay Systems: 'Why Do We Keep Adopting Them in the Face of Evidence that they Fail to Motivate?'* (CEP Discussion Paper No.946). London: Centre for Economic Performance, London School of Economics and Political Science.
- Marsden, D., and Belfield, R. (2004). *Unions, Performance-Related Pay and Procedural Justice: the Case of Classroom Teachers (CEP Discussion Paper No 660)*. London: Centre for Economic Performance, London School of Economics and Political Science.
- Martins, P. S. (2010). *Individual teacher incentives, student achievement and grade inflation*. London: Centre for Economic Performance, London School of Economics and Political Science.
- Max, J., Constantine, J., Wellington, A., Hallgren, K., Glazerman, S., Chiang, H., and Speroni, C. (2014). *Evaluation of the Teacher Incentive Fund: Implementation and Early Impacts of Pay-for-Performance After One Year (NCEE 2014-4019)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- McNamara, O., Howson, J., Gunter, H., and Fryers, A. (2010). *No Job For A Woman - The Impact of Gender in School Leadership*. Rednal: NASUWT.
- McNamara, O., Howson, J., Gunter, H., and Fryers, A. (2008). *Supporting the Leadership Aspirations and Careers of Black and Minority Ethnic Teachers (Research Brief)*. Rednal: NASUWT.
- McNamara, O., Howson, J., Gunter, H., Sprigade, A., and Onat-Stelma, Z. (2007). *Women teachers' careers*. Rednal: NASUWT.
- Menter, I., Hextall, I., and Mahony, P. (2003). *Rhetoric or Reality? Ethnic monitoring in the Threshold Assessment of teachers in England and Wales*. *Race, Ethnicity and Education*, 6(4), 307-330.
- Mercer. (2013). *International study into pay and non-pay conditions in schools*. London: Mercer.
- Mizala, A., and Romaguera, P. (2004). *School and teacher performance incentives: The Latin American experience*. *International Journal of Educational Development*, 24(6), 739-754.
- Moreau, M.-P., Osgood, J., and Halsall, A. (2005). *The Career Progression of Women Teachers in England: a Study of Barriers to Promotion and Career Development. Final Report of the Women Teachers' Careers and Progression Project*. London: IPSE, London Metropolitan University.
- Muralidharan, K. (2012). *Long-Term Effects of Teacher Performance Pay: Experimental Evidence from India*. Washington DC, USA: Society for Research on Educational Effectiveness.
- Muralidharan, K., and Sundararaman, V. (2011a). *Teacher opinions on performance pay: Evidence from India*. *Economics of Education Review*, 30(3), 394-403.
- Muralidharan, K., and Sundararaman, V. (2011b). *Teacher Performance Pay Experimental Evidence from India*. *The Journal of Political Economy*, 119(1), 39.
- NASUWT. (2014a). *Performance Management and Pay Policy Audit Tool 2014*. Rednal: NASUWT.
- NASUWT. (2014b). *Taking Control of your Performance Management – A practical guide for teachers (England)* Birmingham: NASUWT.
- NASUWT. (2013). *The use of pupil performance data in target setting and in the evaluation of the effectiveness and capability of teachers (England)*. Rednal: NASUWT.
- NASUWT and NUT. (2014a). *Explanatory Guidance*. Birmingham: NASUWT/NUT.
- NASUWT and NUT. (2014b). *NASUWT/NUT model school pay policy (HAD14/08037)*. Birmingham: NASUWT/NUT.
- Neal, D. (2011). *The Design of Performance Pay in Education*. In E. A. Hanushek, S. Machin, and L. Woessmann (Eds.), *Handbook of the Economics of Education (Vol. 4, pp. 495-550)*. Amsterdam, Netherlands: Elsevier B.V.
- O'Beirne, C., and Pyle, K. (2014). *Teachers' Standards, appraisal regulations and pay reform (Research report DFE- RR323)*. London: Department for Education.
- OECD. (2012). *Does performance-based pay improve teaching? (PISA in Focus 16)*. Paris: Organisation for Economic Cooperation and Development.
- OECD. (2011a). *Strong Performers and Successful reformers in education: Lessons from PISA for the United States*. Paris: OECD Publishing.
- OECD. (2011b). *Building a High-Quality Teaching Profession. Lessons from around the world (Background Report for the International Summit on the Teaching Profession)*. Paris, France: OECD Publishing.
- OECD. (2009). *Evaluating and Rewarding the Quality of Teacher - International Practices*. Paris, France: OECD Publishing.
- Odden, A., and Kelley, C. (2002). *Paying teachers for what they know and do: New and smarter compensation strategies to improve schools (2nd ed.)*: Corwin Press, Thousand Oaks, CA.
- Patrick, B. (2012). *Fiscal Federalism, Performance Policies, and Education Reforms: Are States Using Performance Policies to Improve Workforce Quality?* *Politics and Policy*, 40(4), 593-628.
- Perry, J. L., Engbers, T. A., and Jun, S. Y. (2009). *Back to the future? Performance-related pay, empirical research, and the perils of persistence*. *Public Administration Review*, 69(1), pp.39-51.

- Podgursky, M. J., and Springer, M. G. (2007). *Teacher performance pay: A review*. *Journal of Policy Analysis & Management*, 26(4), 909-950.
- Reelika, I. (2012). *Pay-for-performance in Estonian general educational schools: the situation for further development*. *Baltic Journal of Management*, 7(3), 302-332.
- Ritter, G. W., and Barnett, J. H. (2013). *A straightforward guide to merit pay: Encouraging and rewarding schoolwide improvement*. Thousand Oaks, CA: Corwin.
- Santibáñez, L., Martínez, J. F., Datar, A., McEwan, P. J., Setodji, C. M., and Basurto-Dávila, R. (2007). *Breaking Ground Analysis of the Assessment System and Impact of Mexico's Teacher Incentive Program "Carrera Magisterial" (Prepared for the Mexican Ministry of Education)*. USA: RAND Education.
- School Teacher's Review Body. (2014). *School Teacher's Review Body Twenty-Fourth Report – 2014 (Chair: Dame Patricia Hodgson, DBE) (Cm8886)*. London: School Teachers' Review Body, Department for Education and Office of Manpower Economics.
- School Teacher's Review Body. (2013). *School Teacher's Review Body Twenty-Third Report – 2013 (Chair: Dame Patricia Hodgson, DBE) (Cm8813)*. London: School Teachers' Review Body, Department for Education and Office of Manpower Economics.
- School Teacher's Review Body. (2012). *School Teacher's Review Body Twenty-First Report – 2012 (Chair: Dame Patricia Hodgson, DBE) (Cm8487)*. Norwich: The Stationery Office Limited.
- School Teacher's Review Body. (2004). *School Teacher's Review Body Thirteenth Report - Part 2: 2004 (Chair: Bill Cockburn) (Cm6164)*. Norwich: The Stationery Office Limited.
- School Teacher's Review Body. (2001). *School Teacher's Review Body Tenth Report - 2001 (Chair: Tony Vineall) (Cm4490)*. Norwich: The Stationery Office Limited.
- Sojourner, A. J., Mykerezi, E., and West, K. L. (2014). *Teacher Pay Reform and Productivity: Panel Data Evidence from Adoptions of Q-Comp in Minnesota*. *The Journal of Human Resources*, 49(4), 945.
- Springer, M. G., Ballou, D., Hamilton, L., Le, V., Lockwood, J. R., McCaffrey, D., Pepper, M. and Stecher, B. (2010). *Teacher pay-for-performance: Experimental evidence from the Project on Incentives in Teaching*. Nashville, TN: National Center on Performance Incentives at Vanderbilt University.
- The Sutton Trust. (2011). *Improving the impact of teachers on pupil achievement in the UK – interim findings*. London: The Sutton Trust.
- UCU. (2013). *The position of women and BME staff in professorial roles in UK HEIs*. London: University and College Union.
- Wang, L., Lai, M., and Lo, L. (2014). *Teacher professionalism under the recent reform of performance pay in Mainland China*. *Prospects*, 44(3), 429-443.
- Webb, R., Vulliamy, G., Hämäläinen, S., Sarja, A., Kimonen, E., and Nevalainen, R. (2004). *Pressures, rewards and teacher retention: a comparative study of primary teaching in England and Finland*. *Scandinavian Journal of Educational Research*, 48(2), 169-188.
- Wisconsin Educational Association Council. (2011). *What Do We Know About Merit Pay? Research Briefs (No.20)*. Wisconsin, USA: Wisconsin Educational Association Council
- Woessmann, L. (2011). *Cross-Country Evidence on Teacher Performance Pay*. *Economics of Education Review*, 30(3), 404-418.
- Wragg, E. C., Haynes, G., Chamberlin, R., and Wragg, C. M. (2004). *Performance-related pay: the views and experiences of 1,000 primary and secondary head teachers*. *Research Papers in Education*, 18(1), 3-23.
- Wragg, E. C., Wikely, F., Wragg, C. M., and Haynes, G. (1996). *Teacher Appraisal Observed*. London: Routledge.

ANNEX A: DATA EXTRACTION PROFORMA

1. Biographical Information

Reference

Abstract

Commissioning body

Country

2. Highlights

Example of good practice evidenced? If yes, outline.

Theme related to review

3. Focus of the study

Main focus of the study

Outline of study (aims, objectives, country/region, date of research)

Demographic details of research population(s)

4. Methodology

Theoretical approach

Data collection methods and analysis (including sampling)

Strengths and limitations of study

5. Findings

Main findings and conclusions

Recommendations (policy/practice)

6. Analysis of evidence for review

Outline pay arrangements evidenced in the study

Do the pay arrangements evidenced impact on teachers? If so, outline.

- teacher performance, motivations, morale
- pay and progression
- roles and responsibilities
- career development and CPD (access to and nature of CPD)

Do the pay arrangements evidenced impact on different groups of teachers? If so, outline.

- Gender
- Age
- Disability
- BME
- Sexual orientation
- Religion
- Subject taught
- Phase of education
- Type of school (maintained, academy, public, private)

Do the pay arrangements evidenced impact on the teaching profession? If so, outline.

- quality of teachers, incentives, recruitment

What evidence is there to demonstrate that changes to teachers' pay impact on school leadership and management?

What evidence is there to demonstrate that changes to teachers' pay are having a positive impact on pupils?

- outcomes, performance, attainment, achievements

What evidence is there to demonstrate that changes to teachers' pay are having a negative impact on pupils?

- outcomes, performance, attainment, achievements

How is this impact determined or measured?

What evidence is there on policy, new practices, or union role, involvement and bargaining?

Is there any other evidence on the pay arrangements of teachers?

ANNEX B: EXPERT INTERVIEW TOPIC GUIDE

Welcome and introductions

The Institute for Employment Research at the University of Warwick has been commissioned by the NASUWT to look at:

- how the new pay arrangements are affecting pay levels and progression;
- whether or not schools have policies in place to prevent and tackle discrimination in relation to pay and progression;
- how differences in levels of pay and rates of progression are explained at the school level.

We are talking to representatives from several countries about the operation of pay policies and practices in schools, and the impact these policies and practices may have had on the individual and the profession more widely. Today, I would like to get some insights from you about what the arrangements are in your country.

The interview should take about 45 minutes. (Check for any time constraints)

I would like to record the interview for my own purposes. It will help when I write up the summary of our conversation, would this be ok? I can assure you that I will delete the recording after I have written up my notes.

I would like to send you a draft of my summary to check for accuracy, would this be ok?

Interview questions

1. Can you tell me a bit about the union and its members? (Check – numbers, geographical coverage, established etc.)
2. Can you tell me about the pay arrangements/structure for teachers in your country? (Probe – how long it has been in place, how has it evolved, does it vary by school type or region, can teachers get additional payments for taking on extra roles and/or responsibilities, what is the general feeling towards the current pay arrangements)
3. Have there been any changes at a policy level or changes to practices within schools with regard to pay levels and progression?
 - a. If yes, probe – changes, timescale, implementation period, consultation/communication process, impact on individual and the profession, positive/negative response to change, more or less likely to increase potential for discrimination.
 - b. If no, explore why and if future changes are expected, is it embedded and accepted, is there a need for change.
4. Are you aware of any issues with the current pay arrangements? Probe for detail.
5. Do you think it is open to discrimination? Probe protected characteristics.
6. Are there any safeguards within the schools or by other stakeholders to combat potential discrimination?
7. Has the union commissioned, or do you know of, any research on pay, performance and progression?
8. Is there anything else you would like to say, which you think is relevant?

(Supplement with country specific questions identified during review)

ANNEX C: PAY ARRANGEMENTS FOR TEACHERS BY COUNTRY

The following provides some information on teacher's pay arrangements in selected countries. Data have been collated from union websites, documented evidence and a number of key websites (including Education International, government websites and trade union websites). Countries are included where empirical evidence on the impact of pay arrangements has been found.

China

Since 1985, local school finance and governance in China was decentralised, which resulted in significant regional differences (OECD, 2011a). In 2006, the Revised Law of Compulsory Education established differential subsidies¹² from the central government to different regions with aim of sustaining universal basic education (OECD, 2011a). In China, under the new mechanisms in 2009, teachers' pay consisted of two parts: basic performance pay and incentive performance pay. Basic performance pay accounts for 70 per cent of the total money for salaries that a school receives and incentive performance pay accounts for the other 30 per cent. Basic performance pay reflects the level of local economic development, local living costs, and teachers' position or rank. In allocating the basic part of the pay, teachers of the same professional title and length of service receive the same amount of money, as long as they adhere to the general requirements of their employment contract. Incentive performance pay reflects teachers' extra workloads and contributions to their school and rewards teachers who get good results in their teaching and who conduct educational research.

Estonia

In Estonia, education is organised and pay decided at a national level. In 2009/10, the pay-for-performance system in Estonia concentrated on each individual's work effort and was in its early stages of implementation. The system meant that individual performance may be rewarded on a regular basis, which means that the teachers' work is continually appraised and they are offered bonuses for their exemplary activities and performance (for more information see Irs, 2012). Similarly, regular bonuses may be awarded based upon an increase in the teachers' competence. Second, individuals may be offered incentive bonuses for overtime work, extracurricular activities or for outstanding work performance. Co-operation between teachers can be emphasised by offering group bonuses as well. Regular group bonuses are mainly used for rewarding certain project teams. 'Gain-sharing' schemes are also used, which are pay-for-performance plans in which financial rewards for employees are linked to the performance of the entire unit. Similarly, one-time incentives may be offered to teachers for outstanding group performances.

India

The education system in India is complex with a statutory governing body overseeing the curriculum and enforcement of education policy, plus a number of State Government boards managing schools at State level. In India, levels of learning are very low despite efforts to improve access to primary schools and enrolments, as well as the 'Education for All' campaign¹³ to increase public spending on education (Muralidharan and Sundararaman, 2011a, 2011b) The delivery of education in India is poor. Teacher's pay in India is dependent on level of qualification and experience. Pay scales are in place for government run schools, but within private schools teacher's pay is negotiated and teachers are often on similar salaries.

A teacher performance pay programme was implemented in government-run rural primary schools in the Indian state of Andhra Pradesh (see Muralidharan and Sundararaman, 2011a, 2011b, 2012). Two types of performance pay were examined: group bonuses based on school performance; and individual teacher performance. Teachers were paid bonuses for every percentage point of mean improvement in their pupil test scores. It was evaluated by comparing mathematics and language test scores in the incentive and control group schools over a two year programme. In the first year, schools with individual and group incentives performed equally in terms of test scores, but in the subsequent year schools with individual incentives performed significantly better.

Teachers are very low paid and absences are high, a study found that on any particular day teacher absence rates ranged between 15 per cent (in Maharashtra) to 42 per cent (in Jharkhand), averaging at 25 per cent of teachers absent per day (Kremer, Chaudhury, Rogers, Muralidharan and Hammer, 2005). The same study also found that only 45 per cent were engaged in teaching activity during unannounced school visits. Absence rates were not correlated to seniority or higher pay. The research from India provides evidence of a specific reward based pay system that is effective in that particular country context, but its findings have limited transferability. Within this context, a financial incentive scheme would be attractive to retaining the current workforce and, importantly, improving teaching behaviour.

¹² This is an 80 per cent subsidy towards student unit costs from the central government in underdeveloped provinces, 60 per cent for provinces of medium economies and no subsidy for developed provinces.

¹³ See: http://mhrd.gov.in/sites/upload_files/mhrd/files/upload_document/EFA-Review-Report-final.pdf

Israel

The education system in Israel is organised at a national level. In 2008, a new system called Ofek (meaning 'New Horizon') was introduced by the Minister of Education (Ministry of Education, Israel, 2015¹⁴). This system implemented a pay scale for teachers of nine levels. Teacher progress through the levels depended on their experience, but they are required to have, as a minimum, an undergraduate degree. Teachers progress up the first five levels over a 2-3 year period and will have to accumulate 60 hours of professional development every year. Promotion to the final three levels is conditional on evaluations of the teacher agreed in consultation with the teacher's union. Promotion is dependent on professional development and a minimum of three years' experience. Those teachers on temporary contracts do not get any additional financial entitlements.

A Teachers' Incentive Programme in 49 lower-performing schools was implemented in 2000. The pay incentives in the programme were substantial, acting as a form of bonus, and were set up as a "tournament" between teachers within the programme schools (all were eligible if teaching Years 10-12 in specific subjects): teachers could win more than one bonus depending on outcomes (e.g., some teachers made as much as 50 per cent of their annual income in bonuses). The programme included 629 teachers, of whom 207 competed in English, 237 in mathematics and 172 in Hebrew or Arabic. Three hundred and two teachers won awards – of whom 94 were English teachers and 124 were maths teachers. Teachers participated in a tournament that provided cash bonuses based on the test performance of their classes. This programme was successful in this context where teachers became more active in the classroom and were found to set homework, give practice tests, provide extra classes and support for less able children. It should be noted that this scheme is distinctive and it is questionable as to whether it is transferable to other countries.

Kenya

In Kenya, education is governed at national level. Teacher's pay in Kenya is based on a scale; the salary entry point and allowances are based on qualifications and previous experience (Teachers Service Commission, Kenya)¹⁵. Increments are awarded for each year of completed service provided that the maximum salary point is not exceeded. Promotion is dependent on qualification and those that have attained higher qualifications are awarded increments. The collective bargaining agreement on teacher's service and conditions expired in 2011 and unions have been in negotiation for better pay for teachers, plus housing, medical and transport allowances (Education International news, 8 January 2015)¹⁶.

A Kenyan program that rewarded groups of teachers at state schools based on pupils' exam scores, with penalties for pupils missing the exam was implemented. These incentives were also implemented to help reduce teacher absence. Whilst in place group financial incentives were found effective at raising pupil exam scores and attendance. Evidence was found to support short-term changes in teacher behaviour, but there was no long-term impact recorded (Alger, 2014). Although evidence from Kenya provides an example of a comparable reward pay system to that of India, the context of the education system is very different and findings have limited applicability in other contexts. Research, beyond the scope of this review, has already explored the difficulty of developing teacher salary systems in states such as Kenya (see Dolan, Golden, Ndaruhutse and Winthrop, 2012).

Latin America (Bolivia, Chile, El Salvador, Mexico)

In 2004, it was reported that school and teacher performance incentives had been implemented since 1998 in a small number of Latin American countries (see Mizala and Romaguera, 2004). The teacher salary structure in Latin America is based on equal pay regardless of effort, ability and qualification. Seniority is the only basis for a pay increase. Overall, teachers are relatively well paid compared to other occupations (OECD, 2009). It should be noted that the teaching Unions in Latin America have played a key role in creating satisfactory working conditions and pay (Gindin and Finger, 2013). Different pay incentives have been implemented and the following emphasises inputs rather than outputs.

In Bolivia, responsibility for education infrastructure and provision was decentralised to municipal level from 1994. Teacher's pay is based on seniority, but in order to progress to a higher level of seniority, teachers must pass an exam (Alger, 2014). This requirement was implemented in 1994 as part of the reforms to improve teacher quality and pupil performance. Merit wages were implemented in 1998 and withdrawn from 2000 being replaced by a number of incentive and bonus schemes (Mizala and Romaguera, 2004). These incentivising programmes are still in operation today and include: bonuses for additional in-service training (Incentivo a la Actualización Docente, IAD); bilingual instruction (Incentivo a la Modalidad Bilingüe, IMB); and for teaching in rural areas (Incentivo a la Permanencia Rural, IMR) (Alger, 2014). The bonuses are very small and not considered effective. In 2001, the ICE (Incentivo Colectivo a Escuelas) programme to incentivise team-working in schools was implemented. Performance was measured on pupil pass rates, retention rates and pupil drop outs (Mizala and Romaguera, 2004). This has also been found to be ineffective at improving pupil performance.

14 See <http://cms.education.gov.il/EducationCMS/Units/Ofek/yesodi/sachar/>

15 See <http://www.tsc.go.ke/>

16 See http://www.ei-ie.org/en/news/news_details/3386

In Chile, education is organised at a regional level and a regional teaching excellence award, the National System of School Performance Assessment (Sistema Nacional de Evaluación del Desempeño de los Establecimientos Educacionales Subvencionados, SNED), was implemented in 1996. It was implemented as part of wider education reforms to give municipalities responsibility for education. It is a school-wide performance incentive to improve teacher performance and motivation (see Mizala and Romaguera, 2004).

In 2000 in El Salvador the education system is regulated by the Ministry and whilst is high priority in the country standards are low in rural areas. The school award 'Plan de Estímulos a la Labor Educativa Institucional' (PLAN) was implemented to incentivise problem solving and improve education services (Mizala and Romaguera, 2004). It uses pupil drop-out and retention rates as measures (OECD, 2009). Pupil achievements in El Salvador are considered to be the result of the Education with Community Participation Programme, where parents and pupils have a voice in school-level discussions about teacher quality and pupil performance (OECD, 2009).

In Mexico, education is regulated by the Federal government with administrative duties falling within the responsibility of State Ministries of Education. Mexico is one country in Latin America that has performance-related pay. The career ladder (Carrera Magisterial) was implemented in 1993 to improve teacher status and raise the quality of education (Secretaría de Educación Pública, Estado Unidos Mexicanos, 2015¹⁷). It is a horizontal promotional system comprising five levels where professional development is seen as key (Santibáñez, Martínez, Datar, McEwan, Setodji and Basurto-Dávila, 2007). Participation is voluntary, but teachers that are assessed and pass are given a salary bonus. Teachers are evaluated on seniority, educational attainment, professional development, teacher performance and pupil achievement. Research found the teachers were often qualified for a level without pupil outcomes needing to be considered (Santibáñez, Martínez, Datar, McEwan, Setodji and Basurto-Dávila, 2007). It is reported to have improved the professionalisation of the teaching profession through professional development and training (Secretaría de Educación Pública, Estado Unidos Mexicanos, 2015).

Portugal

The education sector in Portugal is split into State run schools and independent private Schools. The pay arrangements in Portugal included a break-up of the single pay scale for teachers into two separate scales in January 2007, with a large salary gap between them. Progression from the lower to the upper pay scale was determined by individual teacher performance variables, two of the most controversial being the academic performance of pupils taught by each teacher, and feedback from the pupils' parents about the teacher. Other criteria included the teacher's attendance record, attendance at training sessions, management and pedagogical duties, and involvement in research projects. These criteria for progression were to be assessed at each school, by those teachers in the higher pay scale. However, even if the teacher did well along these criteria, progression between the two pay scales was still conditional on a given number of (upper-scale) teacher vacancies per school, and was determined centrally every two years by the Ministry of Education as a function of the number of pupils in the school. The new system introduced tournaments as well as performance-related pay. The reform was not applied to 20 per cent of schools, which were private.

Wales

The pay arrangements for teachers in maintained schools in Wales are set by the Secretary of State for Education, as in England. The education sector in Wales also includes independent schools and residential establishments. The Education Act 2002 gives the Secretary of State for Education the power to determine the pay and conditions of employment of teachers in maintained schools provided that any such matters are first referred formally to the School Teachers' Review Body (STRB) who have to consult stakeholders and the unions (NASUWT website, 2015). As in England, independent schools do not have to set pay in accordance with the School Teacher's Pay and Conditions document. Again, the Conditions of Service for School Teachers in England and Wales book (2000) sets out the conditions of service for teachers in maintained schools. Teachers in residential establishments in Wales have similar pay arrangements to those in maintained schools.

¹⁷ See http://www.sep.gob.mx/es/sep1/cncm_pncm

NASUWT
The Teachers' Union