



Summary report: The economic impact of the BSBL reforms

Department of Treasury and Finance

May 2025

Glossary and definitions

Glossary

Acronym/term	Full name/description
BSBL	Best Start, Best Life
CCS	Child Care Subsidy
CGE	Computable General Equilibrium
DAE-RGEM	Deloitte Access Economics' in-house Regional General Equilibrium Model
DE	Department of Education
DTF	Department of Treasury and Finance
ECEC	Early Childhood Education and Care
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GSP	Gross State Product
LDC	Long Day Care
NAPLAN	The National Assessment Program – Literacy and Numeracy
NVP	Net Present Value
SD	Standard Deviation
SEIFA	Socio-Economic Indexes for Areas
VEFU	Victorian Economic and Fiscal Update

Key definitions

Acronym/term	Full name/description
Child care	Includes a long day care or family day care program, not including kindergarten
Early Childhood Education and Care	Includes kindergarten and child care.
Kindergarten	Educational program that is delivered in sessional services or long day care services for children aged between three and five years old.
Kindergarten equivalent programs	A program is delivered by a degree qualified early childhood teacher, meets National Quality Framework qualification requirements, and is functionally equivalent to kindergarten. The program may not be funded as a kindergarten.
Long Day Care	Does not include kindergarten programs delivered in LDCs.

Key findings

The Victorian Government is currently undertaking an unprecedented series of Early Childhood Education and Care (ECEC) reforms – known as the Best Start, Best Life (BSBL) reforms – aimed at improving accessibility and affordability. The reforms encompass:

- The progressive roll-out of 15 hours of funded three-year-old kindergarten across the state by 2029.
- Making kindergarten free for three- and four-year old children across Victoria.
- Delivering a new year of universal pre-prep for four-year-olds, which will provide 30 funded hours of kindergarten per week by 2036.
- Establishing 50 Victorian government-owned and affordable child care centres.

If 96 per cent participation can be achieved for both three-year-olds and four-year-olds, the reforms are estimated to result in an additional 97,000 children enrolling in kindergarten equivalent programs in 2065-66 and an additional 62,700 ECEC enrolments.¹

This report is concerned with estimating the social and economic impacts of this uplift in participation. The estimated value of these impacts is sensitive to a range of parameters around which there are varying degrees of uncertainty. Recognising this, the impacts are examined and presented under two scenarios:

- The **low scenario** assumes relatively low impact on developmental outcomes, which reflects estimates of the return to an additional year of preschool prior to the introduction of the NQF. The scenario also assumes the labour supply response of primary carers is at the lower end of what has been found in the academic literature.
- The **high scenario** assumes high impact on developmental outcomes, based on evidence from the UK of the additional improvement in outcomes for preschools that were rated 'high quality' compared to the average improvement in outcomes. The scenario assumes the labour supply response of primary carers is at the higher end of what has been found in the academic literature.

The core analysis in this report draws on literature reviews and modeling completed between 2022 and 2023 using the best available evidence at that point in time. The initial modelling was updated in 2025 to reflect the latest BSBL program information, including revised implementation timelines and expenditure profiles. Estimates of the benefits to children's development and impacts on parental labour force participation are based on evidence from the literature review completed in 2022 and 2023.

Impacts arising from children's participation in ECEC

One of the key benefits of expanding access to quality early childhood education and care is its role in improving developmental outcomes for children and in turn supporting their engagement in further education and transition to employment. As more children who have participated in the BSBL programs join the labour market, the overall productive capacity of the workforce is expected to expand.

By 2065-66, 27 cohorts of children who have benefited from the BSBL reforms will have entered the workforce. Overall labour productivity is estimated to be higher by between \$800 million and \$1,130 million by 2065-66, with an additional 5,300 to 7,500 participants in the labour force.

¹ There is expected to be a smaller increase in ECEC enrolments compared to kindergarten equivalent program enrolments as some children are switching their enrolment from non-kindergarten programs to kindergarten programs. This represents an increase in kindergarten program enrolments, but not an increase in ECEC enrolments.

In addition to building human capital and improving children's future labour market outcomes, the BSBL reforms are also expected to increase year 12 attainment rates, improve children's longer term health outcomes, reduce reliance on welfare and reduce crime. In this way, the BSBL reforms are estimated to reduce annual social costs by between \$212 million and \$284 million by 2065-66.

Impacts arising from parents' participation in the workforce

Achieving the aspirations of the BSBL reform is estimated to support an additional 13,800 to 20,200 primary carers with a child aged under five to participate in the labour force by 2035-36, and increase their total hours worked by between 3.8 to 5.5 per cent (depending on the assumed labour supply response). This arises because the expansion of preschool allows parents greater scope to enter the workforce or to increase their hours of work. There are also longer term, or lifetime effects, associated with a return to work that are not captured in these figures but are captured in the aggregate economic impacts. These lifetime effects capture the impact of an earlier return to work on the likelihood that primary carers remain connected to the workforce and experience greater wage growth over time.

Aggregate economic impacts

By enabling more primary carers to enter and participate in the workforce and by enhancing children's development and hence longer term productivity and attachment to the labour market, the BSBL reforms can enable faster growth for both the Victorian and Australian economy. Over the period to 2065-66, Gross State Product (GSP) is projected to be higher by an average of between 0.9 and 1.3 per cent per annum, while employment is projected to be higher by between 1.0 and 1.5 per cent per annum.

A larger economy is estimated to lift Victorian Government real taxation revenue by an estimated \$524 million to \$767 million on average each year over the period to 2066 (in 2025 dollars). The BSBL reforms are also expected to increase the revenue collected by the Australian Government, through taxation and Goods and Service Tax (GST) contributions. There is also expected to be an average of \$47 million to \$63 million in avoided fiscal costs over the period to 2066 by reducing fiscal expenditure by the Victorian and Australian governments, resulting from reduced public expenditure on health, welfare payments and crime and law enforcement.²

The results presented above are summarised in Table i, below.

Through increasing kindergarten and ECEC participation, the BSBL reforms could enable significant economic and community benefits for Victoria. However, the benefits are contingent upon achieving the 96% participation target, delivering high-quality education programs, and securing sufficient workforce and infrastructure to support the implementation, with further cost-benefit analysis required to evaluate the overall return on investment.

² The avoided fiscal costs are a subcomponent of the avoided social costs associated with crime, health, and welfare usage.

Table i: Key findings on impact of BSBL reforms relative to base case

Low scenario				High scenario		
Low impact developmental outcomes; Low labour supply response				High impact developmental outcomes; High labour supply response		
	Annual avg to 2065-66	2035-36	2065-66	Annual avg to 2065-66	2035-36	2065-66
Additional enrolments						
Additional Kinder equivalent enrolments (0-5 year olds)	n/a	73,200	97,000	n/a	73,200	97,000
Additional ECEC enrolments (0-5 year olds)	n/a	47,800	62,700	n/a	47,800	62,700
Impacts on child developmental outcomes						
Productivity benefit (\$m, %)	n/a	-	800 (0.13%)	n/a	-	1,130 (0.18%)
Additional workers (FTE equiv)	n/a	-	5,300	n/a	-	7,500
Broader social benefits (\$m)	n/a	-	212	n/a	-	284
Direct impacts on primary carer labour supply and productivity*						
Additional workers (no.)	n/a	13,800	19,000	n/a	20,200	27,800
Additional average weekly hours worked (hr, %)	n/a	1.0 (3.8%)	1.0 (3.8%)	n/a	1.5 (5.5%)	1.5 (5.5%)
Economy-wide impacts						
Change in Victorian GSP (%)	0.90	0.86	1.34	1.31	1.17	2.02
Change in Victorian FTE employment (%)	1.01	0.98	1.39	1.48	1.37	2.14
Fiscal impacts (2025 dollars)						
Additional Vic. Gov taxation (\$m)	524	347	1,134	767	472	1,713
Additional Aus. Gov taxation + GST contribution (\$m)	2,208	1,419	4,903	3,195	1,878	7,368
Cost savings due to improved social outcomes (\$m)	47	0	198	63	0	265

Source: Deloitte Access Economics (2025). *These are the expected benefits for primary carers while their children are of kindergarten age. Improved wage and employment outcomes after their children are no longer in kindergarten due to a shorter career break are not included here.

Executive summary

A well-functioning early childhood education and care (ECEC) system plays a dual role in supporting Victoria's economic and social prosperity.

Access to affordable ECEC is essential to enabling parents – especially primary carers – to participate in the labour force, supporting them to re-enter the workforce and to work their desired hours. It can also be instrumental in reducing the frequency and duration of career breaks and, in turn, support longer term productivity and human capital accumulation for primary carers. Given the vast majority of caring responsibilities fall to women, improved ECEC access also plays a role in the pursuit of greater gender equality.

At the same time, quality early childhood education also has significant benefits for children, particularly children from vulnerable or disadvantaged backgrounds. Attending kindergarten programs improves children's cognitive outcomes, which supports future engagement with education and the labour force with many of these benefits accruing well into the future.

The BSBL reforms

Given the range of benefits associated with ECEC programs, the Victorian Government is undertaking an series of ECEC reforms, aimed at improving accessibility and affordability.

In the 2019/20 Budget, the Victorian Government announced the progressive roll-out of 15 hours of funded three-year-old kindergarten across the state by 2029.

In the 2022/23 Victorian Economic and Fiscal Update (VEFU), the Victorian Government subsequently announced an additional suite of major initiatives, which will:

- Make kindergarten free for three- and four-year old children across Victoria.
 - Deliver a new year of universal pre-prep for four-year-olds, which would provide 30 funded hours of kindergarten per week by 2036.
- Establish 50 Victorian government-owned and affordable child care centres.

Deloitte Access Economics was engaged by the Victorian Department of Treasury and Finance (DTF) to estimate the potential impacts of these reforms on the Victorian economy, which include:

1. The benefits to **children's social, emotional and cognitive development**, and the subsequent effects on their labour market and social outcomes.
2. Changes to labour force participation, hours worked and wages for **primary carers**, both while their children are of ECEC attending age, and over the longer term.
3. The **additional Government investment** in the ECEC system, which supports both the establishment of the child care centres, and ongoing service provision.

This report represents an extension of modelling undertaken by Deloitte Access Economics in 2022 for DTF ('2022 report'), noting that the updated specification means that the results contained in this report will not be directly comparable to those presented in the previous report.

Box i: Comparison with previous report

In 2022, Deloitte Access Economics produced the report *Economic impacts of the Best Start, Best Life extension*, which modelled the primary carer labour market impacts of the BSBL extension reforms introduced in the 2022/23 VEUF. Since then, changes to the Australian Government Child Care Subsidy (CCS) scheme, updated timing for the BSBL extension reforms, and outdated parameters have built the case to revisit the original report.

This updated report intends to present a more comprehensive view of economic impacts of the full suite of BSBL reforms, and builds on the 2022 report by:

- **Policy scope:** Considering the impacts of the full suite of BSBL reforms – three-year-old kindergarten in addition to the BSBL extension reforms.
- **Impacts modelled:** Estimating the child developmental outcomes resultant from the BSBL reforms, in addition to primary carer labour supply and productivity effects.

The child development outcomes analysis was completed in 2023, and the primary carer labor force participation analysis in 2022, both using the best evidence available at those times. The report has subsequently been updated in 2025 to reflect the latest BSBL program information, including the implementation timelines and expenditure profiles.

This executive summary provides an overview of the analysis and results. Readers are encouraged to consult the full report for further details on the methodology and assumptions that have been applied in undertaking the modelling.

Literature on child developmental outcomes

There is a growing international literature on the relationship between kindergarten attendance, the years attended (duration), and the number of hours attended each week on child development outcomes. This literature spans early studies of small scale demonstration programs such as the highly successful Perry preschool project through to more recent studies of large scale stage roll outs of kindergarten programs in the US or Canada. The literature has explored the impact of these programs on both cognitive outcomes (as measures in standardised tests), non-cognitive or social and emotional outcomes and also later life outcomes – the latter being a function of both cognitive and social and emotional outcomes.

While both positive and negative impacts can be found in the literature, the majority of studies (particularly of high quality programs) find that kindergarten attendance has positive impacts on children's cognitive outcomes. A recent meta-analysis of experimental studies finds that kindergarten attendance on average lifts cognitive outcomes by 0.17 standard deviations (Holla et al 2021). There is a debate in the literature about whether these effects fade out over time, with the implication that children who do not attend kindergarten may progressively catch up to their peers over their time at school.

The evidence on the relationship between kindergarten attendance and social and emotional outcomes upon school entry is mixed. Some studies find evidence of positive outcomes while others find no significant effects or in some cases negative impacts on social and emotional outcomes. Deloitte Access Economics (2023) found, using a range of datasets, that preschool was generally positively associated with social and emotional well being but these effects were for the most part not statistically significant. It is possible that the absence of a clear relationship reflects the challenges of measuring social and emotional outcomes for young children. Equally it could be that only high quality learning environments are able to improve social and emotional outcomes (Taggart et al 2015 find evidence in line with this).

While the relationship between kindergarten attendance and social and emotional outcomes upon school entry is unclear, a handful of studies have been able to examine whether kindergarten enhances later life outcomes. Evidence from a range of studies in the US, France and New Zealand find that ECEC or kindergarten participation is associated with improved earnings, the probability of employment, high school completion and participation in tertiary education. A recent US study by Gray-Loeb et al (2021) has also linked kindergarten attendance to improved behaviour and reduced criminal activity (primarily for men). What is interesting about this study is that while the impact of kindergarten on cognitive outcomes (as measured in standard test scores) faded over time, those who went to kindergarten were still more likely to complete high school, enrol in university and were less likely to commit crimes. This suggests that part of the impact of kindergarten on life outcomes may actually be driven by its impact on non-cognitive outcomes.

A range of studies have also examined whether differences in the duration of kindergarten or the number of hours attended per week (dosage) impact cognitive and social and emotional outcomes.

In general, an additional year of kindergarten has been found by a range of studies to improve learning outcomes.

There have been far fewer studies, particularly in an Australian context, that have examined the benefits of additional hours of kindergarten in an environment similar to that contemplated under BSBL. One Australian study found there were positive impacts on learning outcomes from attending more than eight hours per week but not necessarily strong returns from attending more than 20 hours per week although this study included centre based day care settings which may not have offered a kindergarten. Recently a number of quasi-experimental studies in the US and Canada have found positive impacts on learning outcomes from full day kindergarten particularly for disadvantaged children with effect sizes ranging from 0.06 to 0.31 standard deviations. The impact of longer hours on social and emotional outcomes remains unclear and there is some evidence that very long hours (more than 30 hours) may lead to worse behavioural outcomes for children.

Overall, while the literature on the impact of kindergarten on children's development outcomes is perhaps more nuanced than might be imagined, in general the weight of evidence supports the role of kindergarten in enhancing children's development. What does emerge, across a range of studies, is two consistent observations:

- *Quality matters:* many of the findings of adverse impacts reflect low quality learning environments and even within individual studies there is evidence of differences in outcomes in higher quality settings. While it is beyond the scope of this report to analyse the literature on what comprises quality in early childhood education in detail, the evidence of Australian studies on the E4Kids data (which includes a number of early childhood education settings in Victoria) highlights the key role of child and educator interactions and instructional support in enhancing learning outcomes.
- *Benefits are often larger for disadvantaged cohorts:* typically studies which find very large positive impacts of kindergarten programs are focused on disadvantaged cohorts. Similarly, studies that explore both cohorts often conclude that benefits are stronger for disadvantaged cohorts, potentially reflecting the higher quality of home learning environments available to more advantaged children.

These observations have informed the approach to the child development modelling presented in this report. In particular, the 'high impact scenario' has been parameterised based on findings of the differential in learning outcomes from higher quality settings, while the impact of greater dosage in the 'low scenario' has been conservatively applied only to children from low and middle income families based on some of the findings in the literature on dosage.

Modelling approach and framework

The modelling compares a **base case** where the BSBL reforms do not occur, with a **policy case** where the full suite of BSBL reforms are implemented and are taken up in line with the policy intention.³ By comparing the two cases, the impact of the BSBL reforms is isolated.

The following approach is used in parameterising the base case and policy case (Figure i).

³ Other known implemented policies that affect child care usage (e.g. Australian Government Child Care Subsidy reforms in 2023) are assumed to occur in both the base case and policy case.

Figure i: Overview of modelling approach

1	Modelling impact on ECEC usage	2	What the literature tells us	3	How this translates to economic indicators	4	Economy-wide modelling approach
Child developmental outcomes	Drawing on DE kindergarten policy targets, model changes in ECEC usage in base case and policy case	Relationship between kindergarten attendance, dosage and duration and child developmental outcomes	- Convert child development outcomes to longer term labour supply and productivity outcomes - Estimate the avoided social costs of improved cognitive outcomes (<i>not used in CGE</i>)	Input economic indicators into CGE model to estimate economy-side GSP, employment, and fiscal impacts			
Parental labour market outcomes		Relationship between child care use and participation and hours worked	Convert to parental labour supply (participation and hours worked)				
Government expenditure			Additional capital and operational expenditure associated with the programs				

Source: Deloitte Access Economics (2025).

Step 1: Modelling ECEC usage

Drawing on Department of Education guidance on BSBL implementation and participation targets, the shift in the usage of ECEC and kindergarten equivalent programs⁴ is modelled.

In the policy case, 96 per cent of Victorian children are assumed to be enrolled in 15 hours per week of three-year-old kindergarten, and 30 hours of universal pre-prep once the policy is fully implemented by 2036. To understand the impact of the policy case, children's likely patterns of attendance at ECEC and kindergarten equivalent programs in the base case are modelled, drawing on a range of publicly available and Victorian Government data sources.⁵ The base case also accounts for the likely impacts of the CCS changes on future use patterns.⁶

The modelling identifies five broad ways in which the BSBL reforms affect families and children in terms of child developmental outcomes and primary carers' labour market outcomes (Figure ii):

1. **Increased participation**, for children not otherwise expected to be enrolled in kindergarten equivalent programs at 3-4 years. This includes children who are in child care but who are not in kindergarten programs.
2. **Increased duration and dosage**, for children otherwise receiving 15 hours of kindergarten at age four, but who are not receiving a kindergarten equivalent program at age three.
3. **Increased duration**, for children otherwise in a kindergarten equivalent program for 30 hours at age four, but not receiving a kindergarten equivalent program at age three. Children enrolled in LDC throughout the week – or rely on a mix of LDC and standalone kindergartens – will likely fall in this category.
4. **Increased dosage**, for children otherwise in a kindergarten equivalent program for 15 hours at age four, and who are receiving a kindergarten equivalent program at age three. These programs may not be funded by the Victorian Government, but would be functionally equivalent to the current definition of kindergarten for four-year-olds.

⁴ Kindergarten equivalent program refers to programs that are delivered by a degree qualified early childhood teacher, and meets National Quality Framework qualification requirements. The program is functionally equivalent to kindergarten, but may not be funded as a kindergarten.

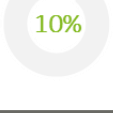
⁵ Key data sources underpinning the modelling include (1) Unpublished Victorian Government Population Projections 2023 (2) Australian Bureau of Statistics (ABS) *Kindergarten Education, Australia* data on current kindergarten usage patterns, (3) ABS *Childhood Education and Care, Australia* data on labour market participation rates by primary carers, and (4) ABS *Census of Population and Housing* data on the employment profiles of primary carers.

⁶ For the first child in child care, the CCS has been increased to 90 per cent for households with annual incomes up to \$80,000. For households with annual incomes above \$80,000, the CCS has been increased, with the specific rate tapering from 90 per cent to zero for households with annual incomes of \$530,000.

5. **No direct effect**, children who are already receiving kindergarten for 30 hours at age four and are receiving a kindergarten equivalent program at age three.

The cohorts that increase hours in kindergarten equivalent programs are expected to receive child developmental benefits. However, only cohorts with higher overall ECEC usage (kindergarten and child care) are expected to experience primary carer labour supply benefits. Where children are substituting from child care to kindergarten programs, there is not expected a net increase in ECEC usage.

Figure ii: Effects of the reforms by cohort

COHORT	POPULATION %	BASE CASE	KINDER USAGE	CHILD DEVELOPMENT	ECEC	PRIMARY CARER WORK
1. Increased participation		3YO Not in care Care (not kinder)	▲	2 years of kinder	▲	Primary carer can increase work hours, if increase in ECEC hours
		4YO Not in care	▲	Increased dosage (4YO)	▲	Primary carer can increase work hours
2. Increased duration + dosage		3YO Not in care Care (not kinder)	▲	Increased year (3YO)	▲	Primary carer can increase work hours, if increase in ECEC hours
		4YO <30 hrs kinder equiv.	▲	Increased dosage (4YO)	▲	Primary carer can increase work hours
3. Increased duration		3YO Not in care Care (not kinder)	▲	Increased year (3YO)	▲	Primary carer can increase work hours, if increase in ECEC hours
		4YO 30 hrs kinder equiv.	=		=	No additional benefits
4. Increased dosage		3YO 15hrs kinder equiv.	=		=	No additional benefit
		4YO <30 hrs kinder equiv.	▲	Increased dosage (4YO)	▲	Primary carer can increase work hours
5. No direct effects		3YO 15hrs kinder equiv.	=	No additional benefits	=	No additional benefits
		4YO 30 hrs kinder equiv.	=		=	

PEER EFFECTS

Kinder usage: ▲ BIGGER EFFECT ▲ MODERATE EFFECT = NO EFFECT
ECEC usage: ▲ BIGGER EFFECT ▲ MODERATE EFFECT = NO EFFECT

Source: Deloitte Access Economics (2025). KGN = kindergarten. 3YO = three-year-old. 4YO = four-year-old. Note that specific parameters on ECEC usage & primary carer uplift by cohort type are not available.

Steps 2+3: Modelling child developmental outcomes

The effects of changing kindergarten usage on children are modelled based on the best available evidence in the existing literature. The literature review demonstrates that kindergarten attendance has been found to have a large range of impacts on child development outcomes with impacts being sensitive to the quality of learning settings and also being generally stronger for more disadvantaged cohorts.

Where possible, the *impacts of BSBL have been simulated based on the findings of large scale or universal programs*. While small scale demonstration studies or programs targeted at disadvantaged cohorts can result in large benefits it is unlikely these would hold across a population wide program such as the BSBL.

Two scenarios have been parameterised to account for different potential impacts. The low impact scenario has been, where possible, based on a standard level of quality for a kindergarten program; the high impact scenario assumes a higher level of quality is able to be delivered resulting in stronger developmental outcomes.

Box ii: Using Standard Deviations to compare outcomes

Standard deviation is a statistical measure that quantifies the expected amount of a random variable from its mean. Measuring the effect of a policy or variable on outcomes relative to its standard deviation (or the expected variability from the mean) provides a comparable measure to compare the impact of different policies or different studies that have different units of outcomes and scales.

Additional year of kindergarten

The low impact effect size is based on Deloitte Access Economics (2023)⁷, which estimates that the marginal benefits of an additional year of kindergarten on Year 3 reading NAPLAN scores is 0.12 standard deviations. This is broadly consistent with findings of the international literature, with effect sizes between 0.1 to 0.2 standard deviations.

The high impact effect size is 0.06 standard deviations higher, drawing on findings of Taggart et al (2015)⁸ on the benefits of attending a high quality kindergarten over an average kindergarten. This may be a conservative estimate of the benefits of higher quality delivery with some studies pointing to a potential doubling of impacts.⁹

Two years of kindergarten

Taggart et al (2015) found that an additional (i.e. second year of kindergarten) increases the return on the first year by around 50 to 60 per cent. Given the evidence above that a second year of kindergarten improves learning outcomes by 0.12 standard deviations and the evidence from Taggart et al (2015) that the marginal return on a second year is likely lower than the return from going from not attending kindergarten to attending for one year, the analysis conservatively assumes that the returns for attending for two years of kindergarten relative to not attending kindergarten at all is twice that of the benefits of attending a second year of kindergarten. This results in an estimated effect size of 0.24 standard deviations.

Consistent with an additional year of kindergarten, the high impact scenario assumes higher quality and an effect size that is 0.06 standard deviations higher at 0.30.

Increased dosage of kinder (at age four)

The existing literature in Australia provides limited evidence in support of benefits from shifting from 15 hours to 30 hours. Much of the evidence is from a day care context and the findings are generally mixed.

The most comparable study to the Victorian context considers the experience of Ontario in staggering the implementation of full day kindergarten across different schools.¹⁰ Pelletier and Corter (2018)¹¹ follow students in full and half day kindergartens over time and find an effect size

⁷ Deloitte Access Economics 2023, 'Three-year-old Preschool Return on Investment Analysis', Report for the Royal Commission into Early Childhood Education and Care, Attorney-General's Department, <https://www.royalcommissionec.ec.gov.au/__data/assets/pdf_file/0008/937124/DAE-RC-Final-Return-on-Investment-Report.pdf>.

⁸ Taggart, B, K Sylva, E Melhuish, and P Sammons. 2015. "How Pre-School Influences Children and Young People's Attainment and Developmental Outcomes over Time," no. June: 1–50. <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/455670/RB455_Effective_pre-school_primary_and_secondary_education_project.pdf.pdf>.

⁹ See Blanden, Jo, Emilia Del Bono, Kirstine Hansen, and Birgitta Rabe., "Quantity and Quality of Childcare and Children's Educational Outcomes." *Journal of Population Economics* (): 8 – 828, referred to in Deloitte Access Economics (2023), 'Return on investment in three year old preschool'.

¹⁰ Ontario had a similar increase in hours, and had similar structure in terms of Early Childhood Teachers and Early Childhood Educators within rooms.

¹¹ Pelletier, J. and Corter, J. 2018, 'A longitudinal comparison of learning outcomes in full-day and half-day kindergarten', *The Journal of Educational Research*.

of 0.06 to 0.07 standard deviations in student academic performance in Year 2 and a 0.10 standard deviation increase in self-regulation (as a measure of social and emotional outcomes).

The low impact scenario assumes that the benefits only apply to children from low and middle income backgrounds – representing 50 per cent of the population – in line with other studies in the US literature which find more no impact from high levels of hours for children from high income families. The high impact scenario assumes that the benefits apply to all children.

Peer effects

As a universal policy it is likely that there may be greater peer learning as more and more children enter school having attended kindergarten. Williams (2019)¹² and Matthew and Waldfogel (2010)¹³ found that increasing kindergarten attendance from zero to 100 per cent increases learning outcomes when children reach school by approximately 0.13 standard deviations. As BSBL policies aim to increase kindergarten participation by four percentage points, this is associated with a peer effect of 0.006 standard deviations.

The overall cognitive benefits of the BSBL reforms across cohorts are given in Table ii. For children experiencing multiple benefits, the effect sizes are assumed to be additive.

Table ii: Key modelling parameters for child development outcomes (cognitive benefits)

Cohort	Applicable benefit	Source	Standard deviation improvement in cognitive outcomes	
			Low impact	High impact
1. Increased participation	- Two years of kindergarten - Increased dosage (4YO)	- Taggart et al (2015) - Pelletier and Corter (2018) - Loeb et al (2007)	0.31	0.37
2. Increased duration + dosage	- Increased year of kindergarten - Increased dosage (4YO)	- Based on Deloitte Access Economics (2023) and evidence from the literature. - Taggart et al for the high quality differential. - Pelletier and Corter (2018) - Loeb et al (2007)	0.19*	0.25
3. Increased duration	Increased year of kindergarten	- Based on previous Deloitte Access Economics analysis and evidence from the literature. - Taggart et al for the high quality differential.	0.12	0.18
4. Increased dosage	Increased dosage (4YO)	- Pelletier and Corter (2018) - Loeb et al (2007)	0.07*	0.07
All (including 5. No direct effects)	Peer effects	- Williams (2019) - Matthew and Waldfogel (2010)	0.006	0.006

Source: Deloitte Access Economics (2025). *Low impact outcomes for increased dosage cohort are only applicable to disadvantaged children (representing 75 per cent of all children).

¹² Breyon J. Williams, The spillover benefits of expanding access to preschool, Economics of Education Review, Volume 70, 2019, Pages 127-143.

¹³ Neidell, Matthew, and Jane Waldfogel. "Cognitive and noncognitive peer effects in early education." The Review of Economics and Statistics, vol. 92, no. 3, 2010, pp. 562-76.

The short term cognitive benefits are converted into longer term outcomes for children through:

- Converting cognitive outcomes into schooling completion and post-school outcomes, drawing on Deloitte Access Economics (2023).¹⁴ This is likely to be conservative given some of the evidence on long term outcomes of kindergarten attendance shows relatively large impacts.
- Converting higher educational attainment into increases in labour force participation and productivity upon workforce entry. This study draws on Deloitte Access Economics (2022)¹⁵ and Wilkins and Lass (2018)¹⁶ on the relationship between educational attainment, earnings and likelihood of employment.

Steps 2+3: Modelling primary carer labour supply

The primary carer modelling draws on the approach used by NSW Treasury (2022) in their report entitled *Women's economic opportunities in the NSW labour market and the impact of early childhood education and care*.

Drawing on the available literature, NSW Treasury considers two main ways in which ECEC usage could in principle impact a primary carer's participation in the labour force:

- **Cohort effects:** capturing the additional labour that can be supplied by primary carers for children aged five and under when a child attends ECEC.
- **Lifetime effects:** capturing the longer term labour supplied by people who were previously primary carers for children aged five and under. This recognises that an extended career break can have longer term impacts by changing future labour market participation, hours worked and wages over time.

The existing Australian and international literature suggests a strong cohort effect, with increased child care use having a positive effect on workforce participation among primary carers. However, given the high degree of uncertainty on the potential effects, two scenarios have been explored: a low elasticity scenario where the labour supply response of primary carers is at the lower end of what has been found in the academic literature and a high elasticity scenario where the labour supply response is at the upper end of that found in the academic literature.

The low elasticity scenario is based on an Australian study by Breunig and Gong (2012), which finds that 1 per cent increase in child care hours is associated with a 0.24 per cent in labour force participation for women with children aged five and under and a 0.39 per cent increase in total hours worked (Table iii).¹⁷

The high elasticity scenario has been derived from two studies examining the impact of ECEC reforms in Quebec, where highly subsidised, universally accessible childcare was introduced from 1997 to 2000.¹⁸ Lefebvre and Merrigan (2008) estimate the labour market impacts, while Baker et al (2008) estimate the change in net costs and child care usage. Based on the studies, it is estimated that a 1 per cent increase in child care hours could be associated with a 0.34 per cent in labour force participation for women with children aged five and under, and a 0.56 per cent increase in total hours worked.

¹⁴ Deloitte Access Economics modelling using the Longitudinal Study of Australian Children (LSAC) showed that each 0.12 standard deviation change in cognitive outcomes is associated with a 0.5 per cent increase in the likelihood of completing Year 12, and 3.1 per cent increase in the likelihood of attending university. This effect is assumed to be linear across improvements in cognitive outcomes.

¹⁵ Deloitte Access Economics, The importance of universities to Australia's prosperity (report commissioned by Universities Australia, April 2020), <<https://universitiesaustralia.edu.au/wp-content/uploads/2022/04/Report-The-importance-of-universities-to-Australias-prosperity.pdf>>

¹⁶ Wilkins, R and Lass, I, The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 16 (Statistical Report, 2018), Melbourne Institute, University of Melbourne, <https://melbourneinstitute.unimelb.edu.au/_data/assets/pdf_file/0009/2874177/HILDA-report_Low-Res_10.10.18.pdf>

¹⁷ Deloitte Access Economics calculations based on elasticities from Gong, X., & Breunig, R. (2012), *Estimating net child care price elasticities of partnered women with pre-school children using a discrete structural labour supply-child care model* (No. 2012-01), Treasury Working Paper.

¹⁸ Lefebvre, P., & Merrigan, P. (2008), *Child-care policy and the labor supply of mothers with young children: A natural experiment from Canada*, Journal of Labor Economics, 26(3), 519-548;

Baker, M., Gruber, J., & Milligan, K. (2008), *Universal child care, maternal labor supply, and family well-being*, Journal of Political Economy, 116(4), 709-745.

Table iii: Key modelling parameters for primary carer labour market outcomes (cohort effects)

	Low elasticity	High elasticity
Source	Derived from Gong and Breunig (2012)	Derived from Lefebvre and Merrigan (2008) and Baker et al (2008)
Participation	0.24*	0.34
Aggregate hours worked	0.39*	0.56

Source: Deloitte Access Economics (2025). * Gong and Breunig (2012) reported an elasticity for hours of formal care with respect to net child care price of -0.246, an elasticity of employment with respect to net child care price of -0.059, and labour supply hours with respect to net child care price of -0.096. These elasticities were used to derive the elasticity of participation and hours worked with respect to hours of child care use.

Existing research on the lifetime effects is more limited. Following NSW Treasury (2022), Deloitte Access Economics has drawn on a past study by Borooah and Arun (2004)¹⁹ and assumed that the following penalties applies to women who remain out of the workforce for the full period that their child is aged under five:²⁰

- 22 per cent of women who take an extended child-related career break (i.e. more than 12 months) do not return to the workforce.
- 22 per cent of women who take an extended child-related career break and return to work are expected to shift from full-time to part-time work for their remaining working life.
- There is a *wage penalty* of 20 per cent for women who take extended child-related career breaks, which permanently reduces their average earnings by 20 per cent.

The NSW Treasury modelling assumes that the penalties associated with taking an extended period of leave will persist for the full remaining working life. However, the modelling for this study assumes that participation and wage effects taper uniformly from age forty and are eliminated by age 50. This is based on evidence from a study by Kahn et al (2014), which found that in the United States, the impact of children on women's labour force participation and employment is reduced once women reach their 40s and 50s and that wage penalties also fade for women with fewer than three children.²¹

Further, there is some evidence to suggest that lifetime effects may accrue to those who take shorter career breaks. As such, the modelling assumes that those who return to the workforce when their child is aged three or four experience a 3.5 per cent decrease in wages, consistent with Beblo et al (2009).²²

Step 4: Estimating economy-wide impacts

Based on the estimated effects of the BSBL reforms on child developmental and primary carers' labour market outcomes, this methodology uses Computable General Equilibrium (CGE) modelling to simulate the resultant economy-wide impacts of the workforce participation and productivity changes. The modelling also considers the effects on economic activity, employment, and State and Australian Government taxation revenue.

CGE models are a class of economic models that use actual economic data to estimate how an economy might react to changes in policy, technology or other external factors. CGE frameworks are the preferred approach for modelling counterfactual questions such as this one because they explicitly account for behavioural responses of consumers, firms, governments and overseas residents when evaluating the impacts of a given policy change. At the same time, they also observe resource constraints meaning that the estimated economic impacts account for

¹⁹ Arun, S. V., Arun, T. G., & Borooah, V. K. (2004), "The effect of career breaks on the working lives of women", *Feminist Economics*, 10(1), 65-84.

²⁰ These benefits will apply to primary carers who enter the workforce due to the CCS reforms or the 50 new government-owned child care centres.

²¹ Kahn, J.R., Garcia-Mangano, J., and Bianchi, S.Z. (2014), "The Motherhood Penalty at Midlife: Long-Term Effects of Children on Women's Careers", *Journal of Marriage and Family* 76: 56-72.

²² Beblo, M., Bender, S., and Wolf, E. (2009), "Establishment-level wage effects of entering motherhood", *Oxford Economic Papers* 61 (2009), i11-i34.

competition for scarce resources (such as the acute competition for labour that the Australian economy is currently experiencing).

The modelling captures:

- Increased participation and higher productivity for children, as they join the workforce later in life.
 - The first cohort of three-year olds who started three-year-old kindergarten due to the BSBL reforms are expected to enter the labour force in 2034 at age 18.
- The potential impacts on labour supplied by primary carers.
 - With the vast majority of primary carers being women, the likely destinations of primary carers entering the workforce under the policy case are expected to differ compared to the typical worker (for example by industry of work).
 - Women with a dependent child already in the labour force are more likely to work in business services, health, or retail and hospitality relative to the average employed Victorian.²³
- The expected increase in Victorian Government expenditure associated with the reforms.
 - In doing so, the modelling implicitly captures the increased demand for workers in the ECEC sector, some of whom may need to be attracted from other sectors of the economy to meet increased demand for ECEC workers over time.

In addition to the CGE modelling the analysis considers the impact of improvements in child development outcomes on a range of broader social benefits including reductions in crime, reduced public health expenditure and reductions in welfare payments.

Recognising uncertainty in the literature and the conditions in which the benefits are realised, economy-wide results are presented for two scenarios:

- **Low scenario:** low primary carer labour supply response, combined with low impact developmental outcomes for children.
- **High scenario:** high primary carer labour supply response, combined with high impact developmental outcomes for children.

Impacts of BSBL on ECEC services usage

The BSBL reforms seek to remove barriers to ECEC participation through a range of price and non-price related initiatives. This includes making kindergarten free for three- and four-year old children across Victoria, introducing 50 new government-owned and affordable child care centres to address supply shortages, and other initiatives aimed at sector engagement and public communication on the importance of universal pre-prep.

Assuming 96 per cent participation is consequently achieved for both three-year-olds and four-year-olds, this is expected to result in an additional 73,200 children enrolling in kindergarten equivalent programs in 2035-36 and an additional 47,800 ECEC enrolments (Table iv).²⁴

Historically, rates of enrolment have exceeded rates of attendance with many children enrolled in kindergarten not attending on a given week or attending for fewer hours than they are enrolled. The introduction of universal kindergarten may have a positive effect on rates of attendance, particularly for disadvantaged children. However, any potential impacts of the BSBL reforms on attendance rates have not been incorporated in this modelling.

²³ The model targets employment growth in the top three employing industries for primary carers, while ensuring flexibility for other sectors to respond to the increased labour supply.

²⁴ There is expected to be a smaller increase in ECEC enrolments compared to kindergarten equivalent program enrolments as some children are enrolled in non-kindergarten programs in the base case. Under the policy, these children would represent an increase in kindergarten program enrolments, but not an increase in ECEC enrolments.

Table iv: Effect of reforms on usage of kindergarten-equivalent programs and ECEC relative to base case

	# increase kindergarten equivalent programs		# increase ECEC	
	2035-36	2065-66	2035-36	2065-66
Additional enrolments				
0-2 year olds*	-	-	1,400	1,400
3 year olds	68,300	90,700	41,500	55,000
4-5 year olds	5,000	6,400	5,000	6,400
<i>Total</i>	73,200	97,000	47,800	62,700
Additional attendance hours (millions)				
0-2 year olds*	-	-	<0.1	<0.1
3 year olds	23.6	31.3	23.6	31.3
4-5 year olds	63.2	84.2	43.2	57.5
<i>Total</i>	86.9	115.5	66.9	88.8

Source: Deloitte Access Economics (2025). *The 50 new child care centres are expected to support additional enrolments by 0-2 year olds.

Impacts on child developmental outcomes

As more children who have participated in the BSBL programs join the labour market, the overall productive capacity of the workforce is expected to expand. By 2065-66, 27 cohorts of children who have benefited from the BSBL reforms will have entered the workforce. This is associated with a 0.13 per cent to 0.18 per cent increase in overall labour productivity (equivalent to between \$800 million and \$1,130 million in additional output), and between 5,300 to 7,500 more participants in the labour force per annum (Table v). These estimates are used as inputs into the CGE model.

Table v: Impact of reforms on children's future labour market outcomes

	Low impact		High impact	
	2035-36	2065-66	2035-36	2065-66
Population aged 15+				
Productivity benefit per annum (\$ million)	-	800	-	1,130
% change from base case	-	0.13%	-	0.18%
Additional participants (FTE equiv)	-	5,300	-	7,500
% change from base case	-	1.94%	-	2.72%

Source: Deloitte Access Economics (2025). Note that the totals may not equal to the sum of the individual age groups due to rounding.

Box ii: Avoided social costs from improved cognitive outcomes for children

In addition to building human capital and improving children's labour market outcomes, the BSBL reforms are also expected to improve children's longer term health outcomes, reduce reliance on welfare, and reduce crime. Drawing on research by Lamb and Huo (2017)²⁵ on the social costs associated with early school leavers, this study estimates the broader social benefits associated higher Year 12 attainment under the reforms. As a result of the reforms, there are expected between \$212 million and \$284 million in annual avoided social costs by 2065-66.

Table vi: Annual avoided social costs of the BSBL reforms (\$ millions, 2025 dollars)

	Low impact	High impact
	2065-66	2065-66
Public health expenditure	7	9
Welfare payments	169	227
Crime and law enforcement (both government expenditure and costs to society)	35	47
Total	212	284

Source: Deloitte Access Economics (2025).

Impacts on primary carer labour supply and productivity

Through expanding kindergarten and overall ECEC usage, the BSBL reforms are expected to allow more primary carers to return to the workforce or increase their hours worked.

Achieving the aspirations of the BSBL reform is expected to support an additional 13,800 to 19,000 primary carers with a child aged under five to participate in the labour force by 2035-36, and increase their total hours worked by between 11 and 15 per cent. With 94 per cent of all primary carers being women – health services, business services and retail and hospitality – all currently facing skills shortages – are the sectors most likely to benefit.

Through greater engagement with the labour force while their children are young, the reforms are also expected to create long term career benefits by increasing the likelihood of primary carers returning to the workforce, and ensuring their skills remain current from shorter career breaks.

Given that the vast majority of primary carers are women, the policy is expected to reduce the gender gap in participation and wages over the longer term. By 2065-66, the BSBL reforms are projected to increase the participation rate among women aged 15 and over by between 0.5 and 0.9 percentage points; increase their average hours worked by between 0.4 and 0.6 hours per week; and increase their average hourly wages by between 0.5 and 0.7 per cent (Table vii).

²⁵ Lamb, Stephen and Huo, Shuyan (2017) Counting the costs of lost opportunity in Australian education. Discussion Paper. Mitchell Institute, Melbourne, Victoria.

Table vii: Impact of reforms on primary carer labour supply and productivity

	Low elasticity		High elasticity	
	2035-36	2065-66	2035-36	2065-66
Primary carers with a child aged 0-5				
Additional participants (no.)	13,000	17,000	19,000	25,000
Participation rate (ppt)	+4.0	+4.0	+5.8	+5.8
Average weekly hours worked	+1.0	+1.0	+1.5	+1.5
% change from base case	+3.8	+3.8	+5.5	+5.5
Change in total hours worked (% relative to base case)	11%	10%	15%	15%
Women aged 15+				
Participation rate (ppt)	+0.5	+0.5	+0.9	+0.9
Average weekly hours worked	+0.1	+0.4	+0.1	+0.6
Average wages (%)	+0.1	+0.5	+0.1	+0.7
Additional participants (no.)	13,000	18,000	19,000	26,000

Source: Deloitte Access Economics (2025).

Economy-wide impacts

Through supporting a more productive and larger workforce as primary carers and, in time, direct beneficiaries of the BSBL reforms enter the labour market, the BSBL reforms will enable faster growth for both the Victorian and Australian economy.

On average, Gross State Product (GSP) is projected to be higher by \$10.2 billion to \$14.9 billion per annum (in 2025 dollars), or an average increase in GSP of between \$2,700 and \$3,900 per Victorian household, over the period to 2065-66. Alongside the additional economic activity, employment is expected to increase by between 45,100 and 66,800 full time equivalent (FTE) jobs, on average, between 2022 and 2066, as a result of the BSBL reforms.

The scenarios presented capture some of the uncertainty in the literature in relation to the responsiveness of parental labour supply to improving the accessibility of kindergarten and potential differences in child development outcomes. This provides a degree of sensitivity analysis although it remains possible that parental labour supply could be more or less responsive than what has been observed historically or that the impact of the policy on children's developmental outcomes may vary from what has been assumed based on the existing literature.

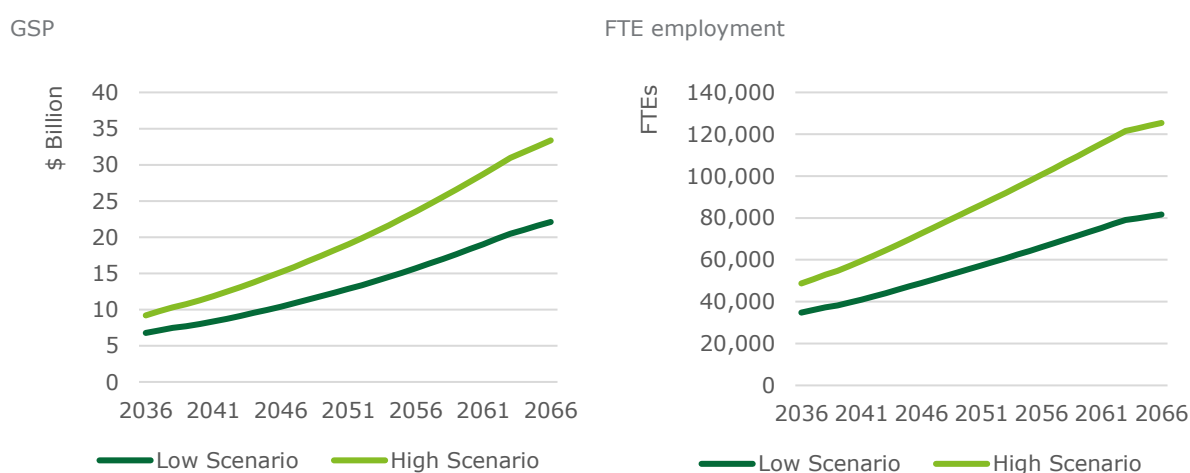
Table viii: Summary of economy-wide modelling results, real \$2025 dollars

Scenario	Low (low impact; low elasticity)			High (high impact; high elasticity)		
	Annual avg to 2065-66	2035-36	2065-66	Annual avg to 2065-66	2035-36	2065-66
Change in Victorian real GSP (\$million)	10,200	6,800	22,100	14,900	9,200	33,400
Change in Victorian GSP (%)	0.90	0.86	1.34	1.31	1.17	2.02
Change in real GDP (\$million)	9,800	6,400	21,700	14,400	8,600	32,800
Change in Victorian FTE employment	45,100	34,800	81,400	66,800	48,700	125,400
Change in Victorian FTE employment (%)	1.01	0.98	1.39	1.48	1.37	2.14

Source: Deloitte Access Economics (2025).

The GSP effects are expected to continue increasing over time as more children enter the workforce, with impacts stabilising from 2093 onwards as the full workforce will have benefited from the BSBL reforms. This accounts for the time taken for the full labour force to be replaced by children who have gone through the BSBL programs. The annual economy-wide GSP and FTE impacts for Victoria up to 2065-66 are given in Chart i.

Chart i: Average Annual change in economy-wide impacts associated with BSBL reforms, 2035-36 to 2065-66, real \$2025 dollars



Source: Deloitte Access Economics (2025).

A larger economy will lift Victorian Government real taxation revenue by an estimated \$524 million to \$767 million on average each year over the period to 2066. The BSBL reforms are also expected to increase the revenue collected by the Australian Government, through taxation and Goods and Service Tax (GST) contributions.

There is also expected to be an average of \$47 million to \$62 million in avoided fiscal costs over the period to 2066 due to improved social outcomes for the Victorian and Australian governments. These benefits result from reduced public expenditure on health, welfare payments and crime and law enforcement.

Table ix: The potential fiscal impacts of the BSBL reforms

Scenario	Low (low impact; low elasticity)			High (high impact; high elasticity)		
	Annual avg to 2065-66	2035-36	2065-66	Annual avg to 2065-66	2035-36	2065-66
State taxation (\$m)	524	347	1,134	767	472	1,713
GST contribution (\$m)	295	183	676	389	194	990
Aus. Gov taxation (\$m)	1,913	1,236	4,227	2,806	1,684	6,378
Cost savings due to improved social outcomes (\$m)	47	0	195	62	0	261

Source: Deloitte Access Economics (2025).

Concluding comments

The BSBL reforms represent a significant opportunity to increase kindergarten and ECEC participation and have the potential to generate sustained benefits for Victoria's economy and community. The full realisation of the benefits estimated in this study is contingent on the successful implementation of the reforms and underlying prerequisite conditions:

- Increases in kindergarten and ECEC participation in line with the 96 per cent target underpinning the modelling, driven in particular by non-price initiatives aimed at increasing kindergarten enrolment and attendance.
- The delivery of sufficiently high quality education programs in line with the studies that have informed the parameters under the low impact scenario. A higher level of quality will likely be required to meet the child development impacts under the high impact scenario.
- A sufficient workforce (and enabling infrastructure) to meet the increased delivery requirements in a timely manner, while maintaining quality.

Further, this study does not consider full costs associated with the successful implementation of the program, including workforce, infrastructure, training costs to support higher university attainment for children, and other resources required to expand the sector and ensure the delivery of high quality programs. A full consideration of the costs alongside the benefits is required to understand the overall returns of Government investment on the BSBL reforms.

Deloitte Access Economics

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