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Working Paper

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ESRI Working Paper, No. 708

Provided in Cooperation with:

The Economic and Social Research Institute (ESRI), Dublin

Suggested Citation: Doorley, Karina; McTague, Alyvia; Regan, Mark; Tuda, Dora (2021) : Childcare in Ireland: Usage, affordability and incentives to work, ESRI Working Paper, No. 708, The Economic and Social Research Institute (ESRI), Dublin

This Version is available at:

<https://hdl.handle.net/10419/265888>

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Working Paper No. 708

November 2021

Childcare in Ireland: usage, affordability and incentives to work

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Abstract: Successive reports have put childcare costs in Ireland at among the highest in the OECD. In this paper, we investigate the usage and cost of childcare in Ireland, profiling those experiencing high childcare costs by income quintile; family type and number and age of children. We show how the National Childcare Scheme is likely to improve the affordability of childcare in Ireland while pointing out features of the scheme that may disincentivise work. Lastly, we simulate a number of reforms to the National Childcare Scheme, showing how affordability and incentives to work are likely to be affected by the alteration of specific parameters of the subsidy.

Key words: childcare affordability; National Childcare Scheme, work incentives

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* Acknowledgements: This work was carried out as part of the ESRI's Tax, Welfare and Pensions work program. Funding from the Department of Social Protection, the Department of Children, Equality, Disability, Integration and Youth, the Department of Public Expenditure and Reform, the Department of Health and the Department of Finance is gratefully acknowledged.

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1 Introduction

A series of comparative analyses have shown that childcare costs to parents in Ireland are among the highest in the OECD (OECD, 2015; OECD, 2007; OECD, 2020). Average out-of-pocket full-time childcare fees for children under 3 in Ireland were estimated at €771 per month in 2019, one of the highest in the EU (Motiejunaite-Schulmeister, Balcon, & de Coster, 2019). Compared to income, out-of-pocket childcare costs for a two-earner couple with two children (aged 2 and 3) in full-time care was estimated at more than one-third of women's median full-time earnings in Ireland in 2019, one of the highest figures in the OECD (OECD, 2020).

High childcare costs have been shown to be an important barrier to using formal childcare. Estimates from the OECD suggest that high-income families are four times more likely to use formal childcare than lower income households (Adema, Clarke, & Thévenon, 2016). High childcare costs are also a barrier to female labour market participation and to improving child poverty rates (Gambaro, Stewart, & Waldfogel, 2014).

Research for Ireland has shown that the burden of childcare costs varies by income level and household structure. According to Growing Up in Ireland data from 2011, parents of children aged three were spending an average of 12% of disposable income on childcare for this child, with this figure rising for lower income families and lone parents (Russell, McGinnity, Fahey, & Kenny, 2018). The authors found that an increase in childcare costs was associated with less paid maternal employment, with stronger effects for low-income households.

In 2019, the Irish National Childcare Scheme (NCS) replaced a number of smaller childcare subsidy schemes, and one of its key objectives was to improve childcare affordability in Ireland.¹ The NCS provides hourly subsidies towards registered childcare costs in a targeted manner. Parents of children between the ages of 6 months and 15 years, whose income is below a certain level, receive a maximum hourly subsidy, which is reduced in line with parental income. Those with means above the maximum income limit are eligible for a non-means tested universal hourly subsidy (UHS) if their children are above 6 months but below pre-school age, at which point the child can avail of the Early Childhood Care and Education (ECCE) scheme.²

¹ New applicants for childcare subsidies are placed on the new NCS scheme; those already benefiting from the pre-existing schemes are given a choice as to whether to remain on the existing scheme for a limited period of time or move onto the new NCS scheme.

² The ECCE scheme offers 15 hours of free childcare per week to children aged between 3 and 5 whom have not yet enrolled in primary education.

Using SWITCH, the ESRI's tax-benefit model, linked to the Survey on Income and Living Conditions which contains administrative information about earnings, we show how childcare usage varies by income quintile and household type. We also show the cost of childcare by income quintile and household type although we highlight the shortcomings of the survey variable used to estimate this. In addition, we show how the NCS improves the affordability of childcare across the income distribution and demonstrate how it affects incentives to work. We model a number of small reforms to the NCS which aim to increase affordability, the number of children eligible and/or work incentives. We show how the cost and distributional effect of these hypothetical reforms compares to actual reforms to the NCS enacted between 2019 and 2020. The hypothetical reforms are selected because their cost is similar to the aggregate cost of changes to the NCS in Budget 2020. The reforms are not intended to be prescriptive but are designed to show what a particular budget can achieve in terms of affordability, targeting and work incentives by modifying different parameters of the NCS.

We also build on previous research about the distributional effect of the NCS and its effect on incentives to work. Previous research has examined the scale, cost and distributive impact of the National Childcare Scheme using the SWITCH model, finding that it benefits families in the bottom third of the income distribution the most (Callan, Keane, & Regan, 2020). Regan, Keane & Walsh (2018) and Keane & Bercholz (2019) estimate the effect of the NCS on the extensive margin of work – the incentive to be in employment, and the intensive margin of work – the incentive to earn more. The authors showed that childcare costs weaken the incentive to be in employment but that the NCS subsidy slightly mitigates this effect. On the intensive margin, the means tested nature of the NCS means that the subsidy weakens the incentive to increase earnings as the subsidy is withdrawn proportionally.

We build on this research by documenting the usage and cost of childcare in Ireland and then simulating the NCS subsidy that families using childcare are eligible for. We highlight some features of the NCS policy that may disincentivize some parents from working more than part-time. We estimate the cost and distributional effect of a number of small reforms to the NCS without accounting for any behavioural responses to the policy changes such as increased uptake of formal childcare. We then investigate the proportion of workers with dependent children facing very high disincentives to earn or to work more, as measured by the Marginal Effective Tax Rate (METR) and show how the NCS and some potential reforms affect this measure of work incentives. Our central scenario in this analysis is a *baseline* pre-pandemic 2020 population which is not affected by unemployment brought about by the Covid-19 pandemic.

An important caveat to our analysis is that we assume there is no change in the behaviour of households (e.g., in hours of work) or childcare providers (particularly in prices charged to families) as a result of the NCS scheme being introduced or modified. As such, our results represent the so-called “morning after” policy effect, whereby reforms have been implemented but behaviour is static. As a word of caution, these behavioural responses could be important, but it is difficult to estimate a childcare provider’s decision to increase prices and a parent’s labour supply or childcare demand response when faced with subsidised childcare.

The structure of this report is as follows. Section 2 presents the National Childcare Scheme, describing how it is modelled in this work. Section 3 investigates childcare affordability and usage in Ireland, profiling those households who face high or low childcare costs. Section 4 presents the results of a number of simulated reforms to the NCS, including their cost, distribution and effect on childcare affordability and incentives to work. Section 5 concludes.

2 The National Childcare Scheme

2.1 The National Childcare Scheme

The National Childcare Scheme (NCS) was announced in 2017 and became fully operational in 2019. The scheme aims to provide a single, streamlined, user-friendly scheme. It replaced four pre-existing targeted childcare subsidies and includes wrap-around care for pre-school and school-age children.³ The NCS provides hourly subsidies towards registered childcare costs in a targeted manner. Parents of children between the ages of 6 months and 15 years, whose income is below a certain level, receive a maximum hourly subsidy, which is reduced in line with parental income. Those with means above the maximum income limit are eligible for a non-means tested universal hourly subsidy (UHS) if their children are above 6 months but below pre-school age, at which point the child can avail of the Early Childhood Care and Education (ECCE) scheme.⁴

The NCS seeks to satisfy several policy objectives. Among these are addressing the high cost of childcare in Ireland by providing a progressive childcare subsidy and ensuring equitable treatment so that all families are assessed on a consistent basis, bearing in mind their income and childcare needs (Department of Children and Youth Affairs, 2016). It is

³ New applicants for childcare subsidies are placed on the new NCS scheme; those already benefiting from the pre-existing schemes are given a choice as to whether to remain on the existing scheme for a limited period of time or move onto the new NCS scheme.

⁴ The ECCE scheme offers 15 hours of free childcare per week to children aged between 3 and 5 whom have not yet enrolled in primary education.

envisaged that the NCS, by improving access to affordable childcare, will also reduce barriers to labour force participation.

There are two types of subsidies available under the NCS. The universal subsidy is a relatively small subsidy targeted at all children aged under 3, in registered childcare. The income assessed subsidy is a more generous means-tested subsidy available for all children up to age 15 in registered childcare whose parents satisfy certain income and work criteria. The parameters of each of these types of subsidy are summarised in Table 1 for 2019, the year the scheme was fully rolled out and 2020, the year studied in this research.

Table 1 The parameters of the National Childcare Scheme in 2019 and 2020

	Universal subsidy (UHS)		Income assessed subsidy (SHS & EHS)	
	2019	2020	2019	2020
Qualifying criteria	Child 24 weeks - 3 years in registered childcare		Child 24 weeks - 15 years in registered childcare	
			Reckonable income < €60k	
Amount	50c per hour	50c per hour	Maximum of €5.10 per hour for 0–1-year-olds	
			Maximum of €4.35 per hour for 1–3-year-olds	
			Maximum of €3.95 per hour for 3+, not in school	
			Maximum of €3.75 per hour for school age - 15	
Withdrawal rate	n/a	n/a	Withdrawn smoothly between reckonable income of €26,000 and €60,000	
Multiple child discount			Increase in reckonable income for two children under 15 in the household of €3,800 and for more than two children of €7,600 per year	Increase in reckonable income for two children under 15 in the household of €4,300 and for more than two children of €8,600 per year
Maximum care hours	40 hours per week	45 hours per week	40 hours per week for those in work/education EHS	45 hours per week for those in work/education EHS
			15 hours per week for non-workers SHS	20 hours per week for non-workers SHS

Source: https://www.citizensinformation.ie/en/education/pre_school_education_and_childcare/national_childcare_scheme.html

Within the income assessed component, the maximum hourly subsidy available differs by the age and educational enrolment of the child, with younger children receiving a higher subsidy. Parents with reckonable income below €26,000 per annum receive the maximum hourly subsidy. The subsidy is gradually withdrawn up to a reckonable income of €60,000 per annum, at which point no targeted subsidy is payable. The upper- and lower-income limits are increased by €4,300 for families with a second child and €8,600 for families with three or more children. This has increased from €3,800 and €7,600 per annum in 2019. Reckonable income consists of most income sources and is net of income tax, USC, social insurance contributions, pension contributions and maintenance paid towards a child/spouse/former spouse.

The maximum number of subsidised hours available depends on the employment status of the parent(s) as well as the education status of the child. If both parents (or the only parent in the case of one parent families) are working or studying, the child is entitled to the Enhanced Hours Subsidy (EHS). This subsidises up to 45 hours of childcare per week (40 in 2019) for children not yet in education. For children in education (including those who are eligible for ECCE) it 'wraps' around school hours so that total maximum hours covered by education and the subsidy reach 45. Families with at least one parent not in work/education can receive the Standard Hours Subsidy (SHS) for up to 20 (15 in 2019) hours per week all year round for preschool children, and during school holidays for children in education⁵.

A Universal Hours Subsidy (UHS) subsidises the cost of registered childcare by 50 cent per hour for all pre-school children not yet eligible for ECCE and whose parental means are above the maximum limit.

For EHS, SHS and UHS the weekly amount of the subsidy received depends on the actual hours of registered childcare used (subject to the maximums). The subsidies are paid for up to 52 weeks of the year in the case of EHS/UHS and for children not yet in education eligible for SHS. For those eligible for SHS with children in education, the subsidy is payable during school holidays only.

2.2 Modelling eligibility for the National Childcare Scheme

⁵ The EHS applies to families where both parents (one parent in the case of lone-parent households) are active in the labour market or enrolled in education. One-earner couples and unemployed/inactive/home-duty couples & lone-parents are eligible for the SHS. The EHS offers more generous hours and weeks of care to reflect the increased demand for childcare amongst employed parents.

In our analysis, we rely on SWITCH, the ESRI's tax-benefit model. SWITCH is linked to the Survey on Income and Living Conditions Research Microdata File (RMF) for 2017, which contains survey information on childcare usage and costs and linked administrative information from the Revenue Commissioners on earnings. Incomes are updated from 2017 to 2020 levels using earnings growth indices from the Central Statistics Office and SWITCH simulates the tax-benefit system in place at the beginning of 2020.⁶ Our central scenario in this analysis is a baseline pre-pandemic 2020 population, which is not affected by unemployment brought about by the Covid-19 pandemic. The SILC data underpinning the SWITCH model contains a wide variety of variables necessary to accurately model childcare subsidies including income; labour market participation; family composition; usage of childcare and children's educational status.

SILC contains information regarding the hours of childcare used in a 'usual week' and the type of childcare. Parents are asked about their usage of centre-based care: pre-school, crèche or a pre/post school centre. For the purpose of this report, these three types of childcare are regarded as "registered" childcare and are eligible for NCS subsidies. The survey also has information on usage of paid and unpaid childminders. These types of childcare are generally non-registered and are not eligible for NCS subsidies.

We model entitlement to NCS at the point of interview⁷ i.e., based on current parental labour force status, income, child age, child educational enrolment and childcare usage. This is in line with how SWITCH simulates all taxes and benefits. Parents are asked about their childcare usage in a 'usual week'. It is unclear how parents interpret this question – for example if they report childcare usage in term-time, in the current period or averaged over the year.⁸ The annual amount of subsidy that a child is entitled to is modelled based on the usual number of childcare hours used and it is assumed that these childcare hours are used for 52 weeks of the year.⁹

Questions regarding childcare usage are only asked for children aged under 13. Therefore,

⁶ For employee incomes, the growth in average wages using the Earnings, Hours and Employment Cost Survey provide wage growth information from up to the end of 2019. There is no corresponding series for self-employed incomes. In lieu, we use the growth rate of Gross National Product from 2017-2020 to update self-employed incomes to 2020 levels. We assume that average self-employed incomes will be highly correlated with trends in the domestic economy.

⁷ Interviews are spread throughout the year.

⁸ Average hours of childcare reported by those interviewed during the summer months does not spike upwards compared to those interviewed in non-summer months which suggests that either parents interpret 'usual' childcare hours to be the average used over the majority of the year or/and that parents do not increase childcare usage over the summer months, for example relying on taking annual leave, summer camps etc. to cover childcare requirements during school holidays.

⁹ Further detail about how childcare usage and costs are collected in the SILC survey is available in Appendix 1 as well as a comparison of childcare costs from SILC to other sources.

when modelling the subsidy based on actual childcare usage, 13- 15-year-olds who may have an entitlement to NCS are not captured. However, it is likely that registered childcare usage is very low amongst this age group.

Once eligibility for the scheme is established (based on child age and parental means for the means tested subsidies) and whether or not the child is entitled to the EHS or SHS hours (based on parental labour force status) the subsidy rate received per hour is determined by the parents' assessable income according to the policy rules outlined in Section 2.1.

2.3 Withdrawal rates of the NCS

Means-tested access to services, and social welfare schemes more generally, are accompanied by an inherent trade-off between weakening work incentives and the generosity of the transfer from the government.¹⁰ The income assessed subsidies in the NCS affect incentives to work. The subsidy improves the incentive to join the labour market, as working parents can benefit from more subsidized hours, but reduces the incentive to work or earn more once a parent is attached to the labour market (Keane & Bercholz, 2019). Currently, the income assessed component of the NCS begins to be withdrawn at a reckonable income of €26,000. It is fully withdrawn for households with a reckonable income of €60,000.¹¹ The withdrawal rate between these two income limits depends on the number and age of children and the number of hours of care. Table 2 provides a simplified estimation of the withdrawal rate for hypothetical families with children in full-time (45 hours per week) care. For every extra euro of reckonable income, households lose €0.27 – €0.31 of childcare subsidy if they have one child in full-time care. This figure rises to €0.53 – €0.62 for households with two children in full-time care and €0.80 – €0.94 for households with three children in full-time care.

Table 2 Withdrawal rates of NCS for a hypothetical household with children of different ages using 45 hours of formal childcare per week

	0-1 years	1-3 years	3-5 years (not in school)	School age - 15
2020 Parameters				
One child in full-time	-31%	-27%	-27%	-27%

¹⁰ Savage et al. (2017) highlight this trade-off in terms of the Family Income Supplement scheme in Ireland (now known as the Working Family Payment).

¹¹ Reckonable income includes income from all sources (including most social welfare payments), after tax, PRSI and USC have been deducted. There is an additional deduction of €4,300 for families of two children and €8,600 for families of three or more children

care				
Two children	-62%	-53%	-53%	-53%
Three children	-94%	-80%	-80%	-80%

Source: own calculations using SWITCH

Notes: The withdrawal rate shows the amount of each extra euro of reckonable income that is withdrawn in subsidy entitlement between the minimum and maximum reckonable income parameters.

The withdrawal of the NCS can also be illustrated using budget constraints. Figure 1 shows these for a number of example households. In each case, the household contains two adults: one works 40 hours per week for €2,000 per month (gross) and the other is in education. Therefore, each household is eligible for the enhanced NCS subject to a means-test. We present three examples of such a household with one, two, or three children. The one-child household contains a child aged two. The two-child household contains children aged two and four. The three-child household contains children aged two, four and eight. In each household, all children are assumed to be in centre-based childcare full-time. This equates to 45 hours per week for the two-year old; 45 hours per week for the four-year-old and six-year-old outside of term time and 30 hours per week for the four-year-old and 17 hours per week for the six-year-old during term-time.¹²

The left-hand panel of Figure 1 shows how the amount of NCS awarded to each household changes as household gross income increases. This increase in gross income can be interpreted as extra hours worked by the primary earner; a pay rise or the secondary earner moving from education to the labour market. The amount of NCS received by the one-child household is around €800 when the primary earner earns €2,000 per month. This begins to decrease as gross income increases until, at approximately €8,100 gross income per month, the household is only eligible for the universal part of the NCS, amounting to €98 per month. This equates to a withdrawal rate of approximately 0.13, i.e., for every extra euro of gross income, 13c of subsidy is withdrawn.

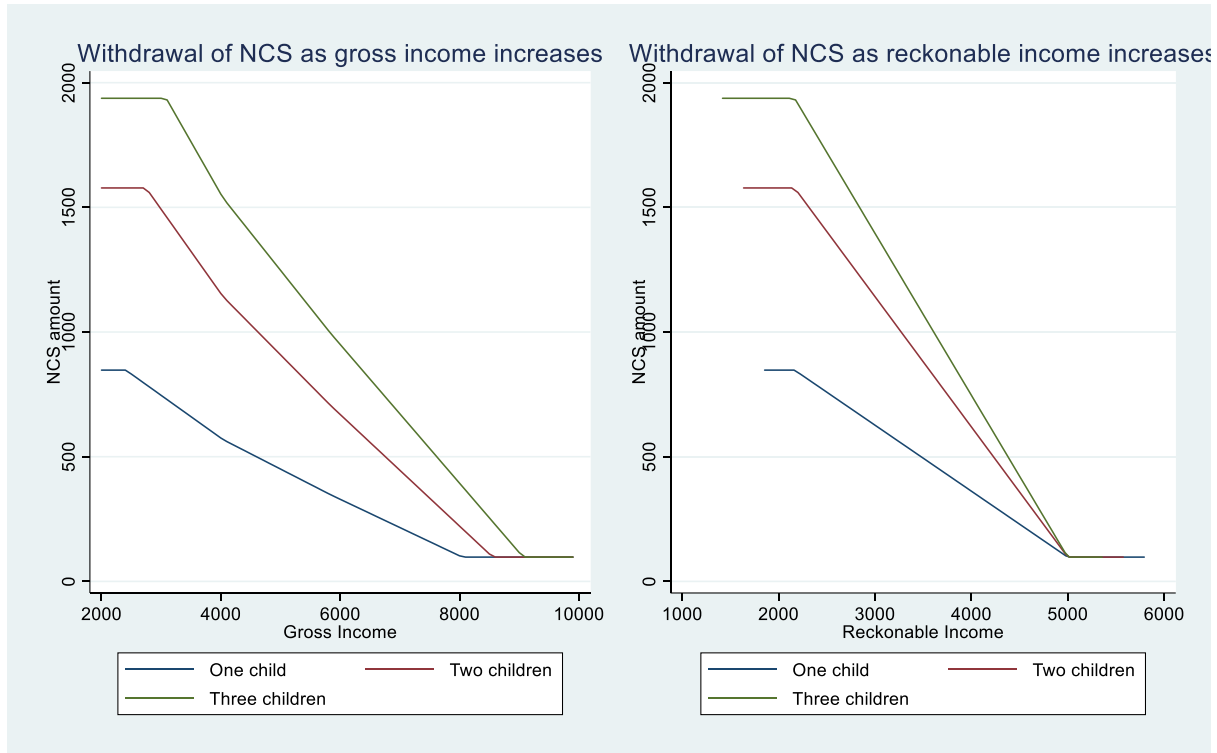
The NCS amount received by a similar household with two or three children is higher at €1,578 and €1,937 respectively. The rate of withdrawal is faster, however, with around €0.25 withdrawn for every extra euro of gross earnings in the two-child household and €0.30 withdrawn for every extra euro of gross earnings in the three-child household.

As gross income is subject to tax, social security contributions and so forth, the withdrawal of the NCS means that close to three-quarters of gross income is paid in tax, social security and forfeited NCS, for our two and three-child households, at the point when they become liable

¹² The four-year old is assumed to avail of the ECCE scheme while the six-year old is in primary school

to the top rate of tax.¹³

Figure 1 Withdrawal of the NCS as gross income and reckonable income increase – 2020



Source: Own calculations using SWITCH

Notes: The one-child household contains a child aged two. The two-child household contains children aged two and four. The three-child household contains children aged two, four and eight. In each case, all children are in full-time childcare or after-school care.

The right-hand panel shows the same withdrawal rates compared to reckonable income rather than gross income. Reckonable income is the concept used to award and withdraw the NCS and it is a concept close to take-home pay although some social welfare payments and other *allowable items* are excluded from reckonable income.¹⁴ Note that the scale on this right-hand graph begins and ends at a different point as we show the range of reckonable income that corresponds to the range of gross income in the left-hand graph. Showing how the NCS is withdrawn as reckonable income increases illustrates how much take-home income is impacted. For the family with one child, the amount of NCS decreases by around €0.27 for each extra euro of take-home pay. For a family with two children, over half (€0.52)

¹³ Married couples are liable for the top rate of income tax when their earnings reach 44,300 (for the case of a one-earner couple) or up to €70,600 if both members of the couple are in paid work.

¹⁴ Allowable items include multiple child discounts, pension contributions, maintenance payments and a number of social welfare payments: (https://www.citizensinformation.ie/en/education/pre_school_education_and_childcare/national_childcare_scheme.html)

of every extra euro of take-home pay is withdrawn in NCS payments. For the family with three children, almost two-thirds (€0.64) of every extra euro of take-home pay are withdrawn in NCS payments.

These examples illustrate the potential for the NCS to disincentivise extra hours of work or full-time dual earners, especially in families with more than one child. There are several ways to potentially address this. A structural reform to the NCS which aligns the withdrawal rates for families with differing numbers of children could reduce the disincentive effect of the NCS on work for larger families. In practical terms, this would involve defining different maximum reckonable incomes by number of children. Alternatively, shifting upwards the amount of reckonable income at which the NCS is fully withdrawn would increase work incentives for all families although it would not address the fact that there are different withdrawal rates by family size. A reform of this type is simulated in Section 4.

3 Childcare usage and affordability

3.1 Childcare usage in Ireland

Table 2 shows estimates from SWITCH of the proportion of households using childcare. Households are divided into five equally sized groups or quintiles ranging from the lowest income (quintile 1) to the highest quintile (quintile 5). Quintiles are based on equivalised household income, using the CSO's national equivalence scale.

The proportion of households that use childcare (paid or unpaid) increases with household income. Among the lowest two income quintiles, 8-10% of households use childcare. Within the upper three income quintiles, 17-23% of households use childcare. The pattern is similar for paid and unpaid childcare use. The proportion of households using only unpaid childcare increases with household income and is 2-4% in the lowest income quintile, compared to 3-7% in the upper three income quintiles. Use of paid childcare is lower for low-income households (around 6% in quintiles 1 and 2) but increases with household income to a high of 15-16% in quintiles 4 and 5. Of those that use paid childcare (11% of all households), most use some centre-based care (9%) and two-thirds of these are eligible for the NCS. Eligibility for the NCS is much higher in low-income groups than in high income groups. In quintile 5, fewer than one-third of those using centre-based care are eligible for the NCS compared with all of those in quintile 1.

Table 2 Usage of childcare by households in Ireland

Quintile	Using childcare	Unpaid childcare only	Some paid care	Some centre-based paid care	Eligible for NCS
1	8.4%	2.0%	6.5%	6.2%	6.2%
	<i>991</i>	<i>991</i>	<i>991</i>	<i>991</i>	<i>991</i>
2	9.5%	3.5%	6.0%	5.7%	5.7%
	<i>1137</i>	<i>1137</i>	<i>1137</i>	<i>1137</i>	<i>1137</i>
3	17.1%	6.6%	10.5%	8.1%	7.6%
	<i>989</i>	<i>989</i>	<i>989</i>	<i>989</i>	<i>989</i>
4	22.8%	6.4%	16.3%	14.0%	9.7%
	<i>966</i>	<i>966</i>	<i>966</i>	<i>966</i>	<i>966</i>
5	18.2%	3.0%	15.2%	11.3%	3.6%
	<i>946</i>	<i>946</i>	<i>946</i>	<i>946</i>	<i>946</i>
Total	15.2%	4.3%	10.9%	9.1%	6.6%
	<i>5029</i>	<i>5029</i>	<i>5029</i>	<i>5029</i>	<i>5029</i>

Source: own calculations using SWITCH.

Note: Quintiles are based on equivalised household income, using the CSO national equivalence scale. The number of observations is displayed in italics. ‘Some’ care refers to households reporting positive hours of the particular childcare type. Values in italics represent the number of observations per quintile (N).

Table 3 shows estimated childcare costs for households who use paid childcare. Panel A shows results for households using any paid childcare. This includes unregistered paid childminders who are excluded from the NCS scheme. Panel B shows results for households using centre-based childcare. Childcare costs are based on 2017 SILC values and are inflated to 2020 levels using the change in the services CPI of 4.8% between 2017 and 2020 (Central Statistics Office).¹⁵ They are self-reported and, as such, are assumed to be net of the childcare subsidies which existed in 2017. The principal schemes in operation in 2017 were the Early Childhood Care and Education (ECCE), Training and Employment Childcare (TEC) and Community Childcare Subvention (CCS) schemes.¹⁶ Data is not yet available on out-of-pocket childcare costs after the introduction of the NCS,¹⁷ although the OECD estimates that the introduction of the subsidy will significantly reduce childcare costs for lone parents, in particular (Browne, et al., 2017). Using currently available survey data, we cannot therefore estimate how the NCS has contributed to improving childcare affordability. We do, however, estimate the entitlement of the households surveyed in 2017 to the NCS using the 2020

¹⁵ See the services excluding mortgage interest series available at: <https://data.cso.ie/table/CPM03>

¹⁶ TEC schemes provided funding support for parents participating in eligible training courses, community employment programmes, or for parents returning to employment. CCS schemes supported parents on a low income to avail of reduced rate childcare costs at participating Tusla registered community and private childcare services. The maximum weekly discount on childcare was €145 for full-time services.

¹⁷ Survey information for 2020 or 2021 will be needed for this

parameters of the scheme.-

Childcare costs are missing for a number of households who report using paid childcare. There is some pattern to the reporting of childcare costs for those using paid childcare, with those in the lowest income quintile more likely to not report the cost of their childcare. We do not know the reason for this pattern, but it is possible that low-income households are less likely to know exactly how much they are paying in childcare due to more informal arrangements. Table 3 shows that average disposable¹⁸ income for the lowest income quintile is less than €22k per annum, well below the point of withdrawal for the NCS of €26k per annum. It is likely, therefore, that despite the imperfect information on childcare costs in this quintile, much of the cost relating to registered childcare in this income group will be subsidised by the NCS. Because of the systematic nature of the missing information, we do not impute childcare costs. The remainder of our analysis of childcare costs should be considered in light of the fact that, out of 496 households who report using paid childcare, 148 do not report the cost of this childcare. Most of those who do not report their childcare costs are low-income households. Further detail about how childcare usage and costs are collected in the SILC survey is available in Appendix A as well as a comparison of childcare costs from SILC to other sources.

Table 3 The cost of childcare in Ireland

A. Households using paid childcare								
Quintile	Monthly				Hourly		HH Income €	NCS €
	CC Costs €	CC Costs per child, €	Hours of childcare	Hours of childcare per child	Hourly Cost €	Hourly Cost per child €		
1	239.18	186.80	95.09	70.43	3.96	3.09	1,894.73	148.41
			73	73			73	73
2	53	53	72.29	60.75	53	53	3,241.72	83.49
			54	54			54	54
3	488.27	351.83	100.32	72.70	5.55	4.00	4,178.25	76.15
	65	65	100	100	65	65	100	100
4	500.42	385.99	106.26	81.74	5.40	4.17	5,363.14	31.88
	102	102	129	129	102	102	129	129
5	861.02	613.40	146.03	102.84	7.01	4.99	8,029.31	15.05
	128	128	140	140	128	128	140	140
Total	588.76	437.10	111.11	82.92	5.79	4.30	5,231.36	55.24
	348	348	496	496	348	348	496	496
B. Households using centre-based childcare								

¹⁸Defined as: Net labour market income plus net social welfare income

Quintile	CC Costs €	CC Costs per child €	Hours of childcare	Hours of childcare per child	Hourly Cost €	Hourly Cost per child €	HH Income €	NCS €
1	209.21	171.41	87.73	68.96	3.83	3.16	1,866.25	154.16
			<i>70</i>	<i>70</i>			<i>70</i>	<i>70</i>
2	48	48	66.63	55.75	48	48	3,239.79	87.88
			<i>50</i>	<i>50</i>			<i>50</i>	<i>50</i>
3	453.07	377.56	85.65	71.36	5.19	4.32	4,083.22	98.30
			<i>81</i>	<i>81</i>			<i>81</i>	<i>81</i>
4	440.17	366.81	93.85	78.38	5.02	4.19	5,315.82	37.23
			<i>81</i>	<i>81</i>			<i>106</i>	<i>106</i>
5	745.20	552.00	134.62	100.08	5.98	4.44	7,762.25	20.21
			<i>93</i>	<i>93</i>			<i>102</i>	<i>102</i>
Total	503.64	402.91	98.26	78.57	5.16	4.13	4,969.07	66.36
			<i>270</i>	<i>270</i>			<i>409</i>	<i>409</i>

Source: own calculations using SWITCH.

Notes: All figures are monthly unless otherwise stated. Quintiles are based on equivalised household income, using the CSO national equivalence scale. Some results, in Quintiles 1 and 2, had to be grouped together for reporting purposes in order to comply with the CSO's statistical disclosure rules. Childcare costs are uprated from 2017 values to 2020 using the CPI of services, excluding mortgage interest, as recorded by the Central Statistics Office (from 2017 January- 2020 November average monthly prices increased by 4.8%). Values in italics represent the number of observations per quintile (N).

Panel A of Table 3 shows childcare costs for households using any type of paid childcare. The average net monthly cost of childcare is €589 per month or €437 per child under 13. There is much variance by income quintile. Households in the bottom two income quintiles report spending an average of €239 per month while households in the top income quintile report spending an average of €861 per month. This variability in costs is likely to be at least partly due to the effect of the childcare subsidies which existed in 2017 and which were more generous to low-income groups than high income groups. It is also due, in part, to the number of hours of childcare used by households of different income levels. Households in the bottom two income quintiles report using 72-95 hours of childcare per month compared to an average of 146 hours per month used by households in the top income quintile.

Panel B of Table 3 shows estimated childcare costs and NCS subsidies for households who use centre-based childcare. Only households availing of centre-based childcare are eligible for the NCS.¹⁹ The pattern of usage and cost by quintile is very similar to the sample of households using any paid childcare. The average monthly cost of childcare is €504 per

¹⁹ Children in care with childminders who are registered with Tusla are also eligible for the NCS subsidy but SILC does not contain information on whether or not the childminder is registered. Additionally, 2020 figures from Tusla indicate that very few childminders are registered (14 out of over one thousand registered providers in Dublin were childminders [Dublin July.pdf \(tusla.ie\)](#))

month, with lower income households reporting much lower costs and fewer hours used than high income households.

3.2 Distribution of childcare costs

Table 4 shows the distribution of the burden of childcare costs. Close to 60% of households using paid childcare spend 10% or less of their disposable income on this service. A further 18% spends between 10-15% of disposable income on childcare, 11% spend between 15-20% and another 11% spends over 20% of disposable income on childcare services.

Table 4: A profile of households using paid childcare (registered and unregistered).

% of income spent on childcare	% of households	Childcare hours (monthly)	Childcare costs (monthly)	NCS (monthl y)	NCS Interquartile Range	Disposable income (monthly)	Weighted N
0-5%	27%	62	145	39	[0, 51]	5,250	37,201
5-10%	34%	87	421	28	[0, 19]	5,671	47,149
10-15%	18%	140	724	37	[0, 84]	5,989	24,394
15-20%	11%	199	1,035	48	[0, 91]	5,880	15,476
>20%	11%	217	1,549	131	[0, 191]	4,952	14,832
All	100%	116	589	46	[0, 60]	5,561	139,054

Source: Own calculations using SWITCH v2.1

Notes: Observations with missing values for childcare costs are omitted. The NCS Interquartile Range shows [25th, 75th] percentiles.

The hours of care used play an important role in determining the childcare cost burden. Families paying less than 5% of their disposable income in out-of-pocket childcare costs use an average of 62 hours per month while those families paying less than 10% of their disposable income in childcare costs use an average of 87 hours per month. This equates to part-time childcare usage of an average of fewer than 20 hours per week in both cases. Those incurring 10-15% of disposable income in childcare costs use an average of 140 hours per month, or 32 hours per week. Those families with the highest cost burdens (> 15% of disposable income and > 20% of disposable income) use an average of 199 and 217 hours per month of paid childcare, which is equivalent to one full-time place or two part-time places.

The average monthly income of households using paid childcare, at €5,561, is considerably higher than the average monthly income of all households with dependent children of €4,247 (not shown). Within the categories of childcare cost shown in Table 4, monthly

disposable income does not vary much. The exception is the group incurring the highest childcare costs relative to disposable income. These households have, on average, lower income than households with lower childcare cost burdens. Looking at the profile of this group in more detail shows that these tend to be younger households containing younger children. Section 3.3 examines in more detail how the age of children is related to childcare costs.

The average amount of NCS subsidy that families in each category of childcare costs are entitled to does not vary much for households whose childcare costs represent less than 20% of disposable income, although the interquartile range of these estimates indicates that NCS amounts are skewed upwards for those in higher cost categories. However, the average amount of subsidy increases sharply for households who spend more than 20% of disposable income on childcare.

3.3 A profile of those facing high and low childcare costs

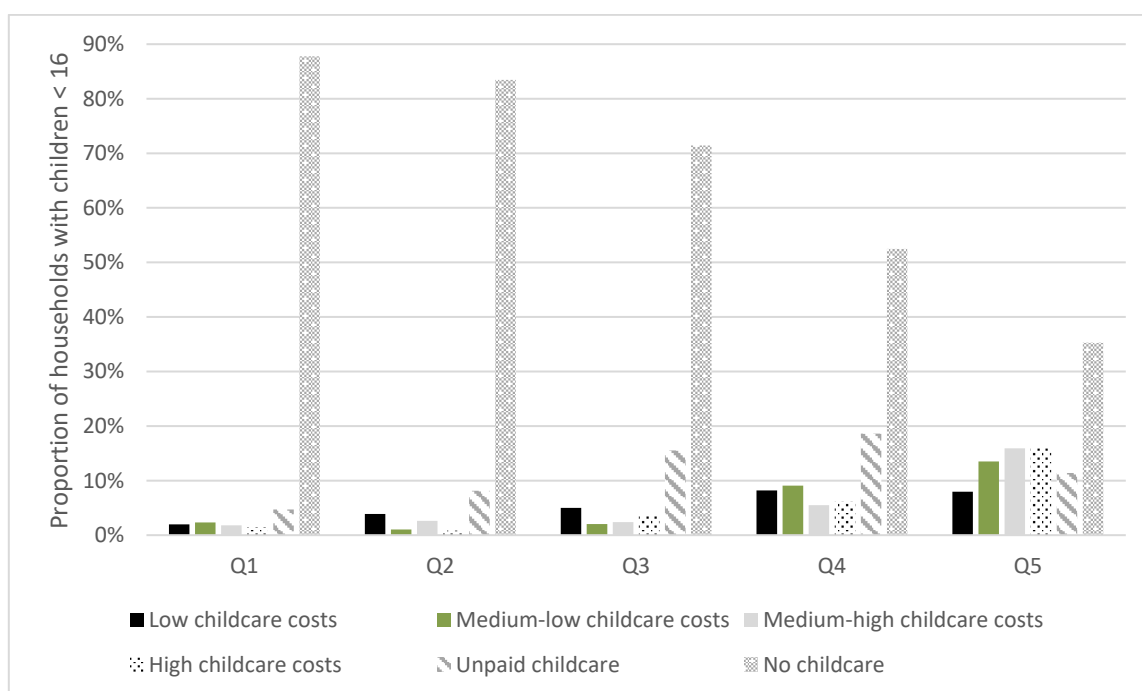
In order to provide a profile of households facing low and high childcare costs, we divide the sample of families using paid childcare into a 'low', a 'medium-low', a 'medium-high', and a 'high' cost category. We classify low, medium-low, medium-high, and high childcare costs using the 25th, 50th, and 75th percentiles of childcare costs relative to disposable income. Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. For comparison, we profile households with dependent children (up to 12 years of age) who use unpaid childcare only and households with dependent children who report using no non-parental childcare. Results should be interpreted in light of the relative small sample size of households using paid childcare.

Quintile analysis

Figure 2 (and Table B1 in the Appendix) shows the proportion of households with dependent children in each income quintile that have low; medium-low; medium-high and high childcare costs or who use unpaid childcare or no childcare. Quintiles are based on equivalised disposable income using the CSO's equivalence scale. In the bottom two quintiles, the majority of households with dependent children use no form of childcare. This may simply be because they do not need childcare but could also be due to the fact that they cannot afford childcare or that there are other barriers to take-up (availability, perceived quality, location, etc.). The use of unpaid childcare in the bottom two income quintiles is also lower, however, than that in higher income quintiles, suggesting that affordability is not the

only reason that these households do not use paid childcare.

Figure 2 Childcare usage and cost by income quintile



Source: own calculations using SWITCH v2.1. Families with children under 16 years only

Note: Quintiles are based on equivalised disposable household income, using the CSO national equivalence scale. Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. Observations with missing values for childcare costs are omitted.

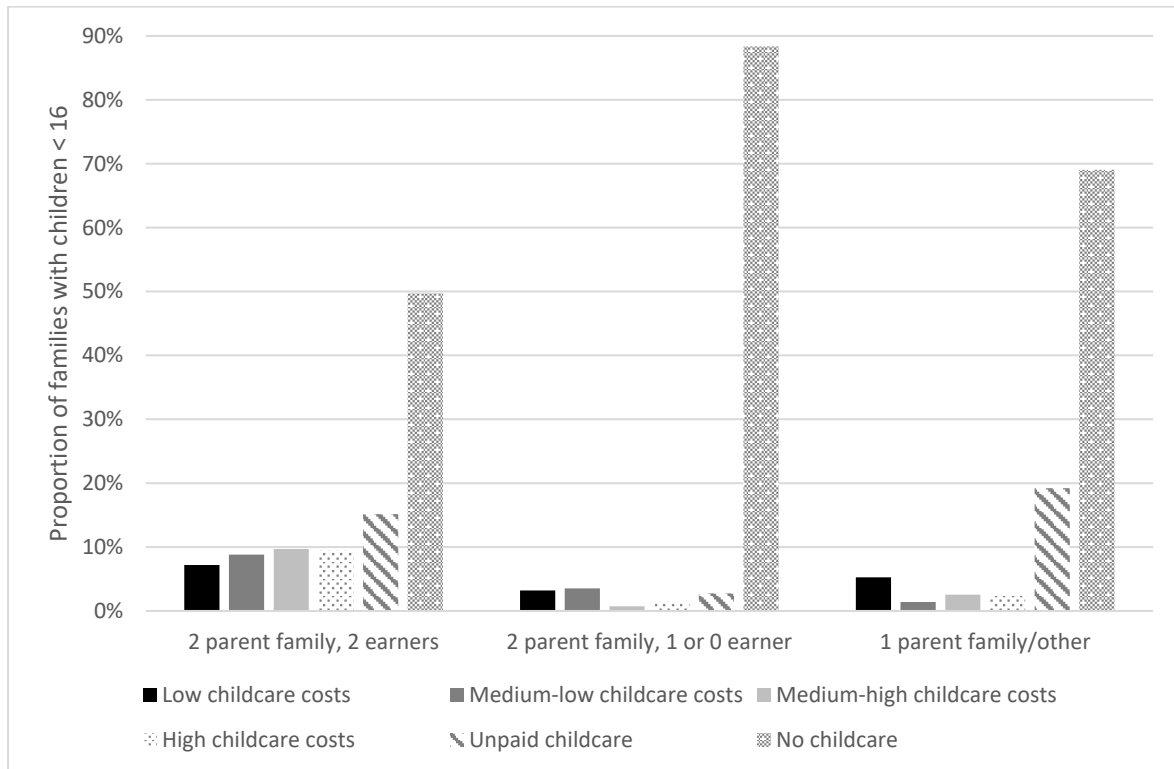
A very small percentage (1%) of households with dependent children in the lowest two income quintiles report high childcare costs. A further 2-3% of these households report medium-high childcare costs. 2-4% of households in these income quintiles report low childcare costs while 1-2% report medium-low childcare cost. 5% of households in quintile 1 and 8% of households in quintile 2 use unpaid childcare.

Moving up the income distribution sees a reduction in the number of households with children using no childcare and an increase in the number of families reporting high childcare costs. In the top income quintile, just 35% of households with children under 16 use no childcare. There is an increase the proportion of families using paid childcare and unpaid childcare as income increases. Only in the top income quintile, however, do most households use paid childcare. Among this group, 16% fall into the high-cost category and another 16% fall into the medium-high-cost category, while 8% fall into the low cost and 13% fall into the medium-low-cost category.

Family type

We next categorise households with at least one dependent child into 3 groups: two-parent families with two earners, two-parent families with one or no earners, and one parent families/other.

Figure 3 Childcare usage and cost by family type



Source: own calculations using SWITCH v2.1.

Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. Observations with missing values for childcare costs are omitted.

Figure 3 (and Table B2 in Appendix B) shows the proportion of each family type with low; medium-low; medium-high and high childcare costs, unpaid childcare and no paid childcare. In two-earner families, which represent half of all families with dependent children, there is an even split between families who use childcare and those who do not. Among two parent, two earner families, 7% report low childcare costs, 9% report medium-low, 10% report medium-high, and 9% report high costs. A further 15% of this category use unpaid childcare while the remaining half use no childcare.

Two parent families with one earner are much more likely than other family types to use no childcare. 3% of this type of household report low childcare costs, 4% report medium-low, 1% report medium-high, and 1% report high childcare costs. A further 3% report using

unpaid childcare and the remaining 88% use no childcare.

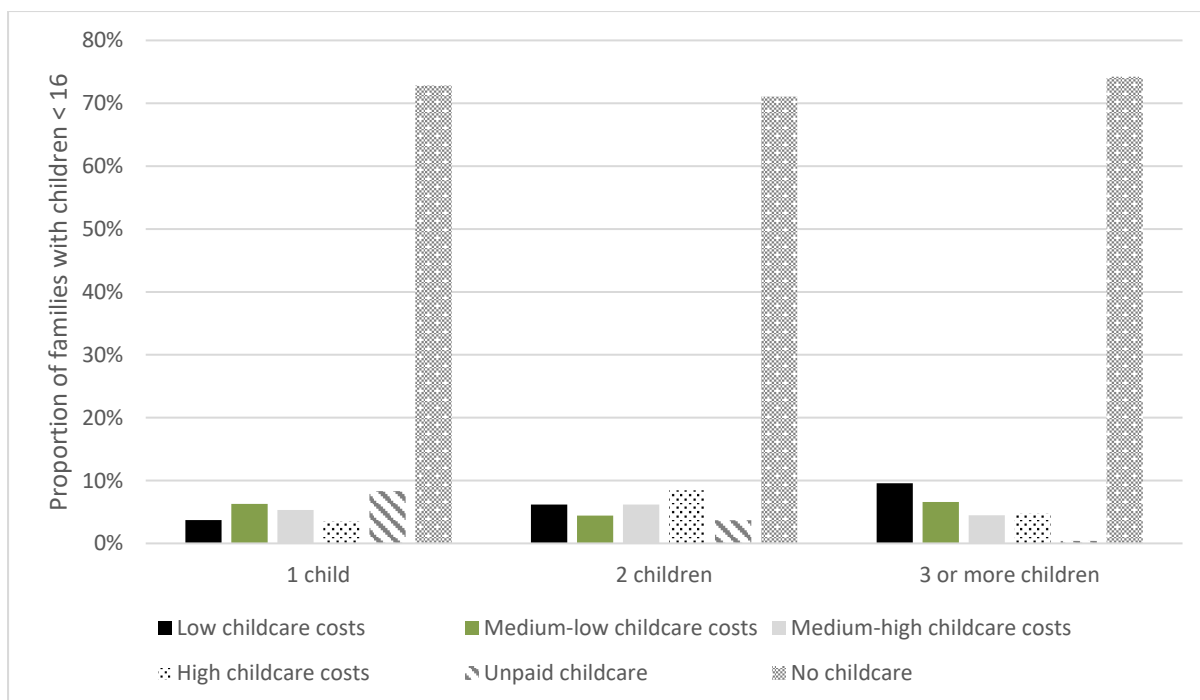
Among lone-parent families, 5% have low childcare costs, 1% have medium-low costs, 3% have medium-high costs and 3% have high childcare costs. Lone parents report the highest usage of unpaid childcare at 19% while 69% report using no childcare. Lone parents have lower average disposable income than the other two family types at €2,419 per month compared to €3,423 per month for two-parent, one earner families and €5,568 per month for two-parent, two-earner families.

Number of children

In Figure 4 (and Table B3 in Appendix B), we provide a profile of households falling into each of the childcare cost categories by the number of dependent children in the households.

Households with just one dependent child are more likely to use unpaid or no childcare compared to those with two or more children. Among households with one dependent child which report paid care, half of these families have low or medium-low costs while the other half face medium-high and high costs. Households with two children are more likely to use paid care than households with one child. Among those households with two children that use paid care, most fall into the medium-high or high-cost category. Finally, households with three or more children are least likely to use unpaid care and more likely to report low childcare costs. Average disposable income is relatively similar across families categorised by number of dependent children.

Figure 4: Childcare usage and cost by number of dependent children



Source: own calculations using SWITCH v2.1.

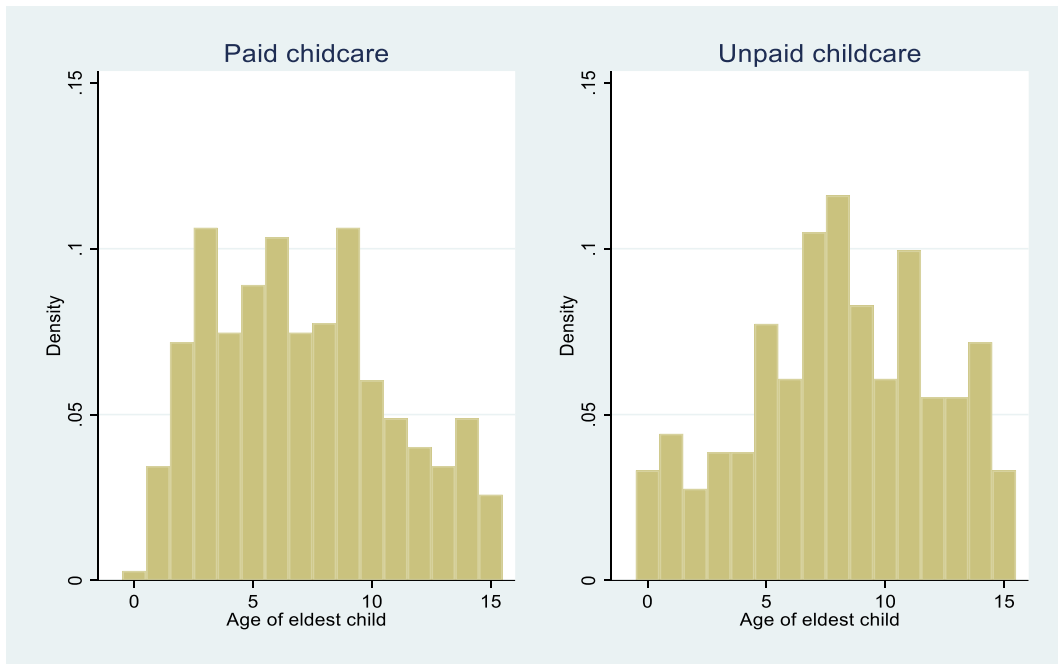
Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. Observations with missing values for childcare costs are omitted.

Age of children

There is a distinctive age profile to the type of childcare used. We estimate that the average age of children in paid childcare is lower than that of children in unpaid childcare or children who are not in care. The mean (median) age of children in paid childcare is 5 (4) and 75% of children in paid childcare are aged 7 or under. The mean (median) age of children in unpaid childcare is 6 (7) and 75% of children in unpaid childcare are aged 9 and under. Dependent children who are not in childcare have a mean (median) age of 9 (10) and 75% are aged 13 years and under.

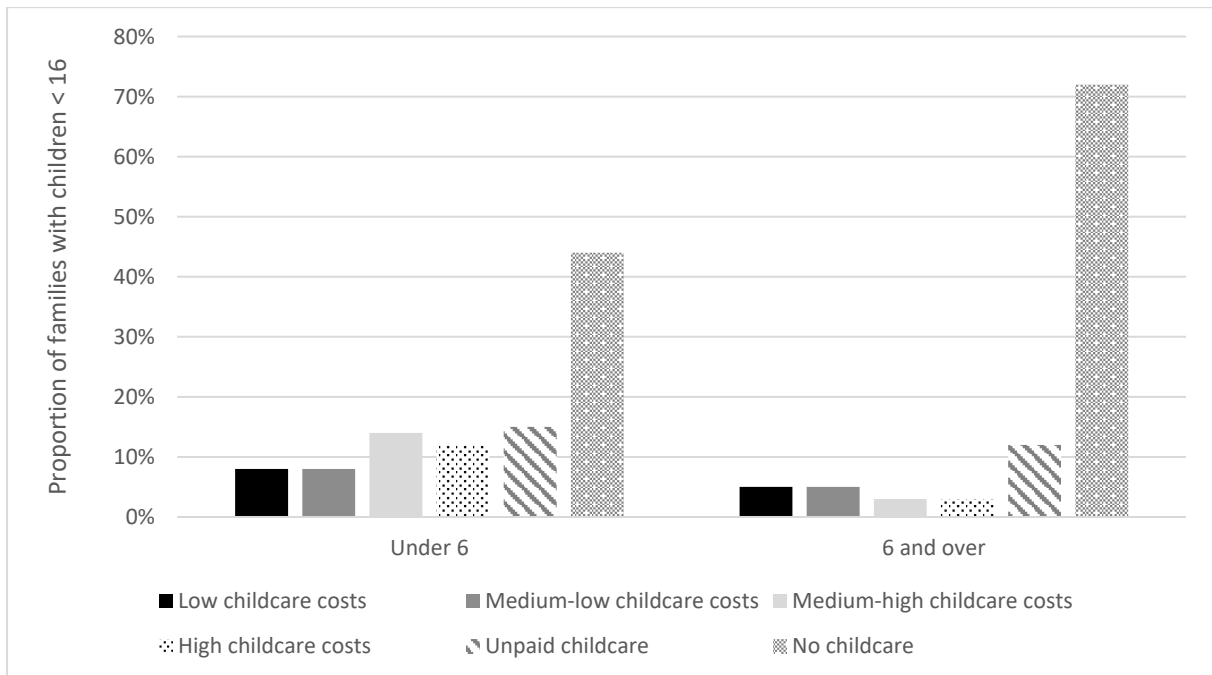
Figure 5 shows the age distribution of the eldest child in families using paid and unpaid childcare. For most families using paid childcare, the age of the eldest child lies between ages 3 to 9, with the majority having an eldest child under 10. For unpaid childcare, the age of the eldest child is less concentrated at younger ages and more spread across ages 5 to 14.

Figure 5: Distribution of age of eldest child in paid and unpaid care



Source: own calculations using SWITCH v2.1.

Figure 6: Childcare usage and cost by age of eldest child



Source: own calculations using SWITCH v2.1.

Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. Observations with missing values for childcare costs are omitted.

Figure 6 (and Table B4 in the Appendix) shows childcare usage and cost broken down by age

of the eldest child – above or below six years of age. Consistent with Figure 5, it is evident that families whose eldest child is younger than 6 are using more paid and unpaid childcare. The majority (72%) of families whose eldest child is aged 6 and over are using no childcare, compared to 44% of families whose eldest child is aged under 6. Families with young children are also more likely to fall into the medium-high and high childcare cost categories than families with older children.

4 The effect of changes to the NCS on the exchequer, income distribution and incentives to work

In this section, we evaluate the effect of a number of reforms to the 2020 parameters of the NCS in our baseline pre-pandemic 2020 scenario. The hypothetical reforms are designed to cost no more than double the aggregate cost of changes to the NCS in Budget 2020. The reforms are not intended to be prescriptive but are designed to show what a particular budget can achieve in terms of affordability, targeting and work incentives by modifying different parameters of the NCS. Results (available on request from authors) which simulate the same reforms in a scenario which accounts for pandemic related job losses show similar qualitative findings.

4.1 Simulated reforms

We investigate the cost, distributional and work incentive effects of four reforms to the NCS.:

- i. IA:* increase of the maximum reckonable income limit for the means test by €4,000 per year – this will increase the number of households eligible for the subsidy and improve childcare affordability for (a) newly eligible households and (b) current recipients by increasing the maximum income after which the NCS is fully withdrawn
- ii. CA:* For parents of 2 or more children, increase the maximum income limit by the amount of the child allowance (CA). The child allowance is a flat amount that a family can deduct from their means if they have two or more dependent children in the family. There is a €4,300 annual deduction for households with two dependent children and of €8,600 for families with 3 or more children. The NCS leads to a higher disincentive to work or earn more for these families than for families with one child in receipt of the NCS. This reform will reduce the taper rate of the NCS for these households and increase the affordability of their childcare while also improving their incentives to work.
- iii. UNI:* increase the maximum age for children eligible for the universal component of the NCS from 3 years to 15 years. This will increase the affordability of childcare for eligible households and improve incentives to work by increasing the minimum NCS

available to some households who exceed the maximum income limit for the income assessed component.

- iv. Rates:* increase of means-tested hourly rates of NCS by 20 cents per hour - this will increase the overall payment to households who are eligible for the income assessed component of the NCS and improve affordability. The universal component of the NCS is also increased by 20 cents per hour in this reform.

Our analysis does not capture the behavioural effect of changing parameters of the NCS. If implementing reforms such as these induces more people to take up registered childcare places or to increase the hours of registered childcare that they use, this will increase the cost of the scheme relative to what is modelled in this research. It may also increase the income tax take and decrease spending on other welfare. Equally, our analysis does not account for any non-take-up of the NCS, for which evidence is not yet available. We assume that all eligible households take up the subsidy.

4.2 Cost and Recipient Numbers

Table 5 shows how the reforms affect the number of children receiving each type of childcare subsidy and the annual cost of each subsidy. The baseline 2020 policy shows that 136,000 children are eligible for the NCS, most for the income assessed component (SHS or EHS). This comes at a total cost of €152m per annum. The 2019 parameters of the NCS would have entitled the same number of children to the NCS in the baseline scenario, but at a lower cost of €143m per annum.

Increasing the generosity of the income assessed component of the NCS - Reform IA - benefits an extra 8,000 children, compared to the 2020 baseline. Many children are also moved off the universal subsidy and onto the more generous income assessed subsidy. The cost of this reform is €12m per annum.

Reform CA, which adds the amount of the child allowance to the maximum reckonable income for families with more than two children, benefits an extra 8,000 children at a cost of €12m per annum.

Reform UNI, which extends the universal component of the subsidy to older children, benefits an extra 38,000 children and costs an extra €18m per annum. Recipients of the universal subsidy increase from 20,000 to 58,000 while recipients of the income assessed components are stable. This reform also slightly increases the cost of the income assessed subsidy as it is now subject to a higher minimum floor.

The Rates reform, which modifies the amount of subsidy rather than the eligibility criteria, results in the same number of child recipients as the baseline 2020 scenario. However, it costs an extra €13m per annum due to the increased value of the subsidy.

Table 5 Cost and number of recipients of NCS and NCS reforms

	2020		2019		IA Reform		CA Reform		UNI Reform		Rates Reform	
	Cost (€m per annum)	Number of children (000s)	Cost (€m per annum)	Number of children (000s)	Cost (€m per annum)	Number of children (000s)	Cost (€m per annum)	Number of children (000s)	Cost (€m per annum)	Number of children (000s)	Cost (€m per annum)	Number of children (000s)
Universal	12.9	19.5	12.3	19.5	11.2	13.4	11.0	13.3	27.5	57.8	18.1	19.5
Standard	37.5	45.7	34.2	45.7	38.7	47.1	38.9	47.1	37.8	45.7	39.5	45.7
Enhanced	102.1	70.9	96.8	70.9	114.4	84.0	115.0	83.7	105.3	70.9	108.4	70.9
Total	152.6	136.1	143.3	136.1	164.2	144.5	165.0	144.1	170.6	174.4	166.0	136.1
Change			-9.3	0	11.6	8.4	12.4	7.9	17.9	38.3	13.1	0

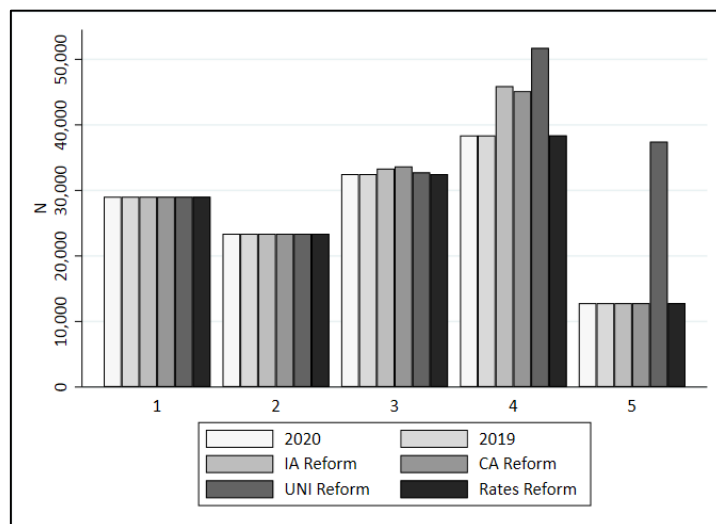
Source: own calculations using SWITCH

Notes: UNI reform extends the universal subsidy to 3–15-year-olds. IA Reform increases the maximum reckonable income by €4,000. CA reform increases the maximum reckonable income for households with 2 or more children by the amount of the child allowance. Rates reform increases the rate of the NCS by 20 cents per hour.

4.3 Distribution and affordability

Figures 7 and 8 show how the reforms are distributed by household income with households grouped into quintiles of disposable income adjusted (‘equivalised’) for household size. Figure 7 plots how many children receive the NCS in each of the scenarios modelled. The number of recipients by reform does not vary much at the lower end of the income distribution as these households are typically already eligible for the income assessed component of the NCS in the baseline 2020 scenario. In the upper half of the household income distribution, there is an increase in the number of recipients of the NCS in the IA, the UNI and the CA reform scenarios. The increase is particularly large in the highest income quintile for the UNI reform as now, the highest income households can avail of a non-means tested subsidy for any child in registered childcare. Households in this highest income quintile typically earn too much to qualify for the income assessed component of the NCS reforms.

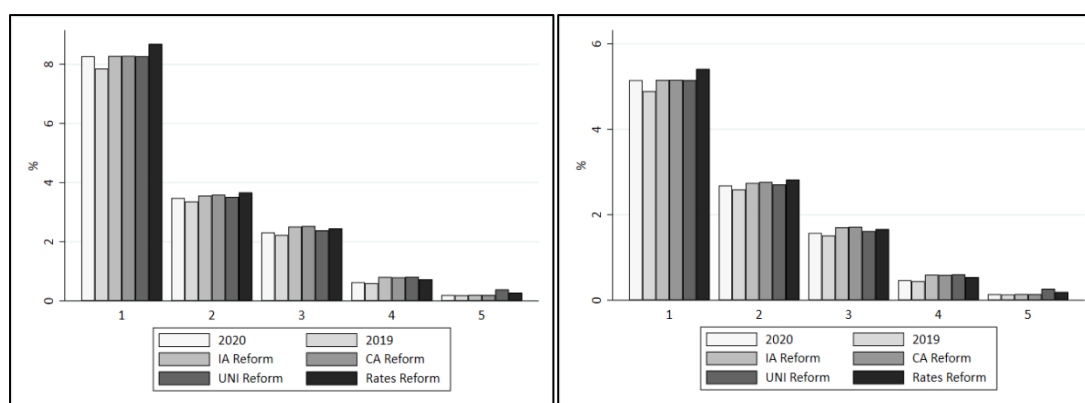
Figure 7 Number of children eligible for NCS by quintile



Source: own calculations using SWITCH

Notes: 2019 uses 2019 NCS parameters. 2020 implements NCS 2020 parameters. UNI reform extends the universal subsidy to 3–15-year-olds. IA Reform increases the maximum reckonable income by €4,000. CA reform increases the maximum reckonable income for households with 2 or more children by the amount of the child allowance. Rates reform increases the rate of the NCS by 20 cents per hour.

Figure 8 Average NCS as a percentage of disposable income



A. Households with children <14 years old & avail of paid childcare

B. Households with children <14 years old & avail of paid childcare, per child cost

Source: own calculations using SWITCH

Notes: 2019 uses 2019 NCS parameters. 2020 implements NCS 2020 parameters. UNI reform extends the universal subsidy to 3–15-year-olds. IA Reform increases the maximum reckonable income by €4,000. CA reform increases the maximum reckonable income for households with 2 or more children by the amount of the child allowance. Rates reform increases the rate of the NCS by 20 cents per hour.

Figure 8 shows the average amount of the NCS subsidy as a percentage of disposable income. Panel A shows households with children under 13 years of age who use paid childcare.²⁰ Panel B shows the average NCS subsidy per child for this group as a percentage of disposable income. The figures underlying these graphs are reported in Table 3, Panel A. The subsidy represents 1.1% of disposable income for households who use paid childcare, with variation by household income level. The subsidy has a strongly progressive profile, with households in the bottom quintile receiving the largest transfer as a percentage of their income (though you noted above that the lowest quintile less likely to use any paid childcare). The subsidy represents around 8% of income for the lowest income households who use paid childcare (Panel A) or 5% of income per child in the lowest income households using paid childcare (Panel B). The proportional gains in quintiles two to four are much smaller while gains from the NCS are close to zero for the highest income quintile. While there are many more beneficiaries of the NCS in the upper half of the income distribution (Figure 3), the amount received is much higher for households in the bottom half of the income distribution.

The reforms to the NCS in 2020 increase the level of the NCS as a proportion of disposable income, compared to the 2019 parameters of the scheme. The simulated hypothetical reforms represent a further increase in the level of the NCS. The *Rates* reform mainly

²⁰ Although the NCS is paid for children up to age 15, SILC data does not contain information on childcare usage for children over the age of 13.

benefits those in the lower half of the income distribution as it increases the level of the income assessed subsidy without changing eligibility criteria. The UNI; CA and IA reforms mainly benefit those in the upper half of the income distribution as the eligibility criteria for the scheme are extended. The *Rates* reform improves affordability for all eligible households, particularly low-income households. The *UNI, IA and CA* reforms, on the other hand, mainly improve affordability for higher income households.

4.4 Marginal Effective Tax Rates (METRs)

Estimating financial incentives to work generally focusses on two margins – the financial incentive to be in paid work in the first place and the financial incentive to progress, i.e., to earn more either by working more hours or receiving a pay rise/promotion. Previous research found that childcare subsidies result in an improvement in the financial incentive to take up a job by reducing the fixed costs of work (Keane & Bercholz, 2019). In this paper, we focus on the incentive to earn more. This focus is justified by the fact that, in order to be eligible for the means-tested component of the NCS, parents should be working or in education (for a minimum of 2 hours per week). Additionally, Figure 2 earlier in the paper shows that the vast majority of those families using paid childcare are two-parent, two-earner families. However, it should be noted that the choice of hours of work may be constrained by labour market rigidities (which tend to cluster workers into part-time or full-time work) and childcare provider rigidities. Childcare availability and, therefore, NCS payments, may be concentrated at part-time and full-time provisions. Nevertheless, examining the incentive to work or earn more indicates the incidence of any potential financial disincentives to work more arising from NCS withdrawal.

We measure the incentive to work or earn more using the Marginal Effective Tax Rate (METR). The METR measures what part of any additional earnings are “taxed away” through the combined effect of increasing taxes and decreasing benefits (Jara & Tumino, 2013).

$$METR = 1 - \frac{\text{change in household disposable income}}{\text{change in individual earnings}}$$

For example, if an individual gets a €50 increase in their gross weekly pay (either by working more hours or by getting a pay rise), but loses €25 of this through increased tax, USC, PRSI or withdrawal of benefits (including the NCS) then this individual has a METR of 50%. Higher METRs indicate lower incentives to work more. SWITCH calculates METRs by simulating a 3% increase in each worker’s earnings and the corresponding new household disposable income once additional income tax, USC, PRSI or benefit withdrawal has been

taken into account.

The universal component of the NCS does not affect work incentives as it is not withdrawn when income increases. The income-assessed subsidy is means tested based on individual circumstances and does affect the incentive to work through its withdrawal.

Restricting the sample to NCS eligible households, we estimate METRs for workers in these households (i) without including the NCS and (i) including the NCS.²¹ This comparison shows how the NCS affects work incentives, all else equal. We categorise workers according to their METR and show the proportion of workers in each category.

Table 6 Proportion of workers with METR in each category - with and without NCS and NCS reforms

METR	without NCS		with 2019 NCS reform	with IA NCS reform	with CA NCS reform	with UNI NCS reform	with Rates NCS reform
	without NCS	with NCS					
<20%	12.5%	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%
20-30%	21.7%	8.2%	8.2%	7.9%	7.7%	8.2%	8.2%
30-40%	12.6%	20.8%	20.9%	21.6%	21.7%	21.3%	20.7%
40-50%	7.3%	11.2%	11.3%	11.6%	11.8%	11.0%	11.1%
50-60%	31.5%	32.8%	32.2%	32.0%	32.0%	32.5%	33.0%
> 60%	14.4%	18.0%	18.3%	17.8%	17.8%	17.9%	18.0%

Source: own calculations using SWITCH v2.1.

Notes: UNI reform extends the universal subsidy to 3–15-year-olds. IA Reform increases the maximum reckonable income by €4,000. CA reform increases the maximum reckonable income for households with 2 or more children by the amount of the child allowance. Rates reform increases the rate of the NCS by 20 cents per hour.

Our sample size is 407 households who are NCS eligible. As a reference point, the METR for a typical worker who pays top rate of tax and receives no benefits is 52% (composed of 41% income tax, 4% PRSI and 7% USC). This figure can increase if extra labour earnings result in a decrease in household benefits.

When NCS is excluded from disposable income (column 1 of Table 6), most households (54%) have a METR of less than 50%. A further 32% have METRs of between 50 and 60% while 14% have a METR > 60%. Including the NCS in the METR measure, the number of

²¹ The cost of extra childcare is not accounted for in the estimation of METRs.

workers with a METR of less than 50% drops to 49%. There is a further 33% of workers with METRs between 50 and 60% while 18% of workers have METRs greater than 60%. The NCS, therefore, reduces the incentive of workers in receipt of the subsidy to earn or work more. It reduces the number of workers facing low METRs, of less than 30%, by 17 percentage points and increases the number of workers facing high METRs, of more than 60%, by 4 percentage points.

We also show how the simulated NCS reforms described in the previous section affect the METR estimates. These simulated reforms to the NCS change METRs only slightly. This indicates that larger NCS reforms would be needed to substantially improve work incentives at the intensive margin.

5 Discussion

This report contributes to the debate on childcare affordability in Ireland, presenting evidence on childcare usage and cost as well as the role of the National Childcare Scheme (NCS) in compensating households for childcare expenditure.

Successive international and national reports have indicated that childcare costs are relatively high in Ireland. With some exceptions, these are based on the hypothetical cost of one or two full-time formal childcare places for particular family types. In this report, we show that, in practice, most households with children in Ireland use considerably less formal childcare than this. There is some suggestion that this may be due to affordability, as high-income households use considerably more paid childcare than low-income households. This may not be the only reason, however, as higher income households also use more unpaid childcare than low-income households. We estimate that households who use paid childcare in Ireland use an average of 111 hours of care per month (or 26 hours per week) at an average cost of €589 per month. On a per child basis, this amounts to 83 hours per month (or 19 hours per week) per child at an average net cost of €437 per child per month.

Further, we estimate that out-of-pocket childcare costs represent an average of 10% of families' disposable income, with some variation around this figure. Almost a quarter of households paying for childcare face childcare costs of more than 15% of their disposable income with more than one-tenth facing childcare costs of more than 20% of their disposable income.

Profiling the households which face the highest childcare burden, we find that these are

more likely than other households to use at least one full-time childcare place (around 45 hours per week). Two-parent, two-earner households, which account for half of all households with children, are more likely than others to use paid childcare and to face high childcare costs. There are very few one-earner households facing high childcare costs. This seems to be driven by the fact that lone parents use very little paid childcare. This may be linked to the relatively low employment rate of lone parents in Ireland compared to elsewhere in Europe. However, it is difficult to disentangle the relationship between working status and childcare use. Individuals may choose not to work because of the cost of childcare, or they may not use childcare due to their decision not to work. Future research could use quasi-experimental techniques or structural modelling to estimate this relationship.

Using SWITCH, the ESRI's tax benefit model, linked to the Survey of Income and Living Conditions, we also estimate the current cost and distribution of the NCS, finding that it is strongly progressive in nature. The NCS is equivalent to a cash transfer of 8% of disposable income for the lowest income households. This figure falls to 2-3% for middle income households while the NCS represents less than 1% of disposable income for the highest income households.

While the NCS improves incentives to take up paid work, like all means tested benefits, the withdrawal of the NCS as income increases provides a disincentive to earn or work more. This effect is amplified in households with multiple children. We estimate that almost one-fifth of workers eligible for the NCS face a Marginal Effective Tax Rate (METR) of more than 60%.

Simulating several hypothetical reforms in a static setting with no behavioral response, we find that among those using formal childcare increasing the rate of payment of the NCS is likely to be most beneficial to low-income households, although these households are currently least likely to use paid childcare. However, this type of reform may further decrease work incentives at the intensive margin. On the other hand, extending the universal component of the subsidy; increasing the maximum income limit or adjusting child allowances are likely to benefit high-income households more than low-income households while improving work incentives at the intensive margin. Increasing the work hours of parents who are already working close to full-time is not likely to be a goal of policy makers. However, high METRs may discourage secondary earners (usually women) from working more than part-time and policy reforms may wish to address this.

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Appendix A

Childcare costs and hours are based on self-reported responses in 2017 SILC, the data underlying the SWITCH model. For hours, the data contains information on hours a week for a given type of childcare on a “usual week”. For costs, it is the average weekly cost of a given type of childcare. Parents are asked about their usage of unpaid care, childminder, and centre-based care, i.e., pre-school (kindergarten, Montessori), crèche or a pre/post school centre. One limitation to the SILC data is that questions related to childcare usage are only asked for children below age 13, leaving out some 13-15-year-olds who may be entitled to NCS.

The various SILC variables for childcare which we include in our creation of the hours of childcare and cost of childcare variables in SWITCH are shown in Table A1 below. We calculate the overall weekly cost of childcare per family as the sum of all intermediate costs. To arrive at an annual cost of childcare, we scale the weekly costs by 52 weeks. This is likely to be an overestimate of annual childcare costs as childcare usage can be seasonal for many families and some childcare providers only operate during school term-time.

Table A1 Childcare variables in SILC

SILC Variables	Survey Questions
pre_schl	During a usual week how many hours is <name> cared for by a pre-school or equivalent (kindergarten, Montessori)?
creche	During a usual week how many hours is <Name> cared for by a creche or day-care centre? ²²
centre	During a usual week how many hours is <Name> cared for by a centre-based service outside school hours (before and/ or after school even if it is at the school)?
child_mindr	During a usual week how many hours is <name> cared for by a professional childminder at the child’s home or the childminder’s home? (This includes au pairs, friends and relatives when the friends or relatives are paid for child minding). ²³
pre_scst	In a typical week how much do (did) you pay in Montessori (or equivalent) fees for <name>?

²² Included here are all kinds of care organised/controlled by a structure (public, private).

²³ For this variable there are direct arrangements between the carer and the parents: “Professional” childminder shall be understood as a person for whom looking after the child represents a job of work or paid activity. The term “professional” does not content a notion of qualification or of quality of the care. Babysitters and “au pair” are also included here.

centre_c	In a typical week how much do (did) you pay in centre-based childcare for <name>?
creche_c	In a typical week how much do (did) you pay in creche fees for <name>?
mindr_c	In a typical week how much do (did) you pay in child minder fees for <name>?

The cost variables contain a significant number of missing values. The distribution of these missing values is displayed in Table A2 below. Because there is a distinct pattern to the incidence of missing values, with these much more common in low-income quintiles, we do not impute missing values.

Table A2 Incidence of missing childcare costs by income quintile for households who report using paid childcare in SILC 2017

Quintile	Number of missing childcare costs	% of missing childcare costs
1 & 2	74	58%
3	35	35%
4	27	21%
5	12	9%
Total	148	30%

Source: Author's own calculations using SILC. Disposable income is equivalised using the CSO's equivalence scale. Quintiles 1 and 2 are grouped together to comply with CSO's statistical disclosure requirements.

The Irish Household Budget Survey (HBS) is an alternative source of childcare cost information. The HBS of 2015/16 contains information on average weekly expenditure on childcare and domestic services. Domestic services include expenses related to cleaners, gardeners, and au pairs. A comparison of reported costs from SILC, HBS and DCEIDY is shown in Table A3.

Table A3 Reconciliation of annual aggregate childcare costs from different sources (€m per annum)

	All paid childcare	Centre-based childcare
Annual childcare costs		
SILC	982	672
DCEIDY		323
HBS*	1,010	

Source: SILC and HBS estimates are authors' own estimates and sum weekly childcare costs for households with non-missing cost information and annualise by multiplying by 52. DCEIDY estimates are based on the Independent Review of Costs of Providing Childcare. SILC and DCEIDY estimates relate to 2017 while HBS estimates relate to 2015/16. All costs are updated to 2020 prices using services CPI growth. HBS estimates exclude au paid costs.

Appendix B

Table B1: Childcare usage and cost by equivalised disposable income quintile

Proportion of households in each quintile that have:	Low childcare costs	Medium-low childcare costs	Medium-high childcare costs	High childcare costs	Unpaid childcare	No childcare	Total	Equivalised disposable income cut-offs
Q1	2%	2%	2%	1%	5%	88%	100%	< 979
Q2	4%	1%	3%	1%	8%	83%	100%	979 – 1,356
Q3	5%	2%	2%	4%	16%	71%	100%	1,356-1,819
Q4	8%	9%	5%	6%	19%	52%	100%	1,819-2,511
Q5	8%	13%	16%	16%	11%	35%	100%	>2,511
Total	6%	6%	5%	6%	12%	65%	100%	

Source: own calculations using SWITCH v2.1.

Note: Quintiles are based on equivalised household disposable income, using the CSO national equivalence scale. Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income.

Table B2: Childcare usage and cost by family type

Proportion of households in each family type	Low childcare costs	Medium-low childcare costs	Medium-high childcare costs	High childcare costs	Unpaid childcare	No childcare	Total	Average disposable income
2 parent family, 2 earners	7%	9%	10%	9%	15%	50%	100%	5,568
2 parent family, 1 or 0 earner	3%	4%	1%	1%	3%	88%	100%	3,423
1 parent family/other	5%	1%	3%	3%	19%	69%	100%	2,419
Total	6%	6%	5%	6%	12%	65%	100%	4,247

Source: own calculations using SWITCH v2.1.

Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income.

Table B3 Childcare usage and cost by number of dependent children

Proportion of households with	Low	Medium-low	Medium-high	High	Unpaid childcare	No childcare	Total	Average
	childcare costs	childcare costs	childcare costs	childcare costs				monthly disposable income
1 child	4%	6%	5%	4%	8%	73%	100%	4,051
2 children	6%	4%	6%	8%	4%	71%	100%	4,436
3 or more children	10%	7%	4%	5%	0%	74%	100%	4,374
Total	6%	6%	5%	6%	12%	65%	100%	4,247

Source: own calculations using SWITCH v2.1.

Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income.

Table B4 Childcare usage and cost by age of eldest child

	Low childcare costs	Medium- low childcare costs	Medium- high childcare costs	High childcare costs	Unpaid childcare	No childcare	Total	Average monthly disposable income
Under 6	8%	8%	14%	12%	15%	44%	100%	4,559
6 and over	5%	5%	3%	3%	12%	72%	100%	4,146
Total	6%	6%	5%	6%	12%	65%	100%	4,247

Source: own calculations using SWITCH v2.1.

Note: Low is defined as costs of less than 5% of disposable income, medium-low is costs of 5-8%, medium-high is 5-13%, and high childcare costs are above 13% of disposable income. Observations with missing values for childcare costs are omitted.