

'HOW TO'

Calculating the Cost of Childcare: Local analysis for the briefing on Access to Childcare

Our national briefing on Access to Childcare has been produced as part of the Local Data Project.

Here we want to show you how to tailor the key information in the briefing to your local area. NOTE: this explainer will work on the data for Great Britain. For links to the data on Northern Ireland, go to the end of this document.

You can find the national briefing and the template for your own local analysis on the Local Data Project website by clicking here.

What to expect

To calculate affordability, we will compare the cost of childcare to the amount of money that women earn. This is not because we think childcare should be paid for completely out of women's pockets, but we know that in reality many couple's financial decisions are made by checking if it's financially worth it for women to remain in their jobs.

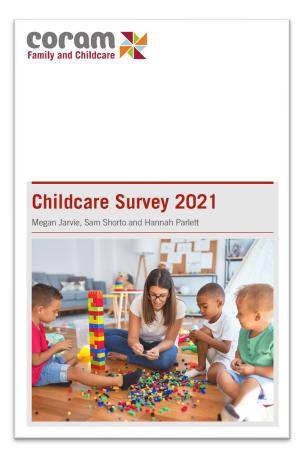
Let's work through the different parts together.



First, let's find out how much childcare **costs** in Great Britain. We can find that information <u>here</u>. Scroll down the page, and click on 'Download report'

Download report

When we open it, the report will look like this.



<u>Coram</u> have been doing a childcare survey for many years, and they explain their methodology clearly, a good sign of a reputable source.

We will use the tables on **page 11**, where we can find the information on **part-time** childcare costs for twoyear-olds and children under two, and **page 12**, where the costs for **full-time** childcare are given for the same ages. We want to use both so that we can compare the costs for mothers working full-time and mothers working part-time.

The tables look like this:

	Nursery		Childminder	
	Under two	Тwo	Under two	Two and over
Great Britain	£137.69	£132.56	£118.34	£117.32
England	£140.27	£134.73	£119.02	£117.86
Scotland	£117.29	£113.31	£112.33	£112.78
Wales	£114.76	£114.45	£112.37	£112.01
East Midlands	£134.50	£126.14	£105.21	£105.08
East of England	£145.36	£144.84	£117.20	£116.41
London, inner	£179.86	£177.61	£163.77	£161.60
London, outer	£156.32	£147.87	£147.53	£146.43
North East	£130.64	£128.10	£106.92	£106.79
North West	£126.43	£120.25	£103.18	£103.08
South East	£145,90	£140.05	£119.40	£118.69
South West	£132.26	£128.84	£114.27	£114.11
West Midlands	£136.14	£133.41	£103.70	£100.83
Yorkshire and Humberside	£115.39	£110.52	£101.49	£101.07

	Nursery		Childminder	
	Under two	Two	Under two	Two and over
Great Britain	£263.81	£254.44	£227.79	£229.62
England	£268.06	£258.08	£228.77	£230.06
Scotland	£228.13	£218.86	£224.54	£225.50
Wales	£227.64	£226.67	£213.29	£225.10
East Midlands	£240.82	£233.15	£205.57	£205.16
East of England	£289.65	£290.20	£234.48	£232.78
London, inner	£321.75	£310.45	£303.23	£320.77
London, outer	£306.60	£292.96	£290.97	£288.89
North East	£228.06	£227.29	£201.55	£209.41
North West	£231.67	£221.86	£200.07	£199.33
South East	£284.07	£268.73	£231.86	£237.07
South West	£263.12	£250.68	£213.18	£212.97
West Midlands	£268.90	£262.78	£192.87	£195.68
Yorkshire and Humberside	£228.65	£218.61	£203.21	£202.51



Let's go into more detail...

We could calculate the cost of childcare for each different type of provision. However, we'll use nursery costs as this is the type of childcare provision that is the most used (according to Ofsted data).

	Nursery		Childminder	
	Under two	Тwo	Under two	Two and over
Great Britain	£137.69	£132.56	£118.34	£117.32
England	£140.27	£134.73	£119.02	£117.86
Scotland	£117.29	£113.31	£112.33	£112.78
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 Table 1 - Price of 25 hours a week childcare for children under three at nurseries and childminders

Let's look at Great Britain. We're going to use the cost for under twos.

	Nursery		Childminder	
	Under two	Тwo	Under two	Two and over
Great Britain	£137.69	£132.56	£118.34	£117.32

The weekly cost can be useful for budgeting, but we want the yearly cost. That's because we will be comparing to yearly salaries, and we need to compare like for like. So, $\pm 137.69 \times 52 = \pm 7,160$.

Now for the average full-time cost.

	Nursery		Childminder	
	Under two	Two	Under two	Two and over
Great Britain	£263.81	£254.44	£227.79	£229.62

£263.81 x 52 = **£13,718**.

Note: although some people may not need childcare all year round, we have used the maximum amount (52 weeks) for comparison purposes.

What are the full-time and part-time childcare costs in your region? Remember to calculate the yearly rate!

F/T	
P/T	



Now let's find the earnings data.

	Earnings and	l hours worked, pla⊂ × −	F						٥	×
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			Business, industry and trade		Employment and labour market	People, population and community	Taking part in a survey?			
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		Home > Employmer	nt and labour market	> People in work > Ear	nings and working hours	>				
		Earnings and hours we	orked, place of work by	local authority: ASHE Tab	le 7					
		Dataset:								
		Earnings	and hou	rs worked,	place of w	ork by loc	al			
		authority	: ASHE Ta	able 7		2				
		Contact: Roger Smith	Release 3 Nove	date: nber 2020	Next release: To be announced	Dataset ID	9: ASHE: Table 7what is t	his?		Ŧ

First, we need to find the correct dataset for women's earnings. We can find that here.

One point about this dataset: as we are comparing like for like, we need to compare the same year's earnings as childcare costs.

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	About this dataset	orked and earnings for UK enperioyee	s by sex, and full-time	Related data	l
		on to local and unitary authority leve		Annual Survey of Hours and Earnings time series of selected estimates	ł
	2020 provisional		~	View all data related to Earnings and working hours	
	zip (5.7 MB)			Contact details for this dataset	
	2019 revised		\sim	Roger Smith	
	2019 provisional		\sim	earnings@ons.gov.uk Telephone: +44 (0)1633 45 6120	
	2018 revised		\sim	Publications that use this	•

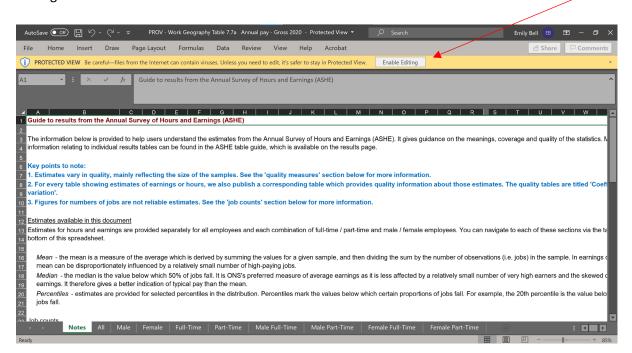
When it downloads, we will need to unzip the file. This is normally automatic when we double click on the folder.



We will be greeted by a morass of files. Don't worry! We want to look at annual pay as this tends to give a more stable picture of earnings. For that, we need table 7, so open 7.7a. (7.7b just gives information on the methodology, which we don't need to look at.)

Name ^		Туре	Compressed size	P:
🚔 PROV - Work Geography Table 7.1a	Weekly pay - Gross 2020	Microsoft Excel 97-2003	306 KB	N
🚔 PROV - Work Geography Table 7.1b	Weekly pay - Gross 2020 CV	Microsoft Excel 97-2003	239 KB	N
📄 PROV - Work Geography Table 7.2a	Weekly pay - Excluding overtime 2	Microsoft Excel 97-2003	304 KB	N
📄 PROV - Work Geography Table 7.2b	Weekly pay - Excluding overtime 2	Microsoft Excel 97-2003	239 KB	N
📄 PROV - Work Geography Table 7.3a	Basic Pay - Including other pay 2020	Microsoft Excel 97-2003	305 KB	Ν
📄 PROV - Work Geography Table 7.3b	Basic Pay - Including other pay 20	Microsoft Excel 97-2003	239 KB	Ν
📄 PROV - Work Geography Table 7.4a	Overtime pay 2020	Microsoft Excel 97-2003	211 KB	Ν
📄 PROV - Work Geography Table 7.4b	Overtime pay 2020 CV	Microsoft Excel 97-2003	224 KB	Ν
嶜 PROV - Work Geography Table 7.5a	Hourly pay - Gross 2020	Microsoft Excel 97-2003	287 KB	Ν
📄 PROV - Work Geography Table 7.5b	Hourly pay - Gross 2020 CV	Microsoft Excel 97-2003	247 KB	Ν
📄 PROV - Work Geography Table 7.6a	Hourly pay - Excluding overtime 2	Microsoft Excel 97-2003	287 KB	Ν
PROV - Work Geography Table 7.6b	Hourly pay - Excluding overtime 2	Microsoft Excel 97-2003	246 KB	Ν
🚔 PROV - Work Geography Table 7.7a	Annual pay - Gross 2020	Microsoft Excel 97-2003	273 KB	N
嶜 PROV - Work Geography Table 7.7b	Annual pay - Gross 2020 CV	Microsoft Excel 97-2003	238 KB	Ν
📄 PROV - Work Geography Table 7.8a	Annual pay - Incentive 2020	Microsoft Excel 97-2003	208 KB	Ν
📄 PROV - Work Geography Table 7.8b	Annual pay - Incentive 2020 CV	Microsoft Excel 97-2003	226 KB	
📄 PROV - Work Geography Table 7.9a	Paid hours worked - Total 2020	Microsoft Excel 97-2003	249 KB	
📄 PROV - Work Geography Table 7.9b	Paid hours worked - Total 2020 CV	Microsoft Excel 97-2003	241 KB	
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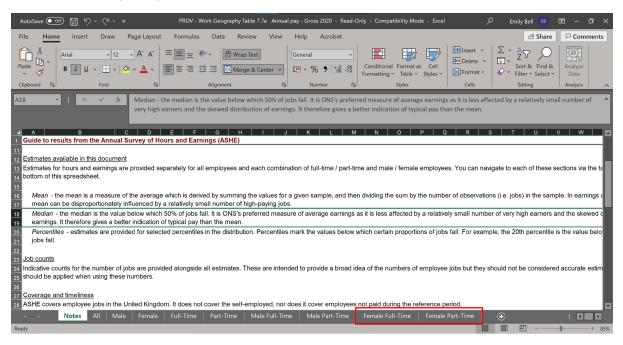
Once our spreadsheet is ready, there is one more thing to note. We always use the median when calculating pay. That is because it gives us a better idea of reality.

Mean v median The mean of 1 + 1 + 1 + 2 + 20 = 5. This is what most people think of as the average. Add up all the numbers and divide by however many numbers there are. The median of 1 + 1 + 1 + 2 + 20 = 1. This is taking the middle number as the average. It's generally much more reflective of what most people experience.

While both of these refer to the average, the mean is often skewed by a few big numbers. That is why we prefer to use the median.



OK, so we're finally ready to find some data. We will use both of the 'female' tables.



As with all ONS data, the regions appear in the same order. Data starts with the big picture for the UK, followed by the English regions, before Wales, then Scotland, and finally Northern Ireland.

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1 Table 7.7a Annual pay - G 2 3	Fross (£) - For fe	Number of jobs ^b		Annual	Inited Kin	Annual								_				
5 Description 6 United Kingdom	Code K02000001	(thousand) 6,547	Median 27.981	change	Mean 33,259	change	10 16.502 19.3	20 25	30	40 6 24,653 31,73		75 39,268 4	80	90				
7 Oreal Brisin 9 England and Wales 9 England and Wales 10 Darin Inform 11 Darin Inform 12 Middleshrough 13 Middleshrough 14 Rotocar and Cleveland 15 Blockton on Frees 16 Rotocar and Cleveland 17 Workmetherd 18 Rotocar and Cleveland 19 Blockton on Frees 20 South Transide 21 South Transide 22 South Transide 23 Blockton with Darven 24 Blackton 24 Blackton 25 Blackton 26 Blackton 27 Chemis E East	K03000001 E32000001 E32000001 E32000001 E06000005 E060000003 E060000047 E060000047 E060000047 E060000047 E060000047 E060000023 E060000023 E060000023 E060000023 E060000023 E060000024 E060000024	6.3.16 5.697 5.388 228 14 x x x 10 20 35 115 115 115 115 115 115 115 115 115	28,021 27,984 28,077 24,934 24,398 25,252 25,326 23,375 25,226 25,224 24,806 22,617 26,411 26,411 26,999 23,242 24,903 22,617 26,999 23,242 24,913 26,999 23,242 24,914 27,164 29,025 27,084	4.4 4.3 4.1 2.7 2.9 23.5 4.8 -0.3 7.0 8.2 1.5 1.5 3.4 -4.3 9.0 0 4.6 8.0 -3.8 -6.0 -3.8 -6.0 -7.8 3.5	33,379 33,461 29,924 32,052 29,670 27,480 27,439 31,184 28,220 25,462 31,026 28,433 35,901 28,433 28,431 28,433 28,433 28,433 28,433 28,461 27,583 30,660 29,661 27,535 34,184 31,580	3.1 11.6 6.6 -3.8 3.2 7.8 -8.7 4.1 5.8 3.6 13.0 -1.3 -2.0 -1.4 6.7 -3.1 -2.5	16,471 19, 16,496 19, 15,935 18, x 17, x 18, 17,760 20, 14,726 17, 14,726 17, 16,659 18, 16,356 18, 16,371 19, 16,077 19, 16,777 19, 16,777 18, 16,775 18, 16,775 18, 16,775 18, 16,775 18, 16,775 18, 16,775 18, 16,775 18, 16,755 18, 16,755 18, 16,755 18, 16,755 18, 16,755 18, 16,755 18, 16,755 18, 16,755 18, 17,755 18, 16,755 18, 17,755 18, 17,755 18, 16,755 18, 16,7	247 20,518 247 20,518 240 20,580 240,580 241 20,580 241 20,580 241 20,580 241 20,580 241 20,215 241 20,21	21,788 21,871 20,052 19,202 19,597 x 20,227 21,652 18,662 18,672 20,483 20,688 20,617 20,323 20,323 20,326 21,180 20,323 21,8936 20,720 21,189,567 19,251 21,225 20,450	21,640 x	2 36,475 9 36,634 5 32,532 x x x x x x 2 x x 3 31,406 4 28,884 7 32,636 1 31,702 4 36,301 5 30,074 9 x 3 32,074 0 35,283 9 x 3 32,220 3 34,273	39,300 4 39,500 2 35,003 3 x x x 33,757 33,757 34,724 39,068 x 33,252 37,734 4 x x 44,445	42,604 53 42,835 53 37,743 47 x x x x x x x x x x x x x x x x x x x	,302 ,958 ,789	Key CV = 5% CV > 5% and == 2 CV > 10% and == 2 CV > 10% and == 2 x = CV > 20% = disclosive = not applicable = nil or negligible	E 2% E 20% E	tatistical robustness Stimates are considered pre- Stimates are considered ma- Stimates are considered and Stimates are considered unre	sonably precise
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Ready																#	▣ ─	+ 70%

Because the data for childcare costs is only at the regional/national level, we should only use earnings at that level too.

Note: sometimes the data is missing at a lower level. Consider Sefton, for example. You can find full-time earnings for that local authority, but not part-time earnings. That's because the survey that is used to get this data doesn't have enough information at the lower level.



Let's find the information about Great Britain again.

▲ 1 2	A 7.7a Annual pay - Gr	в oss (£) - For	c female full-tir	D ne emplo	E yee jobs ^a : L	F │ Jnited Kir	G ngdom, 202	н 0	1	J	к	L	M	N	0	Р	Q F
3		-	Number		Annual		Annual	Descent									
5 Descrip	tion	Code	of jobs [⊳] (thousand)	Median	percentage change	Mean	percentage change		11es 20	25	30	40	60	70	75	80	90
6 United I		K02000001	6 547	27.981	4 4		4.5		19 266	20 570	21.853	24 653	31 739	36 463			52 744
7 Great B		K03000001	6,316	28,021	4.4	33,379	4.5	16,528	19,317	20,614	21,921	24,739	31,791	36,487	39,322		52,934
8 England	and Wales	K04000001	5,697	27,984	4.3	33,461	4.4	16,471	19,247	20,518	21,788	24,653	31,732	36,475	39,300	42,604	53,302
9 England	l i i i i i i i i i i i i i i i i i i i	E92000001	5,388	28,077	4.1	33,718	4.5	16,496	19,280	20,580	21,871	24,754	31,879	36,634	39,500	42,835	53,958
10 North E	ast	E12000001	228	24,934	2.7	29,924	3.1	15,935	18,330	19,229	20,052	21,932	28,595	32,532	35,003	37,743	47,789
11 Darlingto	in	E06000005	14	24,398	2.9	32,052	11.6	х	17,978	19,021	19,202	20,660	х	x	x	x	x
12 Hartlepo	l	E06000001	x	26,226	23.5	29,670	6.6	x	x	18,899	19,597	21,640	x	x	x	x	x

Remember that we need to use the median, so the figure for full-time earnings is £28,021.

And for part-time earnings, **£11,324**.

A	В	ç	D	E	F	G	н	1	J	κI	L	М	N	0	Р	QF
Table 7.7a Annual p	oay - Gross (£) - For	female part-t	imeemple	oyee jobs ^a :	United K	ingdom, 20	20									
3		Number		Annual		Annual										
4		of jobs		percentage		percentage	Percentil	es								
5 Description	Code	(thousand)	┥ Median	change	Mean	change	10	20	25	30	40	60	70	75	80	90
6 United Kingdom	K02000001	4.891	11.312	6.5	13,468	6.6	3.861	6.444	7.302	8.197	9.660	12.958	15.199	16.623	18.512	25.104
7 Great Britain	K03000001	4,709	11,324	6.6	13,506	6.7	3,840	6,436	7,308	8,193	9,649	12,978	15,221	16,660	18,589	25,242
8 England and Wales	K04000001	4,263	11,238	6.5	13,448	6.7	3,764	6,358	7,254	8,137	9,594	12,872	15,092	16,500	18,402	25,143
9 England	E92000001	4,030	11,226	6.3	13,472	6.6	3,761	6,349	7,243	8,117	9,561	12,866	15,075	16,531	18,460	25,268
10 North East	E12000001	186	11,290	6.2	13,390	10.3	3,900	6,450	7,208	8,157	9,470	12,990	15,070	16,218	17,726	x
11 Darlington	E06000005	x	10,444	-3.4	11,719	-6.4	x	x	x	8,406	9,404	x	x	х	x	x
12 Hartlepool	E06000001	x	x		12,347	-2.1	x	х	x	x	x	x	x	x	x	x

What are the average earnings in your region/nation? Remember to use the median!

F/T	
Р/Т	

Earnings v income

Note: earnings are before any deductions are made.

Now we have costs and earnings, let's calculate affordability...



Affordability

We need to calculate a percentage, so we can use the equation $x \div y \times 100 = \%$

 $\text{Or costs} \div \text{earnings} \times 100$

TOP TIP

Or we can use a percentage calculator like the one <u>here</u>.

So, for part-time affordability, our costs were £7,160. The earnings were £11,324.

 $7160 \div 11324 \times 100 = 63\%$

That means that part-time childcare costs absorb nearly **two thirds** of women's average earnings in Great Britain.

And for full-time, we can do the same calculation. Costs were £13718 and earnings were £28,021

 $13718 \div 28021 \times 100 = 49\%$

Full-time childcare costs absorb almost half the average earnings of women in Great Britain.

Childcare costs for Northern Ireland can be found <u>here</u>. Page 35 onwards contain information on costs.

Note: This survey is slightly different as it relies on answers from parents rather than local authorities (as in Coram's survey). There is more information available about the costs in different local areas of Northern Ireland, but this level of detail is not available in the Annual Survey of Hours and Earnings. We, therefore, recommend that affordability calculations are kept at the national level.

Overall, the regional variations between Great Britain and Northern Ireland are very clear in this data. We would encourage you to find out more about the cost of childcare in your local area. Data gaps show where we need to do more work. We hope the Local Data Project inspires you to get involved in uncovering data gaps!