



Department
for Education

Providers' finances: Evidence from the Survey of Childcare and Early Years Providers 2018

Research report

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Contents

Acknowledgements	2
List of figures	5
List of tables	7
Executive Summary	10
Introduction	10
Methodology	10
Total cost and total income	11
Unit cost and staff hourly pay	12
Hourly parent-paid fees and additional charges	13
Summary of financial drivers	15
1. Introduction	19
2. Methodology	22
2.1 Data sources, samples and weighting	22
2.2 Cost measures	23
2.3 Hourly parent-paid fees	25
2.4 Staff hourly pay	25
2.5 Setting characteristics	26
2.6 Regression analysis	30
3. Total costs and income	33
3.1 Total cost	34
3.2 Breakdown of total cost	37
3.3 Total income	39
3.4 Sources of income	42
3.5 Ratio of total income to total cost	44

3.6	Drivers of the ratio of total income to total cost	46
4.	Unit cost and staff hourly pay	55
4.1	Unit cost	56
4.2	Drivers of unit cost	60
4.3	Staff hourly pay	68
4.4	Drivers of staff hourly pay	74
5.	Parent paid fees and additional charges	83
5.1	Patterns in hourly fees within settings	84
5.2	Variation in hourly fees across settings	87
5.3	Comparisons with free entitlement funding rates	91
5.4	Drivers of hourly fees	94
5.5	Additional charges for parents	100
5.4	Drivers of use of additional charges	103
6.	Summary of financial models	109
6.1	Role of setting characteristics	109
6.2	Role of provider type	110
6.3	Concluding thoughts	114
	References	116
	Annex A: Sample statistics for explanatory factors	117
	Annex B: Regression results	124

List of figures

Figure 1: Breakdown of income	12
Figure 2: Proportion of staff aged 25 plus paid at or below the National Living Wage	13
Figure 3: Hourly parent-paid fees and funding rates	15
Figure 4: Framework for the analysis of provider finances.....	20
Figure 5: Distribution of total weekly cost for private providers	35
Figure 6: Distribution of total weekly cost for voluntary providers	36
Figure 7: Distribution of total weekly cost for nursery classes.....	36
Figure 8: Distribution of total weekly cost for MNS	37
Figure 9: Distribution of total weekly income for private providers	40
Figure 10: Distribution of total weekly income for voluntary providers	41
Figure 11: Distribution of total weekly income for nursery classes.....	41
Figure 12: Distribution of total weekly income for MNS	42
Figure 13: Breakdown of income	43
Figure 14: Distribution of unit cost for private providers.....	58
Figure 15: Distribution of unit cost for voluntary providers	58
Figure 16: Distribution of unit cost for nursery classes	59
Figure 17: Distribution of unit cost for MNS	59
Figure 18: Distribution of unit cost for childminders	60
Figure 19: Distribution of staff hourly pay for private providers	70
Figure 20: Distribution of staff hourly pay for voluntary providers	70
Figure 21: Distribution of staff hourly pay for nursery classes.....	71
Figure 22: Distribution of staff hourly pay for MNS	71
Figure 23: Distribution of staff hourly pay for childminders	72
Figure 24: Proportion of staff aged 25 plus paid at or below the National Living Wage ...	72

Figure 25: Distribution of hourly fee for three and four year olds for private providers.....	88
Figure 26: Distribution of hourly fee for three and four year olds for voluntary providers.	89
Figure 27: Distribution of hourly fee for three and four year olds for nursery classes	89
Figure 28: Distribution of hourly fee for three and four year olds for MNS	90
Figure 29: Distribution of hourly fee for three and four year olds for childminders	90
Figure 30: Hourly parent-paid fees and funding rates for three and four year olds	91
Figure 31: Hourly parent-paid fees and funding rates for two year olds.....	92
Figure 32: Use of additional charges by hourly fee for three and four year olds.....	102
Figure 33: Use of additional charges by funding rate for three and four year olds.....	102

List of tables

Table 1: Mean hourly fees by child age group	14
Table 2: Local Authority measures included in regression models	32
Table 3: Total weekly cost	34
Table 4: Breakdown of costs	38
Table 5: Total weekly income	40
Table 6: Detailed breakdown of income by source	44
Table 7: Income to cost ratio	45
Table 8: Proportions of providers in deficit and in surplus	46
Table 9: Variation in income-to-cost ratio by provider type and child profile	47
Table 10: Variation in income-to-cost ratio by region, rurality and local deprivation	49
Table 11: Variation in income-to-cost ratio by opening hours	50
Table 12: Variation in income-to-cost ratio by staffing characteristics	51
Table 13: Variation in income-to-cost ratio by policy engagement	53
Table 14: Variation in income-to-cost ratio by additional and specialist services	54
Table 15: Unit cost by provider type	57
Table 16: Variation in unit cost by provider type and child profile	61
Table 17: Variation in unit cost by region, rurality and local deprivation	63
Table 18: Variation in unit cost by opening hours	64
Table 19: Variation in unit cost by staffing characteristics	65
Table 20: Variation in unit cost by policy engagement	67
Table 21: Variation in unit cost by additional and specialist services	68
Table 22: Staff hourly pay	69
Table 23: Staff hourly pay by qualification level	73
Table 24: Variation in staff hourly pay by provider type and child profile	75

Table 25: Variation in staff hourly pay by region, rurality and local deprivation	77
Table 26: Variation in staff hourly pay by opening hours	78
Table 27: Variation in staff hourly pay by individual staff characteristics	79
Table 28: Variation in staff hourly pay by setting staff characteristics	80
Table 29: Variation in staff hourly pay by policy engagement and delivery of additional and specialist services	82
Table 30: Patterns in fees across child age groups	86
Table 31: Differences in fees across child age groups within settings	86
Table 32: Hourly fees by child age group	87
Table 33: Difference between hourly fee and free entitlement rate for three and four year olds	93
Table 34: Difference between hourly fee and free entitlement rate for two year olds	94
Table 35: Variation in hourly parent-paid fee for three and four year olds by provider type and child profile	95
Table 36: Variation in hourly parent-paid fee for three and four year olds by region, rurality and local deprivation	97
Table 37: Variation in hourly parent-paid fee for three and four year olds by opening hours	98
Table 38: Variation in hourly parent paid fee for three and four year olds by policy engagement	99
Table 39: Use of additional charges	101
Table 40: Use of different types of additional charges	101
Table 41: Variation in additional charges by provider type and child profile	104
Table 42: Variation in additional charges by region, rurality and local deprivation	105
Table 43: Variation in additional charges by opening hours	106
Table 44: Variation in additional charges by policy engagement	108
Table 45: Summary of financial characteristics by provider type	111
Table 46: Setting size and child profile by provider type	117

Table 47: Local area characteristics by provider type	118
Table 48: Opening hours by provider type	119
Table 49: Staffing by provider type	120
Table 50: Individual staffing characteristics by provider type	121
Table 51: Policy engagement by provider type	122
Table 52: Additional and specialist services by provider type	123
Table 53: Regression results for income-to-cost ratio	124
Table 54: Regression results for unit cost	127
Table 55: Regression results for staff hourly pay	130
Table 56: Regression results for hourly parent-paid fees	133
Table 57: Regression results for additional charges	135

Executive Summary

Introduction

Several important changes in childcare policy in England in recent years have had financial implications for providers of Early Years education and childcare. These include the introduction of 30 hours free childcare for children of working parents and Tax Free Childcare, as well as ongoing expansion of support for childcare expenses in the rollout of Universal Credit to parents. In addition, the introduction of the Early Years National Funding Formula for the free early education entitlement for three and four year olds in 2017 brought notable changes to the funding of the free provision.

This report presents an analysis of Early Years providers' finances using data from the Survey of Childcare and Early Years Providers (SCEYP) for 2018. The objectives of this work are:

- To present the total cost of delivering childcare for all ages of children in the setting and the total income received by the setting, together with their constituent parts, for different types of providers.
- To analyse how the ratio of total income to total cost relates to setting characteristics such as child profile and geographic location.
- To explore providers' costs by describing the patterns in the unit cost and staff hourly pay and analysing how these patterns relate to provider type, setting characteristics and individual staff characteristics.
- To explore providers' income by describing the patterns in the underlying parent-paid hourly fees and additional charges for parents and analysing how these patterns relate to provider type and setting characteristics.
- To combine the evidence to develop an understanding of the financial models of different types of settings.

Methodology

The 2018 Survey of Childcare and Early Years Providers (SCEYP) included a telephone survey and a mixed mode (online and paper questionnaire) short survey undertaken between March and July 2018. The data used in this report includes only providers with preschool children in order to provide consistency with other cost studies and to allow consistency with future analysis of the SCEYP data from 2019 when the sampling frame will be restricted to these providers. Three different datasets from the two surveys were used in this report:

- Dataset A contains a subsample of respondents from the main SCEYP survey who undertook the financial variant and includes information on total cost and total income and a range of setting characteristics.
- Dataset B is a combined dataset of the subsample of respondents from the main SCEYP survey who undertook the financial variant and all respondents to the additional, short SCEYP and includes information on hourly parent-paid fees, additional charges and a more limited range of setting characteristics.
- Dataset C contains a subsample of respondents from the main SCEYP survey who undertook the staffing variant and includes information on staff hourly pay and individual staff characteristics as well as a range of setting characteristics.

All statistics and the regression analysis were weighted using specific weights designed for each dataset to help ensure that the findings are nationally representative of group-based providers and childminders registered with Ofsted as of July 2017 and school-based providers in the January 2017 Schools Census.

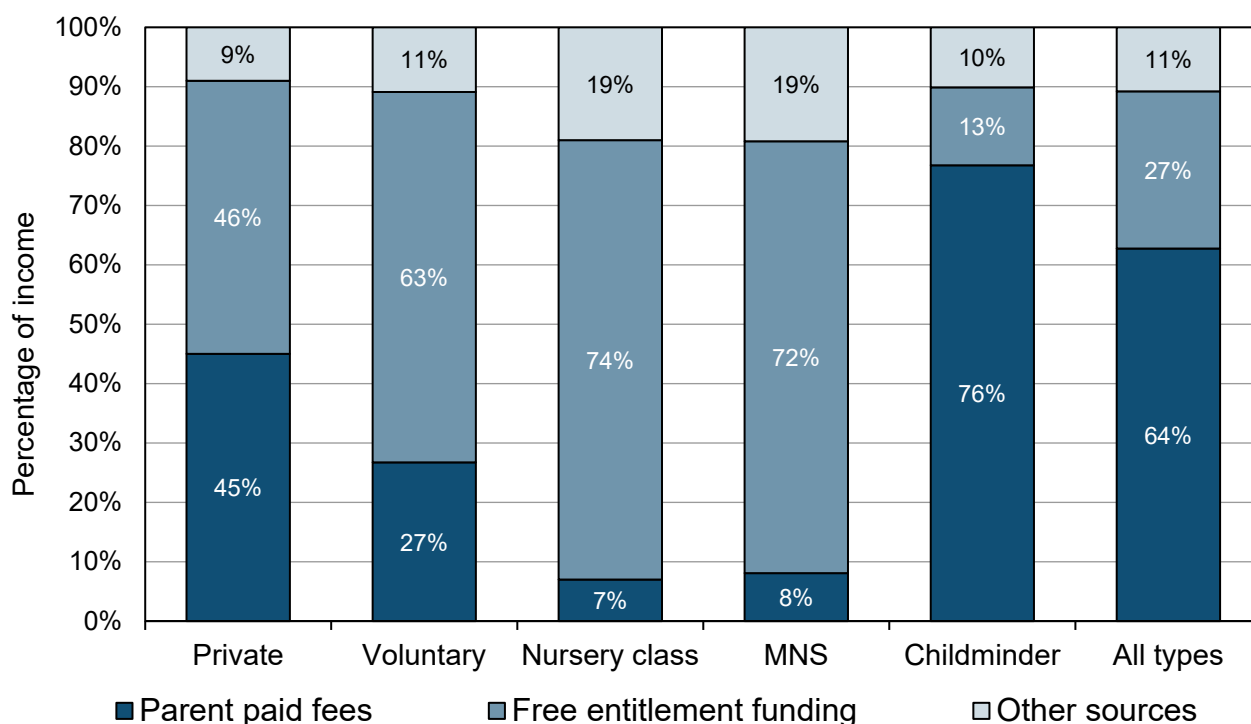
Multivariate regression analysis was used to identify the drivers of five key financial characteristics: the ratio of total income to total cost, unit cost, staff hourly pay, hourly parent-paid fees for three and four year olds and the use of additional charges.

Total cost and total income

The mean total weekly cost was £1,747. This was broadly similar for private providers (£4,610), voluntary providers (£2,992) and nursery classes (£3,311), but considerably higher for Maintained Nursery Schools (MNS) (£12,224) and lower for childminders (£445), reflecting differences in provider size as well as other factors. On average, just under three quarters (72 percent) of the total cost was for staff, with 8 percent for mortgage or rent payments, 8 percent for food and smaller proportions for materials (5 percent) and training (2 percent).

Mean total weekly income was higher for private providers (£6,049) than for voluntary providers (£3,159) and nursery classes (£3,004) and substantially greater for MNS (£10,252) and substantially lower for childminders (£428), again reflecting differences in provider size as well as other factors. On average, 64 percent of settings' income came from parent fees, 27 percent from free entitlement funding and 11 percent from other sources, but the breakdown varied considerably across different provider types (figure 1). On average, maintained providers (nursery classes and MNS) received around three quarters (74 percent and 72 percent) of their income from the free early education entitlement, while voluntary providers, on average, received 63 percent of their income from this source. For private providers, the average proportions received are evenly split between this free entitlement funding and parent paid fees, while childminders, on average, received almost two thirds (64 percent) of their income from parent paid fees.

Figure 1: Breakdown of income



Source: Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes are 288 for private providers, 278 for voluntary providers, 130 for nursery classes, 85 for MNS, 263 for childminders and 1,062 for all types. The all types column includes 18 group-based providers with unknown management status. All statistics are weighted to be representative of the national distribution of settings.

The mean ratio of total income to total cost was 1.3 across all providers, but this was higher for private providers (1.7) and voluntary providers (1.4) than for nursery classes (1.2), MNS (1.0) and childminders (1.2). The median ratio was exactly or close to 1.0 for all provider types, indicating that total income was less than total cost for at least half of these providers. It should be noted that this measure may not include all financing and investment costs.

Unit cost and staff hourly pay

The unit cost is an approximate measure for the delivery cost per hour per child for children of all ages in the setting. It was derived as the total cost for each setting divided by an estimate of the number of child hours it typically delivers each week.

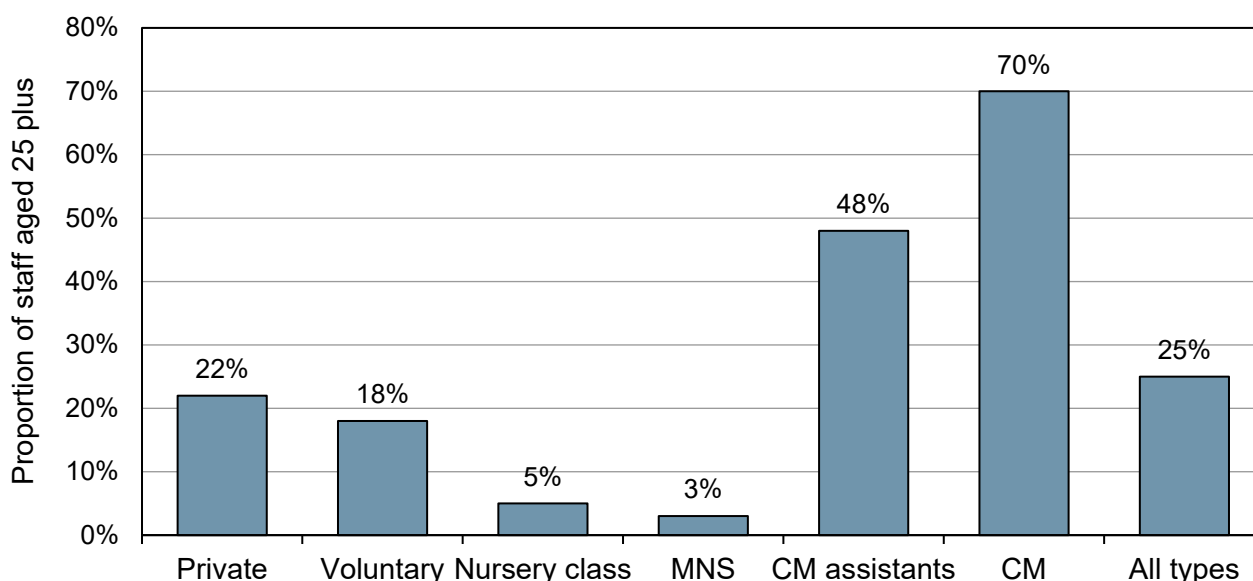
The mean unit cost for all settings was £3.70 per child per hour. This varied across group-based settings from £3.83 for private providers to £4.16 for voluntary providers, £4.28 for nursery classes and £7.23 for MNS, and was lower for childminders (£3.42). Even controlling for other characteristics, the mean unit cost is higher for MNS and lower for childminders than other types of providers. However, this measure may understate the hourly cost for childminders (because no rent or mortgage costs were recorded for

them) and may overstate the hourly cost for MNS and nursery classes (because it includes costs for any additional and specialist services delivered by the setting).

The mean staff hourly pay for all settings was £9.95, but was considerably lower for private providers (£9.17), voluntary providers (£9.35) and childminders (£7.46) than for nursery classes (£16.32) and MNS (£15.41). This pattern could be observed even within qualification levels. Even controlling for other characteristics, the mean staff hourly pay was higher for nursery classes and MNS and lower for childminders than other types of providers.

A quarter (25 percent) of workers aged 25 and over were paid at or below the statutory minimum of the National Living Wage (NLW), but this proportion varied considerably across provider types (figure 2). Only 5 percent of staff in nursery classes and 3 percent of staff in MNS were paid at or below the NLW. But some 70 percent of childminders paid themselves or drew money from the business implicitly at or below the NLW for the time they were employed in the business.

Figure 2: Proportion of staff aged 25 plus paid at or below the National Living Wage



Source: Survey of Childcare and Early Years Providers, 2018

Notes: CM stands for childminder. Unweighted sample sizes are 3,153 for private providers, 2,513 for voluntary providers, 605 for nursery classes, 345 for MNS, 57 for childminder assistants, 357 for childminders and 7,211 for all types.

Hourly parent-paid fees and additional charges

Few providers reported any variation in fees across different age groups: 11 percent did not use fees, 8 percent had fees for only one age group, 72 percent had the same average fee for all age groups and only 9 percent had any variation in the average fee across age groups. The mean hourly fee was £5.02 for children under the age of two,

£5.01 for two year old children and £4.92 for three and four year olds, but the mean hourly fee was higher for private providers than other provider types for all three age groups (table 1). Even controlling for other characteristics, the mean hourly fee for three and four year olds was higher for private providers and lower for childminders than other types of providers.

Table 1: Mean hourly fees by child age group

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Children under age two	£5.71 (1,651)	£5.11 (312)	£5.09 (24)	* (10)	£4.82 (6,805)	£5.02 (8,899)
Two year old children	£5.63 (2,359)	£4.86 (1,710)	£5.10 (156)	£5.43 (79)	£4.78 (6,838)	£5.01 (11,323)
Three and four year old children	£5.48 (2,550)	£4.80 (1,857)	£4.82 (598)	£5.09 (97)	£4.73 (7,203)	£4.92 (12,514)

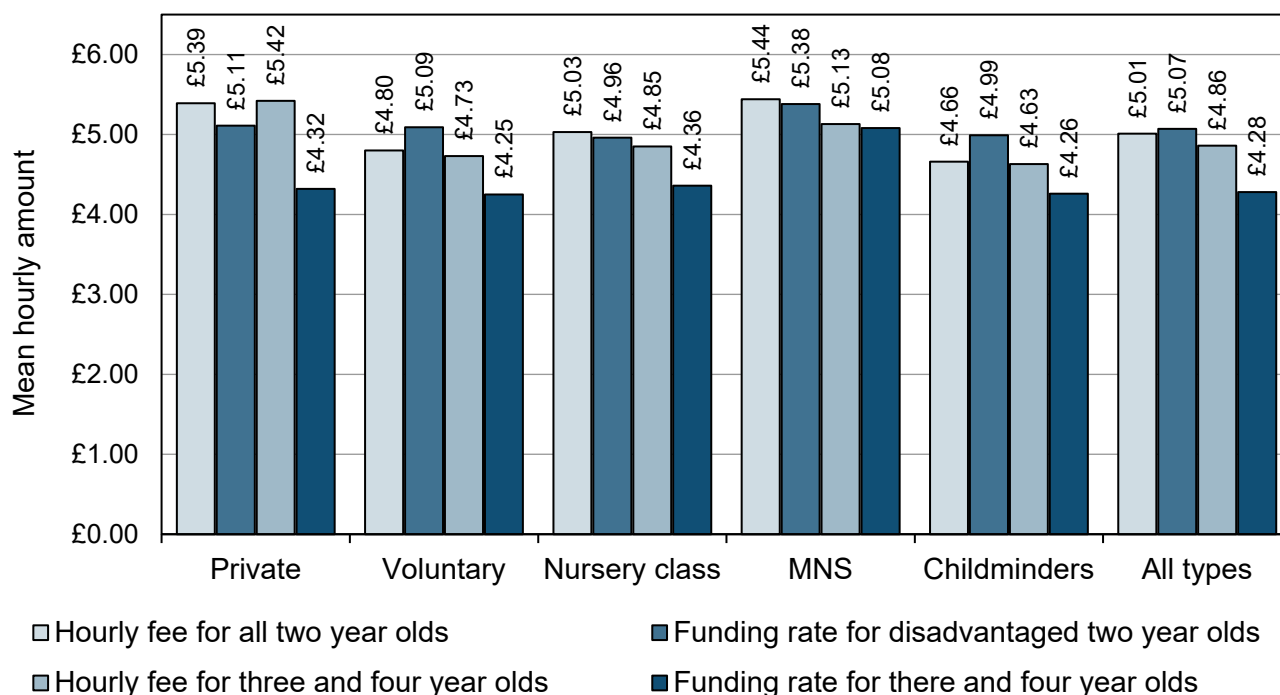
Source: Survey of Childcare and Early Years Providers, 2018

Note: Numbers in brackets indicate the unweighted number of settings in the cell sample. * denotes where statistics have been suppressed due to sample sizes of less than 20.

Across all settings with an hourly fee and free entitlement funding for three and four year olds, the mean hourly fee was £0.58 higher than the funding rate (£4.86 compared to £4.28). As shown in figure 3, the main variation in the mean funding rate across provider types was a higher level for MNS. This meant that the mean hourly fee was very close to the funding rate for MNS (£0.05 higher), somewhat higher than the funding rate for voluntary providers (£0.48 higher), nursery classes (£0.49 higher) and childminders (£0.37 higher) and substantially higher than the funding rate for private providers (£1.10 higher).

The comparison for two year olds (also presented in figure 3) shows almost no difference in the mean hourly fee for all two year olds and mean funding rate for disadvantaged two year olds across all settings (the mean funding rate was £0.06 higher than the mean hourly fee). Across the provider types, the mean hourly fee was very close to the funding rate for MNS and nursery classes (£0.06 and £0.07 higher for settings with both), somewhat lower for voluntary providers and childminders (£0.29 and £0.33 lower), and somewhat higher for private providers (£0.28 higher).

Figure 3: Hourly parent-paid fees and funding rates



Source: Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes for two year olds are 1,785 for private providers; 1,374 for voluntary providers; 122 for nursery classes; 73 for MNS; 1,683 for childminders; and 5,180 for all types. Sample sizes for three and four year olds are 2,137 for private providers; 1,629 for voluntary providers; 478 for nursery classes; 93 for MNS; 5,059 for childminders; and 9,568 for all types.

Just under three quarters (74 percent) of settings had additional charges for parents. The most common types of charges were for unarranged late pick-ups (44 percent), one-off activities (41 percent) and meals (30 percent). Less common were charges for regular activities (14 percent), snacks (12 percent), consumables (10 percent) and registration or other administration (8 percent).

The proportion with additional charges was slightly higher for private providers (87 percent), around the same level for voluntary providers and nursery classes (78 percent and 80 percent) and slightly lower for childminders (69 percent). Controlling for other characteristics, being a nursery class was associated with the highest likelihood and being a childminder with the lowest likelihood of having additional charges.

Summary of financial drivers

The regression analysis identified the following key drivers of the financial characteristics.

For setting size and child profile:

- A larger setting size (measured as the number of registered places) is associated with higher staff hourly pay, a higher unit cost, higher fees, a greater likelihood of additional charges for parents and a higher income-to-cost ratio.

- Having children under the age of two is associated with a higher unit cost and a lower income-to-cost ratio, while having a youngest child aged two is associated with a lower hourly fee and lower likelihood of additional charges.
- Having a higher proportion of children with SEND is associated with a higher unit cost and a lower income-to-cost ratio.

For local area characteristics:

- Even with controls for LA average wage and income levels, being located in London, the East of England or South East is associated with higher staff hourly pay and higher fees.
- Being located in an urban area is associated with a higher income-to-cost ratio.
- Being located in less deprived areas is associated with a higher unit cost and higher fees, but being located in areas of average deprivation (middle three quintiles) is associated with a higher income-to-cost ratio.

For opening hours:

- Offering sessional care is associated with a higher unit cost, lower fees and a lower likelihood of additional charges.
- Being open fewer hours each week is associated with a higher unit cost.
- Being open fewer weeks each year is associated with higher fees, but being open in the middle range of weeks is associated with higher staff hourly pay, a greater likelihood of additional charges and a higher income-to-cost ratio.

For staffing:

- Having a lower child-to-staff ratio is associated with a higher unit cost.

For policy engagement:

- Having no children in receipt of the free entitlement for two year olds is associated with higher fees.
- Having no children or low proportions of children in receipt of the Early Years Pupil Premium (EYPP) or 30 hours free childcare is associated with a higher unit cost and higher fees. Having children in receipt of 30 hours free childcare is also associated with a higher likelihood of additional charges.
- Having a high proportion of children in receipt of Tax Free Childcare (TFC) is associated with a lower unit cost, higher fees and a higher income-to-cost ratio.

- Having a higher funding rate for the free entitlement is associated with higher fees, a lower likelihood of additional charges and a lower income-to-cost ratio.

In addition, higher fees for parents and having additional charges appear to be complements rather than substitutes: having a higher fee is associated with a greater likelihood of having additional charges.

The evidence suggests that different type of providers have some distinctive financial characteristics:

- Private providers have higher mean hourly fees, are more likely to use additional charges and have a higher mean income-to-cost ratio than other provider types. The greater likelihood of additional charges is explained by other characteristics, but the higher hourly fees and higher income-to-cost ratio are not explained by other characteristics and could be driven by the need for private providers to draw financing sources from their profits.
- Voluntary providers have lower mean hourly fees than other provider types which could be explained by their greater tendency to offer sessional care.
- Nursery classes have higher mean hourly pay and lower mean hourly fees. The higher hourly pay does not translate into a higher unit cost due to other characteristics associated with a lower unit cost including that nursery classes tend to be small, to have no children under the age of three, to be located in more deprived areas, to have higher child-to-staff ratios and to have more children in receipt of EYPP. Nursery classes may also have access to free or lower priced resources from the school. The lower mean hourly fees are explained by a similar set of characteristics, including a greater tendency to be small, to be located in more deprived areas, to offer sessional care, to be open fewer weeks each year and to have more children in receipt of EYPP and fewer in receipt of TFC.
- MNS have higher mean hourly pay, a higher mean unit cost and a lower mean income-to-cost ratio than other provider types. The higher mean hourly pay drives the higher unit cost, together with other characteristics associated with a higher unit cost including that MNS tend to be large, to have a higher proportion of children with SEND and to be open fewer hours each week. In addition, the unit cost for MNS may be overstated due to the greater delivery of additional and specialist services compared to other provider types. The lower mean income-to-cost ratio follows from the higher mean unit cost.
- Childminders have lower mean hourly pay, a lower mean unit cost, lower mean hourly fees and a lower proportion with additional charges than other provider types, none of which are explained by their characteristics. However, the unit cost for childminders does not include any rent or mortgage costs which could explain a lower unit cost. In addition, childminders are so much smaller than other

providers that the effects of size could only be considered within group-based providers and within childminders separately and the unusual financial characteristics for childminders could simply reflect their smaller scale.

Two final points are useful to note. First, there are some specific areas which would benefit from further investigation including understanding providers' investment models; understanding how nursery classes appear to be relatively efficient in their use of staff; and adjusting the models to allow for the delivery of additional and specialist services. Second, a substantial proportion of the variation in the financial characteristics is unexplained and it is not clear whether this is driven by differences in efficiency of delivery and/or by differences in the nature of the care provided.

1. Introduction

Several important changes in childcare policy in England in recent years have had financial implications for providers of Early Years education and childcare. These include the introduction of 30 hours free childcare for children of working parents and Tax Free Childcare, as well as ongoing expansion of support for childcare expenses in the rollout of Universal Credit to parents. In addition, the introduction of the Early Years National Funding Formula (EYNFF) for the free early education entitlement for three and four year olds in 2017 brought notable changes to the funding of the free provision.

This report presents an analysis of Early Years providers' finances using data from the Survey of Childcare and Early Years Providers (SCEYP) for 2018. The objectives of this work are:

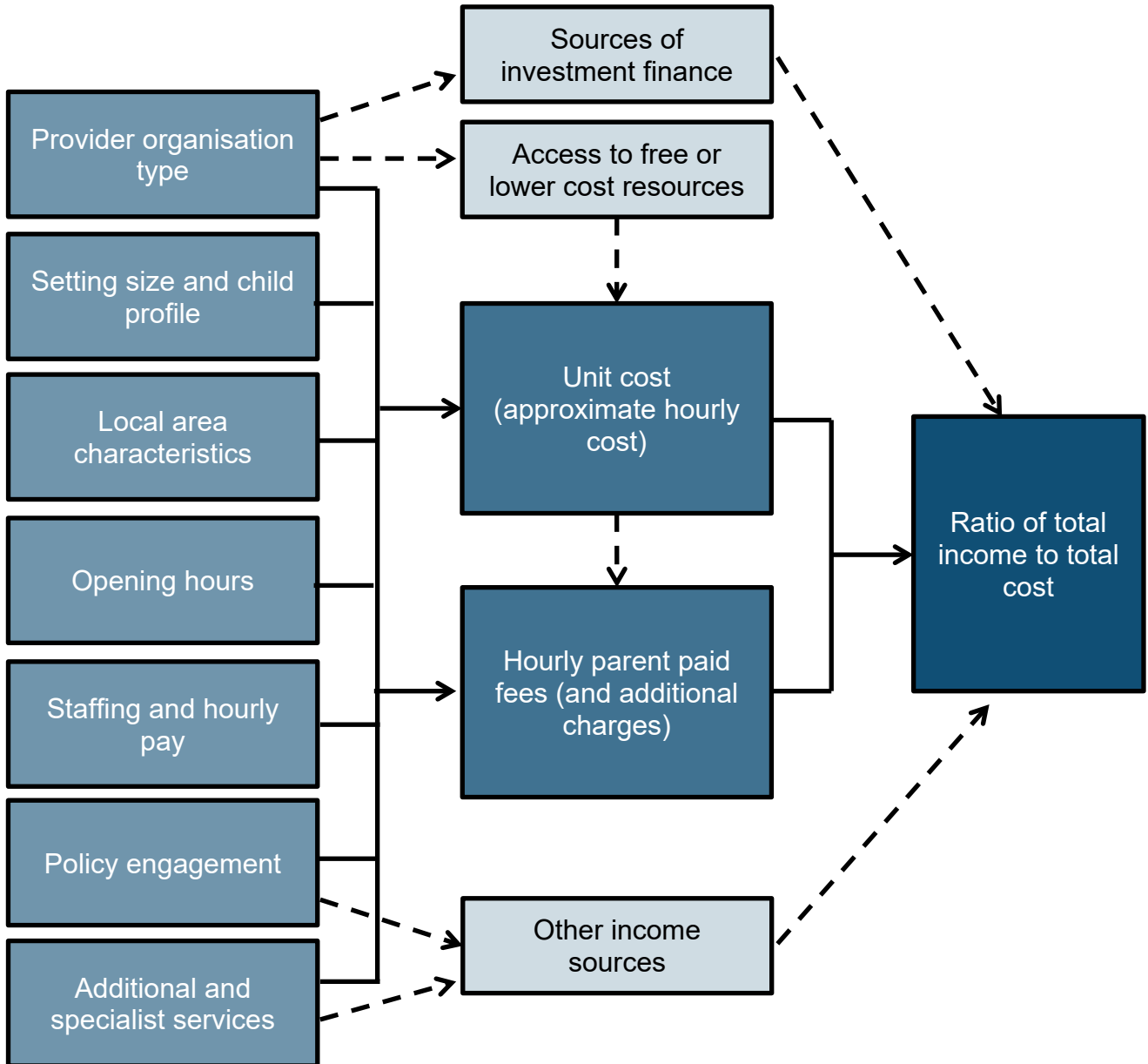
- To present the total cost of delivering childcare for all ages of children in the setting and the total income received by settings, together with their constituent parts, for different types of providers.
- To analyse how the ratio of total income to total cost relates to setting characteristics such as child profile and geographic location.
- To explore providers' costs by describing the patterns in the unit cost and staff hourly pay and analysing how these patterns relate to provider type, setting characteristics and individual staff characteristics.
- To explore providers' income by describing the patterns in the underlying parent-paid hourly fees and additional charges for parents and how these patterns relate to provider type and setting characteristics.
- To combine the evidence to develop an understanding of the financial models of different types of settings.

A framework for the analysis is presented in figure 4. The initial column shows seven sets of setting characteristics which influence both costs and income, ranging from factors beyond the control of the setting (such as local area characteristics) through those that are relatively fixed (such as setting size and provider organisation type) to those which are more flexible (such as opening hours and policy engagement). They also vary between factors which may simply influence the efficiency of delivery (such as the size of setting) to those which influence the nature of the provision, either in terms of the flexibility offered to parents (such as opening hours) or the experience provided to the child (such as staffing).

The three boxes in darker shading in the middle and final columns of the figure show the financial characteristics which are the focus for this study: the unit cost; hourly parent paid fees (and additional charges) and the ratio of total income to total cost. The analysis

considers how the seven sets of setting characteristics influence these three financial characteristics, together with an additional element which examines the relationships with the staff hourly pay as this is such a key element of the unit cost.

Figure 4: Framework for the analysis of provider finances



The lighter shaded boxes and dashed arrows in the figure highlight how the unit cost may be an important direct driver of parent fees and that there are three other important financial factors which are considered but not explored in depth, primarily due to data constraints. Specifically, provider type may influence the ratio of total income to total cost through different needs for investment finance, while some types of providers may have access to free or lower cost resources (such as the use of venue space at no explicit cost) which reduces their unit costs. In addition, policy engagement (such as provision of free entitlement places) and the delivery of additional and specialist services may also

influence the amount and types of other sources of income which will affect the income to cost ratio.

This report complements other related work using data from the SCEYP (Department for Education (2018), Speight et al (2019)) and from supplementary data collected as part of the broader SCEYP study (Paull & Xu (2019), Paull & Popov (2019)). In particular, the Early Years Providers Cost Study (Paull & Xu (2019)) provides analysis of a more robust measure of hourly delivery cost by age of child, while the LA Experimental Statistics (Department for Education (2018)) presents findings on average hourly parent-paid fees at the Local Authority (LA) level. Where appropriate, comparisons of statistics are noted with those in these other reports, but it should be noted that the samples used here differ from those used in the other outputs and the statistics may not match precisely.

The remainder of the report is organised as follows:

- Chapter two describes the data source, the financial and explanatory measures and the approach to the regression analysis.
- Chapter three examines settings' cost structures and sources of income and presents estimates of the ratios between total income and total cost and how the ratio is related to setting characteristics.
- Chapter four explores costs in greater depth, examining the drivers of the unit cost and staff hourly pay.
- Chapter five considers the drivers of hourly parent paid fees and the use of additional charges for parents.
- Chapter six combines the evidence to develop an understanding of the financial models of different types of settings.

2. Methodology

2.1 Data sources, samples and weighting

The 2018 Survey of Childcare and Early Years Providers (SCEYP) included a telephone survey and a mixed mode (online and paper questionnaire) short survey. Fieldwork took place between March and July 2018 and covered: group-based providers (childcare providers who operate on non-domestic premises); school-based providers; and childminders (practicing childminders on the Ofsted register of childminders excluding those registered with an agency). The sample was drawn from two sample frames: group-based providers and childminders registered with Ofsted as of July 2017 and school-based providers from the January 2017 Schools Census, which were the most up-to-date sample frames available at the time.²

The data used in this report includes only providers with preschool children³. This is both to provide consistency with other cost studies and to allow consistency with future analysis of the SCEYP data from 2019 when the sampling frame will be restricted to these providers.⁴ Within this selection, three different datasets from the two surveys were used in this report:

- Dataset A contains a subsample of respondents from the main SCEYP survey who undertook the financial variant. It includes information on total cost and total income and a range of setting characteristics. It is used for the analysis in chapter three and for the analysis of unit cost in chapter four.
- Dataset B is a combined dataset of the subsample of respondents from the main SCEYP survey who undertook the financial variant and all respondents to the additional, short SCEYP. It includes information on hourly parent-paid fees and additional charges as well as a more limited range of setting characteristics and is used for the analysis in chapter five. However, due to an issue in the routing in the main survey, only data from the short survey was used for the analysis of additional charges.⁵

² More information about the survey is provided in the technical report (Marshall et al (2018)).

³ Throughout, this study does not consider reception class provision and does not include schools which only have reception classes and no nursery class provision.

⁴ Further information on the future development of the survey can be found at <https://www.gov.uk/government/consultations/surveys-on-childcare-and-early-years-in-england>.

⁵ The main survey only asked questions on the use of additional charges if the provider had given a positive amount to the question on how much income they typically receive from any additional charges to parents and 71 percent responded with a zero amount. In contrast, the use of additional charges question was asked of all providers in the short survey and only 27 percent reported that they did not make any additional charges. As all maintained nursery schools (MNS) were included in the main survey, this meant that MNS could not be included in this analysis of additional charges.

- Dataset C contains a subsample of respondents from the main SCEYP survey who undertook the staffing variant. It includes information on staff hourly pay and individual staff characteristics as well as a range of setting characteristics. It is used in the analysis of staff hourly pay in chapter four.

All statistics and the regression analysis were weighted using specific weights designed for each dataset to ensure that the findings are nationally representative. For datasets A and B, the statistics are weighted at the provider level rather than weighted by the number of children with each provider.⁶ For dataset C, the unit of observation is individual staff and the statistics and analysis are weighted to be representative of the national workforce.

It should be noted that the use of variants in the main survey and the nature of the shorter survey had the following consequences for the analysis:

- Because the collection of cost and income information and the collection of staff hourly pay were in different variants, it was not possible to directly analyse the relationship between the unit cost and staff hourly pay. Instead, the analysis of the two elements are placed side-by-side in considering the driving factors in chapter four.
- Due to time constraints, the shorter survey included a more limited range of settings characteristics. Specifically, it did not collect information on the proportion of children with SEND, staff characteristics, child-to-staff ratios and the provision of additional and specialist services and these were not included in the analysis of hourly parent-paid fees or additional charges. However, these factors are potentially most important to the cost side and less so to the income measures.

The data from the SCEYP was complemented with additional data from external sources on region, rurality and local deprivation as well as LA level economic variables. These are described in more detail in section 2.6 below.

2.2 Cost measures

Providers were asked for the typical amount of their total costs and the amounts they pay for staff, rent or mortgage, food, materials and training costs (such as paying for classes, courses or materials). These costs covered actual amounts paid and did not include two types of “economic” costs:

⁶ As childminders have fewer children than the other provider types, the statistics weighted by the number of children would give considerably less weight to childminders and correspondingly greater weight to other types of providers.

- Some group-based providers and many school-based providers use Local Authority venues free of charge, while others may own the venue outright (without any mortgage). In these cases, the cost measure used here does not include the forgone rent to the owner of the venue or the opportunity cost of not being able to use the property for some other purpose
- Childminders were asked to exclude rent or mortgage payments from their total costs and were not asked to report these amounts separately. Hence, the costs for childminders do not include the opportunity cost of using space in their home for childminding.

Childminders were asked about staff costs as (a) the amount they typically spend on all staff that they directly pay and (b) the childminding income they typically personally earn (including any pay for themselves and any amounts that they regularly draw before any tax is deducted). The sum of these two elements was used to measure staff costs for childminders.

A unit cost was derived as an approximate measure of the cost per hour per child for all children of all ages in the setting. This measure used an estimate of the number of daily hours of childcare delivered based on the provider's daily opening hours and the number of children in attendance on the survey reference day (for full-day, in each morning and afternoon session, and in any before school or after school sessions). This daily number of hours was multiplied by the number of days that the setting was open each week to obtain an estimate of the number of weekly hours of childcare delivered (assuming that differences across days of the week average out across providers). The reported total cost was then divided by this number of hours to obtain the unit cost.

The term unit cost is used rather than hourly cost to reflect that the measure is derived from several pieces of information (total costs, opening times and days, and attendance numbers) all of which may contain measurement or response error and mean that the estimate is not a precise measure of cost per hour. Nevertheless, the measure appears to provide a reasonable measure of cost controlling for the quantity of output in terms of having reasonable statistical parameters and the estimated relationships with provider characteristics give a reasonable indication of how the hourly cost may vary across these characteristics.

Two caveats should be noted about this unit cost:

- The cost for childminders does not include any rent or mortgage costs: hence the estimates presented here will understate the cost for childminders to the extent that they either explicitly pay for the space used for their childminding business or implicitly forgo the value of using that space for other purposes.
- The total cost will include the cost of delivering additional and specialist services and these costs are spuriously included in the estimated unit cost. Hence, the unit

cost will overstate the actual cost for each hour of childcare for settings which deliver these services and the overstatement will be greater for settings which deliver more of these services. However, other work has estimated that the costs for these services only constitute 3 percent of all costs, although the average proportion is higher for some provider types (6 percent for nursery classes and 8 percent for maintained nursery schools (MNS)⁷). Hence, the unit cost may be particularly overstated for MNS.

2.3 Hourly parent-paid fees

For group based providers and childminders, the main survey and short SCEYP collected information on the average hourly fee paid by parents for four age groups of children: children aged under two, two year old children, three and four year old pre-school children and school children. For school-based providers, surveys focused on nursery provision and collected information on the average hourly fee for the younger three groups for children (omitting the fee for school children).

The reported average hourly fees were trimmed to remove average hourly fees of zero or in excess of £40. This removed average fee observations for 0.9 percent of providers reporting an average fee for children under the age of two, for 0.6 percent of providers for fees for children aged two and 0.5 percent of providers for fees for three and four year old preschool children.

The fee information appears to have been collected consistently between the two sources. The mean hourly fee in the short SCEYP was statistically significantly lower in the short SCEYP than in the main survey (£4.89 compared to £5.28 for under twos, £4.89 compared to £5.12 for two year olds and £4.81 compared to £5.00 for three and four year old preschool children). But the differences between the two sources were not statistically significant in regressions with controls for provider type and region, indicating that the raw differences were explained by different mixes in provider type and region between the two sources.

2.4 Staff hourly pay

In the main survey, information on pay was collected for five randomly selected members of staff for group based providers and school nurseries, while it was collected for the childminder and up to two assistants for childminders. For private and voluntary providers, the five staff included a senior manager, one with a highest level of Early Years or teaching qualification at level 4 or higher, two with the highest such qualification at level 3 and one with a highest such qualification at level 2 or lower. For nursery

⁷ Figure 4 in Paull & Xu (2019).

classes and MNS, the five staff included the Early Years Co-ordinator or head teacher, and four further staff with highest levels of Early Years or teaching qualifications at level 6 or higher, level 4 or 5, level 3 and level 2 or lower. For each individual, information was collected on their precise highest qualification level, age band, average weekly hours and hourly pay.⁸ For childminders, hourly pay was derived from the amount of income that they typically personally earned (including any pay for themselves and any amounts that they regularly draw before any tax is deducted) and the hours that they typically spent on work as a childminder (including contact hours and other hours spent on administration, preparation or other tasks required to run the business).

2.5 Setting characteristics

The statistics for setting characteristics by the five provider types (private⁹, voluntary, nursery classes, maintained nursery schools (MNS) and childminders) are presented in Annex A. This section describes each measure and notes any unusual patterns across provider types.

For setting size and child profile:

- Because the number of registered places are so different for group-based providers¹⁰ and childminders, different categorisations of setting size were used. For group-based providers, small was defined as less than 35 places, medium as 35 to 65 places and large as more than 65 places. For childminders, small was defined as less than 6 places, medium as exactly 6 places and large as more than 6 places. While 36 percent, 49 percent and 15 percent of all settings were in the small, medium and large categories, higher proportions of nursery classes than other provider types were in the small category and higher proportions of MNS than other provider types were in the large category.
- Data on whether a setting was single site or a chain (part of a multi-site provider) was collected only for private and voluntary providers. The proportion in chains was higher for private than voluntary providers (38 percent compared to 11 percent).

⁸ In some cases where the respondent could not report the pay amount, a banded hourly pay was reported instead. Banded hourly pay was reported in 7 percent of cases. For these cases, the midpoint of the band was used in the analysis of the hourly pay. But these banded responses could not be used in the analysis of the proportion with hourly pay at or below the national living or minimum wage because the thresholds fell within hourly pay bands.

⁹ Throughout, a small number of independent providers were included in the private category because the number was insufficient for a separate independent type and their management organisation is essentially a private one.

¹⁰ Group-based providers include private providers, voluntary providers, nursery schools and MNS in this report.

- Most settings (58 percent) had a youngest child aged under two years old, while 25 percent had a youngest child aged two and 17 percent had a youngest child aged three or four. The proportion with a youngest child aged two was higher for voluntary providers (71 percent) and MNS (69 percent) and the proportion with a youngest child aged three or four was higher for nursery classes (83 percent).
- Children with SEND were defined as those with an Education, Health and Care (EHC) plan or a Statement of Special Needs. A minority of settings (24 percent) had any children with SEND defined in this way, but more than half (61 percent) of MNS had at least one child with SEND.

For local area characteristics:

- There were no strong patterns in the regional distribution of settings by type of provider.
- A minority of settings (18 percent) were located in rural areas, but this proportion was higher for voluntary settings (32 percent) than other types.
- Settings were fairly evenly distributed across deprivation quintiles (measured by the Index of Multiple Deprivation or IMD), but slightly higher proportions of nursery classes and MNS were located in the most deprived quintile (33 percent and 46 percent respectively).

For opening hours:

- Data on whether the setting offered full day or only sessional care was only collected for group-based providers.¹¹ While 19 percent overall offered sessional care, this proportion was slightly higher for voluntary providers (25 percent) and nursery classes (32 percent).
- There were substantial differences in the number of opening hours each week and the number of opening weeks each year across providers. Low, middle and high categories were constructed to divide all settings into three roughly even groups for both measures (with divisions at 40 and 50 hours and at 40 and 48 weeks). However, most private providers were in the high categories for both, while most of the other group-based provider types were in the low categories for both. Interestingly, childminders were more concentrated in the middle categories for both.

¹¹ Providers who reported that they offered both full day care and sessional care were categorised as offering full day care.

For staffing characteristics:

- The average staff qualification in a setting was calculated as the mean of the NVQ levels for all staff. For example, a setting with an average level of 3.5 could have half of its staff with level 3 and half of its staff with level 4. Settings were categorized into three groups of an average of less than 3, from 3 to 3.5 and more than 3.5, with around half of all settings in the middle group and roughly a quarter in each of the lower and higher groups. However, much higher proportions of nursery classes (72 percent) and MNS (56 percent) were in the higher group.
- Across all settings, 13 percent had at least one apprentice, but this proportion was higher for private providers (44 percent).
- Across all settings, 42 percent had at least one volunteer working in the setting, but this proportion was higher for MNS (76 percent).
- Almost all private providers, voluntary providers and childminders had average child-to-staff ratios for three and four year olds which were exactly 8 or less, while substantial proportions of nursery classes (50 percent) and MNS (75 percent) had average ratios in excess of 8.

For workforce characteristics (at the individual staff level):

- Across all settings, 17 percent of staff were under age 25, 42 percent were aged 25 to 39, 23 percent were aged 40 to 49 and 18 percent were aged 50 or over. There was a greater tendency for staff in private providers to be in the younger age groups and for childminders (and their assistants) to be in the older age groups.
- Across all settings, 18 percent of staff had a highest qualification below level 3, 63 percent had a qualification of level 3 to level 5 and 19 percent had a qualification of level 6 or higher. However, the proportion of staff with a level 6 qualification was notably higher in nursery classes (45 percent).
- Across all settings, 28 percent of staff were working part-time (weekly hours less than 30). This proportion was higher for voluntary providers (49 percent) and lower for childminders (16 percent).
- Across all settings, 39 percent of staff worked in settings with at least one staff member of black or minority ethnicity (BME). This proportion was higher for MNS (67 percent) and lower for childminders (14 percent), but this may just reflect

provider size (the larger the provider, the greater the likelihood that there will be one staff member of BME).¹²

- Across all settings, 33 percent of staff worked in settings with at least one male member of staff. Again, this proportion was higher for MNS (45 percent) and lower for childminders (6 percent), but this may also just reflect provider size (the larger the provider, the greater the likelihood that there will be one staff member who is male).

For policy engagement:

- Over a third (37 percent) of all settings had a child in receipt of the free early education entitlement for two year olds, but this proportion was lower for nursery classes (reflecting that most did not have two year olds) and for childminders (reflecting lower engagement with the free entitlement more broadly).
- Just under a third (30 percent) of all settings had a child in receipt of the Early Years Pupil Premium (EYPP), but this proportion was 98 percent for MNS (reflecting their tendency to be located in deprived areas) and 71 percent for nursery classes and was only 4 percent for childminders (again reflecting their lower engagement with the free entitlement more broadly).
- Across all settings, 71 percent had at least one child in receipt of free hours under the 30 hours free childcare and 35 percent had at least one child in receipt of Tax Free Childcare (TFC). Consistent with identical eligibility requirements for both policies, nursery classes and childminders were less likely than other provider types to have children in receipt of either policy.

Data on the delivery of additional and specialist services was collected with respect to three types:

- Specialist services for children (for example, providing specialist support for children who have been referred by the local authority / other providers).
- Specialist family support (for example, dedicated sessions with parents on their own or with their children).
- System leadership (for example, providing training or CPD (continuing professional development) for other providers, support to the local authority, or leading quality improvement in an area).

¹² Ethnicity and gender were not recorded at the individual staff level in the survey. Gender was recorded for the overall workforce in each setting and 3 percent of the workforce was male.

This data was only collected from group-based providers on the presumption that these types of services are not delivered by childminders. Across all group-based settings, 36 percent delivered specialist services for children, 24 percent delivered specialist family support and 21 percent delivered system leadership, but these proportions were much higher among MNS (64 percent, 58 percent and 73 percent respectively).

2.6 Regression analysis

Multivariate regression analysis was used to identify the key drivers of the five key financial characteristics (ratio of total income to total cost, unit cost, staff hourly pay, hourly parent-paid fees for three and four year olds and the use of additional charges). These models identify statistically significant associations of differences in the financial measures controlling for other potential drivers, including both the setting characteristics and local area (typically LA level) factors. For example, cost may be higher both for MNS and for settings using more qualified staff but the raw associations could be confounded because MNS tend to have more qualified staff. The regression analysis distinguishes whether it is being a MNS or whether it is the more qualified staff that is the “key driver” or whether both factors are independently important. The analysis does not identify whether these associations are causal (that is, whether a particular setting characteristic or local factor leads to a different average financial outcome), but broader understanding of the mechanisms underlying provider finances suggests that the associations may be causal in some cases. For example, it is more likely that higher child-to-staff ratios lead to a lower unit cost than that having a lower unit cost leads settings to have a higher ratio.

Because there was a specific interest to understand the role played by the level of the free entitlement funding rate in providers’ finances, two regression models were estimated for most of the measures¹³:

- Regression model 1 included all providers and a base range of explanatory factors covering the setting characteristics collected in the survey¹⁴ and region, rurality and level of deprivation (Index of Multiple Deprivation (IMD)) matched from external sources by postcode.¹⁵ The model for the use of additional charges also included the average hourly fee to test for any association between the two.

¹³ Model 2 was not estimated for the hourly pay regression because it seemed unlikely that the funding rate would influence pay rates for given types of staff.

¹⁴ To allow for the inclusion of all provider types in a single model, variables not collected for some provider types were set equal to zero for those settings (covering whether part of a chain, whether offer full day or sessional care, the number of staff volunteers and the number of apprentices, and the provision of additional and specialist services).

¹⁵ Region and rurality were merged in from the ONS postcode directory (ONSPD). IMD was created by MHCLG and merged onto the ONSPD (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/465791/English_Indices_of_Deprivation_2015_-_Statistical_Release.pdf)

- Regression model 2 included only providers with three and four year olds in receipt of the free entitlement (called “funded providers”) in order to consider the relationships with the level of the funding rate for this age group.¹⁶ It also included a slightly extended range of explanatory factors covering some LA level factors that partly determine the EYNFF funding rate in order to test whether there were associations with the funding rate per se rather than these underlying factors that determine the funding rate.

The models for the ratio of total income to total cost, unit cost and hourly pay were estimated as linear regressions, while the model for hourly pay was estimated as a linear regression for the natural log of hourly pay (as typically specified for hourly pay given the skewness in the distribution).¹⁷ The model for the use of additional charges was estimated as a probability logistic regression because making additional charges is a discrete binary variable.

The LA level variables included in the models are listed in table 2, together with their potential influence on providers’ finances and the models in which they were included. The ethnicity variable is not included in model 2 because it was collinear with the similar EAL (English as an Additional Language) variable which is added in model 2. Although designated as operating through either the cost or the demand side, all measures are included for all outcomes as factors primarily increasing cost may impact on hourly parent fees through a higher unit cost and factors primarily raising demand may impact on the unit cost through a demand-side pull for more expensive types of provision.

Given the large number of explanatory factors in both models, the regressions were tested for multicollinearity (factors too closely related to identify a separate relationship for both) and adjustments made as required. These included:

- The LA average wage was excluded from the hourly pay regression.
- No LA level variables were included in either model for the use of additional charges and the receipt of 30 hours free childcare was excluded from model 2.

Full results from all the regression models are presented in Annex B.

¹⁶ The small number of providers who only delivered the free entitlement to two year olds were excluded because they would not have reported a funding rate for three and four year olds (and the funding rate for two year olds is too different from that for three and four year olds to be used instead).

¹⁷ In addition, a logistic probability regression model was estimated for the proportions paid at or below the minimum wage. This generated four additional findings which are noted and discussed in the relevant sections and the regression output is presented in Appendix B. However, this did not generate any substantive new insights beyond the hourly pay regression and is not reported in the main text, although the regression output is presented in Annex B.

Table 2: Local Authority measures included in regression models

Variable name	Description (source)	Potential influence on finances	Role in EYNFF	Models
Average wage	Median weekly gross pay for all workers in 2017 (ASHE / Nomis)	Cost driver	Proxy for general labour market area cost adjustment (ACA)	1 & 2
Average rent	Mean rateable value as of March 2018 (Valuation Office Agency (VOA))	Cost driver	Proxy for nursery rates area cost adjustment (ACA)	1 & 2
Free school meals proportion	Proportion of primary school pupils claiming free school meals in 2018 (DfE)	Cost driver	Proportion implicitly used	2
EAL proportion	Proportion of primary school pupils whose first language is known or believed to be other than English in 2018 (DfE)	Cost driver	Proportion implicitly used	2
Disability Living Allowance proportion	Proportion of children under age 5 claiming Disability Living Allowance using number of claimants in February 2018 divided by number of children in 2017 (DWP / Nomis)	Cost driver	Proportion implicitly used	2
Average income	Mean gross disposable household income per head in 2016 (ONS)	Demand driver	None	1 & 2
Proportion of women in partnerships	Proportion of female population (excluding widows) married or in a civil partnership (2011 Census)	Demand driver	None	1 & 2
Ethnicity	Proportion of 3-4 year olds who are white in 2017 (DfE / ONS)	Demand driver	None	1
Average qualification level	Proportion of population aged 25-49 with NVQ4+ in 2017 (Annual Population Survey / Nomis)	Demand driver	None	1 & 2

3. Total costs and income

This chapter explores the total costs and income reported by settings. The first section presents the weekly total costs, while the second considers the breakdown across different types of costs. The third section similarly presents the total income, with the fourth section showing the breakdown across different sources. The ratio of total income to total cost is examined in the penultimate section, while the final section summarises the findings from multivariate regression analyses of how this ratio varies across setting characteristics

The key findings are:

- The mean total weekly cost was £1,747. This was broadly similar for private providers (£4,610), voluntary providers (£2,992) and nursery classes (£3,311), but considerably higher for MNS (£12,224) and lower for childminders (£445). (section 3.1)
- On average, just under three quarters (72 percent) of the total cost was for staff, with 8 percent for mortgage or rent payments, 8 percent for food and smaller proportions for materials (5 percent) and training (2 percent). (section 3.2)
- Mean total weekly income was higher for private providers (£6,049) than for voluntary providers (£3,159) and nursery classes (£3,004) and substantially greater for MNS (£10,252) and substantially lower for childminders (£428). (section 3.3)
- On average, 64 percent of income came from parent fees, 27 percent from free entitlement funding and 11 percent from other sources, but the breakdown varied considerably across different provider types. (section 3.4)
- The mean ratio of total income to total cost was 1.3 across all providers, but this was higher for private providers (1.7) and voluntary providers (1.4) than for nursery classes (1.2), MNS (1.0) and childminders (1.2). The median ratio was exactly or close to 1.0 for all provider types, indicating that total income was less than total cost for at least half of providers. It should be noted that this measure may not include all financing and investment costs. (section 3.5)
- Controlling for other characteristics, being a private provider is associated with a higher income-to-cost ratio over being a childminder and being a voluntary provider is associated with a higher income-to-cost ratio over nursery classes and MNS. (section 3.6)
- Other factors associated with a higher income-to-cost ratio are medium or large size, having no children aged under two, having no children with SEND, being located in an urban area, being located in areas of average deprivation, opening

for 40 to 48 weeks each year, having a high proportion of children in receipt of Tax Free Childcare and having a low funding rate for free entitlement. (section 3.6)

- Settings which offer full day care rather than sessional care, have a child-to-staff ratio for three and four year olds of exactly eight, have two year olds in receipt of the free entitlement of deliver specialist child services have a higher mean income-to-cost ratio but the differences in the ratio are explained by the other characteristics of these settings. (section 3.6)

3.1 Total cost

Across all provider types, the mean total weekly cost was £1,747. This was broadly similar for private providers (£4,610), voluntary providers (£2,992) and nursery classes (£3,311), but considerably higher for MNS (£12,224) and lower for childminders (£445) (table 3).¹⁸ This may reflect both differences in provider size and in the amount spent per hour of care for each child. The median total weekly cost (the middle observation when providers are ranked from lowest to highest) was considerably lower than the mean for all provider types, indicating a number of providers with unusually high weekly total costs within all types.

Table 3: Total weekly cost

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean total weekly cost	£4,610	£2,992	£3,311	£12,224	£445	£1,747
Median total weekly cost	£2,596	£1,748	£1,923	£9,733	£387	£558
Unweighted number of providers	502	472	145	106	334	1,588

Source: Survey of Childcare and Early Years Providers, 2018

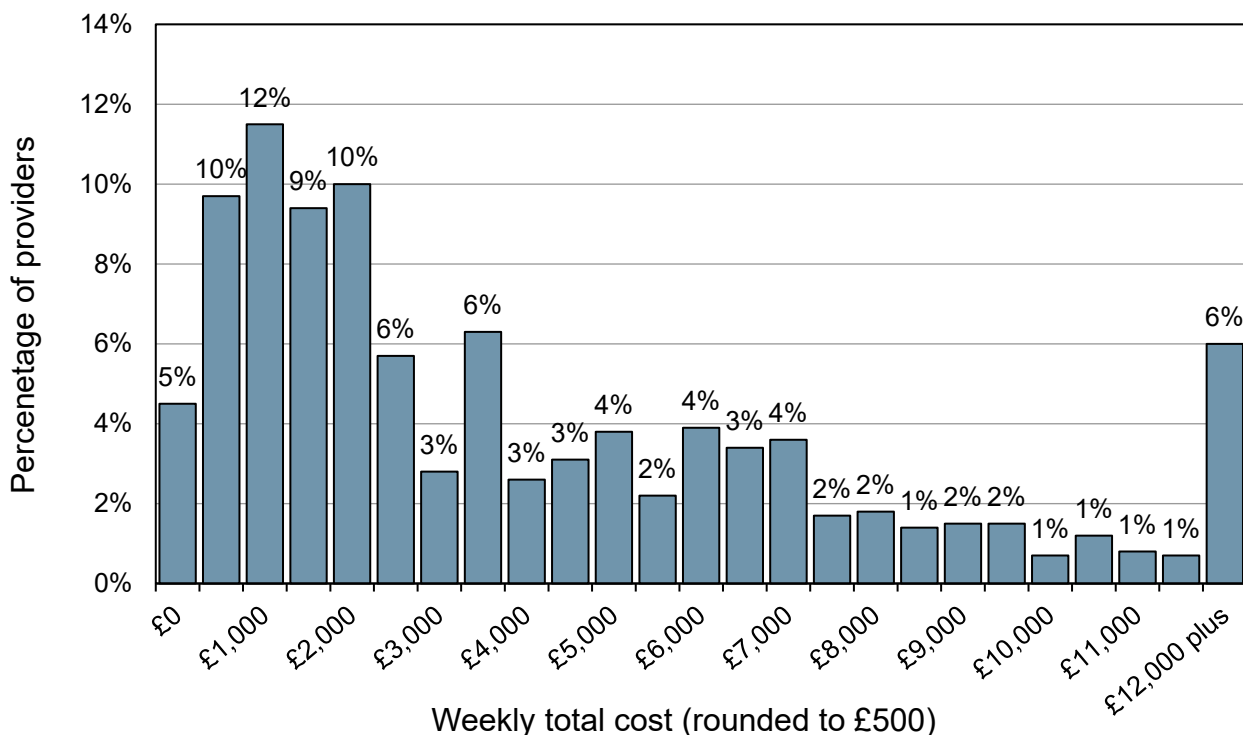
Note: Sample consists of all providers with at least one preschool child. All statistics are weighted to be nationally representative. Private providers include 14 independent providers. The total column includes 29 group-based providers with unknown management status.

¹⁸ The mean weekly costs reported in the Early Years Providers' Cost Study had a very similar pattern across provider types although were slightly lower for each group-based provider type (£4,095 for private providers, £2,290 for voluntary providers, £2,937 for nursery classes and £12,188 for MNS (table 8 in Paull & Xu (2019))) which may be partly explained by the explicit omission of financing costs in the cost study. The mean weekly total costs for childminders was higher (£800) which may partly be explained by the inclusion of actual or implicit mortgage and rent costs for childminders and the use of an imputed wage for childminder time.

Figures 5 to 8 present the distribution of total weekly costs for the four group based provider types. The total weekly cost is presented in bands rounded to the nearest £500. For example, the £1,000 band contains providers with total weekly costs in the range of £750 to £1,250. The band marked “£0” includes providers with total weekly costs below £250 and the final band marked “£12,000 plus” in the first three figures includes all providers with total weekly costs of £11,750 or more which were thinly distributed over the higher bands. In the final figure, the upper band of “£20,000 plus” is used (including providers with total weekly costs of £19,750 or more) because of the larger proportion of MNS which had weekly costs above the £12,000 mark.

The shapes of the distributions for private providers, voluntary providers and nursery classes are similar except that the pattern for private providers is more evenly spread for the entire distribution (showing greater variation) while the pattern for nursery classes tends to lie one band higher than for private and voluntary providers (the peak is in the £1,500 band for nursery classes rather than the £1,000 band). A substantial proportion of providers have weekly total costs in the lower bands: 41 percent of private providers and 63 percent of voluntary providers are in the £500 to £2,000 bands (covering £250 to £2,250) and 71 percent of nursery classes nurseries are in the £1,000 to £2,500 bands (covering £750 to £2,750). The picture for MNS is quite different: as shown in the averages in table 3, weekly costs tend to be substantially higher than for the other types of group based providers and there is no distinct peak in the figure. This may reflect both variation in the size of MNS and in the services they provide and the costs required to deliver them.

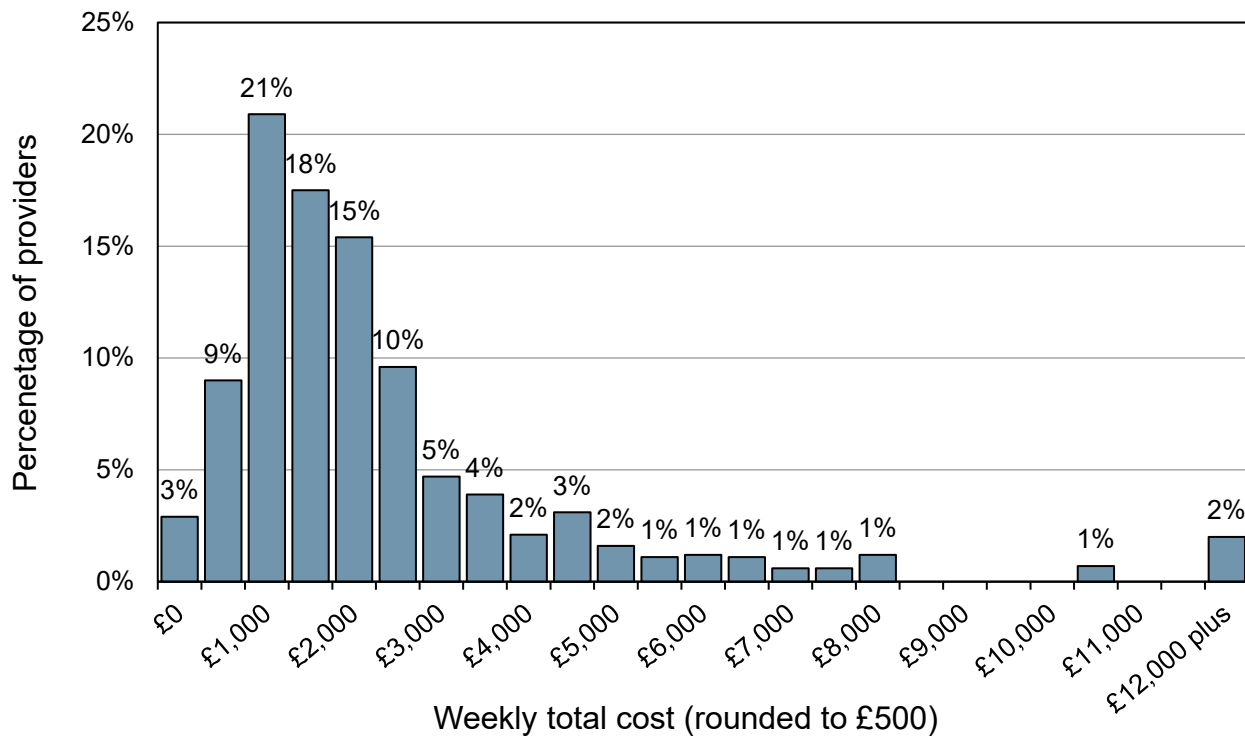
Figure 5: Distribution of total weekly cost for private providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 502 private providers.

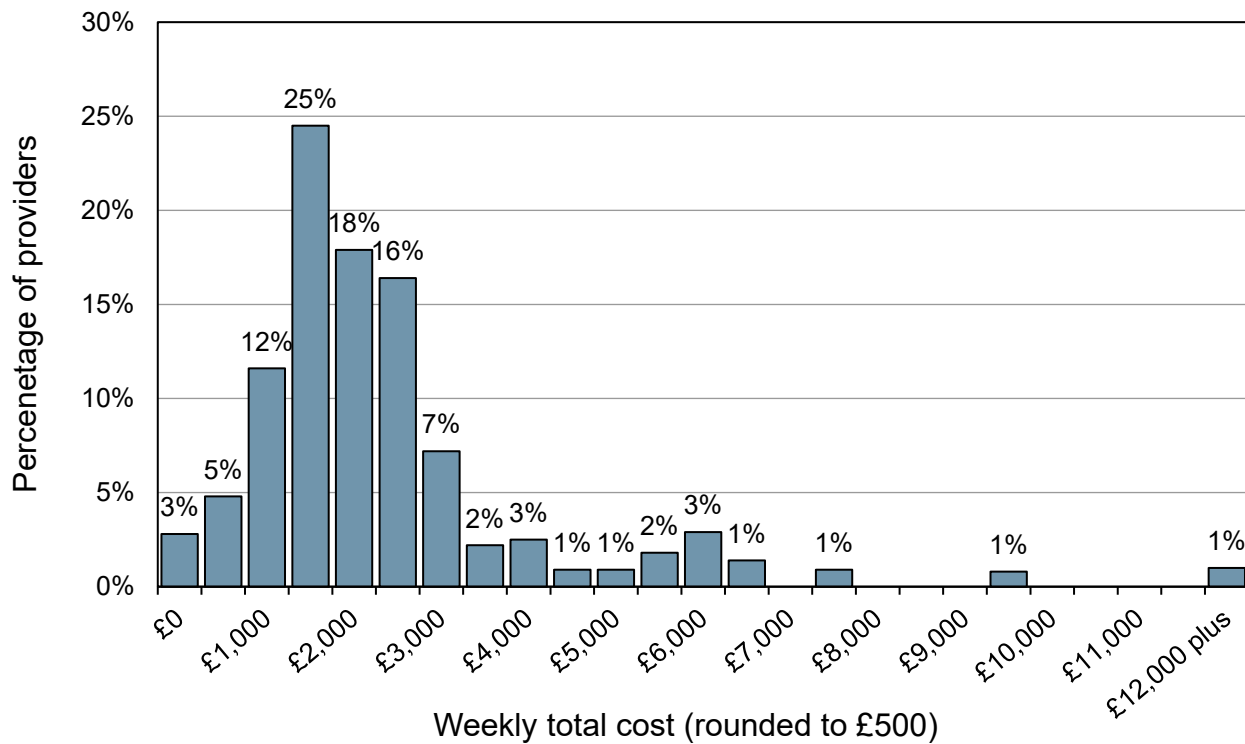
Figure 6: Distribution of total weekly cost for voluntary providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 472 voluntary providers.

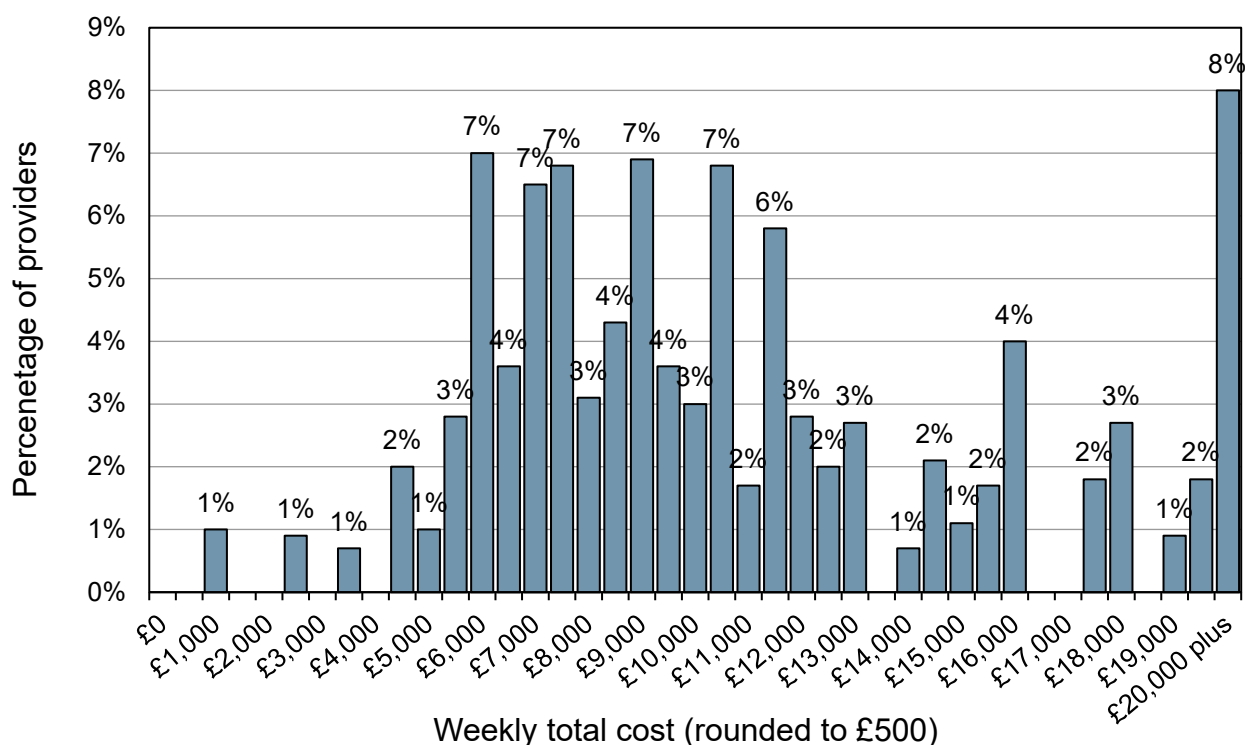
Figure 7: Distribution of total weekly cost for nursery classes



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 145 nursery classes.

Figure 8: Distribution of total weekly cost for MNS



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 106 MNS.

The distribution of total weekly cost for childminders had a similar pattern (not shown), but it was on a much smaller scale (and therefore banded to the nearest £250): 12 percent were in the £0 band (paying less than £125 each week), while 36 percent were in the £250 band, 32 percent in the £500 band, 12 percent in the £750 band, 4 percent in the £1,000 band and 3 percent were paying more than £1,125 each week.

Analysing the variation in the *total* cost across provider and local characteristics would primarily capture differences in provider size. Instead, variation in the *unit* cost is explored in depth in chapter 4.

3.2 Breakdown of total cost

In the survey, 1,588 providers reported a total cost and 1,307 provided sufficient information to decompose costs into the subcategories by reporting amounts for all subcategories (excluding rent for childminders), including a positive amount for staff costs.¹⁹ Table 4 presents the breakdown of total costs into five categories (plus a residual

¹⁹ Most providers not reporting amounts for all subcategories did not report costs for only one or two of the subcategories with an even distribution of omitted information across the categories. Only 11 providers (6 private providers, 2 voluntary providers, 1 nursery class and 2 childminders) reported a zero amount for the staff cost.

“other” category²⁰). It should be noted that the amount of rent or mortgage payments was not included in total costs or collected as a separate category for childminders and therefore the breakdowns for childminders are not directly comparable with the other two provider types. In addition, a high proportion of nursery classes (89 percent) and MNS (65 percent) reported that they did not pay anything for rent or mortgage, while smaller proportions of private providers (10 percent) and voluntary providers (17 percent) reported that they made no such payments.²¹ This means that the proportions spent on rent or mortgage will be lower (and the proportions spent on other items correspondingly lower) for nursery classes, MNS and childminders than for private and voluntary providers due to the higher prevalence of not having to make rent or mortgage payments.

Table 4: Breakdown of costs

Proportion of costs in category:	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Staff	69%	76%	87%	79%	70%	72%
Rent / mortgage	12%	7%	2%	1%	n/a	8%
Food	4%	2%	1%	1%	11%	8%
Materials	4%	3%	4%	3%	5%	5%
Training	2%	1%	2%	1%	2%	2%
Other	10%	10%	5%	15%	12%	11%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of providers	471	450	91	86	304	1,429

Source: Survey of Childcare and Early Years Providers, 2018

Note: Rent or mortgage costs were not collected for childminders. Private providers include 8 independent providers. The total column includes 22 group-based providers with unknown management status.

²⁰ Providers were not specifically asked for the amount they spent on other items and this has been calculated as the difference between the total cost reported and the sum of the amounts for each of the five categories of cost reported. These other costs may include other venue costs (such as for utilities, business rates and cleaning) and other administrative costs (such as for telephone and internet services, IT support, marketing, insurance, professional fees and licences).

²¹ For private providers reporting that they paid no rent, 71 percent did so because they owned the venue outright without a mortgage and 29 percent did so because the owner of the venue let them use it for free. For voluntary providers reporting that they paid no rent, 26 percent did so because they owned the venue outright without a mortgage and 74 percent did so because the owner of the venue let them use it for free. School nurseries and MNS were not asked for the reason that they paid no rent.

Table 4 shows:

- Across all provider types, just under three quarters (72 percent) of the total cost was for staff, with 8 percent for mortgage or rent payments, 8 percent for food and smaller proportions for materials (5 percent) and training (2 percent).²²
- The higher proportions spent on staff for nursery classes and MNS largely reflect the absence of explicit payments for rent or mortgage for a high proportion of these types of providers. The higher proportion spent on rent or mortgage for private providers (12 percent) than voluntary providers (7 percent) partly reflects that a higher proportion of voluntary providers make no explicit payment.
- Childminders spent a higher proportion on food than other provider types, potentially reflecting a higher cost per child because of the smaller number of children.
- The proportion spent on other costs was highest for MNS (possibly because the other services they offer require additional administrative services) and lowest for nursery classes (possibly because the prices for these other elements are lower because they benefit from being part of a larger organisation that pays for them).

3.3 Total income

Mean total weekly income was higher for private providers (£6,049) than for voluntary providers (£3,159) and nursery classes (£3,004) and substantially greater for MNS (£10,252) and substantially lower for childminders (£428) (table 5).²³ As with the variation in costs, this may reflect both differences in provider size and in the income received per child or hour of care for each child. Also matching the patterns for costs, the median total weekly income (the middle observation when providers are ranked from lowest to highest) was considerably lower than the mean for all provider types, indicating a number of providers with unusually high weekly total income within each provider type.

²² The proportions in the Early Years Providers' Cost Study were slightly different (figure 3 in Paull & Xu (2019)) as the categories were defined differently. In addition, the cost study included imputed staff costs for childminders and others not directly paid by the setting and imputed rent payments for venues provided free of charge, while it excluded costs of investments such as interest payments on bank loans.

²³ The mean total weekly income in the Early Years Providers' Cost Study had a similar pattern across provider types, although slightly lower for private providers, slightly higher for the other group based providers and notably higher for childminders (£5,774 for private providers, £3,545 for voluntary providers, £3,714 for nursery classes, £13,752 for MNS and £950 for childminders (table 8 in Paull & Xu (2019)).

Table 5: Total weekly income

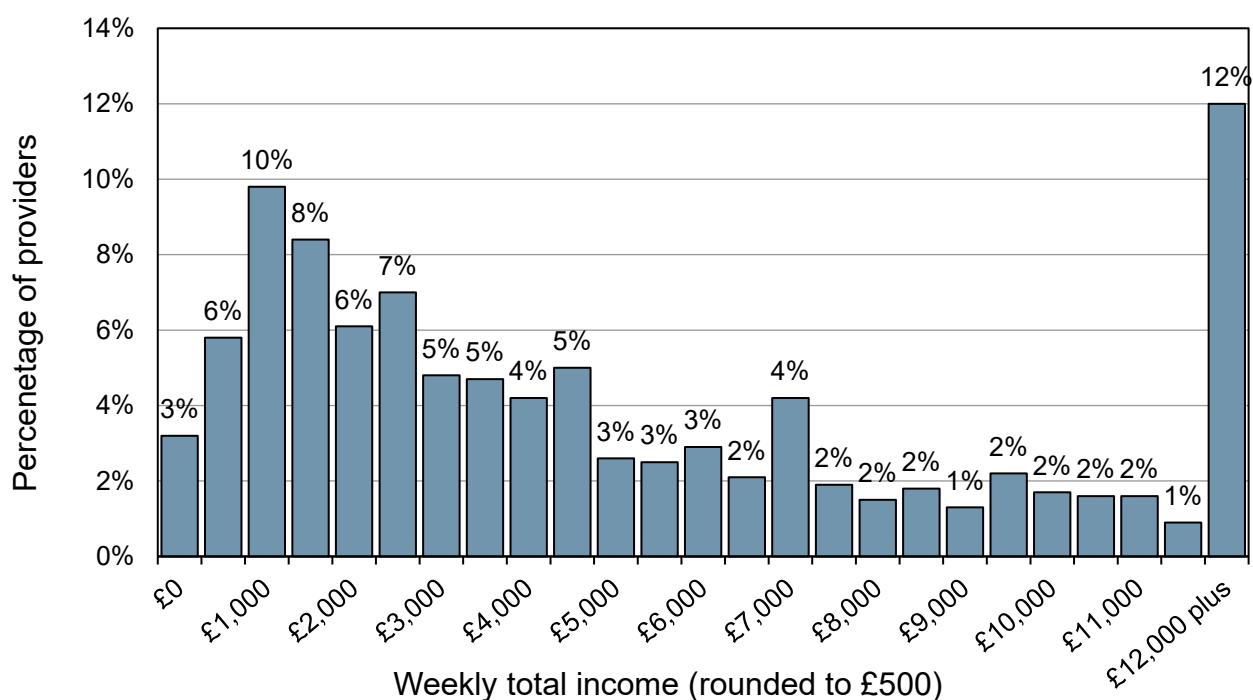
	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean total weekly income	£6,049	£3,159	£3,004	£10,252	£428	£1,863
Median total weekly income	£3,750	£1,846	£1,867	£9,164	£349	£468
Unweighted number of providers	530	465	170	106	382	1,688

Source: Survey of Childcare and Early Years Providers, 2018

Note: Private providers include 19 independent providers. The total column includes 25 group-based providers with unknown management status.

Unsurprisingly, the distributions of weekly total income are also similar to those for the total cost (figures 9 to 12), although for private providers more providers are in slightly higher bands for income than for cost across the board. There are also a notable proportion of nursery schools and MNS in the lowest bands. For childminders, the distribution of total income was slightly more bunched around £250 than for cost: 7 percent were in the £0 band (receiving less than £125 each week), while 49 percent were in the £250 band, 32 percent in the £500 band, 6 percent in the £750 band, 1 percent in the £1,000 band and 6 percent were receiving more than £1,125 each week.

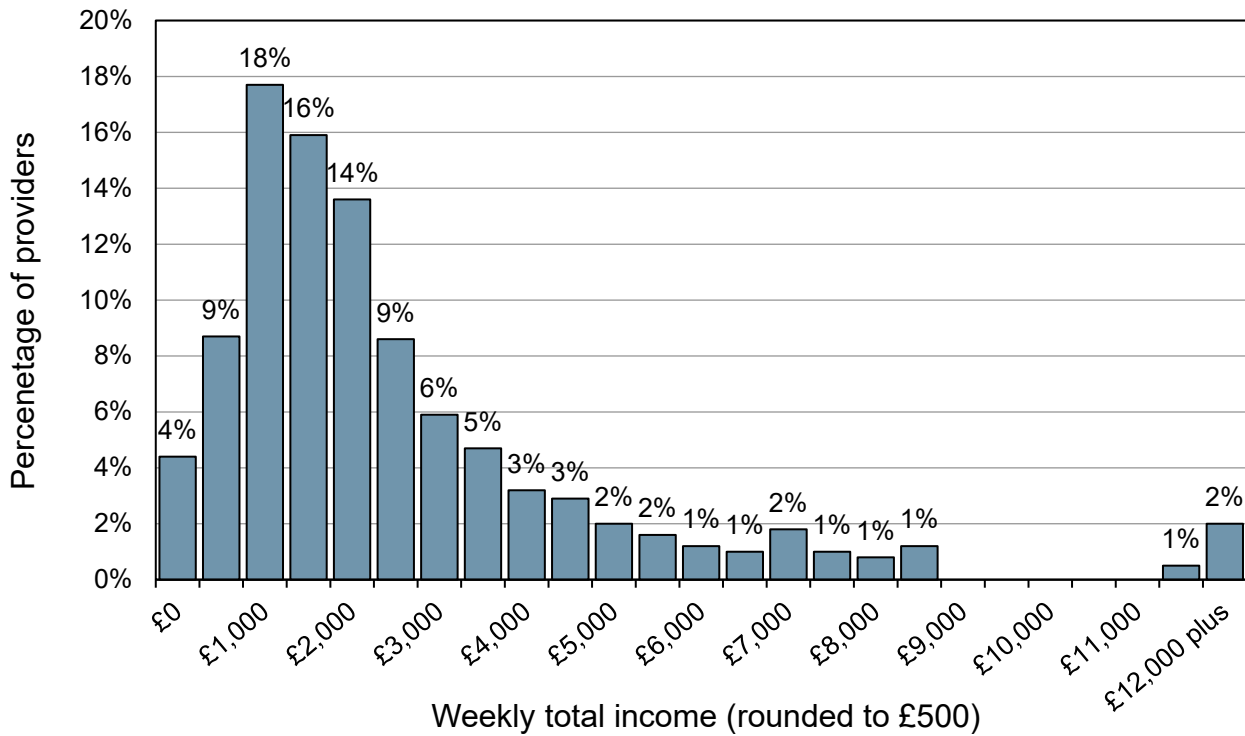
Figure 9: Distribution of total weekly income for private providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 530 private providers.

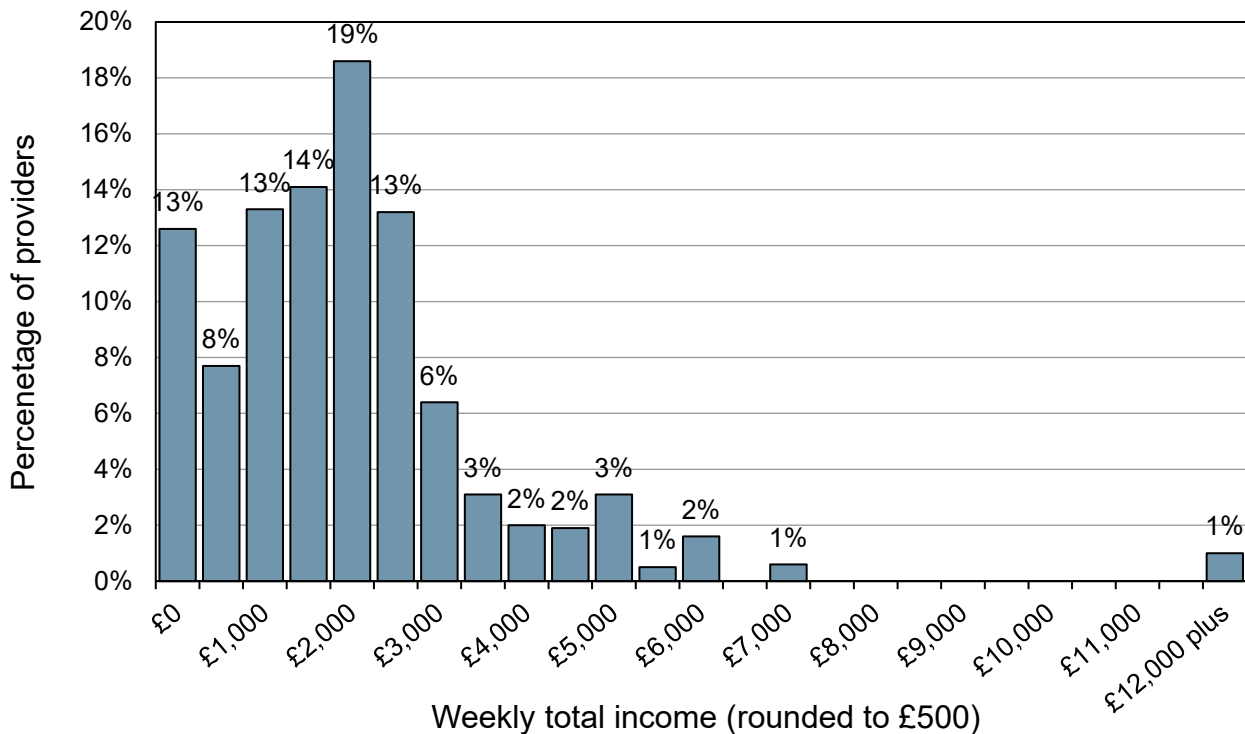
Figure 10: Distribution of total weekly income for voluntary providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 465 voluntary providers.

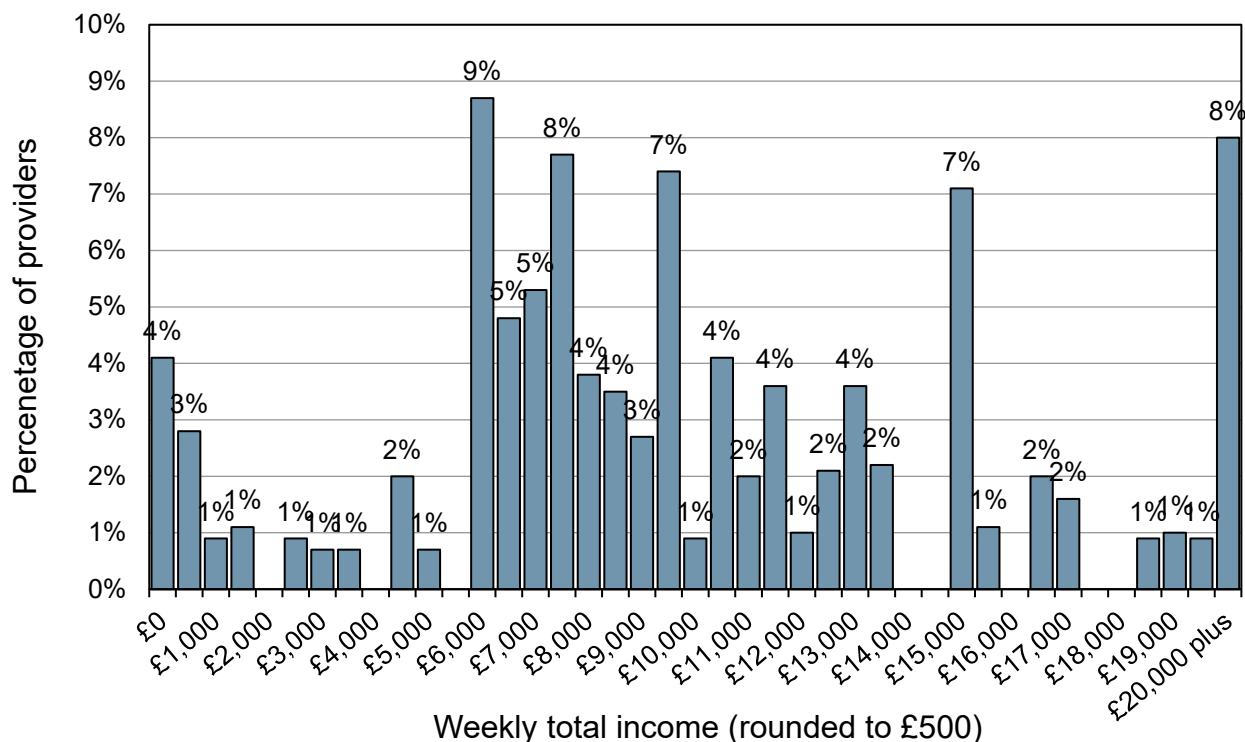
Figure 11: Distribution of total weekly income for nursery classes



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 170 nursery classes.

Figure 12: Distribution of total weekly income for MNS



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 106 MNS

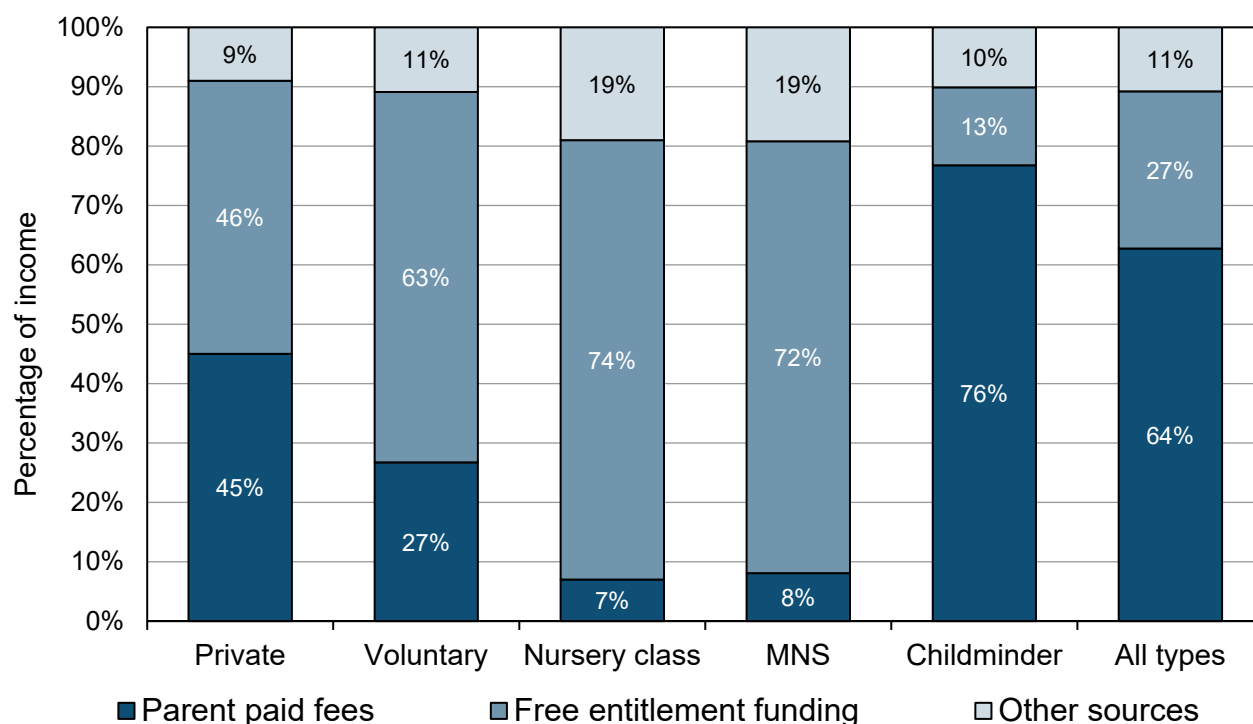
As with the total cost, analysing the variation in the total income across provider and local characteristics would primarily capture differences in provider size. Instead, variation in the unit income (as measured in hourly parent fees) is explored in depth in chapter 5.

3.4 Sources of income

Providers were asked to report the amount of income they received from parent paid fees and free entitlement funding (both by age group of child), additional charges and charitable donations. The proportion of income from other sources was calculated as a residual as the difference between the total income reported and the sum of the amounts reported for each of the income sources. Figure 13 presents the breakdown of total income received by the setting across three broad sources while table 6 presents greater detail of the breakdown within these categories.²⁴

²⁴ The pattern of the income breakdown across providers was similar in the Early Years Providers' Cost Study, although free entitlement funding constituted slightly higher proportions for each provider type (table 10 in Paull & Xu (2019)).

Figure 13: Breakdown of income



Source: Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes are 288 for private providers, 278 for voluntary providers, 130 for nursery classes, 85 for MNS, 263 for childminders and 1,062 for all types. The all types includes 18 group-based providers with unknown management status.

The figure and the table show:

- For private providers, almost equal proportions of income came from parent-paid fees (45 percent) and free entitlement funding (46 percent), with just over a third of all income (36 percent) coming from free entitlement funding for three and four year olds.
- For voluntary providers, a little over one quarter of income (27 percent) came from parent fees, mainly for children aged two or above, but almost two thirds (63 percent) came from free entitlement funding.
- Nursery classes and MNS received just under three quarters of their income from free entitlement funding (74 percent and 72 percent) respectively, with less than 10 percent coming from parent fees. The main difference between the two types was the higher share of free entitlement funding for two year olds for MNS, reflecting the differences in their child profiles.
- Childminders received more than three quarters (76 percent) of their income in parent fees, predominantly for children under age two and for school children.
- For all provider types, income from additional charges and charitable donations constituted a very small part of total income, with the residual other income

category making up just under 10 percent for private providers, voluntary providers and childminders and 16 and 17 percent for nursery classes and MNS respectively.

Table 6: Detailed breakdown of income by source

	Private	Voluntary	Nursery class	MNS	Child-minders	All types
Parent paid fees:						
Under age two	10%	3%	<1%	1%	26%	20%
Two year olds	12%	9%	1%	3%	16%	14%
Three / four year olds	15%	10%	6%	4%	13%	12%
School children	8%	5%	n/a	n/a	21%	18%
Free entitlement funding						
Two year olds	10%	12%	2%	10%	3%	4%
Three / four year olds	36%	51%	72%	62%	10%	23%
Other sources						
Additional charges	1%	1%	1%	2%	1%	1%
Charitable donations	<1%	2%	2%	<1%	<1%	<1%
Other income	8%	8%	16%	17%	9%	10%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of providers	288	278	130	85	263	1,062

Source: Survey of Childcare and Early Years Providers, 2018

Notes: <1% indicates percentages between 0 percent and 0.5 percent. Columns and subtotals may not sum to 100 percent due to rounding. The total column includes 18 group-based providers with unknown management status.

3.5 Ratio of total income to total cost

The ratio of total income to total cost captures a measure akin to the rate of profit and loss for for-profit providers (including private and independent providers and childminders) or the rate of surplus or deficit for non-profit providers (including voluntary providers, nursery classes and MNS). However, it should be noted that for-profit providers may not have included repayments for investments in the business (including repayment of bank loans or payment of dividends) or funds used for future investment as

part of their costs even if such payments or funds may need to be covered by income for the business to be sustainable.²⁵ Hence, an excess of total income over total cost may be required for financial sustainability.

The mean ratio of total income to total cost was 1.3 across all providers, but this was higher for private providers (1.7) and voluntary providers (1.4) than for nursery classes (1.2), MNS (1.0) and childminders (1.2) (table 7).²⁶ Interestingly, the median ratio was lower than the mean and exactly or close to 1.0 for all provider types, indicating that total income was less than total cost for at least half of these providers.²⁷

Table 7: Income to cost ratio

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean income to cost ratio	1.7	1.4	1.2	1.0	1.2	1.3
Median income to cost ratio	1.2	1.0	1.0	1.0	0.9	1.0
Unweighted number of providers	423	411	115	101	303	1,377

Source: Survey of Childcare and Early Years Providers, 2018

Note: All statistics are weighted to be nationally representative. The total column includes 24 group-based providers with unknown management status.

However, a broader measure capturing the “breakeven” range defined as ratios of 0.8 to 1.2 indicates that almost half (49 percent) of all providers had roughly equal total income and total cost, while 27 percent had a “deficit” (income less than costs) and 24 percent had a “surplus” (income greater than costs) (table 8). The proportion in the breakeven range was higher for voluntary providers and MNS, but the balance between surplus and deficit was towards the surplus for private and voluntary providers and towards deficit for MNS and childminders (and fairly even for nursery classes).

²⁵ The case can be made that such expenses for for-profit providers should *not* be included as part of cost because these investments are contributing to an increase in the value of the assets of the business which the provider continues to own.

²⁶ The corresponding ratios in the Early Years Providers’ Cost Study were slightly different (1.4 for private providers, 1.6 for voluntary providers, 1.4 for nursery classes, 1.2 for MNS and 1.1 for childminders (table 9 in Paull & Xu (2019))).

²⁷ The median indicates the ratio for the middle provider when ranked from lowest to highest and a ratio of 1.0 indicates that total income equals total cost.

Table 8: Proportions of providers in deficit and in surplus

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Ratio less than 0.8 (“deficit”)	12%	9%	24%	12%	34%	27%
Ratio 0.8 to 1.2 (“breakeven”)	42%	65%	48%	84%	47%	49%
Ratio more than 1.2 (“surplus”)	46%	26%	27%	5%	19%	24%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of providers	423	411	115	101	303	1,377

Source: Survey of Childcare and Early Years Providers, 2018

Note: All statistics are weighted to be nationally representative. The total column includes 28 group-based providers with unknown management status.

3.6 Drivers of the ratio of total income to total cost

Differences in the ratio across provider and local characteristics were explored using the regression analysis described in section 2.6. The following tables present all patterns in the ratio across the setting characteristics, noting the cases where the raw differences are statistically significant and the cases of statistically significant associations from the regression analysis with controls for other potential drivers of the income-to-cost ratio. Regression model 1 included all providers while model 2 included only providers with three and four year olds in receipt of the free entitlement (called “funded providers”) in order to consider the relationships with the level of the funding rate for this age group. Full results from both regression models are presented in Annex B.

Table 9 presents the mean ratios and statistically significant differences across provider type and child profile.

Table 9: Variation in income-to-cost ratio by provider type and child profile

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Provider type					
Private	1.7	423	Private > voluntary*, nursery class, MNS, childminders Voluntary > MNS	Private > childminders* Voluntary > nursery class, MNS	Voluntary > nursery class*
Voluntary	1.3	411			
Nursery class	1.2	115			
MNS	1.0	101			
Childminders	1.2	303			
Setting size					
Small	1.2	596	----	medium large* > small	medium > small
Medium	1.4	530			
Large	1.3	249			
Single site or chain					
Single site	1.4	714	----	----	----
Chain	2.0	134			
Age of youngest child					
Under two years	1.2	582	----	2YOs 34YOs > under two	2YOs 34YOs > under two*
Two years	1.4	577			
Three/four years	1.3	218			
Percentage of children with SEND					
None	1.3	872	none, low > high	none > high	----
Low (5% or less)	1.4	387			
High (more than 5%)	1.0	108			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds. The proportion with SEND is the number of children with an Education, Health and Care (EHC) plan or a Statement of Special Needs as a proportion of the number of children attending the setting.

Table 9 shows:

- Private providers have a higher ratio than all other provider types, but the differences with voluntary providers, nursery classes and MNS are explained by the other characteristics of these settings and there is only a weak association for childminders. Being a voluntary provider is associated with a higher ratio over being a nursery class or an MNS.
- While there are no statistically differences in the mean ratio across settings with different provider sizes, controlling for other characteristics shows that being medium or large is associated with a higher ratio over being small.
- Although settings which are part of a chain have a higher mean ratio than single site settings, there are no statistically significant differences.
- While there are no statistically significant differences in the mean ratio across age of youngest child, controlling for other characteristics shows that having a youngest child aged two or older is associated with a higher ratio over having a youngest child aged under two.
- Settings with no children or a low proportion of children with SEND²⁸ have a higher mean ratio than settings with a high proportion. Controlling for other characteristics shows that having no children with SEND is associated with a higher ratio over settings with a high proportion.

Table 10 presents the mean ratios and statistically significant differences across local area characteristics. The table shows:

- There are few differences in the mean ratio across regions but, controlling for other characteristics, being located in the South East or South West is associated with a higher ratio over being located in a few of the other regions.
- The mean ratio is higher in urban areas than rural areas and, controlling for other characteristics, being located in an urban area is associated with a higher ratio over being located in a rural area.
- There is no consistent pattern in the mean ratio across different levels of deprivation, but, controlling for other characteristics, being located in areas of more average deprivation (quintiles 2, 3 and 4) is associated with a higher ratio over being located in either a most deprived or least deprived area.

²⁸ The proportion with SEND is the number of children with an Education, Health and Care (EHC) plan or a Statement of Special Needs ad a proportion of the number of children attending the setting.

Table 10: Variation in income-to-cost ratio by region, rurality and local deprivation

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Region					
North East (NE)	1.1	78	SE > NW*	SE > NW* London	SE > YH SW > NE* NW* YH
North West (NW)	1.1	164			
Yorkshire & the Humber (YH)	1.3	124			
West Midlands (WM)	1.4	154			
East Midlands (EM)	1.2	130			
East of England (EE)	1.3	167			
London (London)	1.3	164			
South East (SE)	1.4	232			
South West (SW)	1.3	164			
Rurality					
Urban	1.3	914	urban > rural*	urban > rural	urban > rural
Rural	1.1	296			
Local deprivation quintiles					
Q1 (most deprived)	1.1	186	Q2 Q5* > Q1	Q2 > Q1 Q4* Q5	Q2 > Q1 Q4* Q5 Q3 > Q1* Q5* Q4 > Q1* Q5*
Q2 (second most)	1.5	229			
Q3 (middle)	1.3	264			
Q4 (second least)	1.2	274			
Q5 (least deprived)	1.3	257			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 11 presents the mean ratios and statistically significant differences across settings with different opening hours. The table shows:

- Settings offering full day care have a higher mean ratio than those offering only sessional care, but this is explained by other characteristics of these settings.

- There are no associations between weekly opening hours and the mean ratio.
- There are no differences in the mean ratios across settings with different levels of annual opening hours, but, controlling for other characteristics, opening for 40 to 48 weeks is associated with a higher ratio over opening for less than 40 weeks.

Table 11: Variation in income-to-cost ratio by opening hours

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Full-day or sessional					
Full day	1.5	823	full day > sessional	----	----
Sessional	1.1	222			
Weekly opening hours					
Low (less than 40)	1.2	589	----	----	----
Middle (40 to 50)	1.2	431			
High (more than 50)	1.3	354			
Annual opening weeks					
Low (less than 40)	1.3	678	----	middle > low	----
Middle (40 to 48)	1.2	273			
High (more than 48)	1.4	424			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 12: Variation in income-to-cost ratio by staffing characteristics

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Average highest staff qualification					
Lower (less than 3)	1.4	396	----	----	----
Middle (3 to 3.5)	1.2	554			
Higher (more than 3.5)	1.3	415			
Number of apprentices					
None	1.3	1080	----	----	----
One	1.4	167			
Two or more	1.7	130			
Number of volunteers					
None	1.4	558	----	one > two or more*	----
One	1.5	262			
Two or more	1.4	254			
Average child-to-staff ratio for three and four year olds					
Low (less than 8)	1.2	731	mid-low > all others	----	----
Mid-low (exactly 8)	1.5	497			
Mid-high (8 to 13)	1.2	61			
High (13 or more)	1.1	75			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds. The average staff qualification is the mean of the NVQ levels for all staff. For example, a setting with an average level of 3.5 could have half of its staff with level 3 and half of its staff with level 4.

Table 12 presents the mean ratios and statistically significant differences across staff characteristics. The table shows:

- There are no patterns or statistically significant differences in the mean ratio across average staff qualification level.

- While the small number of settings with two or more apprentices have a higher mean ratio than settings with no apprentices or one apprentice, there are no statistically significant differences.
- While settings with one volunteer have a slightly higher mean ratio than settings with no apprentices or two or more, there is only a weak association when controlling for other characteristics.
- Settings with a child-to-staff ratio of exactly eight have a higher mean income-to-cost ratio than settings with lower and higher child-to-staff ratios, but this is explained by other characteristics of these settings.

Table 13 presents the mean ratios and statistically significant differences across settings with different levels of policy engagement. The table shows:

- Settings with children in receipt of the free early education entitlement for two year olds have a higher mean ratio, but this is explained by other characteristics of these settings.
- There are no patterns or statistically significant differences in the ratio across settings with different proportions of children in receipt of the Early Years Pupil Premium.
- Settings with children in receipt of 30 hours free childcare have a higher mean ratio, but the difference is not statistically significant.
- There are no differences in the mean ratio across settings with different proportions of children in receipt of Tax Free Childcare, but, controlling for other characteristics, having a high proportion is associated with a higher ratio over no children in receipt or a low proportion in receipt.
- There are no patterns in the mean ratios across settings with different average free entitlement funding rates for three and four year old children, but, controlling for other characteristics, having a low funding rate is weakly associated with a higher ratio over having a high funding rate among funded providers.

Table 13: Variation in income-to-cost ratio by policy engagement

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Free entitlement for two year olds					
No children in receipt	1.2	577	receipt > none *	----	----
Children in receipt	1.4	800			
Proportion of children in receipt of Early Years Pupil Premium					
None	1.3	649	----	----	----
Low (10% or less)	1.5	407			
High (more than 10%)	1.3	245			
30 Hours Free Childcare					
No children in receipt	1.2	238	----	----	----
Children in receipt	1.4	1302			
Proportion of children in receipt of Tax Free Childcare					
None	1.2	777	----	high > none low	high > none* low
Low (less than 10%)	1.4	390			
Middle (10% to 20%)	1.5	92			
High (more than 20%)	1.2	65			
Average funding rate for free entitlement for three and four year olds					
Low (less than £4)	1.3	243	----	n/a	low > high*
Mid-low (£4 to £4.25)	1.4	408			
Mid-high (£4.25 to £4.50)	1.4	156			
High (£4.50 or more)	1.3	268			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 14 presents the mean ratios and statistically significant differences by whether settings deliver additional and specialist services. The table shows:

- Settings which deliver any of the three kinds of services have higher mean ratios than settings which do not deliver each service, but the difference is only weakly statistically significant for specialist child services and this is explained by other characteristics of the settings.

Table 14: Variation in income-to-cost ratio by additional and specialist services

	Mean income-to-cost ratio	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Specialist child services					
None	1.2	979	delivered > none*	----	----
Services delivered	1.5	398			
Family services					
None	1.3	1,150	----	----	----
Services delivered	1.6	227			
System leadership					
None	1.3	1,132	----	----	----
Services delivered	1.5	245			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

4. Unit cost and staff hourly pay

This chapter examines the unit cost and staff hourly pay across different types of settings. The first section describes the patterns in the unit cost while the second identifies key drivers using findings from the regression analysis. The third section describes the patterns in the staff hourly pay while the final section identifies key drivers using findings from the regression analysis

The key findings are:

- The mean unit cost over all settings was £3.70 per child per hour for all children of all ages in the setting. This varied across group-based settings from £3.83 for private providers to £4.16 for voluntary providers, £4.28 for nursery classes and £7.23 for MNS and was lower for childminders (£3.42). However, this measure may understate the hourly cost for childminders (because no rent or mortgage costs were recorded for them) and may overstate the hourly cost for MNS and nursery classes (because it includes costs for any additional and specialist services delivered by the setting). (section 4.1)
- There is considerable spread in unit costs within provider types and the distributions within provider types are very similar with the exception that MNS not only have higher unit costs but also a greater spread in the unit cost. (section 4.1)
- Even controlling for other characteristics, the mean unit cost is higher for MNS and lower for childminders than other types of providers. (section 4.2)
- Other factors associated with higher unit costs are larger size, having children under the age of two, a higher proportion of children with SEND, being located in average or less deprived areas, offering sessional care rather than full day care, being open for fewer hours each week, a lower average staff qualification level, a lower child-to-staff ratio, and not having children or a low proportion of children in receipt of the Early Years Pupil Premium (EYPP) or 30 hours free childcare or Tax Free Childcare. (section 4.2)
- Settings which are single site rather than part of a chain, located in London, open for less than 40 hours each week, or deliver additional or specialist services have higher mean unit costs but the differences in cost are explained by the other characteristics of these settings. (section 4.2)
- The mean staff hourly pay across all types of settings was £9.95, but was considerably lower for private providers (£9.17), voluntary providers (£9.35) and childminders (£7.46) than for nursery classes (£16.32) and MNS (£15.41). (section 4.3)

- A quarter (25 percent) of workers aged 25 and over were paid at or below the statutory minimum of the National Living Wage (NLW). (section 4.3)
- Even controlling for other characteristics, mean staff hourly pay is higher for MNS and nursery classes than for all other provider types and lower for childminders than for all other types (section 4.4)
- Other factors associated with higher hourly pay are larger size, being located in London, the East of England or the South East, being open 40 to 48 weeks each year, not having any volunteer staff, and delivery of specialist family services. Being located in areas with higher deprivation or offering full day care (rather than sessional care) or having children in receipt of 30 hours free childcare were also associated with a higher proportion of staff paid at or below the NLW (section 4.4)
- Settings which are single site rather than part of a chain, have no younger children, are located in urban or deprived areas, offer sessional care rather than full day care or are open fewer hours each week, have a higher percentage of staff of BME ethnicity, have at least one male member of staff, have no apprentices, have no two year olds children in receipt of the free entitlement or children in receipt of 30 hours free childcare, or deliver specialist child services or system leadership have higher mean staff hourly pay but the differences in hourly pay are explained by the other characteristics of these settings. (section 4.4).
- At the individual staff level, being older, being more qualified and working part-time rather than full-time is associated with higher hourly pay. (section 4.4)

4.1 Unit cost

The mean unit cost over all settings was £3.70 per child per hour for all children of all ages in the setting. This varied across group-based settings from £3.83 for private providers to £4.16 for voluntary providers, £4.28 for nursery classes and £7.23 for MNS (table 15). The unit cost was lower for childminders (£3.42) but it should be kept in mind that no rent or mortgage costs were recorded for childminders.²⁹ The median cost (the middle observation when providers are ranked from lowest to highest) was considerably

²⁹ In the Early Years Providers' Cost Study, the closest comparison figures are the hourly cost for three and four year olds which have a similar pattern to those in table 15: £3.69 for private providers, £3.61 for voluntary providers, £4.03 for nursery classes, £4.88 for MNS and £4.78 for childminders (table 1 in Paull & Xu (2019)). These would be expected to be lower than those in table 15 because they are for an age group with lower hourly costs and because they explicitly exclude the costs of delivering additional and specialist services which particularly affects the estimates for MNS. On the other hand, these figures might be expected to be higher because they include actual or implicit mortgage and rent costs for all providers and imputed salaries for childminders.

lower than the mean for all provider types, indicating a number of providers with unusually high unit costs within each provider type.

Table 15: Unit cost by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean unit cost	£3.83	£4.16	£4.28	£7.23	£3.42	£3.70
Median unit cost	£2.78	£2.75	£2.57	£4.84	£2.43	£2.58
Unweighted number of providers	483	462	143	104	324	1,544

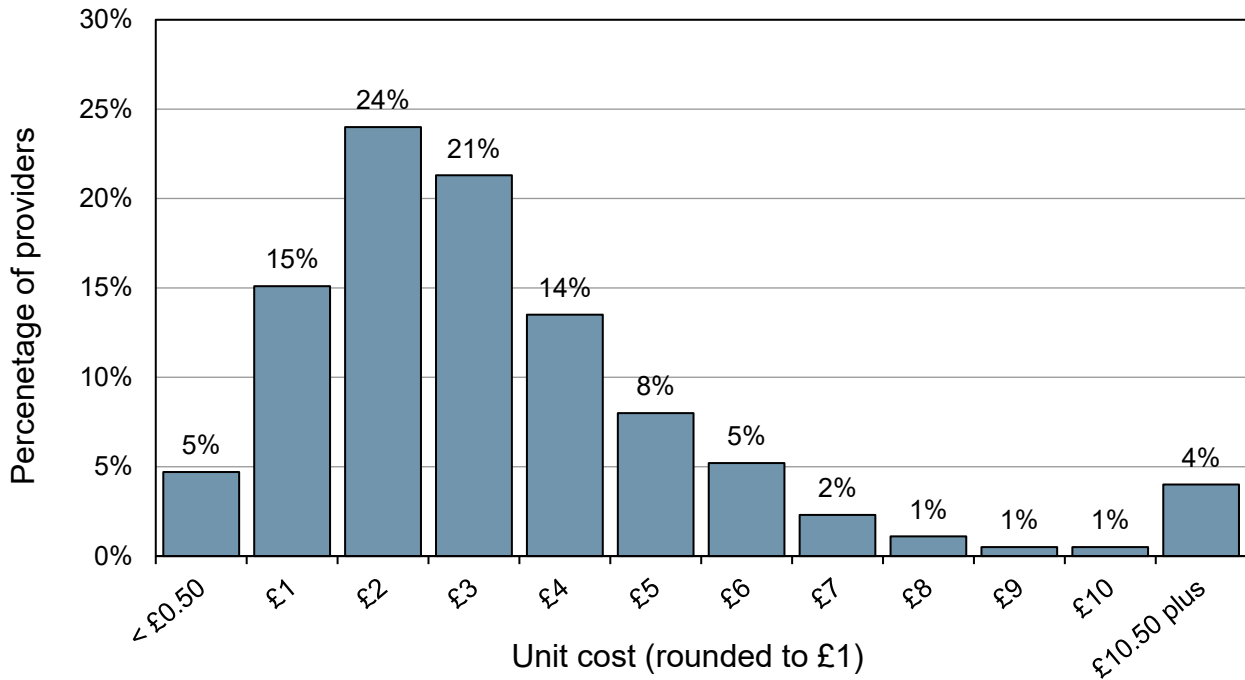
Source: Survey of Childcare and Early Years Providers, 2018

Notes: The unit cost is the average cost per child per hour for all children of all ages in the setting. It was derived as the total weekly cost divided by an estimate of the total number of child hours per week.

The variation in the unit cost for each provider type is presented in figures 14 to 18. The unit cost is presented in bands rounded to the nearest £1. For example, the £2 band contains providers with unit costs in the range of £1.50 to £2.50. The band marked “< £0.50” includes providers with unit costs below £0.50 and the final band marked “£10.50 plus” includes all providers with an estimated unit cost of £10.50 or more which were thinly distributed over the higher bands.

The distributions are very similar for all provider types other than MNS with around half of providers in the £2 and £3 bands and around another quarter either side of this peak in the £1 and £4 bands. The main difference is that unit costs for voluntary providers and nursery classes are slightly more peaked (with a higher total proportion in the £2 and £3 bands) than for private providers and childminders, suggesting slightly greater variation for the for-profit provision. Overall, this shows that the differences in the mean unit costs shown in table 15 are not driven by a tendency for most providers of a particular type to have a higher cost than most providers of another type, but by quite small differences in widely dispersed distributions within provider types. For MNS, the distribution is quite different: not only are unit costs higher, but they are also spread over a broader range, reflecting substantial variation in unit costs across MNS settings.

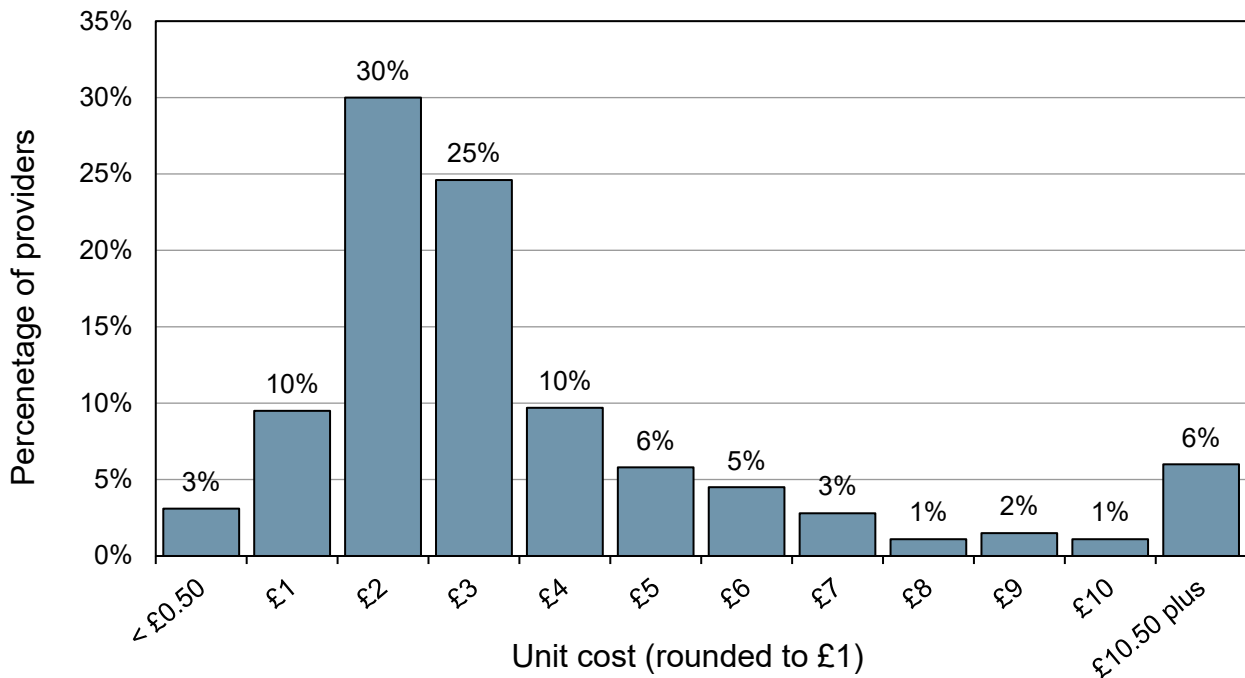
Figure 14: Distribution of unit cost for private providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 483 private providers.

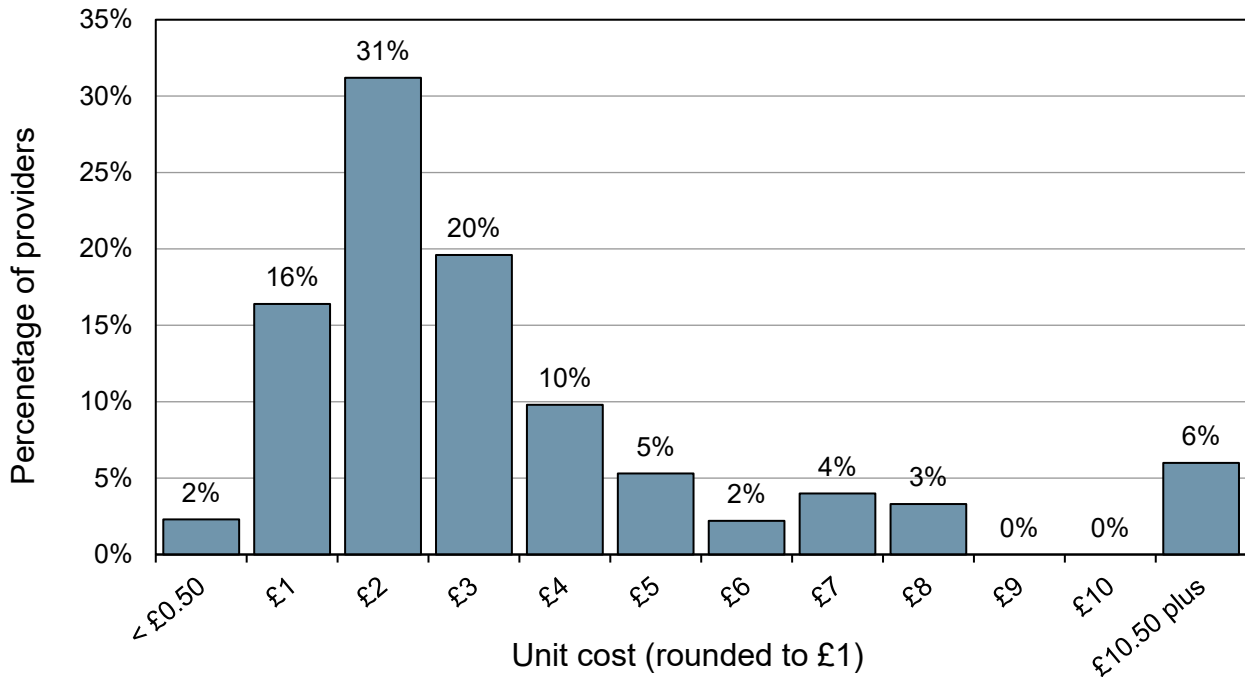
Figure 15: Distribution of unit cost for voluntary providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 462 voluntary providers.

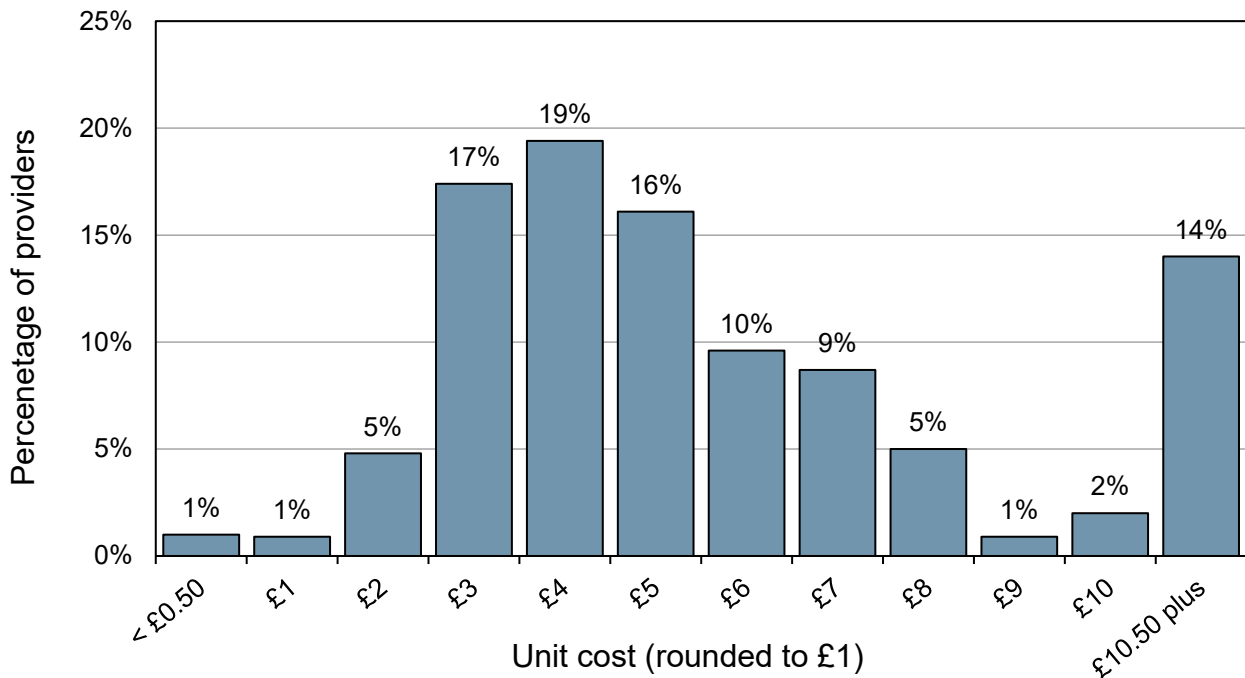
Figure 16: Distribution of unit cost for nursery classes



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 143 nursery classes.

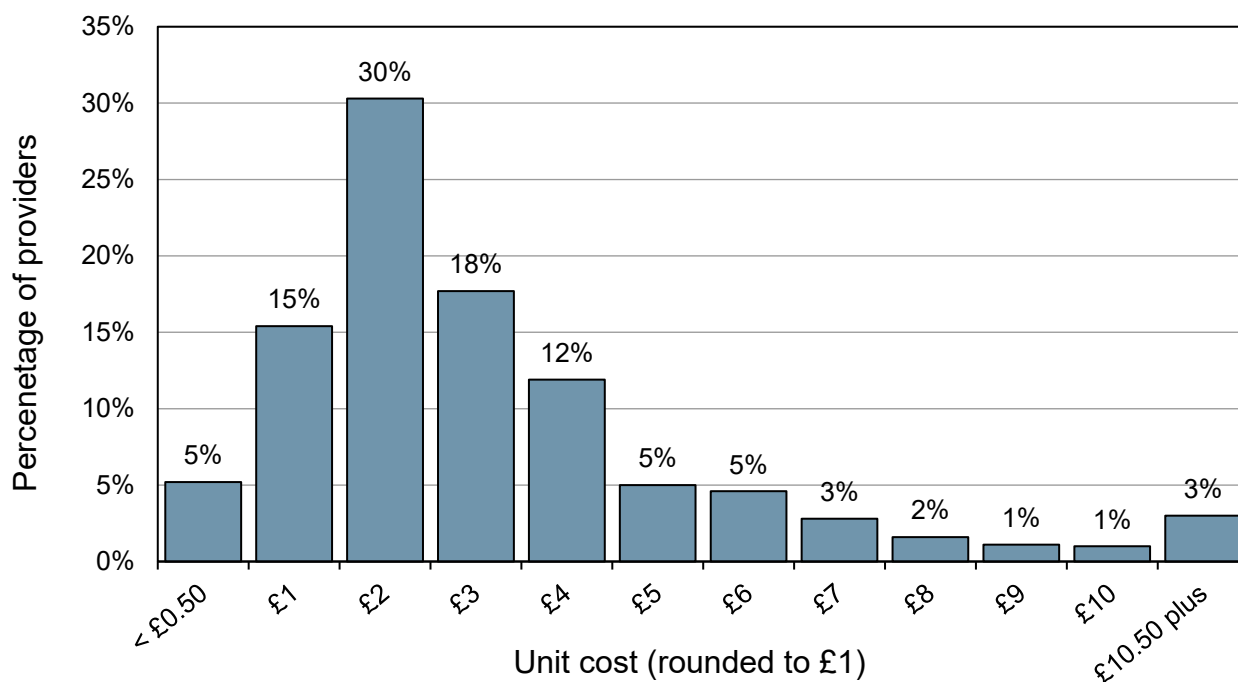
Figure 17: Distribution of unit cost for MNS



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 104 MNS.

Figure 18: Distribution of unit cost for childminders



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 324 childminders. Costs for childminders do not include any rent or mortgage payments.

4.2 Drivers of unit cost

Differences in the unit cost across provider and local area characteristics were explored using the regression analysis described in section 2.6. The following tables present all patterns in the unit cost across the setting characteristics, noting the cases where the raw differences are statistically significant and the cases of statistically significant associations from the regression analysis with controls for other potential drivers of the unit cost. Regression model 1 included all providers while model 2 included only providers with three and four year olds in receipt of the free entitlement (called “funded providers”) in order to consider the relationships with the level of the funding rate for this age group. Full results from both regression models are presented in Annex B.³⁰

³⁰ The most comparable analysis in the Early Years Providers’ Cost Study considered the hourly delivery cost specifically for three and four year olds (section 4.2 table 44, Paull & Xu (2019)).

Table 16: Variation in unit cost by provider type and child profile

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Provider type					
Private	£3.83	483	MNS > all others Voluntary > childminders	MNS > all others Voluntary, nursery class > childminders	MNS > all others All others > childminders
Voluntary	£4.16	462			
Nursery class	£4.28	143			
MNS	£7.23	104			
Childminders	£3.42	324			
Setting size					
Small	£4.11	666	small > medium*	large > small*	large > small
Medium	£3.40	603			
Large	£3.85	273			
Single site or chain					
Single site	£4.15	803	single site > chain*	----	----
Chain	£3.56	158			
Age of youngest child					
Under two years	£3.50	649	----	----	under two > 2YOs*
Two years	£3.81	650			
Three/four years	£4.32	245			
Percentage of children with SEND					
None	£3.68	977	----	high > low*	----
Low (5% or less)	£3.68	432			
High (more than 5%)	£3.87	123			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds. The proportion with SEND is the number of children with an Education, Health and Care (EHC) plan or a Statement of Special Needs as a proportion of the number of children attending the setting.

Table 16 presents the statistically significant differences in the mean unit cost by provider type and child profile. The table shows:

- MNS have a higher mean unit cost than all other provider types even controlling for other characteristics. Controlling for other characteristics, being a childminder is associated with a lower unit cost than for other provider types.
- Small settings have higher mean unit cost than medium-sized settings, but controlling for other characteristics, being large is associated with a higher unit cost over being small.
- Single site settings have a higher mean unit cost over settings which are part of a chain, but this is explained by other characteristics of these settings.
- There are no differences in the mean unit cost across settings with different ages of youngest child, but, controlling for other characteristics, having children under the age of two is weakly associated with a higher cost over a youngest child aged two for funded providers.
- There are no differences in the hourly cost across settings with different proportions of children with SEND, but, controlling for other characteristics, having a high proportion is weakly associated with a higher unit cost.

Table 17 presents the statistically significant differences in the mean unit cost by local area characteristics. The table shows:

- Settings in London have a higher mean unit cost than settings in each of the other regions, but this is explained by other characteristics of the settings in each region and the regional patterns are quite mixed and weak when allowance is made for other setting characteristics.
- There are no differences in the mean unit cost between settings in urban area and settings in rural areas.
- There are no differences in the mean unit cost across areas with different levels of deprivation, but, controlling for other characteristics, being in the middle or least deprived areas is associated with a higher unit cost over some other levels of deprivation.

Table 17: Variation in unit cost by region, rurality and local deprivation

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Region					
North East (NE)	£3.48	90	London > all others	NW* YH London* > EE London > WM*	YH > EE London* NE* NW* YH WM* EM SE* > SW
North West (NW)	£3.16	184			
Yorkshire & the Humber (YH)	£3.49	137			
West Midlands (WM)	£3.33	171			
East Midlands (EM)	£3.46	145			
East of England (EE)	£3.41	192			
London (London)	£5.63	180			
South East (SE)	£3.53	270			
South West (SW)	£3.04	175			
Rurality					
Urban	£3.79	1035	----	----	----
Rural	£3.53	332	----	----	----
Local deprivation quintiles					
Q1 (most deprived)	£3.98	211	----	Q3 Q5 > Q2	Q3 > Q2 Q4*
Q2 (second most)	£3.46	254			
Q3 (middle)	£3.71	297			
Q4 (second least)	£3.80	325			
Q5 (least deprived)	£3.78	280			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 18 presents the statistically significant differences in the mean unit cost by opening hours. The table shows:

- Settings offering sessional care have a higher mean unit cost over those offering full day care and sessional care is associated with a higher unit cost over full day care even controlling for other characteristics of these settings.
- Settings with a lower number of opening hours each week have a higher mean unit cost than those with longer hours and fewer weekly hours are associated with a higher unit cost over more weekly hours even controlling for other characteristics of these settings.
- Settings open for less than 40 weeks each year have a higher mean unit cost than those open 40 to 48 weeks, but this is explained by the other characteristics of these settings.

Table 18: Variation in unit cost by opening hours

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Full-day or sessional					
Full day	£3.71	951	sessional > full day	sessional > full day	sessional > full day*
Sessional	£5.98	240			
Weekly opening hours					
Low (less than 40)	£4.97	669	low > middle, high middle > high	low > middle* high	low > middle, high middle > high
Middle (40 to 50)	£3.40	468			
High (more than 50)	£2.83	407			
Annual opening weeks					
Low (less than 40)	£4.02	767	low > middle	----	----
Middle (40 to 48)	£3.41	295			
High (more than 48)	£3.82	480			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 19: Variation in unit cost by staffing characteristics

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Average highest staff qualification					
Lower (less than 3)	£3.84	446	----	lower > middle*	----
Middle (3 to 3.5)	£3.48	617			
Higher (more than 3.5)	£3.92	470			
Number of apprentices					
None	£3.67	1195	----	----	----
One	£4.16	193			
Two or more	£3.86	156			
Number of volunteers					
None	£3.92	641	----	----	----
One	£4.43	291			
Two or more	£4.60	287			
Average child-to-staff ratio for three and four year olds					
Low (less than 8)	£3.65	801	----	low mid-low* > high	----
Mid-low (exactly 8)	£3.87	580			
Mid-high (8 to 13)	£4.24	69			
High (13 or more)	£3.52	82			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds. The average staff qualification is the mean of the NVQ levels for all staff. For example, a setting with an average level of 3.5 could have half of its staff with level 3 and half of its staff with level 4.

Table 19 presents the statistically significant differences in the mean unit cost by staffing characteristics. The table shows:

- There are no differences in the mean unit cost across settings with different average staff qualifications. Controlling for other characteristics, having a lower average qualification level is weakly associated with a higher unit cost over having a middle level of average qualification.

- There are no differences in the unit costs by the number of apprentices or the number of volunteers.
- There are no differences in the mean unit cost across settings with different average child-to-staff ratios, but controlling for other characteristics, having a low or mid-to-low average ratio is associated with a higher unit cost over having a high ratio.

Table 20 presents the statistically significant differences in the mean unit cost by policy engagement. The table shows:

- There are no differences in unit cost by whether a setting has any children taking up the two year old free early education entitlement.
- There are no differences in the mean unit cost across settings with different proportions of children in receipt of the EYPP, but controlling for other characteristics, having no such children or a low proportion is associated with a higher unit cost. This may reflect that parents have greater desire and ability to pay for higher cost care in more affluent areas with a lower proportion of children in receipt of EYPP.
- Settings with no children in receipt of 30 hours free childcare have a higher mean unit cost and the absence of such children is associated with a higher unit cost controlling for other characteristics.
- There are no differences in the mean unit cost across settings with different proportions of children in receipt of Tax Free Childcare, but having no such children or a low proportion is weakly associated with a higher unit cost over having a higher proportion for funded providers.
- Settings with a high funding rate for the free entitlement have a higher mean unit cost than settings with a mid-to-low rate, but this is explained by other characteristics of these settings.

Table 20: Variation in unit cost by policy engagement

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Free entitlement for two year olds					
No children in receipt	£3.65	638	----	----	----
Children in receipt	£3.79	906			
Proportion of children in receipt of Early Years Pupil Premium					
None	£3.59	728	----	none > high*	none > high* low > high
Low (10% or less)	£3.92	453			
High (more than 10%)	£3.55	276			
30 Hours Free Childcare					
No children in receipt	£4.61	254	none > receipt	none > receipt	----
Children in receipt	£3.26	1209			
Proportion of children in receipt of Tax Free Childcare					
None	£3.65	861	----	----	none low > high*
Low (less than 10%)	£3.71	432			
Middle (10% to 20%)	£3.38	104			
High (more than 20%)	£4.29	73			
Average funding rate for free entitlement for three and four year olds					
Low (less than £4)	£3.63	270	high > mid-low*	n/a	----
Mid-low (£4 to £4.25)	£3.06	450			
Mid-high (£4.25 to £4.50)	£3.64	174			
High (£4.50 or more)	£3.54	307			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 21 presents the statistically significant differences in the mean unit cost by the provision of additional and specialist services. The table shows:

- Settings offering any of the three types of additional and specialist services have a higher mean unit cost than settings which do not offer the service, but this is explained by other characteristics of the settings.

Table 21: Variation in unit cost by additional and specialist services

	Mean unit cost	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Specialist child services					
None	£3.63	1081	delivered > none*	----	----
Services delivered	£4.19	463			
Family services					
None	£3.59	1280	delivered > none	----	----
Services delivered	£4.94	264			
System leadership					
None	£3.63	1266	delivered > none	----	----
Services delivered	£4.55	278			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

4.3 Staff hourly pay

The mean staff hourly pay across all types of settings was £9.95, but was considerably lower for private providers (£9.17), voluntary providers (£9.35) and childminders (£7.46) than for nursery classes (£16.32) and MNS (£15.41) (table 22). This does not precisely mirror the patterns in the unit cost seen above: the mean unit cost for nursery classes is much closer to that for private and voluntary providers, while the gap with childminders is also smaller for the unit cost than the staff hourly pay. The median hourly pay (the middle observation when providers are ranked from lowest to highest) was considerably lower than the mean for all provider types, indicating a number of providers with unusually high hourly pay within each provider type.

Table 22: Staff hourly pay

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean hourly pay	£9.17	£9.35	£16.32	£15.41	£7.46	£9.95
Median hourly pay	£8.32	£8.57	£12.51	£11.95	£6.92	£8.50
Unweighted number of staff	4,353	2,941	698	370	434	9,022

Source: Survey of Childcare and Early Years Providers, 2018

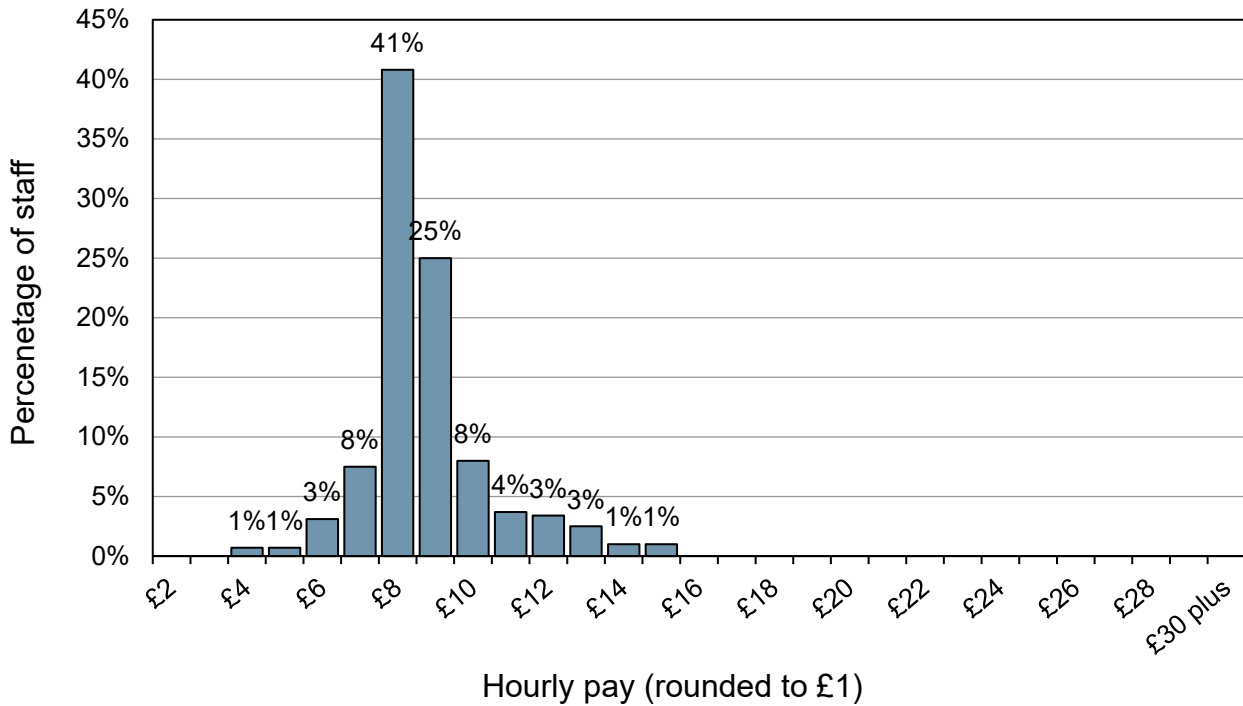
Notes: All statistics are weighted to be nationally representative of the workforce. Childminders also includes childminder assistants.

Figures 19 to 23 present the distribution of the hourly pay for each provider type, showing three distinct patterns:

- Private providers and voluntary providers have similar distributions, with over a third of staff paid in the £8 band and another quarter in the £9 band. Only a small proportion of staff are paid £15 or more and almost no staff are paid more than £20 an hour. This drives the patterns in the unit cost which have peaks in the £2 and £3 band for these providers.
- For staff in nursery schools and MNS, the distribution of hourly pay is primarily spread across the £8 to £15 bands without distinct peaks (noting that the scale on the vertical axis covers a much smaller range than in the figures for private and voluntary providers). Notable proportions of staff are paid more than £15 and 6 percent of staff in nursery classes and 7 percent of staff in MNS are paid £30 or more per hour. However, while this pattern for MNS is reflected in the pattern for unit cost (with the unit cost spread out more evenly across a wider range), the pattern in hourly pay is not reflected in the unit cost for nursery classes. As shown above, the pattern in unit cost for nursery classes is very similar to that for private and voluntary providers and generally lower than would be expected given the distribution of the staff hourly pay.
- The hourly pay for childminders and their assistants is concentrated in the range of the £4 band to the £8 band, reflecting that the money that childminders draw for themselves from their business does not have to comply with minimum wage legislation. Relative to other provider types, it would be expected that this pattern of hourly pay would result in a distribution of unit costs more densely concentrated at the lower end than that observed in figure 18.

Overall, this suggests that unit costs for nursery classes and childminders do not reflect the underlying patterns in staff hourly pay in the same way as for the other three provider types.

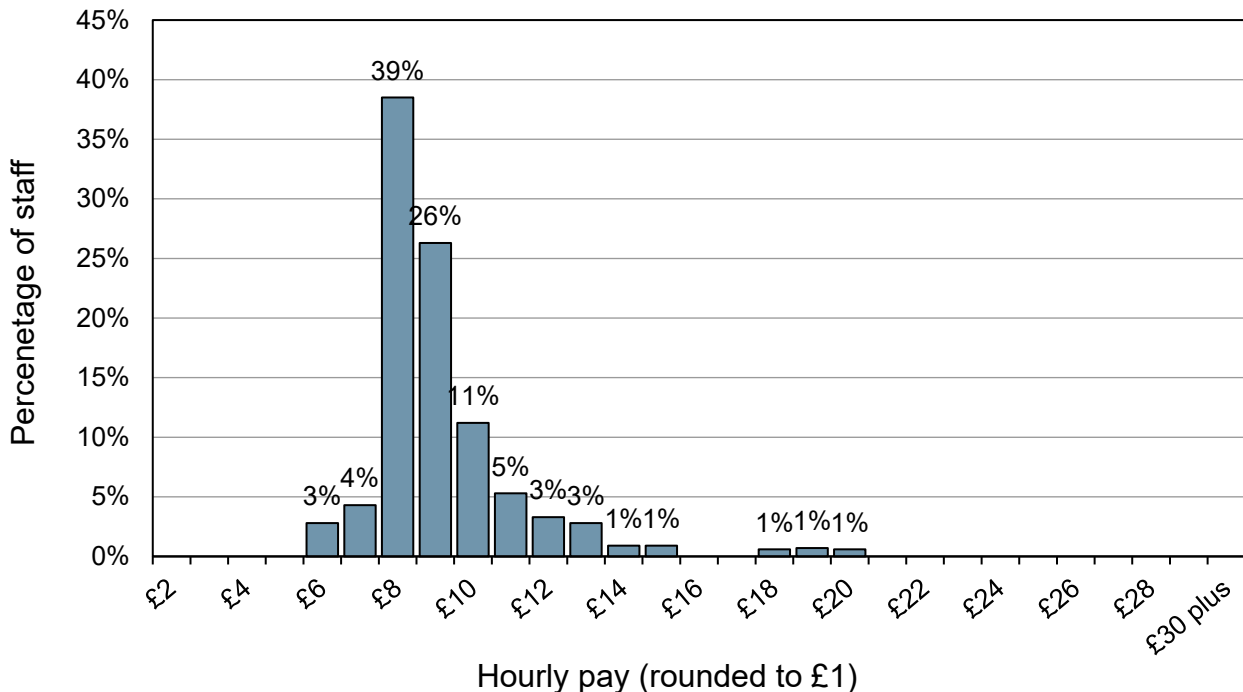
Figure 19: Distribution of staff hourly pay for private providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 4,353 staff in private providers.

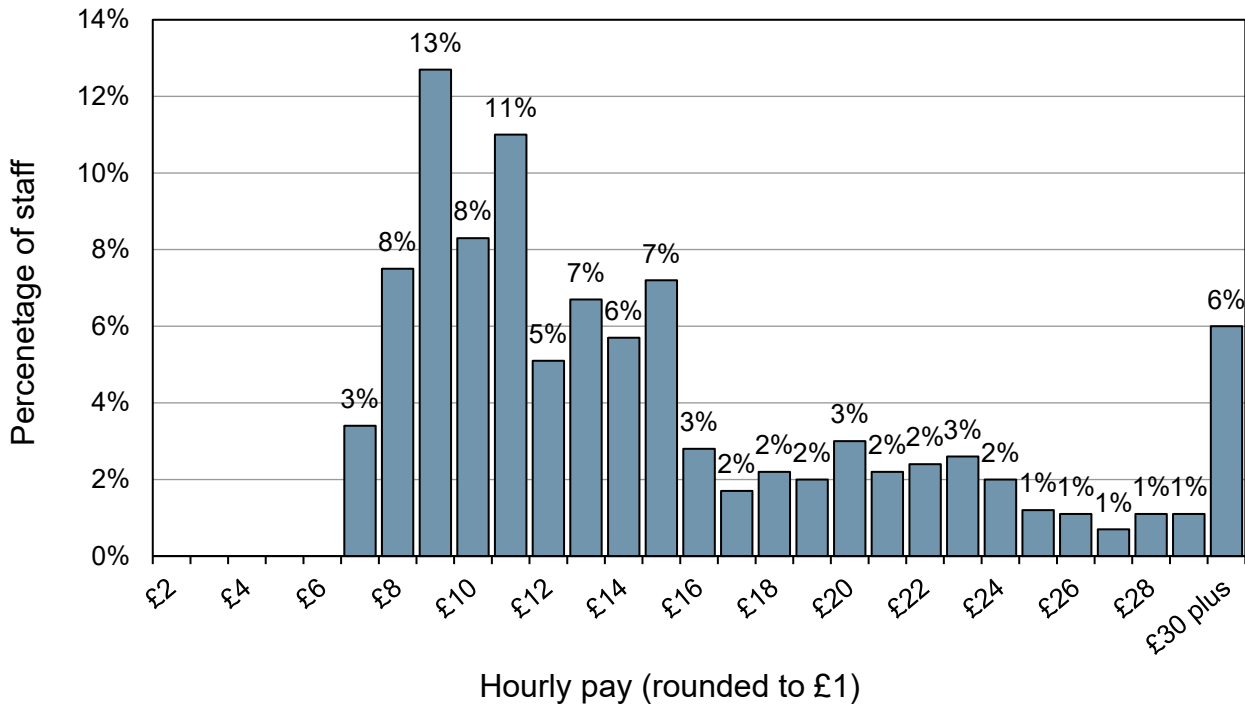
Figure 20: Distribution of staff hourly pay for voluntary providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 2,941 staff in voluntary providers.

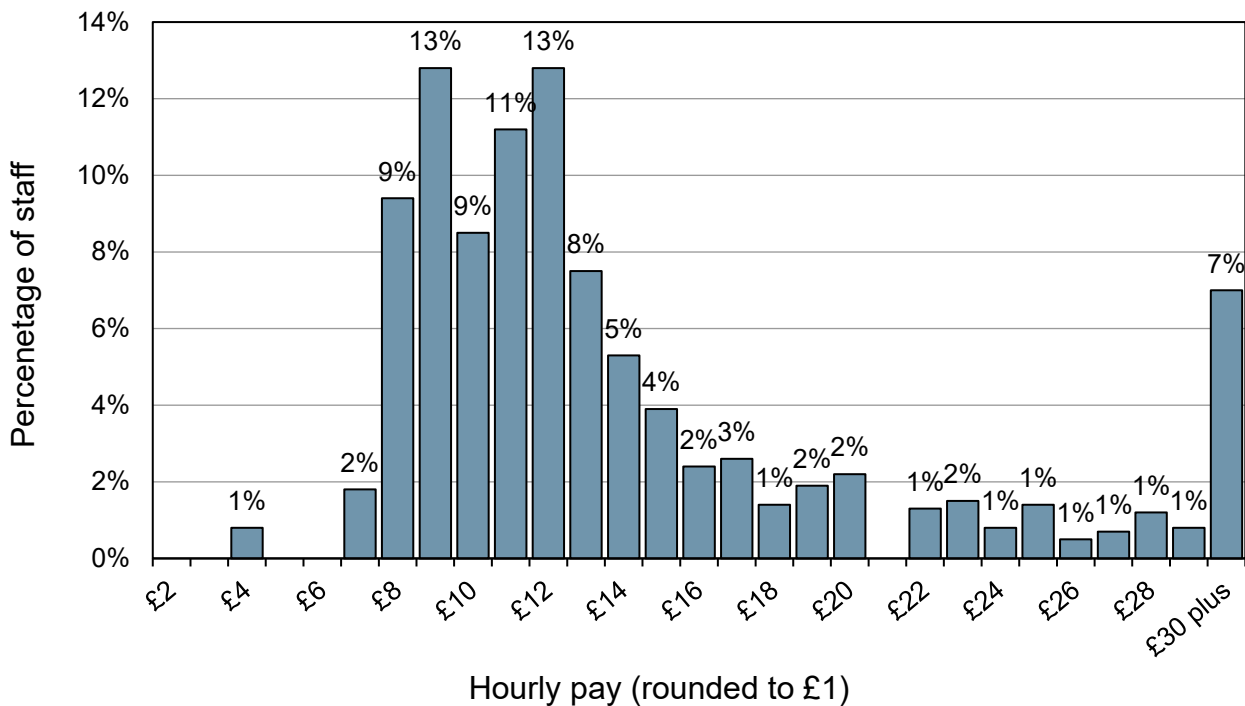
Figure 21: Distribution of staff hourly pay for nursery classes



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 698 staff in nursery classes.

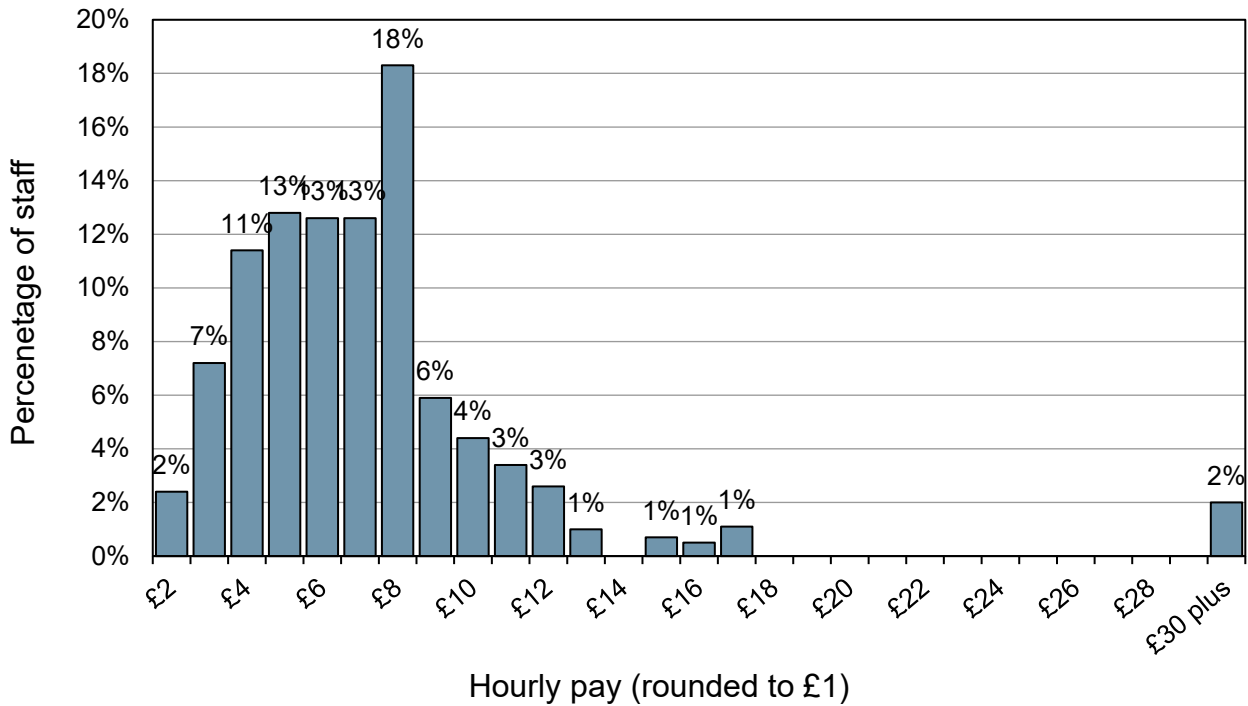
Figure 22: Distribution of staff hourly pay for MNS



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 370 staff in MNS.

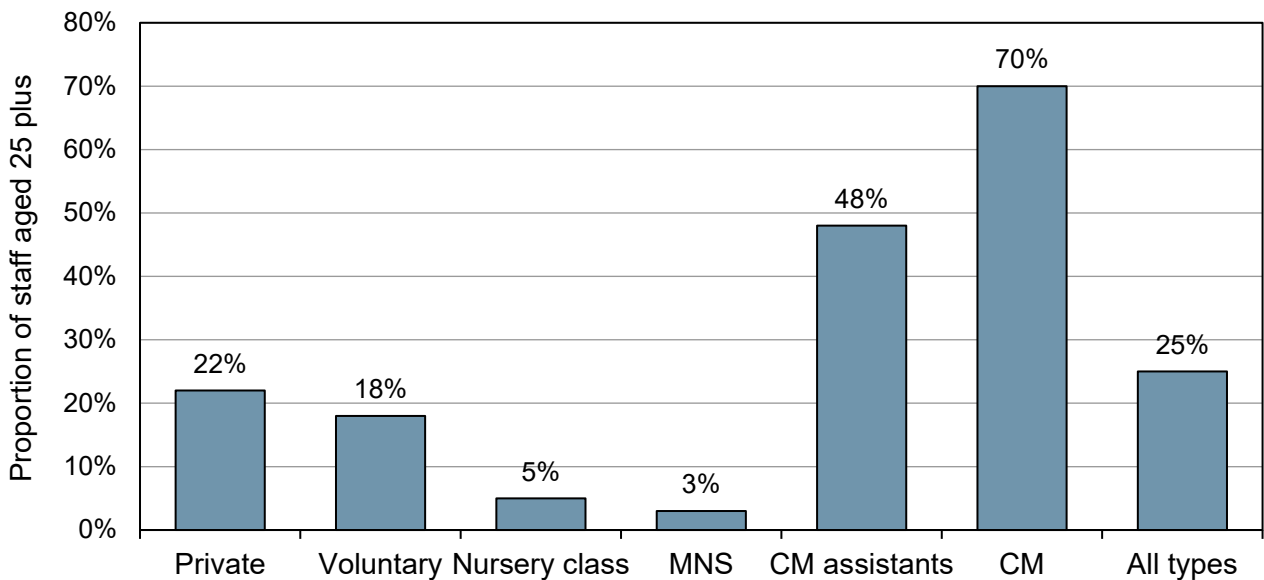
Figure 23: Distribution of staff hourly pay for childminders



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 434 childminders and childminder assistants.

Figure 24: Proportion of staff aged 25 plus paid at or below the National Living Wage



Source: Survey of Childcare and Early Years Providers, 2018

Notes: CM stands for childminder. Unweighted sample sizes are 3,153 for private providers, 2,513 for voluntary providers, 605 for nursery classes, 345 for MNS, 57 for childminder assistants, 357 for childminders and 7,211 for all types.

A quarter (25 percent) of workers aged 25 and over were paid at or below the statutory minimum of the National Living Wage (NLW).^{31,32} This proportion varied considerably across provider types (figure 24), with only 5 percent of staff in nursery classes and 3 percent of staff in MNS paid at or below the NLW, while some 70 percent of childminders paid themselves or drew money from the business implicitly at or below the NLW for the time they employed in the business.

Table 23: Staff hourly pay by qualification level

Mean hourly pay (unweighted number of staff)	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
NVQ level 1	£7.84 (44)	£8.18 (33)	* (12)	* (10)	£6.92 (84)	£7.96 (186)
NVQ level 2	£7.82 (614)	£7.92 (360)	£10.32 (81)	£9.52 (51)	£7.28 (27)	£8.12 (1,158)
NVQ level 3	£8.96 (2,307)	£9.10 (1,666)	£11.72 (263)	£13.71 (136)	£7.49 (200)	£9.26 (4,686)
NVQ level 4	£9.99 (338)	£10.07 (215)	* (2)	* (0)	* (18)	£9.80 (594)
NVQ level 5	£10.19 (285)	£9.92 (211)	* (4)	* (0)	* (3)	£10.31 (522)
NVQ level 6 or higher	£12.18 (763)	£12.49 (454)	£25.15 (328)	£23.42 (173)	£7.79 (97)	£15.12 (1,859)
All levels	£9.18 (4,351)	£9.35 (2,939)	£16.26 (690)	£15.41 (370)	£7.46 (429)	£9.95 (9,005)

Source: Survey of Childcare and Early Years Providers, 2018

Notes: All statistics are weighted to be nationally representative of the workforce. * denotes where statistics have been suppressed due to sample sizes of less than 20. Qualification level 1 includes a small number of staff with no qualifications or overseas qualifications. Childminders also include childminder assistants.

³¹ The NLW was £7.50 for the first part of fieldwork for the study until April 2018 and £7.83 from April 2018.

³² Pay was not reported as an hourly amount for 44 percent of staff which created some imprecision in this measure due to rounding in calculating the implicit hourly rate. For those with an hourly amount, 11 percent had an amount exactly at the NLW and 6 percent had an amount below the NLW (although most of this 6 percent had an hourly rate at or above the previous year's NLW).

One reason for differences in hourly pay across the provider types could be due to variation in the average qualifications of staff. Table 23 shows that, across all provider types, average hourly pay rises steadily with qualification level, from at £7.96 for those with level 1 to £15.12 for those with level 6. Within each qualification level, the mean hourly pay is notably higher for nursery classes and MNS and lowest for childminders, indicating that differences in the distribution across provider types are not entirely accounted for by differences in qualifications.³³

4.4 Drivers of staff hourly pay

As for the unit cost, differences in staff hourly pay across provider and local area characteristics were explored using the regression analysis described in section 2.6, although only model 1 was estimated for hourly pay. Full results from the regression model are presented in Annex B.

Table 24 presents the statistically significant differences in the mean staff hourly pay by provider type and child profile. The table shows:

- Mean hourly pay is higher for MNS and nursery classes than all other provider types and lower for childminders than all other types, even controlling for the other characteristics of these settings.
- Medium sized settings have the lowest mean hourly pay and small settings have the highest, but, controlling for other characteristics, being large is associated with higher hourly pay over being small or medium-sized.
- Single site settings have a higher mean hourly pay over settings which are part of a chain, but this is explained by the other characteristics of these settings.
- Mean hourly pay is higher for settings without younger children, but this is explained by other characteristics of these settings.

³³ The regression analysis in the following section formally tests this.

Table 24: Variation in staff hourly pay by provider type and child profile

	Mean staff hourly pay	Number of staff	Statistically significant differences	
			Raw differences	Model 1
Provider type				
Private	£9.17	4,353	All except nursery classes and MNS	All except MNS and nursery classes
Voluntary	£9.35	2,941		
Nursery class	£16.23	698		
MNS	£15.41	370		
Childminders	£7.46	434		
Setting size				
Small	£10.61	3,978	All	large > small, medium
Medium	£9.51	3,403		
Large	£9.87	1,615		
Single site or chain				
Single site	£9.30	5,647	single site > chain*	----
Chain	£9.09	1,784		
Age of youngest child				
Under two years	£9.01	4,032	All	----
Two years	£9.89	3,775		
Three/four years	£14.13	1,215		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable.

Table 25 presents the statistically significant differences in the mean staff hourly pay by provider area characteristics. The table shows:

- Settings in London have a higher mean hourly pay than those in all other regions and settings in the East Midlands and South West have a lower mean hourly pay than those in several other regions. Controlling for other characteristics, being located in London, the East of England or the South East is associated with higher hourly pay than in other regions.

- Settings in urban areas have a higher mean hourly pay than those in rural areas, but this is explained by the other characteristics of these settings.
- Settings in the most deprived and second most deprived areas have higher mean hourly pay than those in less deprived areas, but this is explained by other characteristics of these settings. However, the proportion of staff paid at or below the NLW was higher in deprived areas (most and second most deprived areas and middle deprivation levels) than in more affluent areas (the second least and least deprived areas) even when allowance is made for differences in other characteristics.

Table 25: Variation in staff hourly pay by region, rurality and local deprivation

	Mean staff hourly pay	Number of staff	Statistically significant differences	
			Raw differences	Model 1
Region				
North East (NE)	£10.54	594	London > all others NE > EM SW NW > SW WM > EM* SW EE* SE > SW	London > all others EE SE > NE EE > YH* WM* EM* SE > NW* YH WM EM SW*
North West (NW)	£10.26	1,127		
Yorkshire & the Humber (YH)	£9.23	853		
West Midlands (WM)	£10.05	813		
East Midlands (EM)	£9.02	808		
East of England (EE)	£9.69	1,113		
London (London)	£11.94	1,100		
South East (SE)	£9.27	1,568		
South West (SW)	£8.76	1,046		
Rurality				
Urban	£10.20	6,404	urban > rural	----
Rural	£9.32	1,905		
Local deprivation quintiles				
Q1 (most deprived)	£10.82	1,578	Q1 > all others Q2 > Q4 Q5	----
Q2 (second most)	£10.11	1,630		
Q3 (middle)	£10.31	1,708		
Q4 (second least)	£9.62	1,798		
Q5 (least deprived)	£9.41	1,595		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable. Model 1 estimated for the proportion of staff paid at or below the NLW showed that the proportion was statistically significantly higher at the 10 percent level for staff in settings in the most and second most deprived areas than for staff in settings in the second least and least deprived areas and was statistically significantly higher at the 5 percent level for staff in settings in the middle deprivation areas than for staff in settings in the second least and least deprived areas.

Table 26 presents the statistically significant differences in the mean staff hourly pay by opening hours. The table shows:

- Settings offering sessional care rather than full day care and those opening for fewer hours each week have a higher mean hourly pay, but this is explained by the other characteristics of these settings. However, offering full day care was associated with a higher proportion of staff paid at or below the NLW than offering sessional care even controlling for other characteristics.
- Settings opening for fewer weeks each year have a higher mean hourly pay, but controlling for other characteristics shows that opening for 40 to 48 weeks each year is associated with higher mean hourly pay than opening for less than 40 weeks or for more than 48 weeks each year.

Table 26: Variation in staff hourly pay by opening hours

	Mean staff hourly pay	Number of staff	Statistically significant differences	
			Raw differences	Model 1
Full-day or sessional				
Full day	£10.12	6,950	sessional > full day	----
Sessional	£11.51	1,408		
Weekly opening hours				
Low (less than 40)	£11.03	3,819	All	----
Middle (40 to 50)	£10.10	2,380		
High (more than 50)	£8.94	2,766		
Annual opening weeks				
Low (less than 40)	£11.44	4,419	All	middle > low* high*
Middle (40 to 48)	£8.92	726		
High (more than 48)	£9.10	3,870		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable. Model 1 estimated for the proportion of staff paid at or below the NLW showed that the proportion was statistically significantly higher for staff in settings offering full day care than for staff in settings offering sessional care.

Using the fact that hourly pay is analysed for individual staff members rather than at the settings level, table 27 presents the statistically significant differences in the mean staff hourly pay by individual characteristics and work hours. The table shows:

- Mean hourly pay is lowest for staff aged 16 to 24 than all other age groups and lower for staff aged 24 to 39 than staff aged 40 to 49. Controlling for other characteristics, older age groups are associated with higher mean hourly pay over the younger age groups.
- Mean hourly pay increases with qualification level, even controlling for other characteristics.
- Somewhat surprisingly, mean hourly pay is higher for those working part-time than for those working full-time, even controlling for other characteristics.

Table 27: Variation in staff hourly pay by individual staff characteristics

	Mean staff hourly pay	Number of staff	Statistically significant differences	
			Raw differences	Model 1
Individual staff age				
16 – 24	£8.20	1,242	all others > 16-24 40-49 > 25-39	all others > 16-24 40-49, 50 plus > 25-39
25 – 39	£9.93	3,619		
40 – 49	£10.89	2,224		
50 plus	£10.54	1,923		
Individual staff qualification				
Low (less than level 3)	£8.04	1,344	middle, high > low high > middle	middle, high > low high > middle
Middle (level 3-5)	£9.36	5,802		
High (level 6 or higher)	£15.12	1,859		
Individual weekly hours				
Full-time	£9.85	5,818	part-time > full-time	part-time > full-time*
Part-time	£10.20	3,168		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable.

Table 28: Variation in staff hourly pay by setting staff characteristics

	Mean staff hourly pay	Number of staff	Statistically significant differences	
			Raw differences	Model 1
Setting proportion of staff BME				
None	£9.67	6,065	All	----
Low (less than 20%)	£9.60	1,372		
High (20% plus)	£11.27	1,527		
Setting staff gender mix				
No males	£9.94	7,445	at least one male > no males	----
At least one male	£9.99	1,577		
Setting number of apprentices				
None	£10.34	6,043	none > one, two or more	----
One	£9.12	1,720		
Two or more	£9.30	1,259		
Setting number of volunteers				
None	£10.44	4,726	----	none > two or more
One	£10.27	1,883		
Two or more	£9.97	1,971		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable. BME is black and minority ethnicity. Model 1 estimated for the proportion of staff paid at or below the NLW showed that the proportion was statistically significantly higher for staff in settings with one volunteer than those in settings with no volunteers and statistically significantly at the 10 percent level for staff in settings with two or more volunteers than those in settings with no volunteers.

Table 28 presents the statistically significant differences in the mean staff hourly pay by the staff characteristics within the setting. The table shows:

- Settings with the highest proportion of staff with BME ethnicity have higher mean hourly pay, but this is explained by the other characteristics of these settings.

- Settings which have at least one male member of staff have higher mean hourly pay, but this is explained by the other characteristics of these settings.³⁴
- Settings without any apprentices have higher mean hourly pay than those with apprentices, but this is explained by the other characteristics of these settings.
- There are no differences in the mean hourly pay between settings with and without volunteers working in the setting, but, controlling for other characteristics, having no volunteers is associated with higher hourly pay over having two or more volunteers and a lower proportion of staff paid at or below the NLW over having one or two or more volunteers.

Table 29 presents the statistically significant differences in the mean staff hourly pay by policy engagement and the delivery of additional and specialist services. The table shows:

- Settings with two year olds in receipt of the free entitlement or with children in receipt of the 30 hours free childcare have higher mean hourly pay than settings without such children, but these differences are explained by the other characteristics. However, having children in receipt of the 30 hours free childcare was associated with a higher proportion of staff paid at or below the NLW even controlling for other characteristics.
- Settings which deliver each of the three types of additional and specialist services have higher hourly mean costs than those which do not deliver these services. The delivery of family services is associated with higher hourly pay even controlling for other characteristics, but the difference in hourly pay by delivery of specialist child services and by system leadership is explained by other characteristics of these settings.

³⁴ Gender was not recorded for the staff level data on hourly pay.

Table 29: Variation in staff hourly pay by policy engagement and delivery of additional and specialist services

	Mean staff hourly pay	Number of settings	Statistically significant differences	
			Raw differences	Model 1
Free entitlement for two year olds				
No children in receipt	£11.11	2,442	none > receipt	----
Children in receipt	£9.41	6,580		
30 Hours Free Childcare				
No children in receipt	£11.07	1,301	none > receipt	----
Children in receipt	£9.83	7,555		
Specialist child services				
None	£9.86	5,477	delivered > none	----
Services delivered	£10.11	3,545		
Family services				
None	£9.55	7,276	delivered > none	delivered > none*
Services delivered	£11.53	1,746		
System leadership				
None	£9.66	7,217	delivered > none	----
Services delivered	£11.15	1,805		

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 1 uses the natural log of hourly pay as the dependent variable. Model 1 estimated for the proportion of staff paid at or below the NLW showed that the proportion was statistically significantly higher at the 10 percent level for staff in settings with children in receipt of 30 hours free childcare than for staff in settings with no children in receipt.

5. Parent paid fees and additional charges

This chapter examines parent paid fees and the use of additional charges across different types of settings. The first section describes the patterns in hourly fees within settings, while the second considers the variation in hourly fees across settings. The third section compares hourly fees to free entitlement funding rates for three and four year olds and for two year olds. The fourth section identifies key drivers of hourly fees for three and four year olds using the findings from the regression analysis. The penultimate section describes the use of additional charges while the final section identifies key drivers using findings from the regression analysis. Additional analysis of hourly parent paid fees using this data, including average fees at the Local Authority level, is available in the LA Fees Experimental Statistics (Department for Education (2018)).

The key findings are:

- Few providers reported any variation in fees across different age groups: 11 percent did not use fees, 8 percent had fees for only one age group, 72 percent had the same average fee for all age groups and only 9 percent had any variation in the average fee across age groups. (section 5.1)
- The mean hourly fee was £5.02 for children under the age of two, £5.01 for two year old children and £4.92 for three and four year olds, but the mean hourly fee was higher for private providers than other provider types for all three age groups. (section 5.2)
- For three and four year olds, the average hourly fee and funding rate were roughly equal for around a quarter (26 percent) of settings, while the fee was notably less for 20 percent and notably more for 53 percent. For two year olds, most settings (54 percent) had an average hourly fee for all two year olds which was notably less than the funding rate for disadvantaged two year olds. (section 5.3)
- Even controlling for other characteristics, the mean hourly fee is higher for private providers and lower for childminders than other types of providers. (section 5.4)
- Other factors associated with higher hourly fees are larger size, having a youngest child aged three or four, being located in London, the East of England, the South East or the South West, being located in less deprived areas, offering full day rather than sessional care, being open for fewer than 40 weeks each year, not having children in receipt of the two year old entitlement, EYPP or 30 hours free childcare, having a high proportion of children in receipt of Tax Free Childcare, and having a higher funding rate for the free entitlement. (section 5.4)
- Settings which are part of a chain rather than single site, are in urban areas or open for fewer than 40 hours each week have higher mean hourly fees but the

differences in fees are explained by the other characteristics of these settings. (section 5.4)

- Just under three quarters (74 percent) of settings had additional charges for parents. This proportion was slightly higher for private providers (87 percent), around the same level for voluntary providers and nursery classes (78 percent and 80 percent) and slightly lower for childminders (69 percent). (section 5.5)
- Controlling for other characteristics, being a nursery class is associated with the highest likelihood and being a childminder with the lowest likelihood of having additional charges (section 5.6)
- Other factors associated with a greater likelihood of having additional charges include being large or medium-sized, having youngest children under the age of two or aged three or four, being located in the Midlands, East of England, the South East or the South West, offering full day rather than sessional care, being open for 40 to 50 hours each week or 40 to 48 weeks each year rather than fewer or more hours or weeks, having children in receipt of 30 hours free childcare or having a low funding rate for the free entitlement. (section 5.6)
- Having a low hourly fee is associated with a greater likelihood of having additional charges, indicating that higher fees and having additional charges may be complements rather than substitutes. (section 5.6)
- The proportion of settings with additional charges is higher for those which are part of a chain rather than single site, are in rural areas, or have children in receipt of the two year old entitlement or EYPP, but the differences are explained by the other characteristics of these settings. (section 5.6)

5.1 Patterns in hourly fees within settings

The survey collected information on hourly fees for four age groups of children (children under age two, children aged two, three and four year preschool children and school children) for private providers, voluntary providers and childminders. Most of these providers (90 percent of private providers, 97 percent of voluntary providers and 99 percent of childminders) provided an average hourly fee for at least one age group. The reporting of hourly fees reflected the child age profile of different types of providers³⁵:

- Private providers who reported an average fee for any age group were mainly divided between reporting an hourly fee for all four age groups (37 percent), for

³⁵ The reporting of fees is described rather than having fees because it is not possible to distinguish between providers who did not have fees and those who did not respond to the survey question on the amount of the fee.

the three preschool age groups (24 percent) or for two year olds and three and four year old preschool children (14 percent without a fee reported for school children and another 14 percent with a fee also reported for school children).

- Voluntary providers who reported an average fee for any age group were mainly divided between reporting an hourly fee for two year olds and three and four year old preschool children (40 percent without a fee reported for school children and another 32 percent with a fee also reported for school children) or for all four age groups (11 percent).
- While 43 percent of childminders reported an average hourly fee for all four age groups, the remainder were spread across all other feasible patterns, as would be expected given the small number of children cared for by childminders.

Nursery classes and MNS were asked for average hourly fees only for each of the younger three age groups (not school children):

- Only 41 percent of nursery classes reported an average hourly fee for at least one age group, reflecting that many do not charge any fees. Of those reporting an average hourly fee, 75 percent reported only a fee for three and four year old preschool children and 20 percent reported an average hourly fee for this age group and for two year olds.
- A majority (81 percent) of MNS reported an average hourly fee for at least one age group. Of those reporting an average hourly fee, 20 percent reported only a fee for three and four year old preschool children, while 69 percent reported an average hourly fee for this age group and for two year olds and 10 percent reported an average fee for all three preschool age groups.

Table 30 shows that very few providers reported any variation in fees across different age groups. Across all provider types, 11 percent of providers had no fees, while 8 percent had fees for only one age group and 72 percent had the same average fee for all age groups. Only 9 percent of settings had any variation in the average fee across age groups. This proportion was slightly higher for childminders (12 percent), potentially reflecting the ability to charge bespoke fees for each child. No nursery classes reported any variation in fees across age groups, reflecting both that only a minority (39 percent) charged any fees and the limited age range of children attending nursery classes.

Focusing on the small proportion of settings with some variation in fees across age groups, table 31 highlights that the fee among private and voluntary providers was generally lower for older children, with an average gap of around £0.40 between children under age two and two years old, around £0.50 for two year olds and three and four year olds and around £0.20 to £0.30 for three and four year olds and school children. For childminders, hourly fees were, on average, higher for school children over three and four

year olds, possibly reflecting that this care may involve school drop-offs and pick-ups or reflect a premium for fewer total hours of care.

Table 30: Patterns in fees across child age groups

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
No fees	16%	4%	61%	27%	1%	11%
Fees for only one age group	8%	6%	33%	24%	4%	8%
Fees same for all age groups	69%	84%	7%	42%	83%	72%
Fees vary across age groups	8%	6%	0%	7%	12%	9%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of providers reporting an average fee for at least one age group	1,824	1,435	1,382	83	8,233	13,110

Source: Survey of Childcare and Early Years Providers, 2018

Table 31: Differences in fees across child age groups within settings

Mean difference (unweighted number of settings)	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
From under age two to age two	- £0.40 (585)	- £0.37 (140)	* (9)	* (5)	- £0.65 (252)	- £0.46 (1,037)
From age two to age three or four	- £0.50 (843)	- £0.49 (476)	- £1.24 (50)	- £0.59 (41)	- £0.16 (424)	- £0.45 (1,912)
From age three or four to school	- £0.32 (342)	- £0.20 (131)	n/a	n/a	£0.32 (1,358)	£0.15 (1,858)

Source: Survey of Childcare and Early Years Providers, 2018

Note: * denotes where statistics have been suppressed due to sample sizes of less than 20. Sample consists of settings with variation in fees across different ages of children.

5.2 Variation in hourly fees across settings

Across all providers, the mean hourly fee was £5.02 for children under the age of two, £5.01 for two year old children and £4.92 for three and four year olds (table 32). The median value (the middle observation) was £4.50 for all three age groups and lower than the mean value for all three age groups, indicating a number of providers with unusually high fees.

Table 32: Hourly fees by child age group

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Mean hourly fee						
Children under age two	£5.71	£5.11	£5.09	*	£4.82	£5.02
Two year old children	£5.63	£4.86	£5.10	£5.43	£4.78	£5.01
Three and four year old children	£5.48	£4.80	£4.82	£5.09	£4.73	£4.92
Median hourly fee						
Children under age two	£5.20	£4.85	£4.85	*	£4.50	£4.50
Two year old children	£5.04	£4.50	£4.75	£5.00	£4.50	£4.50
Three and four year old children	£5.00	£4.40	£4.20	£5.00	£4.50	£4.50
Unweighted number of providers reporting an hourly fee						
Children under age two	1,651	312	24	10	6,805	8,899
Two year old children	2,359	1,710	156	79	6,838	11,323
Three and four year old children	2,550	1,857	598	97	7,203	12,514

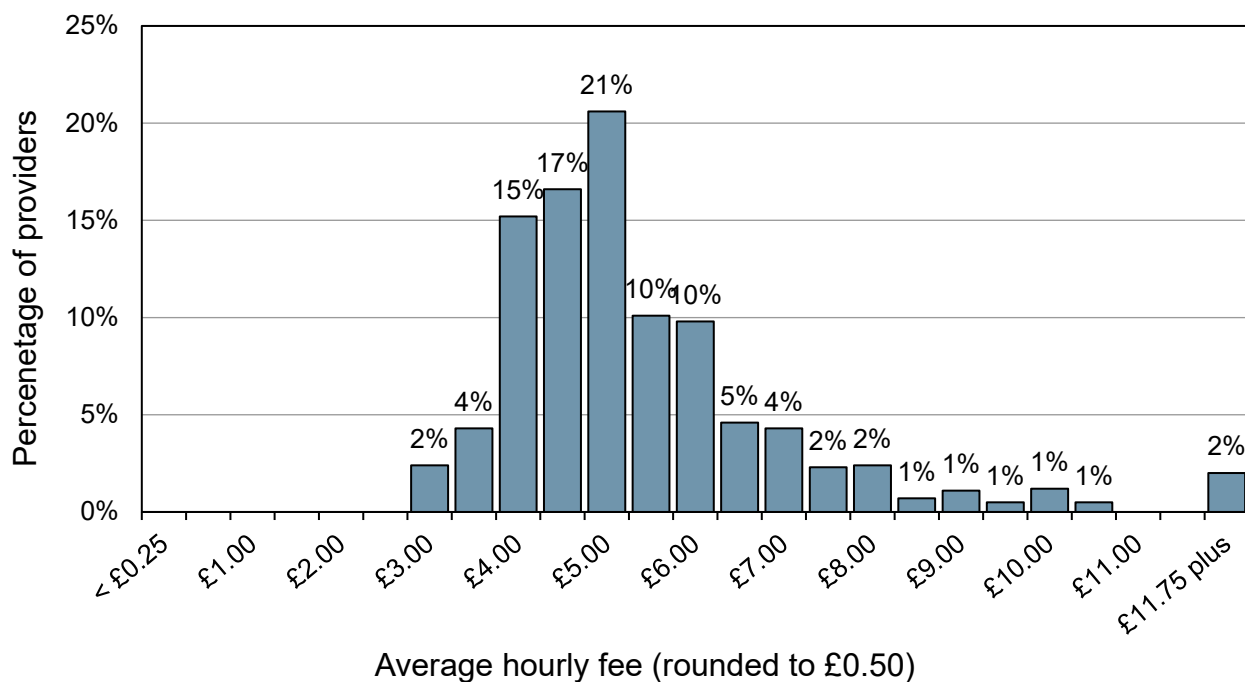
Source: Survey of Childcare and Early Years Providers, 2018

Note: All statistics are weighted to be nationally representative. * denotes where statistics have been suppressed due to sample sizes of less than 20. Private providers include 13 independent providers with fees for children under age two, 47 independent providers with fees for children aged two and 109 independent providers with fees for children aged three or four.

Within each provider type, both the mean and median hourly fees were generally lower for older age groups, particularly for children aged three or older compared to those aged under three. For all three age groups, the mean hourly fee was notably higher for private providers than the other provider types. For three and four year olds, the mean hourly fee was £5.48 for private providers compared to £5.09 for MNS and around £4.80 for all three other provider types. The statistical significance of this difference and whether it is explained by other characteristics of the settings will be explored in section 5.4.

Figures 25 to 29 show the variation in hourly fees for three and four year olds for each provider type, highlighting the considerable variation even within provider type. For all provider types, more than half of settings had average hourly fees in the £4, £4.50 or £5 band, showing a high degree of consistency in the levels of fees across all provider types. However, within these three central bands, the proportions are skewed towards the higher end for private providers and MNS and towards the lower band for voluntary providers and childminders. These differences are also present in the size of the tails either side of the central bands, with a smaller proportion of private providers and larger proportion of nursery schools reporting average fees in the lower tail while larger proportions of private providers and MNS report average fees in the higher tail, including substantial proportions up to the £7 band. Hence, the higher mean fees for private providers (and to a lesser degree for MNS) reflect a generally slightly higher level of fees across the board rather than most private providers charging higher fees than most other providers.

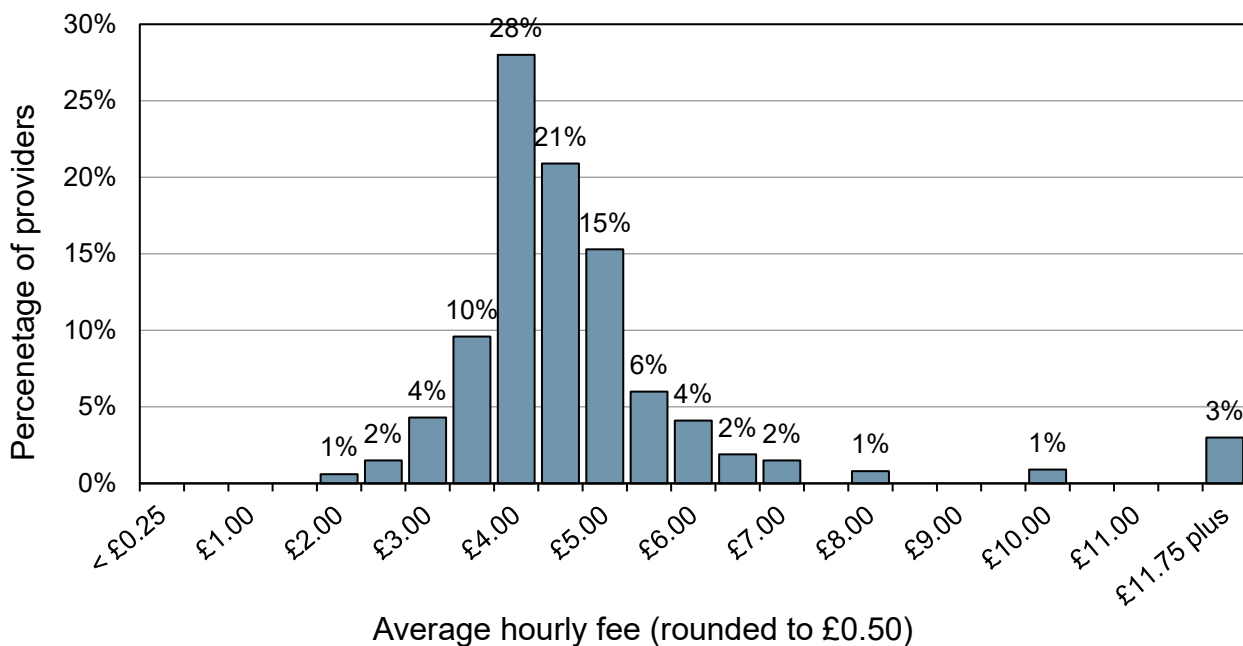
Figure 25: Distribution of hourly fee for three and four year olds for private providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 2,550 private providers. The proportion of providers in fee bands with fewer than 0.5 percent of providers are not shown.

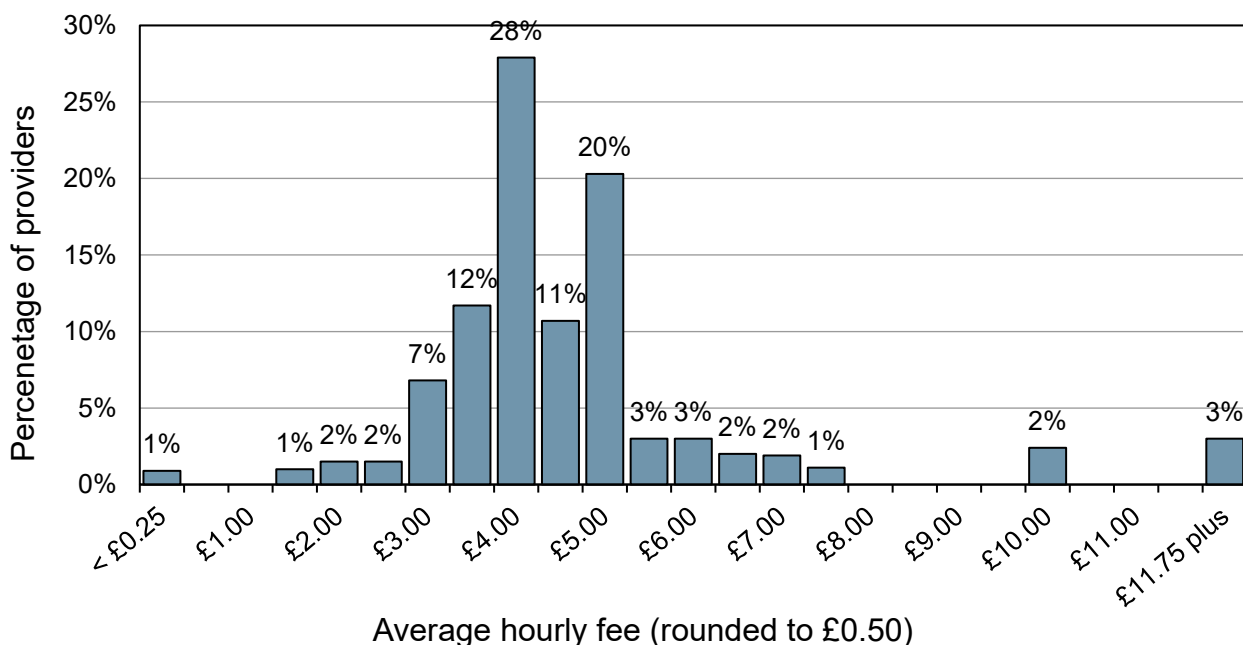
Figure 26: Distribution of hourly fee for three and four year olds for voluntary providers



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 1,857 voluntary providers. The proportion of providers in fee bands with fewer than 0.5 percent of providers are not shown.

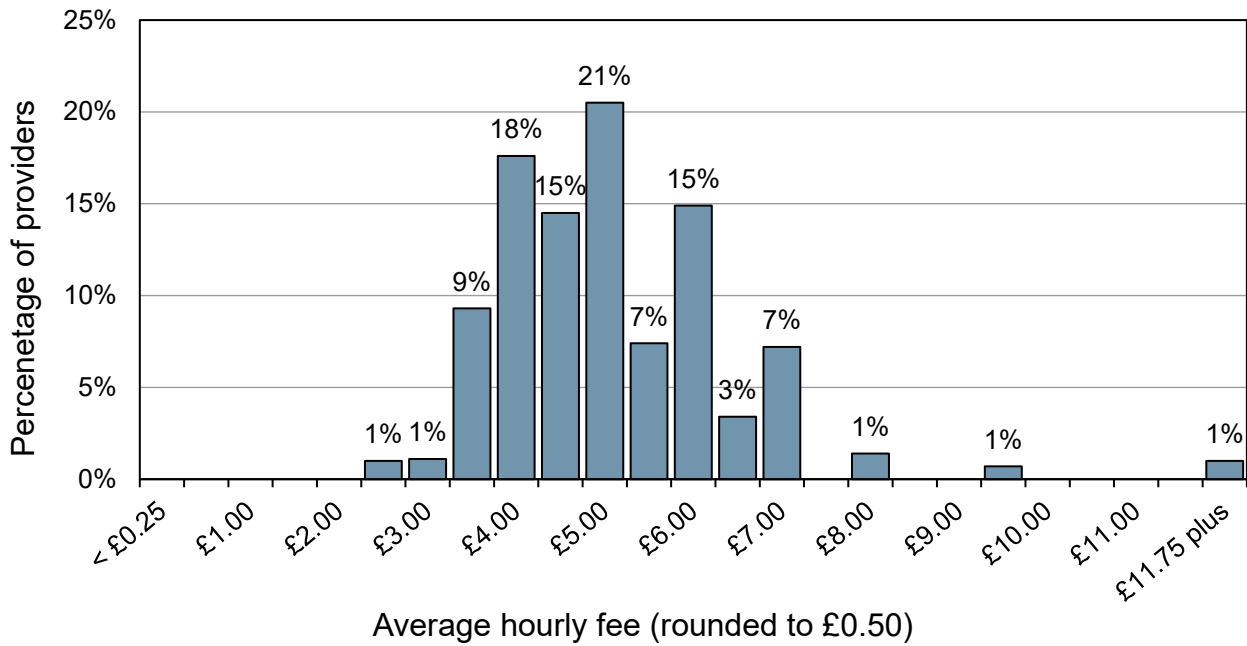
Figure 27: Distribution of hourly fee for three and four year olds for nursery classes



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 598 nursery classes. The proportion of providers in fee bands with fewer than 0.5 percent of providers are not shown.

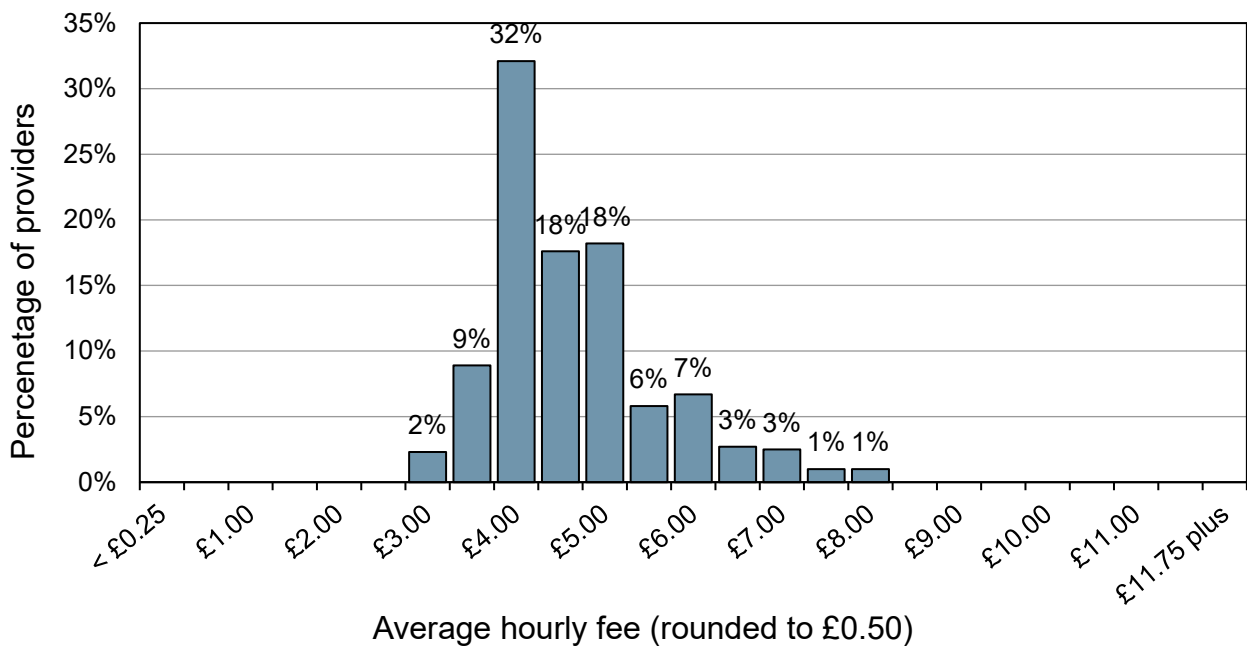
Figure 28: Distribution of hourly fee for three and four year olds for MNS



Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 97 MNS. The proportion of providers in fee bands with fewer than 0.5 percent of providers are not shown.

Figure 29: Distribution of hourly fee for three and four year olds for childminders



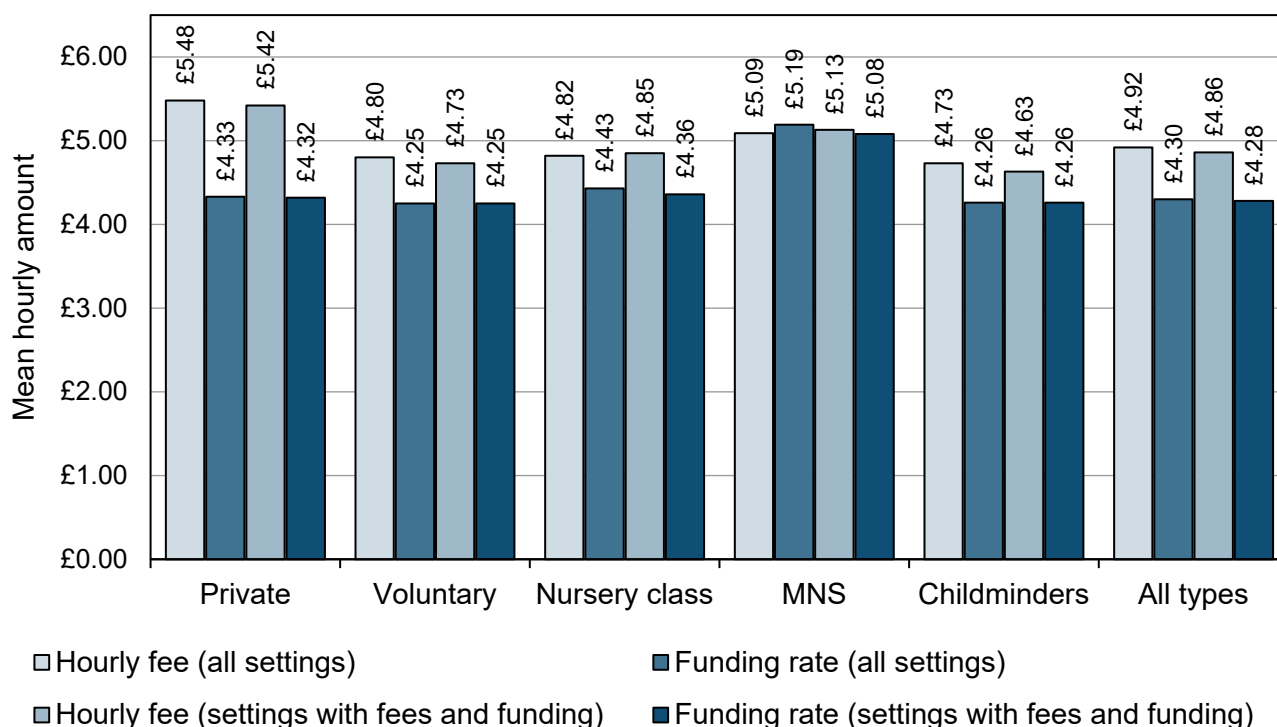
Source: Survey of Childcare and Early Years Providers, 2018

Note: Unweighted sample size is 7,203 childminders. The proportion of providers in fee bands with fewer than 0.5 percent of providers are not shown.

5.3 Comparisons with free entitlement funding rates

Figure 30 presents the mean hourly parent paid fee and hourly free entitlement funding rate for three and four year olds, both for all settings and for settings who have both fees and entitlement funding. The former highlights the overall differences without regard to whether settings that receive only fees may differ from those which receive only funding, while the latter shows the mean difference experienced by individual settings.

Figure 30: Hourly parent-paid fees and funding rates for three and four year olds



Source: Survey of Childcare and Early Years Providers, 2018

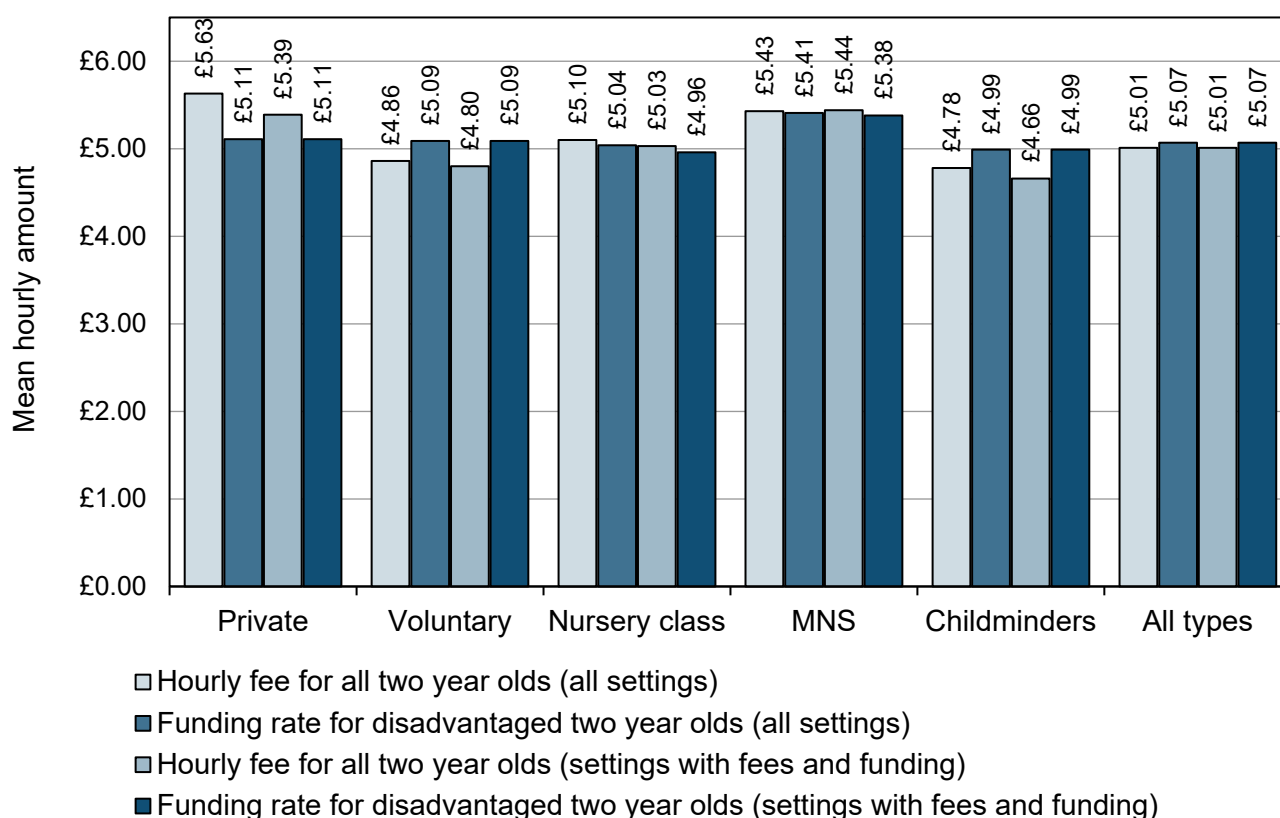
Notes: Unweighted sample sizes for the hourly fee for all settings, funding rate for all settings and hourly fee and funding rate for setting with both are 2,550, 2,273 and 2,137 for private providers; 1,857, 1,670 and 1,629 for voluntary providers; 598, 815 and 478 for nursery classes; 97, 113 and 93 for MNS; 7,203, 5,114 and 5,059 for childminders; and 12,514, 10,167 and 9,568 for all types.

The figure shows:

- Across all types of settings, the mean hourly parent fee was £0.62 higher than the funding rate (£4.92 compared to £4.30) and the difference was very similar (£0.58) for settings who received both (£4.86 compared to £4.28). Indeed, the levels of fees and funding rates (and the gap between them) were very similar across all provider types, indicating little differences in the fees and hourly funding rates between those who received both compared to all who received either or both.
- Because the main variation in the mean funding rate across provider types was that MNS had a higher mean funding rate, the mean hourly fee was very close to the funding rate for MNS (£0.05 higher for settings with both), somewhat higher for

voluntary providers (£0.48), nursery classes (£0.49) and childminders (£0.37) and more substantially higher for private providers (£1.10).

Figure 31: Hourly parent-paid fees and funding rates for two year olds



Source: Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes for the hourly fee for all settings, funding rate for all settings and hourly fee and funding rate for setting with both are 2,359, 1,892 and 1,785 for private providers; 1,710, 1,410 and 1,374 for voluntary providers; 156, 170 and 122 for nursery classes; 79, 85 and 73 for MNS; 6,838, 1,713 and 1,683 for childminders; and 11,323, 5,424 and 5,180 for all types.

The comparison of hourly fees and free entitlement funding rates for two year olds is presented in figure 31. For this age group, there was almost no difference in the mean hourly fee for all two year olds and mean funding rate for disadvantaged two year olds across all settings (the mean funding rate was £0.06 higher than the mean hourly fee). Across the provider types, the mean hourly fee was very close to the funding rate for MNS and nursery classes (£0.06 and £0.07 higher for settings with both), somewhat lower for voluntary providers and childminders (£0.29 and £0.33 lower), and somewhat higher for private providers (£0.28 higher).³⁶

³⁶ The Early Years' Providers Survey found similar patterns in the hourly fees and free entitlement funding rates for both age groups (section 4.3 in Paull & Xu (2019)).

Tables 33 and 34 consider how the difference between the fee and funding rate differ across settings. The tables show:

- For three and four year olds, the average hourly fee and funding rate are roughly equal (within £0.20) for around a quarter (26 percent) of settings, while the average fee is notably less than the funding rate for 20 percent of settings and notably more than the funding rate for more than half (53 percent) of settings. Driving the patterns in the mean difference, higher proportions of nursery classes and MNS than other provider types have a fee considerably less (more than £0.50 less) than the funding rate, while a higher proportion of private providers have a fee considerably more (more than £0.50 greater) than the funding rate.
- For two year olds, most settings (54 percent) have an average hourly fee which is notably less than the funding rate. Higher proportions of voluntary providers and childminders have a fee considerably less (more than £0.50 less) than the funding rate, while a higher proportion of private providers have a fee considerably more (more than £0.50 greater) than the funding rate.

Table 33: Difference between hourly fee and free entitlement rate for three and four year olds

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Fee <i>less</i> than funding rate by more than £0.50	7%	14%	20%	28%	9%	10%
Fee <i>less</i> than funding rate by £0.20 to £0.50	4%	9%	9%	9%	14%	10%
Fee and funding rate within £0.20	17%	31%	33%	19%	29%	26%
Fee <i>more</i> than funding rate by £0.20 to £0.50	13%	15%	10%	10%	17%	15%
Fee <i>more</i> than funding rate by more than £0.50	59%	32%	29%	34%	30%	38%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of settings	2137	1629	478	93	5059	9568

Source: Survey of Childcare and Early Years Providers, 2018

Table 34: Difference between hourly fee and free entitlement rate for two year olds

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Fee <i>less</i> than funding rate by more than £0.50	27%	50%	37%	31%	49%	40%
Fee <i>less</i> than funding rate by £0.20 to £0.50	14%	12%	16%	15%	14%	14%
Fee and funding rate within £0.20	19%	18%	24%	21%	18%	18%
Fee <i>more</i> than funding rate by £0.20 to £0.50	12%	7%	6%	11%	7%	9%
Fee <i>more</i> than funding rate by more than £0.50	29%	13%	17%	22%	12%	19%
Total	100%	100%	100%	100%	100%	100%
Unweighted number of settings	1785	1374	122	73	1683	5180

Source: Survey of Childcare and Early Years Providers, 2018

Notes: The hourly fee is for all two year olds and the funding rate is for disadvantaged two year olds.

5.4 Drivers of hourly fees

Differences in the hourly parent-paid fees for three and four year olds across provider and local area characteristics were explored using the regression analysis described in section 2.6. Given the similarity in fees across children of different ages within settings, this will also represent the broad picture for fees for children of other ages. The following tables present all patterns in hourly fees across the setting characteristics, noting the cases where the raw differences are statistically significant and the cases of statistically significant associations from the regression analysis with controls for other potential drivers of the hourly fee. Regression model 1 included all providers while model 2 included only providers with three and four year olds in receipt of the free entitlement (called “funded providers”) in order to consider the relationships with the level of the funding rate for this age group. Full results from both regression models are presented in Annex B.

Table 35: Variation in hourly parent-paid fee for three and four year olds by provider type and child profile

	Mean hourly fee	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Provider type					
Private	£5.48	2,550	Private > all others MNS > voluntary, childminders	Private > all others Voluntary, MNS > childminders	Private > all others Voluntary > childminders
Voluntary	£4.80	1,857			
Nursery class	£4.82	598			
MNS	£5.09	97			
Childminders	£4.73	7,203			
Setting size					
Small	£4.99	3,832	small > medium	large > small*	large > small
Medium	£4.87	6,293			
Large	£4.96	2,345			
Single site or chain					
Single site	£5.07	3,627	chain > single site	----	----
Chain	£5.49	866			
Age of youngest child					
Under two years	£4.88	7,700	2YOs* 34YOs > under two	34YOs > 2YOs*	----
Two years	£4.96	3,353			
Three/four years	£5.06	1,461			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 35 presents the statistically significant differences in the average hourly fee by provider type and child profile. The table shows:

- The mean hourly fee is higher for private providers than other provider types, even controlling for the other characteristics of these settings. MNS have a higher mean fee than voluntary providers and childminders, but controlling for other characteristics, being a voluntary provider or MNS is associated with a higher hourly fee over being a childminder.

- Small settings have a higher mean hourly fee than medium-sized settings, but controlling for other characteristics, being large is associated with a higher hourly fee over being small.
- Settings which are part of a chain have a higher mean hourly fee than single site settings, but this is explained by other characteristics of these settings.
- Settings without children under the age of two have a higher mean hourly fee than those with children under the age of two, but controlling for other characteristics shows that having no children under the age of three is weakly associated with a higher hourly fee over having a youngest child aged two.

Table 36 presents the statistically significant differences in the average hourly fee by area characteristics³⁷. The table shows:

- Hourly fees vary substantially across regions. Settings in London have the highest mean hourly fee, followed by those in the South East and then those in the East of England. Settings in a second group of regions (the North West, West Midlands and South West) have higher mean hourly fees than those in the remaining regions (North East, Yorkshire and Humber, and East Midlands).³⁸ Even controlling for other characteristics, being located in London is associated with higher hourly fees over all other regions, while being located in the East of England, the South East or South West is associated with higher hourly fees over regions in the north and in the Midlands.
- Settings in urban areas have a higher mean hourly fee than settings in rural areas, but this is explained by other characteristics of these settings.
- Setting in least deprived areas have a higher mean hourly fee than those in more deprived areas, while controlling for other characteristics shows that being located in the least or second least deprived areas is associated with higher hourly fees over being located in the most and second most deprived areas.

³⁷ Further analysis of the hourly fee across region and provider type and for other ages of children is available in section 2 of Department for Education (2018).

³⁸ With the exception that the difference between Yorkshire and the Humber and the West Midlands is not statistically significant.

Table 36: Variation in hourly parent-paid fee for three and four year olds by region, rurality and local deprivation

	Mean hourly fee	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Region					
North East (NE)	£4.30	448	All except: NE, YH & EM NW, WM & SW YH & WM	London > all others SE > NE YH* WM EM EE > WM EM SW > WM EM NW > EM*	London > all others SE > NE WM EM EE > NE* SW > NE*
North West (NW)	£4.61	1,503			
Yorkshire & the Humber (YH)	£4.39	1,328			
West Midlands (WM)	£4.46	1,218			
East Midlands (EM)	£4.32	1,155			
East of England (EE)	£4.87	1,463			
London (London)	£6.32	1,666			
South East (SE)	£5.18	2,081			
South West (SW)	£4.55	1,652			
Rurality					
Urban	£5.00	9,629	urban > rural	----	----
Rural	£4.62	2,663			
Local deprivation quintiles					
Q1 (most deprived)	£4.93	1,497	Q5 > Q2 Q3 Q4	Q4 > Q2* Q5 > Q1* Q2	----
Q2 (second most)	£4.87	2,321			
Q3 (middle)	£4.87	2,665			
Q4 (second least)	£4.91	2,927			
Q5 (least deprived)	£5.02	2,882			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 37 presents the statistically significant differences in the average hourly fee by opening hours. The table shows:

- Settings which offer full day care rather than sessional care have a higher mean hourly fee and, controlling for other characteristics, offering full day care is associated with higher hourly fees over offering sessional care.
- Settings which are open for fewer than 40 hours each week have a higher mean hourly fee than those open for more hours each week, but this is explained by the other characteristics of these settings.
- Settings which are open for fewer than 40 weeks each year have a higher mean hourly fee than those open for more weeks each year and, controlling for other characteristics, being open for fewer weeks is associated with higher hourly fees over being open for more weeks each year.

Table 37: Variation in hourly parent-paid fee for three and four year olds by opening hours

	Mean hourly fee	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Full-day or sessional					
Full day	£5.21	4,244	full day > sessional*	full day > sessional*	----
Sessional	£5.03	1,004			
Weekly opening hours					
Low (less than 40)	£5.07	2,458	low > middle high	----	----
Middle (40 to 50)	£4.90	5,458			
High (more than 50)	£4.88	3,110			
Annual opening weeks					
Low (less than 40)	£5.11	3,674	low > middle high high > middle	low > middle high	low > middle high
Middle (40 to 48)	£4.72	4,833			
High (more than 48)	£5.00	3,980			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 38: Variation in hourly parent paid fee for three and four year olds by policy engagement

	Mean hourly fee	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Free entitlement for two year olds					
No children in receipt	£4.92	7,037	----	----	none > receipt*
Children in receipt	£4.92	5,477			
Children in receipt of Early Years Pupil Premium					
No children in receipt	£4.88	7,416	----	none > receipt	none > receipt*
Children in receipt	£4.91	3,645			
30 Hours Free Childcare					
No children in receipt	£5.23	2,766	none > receipt	none > receipt	none > receipt
Children in receipt	£4.83	9,541			
Proportion of children in receipt of Tax Free Childcare					
None	£4.83	4,444	low > none middle high > none middle	high > none middle	high > none* middle
Low (less than 10%)	£5.06	2,485			
Middle (10% to 20%)	£4.80	1,684			
High (more than 20%)	£4.95	2,946			
Average funding rate for free entitlement for three and four year olds					
Low (less than £4)	£4.52	2,198	mid-high > low mid-low high > all others	n/a	high > all others
Mid-low (£4 to £4.25)	£4.57	4,045			
Mid-high (£4.25 to £4.50)	£4.84	1,303			
High (£4.50 or more)	£5.71	2,022			

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 38 presents the statistically significant differences in the average hourly fee by policy engagement. The table shows:

- There are no differences in the mean hourly fee between settings with and without two year olds in receipt of the free entitlement and between settings with and without children in receipt of EYPP. But, controlling for other characteristics, having children in receipt of either is associated with a lower hourly fee (although only among funded providers in the case of the two year old entitlement).
- Settings without any children in receipt of 30 hours free childcare have a higher mean hourly fee than those with children in receipt and, controlling for other characteristics, having no children in receipt is associated with a higher hourly fee.
- Settings with either a high or low proportion of children in receipt of Tax Free Childcare have a higher mean hourly fee than settings with no children in receipt or a middle proportion. However, controlling for other characteristics shows that a high proportion of children in receipt is associated with higher hourly fees over having no children in receipt or a middle proportion.
- Settings receiving a funding rate in the two higher bands have a higher mean hourly fee than settings receiving a funding rate in lower bands. Controlling for other characteristics shows that, among funded providers, receiving a funding rate in the highest band is associated with higher hourly fees over settings receiving funding rates in lower bands.

5.5 Additional charges for parents

The analysis of additional charges for parents uses data only from the short survey for the reasons described in section 2.1 which meant that MNS could not be considered in this analysis.

Just under three quarters (74 percent) of settings had additional charges for parents. This proportion was slightly higher for private providers (87 percent), around the same level for voluntary providers and nursery classes (78 percent and 80 percent) and slightly lower for childminders (69 percent). Settings with charges were roughly evenly divided across those with just one type of additional charge, those with two types of additional charges and those with three or more types (table 39). Private providers were more likely than other types to have four or more types of additional charges.

The most common types of charges were for unarranged late pick-ups (44 percent), one-off activities (41 percent) and meals (30 percent) (table 40). Less common were charges for regular activities (14 percent), snacks (12 percent), consumables (10 percent) and registration or other administration (8 percent). Across the provider types, voluntary providers were relatively less likely to have charges for meals (possibly because they were less likely to provide meals), nursery classes were less likely to charge for unarranged late pickups (possibly because school closing hours may make these pickups infeasible), and private and voluntary providers were more likely to have charges for registration or other administration.

Table 39: Use of additional charges

Number of categories of additional charges	Private	Voluntary	Nursery classes	Child-minders	All types
None	13%	22%	20%	31%	26%
One	20%	30%	37%	26%	27%
Two	24%	25%	28%	21%	22%
Three	18%	15%	12%	13%	14%
Four	11%	5%	2%	5%	6%
Five or more	14%	3%	1%	4%	5%
Total	100%	100%	100%	100%	100%
Unweighted number of providers	1,685	1,161	1,111	8,258	12,383

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

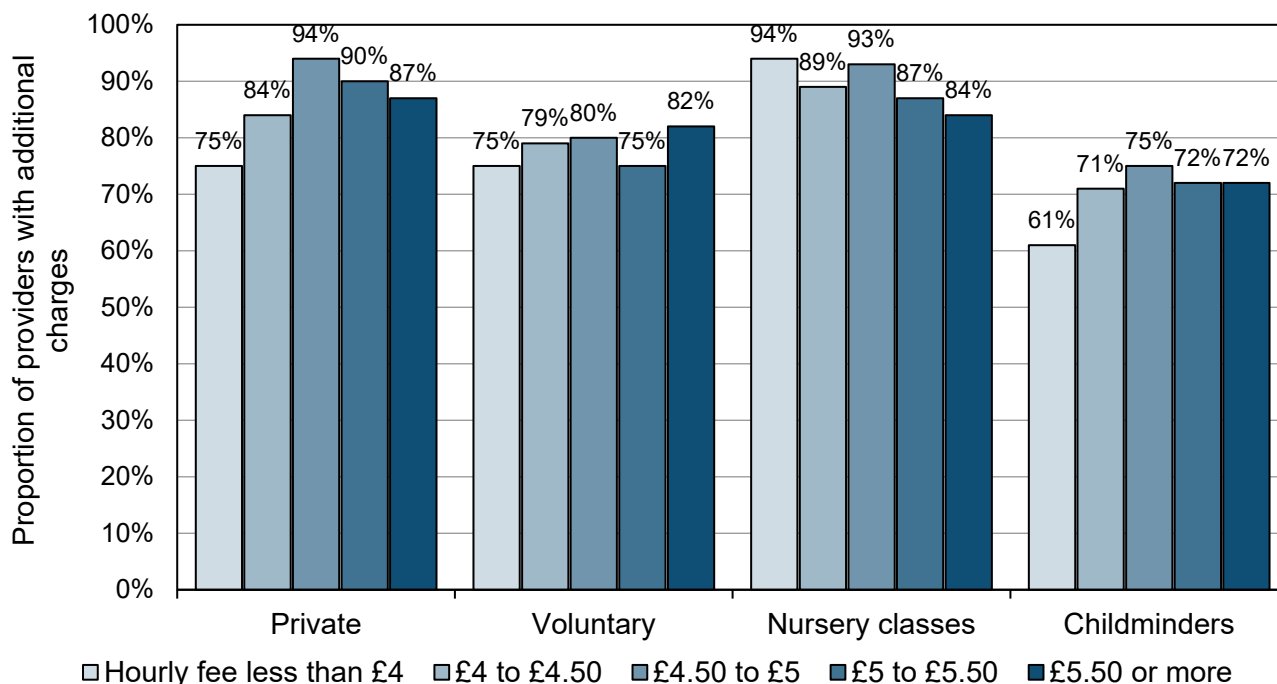
Table 40: Use of different types of additional charges

Proportion of providers with additional charges	Private	Voluntary	Nursery classes	Child-minders	All types
For meals	45%	18%	43%	26%	30%
For snacks	22%	19%	16%	8%	12%
For consumables	14%	7%	2%	11%	10%
For regular activities	24%	7%	3%	14%	14%
For one-off activities	41%	42%	56%	39%	41%
For unarranged late pickups	61%	41%	10%	45%	44%
For registration or other administration	32%	21%	1%	2%	8%
For other items	7%	8%	10%	4%	5%
Unweighted number of providers	1,685	1,161	1,111	8,258	12,383

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

As shown in figures 32 and 33, there were no distinctive patterns in the propensity to have additional charges across either hourly parent paid fees or funding rates.

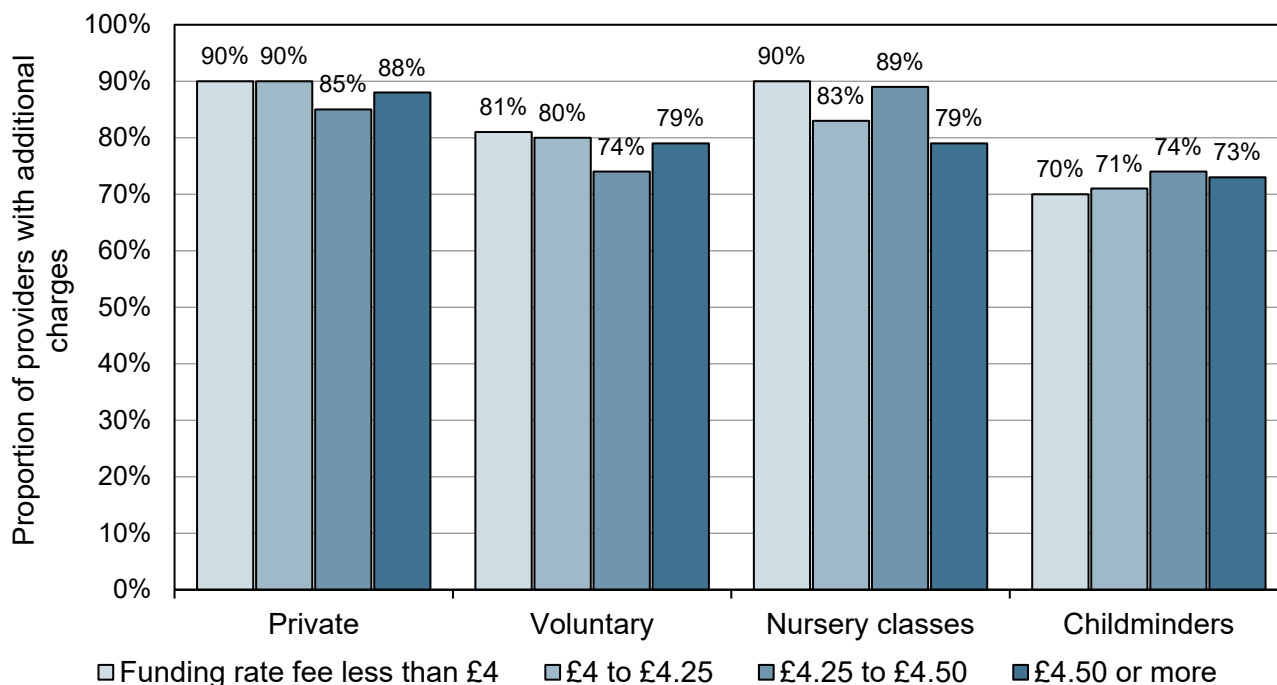
Figure 32: Use of additional charges by hourly fee for three and four year olds



Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes are 1,573 private providers, 1,137 voluntary providers, 455 nursery classes and 6,750 childminders.

Figure 33: Use of additional charges by funding rate for three and four year olds



Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Unweighted sample sizes are 1,438 private providers, 1,038 voluntary providers, 662 nursery classes and 4,809 childminders.

5.4 Drivers of use of additional charges

As for the hourly parent-paid fee, differences in the propensity to have additional charges across provider and local area characteristics were explored using the regression analysis described in section 2.6. Full results from the regression models are presented in Annex B.

Table 41 presents the statistically significant differences in the use of additional charges by provider type and child profile. The table shows:

- A higher proportion of private providers and a lower proportion of childminders use additional charges than all other provider types. However, controlling for other characteristics, being a nursery class is associated with a greater propensity to use additional charges and being a childminder with a lower propensity over all other types.
- A higher proportion of large settings have additional charges than middle-sized and small settings, although controlling for other characteristics shows that being large or medium-sized is associated with a greater propensity to use additional charges over being small.
- There are no differences in the proportion using additional charges by age of youngest child, but controlling for other characteristics shows that having a youngest child aged two is associated with a greater propensity to use additional charges over having youngest children under the age of two or aged three or four.
- Settings with fees in the lowest two bands (less than £4.50) have lower proportions using additional charges than those in the top three bands (£4.50 or more). Controlling for other characteristics, having fees in the lowest two bands is associated with a lower propensity to use additional charges over having fees in the highest three bands.³⁹ This indicates that higher fees for parents and having additional charges may be complements rather than substitutes: having a higher fee is associated with a greater likelihood of having additional charges.

³⁹ Although the propensity is not greater for the high and highest band over the low band for model 1 with all providers.

Table 41: Variation in additional charges by provider type and child profile

	Proportion with additional charges	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Provider type					
Private	87%	1,685	All except voluntary & nursery class	Nursery class > all others Private, voluntary > childminders	Nursery class > voluntary* All others > childminder
Voluntary	78%	1,161			
Nursery class	80%	1,111			
Childminders	69%	8,258			
Setting size					
Small	73%	3,653	large > small medium	large medium > small	large medium > small
Medium	73%	6,529			
Large	77%	2,139			
Single site or chain					
Single site	82%	2,400	chain > single site	----	----
Chain	89%	483			
Age of youngest child					
Under two years	74%	7,832	----	under two > 2YO	under 2 34YO > 2YO
Two years	74%	2,751			
Three/four years	74%	1,800			
Average hourly fee rate					
Lowest (below £4)	67%	1,770	All others > lowest Middle high highest > low middle > high	All others > lowest Middle > low	All others > lowest Middle high* highest* > low
Low (£4 - £4.50)	74%	3,045			
Middle (£4.50 - £5)	80%	1,625			
High (£5 - £5.50)	77%	1,633			
Highest (£5.50 plus)	78%	1,999			

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 42: Variation in additional charges by region, rurality and local deprivation

	Proportion with additional charges	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Region					
North East (NE)	69%	433	WM EM EE SE SW > NE NW YH London	EM > NE* London* WE EM EE SE SW > NW WM* EM SE* SW* > YH	WM EM EE SE* SW > NW NE* WM EM EE SE SW > YH
North West (NW)	72%	1,531			
Yorkshire & the Humber (YH)	71%	1,345			
West Midlands (WM)	76%	1,192			
East Midlands (EM)	76%	1,087			
East of England (EE)	77%	1,378			
London (London)	72%	1,908			
South East (SE)	76%	1,971			
South West (SW)	76%	1,538			
Rurality					
Urban	73%	9,981	rural > urban	----	----
Rural	77%	2,402			
Local deprivation quintiles					
Q1 (most deprived)	73%	1,672	----	----	----
Q2 (second most)	73%	2,384			
Q3 (middle)	74%	2,637			
Q4 (second least)	74%	2,837			
Q5 (least deprived)	75%	2,853			

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 42 presents the statistically significant differences in the use of additional charges by local area characteristics. The table shows:

- A higher proportion of settings in the West Midlands, East Midlands, East of England, South East and South West use additional charges than settings in the

North East, North West, Yorkshire and Humber and London. Controlling for the other characteristics of these settings explains some of these differences, but being located in the Midlands, East of England, South East or South West is associated with a higher propensity to use additional charges than in other regions.

- A higher proportion of settings in rural areas use additional charges than in urban areas, but this is explained by other characteristics of these settings.
- There are no differences in the proportion of settings using additional charges across deprivation levels.

Table 43: Variation in additional charges by opening hours

	Proportion with additional charges	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Full-day or sessional					
Full day	88%	3,018	full day > sessional	full day > sessional	full day > sessional
Sessional	68%	1,077			
Weekly opening hours					
Low (less than 40)	76%	2,223	low middle > high	middle > low high	middle > low high
Middle (40 to 50)	74%	5,651			
High (more than 50)	71%	2,764			
Annual opening weeks					
Low (less than 40)	75%	3,561	low > middle high > low* middle	middle > high	middle > high*
Middle (40 to 48)	71%	5,300			
High (more than 48)	77%	3,488			

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds.

Table 43 presents the statistically significant differences in the average hourly fee by opening hours. The table shows:

- A higher proportion of settings offering full day care have additional charges than settings offering sessional care and, controlling for other characteristics, offering

full day care is associated with a higher propensity to use additional charges over offering sessional care.

- The proportions of settings using additional charges is higher for settings with fewer weekly opening hours (50 or less) than settings which open for more than 50 hours each week. However, controlling for other characteristics, opening for 40 to 50 hours each week is associated with a greater propensity to use additional charges over fewer or more weekly opening hours.
- The proportion of settings using additional charges is highest for those opening more than 48 weeks each year and lowest for those opening 40 to 48 weeks each year. However, controlling for other characteristics, opening weeks in the middle range of 40 to 48 is associated with a greater propensity to use additional charges over opening for more than 48 weeks.

Table 44 presents the statistically significant differences in the average hourly fee by policy engagement. The table shows:

- The proportion of settings using additional charges is higher for those with two year olds in receipt of the free entitlement or with children in receipt of EYPP than for settings without such children, but this is explained by other characteristics of these settings.
- The proportion of settings using additional charges is higher for those with children in receipt of 30 hours free childcare than for those without such children and having children in receipt of these free hours is associated with a greater propensity to use additional charges even controlling for other characteristics.
- The proportion of settings using additional charges is higher for those with low or middle proportions of children in receipt of Tax Free Childcare than for those with no such children or a higher proportion of such children, but this is explained by other characteristics of these settings.
- There are no differences in the proportion of settings using additional charges by the funding rate they receive for the free entitlement, but controlling for other characteristics shows that, among funded providers, having a low funding rate is associated with a greater propensity to use additional charges over having a higher funding rate.

Table 44: Variation in additional charges by policy engagement

	Proportion with additional charges	Number of settings	Statistically significant differences		
			Raw differences	Model 1	Model 2
Free entitlement for two year olds					
No children in receipt	71%	8,176	receipt > none	----	----
Children in receipt	80%	4,207			
Children in receipt of Early Years Pupil Premium					
No children in receipt	72%	7,556	receipt > none	----	----
Children in receipt	82%	3,099			
30 Hours Free Childcare					
No children in receipt	68%	2,737	receipt > none	receipt > none	n/a
Children in receipt	78%	7,945			
Proportion of children in receipt of Tax Free Childcare					
None	71%	4,422	low > all others middle > none high	----	----
Low (less than 10%)	84%	1,734			
Middle (10% to 20%)	76%	1,694			
High (more than 20%)	70%	3,394			
Average funding rate for free entitlement for three and four year olds					
Low (less than £4)	77%	1,826	----	n/a	low > mid-low mid-high* high
Mid-low (£4 to £4.25)	77%	3,435			
Mid-high (£4.25 to £4.50)	77%	1,098			
High (£4.50 or more)	78%	1,721			

Source: Short survey, Survey of Childcare and Early Years Providers, 2018

Notes: Statistical significance is at the 5 percent level except * indicates at only the 10 percent level. Model 2 is only for providers with free entitlement hours for three and four year olds. The variable for receipt of 30 hours free childcare is omitted from model 2 due to multicollinearity (see section 2.6).

6. Summary of financial models

This chapter combines the evidence presented above to summarise the key features of the financial models operated by different types of settings. The first section examines the patterns of associations with setting characteristics, while the second section focuses on the differences across provider type. The final section offers some concluding thoughts.

6.1 Role of setting characteristics

The regression analysis identified the following key drivers of the financial characteristics.

For setting size and child profile:

- A larger setting size (measured as the number of registered places) is associated with higher staff hourly pay, a higher unit cost, higher fees, a greater likelihood of additional charges for parents and a higher income-to-cost ratio.
- Having children under the age of two is associated with a higher unit cost and a lower income-to-cost ratio, while having a youngest child aged two is associated with a lower hourly fee and lower likelihood of additional charges.
- Having a higher proportion of children with SEND is associated with a higher unit cost and a lower income-to-cost ratio.

For local area characteristics:

- Even with controls for LA average wage and income levels, being located in London, the East of England or South East is associated with higher staff hourly pay and higher fees.
- Being located in an urban area is associated with a higher income-to-cost ratio.
- Being located in less deprived areas is associated with a higher unit cost and higher fees, but being located in areas of average deprivation (middle three quintiles) is associated with a higher income-to-cost ratio.

For opening hours:

- Offering sessional care is associated with a higher unit cost, lower fees and a lower likelihood of additional charges.
- Being open fewer hours each week is associated with a higher unit cost.

- Being open fewer weeks each year is associated with higher fees, but being open in the middle range of weeks is associated with higher staff hourly pay, a greater likelihood of additional charges and a higher income-to-cost ratio.

For staffing:

- Having a lower child-to-staff ratio is associated with a higher unit cost.

For policy engagement:

- Having no children in receipt of the free entitlement for two year olds is associated with higher fees.
- Having no children or low proportions of children in receipt of the Early Years Pupil Premium (EYPP) or 30 hours free childcare is associated with a higher unit cost and higher fees. Having children in receipt of 30 hours free childcare is also associated with a higher likelihood of additional charges.
- Having a high proportion of children in receipt of Tax Free Childcare (TFC) is associated with a lower unit cost, higher fees and a higher income-to-cost ratio.
- Having a higher funding rate for the free entitlement is associated with higher fees, a lower likelihood of additional charges and a lower income-to-cost ratio.

In addition, higher fees for parents and having additional charges appear to be complements rather than substitutes: having a higher fee is associated with a greater likelihood of having additional charges.

6.2 Role of provider type

Table 45 provides a broad summary of the financial models for each provider type. The categorisation into lower, middle and higher are based on the statistically significant differences in the raw means and indicate the relative differences across provider type, while the positive and negative associations indicate cases where provider type alone is a key driver and the type is associated with a statistically different outcome controlling for other observed characteristics. The discussion of the table adds insights from other elements of the data (using the provider characteristics described in section 2.4 and the breakdown of cost and income sources in chapter 3) and potential factors that were not captured in the data (as highlighted in figure 4).

Private providers have higher mean hourly fees, are more likely to use additional charges and have a higher mean income-to-cost ratio than other provider types. Explanatory factors include:

- Relative to other provider types, being open for more hours each week should lower the unit cost and being open for more weeks each year should lower fees, but these effects appear to be outweighed by other factors for private providers.
- The greater likelihood of additional charges is explained by other characteristics of private providers, but the higher hourly fees and higher income-to-cost ratios are not explained by other characteristics and could be driven by the need for private providers to draw financing sources from their profits.

Table 45: Summary of financial characteristics by provider type

(Raw mean relative position) [Key driver]	Mean hourly pay	Mean unit cost	Mean hourly fee	Proportion with additional charge	Mean income-to-cost ratio
Private	£9.17 (middle)	£3.83 (middle)	£5.48 (higher) [+]	87% (higher)	1.7 (higher) [+]
Voluntary	£9.35 (middle)	£4.16 (middle)	£4.80 (lower)	78% (middle)	1.3 (middle) [+]
Nursery class	£16.23 (higher) [+]	£4.28 (middle)	£4.82 (lower)	80% (middle) [+]	1.2 (middle)
MNS	£15.41 (higher) [+]	£7.23 (higher) [+]	£5.09 (middle)	n/a	1.0 (lower)
Childminders	£7.46 (lower) [-]	£3.42 (lower) [-]	£4.73 (lower) [-]	69% (lower) [-]	1.2 (middle)

Notes: n/a indicates that the use of additional charges could not be analysed for MNS because a routing issue in the main survey meant that only data from the short survey could be used for the additional charges and there were no MNS in the short survey (see section 2.1)

Voluntary providers have lower mean hourly fees than other provider types. Explanatory factors include:

- A higher tendency to offer sessional care could explain the lower fees.

- Other characteristics have offsetting effects on the unit cost: voluntary providers are more likely to have a youngest child aged two (associated with a lower cost) and tend to be open for fewer hours each week (associated with a higher cost).
- The direct association with a higher income-to-cost ratio appears to be offset by other characteristics, including a greater likelihood of being located in rural areas (associated with a lower ratio).

Nursery classes have higher mean hourly pay and lower mean hourly fees than other provider types. Explanatory factors include:

- The characteristics of nursery classes have offsetting effects on the unit cost: they have a greater tendency to be small, to have youngest children aged three or four, to be located in more deprived areas, have higher child-to-staff ratios and to have more children in receipt of EYPP (all associated with a lower unit cost) and they have a greater tendency to offer sessional care and to have fewer children in receipt of 30 hours free childcare and TFC (all associated with a higher unit cost). In addition, nursery classes may have access to free or lower priced resources from the school, as shown in the higher proportion (89 percent) who report no rent or mortgage costs. Overall, these factors (and possibly most importantly the child-to-staff ratios) explain why the higher hourly pay for nursery classes does not translate into a higher unit cost.
- The characteristics of nursery classes also have offsetting effects on hourly fees: nursery classes have a greater tendency to be small, to be located in more deprived areas, to offer sessional care, to be open fewer weeks each year and to have high proportions of children in receipt of EYPP and low proportions in receipt of TFC (all associated with lower hourly fees) and they have a greater tendency to have a youngest child aged three or four and to have fewer children in receipt of the two year old free entitlement or 30 hours free childcare (all associated with higher hourly fees). Overall, the lower fees for nursery classes are explained by the balance across these characteristics.
- The direct association with a higher propensity to have additional charges appears to be offset by other characteristics including a greater tendency to be small, to have youngest children aged three or four, to offer sessional care and to have fewer children in receipt of TFC (all of which are associated with a lower likelihood of additional fees).
- In spite of having lower mean hourly fees, nursery classes do not have an unusually low income-to-cost ratio. Tending to have a youngest child aged three or four and having fewer children in receipt of TFC are also both characteristics associated with a lower ratio. However, nursery classes tend to derive a higher proportion of their total income from sources other than fees or the free entitlement

which may explain why the lower mean hourly fees does not lead to a lower income-to cost ratio.

MNS have higher mean hourly pay, a higher mean unit cost and a lower mean income-to-cost ratio than other provider types. Explanatory factors include:

- The higher unit cost is influenced by several factors. First, the characteristics of MNS have offsetting effects on the unit cost: they have a greater tendency to be large, to have a higher proportion of children with SEND and to be open fewer hours each week (all associated with a higher unit cost) and they have a greater tendency to have a youngest child aged two, to be located in more deprived areas, to have higher child-to-staff ratios and to have more children in receipt of EYPP (all associated with a lower unit hourly cost). Second, there remains an unexplained direct association with a higher unit cost. Third, the unit cost for MNS may be overstated due to the greater delivery of additional and specialist services. On the other hand, it should also be considered that a relatively high proportion (65 percent) of MNS do not have any rent or mortgage costs and the mean unit cost would be higher without this.
- The characteristics of MNS have offsetting effects on hourly fees: MNS have a greater tendency to have youngest children aged two, to be located in deprived areas and to have a high proportion of children in receipt of EYPP (all associated with lower fees) and also have a higher tendency to be large and to have a higher funding rate for the free entitlement (both associated with higher fees)). Overall, hourly fees are not specifically higher or lower for MNS than other provider types.
- The lower mean income-to-cost ratio for MNS follows from the higher mean unit cost, although, unlike the unit cost, it appears to be explained by the characteristics of MNS (there is no direct association). This may be because the direct association with a higher cost is offset by the fact that MNS derive a higher proportion of their income from other sources (so that the characteristics which explain some of the higher unit cost are sufficient to explain the lower income-to-cost ratio).

Childminders have lower mean hourly pay, a lower mean unit cost, lower mean hourly fees and a lower proportion with additional charges. Explanatory factors include:

- None of these are explained by childminders' characteristics: indeed, childminders differ from other providers in having lower policy engagement across all four measures which are broadly associated with higher unit costs and higher hourly fees (the exception being that the tendency to have fewer children in receipt of TFC is associated with lower hourly fees).
- However, the unit cost for childminders does not include any rent or mortgage costs which could explain a lower unit cost.

- In addition, childminders differ from other providers in terms of their size, but this difference is so substantial that the effects of size on the financial measures had to be considered within group-based providers and within childminders separately (by using different size definitions). Hence, the unexplained, direct associations for childminders may reflect both the smaller scale and/or some unmeasured unique feature, but it is not possible to distinguish between them.
- Consistent with having a lower unit cost and lower fees, the mean income-to-cost ratio is neither specifically lower nor higher than other provider types.

6.3 Concluding thoughts

Two final points are useful to note.

First, the evidence indicates that the five types of providers operate under considerably different financial models and has highlighted some areas which would benefit from further investigation:

- The investment models and sources of funding for investments were outside the scope of the data analysed in this report. However, further evidence in this area could help explain the differences in the income-to-cost ratios across provider types and the potential impact on decisions affecting the cost of delivery and levels of parent paid fees.
- Further exploration of how nursery classes tend to operate with low unit costs relative to staff hourly pay could offer insight into improving efficiency of delivery. It might also highlight how such efficiency may have drawbacks in terms of the flexibility in the provision offered to parents or may rely on implicit subsidies from schools.
- A substantial drawback of the measure of unit cost used in this report is that it is unable to remove costs for additional and specialist services which is particularly important for MNS. Further work could consider how the analysis might be adjusted to allow for this using evidence from other sources⁴⁰.

Second, the evidence has shown that a wide and complex range of factors drive the financial models of Early Years providers. However, the figures show substantial variation in the financial characteristics even within provider type and the regression models only explain a small proportion of the variation for the unit cost (13 percent), hourly fees (15 percent) and income-to-cost ratio (8 percent). This partly reflects the

⁴⁰ For example, using the evidence presented in Paull & Popov (2019) on the proportion of costs used for additional and specialist services.

omission of some elements of the financial models as noted, but also suggests that factors which are challenging to measure may also be important. For example, such factors could include how levels of parental demand and waiting lists affect occupancy rates or how well a setting obtains the lowest cost resources or uses them efficiently. It may also reflect that there are unmeasured differences in delivery related to how well the provision supports child development or allows parents to undertake paid employment. Hence, the unexplained variation could be driven by differences in efficiency of delivery and/or by differences in the nature of the care provided.

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Annex A: Sample statistics for explanatory factors

This Annex presents setting characteristics for different provider types. The statistics are drawn from dataset A, but the statistics for the characteristics also collected in the short survey were very similar in dataset B.

Table 46: Setting size and child profile by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Setting size						
Small	33%	67%	65%	1%	25%	36%
Medium	42%	26%	30%	26%	60%	49%
Large	25%	7%	5%	73%	15%	15%
Single site or chain						
Single site	62%	89%	n/a	n/a	n/a	73%
Chain	38%	11%	n/a	n/a	n/a	27%
Age of youngest child						
Under two years	65%	20%	2%	8%	75%	58%
Two years	26%	71%	16%	69%	16%	25%
Three/four years	9%	9%	83%	23%	9%	17%
Percentage of children with SEND						
None	59%	59%	67%	39%	88%	76%
Low (5% or less)	35%	34%	24%	49%	1%	15%
High (more than 5%)	6%	7%	9%	12%	11%	9%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Notes: Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers.

Table 47: Local area characteristics by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Region						
North East	3%	3%	9%	8%	4%	4%
North West	15%	11%	16%	17%	12%	13%
Yorkshire & the Humber	8%	8%	14%	6%	10%	10%
West Midlands	11%	7%	11%	18%	8%	9%
East Midlands	8%	10%	7%	6%	9%	8%
East of England	10%	16%	11%	12%	12%	12%
London	20%	9%	20%	20%	16%	16%
South East	17%	21%	8%	8%	20%	18%
South West	8%	15%	4%	3%	10%	10%
Rurality						
Urban	81%	68%	86%	95%	85%	82%
Rural	19%	32%	14%	5%	15%	18%
Local deprivation quintiles						
Q1 (most deprived)	15%	16%	33%	46%	16%	18%
Q2 (second most)	20%	18%	26%	27%	16%	19%
Q3 (middle)	20%	21%	18%	13%	20%	20%
Q4 (second least)	23%	24%	11%	12%	24%	22%
Q5 (least deprived)	23%	21%	12%	3%	24%	22%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Table 48: Opening hours by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Full-day or sessional						
Full day	90%	75%	68%	87%	n/a	81%
Sessional	10%	25%	32%	13%	n/a	19%
Weekly opening hours						
Low (less than 40)	22%	67%	65%	49%	18%	30%
Middle (40 to 50)	28%	21%	28%	43%	46%	38%
High (more than 50)	50%	12%	7%	8%	35%	32%
Annual opening weeks						
Low (less than 40)	29%	73%	96%	80%	12%	33%
Middle (40 to 48)	6%	7%	1%	13%	62%	36%
High (more than 48)	65%	20%	3%	7%	26%	31%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Table 49: Staffing by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Average highest staff qualification						
Lower (less than 3)	31%	33%	9%	11%	28%	27%
Middle (3 to 3.5)	43%	41%	19%	33%	55%	46%
Higher (more than 3.5)	26%	26%	72%	56%	17%	26%
Number of apprentices						
None	56%	81%	91%	77%	100%	87%
One	22%	13%	8%	11%	0%	7%
Two or more	22%	6%	1%	12%	0%	6%
Number of volunteers						
None	63%	54%	54%	24%	n/a	58%
One	20%	23%	30%	21%	n/a	23%
Two or more	17%	23%	16%	55%	n/a	19%
Average child-to-staff ratio for three and four year olds						
Low (less than 8)	32%	43%	32%	13%	100%	71%
Mid-low (exactly 8)	65%	55%	17%	12%	0%	22%
Mid-high (8 to 13)	1%	1%	22%	33%	0%	3%
High (13 or more)	1%	1%	28%	42%	0%	4%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Table 50: Individual staffing characteristics by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Individual staff age						
16 – 24	25%	13%	7%	6%	3%	17%
25 – 39	49%	37%	43%	39%	28%	42%
40 – 49	15%	29%	31%	30%	36%	23%
50 plus	11%	22%	18%	24%	34%	18%
Individual staff qualification						
Low (below level 3)	18%	17%	14%	22%	25%	18%
Middle (level 3-5)	68%	69%	41%	52%	55%	63%
High (level 6 or higher)	14%	14%	45%	26%	20%	19%
Individual weekly hours						
Full-time	78%	51%	70%	73%	84%	72%
Part-time	22%	49%	30%	27%	16%	28%
Staff in settings with BME proportion						
None	55%	66%	65%	33%	86%	61%
Low (below 20%)	24%	19%	7%	41%	0%	19%
High (20% plus)	21%	15%	28%	26%	14%	20%
Staff in settings with a male staff member						
No males	70%	81%	84%	55%	94%	77%
At least one male	30%	19%	16%	45%	6%	23%
Unweighted number of staff	5,932	3,667	1,144	478	583	12,093

Source: Survey of Childcare and Early Years Providers, 2018

Table 51: Policy engagement by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Free entitlement for two year olds						
No children in receipt	25%	22%	86%	25%	81%	63%
Children in receipt	75%	78%	14%	75%	19%	37%
Proportion of children in receipt of Early Years Pupil Premium						
None	56%	38%	29%	2%	96%	70%
Low (10% or less)	34%	41%	27%	33%	2%	18%
High (more than 10%)	10%	21%	44%	65%	2%	12%
30 Hours Free Childcare						
No children in receipt	14%	15%	34%	1%	40%	29%
Children in receipt	86%	85%	66%	99%	60%	71%
Proportion of children in receipt of Tax Free Childcare						
None	36%	62%	85%	58%	72%	65%
Low (less than 10%)	49%	33%	10%	42%	6%	19%
Middle (10% to 20%)	11%	4%	3%	1%	9%	8%
High (more than 20%)	4%	1%	3%	0%	13%	9%
Average funding rate for free entitlement for three and four year olds						
Low (less than £4)	23%	23%	18%	7%	25%	23%
Mid-low (£4 to £4.25)	39%	40%	32%	24%	42%	40%
Mid-high (£4.25 to £4.50)	13%	15%	17%	12%	12%	13%
High (£4.50 or more)	25%	22%	33%	58%	21%	24%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Table 52: Additional and specialist services by provider type

	Private	Voluntary	Nursery classes	MNS	Child-minders	All types
Specialist child services						
None	64%	61%	72%	36%	n/a	64%
Services delivered	36%	39%	28%	64%	n/a	36%
Family services						
None	84%	84%	56%	42%	n/a	76%
Services delivered	16%	16%	44%	58%	n/a	24%
System leadership						
None	84%	85%	68%	27%	n/a	79%
Services delivered	16%	15%	32%	73%	n/a	21%
Unweighted number of providers	1,183	767	313	120	486	2,937

Source: Survey of Childcare and Early Years Providers, 2018

Annex B: Regression results

Table 53 presents the regression results for the findings presented in tables 9 to 14.

Table 53: Regression results for income-to-cost ratio

Dependent variable: income-to-cost ratio		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Provider type (ref = private)	Voluntary	-0.05	(0.28)	0.08	(0.30)
	Nursery class	-0.59	(0.37)	-0.38	(0.37)
	MNS	-0.79	(0.49)	-0.58	(0.55)
	Childminder	-0.43*	(0.23)	-0.15	(0.21)
	Unknown	-0.39*	(0.21)	-0.42*	(0.23)
Size (ref = small)	Medium	0.38**	(0.15)	0.42**	(0.20)
	Large	0.35*	(0.18)	0.37	(0.26)
Chain (ref = single site)		0.37	(0.42)	0.52	(0.50)
Age of youngest child (ref = under two years)	Two years	0.39**	(0.19)	0.37*	(0.22)
	Three/four years	0.61**	(0.27)	0.62*	(0.36)
Percentage of children with SEND (ref = none)	Low (5% or less)	-0.16	(0.16)	-0.21	(0.20)
	High (more than 5%)	-0.27**	(0.12)	-0.31	(0.19)
Region (ref= North East)	North West	-0.21	(0.20)	0.09	(0.22)
	Yorkshire & the Humber	-0.21	(0.24)	-0.08	(0.25)
	West Midlands	-0.12	(0.26)	0.19	(0.32)
	East Midlands	-0.13	(0.19)	0.16	(0.26)
	East of England	-0.06	(0.22)	0.44	(0.40)
	London	-0.49	(0.37)	-0.03	(0.44)
	South East	0.14	(0.23)	0.45	(0.31)
	South West	0.01	(0.23)	0.48*	(0.29)
Rural (ref = urban)		-0.26**	(0.12)	-0.36**	(0.15)
IMD quintile (ref = Q1 most deprived)	Q2 deprived	0.57***	(0.21)	0.82***	(0.30)
	Q3 average	0.17	(0.17)	0.36*	(0.19)
	Q4 less deprived	0.14	(0.12)	0.30*	(0.16)
	Q5 least deprived	0.05	(0.15)	0.06	(0.16)

Dependent variable: income-to-cost ratio		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Sessional care (ref = offer full day)		-0.20	(0.14)	-0.10	(0.17)
Weekly opening hours (ref = low (less than 40))	Middle (40 to 50)	0.13	(0.15)	0.04	(0.20)
	High (more than 50)	0.20	(0.15)	0.16	(0.23)
Annual opening weeks (ref = low (less than 40))	Middle (40 to 48)	0.36**	(0.17)	0.34	(0.21)
	High (more than 48)	0.23	(0.22)	0.21	(0.30)
Average highest staff qualification (ref = lower (less than 3))	Middle (3 to 3.5)	-0.09	(0.12)	-0.20	(0.16)
	Higher (more than 3.5)	-0.01	(0.17)	-0.09	(0.19)
Number of apprentices (ref = none)	One	0.04	(0.27)	0.07	(0.30)
	Two or more	-0.02	(0.39)	-0.02	(0.42)
Number of volunteers (ref = none)	One	0.23	(0.21)	0.17	(0.23)
	Two or more	-0.10	(0.16)	-0.12	(0.18)
Average child-to-staff ratio for three and four year olds (ref = low (less than 8))	Mid-low (exactly 8)	-0.04	(0.19)	0.04	(0.21)
	Mid-high (8 to 13)	0.05	(0.18)	-0.05	(0.27)
	High (13 or more)	0.01	(0.17)	-0.02	(0.19)
Free entitlement for two year olds (ref = none)		0.18	(0.13)	0.25	(0.15)
Proportion of children in receipt of EYPP (ref = none)	Low (10% or less)	0.18	(0.19)	0.21	(0.21)
	High (more than 10%)	-0.08	(0.16)	-0.08	(0.19)
30 Hours Free Childcare (ref = none)		0.02	(0.13)	0.02	(0.29)
Proportion of children in receipt of Tax Free Childcare (ref = none)	Low (less than 10%)	-0.16	(0.13)	-0.09	(0.15)
	Middle (10% to 20%)	0.07	(0.20)	0.21	(0.25)
	High (more than 20%)	0.33**	(0.17)	0.38*	(0.20)
Average funding rate for free entitlement for three and four year olds (ref = low (less than £4))	Mid-low (£4 to £4.25)	----	----	-0.18	(0.19)
	Mid-high (£4.25 to £4.50)	----	----	0.10	(0.27)
	High (£4.50 or more)	----	----	-0.35*	(0.20)

Dependent variable: income-to-cost ratio	Model 1		Model 2	
	coeff.	s.e.	coeff.	s.e.
Specialist child services (ref = none)	-0.02	(0.20)	0.01	(0.21)
Family services (ref = none)	0.29	(0.30)	0.31	(0.35)
System leadership (ref = none)	0.01	(0.26)	0.09	(0.32)
LA average wage	-0.00	(0.00)	0.00	(0.00)
LA average rent	-0.01	(0.00)	-0.01	(0.01)
LA average income (£1,000s)	0.04***	(0.02)	0.02	(0.02)
LA percentage with qualification level 4+	-0.02**	(0.01)	-0.01	(0.01)
LA percentage of women in partnerships	0.01	(0.01)	0.03*	(0.02)
LA percentage white	-0.02*	(0.01)	----	----
LA free school meals percentage	----	----	0.02	(0.01)
LA EAL percentage	----	----	0.03	(0.03)
LA Disability Living Allowance percentage	----	----	0.21	(0.50)
Constant	2.19*	(1.14)	-2.61	(1.98)
Number of observations	1,077		916	
R-squared	0.08		0.09	

Source: Survey of Childcare and Early Years Providers, 2018

Notes: A dash indicates a variable omitted from the model. A single star indicates a statistically significant coefficient at the 10 percent level, two stars at the 5 percent level and three stars at the 1 percent level. Unknown provider type includes only non-school providers. Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers. A description of the LA level variables is provided in table 2.

Table 54 presents the regression results for the findings presented in tables 16 to 21.

Table 54: Regression results for unit cost

Dependent variable: unit cost		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Provider type (ref = private)	Voluntary	0.41	(0.44)	-0.23	(0.42)
	Nursery class	1.22	(1.05)	0.19	(1.09)
	MNS	4.81***	(1.34)	4.37***	(1.32)
	Childminder	-1.14	(0.79)	-1.66**	(0.68)
	Unknown	4.92**	(2.26)	1.17	(0.85)
Size (ref = small)	Medium	0.57	(0.42)	0.38	(0.35)
	Large	0.99*	(0.51)	0.88**	(0.42)
Chain (ref = single site)		-0.34	(0.42)	-0.14	(0.44)
Age of youngest child (ref = under two years)	Two years	-0.59	(0.47)	-0.62*	(0.32)
	Three/four years	-0.46	(0.74)	-0.27	(0.65)
Percentage of children with SEND (ref = none)	Low (5% or less)	-0.59	(0.42)	0.14	(0.40)
	High (more than 5%)	0.40	(0.45)	-0.28	(0.36)
Region (ref= North East)	North West	0.10	(0.87)	-0.60	(0.76)
	Yorkshire & the Humber	0.73	(1.04)	0.56	(0.97)
	West Midlands	-0.53	(0.88)	-0.70	(0.76)
	East Midlands	-0.45	(0.89)	-0.19	(0.90)
	East of England	-0.92	(0.85)	-1.23	(0.80)
	London	2.54	(2.08)	-1.11	(0.96)
	South East	-0.26	(0.89)	-0.51	(0.82)
South West	-0.50	(0.86)	-1.73*	(0.89)	
Rural (ref = urban)		0.11	(0.37)	0.37	(0.38)
IMD quintile (ref = Q1 most deprived)	Q2 deprived	-0.80	(0.61)	-0.48	(0.40)
	Q3 average	0.28	(0.61)	0.55	(0.50)
	Q4 less deprived	0.10	(0.73)	-0.37	(0.44)
	Q5 least deprived	0.25	(0.62)	-0.15	(0.46)

Dependent variable: unit cost		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Sessional care (ref = offer full day)		1.59**	(0.69)	1.57*	(0.84)
Weekly opening hours (ref = low (less than 40))	Middle (40 to 50)	-1.52*	(0.85)	-0.90**	(0.39)
	High (more than 50)	-2.03**	(0.95)	-1.87***	(0.41)
Annual opening weeks (ref = low (less than 40))	Middle (40 to 48)	0.23	(0.50)	0.01	(0.36)
	High (more than 48)	1.04	(0.85)	0.58	(0.38)
Average highest staff qualification (ref = lower (less than 3))	Middle (3 to 3.5)	-1.02*	(0.60)	-0.17	(0.29)
	Higher (more than 3.5)	-0.65	(0.62)	0.10	(0.38)
Number of apprentices (ref = none)	One	0.33	(0.46)	-0.10	(0.40)
	Two or more	0.14	(0.56)	0.12	(0.59)
Number of volunteers (ref = none)	One	0.46	(0.57)	0.43	(0.55)
	Two or more	0.38	(0.55)	0.60	(0.57)
Average child-to-staff ratio for three and four year olds (ref = low (less than 8))	Mid-low (exactly 8)	-0.49	(0.43)	-0.25	(0.42)
	Mid-high (8 to 13)	-1.87	(1.29)	-1.40	(1.17)
	High (13 or more)	-2.19**	(0.94)	-1.74	(1.09)
Free entitlement for two year olds (ref = none)		-0.00	(0.46)	-0.44	(0.41)
Proportion of children in receipt of EYPP (ref = none)	Low (10% or less)	-0.42	(0.44)	-0.82	(0.50)
	High (more than 10%)	-1.00*	(0.52)	-1.57***	(0.56)
30 Hours Free Childcare (ref = none)		-1.13**	(0.50)	-0.45	(0.71)
Proportion of children in receipt of Tax Free Childcare (ref = none)	Low (less than 10%)	0.09	(0.38)	0.04	(0.36)
	Middle (10% to 20%)	0.18	(0.58)	-0.22	(0.55)
	High (more than 20%)	1.44	(1.69)	-0.79*	(0.44)
Average funding rate for free entitlement for three and four year olds (ref = low (less than £4))	Mid-low (£4 to £4.25)	----	----	-0.45	(0.39)
	Mid-high (£4.25 to £4.50)	----	----	-0.61	(0.51)
	High (£4.50 or more)	----	----	-0.18	(0.48)

Dependent variable: unit cost	Model 1		Model 2	
	coeff.	s.e.	coeff.	s.e.
Specialist child services (ref = none)	-0.02	(0.47)	-0.23	(0.44)
Family services (ref = none)	0.60	(0.74)	0.92	(0.85)
System leadership (ref = none)	-0.16	(0.62)	-0.92	(0.60)
LA average wage	0.01	(0.01)	-0.00	(0.01)
LA average rent	-0.00	(0.02)	-0.00	(0.01)
LA average income (£1,000s)	-0.11	(0.10)	0.02	(0.04)
LA percentage with qualification level 4+	-0.01	(0.02)	0.01	(0.02)
LA percentage of women in partnerships	0.07**	(0.04)	-0.00	(0.03)
LA percentage white	0.00	(0.02)	----	----
LA free school meals percentage	----	----	-0.01	(0.01)
LA EAL percentage	----	----	-0.00	(0.06)
LA Disability Living Allowance percentage	----	----	-1.16	(1.02)
Constant	0.67	(2.77)	8.48**	(3.90)
Number of observations	1,209		1,024	
R-squared	0.13		0.11	

Source: Survey of Childcare and Early Years Providers, 2018

Notes: A dash indicates a variable omitted from the model. A single star indicates a statistically significant coefficient at the 10 percent level, two stars at the 5 percent level and three stars at the 1 percent level. Unknown provider type includes only non-school providers. Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers. A description of the LA level variables is provided in table 2.

Table 55 presents the regression results for the findings presented in tables 24 to 29.

Table 55: Regression results for staff hourly pay

		Hourly pay (natural log)		Probability paid at or below NLW	
		coeff.	s.e.	coeff.	s.e.
Provider type (ref = private)	Voluntary	0.02**	(0.01)	-0.38**	(0.16)
	Nursery class	0.33***	(0.03)	-1.37***	(0.34)
	MNS	0.31***	(0.04)	-2.11***	(0.42)
	Childminder	-0.39***	(0.04)	2.77***	(0.28)
	Unknown	0.19***	(0.03)	-1.61***	(0.51)
Size (ref = small)	Medium	0.00	(0.01)	-0.04	(0.14)
	Large	0.04**	(0.02)	-0.32	(0.20)
Chain (ref = single site)		0.01	(0.01)	-0.19	(0.17)
Age of youngest child (ref = under two years)	Two years	-0.01	(0.02)	0.26	(0.21)
	Three/four years	0.02	(0.03)	0.07	(0.30)
Region (ref= North East)	North West	0.04	(0.03)	-0.20	(0.25)
	Yorkshire & the Humber	0.03	(0.02)	-0.47	(0.30)
	West Midlands	0.02	(0.03)	-0.02	(0.27)
	East Midlands	0.02	(0.02)	-0.04	(0.29)
	East of England	0.06**	(0.03)	-0.36	(0.26)
	London	0.19***	(0.03)	-1.52***	(0.32)
	South East	0.07***	(0.02)	-0.57**	(0.26)
	South West	0.04	(0.03)	-0.41	(0.28)
Rural (ref = urban)		-0.01	(0.01)	-0.25	(0.15)
IMD quintile (ref = Q1 most deprived)	Q2 deprived	-0.02	(0.02)	-0.03	(0.17)
	Q3 average	-0.02	(0.02)	0.16	(0.19)
	Q4 less deprived	-0.01	(0.02)	-0.35*	(0.19)
	Q5 least deprived	-0.01	(0.02)	-0.40*	(0.22)
Sessional care (ref = offer full day)		0.02	(0.01)	-0.40**	(0.20)

		Hourly pay (natural log)		Probability paid at or below NLW	
		coeff.	s.e.	coeff.	s.e.
Weekly opening hours (ref = low (less than 40))	Middle (40 to 50)	0.03*	(0.02)	0.03	(0.19)
	High (more than 50)	0.02	(0.02)	0.11	(0.22)
Annual opening weeks (ref = low (less than 40))	Middle (40 to 48)	0.05*	(0.03)	-0.39	(0.25)
	High (more than 48)	-0.00	(0.02)	-0.03	(0.22)
Individual staff age (ref = 16 – 24)	25 – 39	0.09***	(0.01)	0.35**	(0.17)
	40 – 49	0.14***	(0.01)	0.39**	(0.19)
	50 plus	0.16***	(0.01)	0.01	(0.20)
Individual staff qualification (ref = low (below level 3))	Middle (level 3-5)	0.13***	(0.01)	-1.49***	(0.16)
	High (level 6 or higher)	0.41***	(0.02)	-2.28***	(0.20)
Individual works part-time (ref = full-time)		0.02*	(0.01)	-0.18	(0.13)
BME proportion (ref = none)	Low (below 20%)	-0.00	(0.01)	-0.02	(0.18)
	High (20% plus)	0.01	(0.02)	-0.09	(0.19)
Male staff (ref = no male staff)		0.00	(0.01)	-0.05	(0.17)
Number of apprentices (ref = none)	One	-0.01	(0.01)	-0.14	(0.17)
	Two or more	0.01	(0.01)	-0.21	(0.18)
Number of volunteers (ref = none)	One	-0.01	(0.01)	0.28**	(0.14)
	Two or more	-0.02**	(0.01)	0.28*	(0.17)
Free entitlement for two year olds (ref = none)		-0.01	(0.02)	0.17	(0.21)
30 Hours Free Childcare (ref = none)		-0.03	(0.02)	0.37*	(0.19)
Specialist child services (ref = none)		-0.01	(0.01)	-0.00	(0.13)
Family services (ref = none)		0.02*	(0.01)	-0.14	(0.16)
System leadership (ref = none)		0.00	(0.01)	0.03	(0.16)
Constant		1.90***	(0.05)	-0.11	(0.47)
Number of observations		8,004		8,004	
R-squared		0.41		----	

Source: Survey of Childcare and Early Years Providers, 2018

Notes: The regression for the natural log of hourly pay is a linear regression while the regression for the probability of being paid at or below the National Living Wage (NLW) is a logistic model. A dash indicates a variable omitted from the model. A single star indicates a statistically significant coefficient at the 10 percent level, two stars at the 5 percent level and three stars at the 1 percent level. Unknown provider type includes only non-school providers. Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers. A description of the LA level variables is provided in table 2.

Table 56 presents the regression results for the findings presented in tables 35 to 38.

Table 56: Regression results for hourly parent-paid fees

Dependent variable: hourly parent-paid fee for three and four year olds		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Provider type (ref = private)	Voluntary	-0.49***	(0.10)	-0.47***	(0.09)
	Nursery class	-0.74***	(0.17)	-0.55***	(0.19)
	MNS	-0.42**	(0.18)	-0.41**	(0.20)
	Childminder	-0.81***	(0.10)	-0.70***	(0.10)
	Unknown	-0.15	(0.39)	0.02	(0.44)
Size (ref = small)	Medium	0.06	(0.05)	0.09	(0.06)
	Large	0.13*	(0.07)	0.17**	(0.08)
Chain (ref = single site)		0.07	(0.10)	0.17	(0.11)
Age of youngest child (ref = under two years)	Two years	-0.06	(0.06)	-0.07	(0.06)
	Three/four years	0.11	(0.08)	0.01	(0.10)
Region (ref= North East)	North West	0.08	(0.13)	0.26	(0.16)
	Yorkshire & the Humber	0.02	(0.11)	0.19	(0.14)
	West Midlands	-0.07	(0.10)	0.15	(0.12)
	East Midlands	-0.12	(0.08)	0.15	(0.12)
	East of England	0.12	(0.10)	0.24*	(0.13)
	London	0.57***	(0.15)	0.64***	(0.19)
	South East	0.20**	(0.10)	0.34***	(0.13)
South West	0.11	(0.10)	0.26*	(0.14)	
Rural (ref = urban)		-0.02	(0.04)	-0.02	(0.04)
IMD quintile (ref = Q1 most deprived)	Q2 deprived	0.04	(0.10)	0.08	(0.12)
	Q3 average	0.13	(0.10)	0.14	(0.12)
	Q4 less deprived	0.15	(0.10)	0.18	(0.12)
	Q5 least deprived	0.20*	(0.11)	0.19	(0.13)
Sessional care (ref = offer full day)		-0.21*	(0.11)	-0.09	(0.11)
Weekly opening hours (ref = low (less than 40))	Middle (40 to 50)	0.10	(0.10)	0.13	(0.11)
	High (more than 50)	0.06	(0.10)	0.10	(0.11)

Dependent variable: hourly parent-paid fee for three and four year olds		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Annual opening weeks (ref = low (less than 40))	Middle (40 to 48)	-0.30***	(0.09)	-0.31***	(0.12)
	High (more than 48)	-0.33***	(0.09)	-0.34***	(0.11)
Free entitlement for two year olds (ref = none)		-0.07	(0.06)	-0.11*	(0.07)
Children in receipt of EYPP (ref = none)		-0.15**	(0.07)	-0.11*	(0.06)
30 Hours Free Childcare (ref = none)		-0.25***	(0.06)	-0.46***	(0.15)
Proportion of children in receipt of Tax Free Childcare (ref = none)	Low (less than 10%)	0.08	(0.07)	0.11	(0.07)
	Middle (10% to 20%)	-0.04	(0.05)	-0.01	(0.06)
	High (more than 20%)	0.13**	(0.06)	0.14*	(0.07)
Average funding rate for free entitlement for three and four year olds (ref = low (less than £4))	Mid-low (£4 to £4.25)	----	----	0.07	(0.06)
	Mid-high (£4.25 to £4.50)	----	----	0.14	(0.12)
	High (£4.50 or more)	----	----	0.37***	(0.10)
LA average wage		0.00***	(0.00)	0.00***	(0.00)
LA average rent		-0.01***	(0.00)	-0.01***	(0.00)
LA average income (£1,000s)		0.05***	(0.01)	0.05***	(0.01)
LA percentage with qualification level 4+		0.00	(0.00)	0.01*	(0.00)
LA percentage of women in partnerships		-0.02***	(0.01)	-0.01	(0.01)
LA percentage white		-0.00**	(0.00)	----	----
LA free school meals percentage		----	----	0.01**	(0.00)
LA EAL percentage		----	----	0.00	(0.01)
LA Disability Living Allowance percentage		----	----	0.39**	(0.17)
Constant		4.34***	(0.38)	2.55***	(0.76)
Number of observations		8,749		6,866	
R-squared		0.15		0.14	

Source: Survey of Childcare and Early Years Providers, 2018

Notes: A dash indicates a variable omitted from the model. A single star indicates a statistically significant coefficient at the 10 percent level, two stars at the 5 percent level and three stars at the 1 percent level. Unknown provider type includes only non-school providers. Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers. A description of the LA level variables is provided in table 2.

Table 57 presents the regression results for the findings presented in tables 41 to 44.

Table 57: Regression results for additional charges

Dependent variable: probability have additional charges		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Provider type (ref = private)	Voluntary	-0.04	(0.14)	-0.08	(0.16)
	Nursery class	0.71***	(0.23)	0.38	(0.25)
	Childminder	-1.13***	(0.14)	-1.25***	(0.15)
	Unknown	-0.12	(0.30)	0.02	(0.34)
Size (ref = small)	Medium	0.20***	(0.07)	0.22**	(0.09)
	Large	0.29***	(0.10)	0.33***	(0.11)
Chain (ref = single site)		0.21	(0.20)	0.33	(0.25)
Age of youngest child (ref = under two years)	Two years	-0.28***	(0.08)	-0.29***	(0.10)
	Three/four years	-0.16	(0.11)	0.02	(0.15)
Average parent-paid fee for three and four year olds (ref = lowest (below £4))	Low (£4 - £4.50)	0.36***	(0.08)	0.38***	(0.09)
	Middle (£4.50 - £5)	0.60***	(0.10)	0.67***	(0.12)
	High (£5 - £5.50)	0.47***	(0.10)	0.59***	(0.12)
	Highest (£5.50 plus)	0.50***	(0.11)	0.63***	(0.14)
Region (ref= North East)	North West	-0.10	(0.16)	-0.29	(0.19)
	Yorkshire & the Humber	-0.04	(0.17)	-0.35*	(0.19)
	West Midlands	0.18	(0.17)	0.02	(0.20)
	East Midlands	0.32*	(0.17)	0.12	(0.20)
	East of England	0.15	(0.17)	0.02	(0.20)
	London	0.06	(0.18)	-0.08	(0.23)
	South East	0.18	(0.17)	-0.04	(0.20)
	South West	0.16	(0.16)	-0.04	(0.19)
Rural (ref = urban)		0.09	(0.08)	0.11	(0.09)
IMD quintile (ref = Q1 most deprived)	Q2 deprived	0.03	(0.10)	-0.09	(0.12)
	Q3 average	0.09	(0.10)	0.00	(0.13)
	Q4 less deprived	0.02	(0.10)	-0.00	(0.12)
	Q5 least deprived	0.10	(0.11)	-0.01	(0.13)

Dependent variable: probability have additional charges		Model 1		Model 2	
		coeff.	s.e.	coeff.	s.e.
Sessional care (ref = offer full day)		-0.69***	(0.14)	-0.60***	(0.15)
Weekly opening hours (ref = low (less than 40))	Middle (40 to 50)	0.40***	(0.13)	0.43***	(0.17)
	High (more than 50)	0.16	(0.14)	0.16	(0.17)
Annual opening weeks (ref = low (less than 40))	Middle (40 to 48)	0.13	(0.10)	0.11	(0.12)
	High (more than 48)	-0.03	(0.11)	-0.04	(0.13)
Free entitlement for two year olds (ref = none)		0.09	(0.08)	0.05	(0.08)
Children in receipt of EYPP (ref = none)		0.13	(0.09)	0.05	(0.10)
30 Hours Free Childcare (ref = none)		0.19***	(0.07)	----	----
Proportion of children in receipt of Tax Free Childcare (ref = none)	Low (less than 10%)	0.08	(0.10)	0.10	(0.11)
	Middle (10% to 20%)	0.06	(0.09)	0.15	(0.10)
	High (more than 20%)	-0.06	(0.07)	-0.01	(0.08)
Average funding rate for free entitlement for three and four year olds (ref = low (less than £4))	Mid-low (£4 to £4.25)	----	----	-0.20**	(0.09)
	Mid-high (£4.25 to £4.50)	----	----	-0.24*	(0.12)
	High (£4.50 or more)	----	----	-0.31**	(0.13)
Constant		0.76***	(0.26)	1.40***	(0.31)
Number of observations		7,746		6,022	

Source: Survey of Childcare and Early Years Providers, 2018

Notes: The probability of having additional charges is a logistic model. A dash indicates a variable omitted from the model. A single star indicates a statistically significant coefficient at the 10 percent level, two stars at the 5 percent level and three stars at the 1 percent level. Unknown provider type includes only non-school providers. Size is defined as small (less than 6 registered places), medium (6 registered places) and large (more than 6 registered places) for childminders and as small (less than 30 places), medium (between 30 and 65 registered places) and large (65 or more places) for all other providers. A description of the LA level variables is provided in table 2.



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