

# Quality costs



## Working paper 5 Funding options for high quality early childhood education and care

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early childhood education and care**

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## Executive Summary

The aim of this paper is to examine ways of paying for the increased cost/price of 'centre-based' ECEC (day nurseries, sessional care, nursery classes and nursery schools) required to achieve Daycare Trust's high quality model for early childhood education and care (ECEC) for children aged under five in England. The objective is also to examine:

1. the immediate impact on families' spending on ECEC at current levels of childcare use;
2. the consequential impact on entitlement to the childcare element of Working Tax Credit (WTC), and hence the distribution of families' disposable income;
3. other impacts on government spending, through the higher cost of providing the early education entitlement; and
4. model policy options that reduce the cost to parents and increase the cost to the Government.

The **key results** for policies in England, and affecting only families with a child aged under five, are shown in Table S1 below.

Table S1: Summary of costs to parents and the Government of ECEC for children under 5 in England

(£bn/yr)	Parents	Gov't	Of which:			Total
			Early education entitlement (excluding children in reception classes)	Childcare element of WTC for families with children under 5 in England	New subsidy to providers for childcare for under 3	
Current level of spend, existing childcare element of WTC	2.6	1.6 to 1.8	1.2 – 1.4 <sup>1</sup>	0.4	0.0	4.2 to 4.4
<i>Additional costs from high quality childcare</i>						
Existing early years education (EEE) (15 hrs/wk, 38 wks/yr for 3-4 year-olds)	2.3	0.4	0.0	0.4	0.0	2.6
Existing EEE (15 hrs/wk, 38 wks/yr for 3-4 year-olds) , reformed childcare element of WTC	1.4	1.3	0.0	1.3	0.0	2.6
Increased EEE (20 hrs/wk, 48 wks/yr for 3-4 year olds; 15 hrs/wk, 38 wks/yr for 2 year-olds)	0.7	4.3	4.2	0.1	0.0	4.9
Increased EEE (20 hrs/wk, 48 wks/yr for 3-4 year olds; 15 hrs/wk, 38 wks/yr for 2 year-olds) , reformed childcare element of WTC	0.1	4.9	4.2	0.7	0.0	4.9
Existing EEE (15 hrs/wk, 38 wks/yr for 3-4 year-olds), subsidy to providers for under 3s	1.1	1.6	0.0	0.2	1.4	2.6
Existing EEE (15 hrs/wk, 38 wks/yr for 3-4 year-olds), subsidy to providers for under 3s , reformed childcare element of WTC	0.3	2.4	0.0	1.0	1.4	2.6
Increased EEE (20 hrs/wk, 48 wks/yr for 3-4 year olds; 15 hrs/wk, 38 wks/yr for 2 year-olds), subsidy to providers for under 3s	-0.2	5.2	4.2	0.0	1.0	4.9
Increased EEE (20 hrs/wk, 48 wks/yr for 3-4 year olds; 15 hrs/wk, 38 wks/yr for 2 year-olds), subsidy to providers for under 3s , reformed childcare element of WTC	-0.7	5.7	4.2	0.5	1.0	4.9

The main caveats to the modelling are as follows:

1. ECEC is a devolved issue, and this paper has looked at families in England only. The Barnett formula implies that increases in spending on childcare in England would lead to increases in spending at the UK level which are 23.8 per cent higher. The Barnett formula does not apply to spending on the childcare element of the WTC, but currently families in England receive 83 per cent of all spending on the childcare

element of the WTC, and so the cost of a UK policy would be 20.4 per cent higher than the cost of a policy in England. This means the UK-wide cost to government of the most expensive policy in Table S1 would be £7.3bn, rather than £5.9bn.

2. In 2008/09, Gross Domestic Product (GDP) was £1,275bn, so the increase in spending on ECEC in Table S1 represents 0.2 to 0.4 per cent of GDP and the cost to the Government varies from negligible to 0.5 per cent of GDP. However, taking account of the costs in Scotland, Wales and Northern Ireland means that the most expensive policy in Table S1 would mean higher spending of 0.6% of GDP.
3. It would be reasonable to assume that the costs of this reform will change over time broadly in line with GDP. By 2020, there are forecast to be 7 per cent more children under five than in 2008, and 11 per cent more three- and four-year-olds, but this does not change the estimated cost of the reforms to the level of accuracy reported here.
4. The estimated costs of the reforms to the childcare element of the WTC assumed they would apply to families with children under five only. The costs would clearly be higher if they applied to all families currently receiving the childcare element of the WTC, but it has not been possible to estimate what this cost would be. However, there is no reason why any reform need affect such families.
5. The current Government has announced ambitions to increase the early education entitlement, including extending it to two-year-olds from low income families by 2015. If such an extension were to arise, then it would reduce the cost to the Government of implementing the increased early education entitlement (EEE) presented in some of the scenarios in this report, and it would increase the cost to the Government of the scenarios which involve no change in EEE policy (as the Government would have to provide high quality care for more hours per year). However, as no reliable estimates are available of the cost to the Government of providing additional early education entitlement at current levels of quality, and no firm timetable exists, these have been ignored.
6. If the amount of ECEC used changes in response to the changes in the gross and net price of childcare, then the cost to the Government of these reforms could be higher or lower than that presented here. But estimating these dynamic costs is beyond the scope of this paper.

## 1. Introduction

The aim of this paper is to examine ways of paying for the increased cost/price of 'centre-based' ECEC (day nurseries, sessional care, nursery classes and nursery schools) required to achieve Daycare Trust's high quality model for childcare and early childhood education and care for children aged under five in England. The objective is also to examine:

1. the immediate impact on families' spending on childcare at current levels of childcare use;
2. the consequential impact on entitlement to the childcare element of working tax credit, and hence the distribution of families' disposable income;
3. other impacts on government spending, through the higher cost of providing the early education entitlement; and
4. model policy options that reduce the cost to parents and increase the cost to Government.

Chapter 2 explains how these calculations were performed, with more detail supplied in Annex A. Chapter 3 presents the results with variants in Annexes C and D. Annex B discusses issues to do with the underlying data (the Family Resources Survey).

## 2. Details of method

### 2.1 What is the change in the hourly price of ECEC under the high quality model?

The analysis by the Social Market Foundation (SMF) (see Working Paper 2: What is the cost of quality?) has led to a series of hourly costs (ie the cost of one hour of childcare for one child) of providing high quality ECEC, known as the 'high quality model' or 'high quality costs'.

Hourly costs were provided for two models (Model 1 and Model 2), and for five different providers: full daycare, full daycare in children's centres, sessional care, early years (EY) nursery classes, EY nursery schools. The difference in the costs between the providers reflects solely the assumptions made about the size of the providers, and therefore to what extent the fixed costs/overheads can be spread across the children; essentially the SMF's estimated costs assume there are economies of scale in providing childcare places. These 'costs' include all direct costs and overheads. They are intended to be the amount that, if charged by a typical provider, they would break even at normal occupancy rates. The high quality model does not alter the staff-child ratios from the current legal minimums, but assumes a better-qualified and higher-paid workforce than the current average. Only Model 1 was extensively analysed in this paper.

To help estimate costs under the status quo – ie to provide a counterfactual – an equivalent set of hourly costs has been estimated (hereafter called 'current costs'); these use the existing required staff-child ratios (and therefore the same ratios as assumed for the 'high quality costs'), but using data on the average hourly wages currently paid to staff. The

difference between the current costs and the high quality costs should reflect only the assumptions made about the qualifications and pay of those staff working in ECEC in the high quality model.

Table 1 summarises the high quality costs and the current costs for three of the five provider-types. It is clear that moving to the high quality model implies substantial increases in the cost of ECEC. In the analysis below, we examine the impact on families and the Government if these rises are all passed on to parents.<sup>2</sup>

**Table 1: Cost of one hour of childcare per child outside London**

	High quality model	Current costs	Difference (£)	Difference (%)
<b>Full daycare</b>				
Under 2s	£12.48	£4.09	£8.39	205
2 year old	£10.02	£3.27	£6.75	206
3+ (1:8)	£5.53	£1.85	£3.69	200
3+ (1:13)	£3.81	£1.30	£2.51	194
with cross-subsidy (1:8)	£9.34	£3.07	£6.27	204
with cross-subsidy (1:13)	£8.77	£2.89	£5.88	203
<b>Full day-care in children's centres</b>				
under 2s	£12.10	£5.05	£7.04	139
2 to 3	£9.64	£4.11	£5.53	135
3 plus (1:8)	£5.15	£2.24	£2.91	130
3 plus (1:13)	£3.43	£1.53	£1.90	124
with cross-subsidy (1:8)	£8.97	£3.80	£5.17	136
with cross-subsidy (1:13)	£8.39	£3.56	£4.83	136
<b>EY nursery classes</b>				
3+ (1:13)	£2.83	£2.23	£0.60	27
<b>EY schools</b>				
3 plus (1:13)	£3.48	£3.07	£0.41	13

Sources: from Working paper 2: *what is the cost of quality?* Costs are for England outside of London: costs in London are assumed to be 20% higher.

## 2.2 Estimating the impact on parents and the Government of the high quality model for children aged under five

The principle behind the calculations is to use the data on the use of and spending on ECEC reported in the Family Resources Survey (FRS). See Box 2.1 for more detail on the FRS.

### Box 2.1. Using the FRS to analyse families' spending on childcare

A number of household surveys record information on childcare spending by parents (see Working paper 3: what do parents pay?). The advantages of using the FRS are that:

- It is a representative survey of around 7,000 families with children in the UK (or 3,087 families with children under five, or 3,878 children under five), and asks about the childcare used by all the children in these families.
- It surveys families continuously throughout the year, making it easy to produce estimates of the total amount of childcare used in a year; other surveys which collect information on childcare use are carried out at a particular point in the year, which means they will give a misleading impression of the average use of childcare across the year.
- It has detailed information on family income, and can be easily combined with the Institute for Fiscal Studies' tax and benefit model (TAXBEN) to estimate the impact of tax and benefit changes on family income.

However, the accuracy of any modelling depends crucially on the accuracy of the underlying data on the use of childcare and spending on childcare, and this is discussed more in Annexes B and C.

We estimated the cost to parents and the Government of the "high quality model" in several steps, using different methods for children below three, and those aged three to four, because of the complications caused by three- and four-year-olds' entitlement to free early education.

### The cost to Government (through higher spending on childcare element of the WTC) and parents of higher quality care for those under three, assuming no increase in the early education entitlement

Our main calculation of the impact on families of high quality care for children aged under three with no increase in the early education entitlement was carried out as follows:

- The hourly cost of 'day nursery' (the category in the FRS) was set to the cost of 'Full daycare' category in the high quality model, and the hourly cost of 'family centres' (the category in the FRS) was set to the cost of 'full daycare in children's centre' (both reported in Table 1).<sup>3</sup> Rates in London are 20 per cent higher in all cases. We assume that any existing cross-subsidies between children above and below the age of three stop.<sup>4</sup>
- Spending on "play groups and pre-school' for children under the age of three was assumed to be unaffected by the rise in quality.<sup>5</sup>

This was then compared to the amount reported in the FRS as being spent on ECEC.

A variant, presented in Annex C, is to assume that the hourly rate paid by each family rises by a proportion equal to the 'high quality rate' / 'current costs'. In this variant, each family's spending increases by the same proportion, meaning that those families who report that they pay less (or more) than the estimated current costs are modelled as if they would also pay less (or more) than the estimated high quality rates. The purpose of this variant is to reflect the variation in the hourly rate of ECEC that is suggested by the FRS.<sup>6</sup>



Having calculated the amount of spending on ECEC in a current scenario, and in the high quality scenario, it is possible to use a tax and benefit micro-simulation model to calculate tax liabilities and benefit entitlements, including entitlement to the childcare element of the Working Tax Credit. This also allows us to allocate each family with a child to a quintile group based on their position in the overall family income distribution (these will be slightly different from those in the official Households Below Average Income (HBAI) dataset, which uses data on actual taxes paid and benefits and tax credits received).

**The cost to Government of higher quality early education entitlement for those aged three and four, assuming no increase in the early education entitlement**

To estimate the cost to Government of providing the free entitlement under the high quality model, we can use data on the number of hours of early education used by three- and four-year-olds each year under the free entitlement scheme in England (see Annex A), and the estimated cost of high quality early education places (see Table 1). This can also be compared to the current cost of providing the same places.

This calculation is presented in Annex A. Table 1 reveals that the hourly cost of providing care to three- and four-year-olds under the high quality model is very similar to estimates of the current cost, and so it is unsurprising that the estimated additional cost to the Government of providing high quality early education is negligible.

**The cost to parents of higher quality care for those aged three and four, assuming no increase in the early education entitlement**

It is more difficult to use the FRS to estimate the impact on parents of increasing the cost of provision for those aged three and four in the same way as we are doing for the under threes, for two main reasons:

1. The FRS does not ask whether parents are benefitting from their entitlement to a free early education place. This means, for example, if a parent reports that a three-year-old child uses a day nursery for 20 hours a week and pays £40 a week, one cannot then infer the hourly rate for those hours which the parent was charged for: the parent might be paying for ECEC at £2 an hour, or the £40 might cover the 7.5 hours on top of the maximum free entitlement, or the 20 hours might be provided over two days of the week, in which case (under the rules in 2006-07), the parent would be entitled only to 5 hours of free entitlement, meaning the £40 bill would be for the remaining 15 hours, and so on.
2. The FRS surveys parents all year round, so it may record some children who are actually benefitting from the early education entitlement as using no hours of childcare if the family is interviewed in the school holidays.

We have therefore taken a different approach from that used for the under threes, and this is explained in Annex A. The result though is that families appear to be paying for care for three- and four-year-olds at hourly rates which are on average no lower than those suggested by the high quality model. For this reason, it has been assumed that families' spending on ECEC for three- and four-year-olds will not change as a result of a move to a high quality model.

**The cost to Government of high quality care with an increase in the early education entitlement, and the consequential savings for parents**

Some of the scenarios modelled involve an increase in the amount of early education available to parents. The reform, which was suggested by the Daycare Trust, involves:

- increasing the entitlement to free early education for three- and four-year-olds from 15 hours a week, 38 weeks a year to 20 hours a week, 48 weeks a year; and
- extending free entitlement to two-year-olds to 15 hours a week, 38 weeks a year.

Estimating the direct cost to Government requires us to make assumptions on what will be the take-up rate amongst parents. We have assumed that take-up amongst three- and four-year-olds will be 90 per cent, and that take-up for two-year-olds is around 80 per cent. These assumptions lead to a cost to Government of £4.2bn per year to provide these additional hours at the high quality level (see Annex A for detailed calculations).

### **2.3 Estimating the cost to Government of a subsidy to providers**

Some of the scenarios in Chapter 3 assume that the Government pays a subsidy to suppliers in respect of ECEC places for the under threes. It is assumed that the subsidy would be paid for all hours of care used by parents (excluding those funded through the early education entitlement), and would not be related to the parents' income. The level of the subsidy has been set at half of the increase in cost implied by the high quality model (comparing it with the current costs model).

Under this option, the Government has to pay a subsidy on 180m hours per year of ECEC for the under twos and 210m hours per year for two-year-olds, at a respective hourly rate of £4.20 and £3.27 (outside of London), and at a total cost of £1.5bn (including London extra). In the scenario with the additional early years entitlement, the subsidy is paid for just 60m hours per year for the two-year-olds, bringing the total cost down to £1.0bn (including London extra).

It has been assumed that this subsidy reduces the amount that parents are charged by an equal amount.<sup>7</sup>

## **3. Discussion of results**

This chapter presents and discusses the main simulation results.

### **3.1 Scenarios**

Many scenarios have been modelled. Some scenarios affect the gross cost of ECEC to parents, and some vary the net cost (by changing the childcare element of the Working Tax Credit (WTC)). In addition, two methods have been used for simulating the impact of high quality ECEC.

The scenarios that vary the gross cost of childcare to parents are:

- the high quality model with no change in the early education entitlement (EEE);
- the high quality model with an increase in the EEE;
- the high quality model with no change in the EEE and a subsidy to suppliers for the under threes (see Section 2.3); and
- the high quality model with an increase in the EEE and a subsidy to suppliers for the under threes (see Section 2.3).

These are all compared with the current regime.

For each of these scenarios, there are several potential ways to model the increase in the gross cost of ECEC. As Section 2.2 explains, we have calculated two simulations to estimate the impact of high quality care on parents' spending:

1. The actual spending currently paid by parents is replaced by the high quality costs.

2. A variant, presented in Annex C, is to assume that the hourly rate paid by each family rises by a proportion equal to the high quality rate / current costs. In this variant, each families' spending increases by the same proportion, meaning that those families who report that they pay less (or more) than the estimated current rates are modelled as if they would also pay less (or more) than the estimated high quality rates. The purpose of this variant is to reflect the variation in the hourly rate of ECEC that is suggested by the FRS.

In the former case, we assume that any existing cross-subsidies between children above and below the age of three stop.

For each of the four scenarios (plus the current situation) about the gross cost of ECEC to families, we have modelled the net cost to Government and parents under several variants of the childcare element of the working tax credit. These consist of the current childcare element of the WTC and six possible reforms:<sup>8</sup>

1. A doubling of the childcare element of working tax credit (also referred to below as childcare tax credit or CCTC) ceilings.
2. Increasing the subsidy rate from 80 per cent to 90 per cent of the amount of spending.
3. Removing the work test entirely (ie paying CCTC to anyone who receives the child tax credit).
4. Increasing the subsidy rate from 80 per cent to 100 per cent of the amount of spending, and removing the work test entirely (ie paying CCTC to anyone who receives the child tax credit).
5. Increasing the subsidy rate from 80 per cent to 90 per cent of the amount of spending and doubling the CCTC ceilings.
6. Increasing the subsidy rate from 80 per cent to 90 per cent of the amount of spending, doubling the CCTC ceilings, and removing the work test entirely (ie paying CCTC to anyone who receives the child tax credit).

However, it should be noted that the costs that have been estimated are only for families with a child under five (or, in Annex D, under three) in England, and assume that spending on ECEC is unaffected by the reform. All of these reforms would lower the marginal price of childcare to some families, and so we would expect parents' spending on childcare, and therefore the cost of the childcare element of the WTC, to rise. (In principle, some of this extra spending could be offset by higher tax revenues or reduced tax credit or benefit spending if the reforms to the childcare element of the WTC led to some parents choosing to start paid work.) Furthermore, the move to high quality ECEC (with more qualified staff but a higher cost) would probably also affect families' demand for such childcare and, conceivably, parents' work patterns.

Finally, it is possible to examine the impact of the results among:

1. all families;
2. all families who use centre-based ECEC; and
3. all families who currently use paid-for centre-based ECEC.

The analysis is currently shown for group (2) for families with a child under five. Annex D shows some results among families with a child under three, because the high quality model involves very little increase in the cost of ECEC for three- and four-year olds.

### 3.2 Results

The results of the analysis are shown in Tables 2–6. The sample covers families with a child under five who use centre-based care, but these families have been split into five income quintile groups based on the income of all families with children under five. For this reason, the number of families in the sample in each of the five groups is NOT the same, as families using ECEC tend to be concentrated at the top of the income distribution.

#### Impact of high quality care only

Tables 2 and 3 together show the impact of implementing the high quality model with no change in early education entitlement. They show results for all families with a child under five in England currently using centre-based care for the under fives (some of whom may be using just the free early education entitlement). The key findings are that:

- The amount spent on ECEC rises by large amounts. Amongst those using centre-based care for the under fives, it rises by £44 a week on average (89 per cent).
- The proportionate rise is greater for the lower income groups than the higher income groups. This is partly due to a modelling assumption: at present, those in the lower income quintiles pay on average a lower hourly rate for centre-based care than those in the higher income groups; under the high quality model, all families are assumed to pay the same rate, so this means that the absolute and percentage rise in spending is necessarily greater for those in the lower income quintiles. It is also the case that some families in the lower income quintile groups report using free entitlement for children under three, and this is assumed not to be free under the high quality model (the data used pre-dates the two-year-old pilots for the free entitlement).
- The total extra spending on ECEC is around £2.6bn a year, and the direct cost to Government, through higher spending on the CCTC, is around £350m<sup>9</sup>. This means that parents have to pay just under nine tenths (87 per cent) of the increase in gross spending.
- Amongst those using centre-based care for the under fives, net childcare spending (defined as what parents have to pay because the childcare element of WTC does not cover the full cost) as a fraction of net income rises considerably. In the bottom quintile, it rises from 3 per cent to 10 per cent on average; in the middle quintile, it rises from 3 per cent to 9 per cent; and in the top quintile, it rises from 8 per cent to 13 per cent. But these are averages, and conceal some much higher and lower proportions (for example, Annex D reports larger fractions of income on average for those with children under three only).
- Amongst those using centre-based care for the under fives, there are many who are not seeing the childcare element of working tax credit rise to help defray their extra spending on childcare. The families in the bottom two quintile groups (and therefore likely to be classified near the Government's poverty line) are very unlikely to qualify for the CCTC, mostly because they fail the work test.<sup>10</sup> Families higher up the income distribution are more likely to pass the work test, but are more likely to be too rich for the CCTC. It is notable that almost no families (4 per cent) in the top quintile group qualify for the CCTC.

#### Impact of high quality care and expansion of EEE

Tables 2 and 4 together show the impact of implementing the High Quality model with an increase in the EEE. Under this scenario, some parents – for example, such as a

hypothetical family with a two-year-old currently using 15 hours per week of ECEC – will pay less for childcare than they do under the current policy regime. They show that:

- The amount spent on ECEC rises on average by only a small amount: £12 a week (24 per cent).
- The proportionate rise is lower for the richest quintile group than the others. As with the previous analysis, this is partly due to a modelling assumption: at present, those in the lower income quintile groups pay on average a lower hourly rate for centre-based care than those in the highest income group; under the high quality model, all families are assumed to pay the same rate, so this means that the absolute and percentage rise in spending is necessarily greater for those in the lower income quintiles. However, this result arises also because the increase in the EEE is of particular benefit to those families currently using more than the existing entitlement, and these tend to be better-off families.
- The total extra spending on ECEC by families is around £0.7bn a year, and parents have to pay just over nine-tenths of this (92 per cent). The direct cost to Government, through higher spending on the CCTC, is around £60m (the cost to the government of the extended entitlement to ECEC is discussed in Section 2.2).
- Net spending (ie what parents have to pay because the childcare element of WTC does not cover the full cost) as a fraction of net income is, on average, fairly similar to the current situation. But this conceals some families who will pay more, and some who pay less. For example, Annex D reports the results for families with children under three only.

### **Impact of high quality care only with a subsidy to providers for under threes**

Tables 2 and 5 together show the impact of implementing the high quality model with a subsidy to suppliers for the under threes. They show that:

- The amount spent on ECEC by families rises on average by £21 a week (43 per cent).
- The proportionate rise is greater for the lower and middle quintile groups than the highest income group. As with the previous analysis, this is partly due to a modelling assumption: at present, those in the lower and middle income quintile group pay on average a lower hourly rate for centre-based care than those in the higher income group; under the high quality model, all families are assumed to pay the same rate, so this means that the absolute and percentage rise in spending is necessarily greater for those in the lower income quintiles.
- The total extra spending on ECEC by families is around £1.3bn a year, and parents have to pay just over nine-tenths of this (83 per cent). The direct cost to Government, through higher spending on the CCTC, is around £220m (the cost to the Government of providing the subsidy was given in Section 2.3).
- Net spending (ie what parents have to pay because the childcare element of WTC does not cover the full cost) as a fraction of net income rises, on average, compared with the current situation. In the bottom quintile, it rises from 3 per cent to 7 per cent; in the middle quintile, it rises from 3 per cent to 6 per cent; and in the top quintile, it rises from 8 per cent to 10 per cent. But these are averages, and conceal some much higher and lower proportions. For example, Annex D reports the results for families with children under three only.

### **Impact of high quality care and expansion of EEE with subsidy to providers for under threes**

Tables 2 and 6 together show the impact of implementing the high quality model with an increase in the EEE and a subsidy to suppliers for hours of care for the under threes provided outside the EEE. Under this scenario, many parents – such as those with a two-year-old currently using 15 hours a week of ECEC, and those with three- and four-year-olds currently using more than 15 hours a week of childcare – will pay less for childcare than they do under the current policy regime. They show that:

- The amount spent on ECEC falls on average by a small amount: £4 a week (8 per cent).
- The proportionate fall is larger for the richer quintile groups. This is chiefly because the increase in the EEE is of particular benefit to those families currently using more than the existing entitlement, and these tend to be better-off families.
- The total cut in spending on ECEC by families is around £0.2bn a year, a tiny amount of which is offset by a reduction in government spending on the CCTC (the cost to the Government of providing the subsidy was given in Section 2.3, and that of providing the extra EEE was presented in Section 2.2).
- Net spending (ie what parents have to pay because the childcare element of WTC does not cover the full cost) as a fraction of net income is, on average, very similar to the current situation.

### **Reforms to the childcare element of WTC**

At the existing levels of ECEC spending, the impact of these changes is as follows (see Table 2):<sup>11</sup>

- Increasing the ceiling has very little impact: few families are currently spending more than the ceilings (and those that are, are in the top two quintile groups).
- Increasing the subsidy rate to 90 per cent would cost £70m per year.
- Giving the childcare element on tax credits would cost £230m per year.
- Paying at 100 per cent and giving the childcare element to all on tax credits would cost £430m per year.
- Increasing the subsidy rate to 90 per cent and doubling the ceilings would cost £92m per year.
- Increasing the subsidy rate to 90 per cent, doubling the ceilings and giving the childcare element to all on tax credits would cost £354m per year.

Obviously, the costs of these reforms are greater if implemented at the same time as a rise in spending on ECEC by families, and these costs are shown in Tables 3–6. In general:

- Increasing the ceilings benefits the relatively well-off.
- Increasing the subsidy rate benefits all existing recipients of childcare element of WTC (who are concentrated in the middle to top of the income distribution).
- Relaxing the work test benefits the relatively poor.



**Table 2: Baseline analysis of current spending on ECEC, and cost and impact of reforms to the childcare element of the WTC, amongst families with children under five in England who use centre-based care**

	Income quintile groups of all families with a child under 5						All
	1	2	3	4	5		
<b>Current system</b>							
Number using centre-based care	165,855	188,561	229,092	268,581	305,871		1,157,960
% of whom paying for childcare	34%	47%	61%	72%	88%		65%
Current spend on childcare (£m/yr)	71	108	322	719	1,765		2,986
Current spend on childcare (£/wk/family)	8	11	27	52	111		50
% where all work	3%	15%	42%	70%	68%		
% getting more than family element of CTC	100%	99%	70%	33%	8%		
% getting childcare element	1%	7%	24%	24%	4%		
Childcare as % net income	3%	2%	3%	6%	8%		
Net childcare as % net income							
<i>Double ceilings</i>	3%	2%	3%	5%	8%		
<i>Pay 90% of costs</i>	3%	2%	3%	5%	8%		
<i>Give to all on tax credits</i>	1%	1%	2%	5%	8%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	0%	1%	4%	8%		
<i>Pay 90% of costs and double ceilings</i>	3%	2%	3%	5%	8%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	0%	0%	1%	5%	8%		
Existing spend on childcare element of WTC (£m/yr)	0	13	120	218	60		411
<b>Cost of reforms to childcare element of WTC (£m/yr)</b>							
<i>Double ceilings</i>	0	0	0	3	16		18
<i>Pay 90% of costs</i>	0	1	14	38	12		66
<i>Give to all on tax credits</i>	56	68	93	10	2		229
<i>Pay 100% of costs and give to all on tax credits</i>	69	87	146	94	29		425
<i>Pay 90% of costs and double ceilings</i>	0	1	14	41	35		92
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	63	81	119	53	37		354

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table 2 DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.



**Table 3: Impact of high quality ECEC (with no increase in the EEE), and cost and impact of reforms to the childcare element of the WTC, amongst families with children under five in England who use centre-based care**

	Income quintile groups of all families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Number using centre-based care	165,855	188,561	229,092	268,581	305,871		1,157,960
% of whom paying for childcare	34%	47%	61%	72%	88%		65%
Extra spend on childcare (£/wk/family)	20	17	38	53	70		44
Extra spend on childcare (£m/yr)	171	162	452	744	1118		2648
% rise in childcare spend	241%	150%	140%	103%	63%		89%
Extra cost to government of higher spend	0	20	137	186	11		354
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	10%	6%	9%	11%	13%		
<i>Double ceilings</i>	10%	6%	8%	9%	12%		
<i>Pay 90% of costs</i>	10%	6%	8%	10%	13%		
<i>Give to all on tax credits</i>	3%	2%	5%	11%	13%		
<i>Pay 100% of costs and give to all on tax credits</i>	2%	1%	3%	9%	13%		
<i>Pay 90% of costs and double ceilings</i>	10%	6%	7%	8%	12%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	1%	3%	7%	12%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	20	200	381	189		789
<i>Pay 90% of costs</i>	0	23	169	266	30		488
<i>Give to all on tax credits</i>	158	170	345	216	19		907
<i>Pay 100% of costs and give to all on tax credits</i>	196	213	459	397	70		1335
<i>Pay 90% of costs and double ceilings</i>	0	23	238	486	274		1021
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	214	217	493	536	299		1760

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 4: Impact of high quality ECEC with an increase in the early EEE, and cost and impact of reforms to the childcare element of the WTC, amongst families with children under five in England who use centre-based care**

	All families with a child under 5 paying for centre-based care by income quintile groups of families with a child under 5						
	1	2	3	4	5		All
<b>High quality childcare with an increase in early education entitlement</b>							
Number using centre-based care	165,855	188,561	229,092	268,581	305,871		1,157,960
% of whom paying for childcare	20%	17%	35%	50%	59%		40%
Extra spend on childcare (£/wk/family)	6	4	16	12	17		12
Extra spend on childcare (£m/yr)	55	41	195	169	266		727
% rise in child spend	78%	38%	61%	24%	15%		24%
Extra cost to government of higher spend	0	5	60	0	-8		56
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	5%	3%	6%	7%	9%		
<i>Double ceilings</i>	5%	3%	5%	6%	9%		
<i>Pay 90% of costs</i>	5%	3%	5%	7%	9%		
<i>Give to all on tax credits</i>	1%	1%	3%	7%	9%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	1%	2%	6%	9%		
<i>Pay 90% of costs and double ceilings</i>	5%	3%	5%	5%	8%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	0%	2%	5%	8%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	5	100	130	116		351
<i>Pay 90% of costs</i>	0	6	82	68	6		162
<i>Give to all on tax credits</i>	91	86	190	33	-1		399
<i>Pay 100% of costs and give to all on tax credits</i>	113	109	266	139	37		664
<i>Pay 90% of costs and double ceilings</i>	0	6	127	191	175		500
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	109	116	302	217	192		937

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 5: Impact of high quality ECEC (with no increase in the EEE) and with a subsidy to the suppliers, and cost and impact of reforms to the childcare element of the WTC, amongst families with children under five in England who use centre-based care.**

Quality costs: Funding options

	All families with a child under 5 paying for centre-based care by income quintile groups of families with a child under 5						
	1	2	3	4	5		All
<b>High quality childcare, no change in early education entitlement, subsidy for &lt;3s</b>							
Number using centre-based care	165,855	188,561	229,092	268,581	305,871		1,157,960
% of whom paying for childcare	34%	47%	61%	72%	88%		65%
Extra spend on childcare (£/wk/family)	12	10	21	26	29		21
Extra spend on childcare (£m/yr)	100	94	250	361	464		1269
% rise in child spend	141%	87%	78%	50%	26%		43%
Extra cost to government of higher spend	0	12	94	104	8		218
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	7%	4%	6%	8%	10%		
<i>Double ceilings</i>	7%	4%	6%	7%	10%		
<i>Pay 90% of costs</i>	7%	4%	6%	7%	10%		
<i>Give to all on tax credits</i>	2%	1%	3%	8%	10%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	1%	2%	6%	10%		
<i>Pay 90% of costs and double ceilings</i>	7%	4%	5%	7%	9%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	1%	2%	6%	9%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	12	111	173	99		395
<i>Pay 90% of costs</i>	0	14	120	168	23		324
<i>Give to all on tax credits</i>	128	134	258	120	15		655
<i>Pay 100% of costs and give to all on tax credits</i>	159	169	350	264	58		1000
<i>Pay 90% of costs and double ceilings</i>	0	14	139	245	150		548
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	151	166	332	275	162		1085

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 6: Impact of high quality ECEC with an increase in the EEE and with a subsidy to the suppliers, and cost and impact of reforms to the childcare element of the WTC, amongst families with children under five in England who use centre-based care**

	All families with a child under 5 paying for centre-based care by income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare, increase in early education entitlement, subsidy for &lt;3s</b>							
Number using centre-based care	165,855	188,561	229,092	268,581	305,871		1,157,960
% of whom paying for childcare	20%	17%	35%	50%	59%		40%
Extra spend on childcare (£/wk/family)	3	-0	5	5	16		-4
Extra spend on childcare (£m/yr)	23	-2	59	-69	-249		-237
% rise in child spend	32%	-1%	18%	-10%	-14%		-8%
Extra cost to government of higher spend	0	0	31	0	-14		18
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	4%	2%	4%	5%	7%		
<i>Double ceilings</i>	4%	2%	4%	5%	7%		
<i>Pay 90% of costs</i>	4%	2%	4%	5%	7%		
<i>Give to all on tax credits</i>	1%	1%	2%	5%	7%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	0%	1%	4%	7%		
<i>Pay 90% of costs and double ceilings</i>	4%	2%	3%	4%	7%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	0%	0%	1%	4%	6%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	0	39	11	26		76
<i>Pay 90% of costs</i>	0	1	50	8	-4		56
<i>Give to all on tax credits</i>	72	66	143	-21	-7		252
<i>Pay 100% of costs and give to all on tax credits</i>	90	84	206	61	23		464
<i>Pay 90% of costs and double ceilings</i>	0	1	59	53	62		174
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	81	84	194	70	70		499

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

### **3.3 Summary of costs to parents and Government**

#### **3.3.1 Comparing and combining the reforms**

The table below summarises the estimated change in parents' spending on ECEC under the existing rules for the childcare element of the Working Tax Credit (WTC).

The additional spending on ECEC is estimated to be £2.6bn per year without an increase in the early education entitlement (EEE), and £4.9bn per year with an increase in the EEE: the difference (of £2.3bn per year) represents childcare which would be used by parents if it were provided free under the EEE, but which is not being used at present.

The way in which this total extra spending is then split between parents and the Government depends upon whether the Government pays the subsidy to providers for places for the under threes. Without such a subsidy parents would pay £2.3bn per year of the £2.6bn per year increase; with such a subsidy parents would pay £1.1bn per year. An increase in the EEE would also reduce the total increase in spending on ECEC by parents, but in this case the total consists of some families who would pay more and some (who will have children aged two to four) who would pay less.

**Table 7: Summary of costs to parents and Government from high quality ECEC, existing childcare element of the WTC**

(£bn/yr)	Parents	Government	<i>Of which:</i>			Total
			<i>Early education entitlement (excluding children in reception classes)</i>	<i>Childcare element of WTC for families with children under 5 in England</i>	<i>New subsidy to providers for childcare for under 3s</i>	
<b>Current level of spend</b>	2.6	1.6 to 1.8	<i>1.2 to 1.4<sup>12</sup></i>	<i>0.4</i>	<i>0.0</i>	4.2 to 4.4
<i>Additional costs from high quality childcare</i>						
<b>Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year olds)</b>	2.3	0.4	<i>0.0</i>	<i>0.4</i>	<i>0.0</i>	2.6
<b>Increased EEE (20 hrs/wk, 48 wks/yr for 3-4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds)</b>	0.7	4.3	<i>4.2</i>	<i>0.1</i>	<i>0.0</i>	4.9
<b>Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year olds), subsidy to providers for under 3s</b>	1.1	1.6	<i>0.0</i>	<i>0.2</i>	<i>1.4</i>	2.6
<b>Increased EEE (20 hrs/wk, 48 wks/yr for 3–4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds), subsidy to providers for under 3s</b>	-0.2	5.2	<i>4.2</i>	<i>0.0</i>	<i>1.0</i>	4.9

Table 8 summarises the additional cost to the Government of the reform to the childcare element of the WTC highlighted by the Daycare Trust (ie pay 100% of costs and give to all on tax credits) compared with the current childcare element of the WTC and current spending on ECEC. Under this reform, the childcare element of the working tax credit would refund all childcare costs of all families receiving tax credits, subject to the existing ceilings, and subject to the existing means-test.

Compared to the current childcare element of the WTC at the current level of parents' spending on ECEC, spending on the childcare element of the WTC would rise by between £0.5bn per year and £1.3bn per year under this reform to the WTC (depending on whether early education is extended and there is a subsidy to providers). However, some of this rise – that due to the move to high quality ECEC under the current childcare element of the WTC – has already been accounted for in Table 7. Furthermore, an additional £0.4bn per year of the total extra cost represents the costs of making this reform at current levels of spending on ECEC: such spending is not acting to reduce the additional cost of ECEC under the high quality model, but to increase subsidies to parents at current levels of spending on childcare. The remaining additional spend is due to an interaction effect.

**Table 8: Summary of costs to parents and Government from reforming the childcare element of the WTC (CCTC)**

(£bn/yr)	Cost of reformed to childcare tax credit at high quality prices compared with current regime	<i>Of which:</i>		
		<i>Cost of existing CCTC at high quality prices</i>	<i>Cost of reform at current levels of childcare spending</i>	<i>Interaction effect</i>
Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year olds)	1.3	0.4	0.4	0.5
Increased EEE (20 hrs/wk, 48 wks/yr for 3–4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds)	0.7	0.1	0.4	0.2
Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year-olds), subsidy to providers for under 3s	1.0	0.2	0.4	0.4
Increased EEE (20 hrs/wk, 48 wks/yr for 3–4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds), subsidy to providers for under 3s	0.5	0.0	0.4	0.1

Adding the results in Table 8 to those in Table 7 gives:

**Table 9: Summary of costs to parents and Government from high quality ECEC, reformed childcare element of the WTC**

(£bn/yr)	Parents	Government	Of which:			Total
			Early education entitlement (excluding children in reception classes)	CCTC for families with children under 5 in England	New subsidy to providers for childcare for under 3s	
Current level of spend, existing CCTC	2.6	1.6 to 1.8	1.2 to 1.4 <sup>13</sup>	0.4	0.0	4.2 to 4.4
<i>Additional costs from high quality childcare</i>						
Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year olds) , reformed CCTC	1.4	1.3	0.0	1.3	0.0	2.6
Increased EEE (20 hrs/wk, 48 wks/yr for 3–4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds) , reformed CCTC	0.1	4.9	4.2	0.7	0.0	4.9
Existing EEE (15 hrs/wk, 38 wks/yr for 3–4 year olds), subsidy to providers for under 3s , reformed CCTC	0.3	2.4	0.0	1.0	1.4	2.6
Increased EEE (20 hrs/wk, 48 wks/yr for 3–4 year olds; 15 hrs/wk, 38 wks/yr for 2 year olds), subsidy to providers for under 3s , reformed CCTC	-0.7	5.7	4.2	0.5	1.0	4.9

### 3.3.1 The estimated costs of the reforms in the UK in 2020

The costs above have been estimated assuming the following:

1. The costs are in current prices.
2. The costs are based on the amount of ECEC used in 2006/07.
3. The costings are for policies enacted in England only.
4. The reforms to the childcare element of the WTC apply to families with children under five only.
5. The baseline policy regime is one where the minimum quality standards are unchanged from the current Ofsted minimums, and where the EEE is 15 hrs per week, 38 weeks per year for three- and four-year-olds, and there is no early entitlement for two-year-olds.



6. The costings assume that the rise in the price of ECEC does not affect the amount of childcare used/bought, nor parental employment decisions. Furthermore, they assume that increases in the EEE lead to corresponding reductions in the number of hours bought by parents (among those parents using more hours): this is a good assumption if, in the future, the EEE can be used perfectly flexibly and providers are not allowed to charge parents extra for the hours of care provided under the free entitlement.

Effectively, they are the costs in England as if the high quality model and associated reforms to tax credits were implemented overnight, but only for families with children under five.

The costs can be adjusted in the following ways:

1. ECEC is a devolved issue, and this note has looked at families in England only. The Barnett formula implies that increases in spending on ECEC in England would lead to increases in spending at the UK level (which are 23.8 per cent higher).<sup>14</sup> However, this does not apply to spending on the childcare element of the WTC. Currently, families in England receive 83 per cent of all spending on the childcare element of the WTC, and so the cost of a UK policy would be 20.4 per cent higher than the cost of a policy in England.<sup>15</sup> This means the UK-wide cost of the most expensive policy in Table 9 would be £7.3bn, rather than £5.9bn..
2. In 2008/09, Gross Domestic Product (GDP) was £1,275bn, so the increase in spending on ECEC represents 0.2 to 0.4 per cent of GDP, and the cost of the reforms in England to the Government varies from negligible to 0.5 per cent of GDP. However, including the costs in Scotland, Wales and Northern Ireland increases the cost of the most expensive reform to 0.6% GDP.
3. The costs of this reform will change over time according to changes in families' spending on childcare under the baseline policy scenario; changes in the number of children under five; and changes in the cost of childcare, which are driven primarily on wages. It would be reasonable to assume that spending on childcare per child will grow in line with GDP, but an estimate of the cost of this reform in 2020 must account for the forecast increase in the number of children: by 2020 there are expected to be 7 per cent more children under five than in 2008, and 11 per cent more three- and four-year-olds.<sup>16</sup> However, this does not change the estimated cost of the reforms to the level of accuracy reported here.
4. The estimated costs of the reforms to the childcare element of the WTC assumed they would apply to families with children under five only. The costs would clearly be higher if they applied to all families currently receiving the childcare element of the WTC, but it has not been possible to estimate what this cost would be. However, there is no reason why any reform need affect such families.
5. The current Government has announced ambitions to increase the EEE, including extending it to two-year-olds from low-income families by 2015. If such an extension were to arise, then it would reduce the cost to the Government of implementing the increased EEE presented in some of the scenarios in this report, and it would increase the cost to the Government of the scenarios which involve no change in EEE policy (as the Government would have to provide high quality care for more hours per year). However, as no reliable estimates are available of the cost to Government of providing additional EEE at current levels of quality, and no firm timetable exists, these have been ignored.
6. If the amount of ECEC used changes in response to the changes in the gross and net price of childcare, then the cost to the Government of these reforms could be

higher or lower than presented here. But estimating these dynamic costs is beyond the scope of this paper.

## Annex A: Estimating the cost of the high quality model

### Cost of improving quality of ECEC

In January 2009, three-year-olds in England used the following early education places:

- 321,600 (private and voluntary) and 15,900 (independent) or 318,100 part-time equivalents
- 223,100 maintained
- Total of 562,200 (92% of all eligible children) or 541,200 part-time equivalents.

In January 2009, four-year-olds in England used the following early education places:

- 99,900 (private and voluntary) and 20,400 (independent) or 116,700 part-time equivalents
- 100,600 nursery in maintained
- 370,300 reception in maintained
- Total of 593,400 (98% of all eligible children) or 587,600 part-time equivalents.

This gives a total is 1,128,800 part-time equivalents (PTE), with 370,300 in reception, 323,700 in nursery class and 434,800 in private, voluntary and independent (PVI).<sup>17</sup>

If reception classes are 38 weeks per year, 30 hours per week – and other places are 38 weeks per year, 12.5 hours per week – then the Government is paying for 782m hours per year (207m in PVI, 154m in nursery classes, 422m in reception classes).

At the high quality rates, the cost of the hours not in reception classes would be £1.2bn per year. The current cost of providing this is not known for certain. The Quality Costs final report outlines a number of estimates of the cost in 2007/8, which imply spending of around £1.2bn (excluding central expenditure) to £1.4bn (including central expenditure) a year, excluding hours in reception classes. Table 1 reveals that the cost of providing care to three- and four-year olds under the high quality model is very similar to estimates of the current cost, and so it is unsurprising that the estimated additional cost to the Government of providing high quality early education is negligible.

These calculations assumed the free entitlement is for 12.5 hours per week for 38 weeks – which was the case in 2006/07, the year that the Family Resources Survey (FRS) data relates to – but the Government is committed to increasing this in the future. This will clearly increase the estimated cost of providing both the high quality model, and the counterfactual cost at current quality levels. Provision of 15 hours per week for 38 weeks per year would increase all the costs by 20 per cent, giving a current cost and High Quality cost of around £1.5bn per year.

To work out the impact of high quality care for three- and four-year olds on parents' spending on ECEC, we have compared the number of hours of care reported by parents to be used by children in this age group with that reported to be funded through the early education entitlement. The FRS suggests that three- and four-year olds in England spend 160m hours

per year in day nurseries, 190m hours per year in nursery schools and 155m hours per year in playgroups and pre-school – 21 per cent of which are by children in London.<sup>18</sup> If we assume that the 361m hours per year in PVI and nursery classes, that we think are funded by the Government, are all reflected in the hours reported by families in the FRS, then this means that parents can be said to be paying for the 150m per year additional hours spent in playgroups and pre-school, day nurseries and nursery schools (and we assume that 21 per cent of these are in London). If parents were to pay for these hours at the high quality rates, then this would cost parents around £0.6 bn per year (using the 1:13 ratio for day nurseries, and assuming a 20 per cent higher rate for the 20 per cent of English ECEC currently used in London). However, parents currently spend £0.9bn per year on all forms of centre-based care for three- and four-year olds, and so it has been assumed that families' spend on ECEC for this age group will not change as a result of a move to high quality provision.

### **Cost to Government of increasing the early education entitlement**

Some of the scenarios modelled involve an increase in the amount of the early education entitlement (EEE). The reform, suggested by the Daycare Trust, involves:

- increasing the entitlement to free early education for three- and four-year olds from 15 hours per week, 38 weeks per year to 20 hours per week, 48 weeks per year; and
- extending free entitlement to two-year-olds to 15 hours a week, 38 weeks a year.

Estimating the direct cost to Government requires us to make assumptions on what will be the take-up rate amongst parents. We have assumed that take-up amongst three- and four-year olds will be 90 per cent and that take-up for two-year-olds will be around 80 per cent. We assume that 541,000 three-year-olds and 217,300 four-year-olds are potentially affected (the other four-year-olds are in reception classes), and that 540,000 two-year-old children are potentially affected. These assumptions lead to a cost to Government of providing these additional hours at the high quality level that, using the rates for care outside of London, is estimated to be £4.0bn per year. This comprises:

- £670m per year on four-year olds;
- £900m per year on three-year olds; and
- £2,470m per year on two-year olds.<sup>19</sup>

If the cost in London is 20 per cent higher, and 20 per cent of places in England are provided in London, then this raises the cost by 4 per cent – or £160m – to £4.2bn.

### **The saving to parents of an increase in the early education entitlement for those aged three and four (with higher quality care)**

Estimating the impact of an increase in the EEE on parents (and on Government, through lower payments of the childcare element of the WTC) requires an assumption as to what extent the additional EEE reduces the amount of care bought by families.<sup>20</sup>

To model the savings on parents, we have assumed that:

- parents of three- and four-year-olds will only need to pay for hours in excess of 20 hours per week; and
- parents of two-year-olds will only need to pay for hours in excess of 15 hours per week.

These are extreme assumptions: they probably *overstate* the savings to families from an increase in the EEE, and therefore *understate* ECEC spending by families in this scenario (they would be correct if, in the future, the EEE can be used perfectly flexibly, and providers are not allowed to charge parents extra for the hours of care provided under the free entitlement).

## Annex B: Using the data on spending on ECEC in the Family Resources Survey

Previous work on the information on childcare use in the Family Resources Survey (based on the 2001–02 survey) by Brewer and Shaw<sup>21</sup> suspected that it under-recorded the use of childcare and under-recorded spending on childcare (but by a lesser amount). The questions on childcare were redesigned comprehensively in the 2005–06 FRS, but it has not been established whether this redesign has altered the degree of under-reporting.

Analysis available from the author has compared the FRS data on childcare use and spending with that in the Department for Children, Schools and Families-commissioned Childcare Surveys. Such comparisons do NOT suggest a large under-recording in the FRS, although there is some under-recording of use and spending amongst under threes.<sup>22</sup> Note that the surveys are comparable in size, but not in timing: the FRS samples families all year round, and asks them about childcare used in the previous week; the Childcare Survey samples parents in January–April, and asks parents about childcare used in the previous week (or the last week in term-time where the previous week was a school holiday). These differences in timing should lead the FRS to have higher estimates of the use of holiday clubs, but lower use of ECEC amongst the under fives.

As discussed in Brewer and Shaw's paper (2004), it is likely that parents interpret the different categories of ECEC in different ways, and there are some inconsistencies in the childcare category chosen by parents of under fives. For example, analysis of the data leads us to think that not enough choose nursery classes in maintained schools, and too many choose nursery school. The 'nursery school' category in the FRS looks like a mixture of day nurseries, state-run or independent nursery schools, and nursery classes in maintained infant or primary schools. It also looks like some of the parents of very young children who report use of 'playgroup and pre-school' are reporting parent and toddler events where parents stay with their children; on the other hand, the most common number of hours per week for children aged three and four using this type of care was 12, suggesting it is the sort of care which is covered by the free early education entitlement.<sup>23</sup> As well as asking questions about childcare, the FRS also asks parents whether their children are in full-time education, and a number of four-year-olds are recorded as being in reception or nursery classes (based on answers to questions *tea* and *typeed*).

Estimates based on the FRS (and the Institute for Fiscal Studies' model TAXBEN) of the number of families entitled to the childcare element of the working tax credit (CCTC) are much lower than HMRC's estimate of the number of families in receipt (and the same for total spending) on CCTC. In 2006–07, HMRC estimate cost to be £1.179bn, but TAXBEN states that £0.7bn would be saved if it were abolished (if we take a generous interpretation of what spending reported by parents is on eligible/registered childcare). HMRC say 384,000 families benefit, but TAXBEN has just under 300,000 losing out if it were abolished.<sup>24</sup> This could be due to under-reporting of childcare spending in the FRS, or it could be a general problem in underestimating entitlement to tax credits overall. On the other hand, note that a substantial amount of CCTC is estimated to be paid out incorrectly due to fraud and error<sup>25</sup> which reduces the discrepancy somewhat.

In past work at the Institute for Fiscal Studies, the underestimate of CCTC has been corrected with ad hoc scaling factors (applied to changes in net income due to changes in CCTC). An alternative would be to impute some more childcare spending to the families in the FRS. The former would be inappropriate for this project, and the latter is problematic

unless there is a definitive source on what families are spending on ECEC. The author has decided, therefore, not to make any adjustment to the FRS data except that the use of nursery schools amongst the under threes has been reclassified as 'day nurseries'.

### **Childcare vouchers and the childcare element of WTC**

The FRS asks parents to say what they pay towards ECEC themselves. The notes given to interviewers mean that parents should NOT report the amount covered by an employer-provided Childcare Voucher, and they should ignore the fact that they may or may not get . In other words, if the cost of the childcare they use is £B, and they get £V in vouchers, then it is intended that they should report £(B - V) to the FRS interviewer (they may then get 80 per cent of £(B - V) back in childcare element, but that is irrelevant to the FRS question: 'how much did you pay for your childcare?').

The FRS estimates that 110,000 individuals in 2005/06 and 160,000 individuals in 2006/07 were currently receiving vouchers from their employer to pay for childcare (this corresponded to 105,000 and 140,000 families – in some couples, both adults receive vouchers). In 2006/07, 68 per cent said it was part of a salary-sacrifice arrangement.<sup>26</sup> The most common amounts to be paid amongst those doing salary sacrifice were £50 and £55 per week.

The value of the employer-provided vouchers needs to be added to the amount parents say that they pay, and this was done in the following way:

- If parents did not report the value of the employer-provided vouchers, it was assumed to be £55 a week.<sup>27</sup>
- The value of the vouchers received by a family was added to the amount spent on formal childcare. To determine what type of childcare the spending was added to, the following rules were used:
  - If the family spent money on only one type of formal childcare, then the value of the employer-provided vouchers was added to that type.
  - If the family spent money on more than one type of formal childcare, then the value of the employer-provided vouchers was added to a single type in the following order of priority: formal daycare, nursery school, childminder, nanny.
  - If the family did not spend money on formal childcare (which could be the case where the employer-provided vouchers covered the full cost), then the value of the employer-provided vouchers was added to a single type in the following order of priority: formal daycare, nursery school, childminder, nanny.

It is clear that this process is far from perfect.

The FRS does not record the amount spent on ECEC by people other than the immediate family, so it will not capture contributions made by, for example, a non-resident parent or grandparents. This will lead to an underestimate of the fees.

## **Annex C: Variant tables which assume that families' spending on ECEC rises by the proportions indicated in Table 1**

These tables are equivalent to Tables 3 and 4 in the main report. They show the estimated impact of the high quality ECEC with and without the increase in the early education entitlement (they do NOT show the impact with the subsidy to suppliers).

The purpose of this variant is to account for the variation in the hourly rate of ECEC that is suggested by the FRS. In this variant, each families' spending increases by the same proportion, meaning that those families who report that they pay less (or more) than the estimated current rates are modelled as if they would also pay less (or more) than the estimated high quality rates.



**Table 3 (variant): Impact of high quality ECEC (with no increase in the early education entitlement), and cost and impact of reforms to the childcare element of WTC, amongst families with children under five in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Extra spend on childcare (£/wk/family)	10	9	26	58	107		50
Extra spend on childcare (£m/yr)	86	89	310	816	1701		3002
% rise in childcare spend	120%	82%	96%	113%	96%		101%
Extra cost to government of higher spend	0	13	114	168	11		306
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	6%	4%	7%	12%	16%		
<i>Double ceilings</i>	6%	4%	6%	10%	15%		
<i>Pay 90% of costs</i>	6%	4%	6%	11%	16%		
<i>Give to all on tax credits</i>	2%	1%	4%	12%	16%		
<i>Pay 100% of costs and give to all on tax credits</i>	1%	1%	2%	10%	15%		
<i>Pay 90% of costs and double ceilings</i>	6%	4%	5%	8%	14%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	1%	2%	8%	14%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	13	157	400	226		796
<i>Pay 90% of costs</i>	0	16	141	245	30		432
<i>Give to all on tax credits</i>	108	129	275	204	24		739
<i>Pay 100% of costs and give to all on tax credits</i>	134	163	374	381	81		1134
<i>Pay 90% of costs and double ceilings</i>	0	16	190	506	321		1034
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	139	157	386	575	366		1623

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 4 (variant): Impact of high quality ECEC with an increase in the early education entitlement, and cost and impact of reforms to the childcare element of WTC, amongst families with children under five in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare with an increase in early education entitlement</b>							
Extra spend on childcare (£/wk/family)	-1	-2	2	14	48		16
Extra spend on childcare (£m/yr)	-11	-18	27	198	756		952
% rise in child spend	-15%	-17%	8%	28%	43%		32%
Extra cost to government of higher spend	0	5	60	0	-8		56
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	2%	2%	4%	7%	12%		
<i>Double ceilings</i>	2%	2%	3%	6%	11%		
<i>Pay 90% of costs</i>	2%	2%	3%	7%	11%		
<i>Give to all on tax credits</i>	1%	1%	2%	7%	11%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	0%	1%	6%	11%		
<i>Pay 90% of costs and double ceilings</i>	2%	2%	3%	5%	11%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	0%	0%	1%	5%	10%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	3	51	147	123		323
<i>Pay 90% of costs</i>	0	5	42	78	18		142
<i>Give to all on tax credits</i>	42	56	105	44	8		255
<i>Pay 100% of costs and give to all on tax credits</i>	53	71	163	153	53		493
<i>Pay 90% of costs and double ceilings</i>	0	5	71	210	194		479
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	52	67	169	241	211		740

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

## **Annex D: Simulated impact amongst families with children under three**

These tables are equivalent to Tables 2 to 5 in the main report, but they show analysis for families with children aged under three who use centre-based ECEC. Such families are more affected by the move to high quality ECEC than those with children aged three or four.

**Table 2 (variant): Baseline analysis of current spending on ECEC, and cost and impact of reforms to childcare element of WTC, amongst families with children under three in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>Current system</b>							
Number of families	82,546	111,598	145,051	158,901	198,209		696,305
% of whom paying for childcare	41%	57%	69%	85%	93%		74%
Current spent on childcare (£m/yr)	62	88	230	542	1,303		2,223
Current spent on childcare (£/wk/family)	14	15	30	66	126		61
% where all work	2%	14%	32%	70%	63%		43%
% getting more than family element of CTC	100%	99%	73%	41%	10%		55%
% getting childcare element	0%	5%	23%	26%	4%		5%
Childcare as % net income	5%	4%	6%	10%	9%		4%
Net childcare as % net income	5%	3%	4%	7%	9%		
<i>Double ceilings</i>	5%	3%	4%	7%	9%		
<i>Pay 90% of costs</i>	5%	3%	4%	6%	9%		
<i>Give to all on tax credits</i>	1%	1%	2%	7%	9%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	0%	1%	6%	9%		
<i>Pay 90% of costs and double ceilings</i>	5%	3%	4%	6%	9%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	0%	1%	6%	9%		
Existing spend on childcare element of WTC	0	-8	-85	-161	-39		-293
<b>Cost of reforms to childcare element of WTC (£m/yr)</b>							
<i>Double ceilings</i>	0	0	0	3	11		14
<i>Pay 90% of costs</i>	0	1	10	29	9		49
<i>Give to all on tax credits</i>	48	59	71	10	2		190
<i>Pay 100% of costs and give to all on tax credits</i>	60	74	109	75	24		341
<i>Pay 90% of costs and double ceilings</i>	0	1	10	32	26		70
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	54	70	90	44	29		287

Income quintiles groups are defined relative to income distribution of all families in England with a child under 5 (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 3 (variant): Impact of high quality ECEC (with no increase in the early education entitlement), and cost and impact of reforms to childcare element of WTC, amongst families with children under three in England who use centre-based care**

Quality costs: Funding options

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Number using centre-based care	82,546	111,598	145,051	158,901	198,209		696,305
% of whom paying for childcare	41%	57%	69%	85%	93%		74%
Extra spend on childcare (£/wk/family)	40	28	60	90	108		73
Extra spend on childcare (£m/yr)	171	162	452	744	1118		2648
% rise in childcare spend	278%	185%	197%	137%	86%		119%
Extra cost to government of higher spend	0	20	137	186	11		354
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	18%	9%	12%	17%	16%		
<i>Double ceilings</i>	18%	9%	10%	13%	15%		
<i>Pay 90% of costs</i>	18%	9%	11%	15%	16%		
<i>Give to all on tax credits</i>	6%	3%	7%	16%	16%		
<i>Pay 100% of costs and give to all on tax credits</i>	3%	2%	4%	13%	16%		
<i>Pay 90% of costs and double ceilings</i>	18%	9%	9%	11%	14%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	2%	1%	3%	10%	14%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	20	200	381	184		785
<i>Pay 90% of costs</i>	0	23	164	257	27		472
<i>Give to all on tax credits</i>	150	161	322	216	19		868
<i>Pay 100% of costs and give to all on tax credits</i>	187	200	422	378	64		1251
<i>Pay 90% of costs and double ceilings</i>	0	23	234	477	266		999
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	205	206	464	528	291		1693

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 4 (variant): Impact of high quality ECEC with an increase in the early education entitlement, and cost and impact of reforms to childcare element of WTC, amongst families with children under three in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Number using centre-based care	82,546	111,598	145,051	158,901	198,209		696,305
% of whom paying for childcare	41%	57%	69%	85%	93%		74%
Extra spend on childcare (£/wk/family)	12	10	31	32	51		31
Extra spend on childcare (£m/yr)	50	56	236	263	522		1128
% rise in childcare spend	82%	64%	103%	49%	40%		51%
Extra cost to government of higher spend	0	8	69	0	4		82
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	9%	5%	8%	11%	12%		
<i>Double ceilings</i>	9%	5%	7%	9%	11%		
<i>Pay 90% of costs</i>	9%	5%	8%	10%	12%		
<i>Give to all on tax credits</i>	2%	2%	5%	11%	12%		
<i>Pay 100% of costs and give to all on tax credits</i>	1%	1%	3%	9%	12%		
<i>Pay 90% of costs and double ceilings</i>	9%	5%	6%	8%	11%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	1%	2%	7%	11%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>	0	8	110	156	129		403
<i>Pay 90% of costs</i>	0	10	88	90	17		205
<i>Give to all on tax credits</i>	79	86	191	59	11		427
<i>Pay 100% of costs and give to all on tax credits</i>	99	108	257	156	46		666
<i>Pay 90% of costs and double ceilings</i>	0	10	133	214	186		543
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	97	115	298	239	204		952

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 5 (variant): Impact of high quality ECEC (with no increase in the early education entitlement) and with a subsidy to providers, and cost and impact of reforms to childcare element of WTC, amongst families with children under three in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Number using centre-based care	82,546	111,598	145,051	158,901	198,209		696,305
% of whom paying for childcare	41%	57%	69%	85%	93%		74%
Extra spend on childcare (£/wk/family)	23	16	33	44	45		35
Extra spend on childcare (£m/yr)	100	94	250	361	464		1269
% rise in childcare spend	163%	108%	109%	67%	36%		57%
Extra cost to government of higher spend	0	12	94	104	8		218
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	13%	7%	8%	12%	12%		
<i>Double ceilings</i>	13%	7%	7%	10%	11%		
<i>Pay 90% of costs</i>	13%	7%	7%	10%	12%		
<i>Give to all on tax credits</i>	3%	2%	4%	11%	12%		
<i>Pay 100% of costs and give to all on tax credits</i>	1%	1%	2%	9%	12%		
<i>Pay 90% of costs and double ceilings</i>	13%	7%	7%	9%	11%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	1%	2%	8%	11%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>							
<i>Pay 90% of costs</i>	0	12	111	173	94		390
<i>Give to all on tax credits</i>	0	14	116	159	20		308
<i>Pay 100% of costs and give to all on tax credits</i>	120	125	236	120	15		616
<i>Pay 90% of costs and double ceilings</i>	150	155	313	245	52		916
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	0	14	135	237	141		526
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	143	155	302	266	153		1018

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.

**Table 6(variant): Impact of high quality childcare with an increase in the early education entitlement and with a subsidy to providers, and cost and impact of reforms to childcare element of WTC, amongst families with children under three in England who use centre-based care**

	Income quintile groups of families with a child under 5						All
	1	2	3	4	5		
<b>High quality childcare and no change in amount of early education entitlement</b>							
Number using centre-based care	82,546	111,598	145,051	158,901	198,209		696,305
% of whom paying for childcare	41%	57%	69%	85%	93%		74%
Extra spend on childcare (£/wk/family)	4	2	13	3	1		5
Extra spend on childcare (£m/yr)	18	13	101	25	7		164
% rise in childcare spend	29%	15%	44%	5%	1%		7%
Extra cost to government of higher spend	0	4	41	0	-1		43
<b>Net childcare as % net income under current and reformed childcare element of WTC</b>							
<i>Current childcare element</i>	6%	4%	5%	8%	9%		
<i>Double ceilings</i>	6%	4%	5%	7%	9%		
<i>Pay 90% of costs</i>	6%	4%	5%	7%	9%		
<i>Give to all on tax credits</i>	1%	1%	3%	7%	9%		
<i>Pay 100% of costs and give to all on tax credits</i>	0%	0%	1%	6%	9%		
<i>Pay 90% of costs and double ceilings</i>	6%	4%	5%	6%	8%		
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	1%	0%	1%	6%	8%		
<b>Cost of reforms to childcare element of WTC relative to current spending and regime (£m/yr)</b>							
<i>Double ceilings</i>							
<i>Pay 90% of costs</i>	0	4	49	37	38		128
<i>Give to all on tax credits</i>	0	5	56	30	7		99
<i>Pay 100% of costs and give to all on tax credits</i>	61	65	144	4	6		279
<i>Pay 90% of costs and double ceilings</i>	76	83	197	78	33		466
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	0	5	65	75	73		217
<i>Pay 90% of costs and double ceilings and give to all on tax credits</i>	68	83	190	92	82		514

Income quintiles groups are defined relative to income distribution of all families in England with a child under five (as estimated by TAXBEN) based on net income NOT deducting childcare costs. 'Net income' in Table DOES deduct childcare costs.

Source: Based on FRS 2006–07 data and 2009–10 tax and benefit system.



## References

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<sup>1</sup> Not including spending on reception classes.

<sup>2</sup> When estimating the cost of high quality childcare, it was assumed that providers of care of 3- and 4-year-olds would use the 1:13 ratio. At present, most PVI providers use the 1:8 ratio. This has been accounted for in those simulations that use the estimated current costs in Table 1 (see Annex C).

<sup>3</sup> This means that no use is made of the estimated high quality costs for 'sessional care'

<sup>4</sup> Some PVI providers cross-subsidise, because they charge the same hourly rate (or only a slightly different rate) for children of all ages despite the fact that the adult-child ratio, and therefore the cost of providing an hour of childcare, varies considerably with the child's age. For a given nursery which charges the same hourly rate to children of all ages and which is breaking even overall, this means that 'profit' from childcare places for 3- and 4-year-olds is offsetting 'losses' on childcare places for the under 2s. However, it is likely that the introduction of a Single Funding Formula will restrict providers' ability to do this (unless the rate is set 'too high' for PVI providers)

<sup>5</sup> Around 20% of under 3s using this type of care pay nothing, and the mean hourly rate is £2.40/hr

<sup>6</sup> A third variant that was considered but not implemented was to use the estimated current costs (see Table 1) to reflect the current situation

<sup>7</sup> Economic theory says the extent to which a price subsidy is passed on in full to parents (the consumers) depends upon the price elasticities of supply and demand for childcare. For complete pass-through to families to occur, supply has to be completely elastic or demand completely inelastic.

<sup>8</sup> Daycare Trust has highlighted reform (4) in the Quality costs final report

<sup>9</sup> Note that the overall impact on government spending revenues of bringing about higher quality childcare will be affected by other factors, and it is beyond the scope of this project to consider these

<sup>10</sup> It may strike readers as odd to think that such families are using formal childcare. It is possible that it may reflect an error in the FRS data (either in recording the use of childcare or recording parents' employment status). If not, then it may reflect that families' work situations can fluctuate even when their childcare arrangements do not. Or it may represent genuine use of formal childcare

<sup>11</sup> These costs are only for families in our sample, ie those with children under 5 who use centre-based care. We estimate that £411m is currently spent on this group through CCTC, so the most generous of these reforms would approximately double spending on CCTC

<sup>12</sup> Not including spending on reception classes.

<sup>13</sup> *ibid*

<sup>14</sup> See Annex B of HM Treasury (2007) *Funding the Scottish Parliament, National Assembly for Wales and Northern Ireland Assembly: Statement of Funding Policy*, The Stationery Office: London; [http://www.hm-treasury.gov.uk/d/pbr\\_csr07\\_funding591.pdf](http://www.hm-treasury.gov.uk/d/pbr_csr07_funding591.pdf)

<sup>15</sup> Based on 2008/09 statistics. Author's calculation from HMRC (2009) *Child and Working Tax Credits Statistics: Finalised Annual Awards 2007–2008*, HMRC: London; <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-geog-payments-0708.pdf>

<sup>16</sup> See [http://www.statistics.gov.uk/downloads/theme\\_population/NPP2008/NatPopProj2008.pdf](http://www.statistics.gov.uk/downloads/theme_population/NPP2008/NatPopProj2008.pdf)

<sup>17</sup> Source is DCSF (2009) *Statistical First Release: Provision for children under five years of age in England: January 2009*, SFR/2009, DCSF;

[http://www.dcsf.gov.uk/rsgateway/DB/SFR/s000848/SFR11\\_2009.pdf](http://www.dcsf.gov.uk/rsgateway/DB/SFR/s000848/SFR11_2009.pdf). Note these estimates are higher than those based on surveys of parents: the Childcare Survey reports that 79% of 3-year-olds and 93% of 4-year-olds were making use of the free entitlement, with 73% used 12+ hours, 18% used

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7.5–12 hours, 9% used less than 7.5 hours. But, as the report on the survey admits, it is likely that some parents are unsure whether they are making use of the free entitlement

<sup>18</sup> Although note that the FRS-based estimate of the number of hours in reception classes is a lot lower than that implied by the DCSF data: we assume this is due to under-recording of hours in reception classes by the FRS (perhaps because the questions are related to childcare, not education and school), rather than the hours spent in reception classes being recorded under a different category

<sup>19</sup> The cost for 2-year-olds is so high because the adult-child ratios are different. The cost for 4-year-olds is lower than 3-year-olds because many are already in reception classes, and therefore assumed to be using 30 hours per week already

<sup>20</sup> For example:

- A 2-year-old who is currently using 20 hours per week of care might continue to use 20 hours of care even if 15 hours per week were provided free; in this case, the policy has saved the parents 15 hours of care, and cost the Government the same. If the family was claiming the CCTC, then some of the 15 hours per week saved by the parent may be 'clawed back' by the Government (in reduced CCTC payments)
- A 2-year-old not using childcare at all might continue not to use childcare even if it were free. In this case, the policy does not cost the Government anything, nor does it save parents any money
- A 3-year-old currently using the free entitlement but no other childcare might increase their use if the amount provided free was increased from 15 to 20 hours per week. In this case, the policy has cost the Government 5 hours per week, but has had no impact on the parent's spending

<sup>21</sup> Brewer, M and Shaw, J (2004) *Families and children Strategic Analysis Programme (FACSAP) Childcare use and mothers' employment: A review of British data sources*, DWP Working Paper No.

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<sup>22</sup> The price per hour is calculated as spend per week divided by hours used per week. Some providers may not allow parents to buy childcare by the hour

<sup>23</sup> In the FRS data-set, the hours of childcare used each week is reported in whole numbers; examination of the distribution of the hours per week spent by 3- and 4-year-olds in nursery schools suggests that the use of 12.5 hours a week is more often rounded down to 12 than up to 13

<sup>24</sup> For HMRC statistics, see <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtc-annual-06-07.xls>

<sup>25</sup> Table 8 of <http://www.hmrc.gov.uk/stats/personal-tax-credits/cwtcredits-error0708.pdf>

<sup>26</sup> These are lower estimates than those based on other sources, so it is likely that some parents are not reporting receipt of these vouchers when asked about any benefits-in-kind that come with their employment

<sup>27</sup> Note that parents were NOT asked the value of the voucher where they reported that the vouchers were NOT part of a salary sacrifice arrangement.

Daycare Trust, the national childcare charity, is campaigning for quality, accessible, affordable childcare for all and raising the voices of children, parents and carers. We lead the national childcare campaign by producing high quality research, developing credible policy recommendations through publications and the media, and by working with others. Our advice and information on childcare assists parents and carers, providers, employers and trade unions and policymakers.

Established in 1986, Daycare Trust has seen its campaigning translate into policy change, including the establishment of the national childcare strategy. However, access to quality childcare services is still dependent on where families live and on their income. Daycare Trust is uniquely qualified to give a voice to parents facing a multiple range of challenges. Please support our campaign for universal quality affordable childcare.

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