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**Evidence for  
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## **Response to Migration Advisory Committee Call for Evidence**

# **Partial Review of the Shortage Occupation List: Teachers**

**National Foundation for Educational  
Research (NFER)**

Public



## 1. About NFER

NFER is a charity and the leading independent provider of education research and assessments in the UK. We provide evidence that improves education, learning and the lives of learners in the form of insights that are relevant and accessible and inform policy and practice. Successive UK governments have used our evidence to inform policy thinking.

Through expert research and extensive knowledge of education and assessment, we offer a unique perspective on today's and tomorrow's educational challenges. We draw on trusted relationships, working with a range of influential organisations from government departments to employers; from school leaders and teachers to parents. The breadth of our work enables us to have a systemic view of the education system, linking together evidence from different areas to give a wide perspective.

## 2. Overview of our response

We welcome the Migration Advisory Committee's decision to hold a call for evidence to help determine whether there is a teacher shortage which it would be sensible to fill, at least in part, through non-EEA migration. NFER's submission provides research evidence on teacher recruitment and retention. Our submission is mainly based on evidence from the following two NFER research projects:

- [Engaging teachers: NFER analysis of teacher retention](#) (Lynch *et al.*, 2016)
- [Should I stay or should I go? NFER Analysis of Teachers Joining and Leaving the Profession](#) (Worth *et al.*, 2015).

We also refer to a Nuffield funded report by the IFS on [the longer-term costs and benefits of different initial teacher training routes](#), which NFER contributed to (Allen *et al.*, 2016).

Our submission summarises the evidence from these sources which relates to the six points set out in the call for submissions. We have only responded to the questions where we have an original addition to make; namely questions [6](#), [7](#), [9](#), [11](#), [13](#), [18](#), [20](#), and [21](#). Overall, our evidence suggests:

- Despite rising pupil numbers and shortfalls in new trainees, the overall number of teachers in England has grown over recent years, in line with pupil numbers.
- Retaining working-age teachers is becoming harder and wider economic and labour market conditions are probably making retention harder
- At a time when trainee targets are being missed, retaining the teachers already in the profession becomes all the more important. Policymakers have paid far less attention on retaining teachers who are currently employed in state schools than on recruiting new teachers.
- Our research suggests that teachers' pay is not the main motivating factor for retention and other factors, such as engagement, are far more important.

### 3. Teacher retention

#### Q6. What are the issues around retention of teachers? Have these issues changed in recent years?

The issues relating to teacher supply are complex. The demand for teachers is expected to grow because of increased pupil numbers, while wider economic conditions have had an impact on the ability to retain teachers and the pipeline of new teachers. Worth *et al.*, (2015) and Lynch *et al.*, (2016) identify the key trends in the current teacher supply challenge as:

- teacher numbers have grown over recent years
- retaining working-age teachers is becoming harder
- pupil numbers are forecast to rise, so more teachers will be needed in future
- wider economic and labour market conditions are probably making retention harder.

We summarise the key evidence on each of these challenges, as presented in our reports (Worth *et al.*, 2015; Lynch *et al.*, 2016) below.

#### Teacher numbers have grown over recent years

Although around ten per cent of teachers in the state sector leave their profession each year nationally, they are generally being replaced by new entrants. The overall number of teachers increased again in 2015 (although the picture varied by phase). There were a record number of 456,000 full-time equivalent teachers in state-funded schools in 2015.

#### Retaining working-age teachers is becoming harder

The proportion of teachers leaving for reasons other than retirement increased from six per cent of teachers in 2011 to eight per cent in 2015 (see Figure 1 from Lynch *et al.*, 2016 below). Overall, this has been offset by a reduction in the number of teachers retiring, but nonetheless indicates that retention pressures seem to be growing.

**Figure 1. The proportion of non-retiring teachers leaving the profession has risen since 2011**

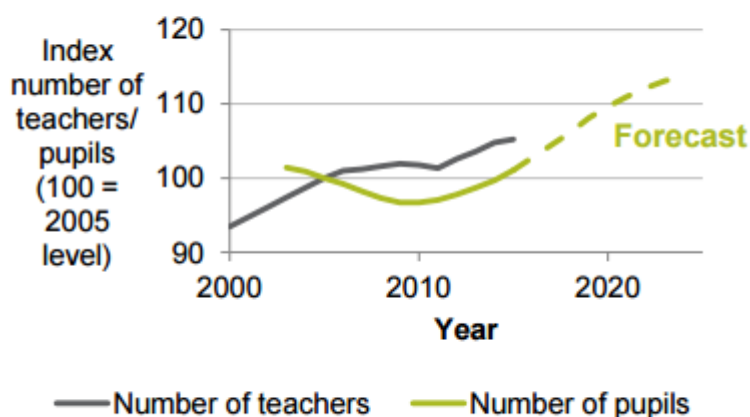


Source: [School Workforce Census](#)

## Pupil numbers are forecast to rise, so more teachers will be needed in future

The number of pupils is projected to grow by 13 per cent between 2015 and 2024, adding another 900,000 pupils to the school system over the next decade (see Figure 2 from Lynch *et al.*, 2016). This growth will increase the demand for teachers, increasing the importance of retaining teachers that are already in the system.

**Figure 2. More teachers are needed to meet future demand**



Note vertical axis does not start at zero.

Sources: [School Workforce Census](#) and [National Pupil Projections](#)

## Wider economic and labour market conditions are probably making retention harder

A review of how economic conditions influence teachers' career decisions by Hutchings (2011) found that there is a counter-cyclical (negative) relationship between economic conditions and teacher retention (though weaker than the relationship between the economic cycle and teacher recruitment). This suggests that the current strong situation in the wider labour market is bad for retention. If employment prospects in the private sector deteriorate as a result of the UK leaving the European Union (or at least the uncertainty created by the referendum result), then we may see retention become easier.

Many of the policy interventions and analyses to date have focused on teacher recruitment. There have been changes to initial teacher training, a package of initiatives to attract maths and physics teachers and a programme to attract returning teachers back into the profession. At a time when trainee targets are being missed, retaining the teachers already in the profession becomes all the more important, yet far less attention has been paid to retaining teachers currently employed in state schools.

In its February 2016 report, *Training New Teachers*, the National Audit Office called on the Department for Education to 'show that the arrangements [for training new teachers] are more cost-effective than alternative expenditure, for instance on improving retention' (DfE, 2016). Recent research by the Institute for Fiscal Studies

(Allen *et al.*, 2016) on the Longer Term Costs and Benefits of Different Initial Teacher Training Routes has highlighted how costly low retention rates are for the education system in the long term, given the cost of training new teachers to replace them.

**Q7. To what extent are there qualified teachers of working age, resident in the UK, who are not working in the profession? Why are they no longer working in the profession? Where did they go (e.g. retired, to work abroad, to work in a non-teaching job)? What is being done to attract these back to the profession?**

Figures collected by the DfE (2015) show that there are 227,000 qualified teachers under age 60 who previously taught in the English state sector (of whom 69,000 are under 40 and 139,000 are under 50) and 107,000 qualified teachers under age 60 who have never taught in the English state sector (of whom 52,000 are under 40 and 76,000 are under 50). It is not clear how many of these out-of-service qualified teachers are resident in the UK (there are many work opportunities for teachers abroad in, for example, international schools) or would be willing to return to teaching.

NFER analysis (Worth *et al.*, 2015) provides insights on some of the destinations of teachers who left teaching. It looked at job moves in and out of teaching using the Labour Force Survey (LFS)<sup>1</sup>, which tracks individuals' employment over twelve months, and provides a greater level of detail on key aspects of these job moves when compared with the School Workforce Census. We found that:

- more than half of teachers that leave take up jobs in the education sector
- teachers are not leaving for higher-paid jobs, at least not in the short term
- the more engaged teachers are, the less likely they are to consider leaving.

We summarise these points below.

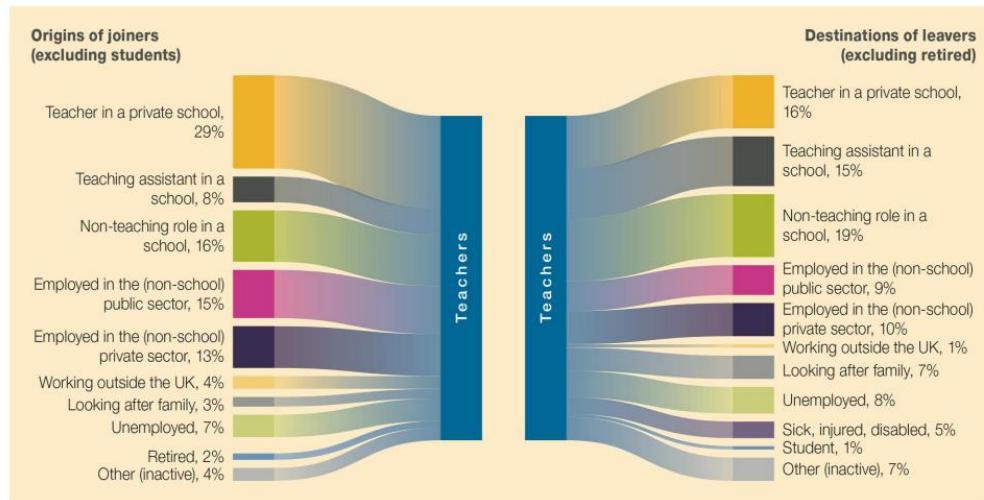
**More than half of teachers that leave take up jobs in the education sector**

The most common destinations of teachers who left the profession in the state-sector were jobs in the school sector (see Figure F from Worth *et al.*, 2015 below). Excluding those that left to retire, just over half (51 per cent) went to one of several destinations in the wider school sector. These included teaching in private schools (16 per cent), becoming teaching assistants (15 per cent) and taking up a non-teaching role in a school (19 per cent). Relatively few teachers that left took up new jobs outside the school sector (19 per cent) and 40 per cent of those took up jobs in further or higher education.

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<sup>1</sup> The LFS is a quarterly household survey of the employment circumstances of the UK population, conducted by the Office for National Statistics. It is a longitudinal survey which tracks individuals over five consecutive quarters (i.e. one year). Each quarter a representative sample of UK households is questioned about their employment status, occupation, place of work, pay and hours worked. We analysed a sample of 6,896 teachers, including 936 that left teaching and 774 that joined teaching over a 14 year period (2001-2015).

**Figure F More than half of non-student joiners come from jobs in the school sector; more than half of non-retiring leavers go to jobs in the school sector**



Source: NFER analysis of Labour Force Survey data

### Teachers are not leaving for higher-paid jobs, at least not in the short term

On average, teachers who left the profession experienced a ten per cent fall in wages compared to similar teachers who remained in teaching. The change in the wages of teachers that left differed considerably according to their destination. The difference in wages between teachers that stayed in teaching compared with teachers that left to work in a private school, who took up a non-teaching role in a school or who took up a private sector job outside the school sector, was not statistically significant. However, those that left to become teaching assistants or who took up a job in the public sector (many of which were in further or higher education) saw a drop in their wages of around 25-30 per cent compared to similar individuals that stayed in teaching.

An individual's decision to leave teaching in favour of a lower paid job may be motivated by a number of factors, which could include personal factors, the employment circumstances of other family members, or factors associated with their previous job. Research by Allen *et al.* (2016) indicated that retention is lower in local areas with higher wages, suggesting that relative pay could be an important motivating factor for teachers. However, this research looks directly at the pay of leavers and suggests that relative pay may be a weak inducement for teachers to stay in the profession and other factors are more important.

### The more engaged teachers are, the less likely they are to consider leaving

We explored the relationship between teachers' engagement in their role and whether they are considering leaving the profession, by analysing data from NFER's nationally representative Teacher Voice survey (Lynch *et al.*, 2016). We derived a measure of overall staff engagement from the extent to which teachers agreed with 16 statements that related to leadership, reward and recognition, resources, school culture and ethos, and their own professional development. There is a strong relationship between engagement and desire to leave. Most (90 per cent) of the

engaged teachers are not considering leaving, compared with only a quarter of disengaged teachers.

We explored which of the engagement items had a particularly strong association with whether a teacher is considering leaving, to identify the critical factors for improving retention. Our sophisticated quantitative analysis revealed factors that were associated with intent to stay in the profession. We labelled these as 'protective factors' and they included: job satisfaction; having adequate resources; appropriate pay; being well-supported by management; and having an effective governing body. These protective factors could also help to attract teachers back to the profession.

Evidence from 21 interviews carried out with teachers who had had either left the profession or were considering leaving, workload is at the centre of why teachers are leaving. This is often perceived to stem from two main drivers – keeping up with the pace of policy reform and the pressure to meet measures in the Ofsted inspection framework. Workload is then associated with two other negative outcomes – poor health or feeling undervalued – which leads to teachers wanting to leave. Senior leaders and governors are identified as having an important role in protecting teachers from pressures from above, yet among the teachers we spoke to, this is not always taking place.

## 4. Specific shortages

### **Q9. Do some areas of the UK experience a shortage of teachers while others do not? If so, what are some areas doing that others are not?**

#### **What does the evidence say about teacher recruitment and retention in deprived areas?**

There have been suggestions that deprived schools may struggle more than others to attract teachers. In the Ofsted National Report Sir Michael Wilshaw warned that a two-tier system could emerge, producing a thriving set of schools that are more able to recruit alongside a more unfortunate group that find recruitment much more challenging (Ofsted, 2015). Speaking in March 2016 at the ASCL conference, Sir Michael warned:

*More and more, we see the best schools in the most popular areas snapping up the best teachers while underperforming schools in poorer or more isolated areas are facing an increasingly desperate struggle to find good candidates.*

*'They are trapped in a vicious cycle – unable to recruit because they are struggling, but unable to improve because they cannot recruit'*

*(Coughlan, 2016)*

Recent research by the University of Cambridge found that teachers working in the most deprived schools are more likely to be inexperienced (Sutton Trust, 2016). The government aims to address this with the introduction of a National Teaching Service, which will provide elite teachers to these struggling areas. But once these teachers have been recruited, will they stay?

NFER explored this question using data from our November 2015 Teacher Voice survey. In the survey, we asked current teachers: 'Are you considering leaving teaching in the next 12 months?'

The results show that there appears to be no difference in the proportions of teachers considering leaving across five different levels of deprivation – as measured by percentage of pupils entitled to free school meals (FSM). Across these levels, the proportions of teachers considering leaving held steady at around 23% for schools with the lowest level of pupils eligible for FSM through to schools with the highest levels.

The responses to this question in the June 2015 round of the survey were very similar. The proportion considering leaving was 17% in the most deprived schools compared to 19% in the least, and there was no statistical difference in desire to leave across the five different levels of deprivation.

To some extent, the finding that school-level deprivation does not influence teachers' desire to leave seems to contradict the idea that these areas are less attractive places to be employed. There are some possible reasons for this. The deprivation levels in a school might affect the attractiveness as a place of work for a teacher that could influence *which* school a teacher wants to teach in, rather than *whether* a teacher wants to continue teaching at all.

It could also be that in deprived areas there are strong reasons to want to leave, but equally strong opposing arguments to stay. For example, teachers may be considering leaving teaching in deprived schools, but these areas lack alternative local employment which might sway a decision to stay in teaching. Outside wages might also affect the relationship between intention to leave and deprivation. Outside wage information is not available in this dataset, but region is and might account for some variation here. So we took another look at our data (by running a regression looking at the impact of region and deprivation on desire to leave) and found that region did not interact with deprivation in predicting desire to leave. So the pattern remained across the different regions.

There are complex factors affecting teacher's decisions about their teaching careers and of course FSM levels are only a proxy for deprivation. We also need to remember that this is based on 'intent to leave' as opposed to actual leavers. But overall, our data suggests that the teacher retention challenges faced by schools with more disadvantaged pupils are no greater than those faced by other schools. This supports the policy focus on recruiting more teachers to deprived areas. Once the teachers get there, it seems they do want to stay.

**Q11. How does supply and demand for teachers vary by subject taught? Are there specific teachers in certain subjects that are held to be in particular shortage? What are these and what evidence is there for shortage?**

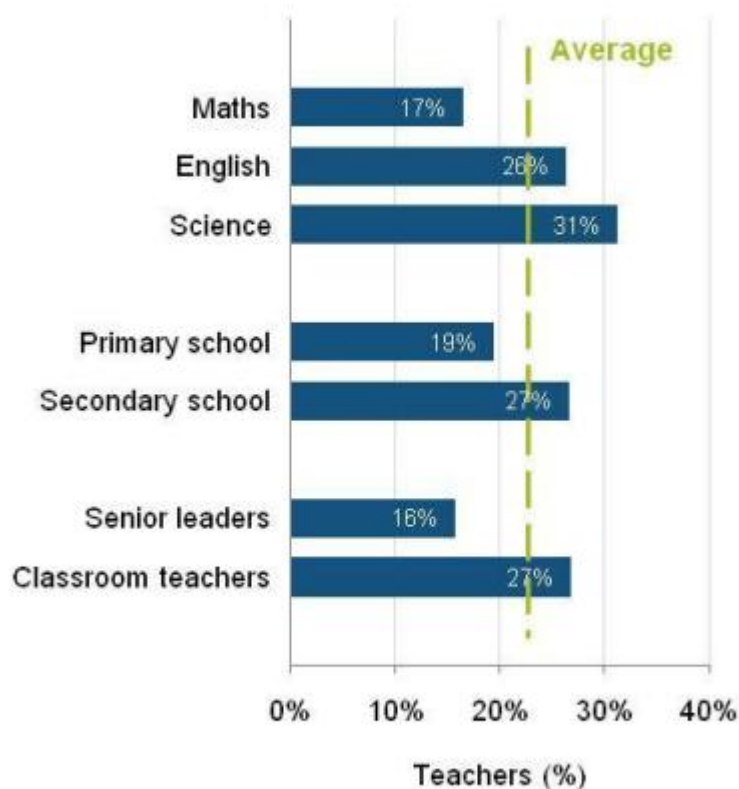
As reported in Lynch *et al.* (2016), just under a quarter of teachers in NFER's survey said they are considering leaving teaching. We carried out some basic descriptive analysis to explore the relationship between intention to leave teaching and teacher



characteristics. Figure 7 from the Lynch *et al.* (2016) report shows that the proportion of teachers considering leaving varies according to type of teacher.

Secondary school teachers and science teachers are significantly more likely to be considering leaving, whereas senior leaders and maths teachers are less likely than others to be considering leaving. We found no evidence of any influence of academy status on teachers' intent to leave.

**Figure 7. The proportion of teachers considering leaving depends on their characteristics**



Source: NFER Teacher Voice Survey

### Controlling for underlying factors that could influence intent to leave...

The analysis above does not control for other underlying factors that could influence intent to leave and it is possible that many factors, including engagement, are inter-related. For example, can differences between primary and secondary school teachers' intent to leave be explained by one of the other factors we have identified, such as differences in their levels of engagement?

We used sophisticated statistical analysis (logistic regression modelling; explained in Lynch *et al.*, 2016) to address these questions, considering teachers' role, subject, years of teaching experience, gender, and the type, region and level of deprivation among pupils in their school. Holding all other factors constant:

- maths teachers are significantly less likely than secondary non-EBacc subject teachers to be considering leaving<sup>2</sup>
- senior leaders are significantly less likely to be considering leaving than classroom teachers
- male teachers with more than five years teaching experience are significantly more likely to be considering leaving

No other characteristics are statistically significant (for example, we found no evidence of any influence of school-level free school meals, academy status, or region, on intent to leave teaching). It is also notable that, in contrast to our previous basic descriptive analysis, where primary school teachers were significantly less likely to be considering leaving, our logistic regression model shows this is not the case. This is because the difference previously identified can be explained by other factors (for example, lower numbers of men with five years experience working in the primary sector).

### Exploring this further, taking account of teachers' level of engagement...

There is a strong relationship between staff engagement and whether a teacher is considering leaving, which suggests that engagement is an important mediating factor that underpins the differences we see in the retention rates of teachers with different personal or school-related characteristics.

We also found that levels of engagement vary by type of teacher, and so this is likely to further explain their intent to leave. For example, the types of teachers our earlier analysis found less likely to consider leaving are also more highly engaged (maths teachers and senior leaders). Similarly, those who our earlier analysis found more likely to consider leaving have lower levels of engagement (such as teachers with more than five years of teaching experience). In addition, we found that primary teachers had significantly higher levels of engagement than secondary non-EBacc teachers.

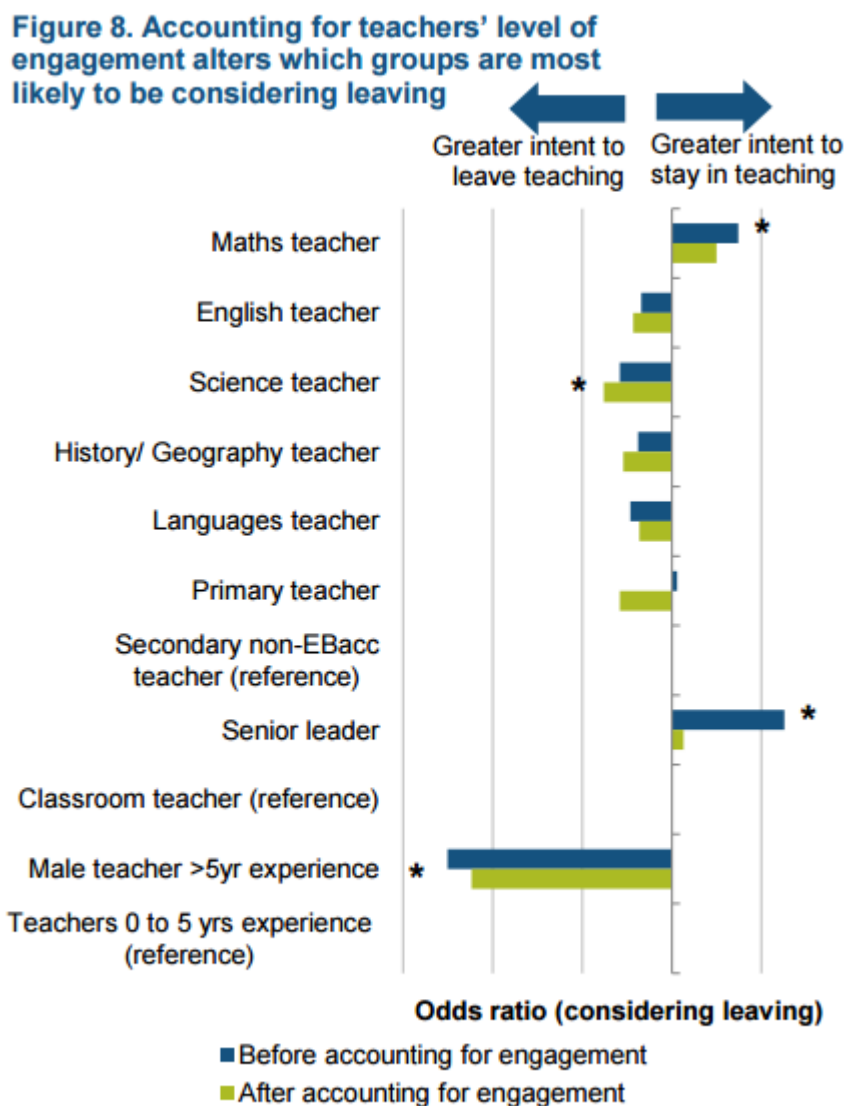
Figure 8 from Lynch *et al.*, (2016), below, compares the likelihood of considering leaving teaching for teachers of different subjects (compared to secondary non-EBacc teachers), and for senior leaders compared to classroom teachers, before and after accounting for different levels of engagement.

**Science teachers** are significantly more likely to be considering leaving teaching than secondary non-EBacc subject teachers, after accounting for their relatively high level of engagement. This suggests that their levels of engagement are acting as a protective factor, but there are other underlying factors that affect the retention of science teachers over and above how engaged they are with teaching. This may be related to their specific skills being highly valued in the labour market outside of teaching.

Our analysis has also identified **male teachers with more than five years of teaching experience** as a group that have a heightened risk of leaving (after

<sup>2</sup> EBacc subjects (Maths, English, Sciences, History/Geography, and Languages) were compared with non-EBacc subjects.

controlling for their lower level of engagement, they remain more likely to consider leaving). This suggests that, for this group, both levels of engagement *and* other underlying factors are at work. More in-depth research into the motivations of this group would be needed to identify the reasons for their intentions.



\*Statistically significant. Source: NFER Teacher Voice Survey. Note: X axis uses a logarithmic scale

## 5. Alleviating shortage

**Q13. If there is a shortage of teachers, the relative pay of teachers would be expected to rise. Has this happened? If not, why not?**

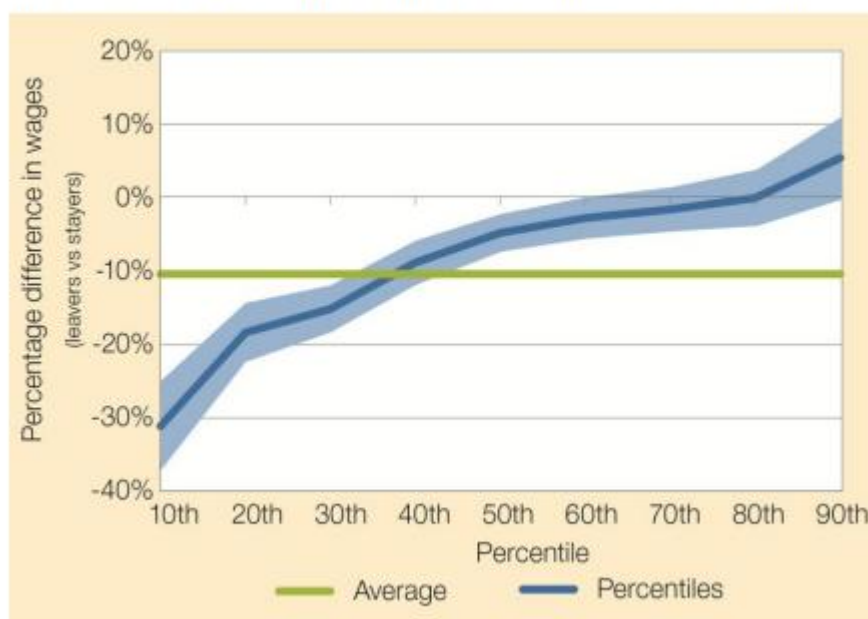
### Teachers are not leaving for higher paid jobs

On average, the wages of teachers that left for another job were ten per cent lower than those that stayed in teaching. This drop remained after taking account of different characteristics among leavers and stayers, such as their initial pay level,

whether they had management responsibilities, the phase of education they taught in, and their age.

As shown in Figure G from Worth *et al.* (2015) below<sup>3</sup>, there was no sign of a significant minority of teachers leaving for better paid positions outside teaching in the state sector. In fact, the reverse was true, with a significant minority experiencing a drop in wages of more than 20 per cent.

**Figure G The wages of teachers that leave compared to those that stay varies widely, but almost all saw their wages fall**



The change in the wages of teachers that left differed considerably according to their destination. The difference in wages between teachers that stayed in teaching compared with teachers that left to work in a private school, who took up a non-teaching role in a school or who took up a private sector job outside the school sector, was not statistically significant. However, those that left to become teaching assistants or who took up a job in the public sector (many of which were in further or higher education) saw a drop in their wages of around 25-30 per cent compared to similar individuals that stayed in teaching.

An individual's decision to leave teaching in favour of a lower paid job may be motivated by a number of factors, which could include personal factors, the employment circumstances of other family members, or factors associated with their previous job.

Of course, a job move may not result in a rise in pay in the short term. The LFS only follows up individuals for one year, so we were only able to look at the pay of teachers that left over the short-term. The short-term pay benefits from a career move may be limited by the need to prove value to new employers and develop skills

<sup>3</sup> The green line shows the average wage difference between leavers and stayers. The dark blue line shows the distribution, reflecting the fact that not all teachers will have experienced the same wage difference. The lighter blue area shows the 95 per cent confidence interval around these estimates. Source: NFER analysis of Labour Force Survey data.

for a different career. The prospect of higher pay in the longer-term may still have been a motivation for some teachers who left teaching.

## **6. What we can tell the MAC about its ‘sensible’ criteria?**

### **Q18. To what extent can existing teachers be retrained to teach the subjects of other teachers who have left? How would this affect the quality of education delivered?**

Re-training existing teachers to teach shortage subjects may be a potential solution to mismatches in supply and demand across subject, though it may impact on teaching quality. NFER is conducting a process evaluation of teachers’ perceived impact of the Teacher subject specialism training courses<sup>4</sup> for mathematics and physics teachers, on behalf of the National College of Teaching and Leadership and Department for Education. This is due to report in 2017.

### **Q20. To what extent could shortages of teachers be addressed by the numbers of teachers who could re-enter the profession if they were incentivised to do so? What changes would have most impact on incentivising re-entry teachers?**

Inducing qualified teachers that are not currently teaching back into the profession may also be a potential solution to shortage subjects. NFER is evaluating the impact of the Return to Teaching<sup>5</sup> pilot on the number of qualified teachers in EBacc subjects who are interested in returning to the profession that gain employment as teachers, on behalf of the National College of Teaching and Leadership and Department for Education. This is also due to report in 2017.

### **Q21. What proportion of newly qualified teachers do not go on to enter teaching as a profession? What is being done to reduce this number? Are there issues with the training offered to new teachers? What are these? Are there sufficient, strong links between training establishments and schools?**

An analysis of the retention rate of teachers who achieved (or were expected to achieve) QTS between 2010 and 2014 was conducted by IFS and Education Datalab (Allen *et al.*, 2016). They found that the year one retention rate for primary schools is variable across routes; between 50% and 53% for HEI-led under-graduate routes and between 77 per cent and 80 per cent for the Graduate Teacher Programme (GTP).

At secondary, the year one retention rate is highest for Teach First (80–87 per cent) and lowest for HEI-led post-graduate routes, School-centred initial teacher training (SCITT) and School Direct salaried (around 60–66 per cent). This reflects the expectation that Teach First participants commit to teaching in the same school one year pre- and one year post-QTS. GTP has a noticeably higher retention rate than

<sup>4</sup> <https://www.gov.uk/guidance/teacher-subject-specialism-training-courses>

<sup>5</sup> <https://getintoteaching.education.gov.uk/explore-my-options/return-to-teaching>

School Direct salaried, and to a lesser extent School Direct unsalaried, which suggests that GTP may not be a reasonable proxy measure for the short-term retention of trainees from these routes. Although School Direct was a direct replacement of GTP, these figures suggest that something about the training route, trainees recruited or school environment has led to a lower early retention rate.

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**National Foundation for  
Educational Research**  
The Mere, Upton Park  
Slough, Berks SL1 2DQ

T: 01753 574123  
F: 01753 691632  
E: [enquiries@nfer.ac.uk](mailto:enquiries@nfer.ac.uk)  
**[www.nfer.ac.uk](http://www.nfer.ac.uk)**