



**An Roinn Leanáí
agus Gnóthaí Óige**
Department of Children
and Youth Affairs



Irish Government Economic & Evaluation Service

**Focused Policy Assessment of the Affordable
Childcare Scheme:
Cost Drivers, Model Assumptions and Policy
Extensions**

Early Years Unit (EYU)

&

Research and Evaluation Unit (REU)

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Executive Summary

This Focused Policy Assessment paper¹, developed by the Department of Children and Youth Affairs, begins with a presentation of the rationale underpinning the Affordable Childcare Scheme. The rationale for the scheme includes (but is not limited to):

- a) the provision of a system of progressive financial support towards the cost of childcare.
- b) ensuring that access to affordable childcare is not a barrier to labour market participation.
- c) providing a sound and flexible platform for sustainable future investment.

The paper then builds on the cost model presented in the 2016 ACS Policy Paper², by identifying and assessing the key cost drivers for the scheme, such as potential numbers of beneficiaries, income distribution, and childcare use. Taking these drivers into consideration, the paper presents a variety of cost estimates based on current policy regarding ACS, referred to throughout as the 'core model', (see Table 3.8, page 21), which includes a static baseline estimate of €111m, and a set of lower, main and upper dynamic estimates ranging from €130m to €191m. A number of estimates for alternative policy scenarios are also presented. These alternative scenarios or 'policy extensions', represent estimated costs where individual key cost drivers such as net income thresholds, or subsidy rates, have been altered as a result of theoretical policy change (See Table 4.8, page 30 for full range of estimates).

The cost estimates presented in the paper represent a point in time, according to the current policy landscape and available data. The paper does not present a definitive set of cost estimates for the scheme, with changes to Early Years policy, data updates over time and changes in demand for childcare, both pre and post introduction of the scheme, all likely to affect estimates. Uncertainty in relation to the costs of the scheme overall arises from uncertainty regarding a number of the assumptions underpinning scheme costs, as outlined across the paper. For that reason, it was considered important that the report not focus on single cost estimate figures, but rather provide estimate ranges for each of the 'core model' and 'policy extensions'. These ranges have been supplemented, where necessary, with additional sensitivity analyses. However the paper does serve to highlight the flexibility of the cost model developed by the DCYA Early Years Unit, which has been interrogated and refreshed as part of the collaborative work of the DCYA Early Years and Research & Evaluation Units for the purposes of this FPA. The DCYA cost model will be refined and updated on a regular basis by the Early Years Unit in the coming months and years.

The paper concludes with an analysis of the ESRI SWITCH microsimulation model for the Affordable Childcare Scheme, and describes the key similarities and differences between the DCYA and SWITCH models.

This Focused Policy Assessment includes three additional appendices. Appendix A presents two additional charts detailing the estimated costs and numbers of beneficiaries under each model scenario. Appendix B provides sensitivity analysis based on a number of theoretical changes to assumptions underpinning the ACS model. Appendix C presents the ESRI's report (in full) on cost estimates for the ACS using SWITCH.

¹ Data and estimates provided by Early Years Unit as of 12 June 2018

² Available at: <https://www.dcy.gov.ie/documents/earlyyears/20161028PolicyPaper.pdf>

1. ACS Overview

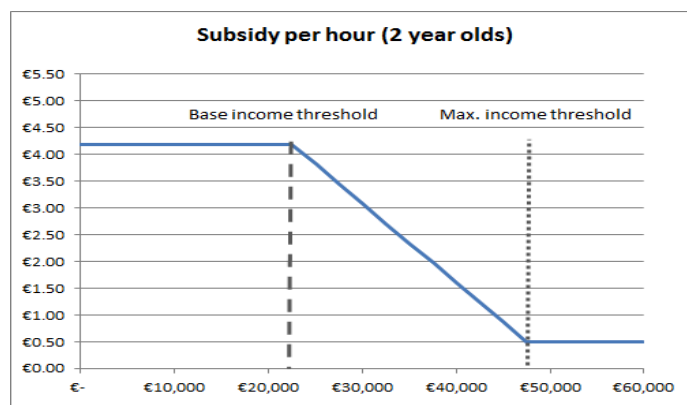
The ACS will be a new, national scheme of financial support towards the cost of childcare, as described in the DCYA's Affordable Childcare Scheme (ACS) Policy Paper (2016). In line with the principle of progressive universalism, it will encompass both universal and targeted elements. The scheme is being designed to allow for incremental changes to its scope, over time, in line with Government decisions on investment in childcare.

It is proposed that the scheme will, on introduction, provide a universal subsidy for children aged between 6 months and 3 years who are availing of registered childcare, i.e. crèches and childminders who are registered with Tusla. Upon introduction, it is proposed that the Universal subsidy (up to 3 years of age) would be set at a rate of €0.50 per hour for each hour of childcare used up to a maximum of 40 hours per week, although this rate could be adjusted over time. Parents would not have to undergo any means-test in order to avail of this subsidy which, in the case of full-time (40 hour per week) care would equate to approximately €80 per month, or €1,040 per year. The subsidy would be payable up until the time a child is 3 years of age or qualifies for the 'ECCE' (free pre-school) Programme.

In addition, as part of the scheme a progressive system of income-related subsidies will be available to all parents with children aged between 6 months and 15 years, with eligibility for a subsidy based on net parental income, i.e. the combined income (or sole income in the case of a one parent family) net of income tax, PRSI, USC and certain allowable deductions, including a 'multiple child deduction' which recognises the cumulative effect on families of childcare costs for multiple children. Where parental income is below a certain annual amount (termed the 'base income threshold'), parents will qualify for the maximum hourly rate of subsidy towards childcare costs. For income above the base income threshold, a tapered subsidy applies, which reduces as parental income increases until the subsidy reaches zero or until it reaches the level of the universal subsidy-rate for children less than 3 years old. The point at which the subsidy reaches zero (or the universal subsidy-rate) is known as the maximum income threshold and no income-related subsidy is payable where income reaches or exceeds this point.

Figure 1.1 below illustrates the subsidies payable per hour for 2 year old children (only), demonstrating both the maximum and minimum subsidies payable according to net parental income, as well as the tapering downward of this subsidy as parental net income increases from the base income threshold to the maximum income threshold.

Figure 1.1 ACS Subsidy Rate per Hour (2 years of age)



Source: ACS Policy Paper, 2016 (DCYA)

Participation in the scheme by childcare providers will be voluntary. Providers will be invited to enter into a contract with the State indicating that they are willing to provide services under the scheme and to abide by all terms and conditions relating to the scheme. Key requirements for participation will include:

- That the service is registered with Tusla
- That the service publishes its fees, and agrees to apply the full subsidy provided by the State to the cost of the published fee so that parents can clearly see how their subsidy will reduce their childcare cost and what the resulting co-payment will be.
- That the service will notify the scheme administrator of absences and changes in attendance in accordance with robust compliance procedures.

In its initial phase, the scheme will be administered by Pobal, given their extensive experience, existing relationships with childcare providers and City and County Childcare Committees, and their ability to leverage existing systems and structures. While the administrative role will be designated to Pobal (in the first instance), the Department of Children and Youth Affairs will maintain responsibility for policy and legislation, as well as oversight and evaluation of the scheme.

While qualification for a subsidy will be based on parental net income, as outlined above, the maximum hours subsidised will depend on parental participation in work/training/education.

Standard Hours Subsidy

Where parents qualify for a subsidy on income grounds and one or both parents are not engaged in formal work or study, they will qualify for a standard hours subsidy. This means that the State will pay the relevant hourly subsidy rate for each hour of childcare used up to a maximum of 15 hours of childcare per week, inclusive of time spent in school or pre-school. In effect, this will involve subsidies for up to 15 hours of childcare in respect of children aged between 6 months and three years, with older children (those aged between 3 and 15) benefiting from subsidies for up to 15 hours of childcare during school holiday periods.

This approach reflects the labour market rationale for the scheme and the evidence on the benefits of quality early childhood care and education for young children and, particularly, those from disadvantaged backgrounds. It also represents a change from the current targeted schemes, under which Community Childcare Subvention (CCS) recipients can avail of full-time subsidised childcare in cases where one or both parents are not engaged in formal work or study.

Enhanced Hours Subsidy

Where parents qualify for a subsidy on income grounds and both parents are engaged in formal work or study (or one parent in the case of a one-parent family), they will be eligible for an enhanced hours subsidy. This means that the State will pay the relevant hourly subsidy rate for each hour of childcare used up to maximum of 40 hours of childcare per week. Note, the 40 hours as discussed are inclusive of time spent in school or pre-school, even though the subsidy will not be received for these hours. For example, if a child is availing of the ECCE scheme for 15 hours per week, this 15 hour period is included within the 40 hours, leaving only 25 hours for which ACS subsidies may be potentially received. The effect of this is that the subsidy will provide ‘wrap-around support’, funding up to 40 hours of childcare during school holiday periods and the difference between school/ pre-school hours and the cap of 40 hours during term-time.

2. ACS Rationale

Note: The rationale for the ACS is outlined in detail in the DCYA’s ACS Policy Paper (2016), and is adapted below, for the purposes of this report.

The importance and value of quality early years care and education is well-documented. The international evidence shows a wide range of benefits for children, families and society at large. High quality services provide long-lasting cognitive, social and emotional benefits for children, supporting children to enjoy their childhood and realise the full potential of their future. However, affordability and accessibility of quality childcare is a major concern for many parents and can act as a barrier to employment which, in turn, increases the risk of poverty.

Access to affordable and high quality early years care and education has been identified as a key aspect of *Better Outcomes Brighter Futures* (DCYA, 2014), the whole of government policy on children and young people. This also reflects the international policy context, which includes:

- the UN Convention on the Rights of the Child, according to which “State parties shall take all appropriate measures to ensure that children of working parents have the right to benefit from child-care services and facilities for which they are eligible” (Article 18.3);
- the Barcelona Objectives; EU-wide childcare targets which call on Member States to provide childcare to at least 90% of children between 3 years and the mandatory school age and at least 33% of children under 3 years of age;
- the 2016 European Council recommendation that Ireland should “Expand and accelerate the implementation of activation policies to increase the work intensity of households and address the poverty risk of children. Pursue measures to incentivise employment by tapering the withdrawal of benefits and supplementary payments. Improve the provision of quality, affordable full-time childcare”. More broadly, the affordability and quality of Ireland’s childcare provision have been subject of Country Specific Recommendations from the European Union over a number of years.

In recognition of the importance of early years care and education, an Inter-Departmental Group (Chaired by the DCYA) was established in 2015 to identify and assess policy options for increasing the affordability, quality and supply of early years and school-age care and education services in Ireland. A core recommendation in the Report of the Interdepartmental Group related to the design

and development of a new Single Affordable Childcare Scheme³. The Group proposed that this new scheme would replace the existing targeted childcare schemes which are administratively complex, inadequate in terms of accessibility and limited to those on specific social welfare payments or training programmes. By contrast, it suggested that the new, streamlined scheme should provide means-tested support towards childcare costs based primarily on income. The recommendation was considered by Government during the Estimates process for Budget 2016 and funding was allocated to convene a dedicated design team to drive the development of a new Affordable Childcare Scheme. It is intended that the new scheme will provide a strong basis for supporting the following high-level objectives:

- providing a system of progressive financial support towards the cost of childcare;
- ensuring that access to affordable childcare is not a barrier to labour market participation, including female labour market participation;
- promoting positive child outcomes;
- narrowing the gap in attainment between more and less advantaged children by enabling all children to access high quality, affordable childcare;
- driving quality across the sector⁴;
- providing a sound and flexible platform for sustainable future investment and, crucially,
- through the above objectives, contributing to poverty reduction in Ireland.

In terms of the administrative model it is proposed that the new Affordable Childcare Scheme will:

- ensure that everyone is assessed on the same consistent, equitable basis having regard to their income and their need for childcare;
- be administratively clear and straightforward, leveraging the benefits of technology to enable timely self-assessment to the greatest extent possible;
- support parental choice and geographic access in terms of allowing a choice of registered childcare provider; and
- be robust, with clear, well-defined eligibility rules set down in primary legislation and strong underlying administrative systems and structures.

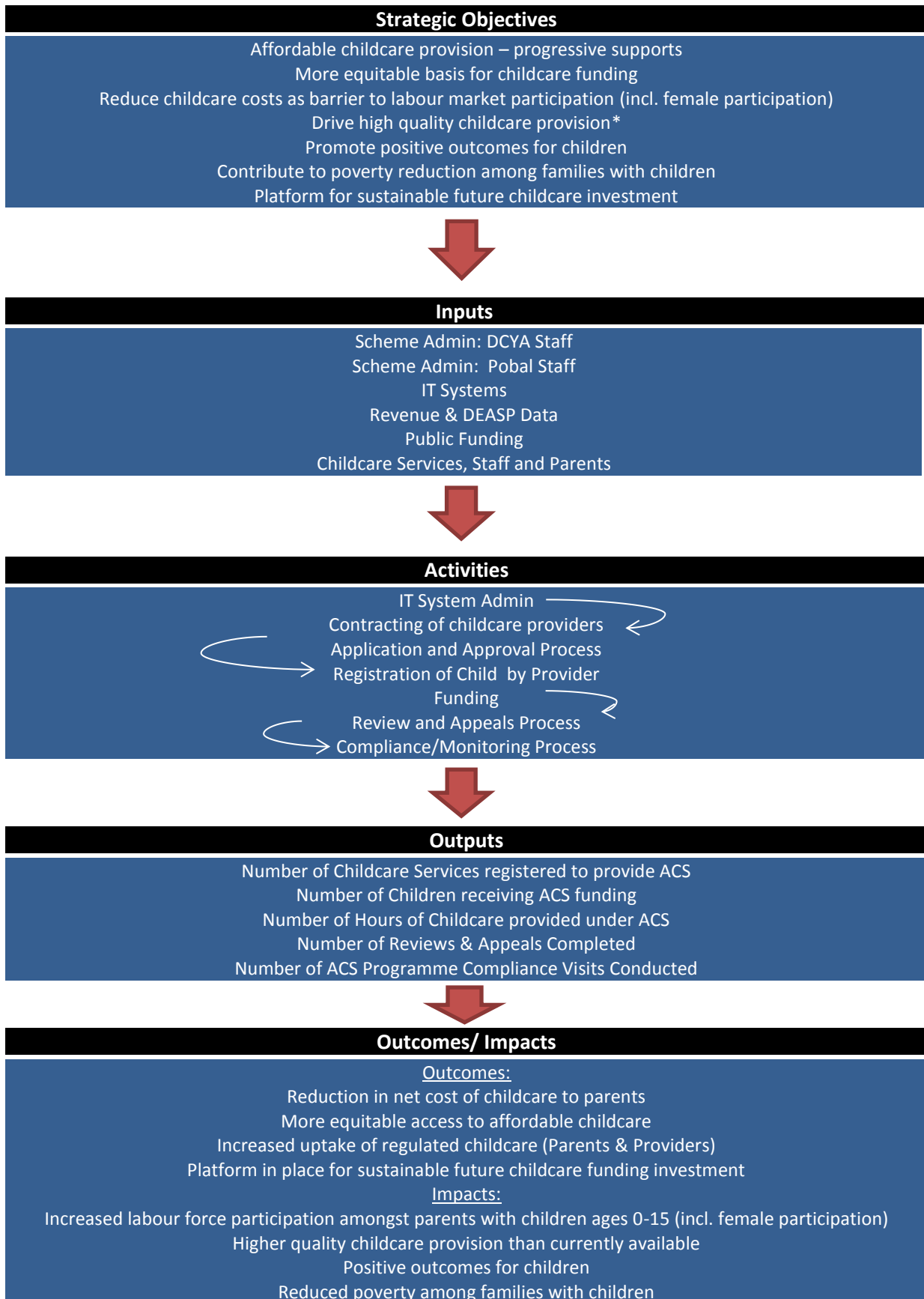
A simple Programme Logic Model is presented below which provides a framework for the scheme, for the purposes of this Focused Policy Assessment. It outlines the proposed Aims/Objectives; Inputs; Activities; Outputs; Outcomes & Impacts of the Scheme, as per IGEES Evaluation Guidelines⁵. It is worth noting that the extent to which the new scheme will achieve its aims and objectives will depend on the quantum of resources committed to the scheme. The outputs, outcomes and impacts of the scheme will be affected by a broad range of issues and contextual factors that are beyond the scope of this paper- see DCYA ACS Policy Paper (2016) Chapters 1, 6, 7 & 8 for detail.

³ <https://www.dcy.gov.ie/documents/earlyyears/20150722IDGReportonEarlyYrsInvestmentReport.pdf>

⁴ Delivering affordable childcare through supply-side subsidies rather than through demand-side subsidies provides the department with additional policy 'levers' through which it can impact on quality in future (e.g. through conditions imposed on funding).

⁵ 'Reviewing and Assessing Expenditure Programmes: Value for Money Review (VFMR) and Focused Policy Assessment (FPA) Guidelines'. Irish Government Economic & Evaluation Service: 2016 Draft

ACS Focused Policy Assessment 'Programme Logic Model'



**One of the rationales for delivering affordable childcare through supply-side subsidies (like the ACS) rather than through demand-side subsidies (e.g. tax credits) is that it provides the department with additional policy 'levers' through which it can impact on quality in future (e.g. through conditions imposed on funding).*

3. Overview of Cost Drivers & Core Model Assumptions

Introduction

The drivers and primary assumptions underpinning the cost model and estimates for the Affordable Childcare Scheme will be presented in this Section. The focus throughout will be on drivers and assumptions expected to impact on demand for childcare following introduction of the scheme. They do not account for impacts relating to supply⁶. Following on from the cost drivers and assumptions, the Section presents an overview of the core ACS model on which cost estimates will be based. The core ACS model is discussed in relation to static and dynamic estimates, as well as the associated taper rates.

While Section 4 shows the impact of possible changes to policy variables (e.g. changes to income thresholds and subsidy rates within the scheme), cost estimates are also strongly influenced by assumptions about the impact of the scheme on the demand for childcare. There is no Irish data on the price elasticity of demand for childcare, so the cost estimates in the 'dynamic model'⁷ (discussed in the subsection 'Childcare Use' below) rely on Australian evidence, as discussed in the 2016 ACS Policy Paper. Given the potential that the elasticity of demand in Ireland may differ from that in the Australian context, alternative 'lower' and 'higher' estimates of elasticity are also modelled for the core scenario, as well as for each policy extension considered in Section 4. As the cost estimates show, the alternative assumptions about the elasticity of demand have a large impact on cost estimates. The impact on demand of the increase in subsidy rates under existing childcare schemes in September 2017 is being monitored closely to give an indication of whether the ACS cost is likely to fall towards the lower or higher end of the range of cost estimates.

Uncertainty in relation to the cost of the scheme overall also arises from uncertainty on other assumptions described in this Section of the report. The assumptions underpinning the estimated costs of the scheme are outlined in detail in this Section, for illustrative purposes. However, these may be subject to revisions over time as a result of, for example, updates to data sources. Cost estimates of the scheme will become more reliable following the first year of operation of the scheme, and subsequent years thereafter as the Scheme becomes established.

It is worth noting that certain costs related to ACS have been included within the estimates, notably €11m⁸ that covers the combined cost of referrals for childcare funding from Tusla or other agencies, administration costs and other costs⁹. These costs have been held constant across the static and dynamic estimates presented throughout this report.

⁶ See Section 5, 'Costing ACS: Discussion' for a brief discussion of potential supply response upon introduction of ACS

⁷ Unlike the static model estimates, the dynamic model takes into account potential increases in the demand for childcare places as a direct result of the introduction of ACS. The dynamic model assumes, for example, that ACS will have an effect on labour market participation (and therefore will result in a greater number of children being placed in registered childcare). The dynamic model will be discussed in further detail under 'Childcare Use' in this Section.

⁸ Note: €11m represents a rounded figure (€10.6m). See Section 6 for further discussion of the €11m associated costs figure.

⁹ 'Other costs' includes the cost of some limited transport for school-age childcare, which has historically been funded through targeted childcare funding schemes.

Furthermore, it should be noted that some of the assumptions outlined in this paper differ from those made in the 2016 Policy Paper, resulting in revisions to the cost estimates as originally projected in 2016. The updated assumptions presented in this paper reflect three new data sources that have become available since publication of the Policy Paper:

- In July 2017 the CSO published the results of a special module on childcare from the Quarterly National Household Survey. Questions were asked in the third quarter of 2016. The special module provides more up-to-date and reliable estimates than used in the Policy Paper on (a) average hours per week of childcare, (b) average fees per hour, and (c) frequency of usage of alternative childcare types (childminders, relatives).
- Data from the 2017 Pobal Early Years Sector Profile¹⁰ has provided more up-to-date administrative data on childcare use by age of the child (and on current fee levels), which is the first data to reflect the impact of the major extension of the ECCE free pre-school programme in 2016-17.
- Income data (on the percentage of children in different income brackets – see below) is drawn from 2016 CSO SILC data, rather than the 2014 data that was used in the 2016 ACS Policy Paper.

The scale of all these changes combined is to raise the ‘main’ estimate of full-year costs in the core model over and above the cost estimates observed in the Policy Paper. In addition, the ESRI has completed an independent analysis of ACS costs on the basis of full incorporation of the ACS in the SWITCH model, as described in Section 6 below.

Cost Drivers & Assumptions

The following cost drivers and related core assumptions have been identified as underpinning the cost estimates for the Affordable Childcare Scheme. Each will be discussed in greater detail below:

1. Children - potential numbers
2. Income distribution
3. Childcare use
4. Hours of use
5. Current fees
6. Multiple child deduction

Children - potential numbers

The number of qualifying children (i.e. maximum potential number of ACS beneficiaries, for children of different ages) that underpins the cost estimates is based on:

- CSO data from the 2016 Census. The numbers of births in 2017 and 2018 are assumed to be the same as in 2016.

¹⁰ Available at: <https://www.pobal.ie/Publications/Documents/Early%20Years%20Sector%20Profile%20Report%202016-2017.pdf>

- Updated DCYA estimates of the expected number of participants in the extended ECCE pre-school programme based on the number of children participating in May 2017¹¹.

From these, estimated numbers of potential beneficiaries are derived for the numbers of children in each age category relevant to the ACS (See Table 3.1). As per Table 3.1, the numbers of children aged 6-35 months, as well as of school age (up to 15 years) are based on CSO data. The numbers of children on the ECCE Programme and children aged 36-40 months that do not yet qualify for the ECCE Programme, are based on DCYA estimates¹².

Table 3.1-Children - Estimated Numbers per Age Group

Age group	Number of children (est.)	Data source
6- 11 months	31,000	CSO
12- 23 months	63,000	CSO
24- 35 months	63,000	CSO
36- 40 months and not yet qualifying for ECCE	11,000	DCYA Estimates
ECCE programme	120,000	Programme Data
School- age and less than 15 years	687,000	CSO

Source: Census 2016 (CSO), DCYA Estimates, DCYA Programme Data

The ACS subsidy level according to each age category relevant to the ACS is presented in table 3.2. These figures help underpin the cost estimates presented in this paper.

Table 3.2-Children - Hourly Subsidy Rate per Age Group

Age group	Min. subsidy (Net Income >€47,500)	Max. subsidy (Net Income <€22,700)
6- 11 months	€0.50	€5.11
12- 23 months	€0.50	€4.37
24- 35 months	€0.50	€4.18
36- 40 months and not yet qualifying for ECCE	€0.50	€3.95
ECCE programme	€0	€3.95
School- age and less than 15 years	€0	€3.76

Source: DCYA

¹¹ This figure was retrieved at the same time that the Pobal Service Profile was carried out.

¹² Children are eligible for the ECCE programme from 36 months of age. However, the ECCE Scheme entry points for 2016/17 and 2017/18 are: September; January; April. Children reaching 36 months between these entry points are not qualified to register for the Scheme until the next available entry point, e.g. a child born in October may register in the following January; a child born in February must wait until April, and a child born in May must wait until September.

Income Distribution

The estimates of income-distribution are based on the 2016 SILC (Survey on Income and Living Conditions) survey carried out by the CSO. Data was prepared by the CSO for DCYA, specifically in relation to families with children aged 0-5 and 0-12 (distinguishing families according to the number of children in the family), that identified the number of households by €5,000 income-band. Table 3.3 summarises these income-distribution estimates.

Table 3.3- Percentage of Children by Net Household Income

Net household income	% of children aged 0-5	% of children aged 6-12
< €22,500	10.6	13.1
€22,500-€27,500	5.8	7.5
€27,500-€32,500	6	7.9
€32,500-€37,500	7.2	7.8
€37,500-€42,500	8	7.5
€42,500-€47,500	9	6.3
€47,500-€52,500	7.2	5.8
€52,500-€57,500	6.8	6.5
€57,500+	39.5	37.6

Source: CSO- Survey on Income & Living Conditions (2016)

On the basis of this percentage data, estimates were made of the number of children in each €5,000 family income band, according to the age of the child¹³.

Childcare Use

The assumptions on childcare use relate to estimates of the demand for childcare resulting from the introduction of the Affordable Childcare Scheme. The static model, outlined below, holds the demand constant, i.e. it is assumed that current demand for centre-based childcare will not change once the scheme is introduced. The dynamic model assumes that demand will increase and provides three scenarios (Lower, Main and Upper estimates) for the impact of the scheme on childcare demand.

Childcare Use - Static model

The static cost model (which assumes no change in current parental demand for childcare as a result of implementation of the scheme) assumes that all children in registered centre-based childcare providers are able to benefit from ACS subsidies (i.e. all registered childcare providers take part in the scheme), and assumes the number of such children will be equal to the number that are currently in registered services. The number of children in registered childcare is drawn from Pobal's

¹³ CSO SILC (2016) data on the numbers of children in the 6-12 age category were also applied to numbers of children aged 13-15 from CSO Census 2016. It is assumed that the number of children in centre-based childcare from within the 13-15 age range will remain marginal.

annual Early Years Sector Profile. As noted above, data was used from the 2017 sector profile¹⁴, allowing a first opportunity to examine the impact of the extension of the ECCE programme in 2016-17. The data is summarised in Table 3.4 below¹⁵.

The large majority of the pre-school 3-5 year olds in centre-based provision were taking part in the ECCE free pre-school programme, which is outside the scope of the ACS. Children in this age-group who are of relevance to ACS are those who take part in 'wraparound' (or additional) care outside ECCE hours, as well as those who are aged 3 but awaiting the next ECCE registration window (September). On the basis of numbers of 2 year olds in centre-based care, it is estimated that 3,000 children aged 3 in centre-based care are awaiting the next ECCE registration window (September). Of the remainder, the number solely taking part in the ECCE scheme is estimated on the basis of 2014 Pobal data on the proportion of 3-5 year olds recorded as being in 'sessional' care only (approximately the number of hours provided by the ECCE programme), i.e. 66%.¹⁶ That leaves an estimated 41,000 children aged 3-5 using 'wraparound' care. See table 3.4¹⁷. Note, 2014 Pobal data has been used to derive an estimate of the extent of wraparound care for the purposes of this paper, as more recent Pobal surveys have not included questions that would allow an update of this estimate. Future iterations of the ACS model will incorporate more recent data if available.

Table 3.4- Estimate of Children in Centre- based Childcare Outside the ECCE Programme

Age Group	Number of children who use childcare outside of the ECCE scheme (est.)
0- 12 month olds	4,000
1 year olds	11,000
2 year olds	19,000
36-40 months and not yet qualifying for ECCE	3,000
3- 5 year olds (in ECCE and using wraparound care)	41,000
School children (out of hours)	29,000
Total	108,000

*Sources: Pobal Sector Profile Survey Report 2017 and Pobal Annual Early Years Sector Survey Report 2014.*¹⁸¹⁹

¹⁴ Available at: <https://www.pobal.ie/Publications/Documents/Early%20Years%20Sector%20Profile%20Report%202016-2017.pdf>

¹⁵ Note: the Pobal 2016/17 Early Years Sector Profile draws attention to a number of children on waiting lists to attend childcare sessions. Figures have been excluded from this analysis, as it is likely that many parents may have placed their child on a number of waiting lists for different services in order to ensure a place is secured. This is noted in the Sector Profile report (pg. 56)

¹⁶As this question was not asked in the 2015/16 or 2016/17 Early Years Sector Profile, this figure has been derived from the 2014 Pobal Annual Early Years Survey, available at: <https://www.pobal.ie/Publications/Documents/Annual%20Early%20Years%20Sector%20Survey%202014%20Report.pdf>

¹⁷ Note: all other figures in Table 3.4 are extrapolated from data from the Pobal Sector Profile 2017.

¹⁸ Note: a discrepancy of 1,000 is present due to rounding error. 108,000 is correct.

¹⁹ Note: 3-5 year olds represent children aged over 40 months only

Alternatively, when expressed as a percentage of the total number of all children by age bracket²⁰:

Table 3.5- Percentage of All Children in Centre- based Childcare Outside the ECCE Programme, by Age Group

Current % of children in centre- based childcare	
6- 12 month olds	10%
1 year olds	17%
2 year olds and 3 year olds not yet in ECCE	31%
3- 5 year olds (in ECCE and using wraparound care)	34%
Primary school children (out of hours)	5%

Sources: Pobal Sector Profile Survey Report 2017 and Pobal Annual Early Years Sector Survey Report 2014.

Childcare Use - Dynamic Model

One of the key objectives of the ACS scheme is to support parental labour market participation. It is intended that the Early Years Unit will continually monitor changes in demand among both mothers and fathers. However, the assumptions around the demand response to the introduction of ACS in this paper are as described in the DCYA ACS Policy Paper (pp.65-67). These were based on a preliminary review of the international literature on demand for childcare. The dynamic model starts with the estimated demand for registered childcare in the static model, and applies three types of increase:

1. An increase in the number of children in registered childcare as a result of the impact of increased childcare subsidies (ACS) on the labour market participation of mothers with children aged 0-15²¹;
2. An increase in the number of hours of childcare used as a result of the impact of increased childcare subsidies (ACS) on hours worked by mothers with children aged 0-15;
3. A switch from childcare carried out by relatives, nannies and unregistered childminders, to childcare carried out by registered childcare providers as a result of the impact of increased childcare subsidies (ACS).

A scenario is modelled around each of these three types of increase²², which will also be used in this report, i.e. a lower, main and upper scenario. These are shown in table 3.6.

²⁰ Note: figures are provided for 6-12 month olds, rather than those aged 0-12 months as it is assumed that the majority of children below one year old and in centre-based childcare would fall under the 6-12 month age bracket - maternity benefit currently runs for 26 weeks.

²¹ See appendix B for sensitivity analysis of price elasticity of demand for childcare, relating to labour market participation of mothers

²² The demand response upon introduction of the ACS may take a number of forms, including those outlined above. Demand may also be affected by population change and inward migration.

Table 3.6- Assumptions of the Total Increased Demand for Childcare Resulting from ACS – Dynamic

Demand impact per 10% reduction in net childcare prices			
Increase in childcare use resulting from:	Lower	Main	Upper
Increased labour market participation of mothers with children aged 0-15	0.30%	0.60%	1.20%
Increased hours worked by mothers with children aged 0-15	0.50%	1%	2%
Switch of children from non-regulated to regulated childcare	1.25%	2.50%	5%

Source: ACS Policy Paper, 2016 (DCYA)

The higher the level of ACS subsidy, the greater the expected increase in demand. This may be assisted by increasing eligibility and improving access to subsidies. Any subsequent extension of subsidies to a larger cohort of beneficiaries (e.g. through raising the maximum income threshold) or an increase in average subsidies above current levels would be expected to result in a further increase in demand. However it may be noted that measures introduced in September 2017 that have already brought about increased childcare subsidy rates (outside of the ECCE Programme) may impact on the demand response following introduction of the ACS scheme.

With regard to anticipated demand elasticities to be expected following the introduction of the scheme, there is limited Irish literature available that directly addresses this issue. International research indicates considerable variation across a number of countries. The 2016 Policy Paper notes that a number of Nordic studies have determined a near zero elasticity of labour market participation with respect to the price of childcare²³; conversely a much larger elasticity was found in studies of major childcare reforms in Quebec, Canada²⁴. The elasticity seems to depend both on initial labour market conditions prior to reform (with high female labour market participation limiting the extent of further increases) and also on the characteristics of particular groups affected by price changes. As noted by Akgunduz and Plantenga (2018)²⁵, countries that have either very high or low rates of female labour market participation (or high rates of part-time positions), have a tendency towards lower elasticities of demand in respect of childcare prices. They also note the ‘extensive and varying’ international literature pertaining to female labour market participation elasticity with regard to childcare prices. According to Eurostat²⁶, female labour market participation in Ireland is currently near the Eurozone average (i.e. the proportion of women aged 20-64 who were in employment in 2017 (67.0%) was very close to the EU average of 66.5%).

As with the demand elasticities presented in the 2016 ACS Policy Paper, the ‘main’ demand estimates applied in table 3.6 above are derived from Australian assumptions about the potential impact on demand. These assumptions draw on 2014 research highlighted by the Productivity Commission in Australia, where the labour market participation figures for mothers with children aged 0-14 (63.5%) are comparable to Ireland (58.2%). As will be seen throughout this Focused Policy Assessment paper lower, main and upper estimates are included for both costs and numbers of

²³ See, for example, the table of international comparisons in Bettendorf, L., Jongen, E. and Muller, P. (2015) ‘Childcare subsidies and labour supply – Evidence from a large Dutch reform’, in Labour Economics, 36.

²⁴ See ACS Policy Paper (2016). Available at: <https://www.dcy.gov.ie/documents/earlyyears/20161028PolicyPaper.pdf>

²⁵ Akgunduz, Y and Plantenga, J, Journal of Economic Surveys (2018) Vol. 32, No. 1, pp. 118–133

²⁶ See: <http://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tesem010&language=en>

beneficiaries expected to avail of ACS. These estimates are linked directly to the anticipated dynamic demand responses (lower, main and upper) outlined in table 3.6²⁷

In relation to changes in the supply of registered childcare, a key consideration is the Programme for Government commitment to ‘support the development of a phased programme of reforms for childminders making it easier to support both families and childminders’²⁸. It has been anticipated that a cohort of childminders will register with Tusla in order to avail of subsidies under the Affordable Childcare Scheme. Worth noting is a sensitivity analysis conducted as part of the 2016 ACS Policy Paper, which presented cost implications for scenarios in which a large proportion (25% and 50% respectively) of children currently cared for by unregistered childminders might be able to benefit from ACS through their childminders becoming registered as a result of regulatory reform. Should there be a significant increase in the numbers of childminders registering for ACS, the overall cost of provision for the scheme would rise accordingly. However it is worth noting that no major policy change relating to the regulation of childminders is envisaged in the short-term that would lead to such a sudden shift. For that reason, this paper doesn’t include an analysis of this particular 25% and 50% demand response. However, as noted above, each of the dynamic cost estimates factor in a switch from unregulated to regulated childcare. This may involve some children in unregistered care (e.g. relative care, nannies, unregistered childminders) switching to registered centre-based care. It also factors in unregistered childminders becoming registered for the first time in order to avail of the ACS..

It is possible that the impact of the scheme on childcare use may not be immediate, as demand may respond gradually over time (e.g. time taken for parents to seek employment or training opportunities, and/or change in childcare arrangements). Supply of childcare places may also lag behind changes in demand. It may therefore be reasonable to also view the lower, main and upper dynamic estimates to follow as short, medium and longer-term changes following the introduction of the scheme.

Hours of Childcare Use

Assumptions about the average hours of subsidised childcare per week reflect new data from the CSO Quarterly National Household special module on childcare (2017). This data was then applied against the proposed rules of the Scheme, such as maximum number of hours proposed for different age-groups. The resulting assumptions are set out in Table 3.7 below.

Table 3.7 suggests that children aged two and under would require 25 hours of subsidised childcare. On the other hand, children within the ECCE scheme (15 hours per week) would typically avail of 10 ‘wraparound’ hours per week (hours not already covered by ECCE), to make a total of 25 hours per week. During holiday periods, when the ECCE 15 hours per week are not available, the same cohort would therefore require 25 hours of ACS per week; the 10 wraparound hours plus 15 hours during which ECCE usually takes place.

²⁷ Lower and upper demand response estimates are included as a form of sensitivity analysis to illustrate the effect that demand may have on overall scheme costs. Lower and upper estimates provide a range of scenarios regarding elasticities of demand, and have been developed by halving and doubling the main figure.

²⁸ Available at: https://www.merrionstreet.ie/MerrionStreet/en/ImageLibrary/Programme_for_Partnership_Government.pdf

In relation to weeks per year, the ACS model assumes that pre-school children (including those enrolled in ECCE programmes) seek childcare subsidies for 52 weeks of the year²⁹. In the case of ECCE children, this translates to 38 weeks within the ECCE term plus 14 weeks during holiday periods. For school age children, it is assumed that childcare would be required for less than 52 weeks per year. Specifically, it is assumed that those of either primary or secondary school age would require 46 weeks³⁰ of childcare. This is broken down to 36 weeks during term time plus 10 weeks during holidays for primary school students, and 33 weeks during term time plus 13 weeks during holidays for secondary school students³¹.

Table 3.7- Average Subsidised Childcare Required – Hours per Week/Weeks per Year

Age group	Hours per week	Weeks per year (term time)	Weeks per year (holiday weeks)	Total weeks per year
<1 year old	25	N/A	N/A	52
1 year olds	25	N/A	N/A	52
2 year olds	25	N/A	N/A	52
ECCE age	10 wraparound / 25 in holiday periods	38	14	52
Primary school age	12 wraparound / 25 in holiday periods	36	10	46
Secondary school age	10 wraparound / 25 in holiday periods	33	13	46

Source: DCYA estimates based on CSO (2017).

Current fees

Assumptions about the current level of fees per hour are drawn from the CSO (2017) QNHS special module on childcare which was based on 2016 survey data, i.e. €4.70 per hour for pre-school centre-based childcare and €5.90 per hour for after-school centre-based childcare, combined with data from the 2017 Pobal Early Years Sector Profile³² that indicates an average 4.3% increase in full-time childcare fees between 2016 and 2017³³.

Fees per hour vary by session-duration (full-time, part-time, sessional) as well as by provider-type (private, community-based), and geographic area. However, the cost model uses average national fees calculated on an hourly basis, with no variation by age within preschool/afterschool categories³⁴.

²⁹ACS rules will allow for defined periods of non-attendance by children and for specified service closure (e.g. Christmas) without subsidies being affected. ACS cost estimates as presented here are therefore based on an assumption of 52 weeks of subsidies per year, where a place is booked on a full year basis, even though children will not attend for the full 52 weeks.

³⁰ 46 weeks is based on the assumption that childcare will not be used during certain holiday weeks (i.e. 2 weeks during Christmas and 4 weeks during summer).

³¹ See appendix B for sensitivity analysis around weeks of childcare used per year, which includes estimates based on 52 weeks attendance for all children.

³² Available at: <https://www.pobal.ie/Publications/Documents/Early%20Years%20Sector%20Profile%20Report%202016-2017.pdf>

³³ Childcare fees as presented in this paper represent a combination of QNHS data and Pobal Sector Profile data, with the latter based on survey responses from registered childcare providers. Other data sources on childcare fees may be incorporated into the model at a later date, as they become available.

³⁴ Some childcare providers also vary their fees by the age of the child, as higher adult-child ratios required by regulation result in a higher cost of delivering childcare for younger children. While there is variation in this practice, the most common price adjustment is for a higher fee for children aged less than 1 year. DCYA analysis of fee data submitted to Pobal by childcare providers in August 2016 suggests that a large proportion of childcare providers have flat-fee structures

The ACS cost model as presented in this paper allows for a re-run of the model for the inclusion of alternative data on childcare fees charged to parents as they arise. This includes scope for testing alternative future cost scenarios based on changes to childcare fees (see appendix B). The Pobal Early Years Sector Profile for 2018, which is due for publication in September 2018, will provide updated data on childcare fees charged to parents by service providers.

Multiple Child Deduction

For each additional child in a family, total childcare costs rise proportionately, thus reducing one's incentive to work. While the current targeted schemes offer support for each child, total net childcare costs are considered to be central in parental decision-making on labour market participation. This helps explain why participation rates fall as family size rises, with 70% of women with one child aged 0-14 years in formal employment compared to 58% of women with three or more children of that age³⁵.

Separately, it is noted that some social protection payments involve a top-up or additional amount for each additional child (e.g. Family Income Supplement, Qualified Child Increase). It may be argued that these payments already provide support towards the costs associated with caring for multiple children. However, the interaction of these payments with the income-based Affordable Childcare Scheme could mean that parents in receipt of such multiple child payments would receive a lower subsidy than comparable parents with only one child because the payments result in a higher net income.

In addressing the above issues, the Affordable Childcare Scheme allows for a multiple child deduction, which has been captured within each scenario. It is assumed constant across each scenario and therefore is absent from each of the tables as presented. Within the DCYA ACS Policy Paper (2016), the estimated numbers of children who will benefit from the multiple child deduction are based on CSO data from the SILC survey on the number of children per family, for families in different income brackets. For the purpose of this Focused Policy Assessment, the numbers have been updated to reflect 2016 CSO SILC data.

The multiple child deduction operates as follows:

- Where a family has two children below 15 years of age, a deduction of €3,800 is allowable when calculating assessable annual income.
- Where a family has more than two children under 15 years of age, a deduction of €7,600 is allowable when calculating assessable annual income³⁶.

As discussed in the 2016 Policy Paper, a multiple child deduction of €3,800 for each of the second and third children in a family would see the maximum net income threshold (as illustrated below

(with no variation by age of child). Where fees do vary by age of the child, they are on average 8% higher for children aged under 1 year.

³⁵ Eurostat (2017)

³⁶ The ACS offers two categories of multiple child deduction, based on either two children or more than two children. It is noted that the average number of children per family is 1.4 (including families without children) and that 94% of families with children under 15 years of age have three or less children. It is also noted that the issue of multiple childcare costs is most significant for those with children under 3 years of age. In this regard, it is unlikely that many families would have more than 3 children under the age of 3 years in childcare at any one time.

within table 3.7) effectively raise to €51,300 for a family with two children and €55,100 for a family with three or more children.

The rationale behind a multiple child deduction set at a level of €3,800 and €7,600 for two and three+ child families respectively, is based around analysis conducted by Social Justice Ireland³⁷, who recorded the 2016 poverty line (60% of median income) at €22,643 p.a. for a family with two adults and one child, with the poverty line increasing by €3,755 per annum for each additional child.

Core Model³⁸

The 'Core' Model as presented below outlines the scenario that is currently proposed on the basis of assumptions outlined above. All costs are estimates of a full year of implementing the scheme and do not take into account any initial setup costs (e.g. IT development costs, etc.).

Table 3.8- Core Model- Key Parameters & Cost Estimates

Core Model	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static		Dynamic	
						Baseline	Lower	Main	Upper
	22,700	47,500	3.76 (school age)- 5.11(<1s)	0.5 (<3s) 0 (3+)	0.14- 0.18	111	130	150	191

Table 3.9- Estimated Number of ACS Beneficiaries

Total Beneficiaries (thousands of children)			
Static	Dynamic		
Baseline	Lower	Main	Upper
62	70	78	95

The core model assumes base and maximum net income thresholds of €22,700 and €47,500 respectively. The base income threshold, €22,700, represents the highest income at which the maximum subsidy may be received. Beyond the maximum income threshold, €47,500, recipients will be eligible for either the Universal subsidy (where children are aged 0-3 years) or no subsidy (children aged 3-15). With regards to the Universal element of ACS, a minimum rate of €0.5 per hour applies for all children below the age of three, with no eligibility for the Universal subsidy thereafter. The core model is based on proposed ACS programme rules whereby a maximum subsidy ranging between €5.11 for those under 12 months, down to €3.76 for school- age children is applied.

Static vs Dynamic Models

Table 3.8 presents both static and dynamic model cost estimates. The static model holds the demand for childcare constant, and is provided for benchmarking purposes (see 'Childcare use' under 'Cost Drivers and Model Assumptions' above). Conversely, the dynamic model considers a

³⁷ Social Justice Ireland (2016) Poverty, Deprivation and Inequality, Policy Briefing.

³⁸ All cost estimates presented have been updated as per June 2018. Cost estimates do not fully match those presented in the ACS Policy Paper (2016, DCYA). The main difference lies in different assumptions about the number of hours per week and weeks per year that parents may use childcare subsidies.

number of possible demand responses once ACS is implemented. Lower and upper estimates are provided for the dynamic model for both costs and number of anticipated beneficiaries. A range of estimates is provided according to assumptions previously outlined relating to the demand response (See Table 3.6). For all models, a dynamic ‘main’ estimate is included, which is assumed to be the central scenario. It is worth noting that it is also possible to view the lower, main and upper estimates as time periods, if it is assumed that demand for the scheme will rise gradually over time (e.g. Time period 1, Time period 2, Time period 3) rather than immediately, e.g. because labour market responses will not be immediate.

Static Estimates

A static cost estimate of €111 million is observed for the core model, holding demand for childcare constant. The static model estimates that 62,000 children will avail of the scheme; 16,000 less than the dynamic main estimate.

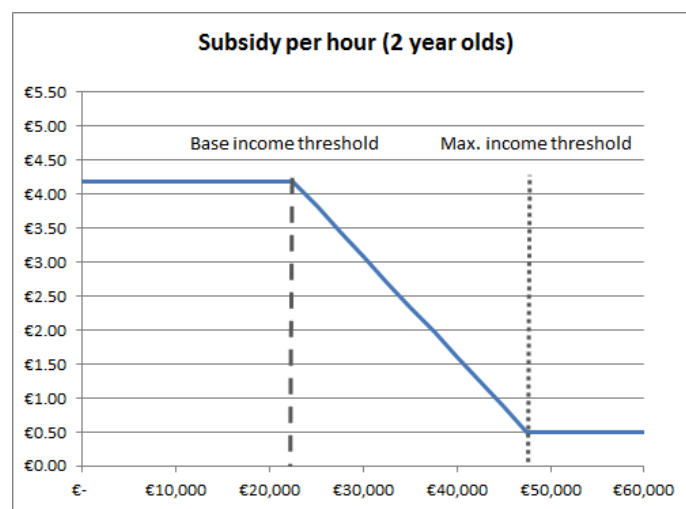
Dynamic Estimates

The core model estimates an expected cost of €130 million, €150 million and €191 million for the dynamic lower, main and upper scenarios respectively (see Table 3.8). The dynamic model estimates that between 70,000 and 95,000 children will avail of the scheme for the ‘lower’ and ‘upper’ scenarios respectively, with the main dynamic estimate predicting 78,000 total beneficiaries.

Taper Rates

The taper rate refers to the rate at which the ACS subsidy reduces, as a function of increasing levels of Net Household income, with the overall aim of ensuring that the targeted subsidy flows to where it is most needed. Specifically, the taper rates as presented in this report represent the reduction in the hourly subsidy rate for each additional €1000 of net income earned. A key feature of the taper in the context of ACS is the fact that the taper is smooth, i.e. the slope is constant. For example:

Figure 3.1 ACS Taper Rate- 2 year olds



Source: ACS Policy Paper, 2016 (DCYA)

Each of the scenarios presented within this paper includes a range of values for the taper rate. This range reflects the fact that both the universal and targeted subsidies are dependent on the age of the child in question.

The core model assumes a taper rate of €0.14- €0.18. That is, for each additional €1000 of net income earned the hourly subsidy will decrease by between 14 and 18 cent per hour of childcare. For example, individuals availing of the highest maximum subsidy rate of €5.11 per hour with a child below the age of one (which includes therein €0.50 per hour via the Universal aspect of the scheme) would observe a taper rate of €0.18. Parents with school- age children (not eligible for the Universal subsidy) would however see a taper rate of €0.14 being applied (assuming a Maximum subsidy rate of €3.76 per hour and zero Universal subsidy).

4. Policy Extensions

Introduction

In the following Section, various extensions to the core model will be presented and discussed based on alterations to key policy variables, in order to demonstrate their potential effects on overall scheme costs. In each extension, one of the key policy variables has been altered with everything else held constant as observed in the core model. The policy extensions relate primarily to the cost implications of changes to the assumptions underpinning the core model. Estimates of total beneficiaries have not been included. (They are however available in Table 4.8 below.) A further model will also be presented, outlining a 'maximum' cost scenario for ACS. This model is included for illustrative purposes. The Section concludes with a brief discussion on some factors which may potentially affect the future impact of the Scheme; specifically, the impact of staff wages, childcare prices, supply and possible subsidy issues.

The following extensions will be presented:

- Alternative net income thresholds:
 1. Alternative base net income threshold
 2. Alternative maximum net income threshold
- Alternative subsidy rates:
 3. Alternative targeted subsidy rates
 4. Alternative universal subsidy rates
 5. Extension of universal subsidy to all recipients

Taper Rates

As noted under 'Core Model' above, any changes to the main model assumptions will result in a change to the taper rate. In analysing the policy extensions below, the ascribed taper rates differ across each. This is due to the fact that the rate of taper is dependent on the base net income threshold, the maximum net income threshold and the targeted and universal subsidy rates. For example an increase in the base net income threshold would, holding all else constant, result in a steeper taper (and therefore a higher taper rate) than is the case under the Core Model.

In each of the five model extensions presented below, the variable which has been altered has been highlighted in yellow for illustrative purposes. In the final model, each variable has been maximised, as per the extensions ('Maximum Model').

Extension 1: Cost Estimates of Alternative Base Net Income Thresholds

Table 4.1- Estimated Cost of Alternative Base Net Income Thresholds

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static		Dynamic	
						Baseline	Lower	Main	Upper
Alternative Base Net Income Threshold (€)	27,500	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.17- 0.23	120	144	169	221
	32,500	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.23- 0.31	130	159	190	255

The first extension in Table 4.1 illustrates the impact that an increase in the base net income threshold may have on cost estimates.

Static Estimates

Holding all else constant, increasing the base threshold from €22,700 to either €27,500 or €32,500 would result in the static cost estimate increasing from €111 million to €120 million, or €130 million, respectively.

Dynamic Estimates

An increase in the base net income threshold from €22,700 to €27,500 would lead to an increase of €19 million in the dynamic main cost estimate (from €150m to €169m). Similarly, an increase in the base threshold to €32,500 would correspond in an increase in the dynamic main estimate from €150 million to €190 million.

Extension 2: Cost Estimates of Alternative Maximum Net Income Thresholds

Table 4.2- Estimated Cost of Alternative Maximum Net Income Thresholds

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static		Dynamic	
						Baseline	Lower	Main	Upper
Alternative Maximum Net Income Threshold (€)	22,700	52,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.12- 0.15	122	143	165	211
	22,700	57,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.10- 0.13	135	158	182	231

The version of the model presented in Table 4.2 alters the maximum net income threshold.

Static Estimates

As observed in Table 4.2, increasing the threshold from €47,500 to €52,500 could result in a corresponding increase of €11 million, from €111m to €122m, over the estimated static cost. However an increase to €57,500 could lead to a corresponding increase of €24 million (€111m to €135m).

Dynamic Estimates

Altering maximum net income thresholds from €47,500 as observed in the core scenario to either €52,500 or €57,500 would result in a dynamic main cost increase of €15 million (€150m to €165m) and €32 million (€150m to €182m) respectively.

Extension 3: Cost Estimates of Alternative Maximum (targeted) Subsidy Rates

Table 4.3- Estimated Cost of Alternative Maximum Subsidy Rates

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static	Dynamic		
						Baseline	Lower	Main	Upper
Alternative Maximum Subsidy Rate (€ per hour)	22,700	47,500	10% Increase 4.14 (school age) - 5.62 (<1s)	0.5 (<3s) 0 (3+)	0.15- 0.2	119	142	166	217
	22,700	47,500	25% increase 4.70 (school age) - 6.39 (<1s)	0.5 (<3s) 0 (3+)	0.18- 0.24	131	161	193	259

The scenario illustrated in Table 4.3 provides cost estimates should the actual subsidy rate be increased beyond its proposed level. For this extension the subsidy range itself is not being adjusted; instead we observe both a 10% and 25% upward shift in the subsidy rates.

Static Estimates

A 10% increase in the maximum subsidy rate would result in an €8 million increase in the static cost, moving from €111m to €119m. A 25% subsidy increase delivers a €20 million increase in the cost of provision, from €111m to €131m.

Dynamic Estimates

Increasing the maximum rate by 10% would drive up the dynamic main estimate by approximately €16 million (from €150m to €166m). A larger increase of 25% would see an increase of approximately €43 million in the estimated cost of providing ACS (from €150m to €193m).

Extension 4: Cost Estimates of Alternative Universal Subsidy Rates

Table 4.4- Estimated Cost of Alternative Universal Subsidy Rates

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static		Dynamic	
						Baseline	Lower	Main	Upper
Alternative Universal Subsidy Rate (€ per hour)	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1 (<3s) 0 (3+)	0.12- 0.16	130	153	176	224
	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1.5 (<3s) 0 (3+)	0.10- 0.15	150	177	204	262

The policy extension in Table 4.4 accounts for an increase in the proposed universal subsidy rate of €0.50 for children below 36 months of age. Here we observe increases of both €0.5 and €1 over the base case scenario, bringing universal subsidy rates up to €1 and €1.50 per hour.

Static Estimates

Holding all else constant, an increase in the universal subsidy rate to €1 per hour of childcare would increase the static cost estimate by €19 million (from €111m to €130m). Similarly, an increase to €1.50 per hour would incur an additional €39 million of costs; bringing the total static estimate from €111m to €150m.

Dynamic Estimates

Increasing the universal subsidy rate to €1 per hour for all children below the age of 36 months would yield an increased dynamic main cost estimate of €26 million above that observed within the core model, i.e. a move from €150m to €176m. An increase in the rate to €1.50 per hour would see the dynamic Main estimate rising by €54 million (from €150m to €204m).

Extension 5: Cost Estimates of Extending the Universal Subsidy to All Participants

Table 4.5- Estimated Cost Impacts of Extending the Universal Subsidy to All Participants

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static		Dynamic	
						Baseline	Lower	Main	Upper
Extension of Universal Subsidy to Children of All Ages	22,700	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0.5 (3+)	0.13- 0.18	131	153	175	221
	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1.5 (<3s) 1.5 (3+)	0.09- 0.14	211	250	290	375

This extension of the core model as illustrated in Table 4.5 involves an increase in the scope of the universal subsidy to children beyond the age of three years³⁹.

³⁹ For completeness, if the Universal subsidy rate was altered to €1 per hour in this extension, the static baseline cost would be €171m. The dynamic estimates would change to €197m, €223m and €275m for the lower, main and upper scenarios respectively.

In the first example above, the subsidy rate itself is maintained at €0.50 per hour, but its reach is broadened to include those above 3 years of age.

The second example not only extends the scope of the subsidy, but also assumes a rise in the universal subsidy rate to €1.50 per hour for all children.

Static Estimates

Should such a policy be pursued, static costs would increase from €111m to €131m (€20 million above the core static estimate) at the universal subsidy rate of €0.50 per hour. In the case where the universal subsidy is increased to €1.50 per hour, static baseline costs are elevated to €211 million; an increase of €100 million per annum over the core estimate.

Dynamic Estimates

Should the universal element of ACS be rolled out to all children, but kept at the current rate of €0.50 per hour, the main dynamic cost estimate would increase from €150 million per annum to €175 million. Alternatively, should the subsidy rate be simultaneously increased to €1.50 per hour a significant increase in the cost estimate would be observed. Specifically, the scheme would be estimated to cost €290 million per annum; an increase of €140 million on the core model main dynamic estimate.

Maximum Model

The final model outlines the effect on cost of applying the maximum levels of all of the above extensions to the core model. This is included for illustrative purposes and highlights the significant cost variance should all of the costs drivers increase simultaneously (i.e. base net income threshold, maximum net income threshold, maximum targeted subsidy rate & the maximum universal subsidy rate).

Table 4.6- Estimated Cost of Employing All Policy Extensions

Maximum Model	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)			
						Static	Dynamic		
						Baseline	Lower	Main	Upper
	32,500	57,500	25% increase 4.70 (school age) - 6.39 (<1s)	1.5 (<3s) 1.5 (3+)	0.13- 0.2	274	347	422	585

Static Estimates

It is observed that an increase in both income thresholds and subsidy rates would elevate the static baseline cost by €163m to €274m: more than twice that assumed in the core model.

Dynamic Estimates

Applying all of the extensions to the model presented in this report results in a dynamic main estimate of €422 million, which is an increase of €272 million over the Core Model. In relation to the dynamic costings the Maximum Model would result not only in a higher cost scenario, but also one with a large variation between the 'lower' and 'upper' scenarios (a variance of €238 million is

observed, with the maximum model at the dynamic upper estimate reaching a total cost of €585 million).

Total Beneficiaries

While it is evident that the maximum scenario would cost substantially more to operate than the proposed ‘core’ model, it may also be worth noting that widening the income thresholds, augmenting both universal and targeted subsidy rates and allowing those above 3 years of age to avail of the universal subsidy would also likely result in a greater demand for the scheme.

Going by dynamic estimates, the maximum model assumes that between 123,000 and 192,000 children would avail of ACS in total. This is an increase of 53,000 and 97,000 children respectively over the Core Model dynamic lower and upper estimates respectively. Similarly, an increase of 39,000 children is observed under the static scenario.

Table 4.7- Total ACS Beneficiaries: Maximum Model

Total Beneficiaries (thousands of children)			
Static	Dynamic		
Baseline	Lower	Main	Upper
101	123	146	192

By way of illustration, the graphs below outline the variation between the core and maximum scenarios in relation to both estimated costs and the number of anticipated beneficiaries (See Appendix for more detail).

Figure 4.1 - Cost: Core vs Maximum Models

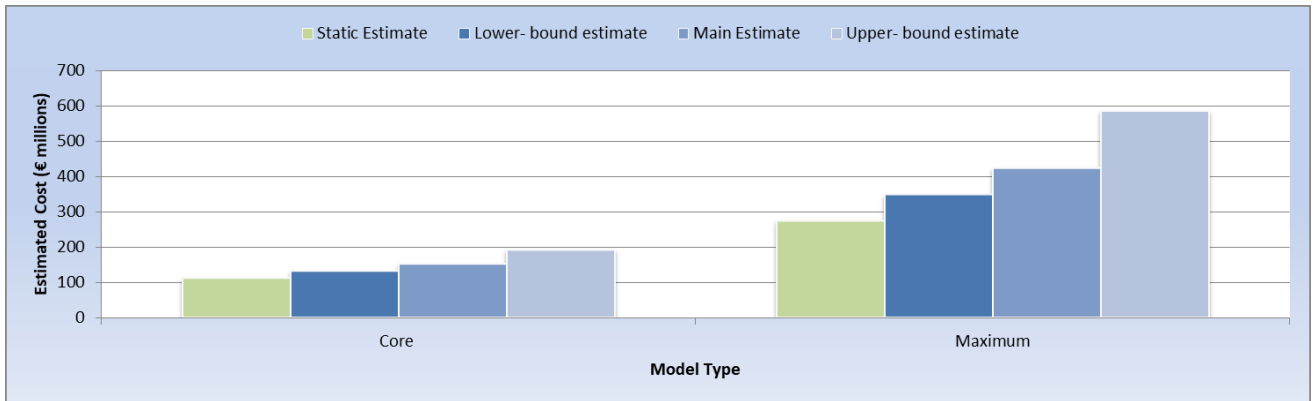


Figure 4.2 - Total Beneficiaries: Core vs Maximum Models

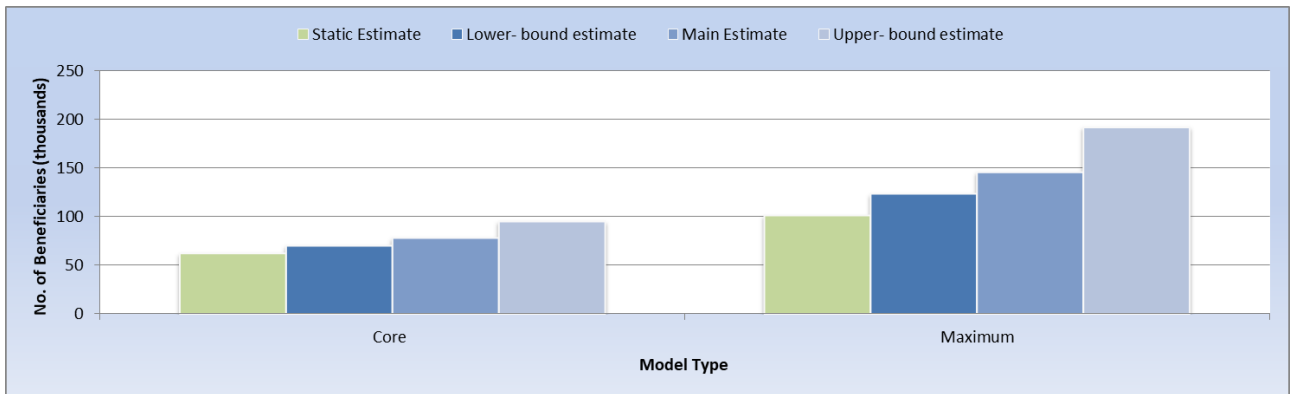


Table 4.8 Full ACS Costings Model: Core & Extensions

Core Model	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)				Total Beneficiaries (thousands of children)			
						Static		Dynamic		Static		Dynamic	
						Baseline	Lower	Main	Upper	Baseline	Lower	Main	Upper
	22,700	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.14- 0.18	111	130	150	191	62	70	78	95

Model extensions

Description of Change	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)				Total Beneficiaries (thousands of children)			
						Static		Dynamic		Static		Dynamic	
						Baseline	Lower	Main	Upper	Baseline	Lower	Main	Upper
Alternative Base Net Income Threshold (€)	27,500	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.17- 0.23	120	144	169	221	62	71	80	99
	32,500	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.23- 0.31	130	159	190	255	62	72	83	103
Alternative Maximum Net Income Threshold (€)	22,700	52,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.12- 0.15	122	143	165	211	64	73	82	100
	22,700	57,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0 (3+)	0.10- 0.13	135	158	182	231	66	76	86	106
Alternative Maximum Subsidy Rate (€ per hour)	22,700	47,500	10% Increase 4.14 (school age)- 5.62 (<1s)	0.5 (<3s) 0 (3+)	0.15- 0.2	119	142	166	217	62	71	80	99
	22,700	47,500	25% increase 4.70 (school age) - 6.39 (<1s)	0.5 (<3s) 0 (3+)	0.18- 0.24	131	161	193	259	62	72	83	104
Alternative Universal Subsidy Rate (€ per hour)	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1 (<3s) 0 (3+)	0.12- 0.16	130	153	176	224	62	71	80	98
	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1.5 (<3s) 0 (3+)	0.10- 0.15	150	177	204	262	62	72	82	102
Extension of Universal Subsidy to Children of All Ages	22,700	47,500	3.76 (school age)- 5.11 (<1s)	0.5 (<3s) 0.5 (3+)	0.13- 0.18	131	153	175	221	109	120	130	152
	22,700	47,500	3.76 (school age)- 5.11 (<1s)	1.5 (<3s) 1.5 (3+)	0.09- 0.14	211	250	290	375	109	126	144	179

Maximum Model

Maximum Model	Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	Costs (€ millions)				Total Beneficiaries (thousands of children)			
						Static		Dynamic		Static		Dynamic	
						Baseline	Lower	Main	Upper	Baseline	Lower	Main	Upper
	32,500	57,500	25% increase 4.70 (school age) - 6.39 (<1s)	1.5 (<3s) 1.5 (3+)	0.13- 0.2	274	347	422	585	101	123	146	192

5. Costing ACS: Discussion

The cost estimates in Sections 3 and 4 illustrate both the potential cost impact of policy changes and also the uncertainty in relation to the initial cost of the ACS. Uncertainty in relation to the price elasticity of demand for childcare in Ireland (i.e. the responsiveness of parents' childcare choices to changes in the cost of childcare) makes it particularly hard to predict the costs. The approach adopted in both the 2016 Policy Paper and this report has been to provide a range of cost estimates in relation to each policy scenario, with the range reflecting alternative assumptions about the price elasticity of demand.

Monitoring of the impact of the policy changes which were introduced in September 2017 will shed some light on demand responses. The changes involve a substantial increase in childcare subsidies within existing schemes (in some cases as much as 50%) and introduction for the first time of a 'universal' subsidy towards childcare costs for children aged 6 months to 3 years, for all families (i.e. including all families ineligible for the DCYA's targeted childcare schemes). While there are reasons to think that demand will rise still further when the ACS is introduced (e.g. because of easier access to the scheme and the change in the basis of entitlement to subsidies), the demand and supply responses to the September 2017 measures may be an important indicator for future ACS cost estimates. Future consideration of the likely cost of the ACS will also be able to draw on:

- the ESRI report, discussed in Section 6 below, which provides an independent assessment of the potential cost of the ACS, based on alternative data and different assumptions;
- the Independent Review of the Costs of Quality Childcare, due to be published by year end 2018, which will provide more reliable data than was available to the Policy Paper on the cost of providing childcare and which may therefore require reconsideration of subsidy rates set within the ACS (as well as capitation rates in the ECCE free pre-school programme).

While not the focus of this paper, a number of other issues are likely to have a bearing on cost and impact of the scheme. A number of these are outlined below, namely staff wages, childcare prices, supply and other broader considerations. This list is not exhaustive.

Staff Wages

A key output of the Independent Review of the Cost of Providing Quality Childcare will be the relative impact of staff wages on overall provision costs. The DCYA ACS Policy Paper (2016) has briefly discussed this issue, with staffing costs having been incorporated as an indirect aspect of the ACS cost model. While staff wages do not automatically affect scheme costs, it is acknowledged that they are a substantial driver in the cost of providing childcare. The subsidy rates set for the ACS, to date, are based on a model of the cost of providing childcare that uses 2016 data-sources to estimate wage rates of €10.56 and €11.02 per hour for educators and room leaders respectively (averaging €10.79 overall), with a manager drawing down an average salary of €28,850 (equating to an hourly wage rate of €13.87)⁴⁰. The Policy Paper notes that, on average, staffing costs account for 77% of total operating costs for a provider. Should staff salaries increase beyond these levels, the

⁴⁰ See pages 105-106 DCYA ACS Policy Paper (2016)

model itself would likely need to be adjusted. The impact of changes to staff wages since 2016 will be considered following completion of the Independent Review of Costs.

Considering the current trend of an increasing proportion of higher educated staff within the sector (e.g. introduction of a minimum qualification requirement in 2016, and an increase in the proportion with third-level qualifications from 12% in 2012⁴¹ to 20% in 2017⁴²), it is reasonably likely that staff will, in the coming years, endeavour to achieve a higher wage rate.

Increased salaries across the sector may result in one of two possible scenarios; either service providers would be forced to bear the additional cost increase by way of a reduced profit margin, or alternatively they would offset all, or at least some, of the cost by way of an increase in prices. In order to maintain the value to parents of the ACS subsidies relative to prices (which are closely related to the costs of provision) the Department may consider raising subsidy levels, in turn raising the costs of the scheme.

For context, when focusing on the issue of staff wages, it is worthwhile mentioning the ECCE Higher Capitation scheme; which itself aims to incentivise ECCE service providers to employ greater numbers of ECCE graduates by way of an increased capitation payment. As the overall staff qualification level rises across the sector over time, so too will the case for, and probability of, staff demanding wage increases to reflect this development.

The issue as discussed above poses an important question; would an increase in childcare costs be borne by consumers (i.e. parents/guardians) or providers, or should the additional cost result in a raising of the ACS subsidy rates by the Government? The latter would be a policy decision for Government in the context of the annual budget process.

Childcare Prices & Supply

It is important to give consideration to the fact that at least some of the benefits of the subsidy may be absorbed by the service providers themselves. Specifically, it may be the case that the providers will increase childcare fees, taking advantage of increased demand for childcare given increased accessibility and affordability following the introduction of the scheme. As long as the increase in fees is less than the increase in subsidy, consumers will still avail of at least some of the scheme's benefit, although the benefit will be less than initially intended in the model. The Early Years Unit will monitor the issue of fees.

Another closely linked consideration is that of supply. While the 2016 Policy Paper provides a detailed insight into the demand impacts of the Affordable Childcare Scheme, attention will also be paid by the Early Years Unit to the effect that the subsidy may have on the supply side. Attention will be paid at regional and local level, with focus on both rural and urban areas. In general, an increase in the supply of registered childcare places (and an increase in the number of registered childcare providers, whether centre-based providers or home-based childminders) may be expected as a direct outcome of the scheme.

⁴¹ Pobal Annual Survey of the Early Years Sector 2012:

<https://www.pobal.ie/Publications/Documents/Pobal%20Annual%20Early%20Years%20Sector%20Survey%202012.pdf>

⁴² Early Years Sector Profile 2016-2017:

<https://www.pobal.ie/Publications/Documents/Latest%20Early%20Years%20Sector%20Profile%20Published.pdf>

Some areas may already be experiencing high levels of demand for childcare places. In such instances, the introduction of the scheme may require an increase in supply. Otherwise there may be an increase in childcare prices where supply is unable to balance the demand due to a variety of other constraints; for example space constraints in built up areas, high fixed costs required to provide a new service or insufficient access to capital⁴³.

Adequate consideration should be given to the supply response as well as the issue of childcare prices following the introduction of the scheme⁴⁴.

Other Considerations

When focusing on the future costs of the ACS model over time, positive economic growth (or indeed recession) will likely result in the need to reassess the appropriateness (and resulting cost implications) of base and maximum income thresholds. As a direct result of inflation, the actual subsidy rates themselves may need to be regularly monitored and revised in the medium to long run and as time progresses.

Model Development & Potential Future Extensions

As discussed in Section 6, the ACS and ECCE programmes have been incorporated into the ESRI SWITCH model. SWITCH, as a multi-annual microsimulation modelling programme, will provide a resource for ongoing analysis of the costs and potential impact of the ACS, including its interaction with the tax and welfare system. Aside from SWITCH, the DCYA Early Years Unit intends to continue the development of the ACS costings model presented in this paper for ongoing use in the coming years. As previously mentioned, whereas this Focused Policy Assessment is a point-in-time exercise, future iterations of the DCYA's cost model will include updated data sources as they become available. This will include, for example, revised data on childcare use, updated net household income data and updated child population statistics. The model may also be revised to incorporate longer-term population projections which, combined with a range of additional key projections may provide cost estimates for the scheme into the future.

As discussed in Section 3, where there is a lack of relevant or reliable Irish data pertaining to the elasticity of demand for childcare, there is the possibility for the DCYA model to incorporate year on year changes in demand for regulated childcare under ACS, along with additional data sources on demand elasticity, as they become available.

Section 4 of this paper illustrates a number of potential policy extensions for the Affordable Childcare Scheme, along with corresponding estimates for both the total costs of the scheme, and for potential numbers of beneficiaries across each. While each of the model extensions represents a viable future policy direction (such as the use of alternative income thresholds, or an increase in either the universal or targeted subsidy rates), the model allows sufficient scope for the development of a broad number of alternative scenarios affecting total cost of the scheme as may be required.

⁴³ Childcare has been identified as a strategic priority in Project Ireland 2040: National Planning Framework. The National Development Plan (2018-2027) for public capital investment provides for €250m of additional funding for childcare provision.

⁴⁴ As noted within the 2017 Pobal Sector Profile an increase of 4.3% in fees for a full time childcare place has been observed in comparison with the previous year's fees.

6. Analysis based on the Switch model

Note on comparability of DCYA estimates and figures presented in the ESRI SWITCH report

The four scenarios discussed in the ESRI SWITCH report **are not** directly comparable to the main DCYA estimates presented above. There are three key differences. Firstly, the ESRI cost-estimates include the direct cost of childcare subsidies only, whereas the main DCYA cost estimates above also include associated costs held constant across all estimates (further details below). Secondly, DCYA estimates include both static and dynamic scenarios, whereas the SWITCH model has been used to provide static cost estimates of ACS only. Thirdly, the ESRI estimates are based on different assumptions about use of childcare outside term times.

For the purpose of comparison, the assumptions underpinning the DCYA estimates in this Section of the report have been adjusted to match the cost-estimation approach adopted by the ESRI.

To provide a resource for ongoing analysis of the costs and potential impact of the ACS, as well as its interaction with the tax and welfare system, a decision was taken in 2016 to incorporate the ACS (and the ECCE programme) into the ESRI's SWITCH programme. Participation in SWITCH will also allow potential changes to ACS to be modelled and assessed in terms of their cost to the Exchequer and their impact on different households and segments of the population, to support evidence-informed policy decisions on future development of both the ECCE and ACS programmes.

SWITCH, the ESRI tax-benefit model, has for many years been used to analyse the potential impact of policy proposals and the impacts of actual policy changes in the areas of tax and welfare. SWITCH is a multi-annual research programme which uses microsimulation modelling to analyse the impact on households of tax and social welfare systems. SWITCH has also been extended to analyse income-related health entitlements under the Medical Card and GP Visit Card schemes.

As of year-end 2016, the ESRI had provided initial ACS cost estimates based on CSO SILC income-data but without full incorporation of the ACS into the SWITCH model. The 2016 ESRI cost-estimates focused on the static model (i.e. assuming no change in demand for childcare), and were broadly in line with (though somewhat lower than) those calculated by DCYA at the time.

In 2017 the ACS was fully incorporated into the SWITCH model, and revised cost estimates were developed by the ESRI. The next Section entitled 'Cost estimates based on SWITCH' compares the cost-estimates of the ACS based on the SWITCH model with the cost estimates based on the DCYA cost-model. Following this, 'Distributional profile of ACS' presents SWITCH estimates of which families will obtain most benefit from ACS spending and where ACS spending will go across the

income distribution. Finally 'Future analysis using SWITCH' looks at the scope for further analysis of ACS using the SWITCH model. The full ESRI report on the 2017 analysis is included in Appendix C.

Cost estimates based on SWITCH

In considering differences between the ESRI's cost estimates and those presented elsewhere in this report, it should be noted that the ESRI cost estimates are not directly comparable with the DCYA cost estimates as:

- a) The ESRI cost estimates are 'static', whereas the DCYA cost estimates attempt to take into account 'dynamic' effects, i.e. behavioural responses by parents to changes in the net cost of childcare.
- b) The ESRI cost-estimates only include the direct cost of ACS subsidies, whereas the DCYA cost estimates also include associated costs held constant across all estimates. These associated costs include the cost of referrals from Tusla or other agencies, administration and other costs⁴⁵.

The ESRI report on the SWITCH analysis acknowledges the uncertainty about the amount of childcare used outside term-times for children taking part in the ECCE programme and for school-age children. Given this uncertainty, the ESRI modelled four different scenarios, each reflecting different assumptions about the take-up of childcare outside term-times, and the ESRI report compares SWITCH and DCYA cost estimates for each of the four scenarios. The four scenarios are as follows:

- (1) all children eligible for ACS use childcare for 52 weeks per year;
- (2) children of ECCE-age who use no more than 15 hours of childcare per week do not use any childcare outside term-time;
- (3) no children of ECCE-age use any childcare outside term-time; and
- (4) no children of ECCE-age or school-age use any childcare outside term-time.

As noted in Section 3 above (see 'Introduction'), the cost estimates used prior to this Section make a different set of assumptions about the extent of childcare-use outside term-times that is not identical to any of the four scenarios presented here. Specifically, the main DCYA cost-estimates within this report assume 52 weeks of childcare for those children who are eligible for the ECCE programme and who use childcare additional to the ECCE programme during term-times, but only 46 weeks per year for school-age children, reflecting the lower use of year-round holiday care among school-age children.

Table 6.1 recaps the 'static' cost estimate in the central DCYA scenario. Tables 6.2 through to 6.5 then show, by way of comparison, how this DCYA cost estimate differs in each of the four different term-time-usage scenarios listed above. Table 6.6 then draws together these DCYA cost estimates and compares them with the SWITCH cost estimates for the same four scenarios.

⁴⁵ 'Other costs' includes the cost of some limited transport for school-age childcare, which has historically been funded through targeted childcare funding schemes.

Table 6.1: DCYA Core Model- Static Baseline Estimate*

DCYA Core Model					
Base Net Income Threshold (€)	Maximum net Income Threshold (€)	Maximum Subsidy Rate (€ per hour)	Universal Subsidy Rate (€ per hour)	Taper Rate (€)	DCYA Core Static Baseline Cost Estimate (€ million)
22,700	47,500	3.76 (school age) - 5.11(<1s)	0.5 (<3s) 0 (3+)	0.14- 0.18	111

*See Section 3 'Core Model'

Table 6.2: ESRI Scenario 1- 52 Weeks Paid for all Children

ESRI Scenarios	DCYA Core static baseline estimate	Associated costs – referrals, administration and other costs	Static baseline less associated costs	DCYA assumptions to match ESRI scenario 1	DCYA estimate under SWITCH assumptions	Cost difference (DCYA SWITCH estimate vs Core)
1. 52 weeks paid for all children	111	11	100	52 weeks of childcare per year for all children, including all children taking part in the ECCE programme (both those using more than 15 hours of childcare per week and those who use only the 15 free ECCE hours during term-times).	117	+€17m

The first SWITCH model scenario presented in table 6.2 assumes 52 weeks of ACS is paid for all eligible children. As previously noted, the SWITCH model does not account for the associated costs included in the DCYA model (which assumes fixed costs of €11m to cover e.g. Tusla referrals, administration and other costs). By removing these associated costs, a figure of €100m is obtained. Applying an assumption within the DCYA model that all children use 52 weeks of childcare per year (including all children taking part in the ECCE programme, both those using more than 15 hours of childcare per week and those who use only 15 free ECCE hours during term-times), the DCYA static costs less associated costs rises from €100m to €117m.

Table 6.3: ESRI Scenario 2- Term time only for ECCE children using up to 15 hours

ESRI Scenarios	DCYA Core static baseline estimate	Associated costs – referrals, administration and other costs	Static baseline less associated costs	DCYA assumptions to match ESRI scenario 2	DCYA estimate under SWITCH assumptions	Cost difference (DCYA SWITCH estimate vs Core)
2. Term time only for ECCE children using up to 15 hours	111	11	100	52 weeks of childcare per year for all children, except for those children who take part in the ECCE programme and who use 15 or fewer hours of childcare per week during term-times, as it is assumed in this scenario that the latter group take part in ECCE only and use no additional childcare during either term-times or holiday periods	104	+€4m

The second scenario (Table 6.3) is based around the assumption that children of ECCE-age who use no more than 15 hours of childcare per week (i.e. only avail of ECCE) do not use any childcare outside of term-time. As in Scenario 1, associated costs have been removed (€11m). The DCYA cost

estimate in Scenario 2 is €104m, i.e. €4m higher than the main DCYA cost model less associated costs (€100m).

Table 6.4: ESRI Scenario 3- Term time only for all ECCE children

ESRI Scenarios	DCYA Core static baseline estimate	Associated costs – referrals, administration and other costs	Static baseline less associated costs	DCYA assumptions to match ESRI scenario 3	DCYA estimate under SWITCH assumptions	Cost difference (DCYA SWITCH estimate vs Core)
3. Term time only for all ECCE children	111	11	100	52 weeks of childcare per year for all school-age children. Term-time only childcare for children who take part in the ECCE programme	93	-€7m

In the third scenario (Table 6.4), associated costs of €11m have again been removed, and it is assumed that there is no holiday childcare for children who take part in the ECCE programme (i.e. 38 weeks only), whereas school-age children are assumed to use 52 weeks of childcare per year. This results in an estimate of €93m, which is approximately €7m less than the main DCYA core static estimate (less associated costs).

Table 6.5: ESRI Scenario 4- Term time only for all ECCE and school- age children

ESRI Scenarios	DCYA Core static baseline estimate	Associated costs – referrals, administration and other costs	Static baseline less associated costs	DCYA assumptions to match ESRI scenario 4	DCYA estimate under SWITCH assumptions	Cost difference (DCYA SWITCH estimate vs Core)
4. Term time only for all ECCE and school- age children	111	11	100	Term-time only childcare for all school-age children and all children who take part in the ECCE programme.	83	-€17m

In the final scenario (Table 6.5), associated costs of €11m have again been removed. This scenario assumes that no children of ECCE-age or school-age use any childcare outside of term-time (i.e. no holiday weeks required). This assumption expectedly yields the lowest cost estimates of all four scenarios. The DCYA cost estimate for Scenario 4 of €83m is €17m below the DCYA core static estimate (less associated costs) of €100m.

The following table (Table 6.6) presents each of the four ESRI SWITCH scenarios, to draw comparisons between the ESRI’s estimates as per the SWITCH Report and the DCYA estimates as per Tables 6.2 through 6.5 above. Estimates of numbers of children across each scenario are also presented. Note: All figures have been taken from the ESRI’s SWITCH report (See Appendix C).

Table 6.6: Comparison of DCYA and SWITCH cost estimates⁴⁶

Scenario	Cost €m p.a.			Number of children ('000s)		
	SWITCH	DCYA*	SWITCH: DCYA ratio	SWITCH	DCYA*	SWITCH: DCYA ratio
1. 52 weeks paid for all children	156	117	133%	126.9	88.1	144%
2. Term-time only for ECCE children using up to 15 hours	140	104	135%	95.6	61.8	155%
3. Term-time only for all ECCE children	130	93	140%	90.2	61.8	146%
4. Term-time only for all ECCE & school-age children	108	83	130%	80.2	61.8	130%

* In this instance, DCYA estimates are static only, are based on SWITCH assumptions regarding weeks of childcare, and do not account for any associated costs. The SWITCH model and the DCYA model involve different approaches to estimating family income, childcare usage, and hours of subsidy for which families qualify.

The SWITCH estimates presented in Table 6.6 range from €156m per annum in scenario one, to €108m in scenario four. DCYA estimates under the SWITCH scenarios range from €117m in scenario one, to €83m in scenario four.

As Table 6.6 shows, SWITCH cost-estimates are 30%-40% higher across the four scenarios than the DCYA cost-estimates (on average SWITCH estimates are 34.5% higher). SWITCH estimates of the number of children benefiting are 30%-55% higher than those observed by DCYA under the same scenario.

The ESRI report notes a number of reasons for the differences between the SWITCH and DCYA cost estimates and the differences in the estimates of the number of children likely to benefit. For example, the income-assessment in the SWITCH model is based on the tax unit (rather than the household, which is the basis of DCYA cost estimates) and on a specification of income-sources that reflects the specific income-sources to be used in the actual ACS income-assessment (whereas the DCYA model is based on a simpler measure of household income). Both of these differences will tend to give lower estimates of family income-levels in the SWITCH model, resulting in higher estimates of ACS subsidy-rates and higher ACS costs.

While the differences in the SWITCH income-assessment model provide clear benefits over the income-data used in the generation of DCYA cost-estimates, it is possible that the DCYA data on childcare-use may be more reliable than the childcare-use data in the SWITCH model. The DCYA

⁴⁶ All data sourced directly from the ESRI's September 2017 paper entitled: "Microsimulation Modelling of the Affordable Childcare Subsidy: Cost Estimates using SWITCH". See Appendix B for the full report.

cost-model (as outlined in Sections 3 and 4 of this paper) is based on current administrative data on actual childcare-use in the range of childcare providers likely to be in contract with DCYA for delivery of the ACS,⁴⁷ whereas the SWITCH model relies on parents' reports of type of childcare used⁴⁸. For this reason, it is plausible to assume that the actual cost of the ACS may lie somewhere between the DCYA (as per Sections 3 and 4 of this paper) and SWITCH estimates.

Taking as a basic rationale that the actual cost may reflect a balance between the two different approaches, and may therefore lie somewhere between the DCYA and SWITCH cost estimates, it may be suggested that the full 'static' costs of the ACS (including associated costs) may lie somewhere between €111m and €145m. €111m represents the 'core' static estimate (as discussed in Section 3 of this report) and €145m represents €100m + 34.5% + €10.6m associated costs, where €100m is the core static estimate less €10.6m associated costs held constant across the scenarios, and SWITCH estimates are on average 34.5% higher than the DCYA static estimates excluding the associated costs held constant. The full 'dynamic' costs may lie somewhere between €150m and €198m, i.e. the DCYA dynamic core main estimate excluding the costs held constant + 34.5% + €10.6m constant costs⁴⁹.

Distributional profile of ACS

Incorporation of ACS into the SWITCH model also allows analysis of the impact of the ACS on disposable income across households. It is important to note that results from the SWITCH model capture the effect on income due to the introduction of ACS and do not take into account the withdrawal of previous targeted childcare subsidy schemes. This is due to a lack of information on receipt of previous childcare subsidies in the data underpinning the model. The figure below shows the effective average increase in disposable income due to ACS by income decile, from the 10% of families with the lowest income (decile 1) to the 10% of families with the highest income (decile 10). The figure assumes that the entire subsidy is passed onto the parents of children in registered care. The pattern across income-deciles reflects both the income-basis for determining ACS subsidy-rates, and also variation across the income-distribution in the extent of childcare use.

As the figure shows, ACS expenditure (as a percentage of income) is concentrated in the bottom half of the income-distribution (the first 5 deciles), though families with higher incomes receive some benefit as a result of the 'universal' ACS subsidy. The greatest receipt of ACS, as a percentage of income, will be for families in the 2nd lowest income decile, as childcare use is relatively low among families in the lowest income decile.

⁴⁷ The administrative data is drawn from the Pobal Service Profile, for which the response rate is 84%.

⁴⁸ The SWITCH model utilises CSO SILC data.

⁴⁹ Estimates represent 134% of DCYA direct subsidy costs plus associated costs. It is important to give adequate consideration to the full range of values outlined above, rather than taking the midpoints. The viability of the full range of values should be considered in ACS cost estimates.

Figure 6.1: Average change in disposable income by income decile

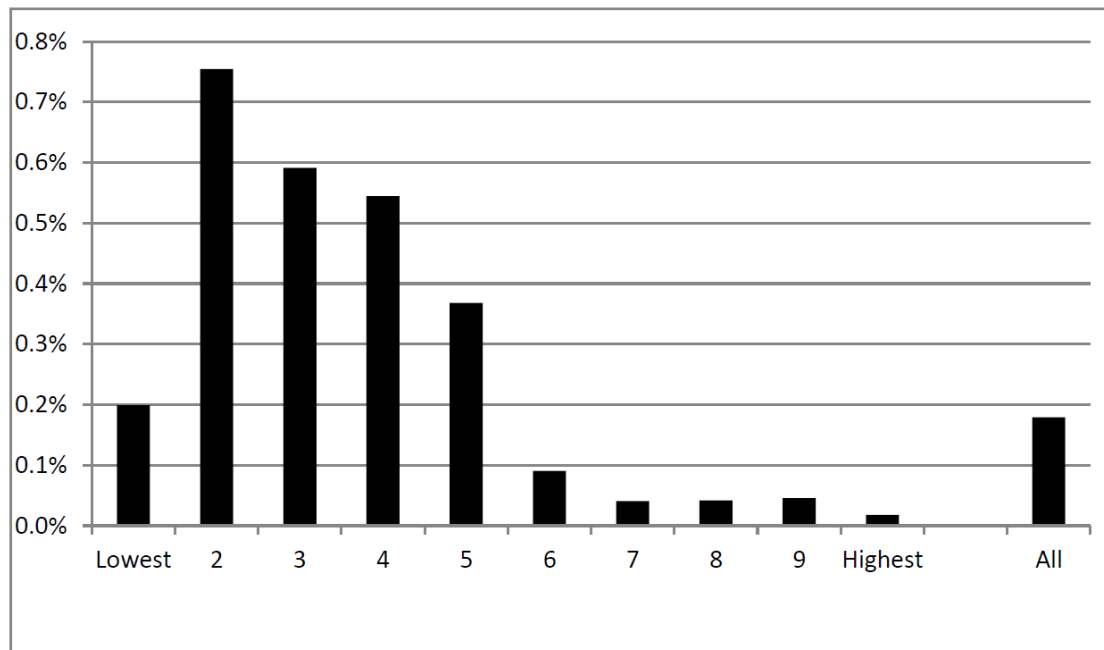
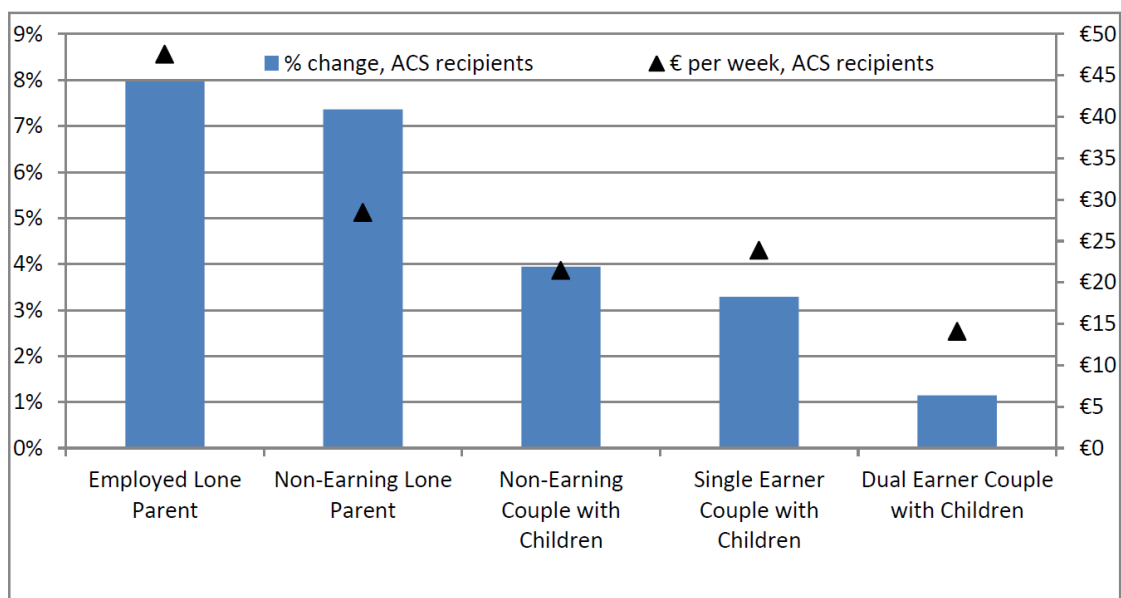


Figure 6.2 shows the variation in ACS receipt by family type. On average the boost to disposable income by ACS will be larger for one-parent families than for couples with children, reflecting the typically lower income profile of one-parent families. Again, we must bear in mind that these results do not capture the loss of subsidy for recipients of the previous childcare subsidy schemes, in particular those that currently benefit from full-time subsidies, and that may not qualify under proposed ACS Enhanced Hours Subsidy rules. Among employed lone parents with children (the family type with the greatest gains), the effective increase in disposable income due to ACS will on average be €48 per week, equivalent to 8% of disposable income.

Figure 6.2: Average change in disposable income, by family type



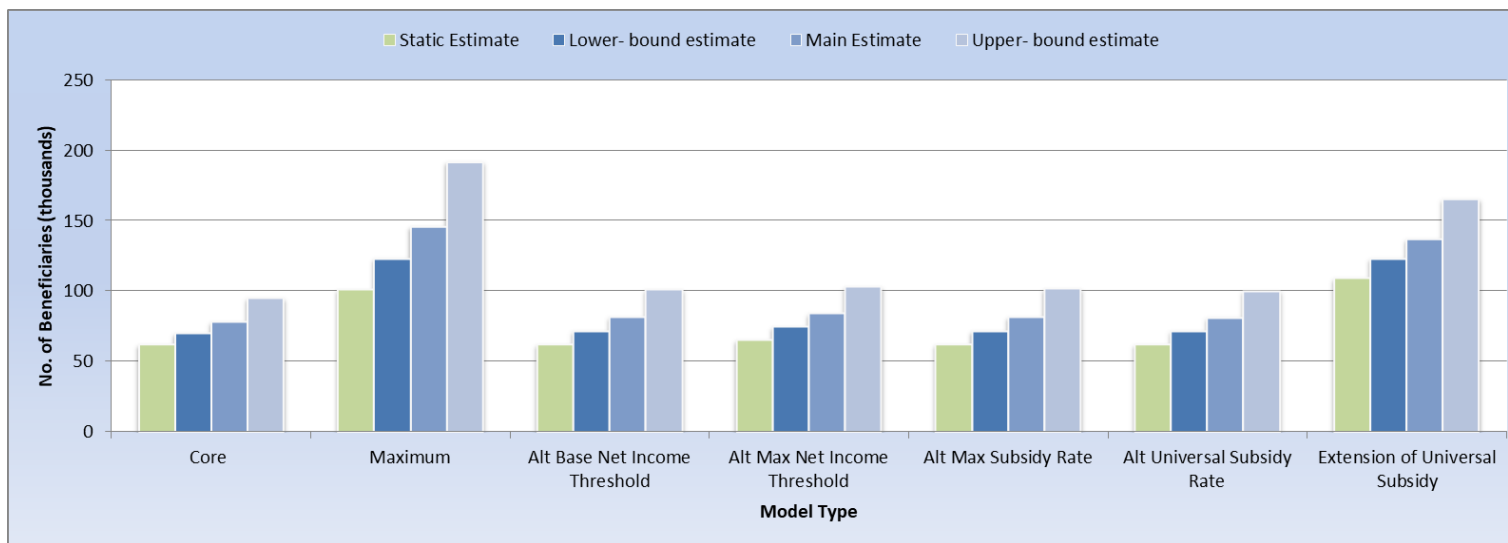
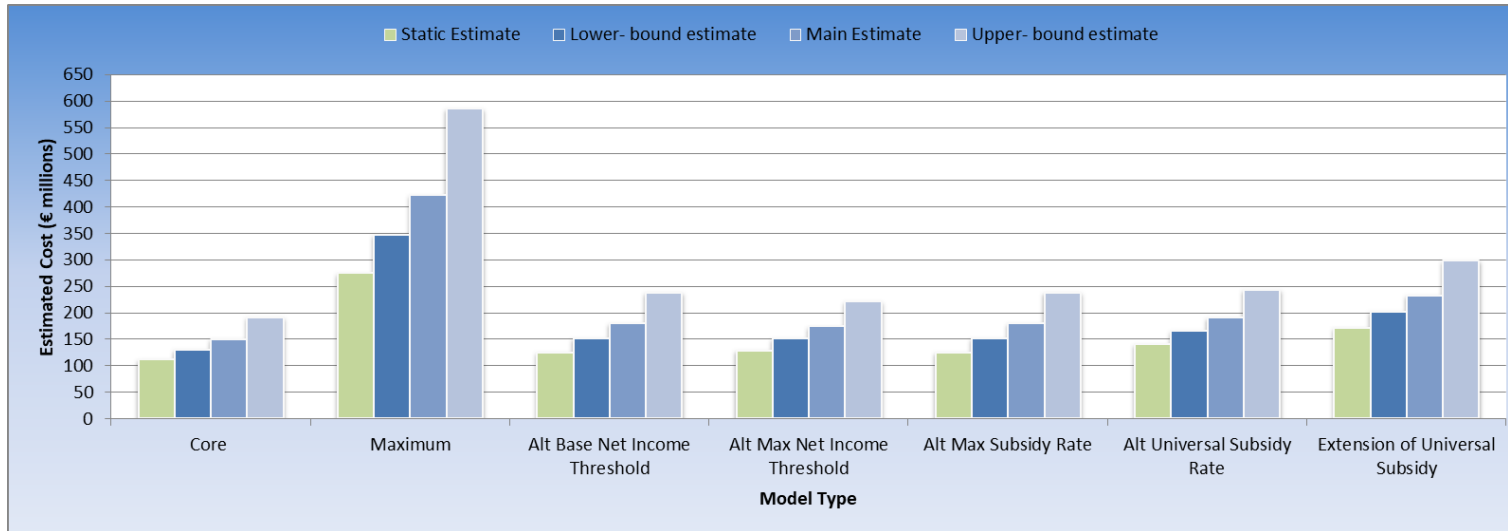
Future analysis using SWITCH

As discussed in Section 5 of the ESRI report (see Appendix C), in 2018-2019 the ESRI will continue analysis of ACS using the SWITCH model, moving beyond 'static' cost estimates to focus on 'dynamic' effects. For example, in relation to work incentives, the fact that the ACS will make childcare more affordable will incentivise individuals to take up paid employment. However, at the same time, the withdrawal of the subsidy through 'tapering' may limit the incentive to take on additional hours of work or to progress in the labour market. With the ACS now fully incorporated into the SWITCH model, the ESRI will be able to examine the interaction of these conflicting incentive effects.

It will also be possible to explore likely behavioural responses to ACS, such as the extent to which:

- Families switch from non-registered to registered childcare in order to benefit from ACS.
- Families increase their hours of childcare use.
- Parents increase their labour supply, e.g. taking up additional employment opportunities because childcare is more affordable.

Appendix A: Model Graphs: Costings & Beneficiaries



Appendix B: Sensitivity Analyses

This appendix provides sensitivity analyses around a number of assumptions underpinning the ACS model as outlined in the Focused Policy Assessment paper. Specifically, the analyses investigate the sensitivity of cost estimates to:

- changes in the number of weeks of subsidised childcare per year
- potential changes to current average childcare fees
- and an alternative estimate for the price elasticity of demand for childcare with regard to workforce participation among mothers of ACS-eligible children.

Weeks per year

Table A- Sensitivity analysis: changes to the numbers of subsidised weeks of childcare per year

Scenario	Costs (€ millions)			
	Static	Dynamic		
	Baseline	Lower	Main	Upper
As observed within the Core Model (46 weeks for school-age, 52 weeks for pre-school)	111	130	150	191
52 weeks for all	115	136	157	202

Table A above illustrates the cost impact of increasing the number of weeks of provision from 46 weeks for school-age children and 52 weeks for those of pre-school age, to 52 weeks of subsidised childcare for all children availing of ACS. In this instance, the static cost estimate of providing ACS would increase by approximately €4 million per year (from €111m to €115m). Similarly, the cost estimates for the dynamic main estimate would increase by €7m; from €150m to €157m.

Current fees

Table B- Sensitivity analysis: potential changes to current average childcare fees

Scenario	Costs (€ millions)		
	Dynamic		
	Lower	Main	Upper
As observed within the Core Model (€4.90 per hour for pre-school care; €6.15 per hour for after-school care)	130 (70k beneficiaries)	150 (78k beneficiaries)	191 (95k beneficiaries)
Lower fees (€4.35 per hour for pre-school care; €4.58 per hour for after-school-based on Pobal 2017 sector profile average full-time and sessional rates, assuming full-time is 40 hours per week and sessional is 15 hours per week).	134 (72k beneficiaries)	159 (83k beneficiaries)	210 (104k beneficiaries)
Higher fees (€5.11 per hour for pre-school care; €6.41 for after school care- based on an assumption of a further 4.3% increase in fees).	129 (70k beneficiaries)	148 (78k beneficiaries)	187 (94k beneficiaries)

The above table captures the effect that either lower or higher fees may have on subsequent dynamic estimates, both for estimated costs and numbers of ACS beneficiaries. The numbers of beneficiaries are calculated through the ACS cost model. The impacts as per table B reflect different assumptions in each dynamic scenario (lower, main, upper) in relation to the price elasticity of demand for childcare, taking the static cost estimate of €111m as a baseline⁵⁰.

As demand responds to net costs (i.e. fees minus subsidies), both subsidies and fees are built into the model. In effect, demand levels following an increase in fees respond in a similar manner to a cut in subsidies; both have the effect of increasing the net cost to parents, with a corresponding reduction in demand.

Lower fees

Based on the average full time and sessional fee rates as presented in the 2017 Pobal Early Years Sector Profile, (where full time is assumed to be 40 hours per week, and sessional care is 15 hours per week), the lower scenario assumes fees of €4.35 per hour for pre-school, and €4.58 per hour for after-school. In this instance, the dynamic main cost estimate increases by €9m over that observed under the core model (increasing from €150m to €159m); with the lower and upper estimates increasing to €134m and €210m respectively.

Higher fees

Under the higher fee scenario, a further fee increase of 4.3% is assumed. This additional 4.3% fee increase is based on the average full time fee increase between 2016 and 2017 as presented in the 2017 Pobal Sector Profile. In this case, the dynamic main estimate reduces from €150m to €148m; a decrease of €2m. The dynamic lower estimate reduces by €1m (from €130m to €129m), while the upper estimate reduces from €191m to €187m.

Demand Elasticity: Workforce participation of mothers (ACS-eligible children)

The current dynamic "upper" scenario assumes a childcare price elasticity of mothers' workforce participation of -0.12. If instead we used a value of -0.15 (which is the average European value according to the most recent review of the literature⁵¹), the total estimated cost of the scheme (as per the core model dynamic upper scenario) would rise from €191m to €199m, with the associated estimated number of beneficiaries rising from 95,000 to 99,000 children per year.

⁵⁰ It is assumed that this static estimate would remain constant across both lower and higher fee scenarios.

⁵¹ Akgunduz, Y and Plantega, J, Journal of Economic Surveys (2018) Vol. 32, No. 1, pp. 118–133

Appendix C: ESRI Cost Estimates Using SWITCH⁵²

1. Introduction

The Affordable Childcare Scheme (ACS) was announced in Budget 2017 to replace the four current childcare subsidy schemes in existence. The ACS will provide hourly subsidies towards registered childcare costs in a targeted manner, whereby parents of children between the ages of 6 months and 15 years whose income is below a certain level will receive a maximum hourly subsidy, which will be 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 the age at which the child can avail of the Early Childhood Care and Education (ECCE) scheme.

The ACS seeks to satisfy a number of policy objectives. The first is to address the high cost of childcare in Ireland by providing a progressive subsidy to supplement childcare costs. A second policy objective seeks to ensure equitable treatment so that all families are assessed on a consistent basis bearing in mind their income and childcare needs. The third policy objective is to ensure that the system is clear and straightforward and makes use of technology to ensure the application process is straightforward and timely. A fourth policy objective is to support parental choice and geographic access to a registered childcare provider while a final policy objective seeks to ensure good governance of the system with clear eligibility rules and robust administrative structures. It is envisaged that the ACS will help ensure access to affordable childcare and thereby help to reduce a potential barrier to labour force participation.

This report documents the incorporation of ACS subsidies into SWITCH, the ESRI tax-benefit model, which allows simulation of the qualifying conditions and means testing for a nationally representative sample of households. In this report, we use this framework to estimate the cost of the scheme and examine where expenditure on the scheme will go across the income distribution and family types.⁵³ The report is structured as follows: Section 2 summarises the ACS, while Section 3 presents information on SWITCH, the ESRI tax-benefit model and how ACS has been incorporated into the model. Section 4 presents estimates of the aggregate cost of ACS, based on detailed modelling of the scheme within SWITCH, using data from the CSO's Survey on Income and Living Conditions for 2013 and 2014. These estimates are compared with current DCYA estimates and potential reasons for the differences are identified and discussed. It also examines the distributional

⁵² "Microsimulation Modelling of the Affordable Childcare Subsidy: Cost Estimates using SWITCH". C. Keane, T. Callan, M. Regan, J.R. Walsh, 2018.

⁵³ These estimates replace a "rapid cost" estimate supplied in Autumn 2016 on the basis of data and methods then available; the current estimates are more accurate..

profile of expenditure on the scheme. Section 5 looks at potential avenues of research that could be carried out on the topic. Section 6 concludes.

2. The Affordable Childcare Scheme

The Affordable Childcare Scheme (ACS) will provide financial support for those using registered childcare. As few childminders are registered with the Child and Family Agency, Tusla (less than 1% of childminders are estimated to be Tusla registered⁵⁴), it will be mainly centre based care such as Montessori's and crèches that will be eligible for the subsidy.⁵⁵ The scheme covers children from the age of 6 months up to the age of 15 years. The subsidy has a targeted, means-tested element as well as a universal component. Within the targeted component the maximum hourly subsidy available differs by the age and educational enrolment of the child, with younger children receiving a higher subsidy (see Table 1 for maximum hourly subsidy rates). Parents with assessable income below €22,700 per annum will receive the maximum hourly subsidy. The subsidy will be gradually withdrawn up to an assessable income of €47,500 per annum, at which point no targeted subsidy is payable. These income limits are increased by €3,800 for families with a second child and €7,600 for families with three or more children. Assessable income consists of most income sources, be they market income or social welfare payments.⁵⁶ Assessable income 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 firstly on the labour force status of the parent(s) as well as if the child is in education yet or not. 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 40 hours of childcare per week for children not yet in education⁵⁷ and for those in education (including those who are eligible for ECCE) 'wraps' around school hours so that total maximum hours covered by education and the subsidy reach 40 (see Table 2 for the maximum hours entitlement and number of term-time weeks).⁵⁸ Families with at least one parent not in work/education can receive the Standard Hours Subsidy (SHS) for up to 15 hours per week year round for preschool children and during school holidays for children in education.

⁵⁴ Only childminders minding 4 or more pre-school children are required to register with Tusla.

⁵⁵ All such early years' services are required to register with Tusla.

⁵⁶ For a list of income sources excluded from assessable income see Schedule 3, page 81 of DCYA (2017).

⁵⁷ i.e. up to the age of eligibility for the Early Childhood Care and Education (ECCE) scheme.

⁵⁸ For weeks spent not in education (e.g. school holidays) the maximum of 40 hours per week is covered by the subsidy.

Finally, a Universal Hours Subsidy (UHS) subsidises the cost of registered childcare by 50c 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 use (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. For a more detailed summary of the ACS see DCYA (2016) and DCYA (2017).

Table 1: Maximum hourly ACS subsidy rates, 2017

Category	SHS/EHS
Hourly rate for a child under 1 year	€5.11
Hourly rate for a child aged 1 year	€4.37
Hourly rate for a child aged 2 years	€4.18
Hourly rate for a child aged 3-5 years and not in school	€3.95
Hourly rate for children of primary school-age	€3.76
Hourly rate for children of secondary school-age	€3.76

Source: DCYA (2017)

Table 2: Hours per week & number of term weeks, EHS 2017⁵⁹

Stage of the Education System	Max. hours per week during term-time	Number of term-time weeks per year
Early Childhood Care and Education programme	25	38
Primary school - infant class	17	36
Primary school - 1st-6th class	12	36
Post-primary school	10	33

Source: DCYA (2017)

The ACS will replace the 4 current childcare funding programmes currently in existence. These schemes are the Community Childcare Subvention (CCS); Childcare Education and Training (CETS); After-school Childcare (ASCC); and the Community Employment Childcare (CEC). Under the CCS DCYA subsidises childcare costs for eligible low income families. Parents mainly qualify for CCS through their entitlement to conditional Social Protection payments and the Medical Card. Under

⁵⁹ DCYA confirm that children over 3 but not yet ECCE eligible and children above the age of ECCE eligibility but who are not yet in school will be entitled to the EHS/SHS for 40 hours per week as long as they satisfy the means test. SWITCH, therefore, models any such children in these categories as being entitled to 40 subsidised hours per week.

the CETS programme, qualifying⁶⁰ SOLAS or Education and Training Board (ETB) trainees or students can avail of childcare places in registered services for the duration of their courses. ASCC provides for after-school childcare provision to parents returning to work. Eligibility for ASCC is determined by DSP and provides for parents of primary school aged children to avail of ASCC for a maximum period of 52 weeks. Finally, the CEC programme is available for those taking part in Community Employment (CE) schemes. CEC provides up to 50 weeks childcare provision per year, while participating in CE. Table 3 shows the expenditure on, and number of children covered, by the 4 current childcare subsidy schemes. Total expenditure stood at close to €87m in 2016 with in excess of 32,000 children availing of such schemes.

Table 3: Childcare Subsidy programmes, 2016 expenditure and recipients

	Community Childcare Subvention (CCS)	Childcare Education & Training Support	After-School Child Care (ASCC)	Community Employment Childcare (CEC)	Total
Expenditure (annual)	€61.7m	€17.0m	€1.6m	€6.5m	€86.8m
Number of children covered	25,405	3,888	637	2,202	32,132

Source: DCYA (2016)

3. SWITCH, the ESRI's microsimulation model

Policy changes are often considered in terms of their effects on a number of “hypothetical families”. This approach has severe limitations. For example, in Ireland less than one family in 20 falls into the category of “one-earner couple with 2 children”, a family type that tends to attract attention at Budget time. Furthermore families within this category differ in terms of income, housing tenure, and other characteristics that affect their tax-benefit position. More fundamentally, analysis of hypothetical families - no matter how well chosen - simply cannot give an overall picture of the impact of a policy change on incomes and work incentives.

Tax-benefit models are based on large-scale nationally representative samples of households. This ensures that the models represent as fully as possible the great diversity of household circumstances relevant to tax and social welfare. *SWITCH* (**S**imulating **W**elfare and **I**ncome **T**ax **C**Hanges), the ESRI tax-benefit model, is currently based on data drawn from the CSO's Survey on Income and Living Conditions (SILC) for 2013 and 2014. With these combined years the survey contains detailed information on the incomes and labour market participation of nearly 8,000 households. The SWITCH database is adjusted from year to year to allow for key changes in incomes and population structure as forecast for the next budgetary year. Changes in social welfare rates, income tax rates,

⁶⁰ Qualifying courses are determined by the Department of Education and Skills.

bands and allowances, and the structure of employee PRSI are taken into account in the model. A significant advantage of the model is that analysis of policy options can be carried out *before* planned policy changes occur. The model can provide estimates of the aggregate cost of policy changes and identifies how the aggregate benefit is distributed across households. For example, in annual analyses of the impact of budgetary policy changes, the model is used to identify the percentage change in income in each income decile and the impact on household incomes across different family types. It also allows for the analysis of the impacts of policy changes on incentives to work such as replacement rates and marginal effective tax rates.

3.1 SWITCH and incorporation of ACS

The SILC data underpinning the SWITCH model contains a wide variety of variables necessary to accurately model childcare subsidies. As well as containing information relevant for determining eligibility for the scheme such as incomes, labour market participation and family composition, it also contains information on the usage of childcare and the educational status⁶¹ of the child. While SILC does not directly gather data on the usage of ECCE, SWITCH also models eligibility for the ECCE scheme which links in with the number of hours a child may be entitled to an ACS subsidy as discussed above. This ECCE modelling within SWITCH has recently been improved so that eligibility at the date of interview is precisely estimated based on the child's age in months.⁶²

SILC also contains information regarding the hours of childcare used in a 'usual week' and the type of childcare used. The various types of childcare used are shown in Table 4. Parents are asked about their usage of centre based care, be that pre-school (kindergarten, Montessori), crèche or a pre/post school centre. For the purpose of this report, these three types of childcare are regarded as "registered" childcare that will be eligible for the ACS. The survey also has information on childminders, be they paid or unpaid. These types of childcare are generally non-registered and therefore fall outside of the scope of ACS. However, this information can be used for future research as discussed in Section 5.2.

⁶¹ SILC data contains information on the level of education a child is engaged in i.e. pre-primary, primary, secondary. In order to establish the educational category required for ACS modelling (pre-primary; primary, infant classes; primary, 1st-6th class) a combination of the education level of the child, the child's age and the number of hours spent in compulsory education has been used to assign children as accurately as possible to the infant classes/1st-6th class groups.

⁶² Previously ECCE eligibility was determined simply by looking at the age range of the child at date of interview with all children in a certain age band deemed to be eligible for the scheme. Remodelling means that we now take into account the child's age at relevant entry and exit points for ECCE i.e. we take into account their age at the last intake into ECCE, be that September, January or April and also ensure that the child will be below the maximum age of 5.5 years in the June of the academic year. Note that formal childcare usage amongst the age group eligible for ECCE may be lower than administrative statistics as, in the years of the underlying data (2013/2014), the ECCE scheme was open to a narrower age band.

Table 4: SILC Childcare Questions

SILC Variable	Corresponding Question
Centre Based Care	
pre_schl	During a usual week how many hours is <Name> cared for by a Pre-School of Equivalent (Kindergarten, Montessori)?
creche	During a usual week how many hours is <Name> cared for by a crèche of day care centre?
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)?
Childminders – paid and unpaid	
child_mindr	During a usual week how many hours is <Name> cared for by a professional child minder at the child minder’s home or the child’s home? (This includes au pairs, friends and relatives when the friends or relatives are paid for child minding).
famly_mnd	During a usual week how many hours is <Name> cared for by grandparents, other members of the household (excluding parents/ guardians or partners of same) other relatives, friends or neighbours where there is no payment for childminding?

We model entitlement to ACS at the point of interview⁶³ i.e. based on current parental labour force status, income, child age, child educational enrolment and childcare usage. This is in keeping with the modelling of all taxes and benefits in SWITCH which calculates benefit entitlement and tax liabilities based on income and employment status of the person when interviewed. It is also necessary to model ACS entitlement at the point of interview as parents are not asked to recall their childcare usage throughout the entire year, rather they 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 etc.⁶⁴ ACS subsidy hours entitlements differ during term-time/non term-time. It is not possible to capture this when modelling based on actual hours of childcare used as information on childcare usage in and out of term is not gathered in the SILC survey. Instead 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.⁶⁵ Due to the fact that we do not have information on childcare usage during term-time and school holidays, and that there is currently little administrative information on childcare usage of

⁶³ Interviews are spread throughout the year which is an advantage as we do not capture childcare information at a particular date which may be problematic – for example if all parents were interviewed during a school holiday period it may affect the answers they provide regarding childcare usage.

⁶⁴ 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.

⁶⁵ We do, however, capture the term-time/non term-time distinction in the maximum hours of subsidies available - for example for children in education and whose parent(s) are not in employment/education no SHS is available during the school term and up to 15 hours can be subsidised during school holidays.

parents during school holidays, we also provide a costing of the scheme under the assumption that parents do not make use of registered childcare during school holidays as a robustness check in Table 5.

A minor limitation of the SILC childcare information is that questions regarding childcare usage are only asked for children aged under 13. Therefore, when modelling the subsidy based on actual childcare usage, 13 and 14 year olds who may have an entitlement to ACS are not captured. In any case, it is likely that childcare usage is very low amongst this age group, who will mainly be in secondary school.

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:

- For children whose parental means are less than or equal to the minimum income limit of €22,700 per annum the maximum hourly subsidy rate is received.
- For those children whose parental means are between the minimum and maximum income limit and who are of ECCE age or older the hourly subsidy rate is calculated as:

$$\text{maximum hourly subsidy} * \frac{\text{max income threshold} - \text{annual means}}{\text{max income threshold} - \text{min inc threshold}}$$

- For those children whose parental means are between the minimum and maximum income limit their hourly and who are not yet eligible for ECCE (i.e. eligible for the UHS) the hourly subsidy rate is calculated as:

$$\left[(\text{maximum hourly subsidy} - \text{UHS per hour}) * \frac{\text{max income threshold} - \text{annual means}}{\text{max income threshold} - \text{min inc threshold}} \right] + \text{UHS per hour}$$

- Children below the ECCE eligibility age and whose parents have means above the maximum limit receive the 50 cent per hour UHS for each hour of registered childcare used.

4. Results

The incorporation of ACS into the SWITCH model allows us to examine cost estimates of the scheme as it currently stands as well as examining who will benefit most from the scheme (i.e. from the ACS scheme compared with having no such scheme, as it is not possible with current data to identify those benefiting from the existing set of means-tested schemes). It also allows us examine a variety

of counterfactual or ‘what if’ changes to the scheme as it currently stands. We begin by examining how many children are modelled as benefitting from the scheme and how much the scheme is likely to cost based on the modelling approach just described.

All the results shown in this report work off the assumptions that:

- the subsidy is paid for actual hours used in registered (i.e. centre-based) childcare
- childcare usage is as reported at the date of interview and does not vary over the year.
- all parents entitled to the subsidy make use of their entitlement based on their existing usage of childcare services⁶⁶
- results are static i.e. parents are assumed to continue to use the same hours of childcare once the ACS subsidies are introduced.

4.1 Estimated Costs and Recipient Numbers under ACS

In this Section we detail the number of recipients of a subsidy under the ACS and the associated cost⁶⁷ of the scheme. It must be borne in mind that we are unable to model entitlement to the 4 existing childcare subsidy schemes detailed in Table 3 so costings exclude the savings that will be made once the ACS replaces these 4 schemes.⁶⁸

Uncertainty exists regarding the use of childcare during school holidays for children of ECCE and school age. The ECCE scheme provides for 15 hours of free pre-school hours per week over 38 weeks of the year. A minority of children use in excess of these hours⁶⁹ and it is unsure if parents continue to pay for preschool during the 14 weeks of the year ECCE does not cover - it is likely that those only using up to the free 15 hours available per week do not continue to cover the cost of preschool themselves outside of the 38 week ECCE term. Likewise, there is no clear information available on the usage of childcare for school age children outside of term-time.⁷⁰ Due to these issues Table 5

⁶⁶ A common finding in research in the area of benefit take-up is that take-up is linked to the amount of the benefit an individual is entitled to with those entitled to lower amounts less likely to claim. See, for example, Matsaganis *et al* (2010); Remler *et al* (2001).

⁶⁷ Cost estimates provided here are for the total amount of subsidies payable, and do not include administration costs, the cost of referrals from Tusla or other costs.

⁶⁸ In order to estimate the total exchequer impact of the scheme the SILC data underpinning SWITCH must be weighted to ensure it is representative of the total population. The choice of weight is discussed in Appendix One.

⁶⁹ Pobal (2013) shows that of the 59,131 3-5 year olds attending childcare services, 40,275, or 68%, did so for sessional care of 3.5 hours or less. In the data underlying SWITCH (pooled SILC 2013/2014 data) of the children eligible for ECCE, and who are reported using centre based care, 64% report using 15 hours or less of care per week.

⁷⁰ In addition even if parents do not currently make use of registered childcare during school holidays the ACS subsidy may change behaviour and parents may opt to use registered childcare during school holidays when the subsidy comes in.

provides a cost and recipient estimate of ACS under four different scenarios regarding the number of weeks parents claim the ACS subsidy for:

1. The first assumes that parents eligible for ACS claim their subsidy entitlement for all 52 weeks of the year.
2. The second assumes that all parents eligible for ACS claim it for 52 weeks of the year except for parents of children availing of the ECCE scheme who only use up to the free 15 hours per week available during the ECCE 38 week term. Under this scenario parents of these 'ECCE only' children are assumed not to claim ACS during the 14 weeks ECCE does not run for.
3. The third assumes that all parents eligible for ACS and ECCE (regardless of the number of hours they use childcare for) only claim ACS during the 38 week ECCE term with all other parents claiming ACS for 52 weeks of the year.
4. The fourth assumes that parents of all children in formal education (i.e. ECCE and school going children) only avail of ACS during term-time weeks with the parents of children below the age of ECCE entitlement claiming ACS for 52 weeks of the year.

For comparative purposes Table 5 also shows DCYA estimates of the scheme under the same 4 scenarios.⁷¹ Table 6 shows recipient numbers under each scenario broken down into the number of children eligible for one of the means-tested subsidies (EHS or SHS) and the number eligible for the universal subsidy, UHS.

SWITCH's cost estimate of ACS under scenario 1 is €156m per annum with a total of 126,900 children benefiting from the scheme. The DCYA estimate of expenditure under scenario 1 is €117m, with a total of 88,100 child recipients. If the parents of children of ECCE age using only the free ECCE hours available do not claim ACS outside of the ECCE term (scenario 2) the SWITCH cost estimate drops to €140m per annum and if all parents of children availing of the ECCE scheme (regardless of the number of hours their child spends in registered care) do not claim ACS outside of the ECCE term (scenario 3) the cost estimate falls further to €130m a year. Finally, if the parents of all children in formal education (ECCE and compulsory school) do not claim ACS outside of term-time the scheme is estimated to cost €108m a year. Across the 4 scenarios SWITCH cost estimates range from 30% to 40% higher than DCYA estimates. While the number of child recipients in receipt of UHS is close between DCYA and SWITCH estimates (see Table 6), SWITCH has a higher number of children

⁷¹ The DCYA cost estimates presented in this report are, for the purpose of comparison with the SWITCH estimates, a "static" cost estimate that does not reflect behavioural changes by parents.

qualifying for one of the means tested subsidies.⁷² Potential reasons for differences between SWITCH and DCYA estimates are discussed in Section 4.2.

Table 5: Expenditure on ACS, SWITCH and DCYA Estimates

	Cost € m.p.a.		SWITCH:DCYA ratio
	SWITCH	DCYA	
1. ACS paid to all for 52 weeks	156	117	133%
2. ACS paid for ECCE term only for all ECCE children only using ECCE hours	140	104	135%
3. ACS paid for ECCE term only, all ECCE children	130	93	140%
4. ACS paid for ECCE & school term only	108	83	130%

Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time. Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

Table 6: ACS Subsidy Recipient Numbers ACS SWITCH and DCYA Estimates

	N recipients, children ('000s)					
	Means-tested	SWITCH		Means-tested	DCYA	
Universal		Total	Universal		Total	
1. ACS paid to all for 52 weeks	102.8	24.1	126.9	63.0	25.1	88.1
2. ACS paid for ECCE term only for all ECCE children only using ECCE hours	71.5	24.1	95.6	36.7	25.1	61.8
3. ACS paid for ECCE term only, all ECCE children	66.1	24.1	90.2	36.7	25.1	61.8
4. ACS paid for ECCE & school term only	56.0	24.1	80.2	36.7	25.1	61.8

Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time. Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

DCYA estimates do not distinguish between those in receipt of EHS and SHS, therefore this table shows results for the number of recipients of both under the 'Means-tested' heading.

⁷² DCYA estimates do not distinguish between those in receipt of EHS and SHS.

4.2 Differences in SWITCH and DCYA estimates

DCYA has estimated the cost of the ACS using a variety of information and data sources. The income distribution of families is taken from SILC 2016 and childcare usage estimates taken from the CSO 2017 QNHS special module on childcare. The SWITCH estimates for expenditure are 30-40% higher than DCYA estimates depending on which scenario is examined.

As discussed the numbers estimated to benefit from UHS are similar in SWITCH and DCYA estimates. SWITCH, however, finds more children entitled to one of the means tested subsidies (EHS/SHS). Differences also arise in the average annual amount received under these means tested elements. These differences may occur for a variety of reasons.

- Firstly, the income distribution of families used in DCYA and SWITCH analysis differs. DCYA estimates use the income distribution of households with children from SILC 2016.⁷³ This approach will not take into account income growth and falls in unemployment since 2016. Income growth will tend to reduce the cost estimate of ACS (with less families qualifying for means tested payments and reducing the amounts received by qualifying families with incomes above the minimum threshold). A fall in unemployment will tend to work in the other direction, increasing the cost of ACS. This is due to the fact that it is likely that in families where one or both parents are unemployed little or no formal childcare is used. Therefore, as employment rates rise, childcare usage would be anticipated to rise and more families are likely to avail of the ACS. Income growth and falling unemployment are, however, captured by the calibrated weight in SWITCH which adjusts the underlying data to ensure it is representative of the 2017 population in terms of income distribution, unemployment etc. (see Appendix One for more information on the impact of weighting).
- Secondly, the DCYA income distribution is based on net household income (including social transfers). SWITCH models entitlement to the subsidy not at household level but at the narrower 'tax unit' level at which ACS entitlement will operate.⁷⁴ SWITCH also calculates parental means as will be done in reality for the ACS means test i.e. excludes social transfers that will not be included in the income test (such as Rent or Mortgage Supplement amongst others), takes account of maintenance payments etc.

Overall these two factors mean that the distribution of parental means shifts downwards compared to the distribution of net household income in DCYA estimates, which explains why SWITCH estimates that a larger number of children satisfy the means test.

⁷³ Weighted by the CSOs euroweight.

⁷⁴ For example household level income will include the income of older children or grandparents that may live in the household while the narrower tax unit definition excludes such people who will be part of their own tax unit.

- Finally, a variety of other differences cause SWITCH and DCYA estimates to diverge, mainly due to different data sources used. For example DCYA uses average childcare hours from the QNHS 2017 Childcare Module used while SWITCH relies on reported childcare hours in the SILC survey and these average childcare hours will differ.

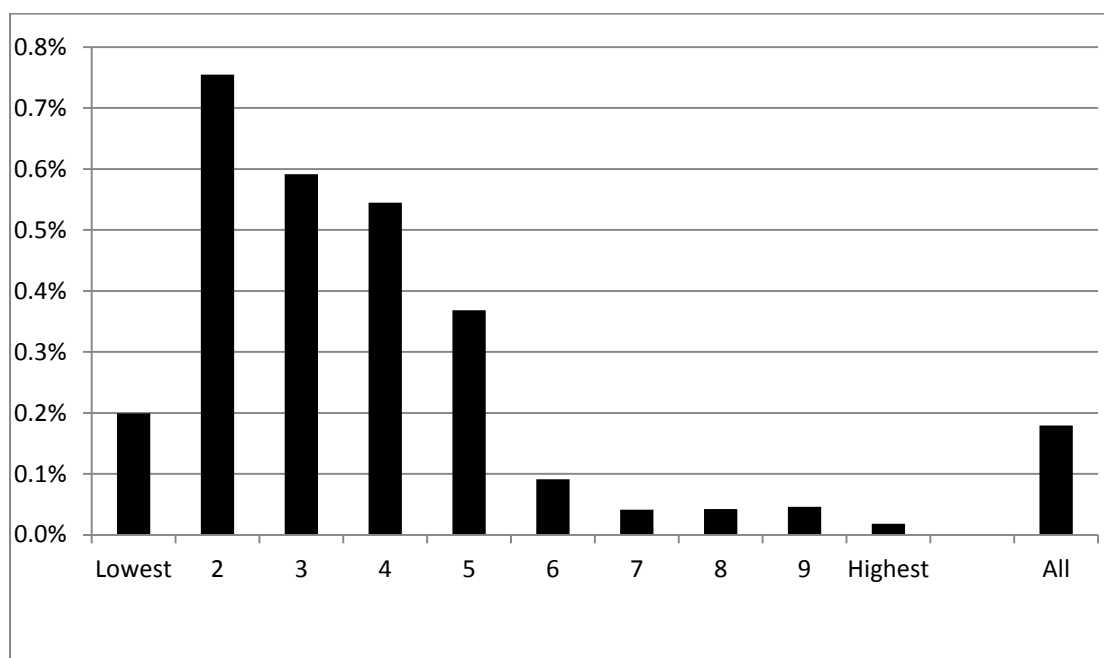
4.3 Distributional Profile of ACS

Now that the ACS is incorporated into the SWITCH model it is possible to see where expenditure on ACS subsidies will go across the income distribution. While the subsidy will be paid directly to registered childcare providers, we can examine the distributional profile of ACS expenditure by treating it like a cash subsidy paid directly to parents and include it in their disposable income. This assumes that the full value of the subsidy will be passed on to parents by the childcare provider⁷⁵. As previously mentioned, the current childcare schemes shown in Table 3 are not modelled in SWITCH. Therefore, results presented here show where ACS subsidies will be received across the income distribution - for families in receipt of one of the current subsidies gains made from the introduction of ACS will be offset by the withdrawal of their current subsidy. DCYA (2016) estimates that most beneficiaries of the current subsidy schemes will gain due to the introduction of ACS and for those that may experience a loss temporary arrangements will be put in place to ensure that current subsidy recipients do not receive less under ACS.

All results from this point on are based on scenario 1 i.e. where parents claim ACS for all 52 weeks of the year. In Figure 1 families are split into ten equally sized groups and ranked by the lowest income group, or decile, to the highest. The black bars show the average change in equivalised disposable income (EDI) for each income decile. The average change in income across all income groups is just under a 0.2% rise in disposable income with the largest gain in income of nearly 0.8% received by the second income decile.

⁷⁵ In reality some of the subsidy may be retained by childcare providers.

Figure 1: Average Change in Disposable Income by Income Decile



Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time.

Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

It is assumed that ACS subsidies are claimed for 52 weeks of the year.

Results weighted using the SWITCH calibrated weight for 2017.

Disposable income is equivalised to take account of family size using the equivalence scale 1/0.66/0.33.

Each decile, however, contains many households who are ineligible for ACS (as they do not have children, do not use registered childcare or do but are above the maximum income threshold⁷⁶). Overall around 4% of all households in the population will receive ACS ranging from 1% of the lowest income decile up to 10% of the 4th income decile. This, of course, reflects not just the mainly means-tested nature of the scheme but also the fact that families with children using registered care are spread differently across the income distribution.

Table 7, therefore, shows the average percentage change in income, and average weekly amount received, for those who will actually receive a subsidy under ACS. As anticipated, due to the means tested nature of the EHS and SHS, receipt of an ACS subsidy is concentrated at the lower end of the income distribution. The average increase in disposable income across all income deciles for those receiving an ACS subsidy (ignoring any loss of a pre-existing subsidy) is 3% or €27 per week. The fourth income decile will gain by an average of 4%, the lowest, 3rd and 5th decile will gain by 5%, with the highest percentage income gain for the 2nd decile of 6%. The number of cases in the

⁷⁶ and do not qualify for the UHS as their child is of ECCE or school age.

underlying data is too low to report distributional impacts for the highest income decile as well as deciles 6-8. Those receiving ACS in decile 9 will receive a 1% increase in disposable income with a gain of €16 per week, most likely due to the universal element of the subsidy, UHS.

Table 7: Average Change in Equivalised Disposable Income (EDI) and Average Receipt per week for ACS recipients

Decile	% changes, ACS recipients	€ per week,
		ACS recipients
Lowest	5%	€22
2	6%	€30
3	5%	€33
4	4%	€28
5	5%	€36
6	NA	NA
7	NA	NA
8	NA	NA
9	1%	€16
Highest	NA	NA
All	3%	€27

Notes:

NA indicates that cell sizes are too low (<30 individual observations) and are omitted.

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time.

Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

It is assumed that ACS subsidies are claimed for 52 weeks of the year.

Results weighted using the SWITCH calibrated weight for 2017.

Disposable income is equivalised to take account of family size using the equivalence scale 1/0.66/0.33.

We now turn our focus to examine gains by different family types with children i.e. all those potentially eligible for ACS. These are split by employment status of the parent(s) – employed lone parent; non-earning lone parent; non-earning couple; single earner couple and dual earner couple. The most common family type with children are dual earner couples (37% of all families with children) while non-earning couples with children make up just 2% of families with children, see Table 8.

Not all families with children will receive a subsidy under ACS - as either they do not use registered childcare or their means are too high and their child is too old to qualify for the universal subsidy. On average 17% of families with children will receive ACS - 21% of non-employed families (both lone parents and couples), 20% of employed lone parents, 17% of single earner couples and 15% of dual earner couples.

Table 8: Proportion in receipt of ACS

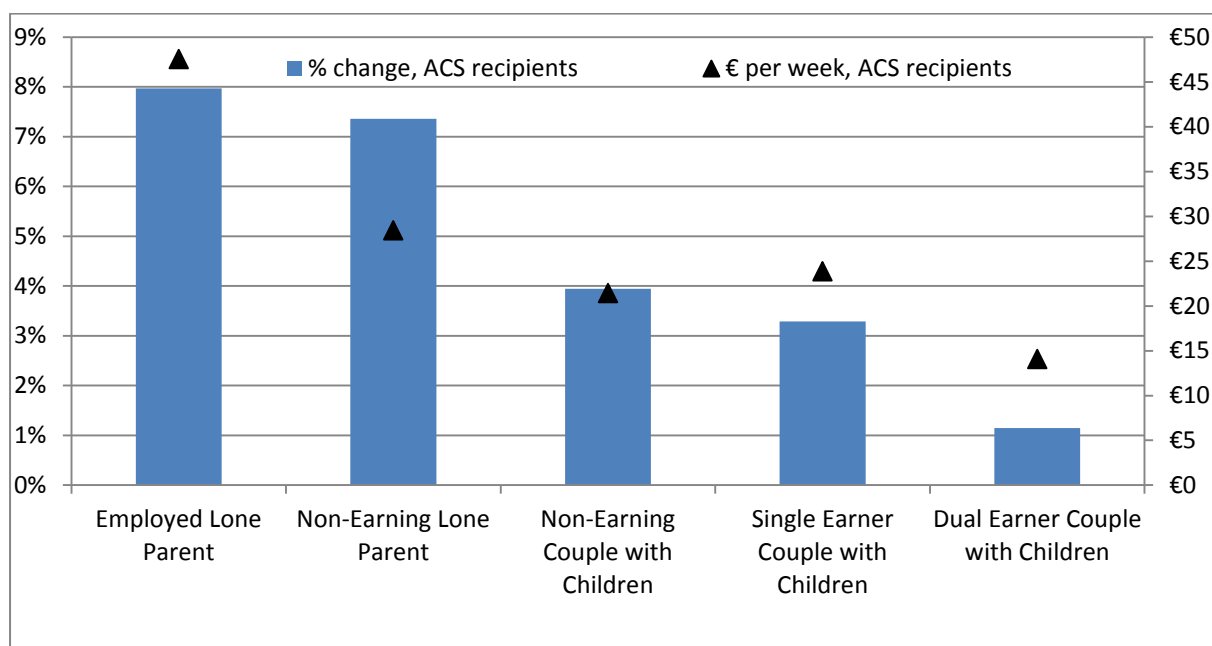
Family Type	% of all families with children	% eligible for ACS
Non-Earning Lone Parent	7%	21%
Non-Earning Couple with Children	2%	21%
Employed Lone Parent	21%	20%
Single Earner Couple with Children	34%	17%
Dual Earner Couple with Children	37%	15%
Total	100%	17%

Source: Own calculations using SWITCH

Notes: Non-earning indicates an individual who is not in receipt of employment/self-employment income be they unemployed or inactive.

Figure 2 shows the percentage (left axis) and cash (right axis) change in disposable income for those families who will receive ACS. Again, this is the impact of ACS only and does not take into account the fact that some of these families are currently in receipt of one of the existing childcare subsidies. The highest percentage gain due to ACS will be for lone parents with an average increase in disposable income of 8% (or €48) per week for employed lone parents and just over 7% for non-earning lone parents (equivalent to €28 per week). Qualifying non-earning couples with children are expected to receive a 4% increase in disposable income (€21 per week) with single earner couples with children gaining just over 3% (€24) per week on average. The lowest gains will be for dual earner couples with those qualifying for the subsidy gaining 1% or €14 per week. This is likely due to the fact that dual earner couples will tend to be further up the income distribution and either qualify for lower amounts of EHS or qualify only for the universal element, the UHS, which is paid at a lower hourly rate.

Figure 2: Average Change in Disposable Income Upon Introduction of ACS, by Family Type



Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time. Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

It is assumed that ACS subsidies are claimed for 52 weeks of the year.

Results weighted using the SWITCH calibrated weight for 2017.

Disposable income is equivalised to take account of family size using the equivalence scale 1/0.66/0.33.

4.4 Potential Scheme Changes

Now that the ACS is incorporated into the SWITCH model it is possible to examine more closely the impact of changing eligibility rules on potential expenditure and recipient numbers, such as changes to income limits or hourly subsidy rates of the scheme. We examine three potential changes:

1. An increase in the maximum income limit from €47,500 to €52,500;
2. The doubling of the UHS hourly rate to €1.00 per hour;
3. The impact of excluding FIS from the means test for ACS.

These changes are not intended as policy recommendations; rather they allow for the validation of ACS as modelled by SWITCH compared to DCYA estimates, bearing in mind the reasons for differences in SWITCH and DCYA estimates discussed in Section 4.2. They also illustrate the potential of the model to examine possible scheme changes, ex-ante. The results are shown in Table 9 along with the scenario 1 i.e. expenditure and recipient numbers assuming the subsidy is claimed for 52 weeks of the year.

4.4.1 Increase in the maximum income limit

An increase in the maximum income limit at which EHS and SHS are fully withdrawn from €47,500 to €52,500 would result in a total ACS cost of €168m, some €12m higher than scenario 1. This is €2m lower than the DCYA estimate of this change (+€14m).

4.4.2 Increase in the Universal Hours Subsidy

The UHS is currently set to 50 cent per hour. If this were to double there would, as anticipated, be no change in the numbers in receipt of the UHS but total ACS expenditure would stand at €176m per annum, an increase of €20m relative to scenario 1. This matches the DCYA estimate of this change (also + €20m).

4.4.3 Inclusion/exclusion of Family Income Supplement (FIS)

It is currently intended that FIS will be included in the definition of assessable income for ACS purposes and all results shown previously have been arrived at on this assumption. If FIS were to be excluded from assessable income there would be no change in the number of recipients of ACS, as FIS is targeted at the lower end of the income distribution.⁷⁷ The exclusion of FIS from the definition of means for ACS purposes would result in a higher ACS spending in the region of €7 million per annum. The exclusion of a certain income type, however, may result in horizontal inequity whereby families with the same level of income qualify for a different hourly subsidy simply because they have different sources of income. For example, as discussed in DCYA (2016), two families with the same net income - one receiving FIS, one not receiving FIS as their income is from self-employment (and are therefore ineligible for FIS) - would receive a different hourly subsidy amount for children in the same age bracket.

It is also, important to bear in mind that while excluding FIS from the ACS means test would result in higher ACS subsidy rates paid to FIS recipient families who fall above the minimum income threshold (relative to the subsidy they would receive if FIS were included in ACS means) it would also result in higher marginal effective tax rates (METRs) for this group. METRs show the proportion of an increase in earnings a person loses via increased taxes/social insurance contributions and benefit withdrawal. They are a measure of how much of a disincentive a person faces to earn more. These higher METRs are due to the fact that for every additional amount of earnings once the family is above the minimum income limit, both FIS and ACS are withdrawn against the full amount of additional earnings if FIS income is not included in the ACS means test. If FIS is included in the definition of ACS

⁷⁷ i.e. a rise in recipient numbers upon the removal of FIS from ACS means would only be observed if the inclusion of FIS in ACS means was pushing families above the maximum income limit. As FIS is targeted at lower income families this is not the case.

means, then only FIS is withdrawn against the full increase in earnings, and ACS is withdrawn against the increase in earnings minus the loss in FIS.

Table 9: Impact of changes to the ACS

	SWITCH Cost Estimate	Change in SWITCH Cost Estimate	DCYA cost estimate	Change in DCYA Cost Estimate
	m.p.a	m.p.a	m.p.a	
Scenario 1 (ACS paid to all for 52 weeks)	€156		€117	
<u>Potential Scheme Changes</u>				
Increase in maximum income threshold to €52,500	€168	+ €12	€131	+ €14
Doubling of UHS to €1 per hour	€176	+ €20	€137	+ €20
Exclusion of FIS from ACS means	€163	+ €7	na	na

Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time. Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

Results weighted using the SWITCH calibrated weight for 2017.

Changes in SWITCH/DCYA cost estimates are relative to the cost of scenario 1 i.e. ACS subsidies are claimed for 52 weeks of the year.

5. Future Work

This report provides initial results regarding the incorporation of the ACS into the SWITCH model and the associated costing and distributional impact of expenditure on the scheme. Some potential future work topics are discussed below.

5.1 Incentives to work

While the ACS is likely to encourage entry into the labour force for parents not in employment, the means tested nature of the ACS may act as a disincentive to work or a disincentive to increase work hours as this may result in a reduction or complete withdrawal of the subsidy. In addition to distributional analysis the SWITCH model allows for the analysis of poverty rates and work incentive measures such as replacement rates and marginal effective tax rates. Replacement Rates (RR) measure the incentive to take up work in the first place and Marginal Effective Tax Rates (METR), measure the incentive to increase work effort (for example by increasing hours worked). These measures do not currently take childcare costs into account but the impact of the ACS on such work incentive measures could be examined in the future as could the schemes interplay with in work benefits, such as FIS or the One Parent Family Payment, that are also withdrawn as earnings rise.

5.2 Potential behavioural changes

DCYA (2016) discusses the possible impact of ACS on the demand for childcare. A variety of behavioural impacts of the introduction of ACS can be envisaged:

- Families may switch from non-registered to registered care to avail of ACS subsidies.
- Families using registered childcare may increase the hours of childcare they use.
- Parents may adjust their labour supply (for example by going out to work or working more hours) in response to the subsidy.

Indeed, experience with the rollout of the ECCE scheme in 2010 indicates a behavioural impact of the scheme, whereby the average age of entry into primary school has risen – in 2009, before the ECCE scheme was in place, 59% of children in junior infants were aged 5 while 40% were aged 4. By 2016, the numbers in junior infants aged 5 rose to 71% while just 27% were aged 4 (see Department of Education, 2017).⁷⁸

5.2.1 Changes in current childcare usage

Two main aspects of behavioural changes regarding current childcare use could be examined. The first would be to examine the impact on ACS if parents currently using a form of non-registered childcare shift towards the usage of registered childcare. The results of the ACS modelling presented above have focussed on those using centre based childcare, as it is only such registered childcare providers that will be eligible for the subsidy. In SILC 2013⁷⁹ 20% of children under 13 were in registered childcare either in a crèche, Montessori or pre-post school centre. A further 9% of children under 13 were with a paid childminder while 14% were cared for by family or friends in an unpaid capacity. This means that, of those children who are in some form of non-parental care, it is estimated that slightly more children are in non-registered care than registered care. The vast majority of childminders are currently outside of the scope of the subsidy as only those registered with Tusla will be eligible for the ACS and a childminder is only allowed to register with Tusla if they care for 4 or more pre-school children⁸⁰. Some parents may, therefore, move their children from non Tusla registered childminders to registered care to avail of the scheme. Future work could explore the potential impact if those using paid childminders were to shift to centre based care. SILC also contains information on the usage of unpaid non-parental childcare as shown in Table 4. Again, behaviour amongst this group may change as affordability of childcare is likely to have played a role

⁷⁸ These figures relate to the age of children on the 1st of January in the academic year they commenced primary school.

⁷⁹ Own calculations using SILC 2013 weighted by the SWITCH 2013 calibrated weight.

⁸⁰ As previously mentioned it is estimated that less than 1% of childminders are currently Tusla registered.

in opting for such a form of childcare.⁸¹ The SWITCH model could also be used to provide estimates of the impact if those currently using unpaid care switch to registered childcare instead.

A second behavioural response for those currently using childcare would be an increase in the number of hours of childcare used. ACS subsidies are paid based on actual childcare usage and are subject to maximum hours as discussed in Section 2. The model could be used to examine the impact on ACS expenditure should parents take up their full hours entitlement. This is, indeed, a strong assumption and may be unlikely. However, it helps to give an idea of the potential cost should parents increase their use of childcare in order to avail of the maximum subsidised hours available.

5.2.2 Parental labour supply changes

A further aspect of behavioural response is likely with respect to parental labour supply. A parent not participating in the labour market due to the cost of childcare might now choose to work in response to the subsidy. Likewise parents already working may increase their hours worked, for example moving from part-time to full-time employment due to the subsidy's introduction. This aspect of a behavioural impact will require deeper analysis as the means-tested nature of the scheme may, on the other hand, reduce parental labour supply as parents face a withdrawal of the subsidy as their income rises. Assumptions would also need to be made regarding the increase in childcare hours associated with increased labour supply.

6. Conclusions

This report details how the ACS subsidies have been incorporated into the ESRI microsimulation model, SWITCH. It provides estimates of the cost of ACS and recipient numbers. It also examines the impact of the introduction of the scheme for registered childcare users.

There is a general lack of information available regarding the use of registered childcare by parents during school holidays. For this reason we have provided a range of cost and recipient estimates to take account of this uncertainty. If we assume that parents using registered childcare for children in ECCE or school only claim their ACS subsidy entitlement during term-time SWITCH estimates the scheme will cost €108m annually, with 94,000 children receiving a subsidy. If all parents of children availing of the ECCE scheme (regardless of the number of hours they use registered care for) do not claim ACS outside of the ECCE term (all other parents claiming the subsidy year round) the cost estimate rises to €130m per annum. If the parents of children of ECCE age using only the free ECCE

⁸¹ A 2017 QNHS module on childcare (see CSO, 2017) asked parents what form of childcare they would like to use for their children that they are not currently using. Registered care (such as crèche/Montessori/playgroup/after-school facility) was the most desired alternative childcare type in households for pre-school and primary school children. Regarding childcare cost 43% of parents disagreed with the statement "I have access to affordable childcare in my community" while 28% agreed.

hours available do not claim ACS outside of the ECCE term the cost estimate rises further to €140m a year. Finally, if the parents of all children in registered childcare claim the subsidy for 52 weeks of the year SWITCH estimates that the scheme will cost €156 million on an annual basis with 126,900 children benefitting from the scheme. Under this scenario the average gain for a family qualifying for the subsidy is anticipated to be €27 per week, just over €1,400 a year.

As would be expected with a predominantly means tested scheme, the gains are concentrated at the bottom of the income distribution, bearing in mind that these gains do not take into account previous receipt of a current childcare subsidy. Amongst families with children, lone parents are anticipated to receive the largest percentage boost to their income, 7-8% depending on their employment status. This is equivalent to €28 per week for lone parents not in employment and €48 per week for working lone parents. Amongst families with children, dual earner couples are anticipated to receive the lowest percentage boost to disposable income of 1%, or €14 per week.

A variety of potential scheme changes have been examined and illustrate the advantages of the use of microsimulation to analyse policy changes before they occur. The results in this report are static i.e. assume no behavioural change from parents, be that via a move from non-registered to registered childcare to avail of the scheme or an increase in the hours of childcare used in reaction to the subsidy. As over half of those using non parental childcare will not currently be able to avail of the scheme, as they do not use Tusla registered childcare, future work in the area could include the examination of possible behavioural responses. These could include a shift towards the use of registered childcare and possible labour supply responses to the scheme. The impact of the scheme on incentives to work is also a possible avenue for future research.

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Appendix 1: Weighting

A weight known as 'euroweight' is provided by the CSO and is based on ensuring representativeness of age by gender, region and household composition. An alternative weight has been developed by the SWITCH team which is also calibrated to ensure representativeness on these dimensions, but in addition ensures that the data is representative of the actual income distribution and social welfare recipient population. Specifically, the SWITCH model is based on SILC data calibrated to the represent the distribution of taxable income, as per income distribution statistics published by Revenue, and social welfare recipient numbers as published by DSP. The SWITCH calibrated weight also helps ensure the underlying data is representative of a specific year in terms of numbers unemployed etc. See Callan *et al.* (2012) for a more detailed examination of the weighting issue. On the one hand, SILC data weighted by euroweight captures a higher number of lower income households when compared to official income distribution statistics and less households higher up the income scale. As ACS is means tested, using this weight may mean that a higher cost and recipient estimate is arrived at using euroweight. However the SWITCH calibrated weight ensures the underlying data (2013/14) reflects the numbers unemployed as of 2017 while euroweight does not. As unemployment has declined sharply between 2013/14 and 2017 costings and recipient numbers under ACS may be lower using euroweight if, as would be anticipated, the unemployed use lower or no hours of registered childcare.

Table A1 shows results for Scenario 1 (ACS claimed for all 52 weeks of the year) based on euroweight⁸² and the SWITCH calibrated weight used throughout this report. Using euroweight, ACS is estimated to cost €134m per annum with a total number of 123,700 child recipients. Of these children, 30% are estimated to be in receipt of the EHS, 44% in receipt of the SHS while the remaining 23% are in receipt of the UHS. The estimated cost of ACS using the SWITCH calibrated weight is €156m in 2017 with a total number of 126,900 children receiving the subsidy. Of these children, 42% are estimated to be in receipt of the EHS, 39% in receipt of the SHS while the remaining 19% are in receipt of the UHS.

As expenditure and recipient numbers are higher using the SWITCH calibrated weight compared to euroweight, it suggests that the decline in unemployment captured in the calibrated weight is playing a role in increasing the numbers of families eligible for the subsidy. This theory is supported by the fact that we see lower numbers of families receiving SHS (where at least one parent is not in employment/education) and higher numbers receiving EHS (where both parents have to be in employment/education) when using the calibrated weight. Due to the fact that this calibrated

⁸² As we are using pooled 2013/2014 data the euroweight used is an amalgamation of euroweight 2013 and euroweight 2014.

weight helps to ensure that SWITCH is representative of the actual income distribution and social welfare population and also takes account of, among other factors, the unemployment rate in 2017, all results shown in this report are based on the SWITCH calibrated weight, representative of the 2017 population.

Table A1: Impact of weighting on results

	Cost	N recipients, children ('000s)			
	€ m.p.a	Total	<i>EHS</i>	<i>SHS</i>	<i>UHS</i>
Scenario 1: Euroweight	134	123.7	38.3	56.4	29.0
Scenario 1: Calibrated weight	156	126.9	53.4	49.3	24.1

Notes:

SWITCH estimates are based on age at interview; award the subsidy based on hours used of registered (centre based) childcare and childcare hours used are assumed not to vary during term/non-term time. Subsidies that may be payable for 13/14 year olds are not captured due to a lack of childcare usage information.

Results are based on Scenario 1 i.e. parents claim their ACS subsidy for 52 weeks of the year.

IGEES Quality Assurance Process

*“Focused Policy Assessment of the Affordable Childcare Scheme:
Cost Drivers, Model Assumptions and Policy Extensions”*

To ensure accuracy and methodological rigour, the authors engaged in the following quality assurance process:

- **Internal/Departmental**
 - ✓ Line management
 - ✓ Working group
- **External**
 - ✓ Quality Assurance Group (QAG)
 - ✓ Peer review (IGEES network, seminars, conferences etc.)