Resolution Foundation

Counting the Costs of Childcare

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Contents

Executive Summary 1

Introduction 3

The costs of childcare to families in 2012 5

How does childcare support affect families across the income distribution? 9

- Dual-earning household – two parents working full-time 10
- Dual-earning household – one parent working full-time, one part-time 14
- Single parent households 15

Childcare costs and the incentives to work 18

Conclusion 22

Appendix 1: Assumptions used in this note 24

- Childcare support assumptions 24
- Childcare use assumptions 25

Appendix 2 26

Executive Summary

As a result of significant investment over the last decade, the affordability of childcare as a percentage of disposable family income has improved for most families, although costs remain among the highest in the OECD. In 2012, a couple earning 150 percent of the average wage between them with a two and a three year old in full time childcare, spent 19 percent of their disposable income on childcare, compared to 21 percent in 2008 and more than 30 per cent in 2004.

However, progress on affordability has slowed since April 2011 when the government reduced the percentage of childcare costs that can be covered by the childcare element of Working Tax Credit from 80 percent to 70 percent. If not for the cut, the couple on 150 percent of average wage would be spending less than 15 percent of its disposable income on childcare.

A couple on 200 percent of average wage with a two and a three year old in full time childcare has actually seen its childcare costs increase as a result of the cut, from 27 percent of disposable income in 2008 to 30 percent in 2012. Without the cut, childcare costs in 2012 would have been just over 25 percent of disposable income for the same family.

Given the mix of universal and means tested support available for childcare, families at different points in the income distribution face very different childcare costs. For dual earning families, childcare costs bite hardest for middle income couples. A middle income couple with a gross income that is 87 percent higher than a minimum wage earning couple (£44,440 compared to £23,790) ends up only 17 percent better off than the minimum wage couple after taxes, benefits and childcare costs. After paying for full time childcare, the middle income family's disposable income is £26,669 compared to £22,742 for the low income family.

For single parents, the picture is slightly different, with a middle income parent working full time receiving more support towards childcare costs than a middle income couple family where both parents work full time. Higher income single parents, however, receive no support for childcare costs except the early years entitlement of 15 hours of free childcare per week for three and four year olds. As a result, childcare costs continue to act as a real barrier to work for single parents even at the higher end of the income distribution.

While the percentage of income that families spend on childcare is an important measure of affordability, it does not provide a full picture of the way in which childcare costs affect the incentive to move into and progress in work. The withdrawal of benefits and tax credits as income increases means that it is possible for childcare costs to account for a very small percentage of disposable family income but still have a significant negative impact on work incentives.

In a minimum wage earning couple, the second earner pays to work for the first 16 hours because the family is not eligible for childcare support (although this will change with the introduction of Universal Credit). For each additional pound the second earner earns after 16 hours, the family loses almost the same again, leaving the family's disposable income flat. The family is almost no better off if the second earner works full time or not at all.

A second earner earning £12 an hour in a middle income household faces a positive incentive to work for the first 13 hours. By working up to 13 hours, she can increase her family income by just over £4,500 a year. However, after this point, her incentives turn negative because childcare costs start to eat up a large share of her additional earnings, leaving the family no better off as she extends her hours.

Reducing the amount of disposable income ordinary working families spend on childcare is an important part of lowering the barriers to work for women. Lower costs reduce the extent to which paying for childcare compounds the disincentives to earn than are already built into the tax and benefit system.

However, greater investment in today's means tested system is unlikely to significantly improve work incentives. Given the high marginal deduction rates already faced by low to middle income families through the tax and benefit system, providing further means tested support will only eat up more of each pound earned. When new money is available, there is, therefore, a strong case for it being invested in highly affordable, non-means-tested support for childcare rather than investing more in today's complex system.

Introduction

There is mounting evidence of the importance of female employment to the living standards of families in the low to middle income group. In 1968, 86 per cent of employment income in low to middle income households came from men and 14 per cent from women; by 2008, these shares were 63 per cent and 37 per cent respectively.[1] This is because over recent decades there has been a shift in employment from men to women and over the past ten years, wage growth among women has outstripped that among men. This has helped to narrow (though not close) the gender pay gap. Mothers have fared better than women without children, while wage growth among fathers has been significantly lower than among comparable men. This trend has meant that the growth in the share of child poverty accounted for by working households is being driven by male breadwinner families.[2]

The importance of female employment places an onus on the availability and affordability of childcare to support women into work. Here, the evidence is less promising. Fewer women with children work in the UK then in many of our leading competitor countries.[3] The gender pay gap, which has closed for young women, remains significant for women of prime childbearing age and many women are trapped in low paid, part-time work in order to avoid the costs of childcare. In a survey of over 1,600 working part-time mothers, conducted by the Resolution Foundation and the online parents' organisation, Netmums, 44 percent said that the lack of affordable quality childcare was a barrier to full time employment, rising to nearly half for those on low to middle incomes.[4] Although Universal Credit will change the support available to families in work, the basic design of childcare support will not change and, therefore, incentives to work will remain broadly similar for many families, although they will worsen for second earners seeking to move beyond part-time hours.[5]

As has been widely reported, the UK has some of the most expensive childcare in the world. The most widely cited evidence for this claim comes from an influential OECD report showing that, in 2004, a median income couple (earning 167 percent of average wage)[6] with two children in full time childcare spent 33 percent of its disposable income on childcare, compared to an OECD average of 13 percent.[7] Since 2004, there has been tremendous investment in childcare in the UK, with the result that, when the OECD updated its analysis using 2008 data, the burden of childcare costs facing

[1] Brewer, M. and Wren-Lewis, L., *Why did Britain's Households Get Richer? Decomposing UK household income growth between 1968 and 2008–09*, Resolution Foundation (2011)

[2] Gregg, P. Hurrell, A and Whittaker, M., *Credit Worthy: Assessing the impact of tax credits in the last decade and considering what this means for Universal Credit,* Resolution Foundation (2012)

[3] Plunkett, J. *The Missing Million: The potential for female employment to raise living standards in low to middle income Britain,* Resolution Foundation (2012)

[4] Alakeson, V., *The price of motherhood: women and part-time work*, Resolution Foundation (2012)

[5] Hirsch, D., *Childcare Support and the Hours Trap: The Universal Credit,* Resolution Foundation and Gingerbread (2011)

[6] For this particular couple, with two children aged 3 and 4, 167 percent of AW corresponds almost exactly to median equivalised income. In 2004 the median full-time wage was £423 per week. For this family this corresponds to an equivalised gross combined income of £505 per week. According to HBAI data, median equivalised gross household income for non-retired households was £499 in 2004/05. A similar couple on 167 percent of average wage also corresponds to the median

[7] OECD, "PF3.4: Childcare support", 2010.

families with children had fallen significantly. A couple with two young children in full-time childcare with combined earnings of 200 percent of average wage was spending 27 percent of its disposable income on childcare, while the figure for a similar couple on 150 percent of average wage was 21 percent.[8]

Changes to support for childcare since 2008 will have altered the picture further. Since April 2011, the percentage of childcare costs covered by the childcare element of Working Tax Credit has been reduced from 80 percent to 70 percent of costs. Furthermore, couple parents now have to work at least 24 hours per week combined to qualify for tax credits at all, with one person in the couple working at least 16 hours per week. However, following the introduction of Universal Credit, families will be able to claim support for childcare from the first hour they work.

While the percentage of net income paid by families for childcare is an important measure of affordability, it does not provide a full picture of the way in which childcare costs affect work incentives. Whether or not it pays to work depends on how much a second earner or single parent keeps of each additional pound she earns. This is determined by the amount of tax she pays on her earnings, the amount of benefits and tax credits her family loses as her earnings increase and the costs of childcare. If a second earner is already losing a large percentage of what she earns because tax credits are withdrawn and taxes incurred, then even childcare costs that represent a small percentage of net family income can make the difference between it paying to work or not.

The OECD has noted that, before accounting for childcare, the costs of entering work for a second earner in an average wage family in the UK is lower than the OECD average. However, after taking childcare costs into account, over two-thirds of the family's second wage is effectively taxed away. In the UK, second earners lose 68 pence of every additional pound earned through tax, National Insurance and childcare costs compared to an OECD average of 52 percent.[9] Low to middle income families who receive support through the tax credit system face even greater disincentives to progress as they also lose benefits and tax credit support as their incomes rise. Assessing the impact of investment in childcare on work incentives alongside overall affordability is, therefore, critical to get a complete picture of the impact of childcare costs on employment in the UK.

In this briefing we seek to do three things:

1. Assess how changes in support for childcare since 2008 have altered the costs of childcare for families. We follow the OECD's methodology to provide an up-to-date snapshot of childcare costs in 2012
2. Look at the burden of childcare costs for families across the income distribution. We look in detail at how the proportion of household income spent on childcare and the generosity of state support vary across the income distribution
3. Analyse how the costs of childcare affects work incentives. We provide new analysis of the impact of childcare costs on work incentives for different family and income types.

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[8] In terms of how these two family scenarios relate to the income distribution, in 2008 combined family earnings of 200 percent and 150 percent correspond to a gross equivalised weekly household income of £690 and £518 respectively. According to HBAI data, median equivalised gross household income for non-retired households was £571 in 2008/09.

[9] OECD, *Doing Better For Families: United Kingdom,* 2011 http://www.oecd.org/els/familiesandchildren/47701096.pdf

The analysis in this briefing is based on a childcare model developed by the Resolution Foundation along the same lines as the model used by the OECD. All the charts presented in this briefing are based on analysis using the Resolution Foundation childcare model. The analysis presented assumes full take up of available childcare support with the exception of employer supported vouchers. Vouchers are not included because they are not offered by all employers and are generally only taken up by higher income parents.[10] We also know that many families do not take up all available childcare support.[11] However, we are primarily concerned here with assessing how government investment in childcare changes the costs faced by parents rather than offering an evaluation of current take up.

The costs of childcare to families in 2012

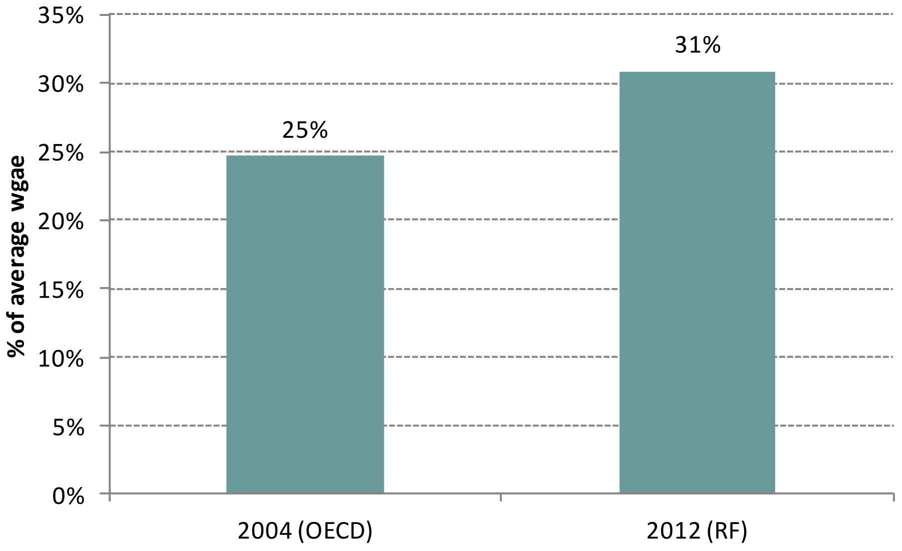
The OECD's analysis sets out two measures for comparing the costs of childcare between countries.

The first ('childcare fees') represents the total price for full time childcare (40 hours per week) for a two year old, calculated as a percentage of the average wage. This represents the total cost of childcare before the free early years entitlement and any childcare-related tax credits are taken into account. Figure 1 shows how this has changed over time. In 2004, full time childcare costs for a two year old represented 25 percent of the average wage, putting the UK seventh out of 33 in the OECD rankings. In 2012, childcare costs consume 31 percent of the average full-time wage of £510 per week.

[10] Prior to April 2011, when families could claim 80 percent of childcare costs, it was never advantageous for a family receiving tax credits to use childcare vouchers. Since then, owing to the reduction in childcare support offered through tax credits (down to 70 percent), many tax credit families are better-off claiming the full childcare voucher first and only those costs above the value of the voucher through tax credits. For further discussion see 'The Parent Trap', Social Market Foundation, November 2011.

[11] Smith et al., *Childcare and Early Years Survey of Parents 2009*, Department for Education, 2010

Figure 1: 'Childcare fees' for a two year old in full-time childcare, as a % of average wages, 2004 and 2012



Source: OECD, PF3.4 Childcare Support, 2010; Resolution Foundation childcare cost model, 2012.

Notes: (1) OECD's 'childcare fees' measure corresponds to the gross value of childcare used including the value of the Early Years Entitlement for three and four year olds. Annual cash value of the Early Years Entitlement calculated as £3.95 per hour for 15 hours per week and 38 weeks per the year. (2) OECD define full-time childcare as 40 hours per week for 52 weeks per year. (3) Average wage reflects the earnings of the median full-time UK employee. This was £22,056 (£423 per week) in 2004, and £26,611 (£510 per week) in 2012 (ASHE data; 2012 figure is a projection).

It is important to note that the OECD treats the value of the UK's Early Years Entitlement (EYE) as cash in the hands of parents rather than as a subsidy to childcare providers. Although the EYE is not paid directly to parents, the value of the 15 hours is added to the calculation of childcare fees. In many European countries the primary support for childcare comes through provider subsidies which reduce the fees paid by parents. The cash value of this sort of subsidy is not included in the OECD's 'childcare fees' measure whereas the support provided by the UK Government through the EYE is. In other words, this measure overstates the actual out-of-pocket childcare costs faced by UK parents relative to countries that provide the majority of their childcare support through provider subsidies.

Nevertheless, the increase in childcare fees as a percentage of the average wage over time highlights the fact that childcare costs have been increasing faster than inflation for some time and wage growth in the UK as a result of the prolonged economic downturn. The latest Daycare Trust survey of childcare costs showed a 3.9 percent increase in the hourly cost of nursery care for children aged two and above, while wages increased by just 0.3 percent over the same period.[12]

While this first measure shows how fees have changed over the last decade, for the reasons discussed above it is not a very useful measure of the actual costs of childcare to families in the UK because it does not take into account any of the support available from government. It also relates

[12] Daycare Trust, *Childcare costs survey 2012* (http://www.daycaretrust.org.uk/pages/childcare-costs-survey-2012.html, accessed 5 October 2012)

childcare costs to the average wage rather than family income. The second measure used by the OECD is net 'childcare costs' for 40 hours of childcare for two children aged two and three, as a percentage of net family income. This is a more accurate and comparable measure of the costs actually faced by families, because it is expressed relative to a typical family's disposable income and includes the full range of support available from government. [13]

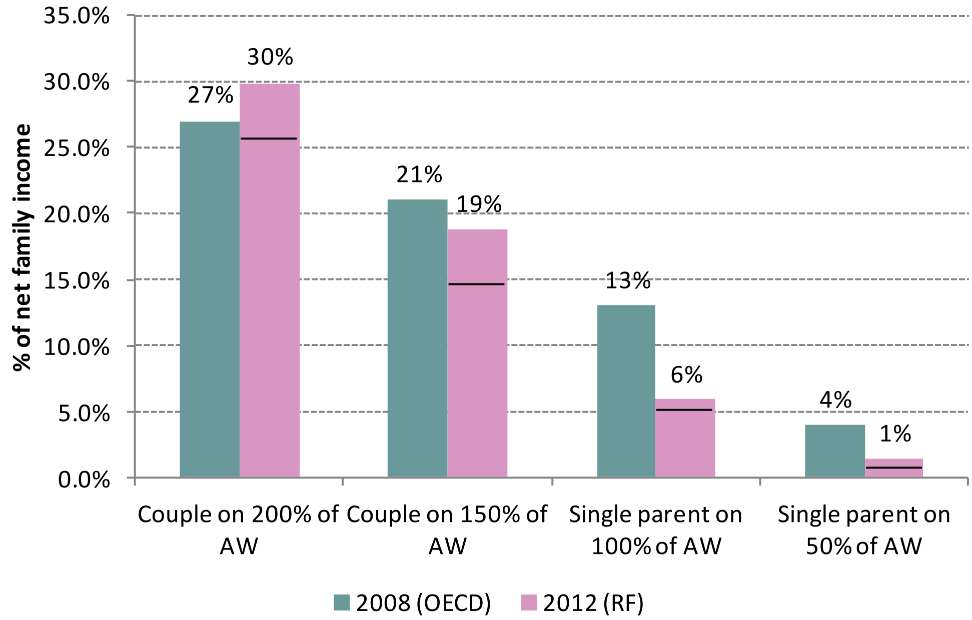
Taking 2004 as the starting point, there has been a significant fall in the costs of childcare as a percentage of net family income. In 2004, the OECD calculated that for a couple together earning 167 percent of the average wage, net childcare costs amounted to 33 percent of net family income, the highest across the OECD. By 2012, childcare costs for this family had fallen to 23 percent of net family income, reflecting the major increase in support for childcare that took place over the last decade. For a single parent earning 67 percent of average wage the change has been even more dramatic, with net costs falling from 14 percent to 2 percent of disposable family income.

The picture looks somewhat less positive if we take 2008 as the starting point. Figure 2 below shows how net childcare costs relative to net family income changed between 2008 and 2012. The reductions in cost are far smaller than those between 2004 and 2012, and even negative for the couple on 200 percent of average wage.[14] In 2012 a couple on 200 percent of average wage would have a gross family income of £53,222 (£1,021 per week), which would put the family well above median equivalised income (in fact just above the 60th percentile). The couple on 150 percent of average wage would have a gross family income of £39,917 (£766 per week) which puts it some way below the median (but above the 40th percentile). See Appendix 2 for details of how the 2012 equivalised household income distribution relates to couple and single parent families with two children.

[13] Appendix 1 outlines the assumptions on childcare support and childcare use underpinning the scenarios used in this note.

[14] The family scenarios used by the OECD for the 2008 analysis do not match those in the 2004 analysis either in terms of income relative to the average wage or their position in the equivalised income distribution.

Figure 2: Net 'childcare costs' for two children aged two and three in full-time care, as a % of net family income, in 2008 and 2012



Source: OECD, 'Doing Better for Families', 2011; Resolution Foundation childcare cost model, 2012.

Notes: (1) Black horizontal lines on the pink bars show what 2012 levels would have been had childcare support through tax credits remained at 80% rather than being cut to 70% in April 2011. (2) OECD define full-time childcare as 40 hours per week for 52 weeks per year. (3) Net childcare costs defined as the gross value of childcare used (including the value of the Early Years Entitlement) less the all support received specifically due to facing childcare costs (see Appendix 1 for details). (4) Net family income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received. (5) Average wage (AW) reflects the earnings of the median full-time UK employee. This was £22,056 (£423 per week) in 2004, and £26,611 (£510 per week) in 2012 (ASHE data; 2012 figure is a projection).

The horizontal lines on the bars for 2012 in Figure 2 show what percentage of disposable income parents would have paid if the support for childcare available through the tax credit system had not been reduced from 80 percent to 70 percent of costs in April 2011. If tax credit support had not been reduced, the family on 200 percent of average wage would have continued to see its childcare costs fall as a percentage of net income, as would all the other family types analysed above. After years of improvement in childcare affordability, this cut to the childcare element of Working Tax Credit shifted progress into reverse for some middle income families.

How does childcare support affect families across the income distribution?

The different costs faced by the families shown in Figure 2 points to the fact that there is considerable variation in the relative costs of childcare at different points in the distribution and for different family types. This is to be expected given that government expenditure on childcare is split between universal and targeted support. The Government spent £1.9bn in 2011-12 on the universal entitlement to 15 hours of free childcare per week for 38 weeks a year for all three and four year olds which provides the same level of support regardless of income or family type[15]. It spent a similar amount (around £2bn) through the tax credit and benefits system (primarily the childcare element of Working Tax Credit and also support through Housing and Council Tax Benefit and Child Tax Credit that are paid to families because they incur childcare costs). This support is highest for those on the lowest incomes and is withdrawn as household income increases. It is also higher for lone parents compared to couples.[16]

In this section we look at how childcare costs vary across the income distribution. What we are interested in is how childcare becomes more or less affordable as a proportion of disposable income for households at different points on the income distribution. This illustrates both the relative generosity of government support across the income distribution and where families are likely to find it most difficult to pay for childcare.

We look first at dual earning households. We look at a dual earning household where both parents work full time and a dual earning household where the second earner works part time which better reflects the working patterns of families with young children in the UK. We then look at a single parent household. In each case, the analysis is predicated on parents with a two and a four year old. Where both parents work full time or it is a single parent household, we assume that the family requires 42.5 hours of childcare per week for 47 weeks per year for each child.[17] Where the second earner works part-time, we assume that the family requires 23 hours of childcare per week for 47 weeks of the year for each child.[18]

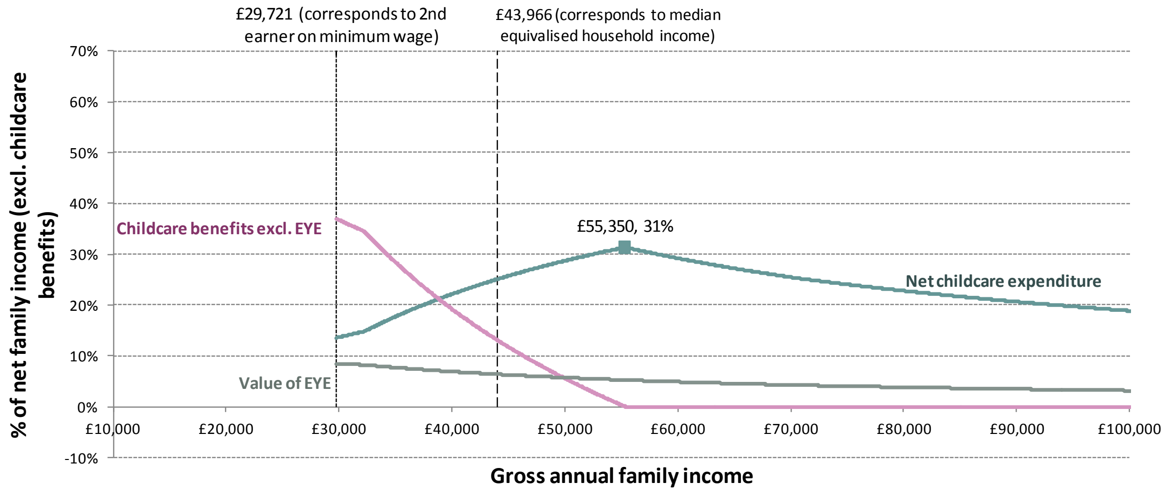
[15] National Audit Office, *Delivering the free entitlement to education for three- and four-year-olds* (2012); the Government will roll our free early education to 40% of two year olds by 2014-15, at a cost of around £760m per year (see Department for Education, "Early Education for Two Year Olds", August 2012 http://www.education.gov.uk/childrenandyoungpeople/earlylearningandchildcare/delivery/Free%20Entitlement%20to%20Early%20Education/b0070114/eefortwoyearolds (accessed 5 October, 2012))
[16] DWP, *Universal Credit Policy Briefing Note 10: Childcare*, 2011
[17] This equates to 8.5 hours per day, consistent with a working day of 7.5 hours (37.5 hours per week). Families are assumed to require 47 weeks of childcare per year, which is consistent with five weeks of annual leave.
[18] The childcare usage assumptions made here vary slightly from those used by the OECD in order to include travel time for each day when childcare is needed and better reflect annual leave provision in the UK which means parents are unlikely to use childcare for 52 weeks a year. The scenarios analysed here assume a two and a four year old rather than a two and a three year old as the OECD does to better reflect a more typical UK family.

Dual-earning household – two parents working full-time

A family with both parents working full-time and two children aged two and four in full-time care (42.5 hours per week, 47 weeks per year) will spend £13,529 per year on childcare excluding the EYE. However, at low incomes the family will receive substantial support towards these costs. Assuming the the second earner is paid the minimum wage, and the main earner has an hourly wage 50 percent higher than the second earner, this family's lowest possible income is £29,721 (see Figure 3a notes for details). At this income level the family will receive £9,906 in childcare benefits (excluding the value of EYE). This includes the childcare element of Working Tax Credit and Child Tax Credit and Housing Benefit received specifically because the family is paying for childcare (see Appendix 1 for further discussion of how childcare benefits are defined and calculated).

Figure 3a below shows how net childcare costs as a percentage of net household income change for a family with two children using full-time childcare as its income rises. Childcare expenditure peaks at 31 percent of net income in decile seven of the equivalised income distribution – just above £55,000 gross income. This reflects the fact that the means tested support is withdrawn as income rises, meaning families have to cover a greater proportion of their total childcare costs. Once this means tested support has been fully withdrawn, families continue to receive the 15 hours universal free entitlement. This support does not depend on income, and as such, further increases in income do not see a fall in childcare support. As a result, childcare expenditure as a proportion of income declines after the peak of £55,350.

Figure 3a: Childcare support and net cost by gross annual family income, as % of net family income (excluding childcare benefits) – *two parents working full time with two children aged two and four in full-time care*



Source: Resolution Foundation childcare cost model, 2012.

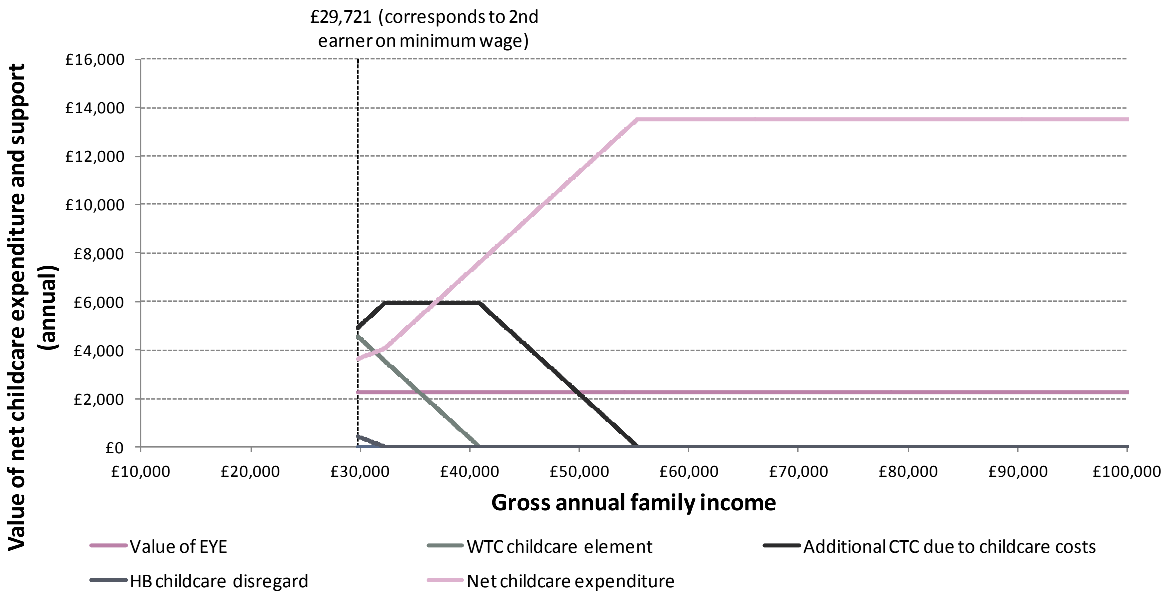
Notes: (1) Both parents work full time (37.5 hours per week). Main earner's hourly wage is 50 percent higher than that of the second earner. (2) Dotted vertical line denotes the household's minimum income (£29,721) where the second earner has an hourly wage of £6.08 and the main earner an hourly wage of £9.12. (3) Dashed vertical line denotes the level of gross family income (£43,966) that corresponds to median equivalised household income for this family. (4) Full-time childcare defined as 42.5 hours per week for 47 weeks per year. (5) Net childcare expenditure defined as the gross out-of-pocket cost of childcare, less all childcare benefits received (see Appendix 1 for details). (6) Annual cash value of the Early Years Entitlement calculated as £3.95 per hour for 15 hours per week and 38 weeks per the year. (7) Net family income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received.

Figure 3b picks apart the different layers of government support in order to highlight the mechanisms that are driving the overall pattern of support observed in Figure 3a. The first thing to note is that the value of the Early Years Entitlement (EYE) remains constant as income rises. What Figure 3b makes clear is that it is the withdrawal of childcare related tax credits which is driving the overall pattern seen in Figure 3a. At the lowest end of the distribution, families receive additional Housing and Council Tax benefit payments because they pay for childcare (Council Tax benefit not show in 3b because even with the second earner only on the minimum wage this family would not be eligible for this element of suport). These additional payments are vital in providing extra support for childcare costs. The introduction of Universal Credit will remove this additional support, meaning some of the lowest income parents will be significantly worse off. This will affect around 100,000 families who can currently get up to 96 percent of their childcare costs covered through the benefits and tax credits system.[19] As incomes rise, childcare related tax credits are gradually withdrawn as shown in 3b. Housing Benefit and the childcare element of Working Tax Credit are withdrawn first, followed by the additional Child Tax Credit which parents receive as a result of claiming childcare which is withdrawn once household income exceeds £43,000 (see footnote for an explanation of how childcare costs increase a familiy's child tax credit entitlement).[20]

[19] Royston, S., *The Parent Trap: Childcare cuts under Universal Credit,* Children's Society (2012).

[20] Paying for childcare can increase a family's entitlement to Child Tax Credit (CTC), in addition to the childcare element of Working Tax Credit (WTC). This is because the CTC and WTC calculation is taken together. Facing childcare costs will increase a family's maximum possible tax credit entitlement (by 70% of childcare costs up to a limit). For both the couple and single parent case studies considered in this note, each with two children aged two and four and all parents working full-time, in the absence of childcare costs, CTC would begin to be withdrawn once gross annual household income exceeded £17,786. However, facing childcare costs increases the maximum entitlement, so in this case both the couple and the single parent only begin to have additional CTC withdrawn once gross annual household income goes above £42,996. Note that this threshold varies with childcare costs as this determines the maximum possible tax credit entitlement which is then tapered away. In other words, if the total cost of childcare was higher the point at which CTC would begin to be withdrawn would be greater than £42,996.

Figure 3b: Value of net childcare expenditure and elements of childcare support by gross annual family income – *two parents working full time with two children aged two and four in full-time care*



Source: Resolution Foundation childcare cost model, 2012.

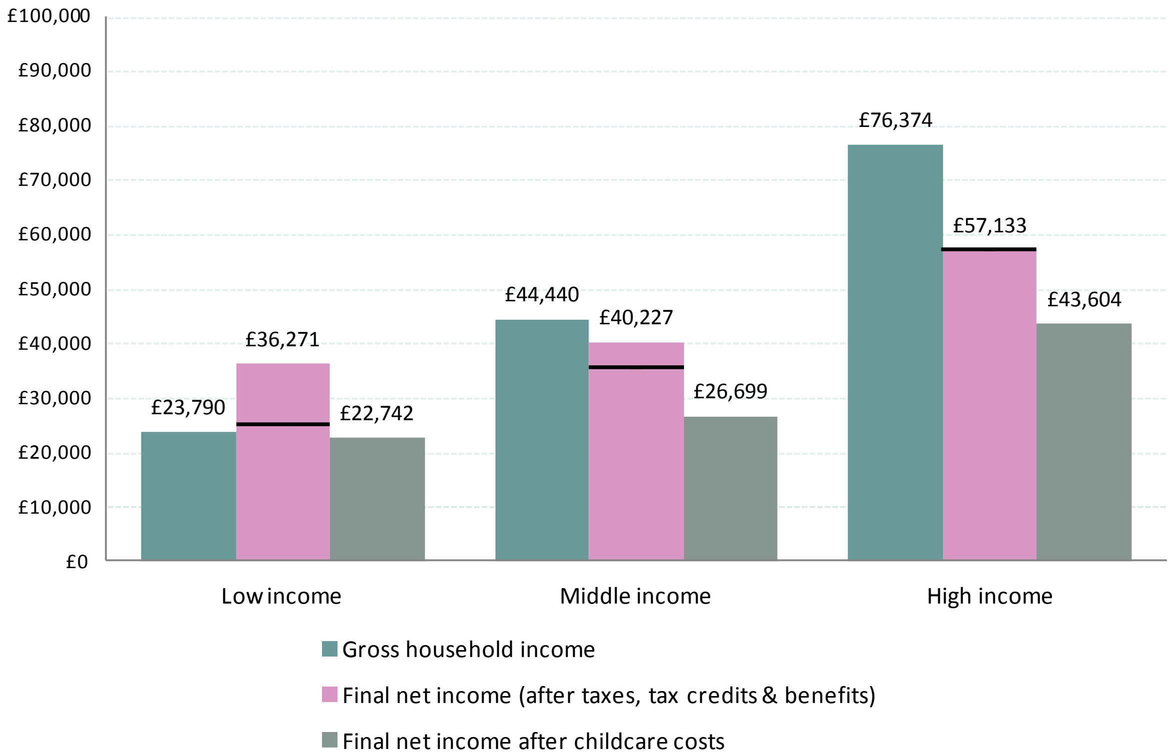
Notes: See Figure 3a notes above.

Another way of assessing the distribution of childcare support is to look at the difference between gross household income and net income after childcare costs for a low, middle and high income family. Figure 3c below compares the impact of childcare costs on household incomes for three stylised families: a low income couple both earning the minimum wage, a median income couple and a high income couple in the top 20 percent of household incomes. In each case, the family is assumed to have a two and a four year old both in full time childcare. Figure 3c shows how much each family earns (gross household income), how much it has after receiving benefits and tax credits and paying taxes (final net income after taxes, tax credits and benefits) and how much of that net income is left after it pays for childcare (final net income after childcare costs). The black horizontal lines on the pink bars show the final net income (after taxes, tax credits and benefits) ***excluding*** the value of tax credits, HB and CTB received to cover childcare (see Appendix 1 for details).

The gap between gross and net household income after childcare costs is very small for the low income family, highlighting the high levels of tax credit support, including support for childcare, that the family receives. The high income family faces a big loss of income after childcare costs but, given where it starts, its net income after childcare costs is still comfortable. However, it is in the middle where childcare costs bite the hardest. The middle income couple starts 87 percent better off than the low income couple. After taxes, benefits and childcare costs, however, the middle income couple is only 17 percent better off than the low income couple.

This erosion of the income gap between the low and middle income couple is largely because the low income couple receives far more support through the tax credit system than the middle income couple. The low income family receives childcare support equivalent to 31 percent of net family income, while the support available to the middle income family is equivalent to 11 percent of net family income. This means that the middle income couple faces net childcare costs after all support of £174 per week. The low income couple pays £47 per week for the same amount of childcare which is nevertheless a significant chunk of a small disposable income for the low income family.

Figure 3c: Incomes before and after childcare costs, by income level – *two parents working full time with two children aged two and four in full-time care*



Source: Resolution Foundation childcare cost model, 2012.

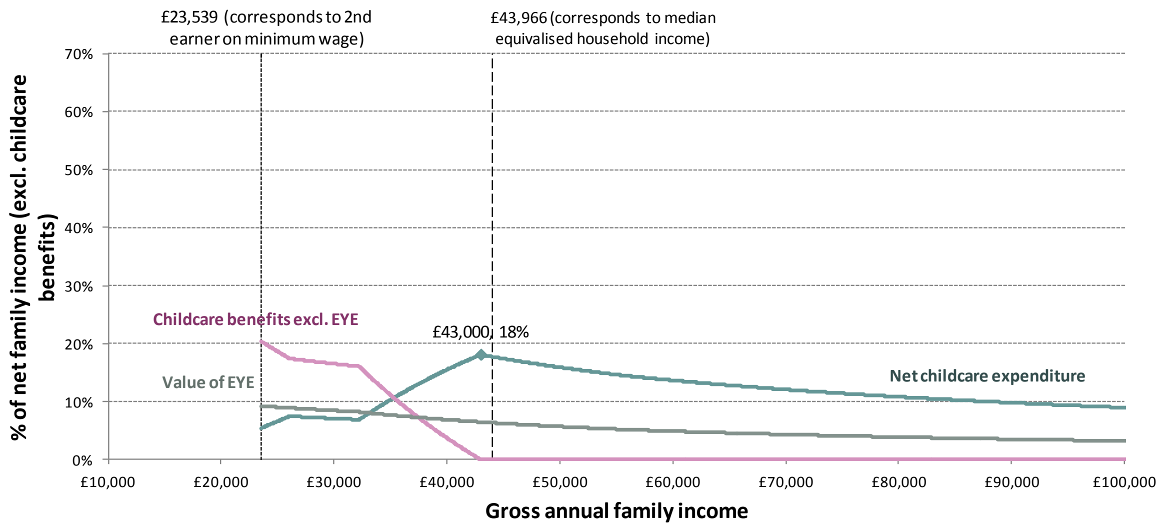
Notes: (1) Full-time childcare defined as 42.5 hours per week for 47 weeks per year. (2) Both parents work full-time (37.5 hours per week). (3) Low income family corresponds to two parents working full-time on minimum wage, which puts them just below the 20th percentile in the equivalised household income distribution (see Appendix 3 for percentile cut-offs). (4) Middle income family has a main earner on 100 percent of average wage and second earner on 67 percent of average wage, equating to a gross annual family income of £44,440 which is just above the level corresponding to median equivalised income (£43,966). (5) High income family has a main earner on 172 percent of average wage and a second earner on 115 percent of average wage, which puts the family just above the 80th percentile in the equivalised gross household income distribution. (6) Black horizontal lines on the pink bars show the final net income (after taxes, tax credits and benefits) excluding the value of tax credits, HB and CTB received to cover childcare (see Appendix 1 for details).

Dual-earning household – one parent working full-time, one part-time

It is more typical for families in the UK with young children to have one full-time working and one part-time working parent rather than two full-time earners. In part, this reflects the relatively high costs of childcare which are substantially reduced if one parents is at home for part of the week. Figure 4a shows the how net childcare costs as a percentage of net household income change as income rises for a family with two children aged two and four in which one parent works full time and the other part time and the family pays for 23 hours of childcare per week.

The fact that the family uses significantly fewer hours of childcare than the full time working couple above is reflected in substantially lower childcare costs. Childcare expenditure for this family type peaks at 18 percent of net income when gross household income reaches £43,000 rather than 31 percent of net income for the dual earning full-time working couple. The overall pattern of childcare support the family receives is the same as for the full time dual earning couple, with means-tested support being withdrawn until household income reaches £43,000. The breakdown of different types of support for this part-time working family is shown in Figure 4b below. Housing Benefit and the childcare element of Working Tax Credit are withdrawn more rapidly than for the full time dual earning couple because the family is incurring lower childcare costs and, therefore, receives less support. Child Tax Credit also starts to be withdrawn earlier, once gross household income reaches £32,250.

Figure 4a: Childcare support and net cost by gross annual family income, as % of net family income (excluding childcare benefits) – *one parent working full time, one part time, with two children aged two and four in part-time care*

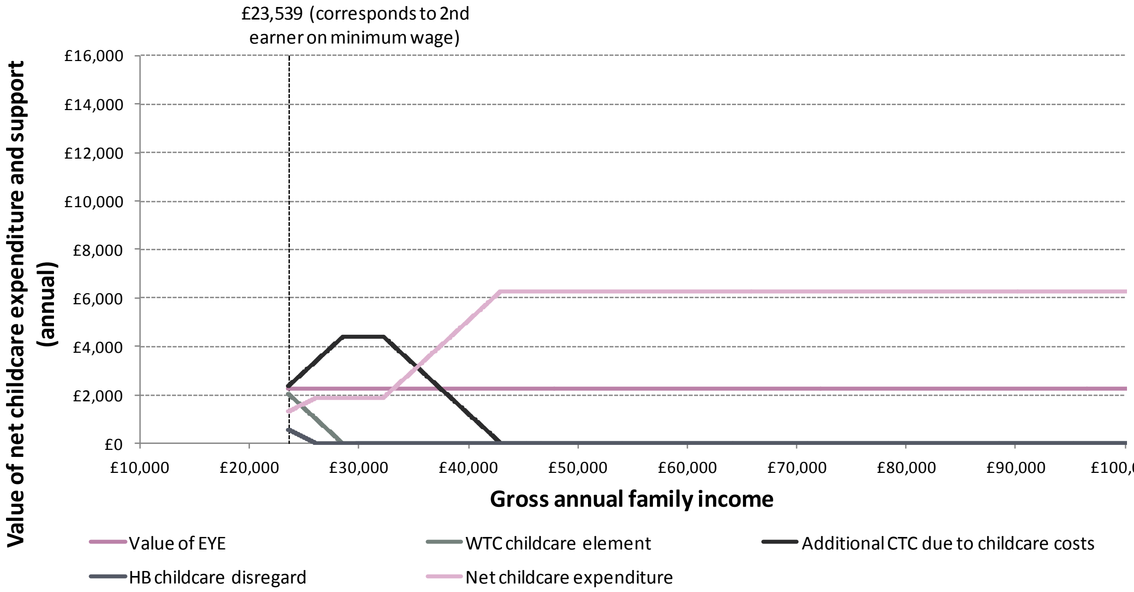


Source: Resolution Foundation childcare cost model, 2012.

Notes: (1) Main earner works full time (37.5 hours per week), second earner works part time (18 hours per week). Main earner's hourly wage is 50 percent higher than that of the second earner. (2) Dotted vertical line denotes the household's minimum income (£23,539) where the second earner has an hourly wage of £6.08 and the main earner an hourly wage of

£9.12. (3) Dashed vertical line denotes the level of gross family income (£43,966) that corresponds to median equivalised household income. (4) Part-time childcare usage defined in line with number of hours worked by second earner (23 hours per week for 47 weeks per year). (5) Net childcare expenditure defined as the gross out-of-pocket cost of childcare, less all childcare benefits received (see Appendix 1 for details). (6) Annual cash value of the Early Years Entitlement calculated as £3.95 per hour for 15 hours per week and 38 weeks per the year. (7) Net family income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received.

Figure 4b: Value of net childcare expenditure and elements of childcare support by gross annual family income – *two parents, one working full time and one part time with two children aged two and four in part-time care*



Source: Resolution Foundation childcare cost model, 2012.

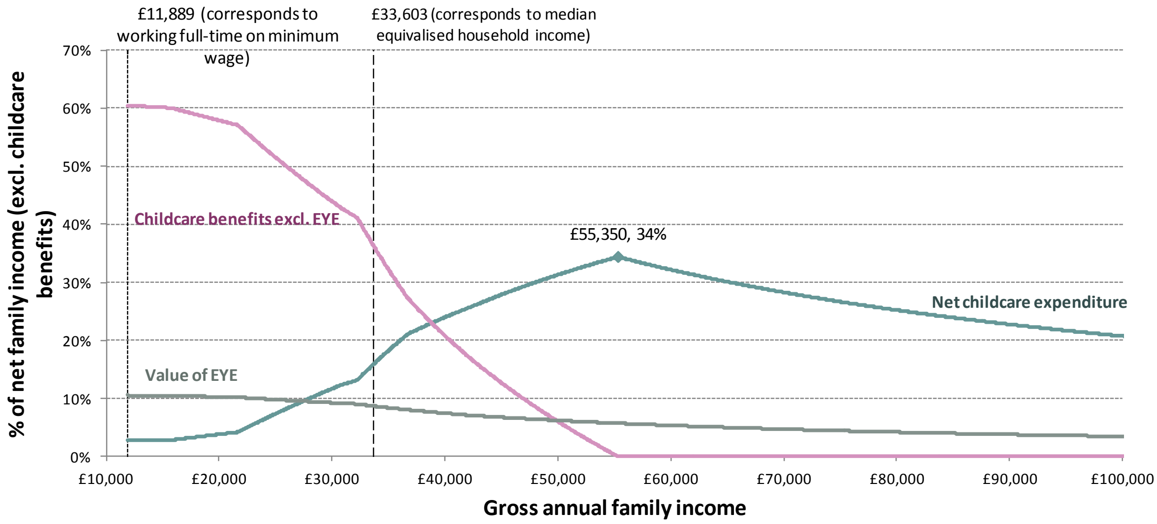
Notes: See Figure 4a notes above.

Single parent households

Figures 5a and 5b replicate the above analysis for a full time working single parent household with two children in full time childcare. The pattern is broadly similar, with childcare costs rising as a proportion of income up to a household income of around £55,000, reflecting the withdrawal of tax credit support. After this point, childcare costs fall as income rises.

There are, however, some important differences in the support available for single parents as opposed to dual earning households. First, at their peak, childcare costs represent 34 percent of net family income for a full time working single parent which is higher than for a full time dual earning couple. This is largely because tax credits and benefits are paid at the household level but the tax system recognises individuals. This means that dual earners benefit from two personal allowances and see a larger share of their household income moved out of tax than single parents. However, the overall level of support is higher for middle income single parents than for couples with the same equivalised household income. For example, a couple with two children under 14 at the median has a household income of approximately £44,000. For a single parent household with two children under 14 at the median, it is approximately £34,000. Therefore, at the same point in the equivalised income distribution, single parents are entitled to more support.

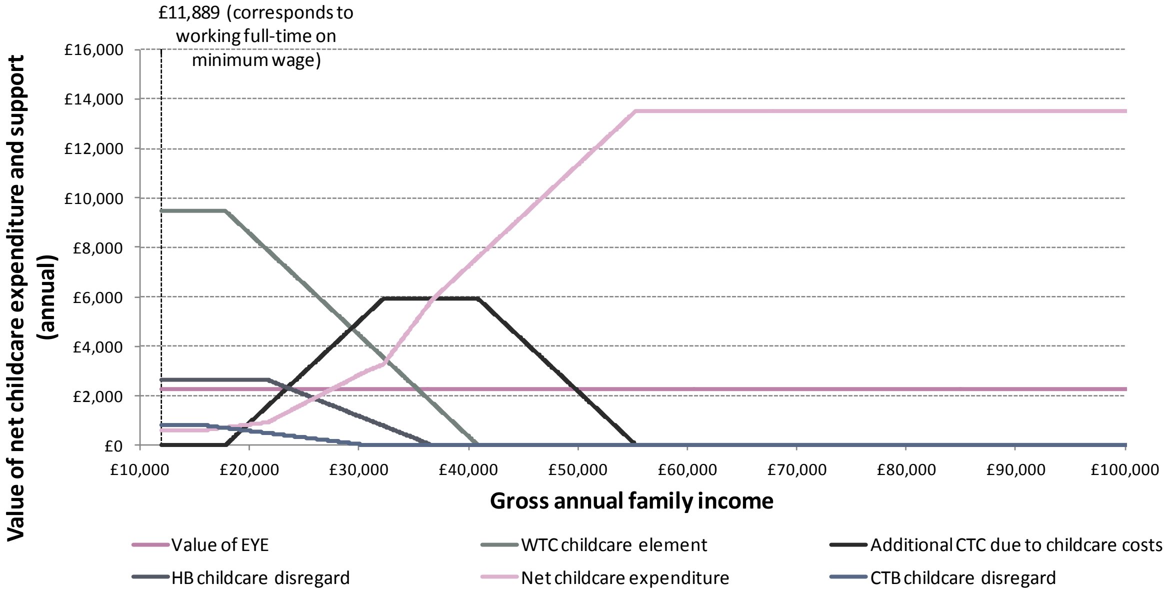
Figure 5a: Childcare support and net cost by gross annual family income, as % of net family income (excluding childcare benefits) – *single parent working full time with two children aged two and four in full-time care*



Source: Resolution Foundation childcare cost model, 2012.

Notes: (1) Single parent works full time (37.5 hours per week). (2) Dotted vertical line denotes the household's minimum income (£11,889) where the single parent is on minimum wage (£6.08). (3) Dashed vertical line denotes the level of gross family income (£43,966) that corresponds to median equivalised household income. (4) Full-time childcare defined as 42.5 hours per week for 47 weeks per year. (5) Net childcare expenditure defined as the gross out-of-pocket cost of childcare, less all childcare benefits received (see Appendix 1 for details). (6) Annual cash value of the Early Years Entitlement calculated as £3.95 per hour for 15 hours per week and 38 weeks per the year. (7) Net family income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received.

Figure 5b: Value of net childcare expenditure and elements of childcare support by gross annual family income – *single parent working full time with two children aged two and four in full-time care*



Source: Resolution Foundation childcare cost model, 2012.

Notes: See Figure 5a notes above.

Looking at the gap between gross and net income after childcare costs, Figure 5c highlights the fact that, despite significant differences in their gross income, all three single parent families end up in similar positions after childcare costs. The middle income family starts off 83 percent better off than the low income family and the high income family 216 percent better off. On a net income after childcare costs basis, however, the middle income family is only 4 percent better off than the low income family and the high income family only 30 percent better off.

The black horizontal lines on the pink bars show the final net income (after taxes, tax credits and benefits) *excluding* the value of tax credits, HB and CTB received to cover childcare (see Appendix 1 for details). A low income single parent pays only 2 percent of her net income in childcare costs and receives childcare support worth 37 percent of her net income. The more generous nature of support for single parents means that the middle income parent pays only 11 percent of her net income in childcare costs and receives support worth 27 percent of her net income. However, high income single parents are particularly hard hit by the loss of tax credit support. A full time working single parent in the eighth decile receives no support other than the Early Years Entitlement. The high costs of childcare can create significant barriers to employment even for higher income single parents because they cannot share childcare responsibilities with a partner as couple parents can. Furthermore, even a single parent in the eighth decile is on a relatively modest income and full-time childcare still eats up a large chunk of disposable income (33%).

Figure 5c: Incomes before and after childcare costs, by income level – *single parent working full time with two children aged two and four in full-time care*

Source: Resolution Foundation childcare cost model, 2012.

Notes: (1) Full-time childcare defined as 42.5 hours per week for 47 weeks per year. (2) Single parent works full time (37.5 hours per week). (3) Low income family corresponds to single parent on 69 percent of average wage, which puts them just above the 20th percentile in the equivalised household income distribution (see Appendix 3 for percentile cut-offs). (4) Middle income family has a single parent on 126 percent of average wage, equating to a gross annual family income of £33,350 which is just below the level corresponding to median equivalised income (£33,603). (5) High income family has a single parent on 218 percent of average wage, which puts the family just below the 80th percentile in the equivalised gross household income distribution. (6) Black horizontal lines on the pink bars show the final net income (after taxes, tax credits and benefits) excluding the value of tax credits, HB and CTB received to cover childcare (see Appendix 1 for details).

Childcare costs and the incentives to work

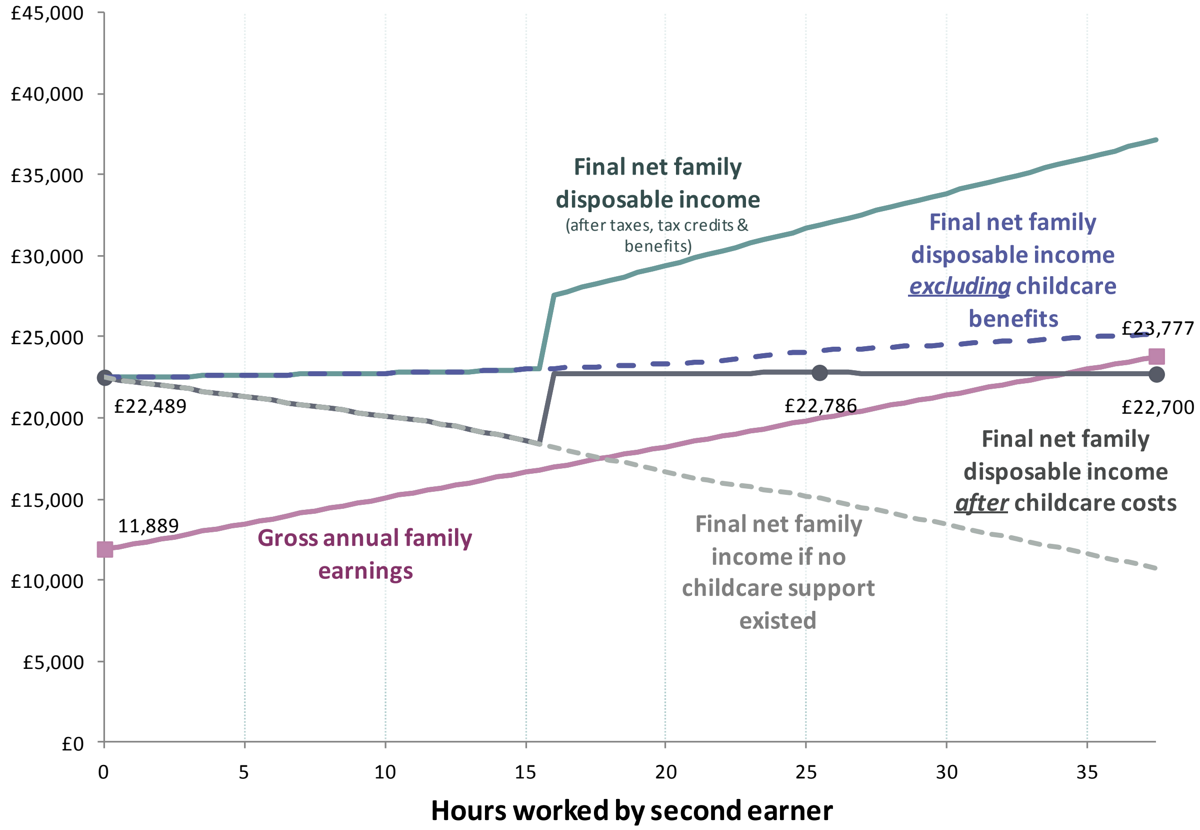
The previous section showed how childcare costs hit middle income couple families and single parents on middle and higher incomes particularly hard, leaving them little better off than a minimum wage earning couple or single parent after childcare costs. While the percentage of income that families spend on childcare is an important measure of affordability, it does not provide a full picture of how childcare costs affect the incentive to move into and progress in work. For couple families, childcare costs affect work incentives for the second earner because until the second earner moves into work there is no need to pay for childcare.

Work incentives are shaped by how much individuals keep of each additional pound they earn, making them better off for every extra hour they work. For low to middle income families who receive support through the tax credit system, the means tested nature of the system means that families lose support as their incomes rise, as well as having to pay for childcare to be able to work. At a certain point, individuals also start to pay taxes which means they lose even more of each additional pound. As a result, second earners lose a large chunk of every extra pound they earn. At the lowest end of the income scale, up to 96 pence of each additional pound is lost as Housing Benefit and Council Tax Benefit are withdrawn as the second earner moves into work.

The withdrawal of benefits and tax credits means that it is possible for childcare costs to account for a very small percentage of net family income but for work incentives to remain weak. If a second earner is already losing most of each additional pound she earns as a result of the means tested tax credit system, even relatively low childcare costs can tip the balance and make work no longer pay. This section looks at the impact of childcare costs on second earner work incentives for a low income couple and a middle income couple under the current system in 2012.

Figure 6 shows what happens to net family income after childcare costs as the second earner increases her hours of work with both partners in the couple earning the minimum wage. Although net childcare costs only account for five percent of net family income excluding childcare benefits, the family is only £296 better off a year if the second earners increases her hours from zero to 25 hours per week. If she works more hours to become full time, the family is only £211 better off per year. Overall, the incentives for the second earner to enter and progress in work are very weak, becoming negative as she approaches full time hours.

Figure 6: Work incentives for second earners in a low income household



Source: Resolution Foundation childcare cost model, 2012.

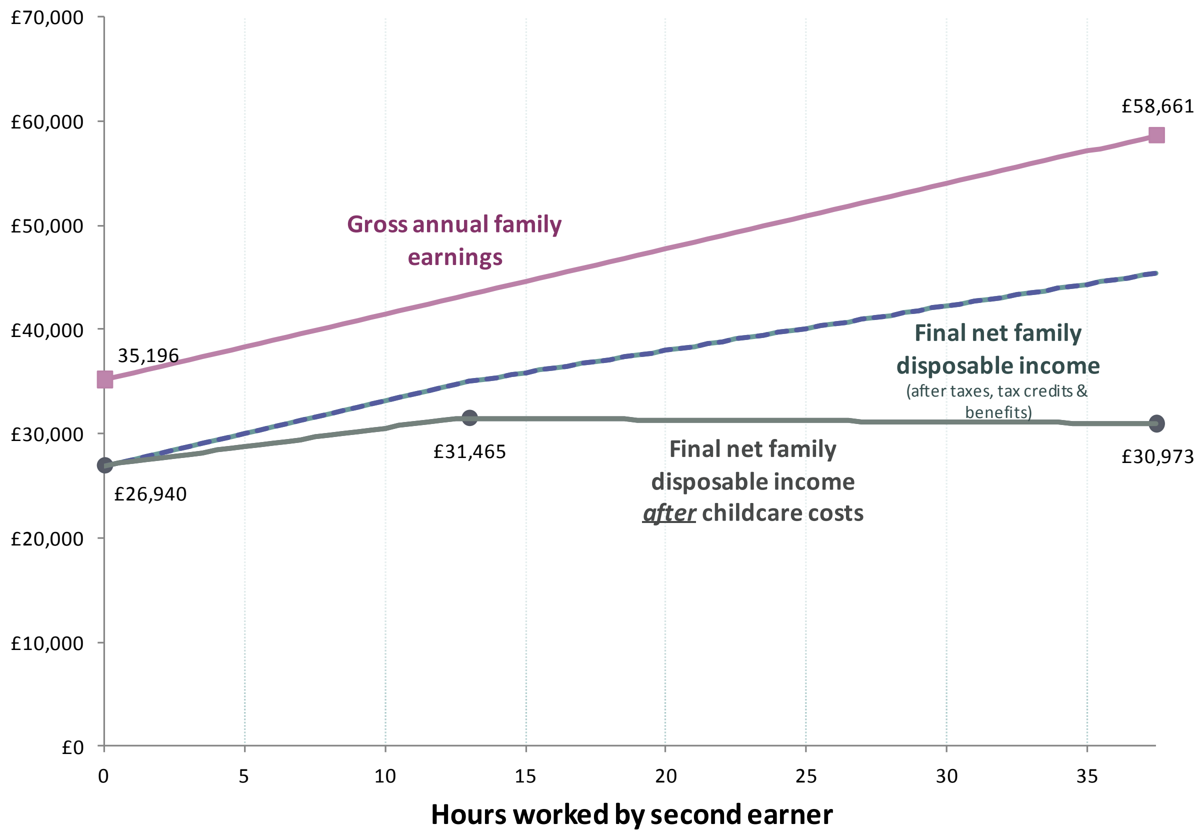
Notes: (1) The main earner works 37.5 hours per week. (2) Childcare usage: 1.2 hours of childcare is used for every hour worked by the second earner for 47 weeks of the year. (3) Both main and second earner are on minimum wage (£6.08 per hour). (4) The household is assumed to receive Housing Benefit towards rent of £100 per week and Housing benefit is included in the calculation of final net income. The household is assumed to receive council tax benefit towards its council tax bill of £24.65 per week. Council tax benefit is included in the calculation of final net income. (5) Final net family disposable income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received.

As Figure 6 highlights, the second earner faces a significant disincentive to work for the first 16 hours because the family is worse off if she does. This is because the family is only eligible for childcare-related tax credits and additional Housing Benefit and Council Tax Benefit once both parents are working at least 16 hours per week. For the first 16 hours, the second earner is effectively paying to work.

Once support for childcare kicks in at 16 hours, the situation improves slightly but the second earner still does not face a positive incentive to progress. The family's income remains flat as her hours increase beyond 16. This is because benefits and tax credits are withdrawn and taxes and childcare costs incurred as the family's income increases with each additional hour the second earner works. For each additional pound the second earner earns after 16 hours, the family loses almost the same again, leaving final net disposable family income after childcare costs flat. The gap between the top line showing final net family disposable income and the blue dotted line represents the benefits and tax credit support that the family receives only because it incurs childcare costs. The wedge between the two lines grows as the second earner's hours increase and the family requires more hours of childcare. If the family did not receive extensive support for childcare, the family's net income after childcare costs would not be flat beyond 16 hours. The line would slope significantly downwards as illustrated by the bottom grey dotted line in Figure 6.

Figure 7 below looks at the work incentives facing a second earner in a middle income household. Assuming the second earner earns £12 per hour, she faces a positive incentive to work for the first 13 hours. If she works 13 hours, the family is just over £4,500 better off a year. However, after this point, her incentives turn negative and net family income after childcare costs remains essentially flat as she extends her hours.

Figure 7: work incentives for second earners in a middle income household



Source: Resolution Foundation childcare cost model, 2012.

Notes: (1) The main earner works 37.5 hours per week. (2) Childcare usage: 1.2 hours of childcare is used for every hour worked by the second earner for 47 weeks of the year. (3) Main earner is on £18 per hour, earning £675 per week (£35.2k per year). The second earner earns two thirds of this rate, £12 per hour. The couple represent a typical middle income household in that, if the second earner works 15 hours a week, gross household income is £44.6k, near to the median of the equivalised gross household income distribution (£44.4k). (4) Final net family disposable income is calculated as gross earnings net of income tax, NICs and council tax, plus all tax credits, child benefit, housing benefit and council tax benefit received.

The second earner in a middle income family loses less of each additional pound earned than the second earner in a low income family because the family is outside of the tax credit system. The second earner pays tax on each additional pound earned but does not also face the loss of benefits and tax credits. As a result, it pays for the second earner to work up to 13 hours, despite incurring childcare costs. However, since the middle income family receives no means-tested support for childcare and only receives the Early Years Entitlement, once the second earner's hours start to increase and the costs of childcare grow, it starts to become disadvantageous for the second earner to keep progressing in work. The wedge between the final net family disposable income line and the disposable income after childcare costs line represents the family's out of pocket costs of childcare. At 13 hours childcare is costing the family 10% of its net income. As this continues to increase (up to 32% at 37.5 hours) the line showing the family's final disposable income line flattens as the childcare costs wedge grows. As this happens, it no longer pays for the second earner to keep progressing in work.

Conclusion

Growing employment among women has been critical to maintaining household living standards over the last thirty years as employment income from men has declined. With wages not expected to rise significantly over the coming decade for those in the bottom half of earnings, driving up female employment is one route to maintaining upwards pressure on living standards. This makes childcare a critical piece of the policy response to today's living standards challenge. Ensuring that low to middle income families benefit from a return to growth will depend on childcare playing its part.

As a result of significant investment over the last decade, the affordability of childcare as a percentage of disposable family income has improved considerably since 2004, although the UK still has more expensive childcare than many competitor countries. Low income families have particularly benefited from this investment but progress on affordability slowed following the 2011 cut to the childcare element of Working Tax Credit. For families just above the median, years of consistent improvement in affordability went into reverse following this cut. In fact, middle income families face the greatest hit to their disposable income from childcare costs. With support targeted at those on the lowest incomes, middle income families lose large chunks of their income to childcare costs. Once they have paid for childcare, they are barely better off than a low income family despite a £20,000 head start in earnings.

What is particularly troubling from the perspective of driving up female employment is the fact that improvements in the affordability of childcare over the last decade have not created better work incentives for second earners, largely women, in low to middle income families. Reducing the percentage of disposable income families spend on childcare even to very low levels may not be enough to make work pay because of the negative interaction between childcare costs and means-tested childcare support provided through the tax credit system. Second earners in low to middle income families already lose a significant amount of each additional pound they earn. As they earn more, they lose benefits and tax credits and start to pay taxes. Add to this the costs of childcare and they can face deduction rates of close to 100 percent which means that they are no better off from working an additional hour.

With the incentives to work so finely balanced for second earners, there is a real risk that many mothers will decide to drop out of employment altogether, particularly given the additional strain that two working parents places on family dynamics. Fewer women in work will affect living standards, putting more children at risk of growing up in poverty, and will also put the economic recovery under threat.

Reducing the amount of disposable income low and middle income families spend on childcare is an important part of lowering the barriers to work for women. Lower costs reduce the extent to which paying for childcare compounds the disincentives to earn than are already built into the tax and benefit system. However, greater investment in today's means tested system is unlikely to significantly improve work incentives for low to middle income families given existing high marginal deduction rates. When new money is available, it should be invested in highly affordable, non-means-tested support for childcare rather than investing more in today's complex system. The opportunity to rethink support for childcare was missed in the design of Universal Credit. Before further investment is made, it is time to think again.

Appendix 1: Assumptions used in this note

This analysis is based on a childcare model developed by the Resolution Foundation along the same lines as the model used by the OECD. As such, it classifies different types of childcare support as the OECD does in order to make the analysis as close to the previous work of the OECD as possible. This does not always respect the way in which families experience the support they receive. For example, the OECD classifies the early years entitlement for three and four year olds as a childcare benefit whose cost is included in the value of childcare used by parents, although in reality the cost of those 15 hours is paid directly to providers.

Childcare support assumptions

The OECD analysis was conducted in 2004 and, therefore, does not reflect the current levels and range of childcare support. This analysis includes the following types of childcare support classified as follows in keeping with the OECD

Childcare benefits

- Cash value of the early years entitlement for three and four year olds of 15 hours per week for 38 weeks of the year. This is valued at £3.95 per hour based on the Day Care Trust's 2012 childcare costs survey.[21]
- Childcare element of the working tax credit which covers 70 percent of childcare costs for eligible families up to £175 per week for one child and £300 for two or more children.

Other childcare benefits

- Child tax credit that is paid to families in receipt of working tax credit only because they incur childcare costs[22]
- Childcare support that is paid to low income families in receipt of housing benefit as a result of the housing benefit disregard[23]
- Childcare support that is paid to low income families in receipt of council tax as a result of the council tax disregard[24]

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[21] Daycare Trust, *Childcare costs survey 2012* (http://www.daycaretrust.org.uk/pages/childcare-costs-survey-2012.html, accessed 5 October 2012)

[22] Paying for childcare can increase a family's entitlement to Child Tax Credit, in addition to the childcare element of Working Tax Credit. This is because the CTC and WTC calculation is taken together. Facing childcare costs will increase a family's maximum possible tax credit entitlement (by 70% of childcare costs up to a limit). For both the couple and single parent case studies considered in this note, each with two children aged two and three and all parents working full-time, in the absence of childcare costs CTC would begin to be withdrawn once gross annual household income exceed £17,786. However, facing childcare costs increases the maximum entitlement, so in this case both the couple and the single parent only begin to have additional CTC withdrawn once gross annual household income goes above £42,996. Note that this threshold varies with childcare costs as this determines the maximum possible tax credit entitlement which is then tapered away. In other words, if the total cost of childcare was higher the point at which CTC would begin to be withdrawn would be greater than £42,996.

[23] Where eligible, all families are assumed to receive housing benefit towards rent of £100 per week.

The scenarios presented in this note assume maximum take up of all benefits for which the family in question is entitled. In reality, take up of the childcare tax credit is far lower than we assume. Given the significance of this as a source of support for childcare costs, families would face higher childcare costs that the scenarios presented here suggest. The scenarios do not include employer supported childcare vouchers because these are not widely available and only higher income parents are better off claiming vouchers than tax credits.

Childcare use assumptions

The family scenarios are based on the following assumptions about working hours and childcare use.

Full-time working parents are assumed to work 37.5 hours per week. Part-time working parents are assumed to work 18 hours per week. For couples, the main earner's wage rate is taken to be 50% higher than that of the second earner, with the exception of the low earner couple where both parents are on minimum wage.

Dual earning full-time working parents and full time working single parents are assumed to use 42.5 hours of childcare per week. Dual earning parents where the second earner works part time are assumed to use 23 hours of childcare per week. Families are assumed to include two children: one who is two and one who is four.

While the childcare costs remain the same in each scenario, the earnings change and, consequently, the household incomes as a result of interactions with tax and benefits system rules as of 2012/2013. Wages are based on the Annual Survey of Hours and Earnings 2011 full-time earnings projected to 2012.

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[24] Where eligible, all families are assumed to receive council tax benefit towards council tax liability of of £24.65 per week.

Appendix 2

The table below sets out the gross household income thresholds for families with two children corresponding to key percentile points in the equivalised income distribution for all working age households for 2012. This shows that the median equivilised household income in 2012 (£31,404) corresponds to a gross annual household income of £43,966 for a couple with two children, and £33,603 for a single parent with two children.

Table A1. Unequivalised gross household income levels corresponding to decile cut-offs in the equivalised gross household income distribution

		Corresponding gross household income (unequivalised)	
percentile	**Equivalised gross household income**	**Couple with two children (U14)**	**Single parent with two children (U14)**
p10	£12,862	£18,007	£13,763
p20	£17,094	£23,932	£18,291
p30	£21,549	£30,168	£23,057
p40	£26,337	£36,872	£28,181
p50	**£31,404**	**£43,966**	**£33,603**
p60	£37,140	£51,995	£39,739
p70	£44,378	£62,130	£47,485
p80	£54,290	£76,005	£58,090
p90	£72,386	£101,341	£77,453

Source: Authors' calculations based on HBAI / FRS 2009-10 data.

Notes: (1) Percentiles are estimated based on equivalised gross household income for all working age households, calculated using HBAI / FRS 2009-10 data. The percentile estimates are adjusted to 2012-13 prices using average nominal income growth prior to 2009/10. (2) Working age households are defined as being those headed by an individual over pension age (i.e. aged 65+ for males and 60+ for females). (3) OECD equivalisiation scale is used: 0.67 for first adult; 0.33 for spouse; 0.2 for each child under 14; and 0.33 for each child over 14).

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