

# Child Care and the Labour Supply

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EXECUTIVE SUMMARY

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- Child care is said to be a public good because it supposedly has developmental and academic benefits for children, and increases female labour-force participation and therefore economic growth. Numerous reports state unequivocally—but often without providing supporting evidence—that more women would work if child care was cheaper and more easily available.
- The CIS Issue Analysis *Child Care: Who Benefits?* found little evidence that formal child care has lasting benefits for the broader population of children, and some studies have shown there is a risk of negative effects. This paper seeks to verify the claims about child care and female labour supply. It includes four major findings.

**Finding 1: Child-care usage has grown markedly in the last quarter century, but in the last decade the major trend has been the crowding out of the informal sector.**

- In 1980, only 23% of children not yet at school were in formal or informal care. In 2005, 67% of children aged under five years were in some sort of child care.
- Most of the increase in child-care usage occurred in the 1980s. There was a small increase in total child-care usage from 1990 to 2005, but this masked an important underlying change—a decrease in informal care along with an increase in formal care. Higher child-care subsidies allowed families already using child care to use formal care rather than informal care.

**Finding 2: The cost of child care has risen at a greater rate than inflation, against a background of massive increases in government subsidies.**

- Over the last decade, child care has become more expensive. Increases in the cost of child care have far exceeded increases in the general cost of living. The annual average increase in the Child Care Index from 1997 to 2007 was 7.8%, compared with an annual average increase of 2.6% in the Consumer Price Index.
- Government subsidies reduce the out-of-pocket cost to families considerably. Child-care costs remained a fairly small proportion of household income in general in 2004, but the effects of child-care subsidies were uneven for different family types and different types of care.
- Child care might reasonably be considered unaffordable if cost is the main reason a family has decided not to use it. This is true for a small minority of families. Surveys suggest that unavailability is a greater obstacle, and that demand exceeds supply more often than cost is prohibitive. Indeed, these two factors are likely to be related.

**Finding 3: Each new injection of government funding has been followed by an escalation in the cost of child care.**

- In the 1980s, the rate of growth in child-care costs was less than the rate of growth in the general cost of living. At the end of a ten-year period where real annual government spending on child care more than doubled, child-care costs are rising at an annual rate five times higher than rises in the cost of living.

- Reviewing three decades of data, it appears that government funding is making child care temporarily more affordable for families, but is failing to reduce costs in the medium to long term. Such a pattern of inflationary spending on child care is unsustainable.

**Finding 4: There is only a weak relationship between the cost of child care and female labour supply.**

- It is widely believed that if child care was more affordable, more mothers would participate in the labour force. Governments have embraced this argument. But statistical and empirical evidence on the strength of the association between female labour-force participation and the cost of child care tell a somewhat different story.
- Labour-force participation of women aged 25–34 and 35–44 increased by 50% over the period from 1974 to 2007. Government spending on child care over the same period increased by 4000% (that is, by a factor of forty). Most of the increase in government spending occurred from the beginning of the 1990s, while most of the increase in female labour-force participation occurred in the preceding decades. Women were already working in increasing numbers well before child-care spending escalated.
- Empirical research findings on child-care costs and labour supply are often presented as ‘elasticities.’ This is a measure used in economics to describe the relationship between two variables. In published research to date, the price elasticities of labour supply (participation and hours) fall into the range generally described as ‘inelastic.’ In all but one instance, international research has found a weak negative relationship between the cost of child care and whether and how much mothers work.
- Evidence dating from the 1980s suggests that child-care costs have a small, economically insignificant relationship to total female labour supply in Australia, with a stronger but still modest relationship for single and low-income mothers. This aligns with survey data indicating that personal preferences and attitudes to parenting are more salient.
- Cost-benefit analyses, including modelling of the 50% Child Care Tax Rebate, have found that child-care subsidies are unlikely to ‘pay for themselves,’ except for single mothers. There is likely to be an overall net cost to government.
- The evidence indicates that in middle- to high-income families where both parents work, they do so mainly because they want to, for their own satisfaction or to maintain their preferred standard of living. Taxpayer funding specifically provided to subsidise these families’ use of child care is difficult to defend on the basis of national economic or public goods.

# Child Care and the Labour Supply

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## Introduction

Public funding for child care depends on the idea that it is a public good, something that society as a whole benefits from.<sup>1</sup> Child care is said to be a public good because it supposedly has developmental and academic benefits for children, increases fertility rates, promotes stable population growth, and increases female labour-force participation and therefore economic growth.

The claim that child care is developmentally and academically beneficial for children was examined in the CIS Issue Analysis *Child Care: Who Benefits?*, with the finding that the research base of many claims about child care does not support their weight. Research does indicate that certain children, especially those from impoverished families, can benefit from very high quality early-childhood programs that include good centre-based child care. But there is little evidence that formal child care has lasting benefits for the broader population of children, and some studies found there is a risk of negative effects.

The lack of good evidence to support claims that child care has positive effects on children has not prevented persistent lobbying for increased public funding to make child care more accessible and affordable. Likewise, numerous reports state unequivocally that more women would work if child care was cheaper and more easily available, without providing strong evidence to support the claim.<sup>2</sup> In reality, the relationship between child care cost and female labour supply is complex, and research findings suggest only a weak association. Nonetheless, governments apparently accept that making child care cheaper for parents is a legitimate task for them.<sup>3</sup>

This paper seeks to verify the claims. It first examines time trends in the use of child care. It then asks the following questions:

- Is child care becoming more expensive, and is it unaffordable?
- Does government funding make child care more affordable?
- Do child care subsidies contribute to the economy by increasing female labour-force participation?

## Is child-care use increasing?

The term 'child care' means regular care of children by someone other than their parents. In child-care research and data collections, it is broadly classified as either formal or informal. Formal care is subsidised and regulated by government, and includes long day care centres, occasional care centres, vacation care centres, and family day care. (Family day care is where a small number of children are cared for in the carer's home.) Informal care is unregulated and includes care provided by grandparents or other relatives, friends, neighbours, or a nanny.

Data on child-care usage suffer from the problems typical to many social statistic collections. Over time, the categories have changed, making the presentation of accurate time series very difficult. In the Australian Bureau of Statistics (ABS) data collections for 1980, child care for young children is presented as being for children 'not yet at school.' This loosely correlates with children up to the age of four or five. Yet in later years, child-care use among specific age groups is published but the age categories changed from 0–5 years in 1984 to 0–4 years from 1987 on.

Child-care usage statistics indicate that the proportion of young children in child care has grown markedly in the last quarter century. In 1980, only 23% of children not yet at school were in formal or informal care.<sup>4</sup> Twenty-five years later, in 2005, 67% of children aged under five years were in some sort of child care, whether formal, informal, or a combination of both.<sup>5</sup>

**The relationship between child care cost and female labour supply is complex, and research findings suggest only a weak association.**

**Table 1:** Child-care use (formal and/or informal) in early childhood 1980–2005, % of children in age cohort

	Age Cohort	%
1980	'not yet at school'	23
1984	0–5 years	50.1
1987	0–4 years	59.9
1990	0–4 years	60.5
1993	0–4 years	60.4
1996	0–4 years	61.5
1999	0–4 years	65.7
2002	0–4 years	64.3
2005*	0–4 years	66.9

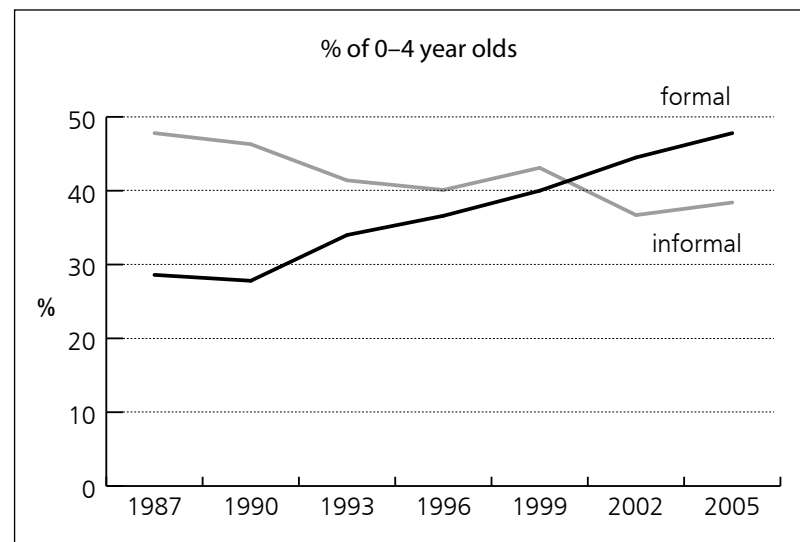
\* 2005 data are unpublished data from the ABS.

Source: ABS<sup>6</sup>

However, there are important trends within the overall context of growth. Most of the increase in child care usage occurred in the 1980s. The proportion of young children in regular non-parental care doubled in that decade.

The relatively small increase in total use of child care from 1990 to 2005—only seven percentage points in fifteen years—masks significant changes in the type of care used. Over a period of rapidly rising child-care subsidies, use of formal care (centre-based and family day care) grew by nineteen percentage points. But as figure 1 shows, use of informal care (by relatives and friends) decreased markedly, so that by 2002 it had become the less prevalent of the two types.

**Figure 1:** Type of child care 1987–2005



Source: ABS<sup>7</sup>

This has the implication that the large increases in child-care subsidies resulted in a relatively small net increase in the number of children in care. Presumably, this could have caused only a relatively small increase in the number of mothers entering the workforce. Effectively, the subsidies allowed families already using child care to use formal care rather than informal care. This ‘crowding out’ of the informal care sector may have actually eroded social capital, as fewer people now rely on the help of their own networks of friends and neighbours.

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Another trend worth noting is that the general increase in use of child care has largely excluded babies. The proportion of children less than a year old who were in regular child care actually decreased slightly over the last fifteen years. In 1990, 41% of babies less than a year old were in regular non-parental care, whether formal or informal. In 2005, this figure had shrunk to 34%.

### Is child care becoming more expensive?

One way to approach the question of whether child care is becoming more expensive is to look at its cost in absolute terms, taking note of things such as fee increases. Another is to consider child-care costs in relation to rises in the general cost of living and as a burden on household budgets.

The rising costs of child care can be seen in fee increases over the last decade. The commonwealth Department of Family and Community Services conducts an annual Census of Childcare Services, which provides data on the average weekly fees charged by private long day care centres, community-based long day care centres, and family day care.

**Table 2:** Average weekly fees 1997 and 2004, (inflation-adjusted, 2004 dollars)

	1997	2004	Increase 1997–2004
private centre based	\$186	\$208	12%
community centre based	\$199	\$211	6%
family day care	\$157	\$185	18%

**Source:** Department of Family and Community Services<sup>8</sup>

The figures in table 2 are the average weekly fees for ‘full time care,’ which the Census defines as fifty hours a week. The table shows that fees increased by between 6% and 18% from 1997 to 2004.

The Australian Bureau of Statistics (ABS) publishes a Child Care Index (CCI) that shows changes in the costs of child care over time. This indicator shows a much higher rate of increase in costs than the fee rises indicated in table 1. Over the last decade, increases in the cost of child care as measured by the CCI have far exceeded increases in the general cost of living as measured by the Consumer Price Index (CPI). The annual average increase in the CCI from 1997 to 2007 was 7.8%, compared with annual average increases of 2.6% in the CPI.<sup>9</sup> A longer time series is presented in figure 6.

There is little doubt that the cost of child care has increased substantially, particularly in the last decade, but this does not reflect the ‘out-of-pocket’ costs to families. Government subsidies reduce these costs considerably, with lower-income families entitled to higher subsidies. It is then useful to consider the cost of child care respective to different income levels when asking whether child care has become more expensive.

The Australian Institute of Health and Welfare (AIHW) conducted an analysis of child-care costs for different family types using data from the ABS. The analysis shows the cost burden of part-time child care (twenty hours) as a proportion of net (post-tax) income. The figures for part-time child care are important because they best represent the situation for the majority of families. Only 3% of families use full-time care. In 2004, the average attendance time in long day care centres was 19.1 hours per week, and in family day care it was 18 hours per week. Average attendance hours changed only marginally in 2006 (the most recent year for which data are available), to 19 hours and 17.7 hours respectively.<sup>10</sup>

**There is little doubt that the cost of child care has increased substantially, particularly in the last decade, but this does not reflect the ‘out-of-pocket’ costs to families.**

**Table 3:** Cost of part-time child care (twenty hours per week) as a percentage of net weekly income 1991 and 2004, by child-care type and family type

	1991			2004		
	Private long day care centre (%)	Community long day care centre (%)	Family day care (%)	Private long day care centre (%)	Community long day care centre (%)	Family day care (%)
Single parent (Parenting Payment)	3.3	3.6	2.7	5.9	6.1	0.3
Single parent (0.75 × average weekly earnings)	2.0	2.2	1.7	3.2	3.3	0.1
Couple family (1 × AWE)	2.8	4.1	2.5	3.9	4.0	1.6
Couple family, double income (1.75 × AWE)	4.2	4.6	4.1	4.3	4.4	3.3
Couple family, double income (2.5 AWE)	4.5	4.6	4.5	4.0	4.1	3.6

**Source:** AIHW<sup>11</sup>

Table 3 shows that there is substantial variation in what formal child care costs families, depending on type of care and family characteristics. For all family types and income levels, family day care is the least expensive. This is especially the case for single-parent families on low incomes.

Table 3 indicates that the cost of family day care relative to household income decreased for all family types from 1991 to 2004, but especially for low- and average-income families. Centre-based care costs relative to income for couple families have been more stable, but have risen for single-parent families. This suggests that while child-care costs remained a fairly small proportion of household income in general in 2004, the effects of child-care subsidies were uneven.

### Is child care unaffordable?

Whether child care is unaffordable is a different question to whether its cost is rising, because it involves a more subjective assessment. Expensive things are not necessarily 'unaffordable': this is often a matter of perception and priorities. Child care might reasonably be considered unaffordable if cost is the main reason a family has decided not to use it.

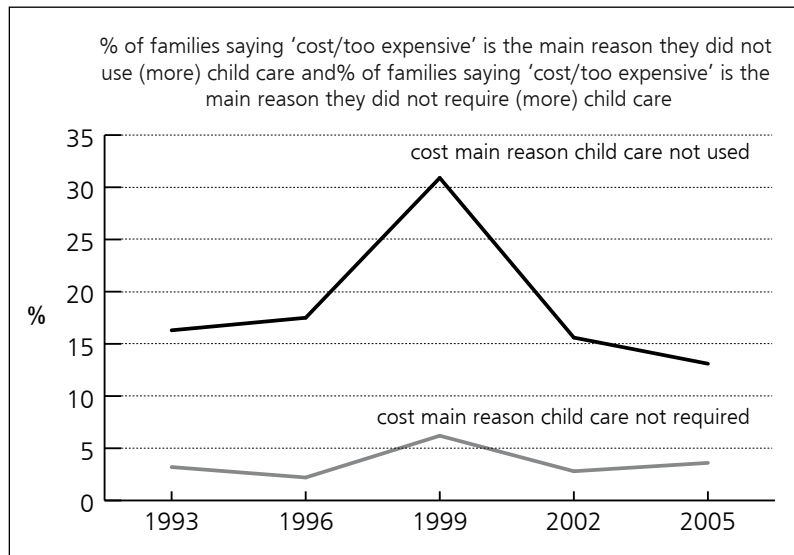
Data from the ABS and the Household Income and Labour Dynamics in Australia (HILDA) surveys can shed some light on the way families perceive child-care costs and to what extent cost is a barrier to using formal child care for families who would like to.

Figure 2 shows data collected by the ABS in Child Care Surveys from 1993 to 2005. These surveys asked families if they required formal child care (or additional formal child care) in the previous four weeks. For families who did not require child care, the survey asks the main reason they did not require it. For families who did require child care, but did not use it, the survey asks the main reason they did not use it.

In essence, therefore, the survey is ascertaining what proportion of families say that cost is the main factor in their decision not to use child care or additional child care. This proportion is not much different in 2005 than it was in 1993. There was a spike in the proportion of families citing cost as the main reason for not using child care (or more child care) in 1999. This coincided with the withdrawal of government operational subsidies to non-profit centres in the late 1990s.<sup>13</sup> There was little variation in the other years of the survey, and cost was apparently no greater barrier to child-care use in 2005 than in the early 1990s.

**There is substantial variation in what formal child care costs families.**

**Figure 2:** Cost barriers to use of formal child care 1993–2005

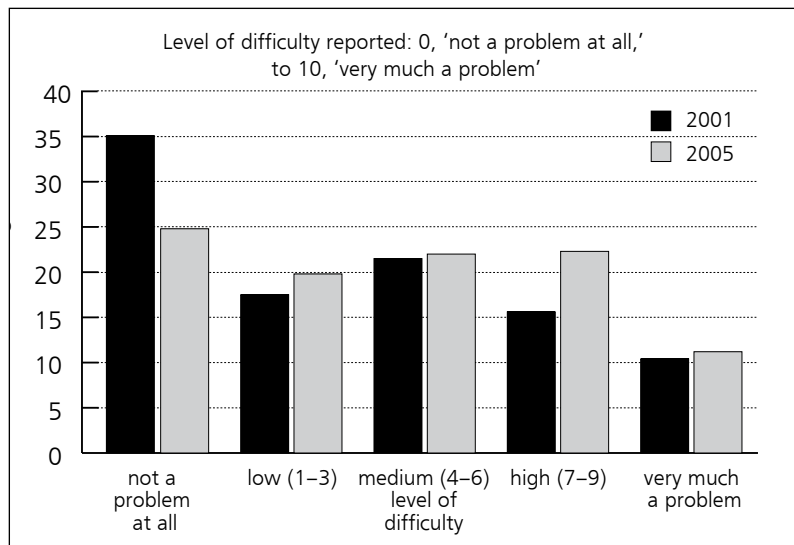


Source: ABS<sup>12</sup>

In 2005, 'cost/too expensive' was the main reason child care was not required for only 3.6% of families. The most common main reason was that child care was 'not needed or wanted' (63.4%). Of children whose families did require child care (or more child care) but did not use it, 'cost/too expensive' was the main reason in 13.1% of cases. The reason given most often for not using child care was 'booked out/no places' (46%), which suggests that demand exceeds supply more often than cost is prohibitive. Indeed, these two factors are likely to be related. There is also the possibility that rather than no child care being available, the specific type of care wanted in the family's preferred location was unavailable, which is another supply and demand issue.

The HILDA survey also provides useful data on families' perceptions of the cost of child care.

**Figure 3:** Difficulties with the cost of child care 2001 and 2005



Source: HILDA waves 1 and 5<sup>13</sup>

This graph depicts a shorter time series than figure 2, as the HILDA surveys have only been running since 2001. The responses are from households that were using or had considered using child care. In 2001, for around half of all households using or considering using child care, if cost was a burden at all, it was a minor one. For another quarter of households, cost was a moderate problem, while for the remaining quarter of households the cost of care was a major problem.

The reason given most often for not using child care was 'booked out/no places' ... which suggests that demand exceeds supply more often than cost is prohibitive.

By 2005, some important changes had occurred. Fewer households said that child care costs were not a problem at all. Although this 'no problem' group remained the largest in 2004, there was a large increase in households reporting a high level of difficulty with costs.

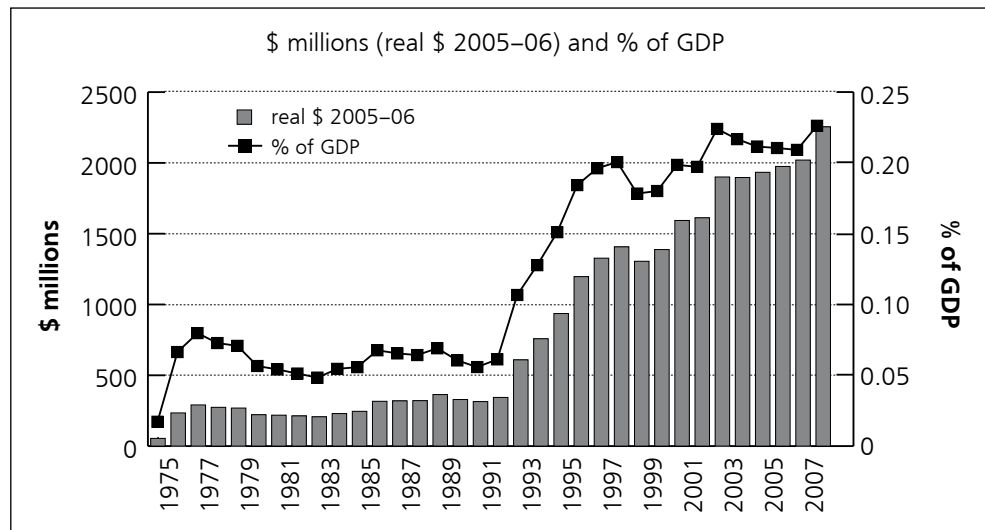
This indicates increasing problems with the cost of child care, but other research based on HILDA data suggests that problems are not universal. High-income families were up to three times more likely to report difficulties with the cost of child care than low-income families.<sup>14</sup> This partly reflects the higher rate of use of formal child care among high-income families, but also reflects higher child-care fees in high-socioeconomic-status areas.<sup>15</sup>

HILDA data have also been used to look at whether difficulties with the cost of care were persistent and, if so, whether there was an effect on the amount of child care used. The analysis found that cost difficulties were persistent, with around a third of families reporting difficulties (rated as 7 or above) with the cost of child care in both 2002 and 2003. How this affected child-care use was inconclusive. Of families who reported difficulties with the cost of care, 48% reduced their hours of care between 2002 and 2003, as opposed to 37% of families that reported no problems with the cost of care, but this difference was not statistically significant.<sup>16</sup>

### Has government funding made child care more affordable?

The Australian government started subsidising child care in a substantial way in the 1980s. In the years since, there have been massive increases in spending.

**Figure 4:** Commonwealth government spending on child care 1974–2007



**Sources:** Productivity Commission; Commonwealth Government

Initially, government funding was in the form of capital grants to help child-care providers to build facilities and thus increase the number of available child-care places. In more recent years, government funding has attempted to offset the cost of child care for families through direct funding to child-care providers to reduce the fees payable by parents and through tax rebates to families for out-of-pocket child-care expenditure.

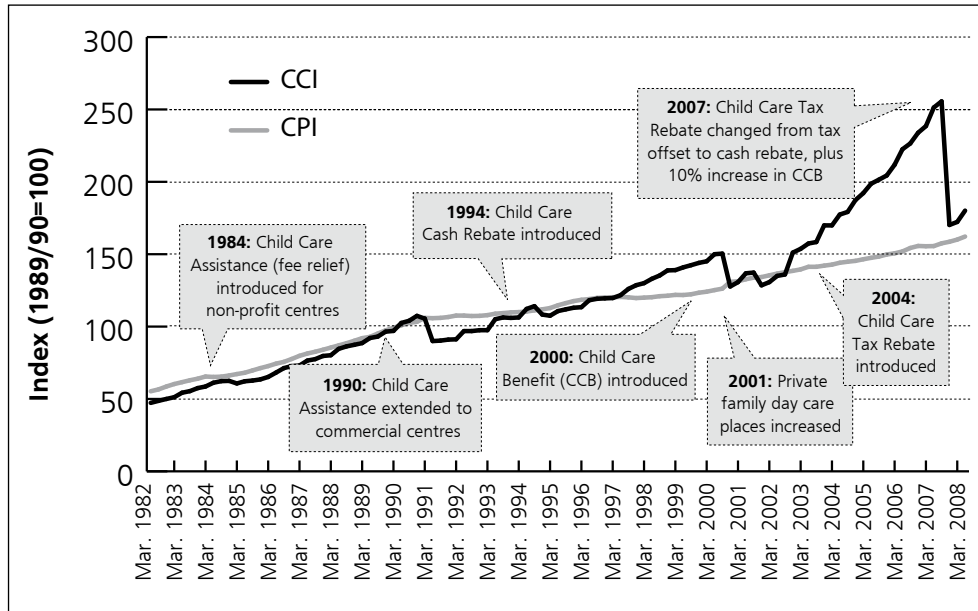
Over the period of increasing child-care subsidies, the cost of child care, as measured by the Australian Bureau of Statistics' Child Care Index (CCI), has been increasing at a much higher rate than the overall cost of living. Figure 5 shows the quarterly CCI and CPI from 1982 to 2008. Each dip in the CCI corresponds with a change in child-care policy, and with increased government spending. But each dip has been followed by escalations in the CCI. In the 1980s, the rate of growth in child-care costs was less than the rate of growth in the general cost of living. At the end of a ten-year period where real annual government spending on child care more than doubled, child-care costs are rising at an annual rate five times higher than rises in the cost of living.

Over the period of increasing child-care subsidies, the cost of child care ... has been increasing at a much higher rate than the overall cost of living.



In the 2007–08 budget, the Child Care Tax Rebate (CCTR) was converted from a tax offset—which reduced the amount of income tax paid by parents using child care—to a cash rebate. This has had two effects. More families are now eligible for it and can claim a higher rebate, pushing annual government expenditure up by almost half a billion dollars. Furthermore, changing the CCTR from a tax offset to a cash rebate means that it is no longer part of the taxation system and is now a direct cash transfer.<sup>18</sup> This resulted in a sudden drop in the CCI in September 2007, at the beginning of the new financial year, but past trends suggest the drop will be short-lived.

**Figure 5:** Cost of child care 1982–2008 (Child Care Index [CCI] and general CPI)



Source: ABS<sup>19</sup>

On the basis of these inflation data and the coinciding policy changes, it appears that government funding is making child care temporarily more affordable for families, but is failing to reduce costs in the medium to long term. Either increased subsidies are being capitalised into higher prices, or there are other factors driving up costs that are only temporarily offset by government spending. Whichever is the case, such a pattern of inflationary spending on child care is unsustainable.

The AIHW’s analysis of trends in the affordability of child care from 1991 to 2004 confirmed this. It found that

between 1991 and 2000, the affordability declined for many families, but the introduction of Child Care Benefit in 2000 turned this around. However, by 2004, some of the gains in affordability had been eroded. This was due to increases in fees that outstripped increases in AWE and government assistance offered to families.<sup>20</sup>

Constraining the costs of child care for families has come about through massive government subsidies. The true cost of child care is much higher than the out-of-pocket cost to families.

The Productivity Commission publishes data on the ‘out-of-pocket’ cost of child care for families. This is the cost of child care as a proportion of disposable income. The data are for full-time long day care (fifty hours a week), so the figures do not represent what majority of families actually spend on child care, but they do show how much government subsidies offset the true costs.

**Government funding is making child care temporarily more affordable for families, but is failing to reduce costs in the medium to long term.**

**Government subsidies aimed at giving financial relief to parents have flowed to child-care providers, pushing up the cost of care.**

**Table 4:** Out-of-pocket costs of long day care (fifty-hour week) 2006, as a proportion of gross annual household income

	One child in care		Two children in care	
	Before subsidies (%)	After subsidies (%)	Before subsidies (%)	After subsidies (%)
Annual income				
\$27,000	35.6	13.6	63.4	22.4
\$45,000	29.4	14.0	53.3	22.7
\$65,000	22.2	14.3	42.9	23.6

**Source:** Steering Committee for the Review of Government Service Provision<sup>21</sup>

Table 4 shows that the cost of child care to families is substantially reduced by government subsidies. For the lowest-income families, the cost is reduced by as much as two-thirds, while for others it is closer to half.

Good child care is expensive and heavily labour-intensive; quality of care is directly linked to the quantity and quality of staff. The Taskforce on Care Costs (TOCC) and the National Centre for Social and Economic Modelling (NATSEM) have both pointed out that the real cost of child care is likely to continue to grow, at least in the short term. This will be mostly due to increases in salaries in the child-care industry.<sup>22</sup>

But salaries are not the only explanation for child-care cost increases. As noted above, government subsidies aimed at giving financial relief to parents have flowed to child-care providers, pushing up the cost of care. This often comes without guarantees of improvements in quality. In addition, child-care providers have been able to increase their fees because demand exceeds supply.

The demand and supply issue is an important factor in child-care costs. There are differences of opinion on the extent of the problem. In contrast to media reports on waiting lists and the lack of access to child care, the Australian Treasury published a report last year concluding that there are sufficient child-care places overall, but that ‘consumer choice’ is creating a situation where some providers have long waiting lists while others have vacancies.<sup>23</sup> Media reports interpreted this as Treasury claiming that parents were too ‘choosy.’

It is certainly a good thing that parents are choosy about child care. The important question is why the market is not responsive to their choices. This has not been examined sufficiently, despite its clear impact on costs. The current strategy of increasing government subsidies while failing to investigate the factors generating the need for increased subsidies is an imprudent use of public funds.

### **Does more affordable child care boost female labour-force participation?**

It is widely believed that the cost of child care prevents many mothers from working in paid employment. The assumption is that if child care was cheaper, more mothers would participate in the labour force.

Calls for making child care more affordable inevitably mean demands for more government subsidies. In a report for the Australian Council for Educational Research, Alison Eliot wrote that ‘without child-care subsidies, many middle income families feel that the high cost of care makes employment for the second wage earner, usually the mother, hardly worthwhile.’ Eliot describes these subsidies as a ‘community investment in the future.’<sup>24</sup> According to Patricia Apps, ‘A high quality, affordable, publicly provided child-care system would more than repay itself in expanded labour supply.’<sup>25</sup>

Governments have embraced this argument. A recent OECD report on early childhood education and care lists increasing female labour-force participation as one of the main reasons governments in OECD countries spend money on child care.<sup>26</sup> The Council

of Australian Governments' National Reform Agenda lists child care as one of its main targets of reform, 'with the aim of encouraging and supporting workforce participation of parents with dependent children.'<sup>27</sup>

The federal minister for the status of women, Tanya Plibersek, has long argued for increased government funding for child care, claiming that 'workforce participation rates of mothers in Australia are low by international standards, and the reasons for that are clear: not enough child care, high costs of care, and working hours that are inimical to happy family life.'<sup>28</sup>

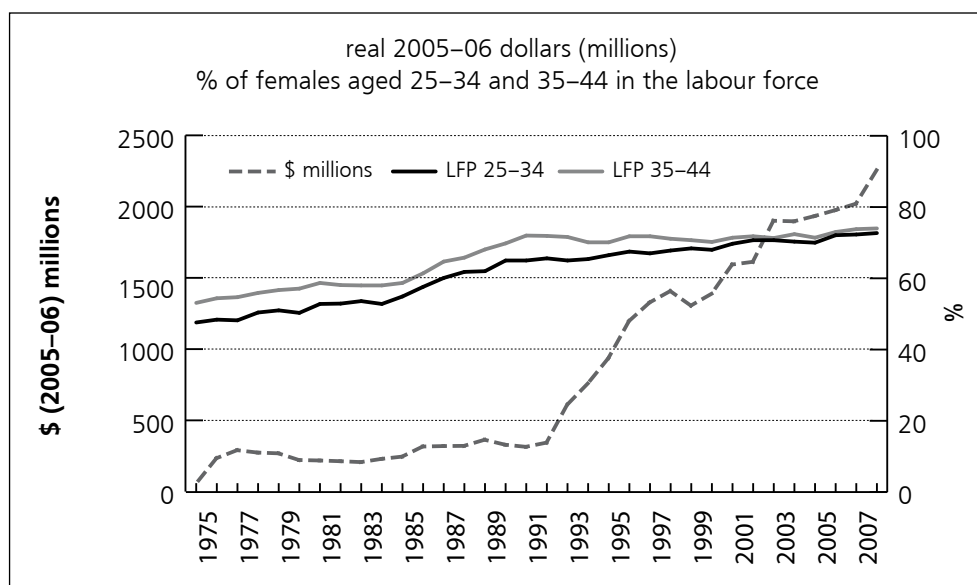
The TOCC conducted surveys in 2004 and 2006 that it says provide evidence of a 'direct and causal relationship' between care costs and labour-force participation.<sup>29</sup> In the 2006 TOCC survey, 50% of employed respondents said they would increase their work hours if child care was more affordable, and 30% of employed people said they have considered leaving the workforce because of the cost of care.<sup>30</sup>

Empirical evidence on the strength of the association between female labour-force participation and the cost of child care tells a somewhat different story. International research on this issue reaches back to the 1970s, and numerous studies have been published in the last decade as child care has become a contentious political issue and a major element of social spending.

Before reviewing the published research, it is instructive to look at trends in government spending on child care and female labour-force participation. The major funder of child care is the commonwealth government, so the graph below shows only commonwealth funding. In the last thirty years, commonwealth spending on child care increased significantly. Much of the increase in funding occurred from the early 1990s.

Female labour-force participation also increased markedly. Figure 6 shows labour-force participation for women aged 25–34 and 35–44. These are the main age groups for women who have young children. Labour-force participation in these groups increased by 50% over the period from 1974 to 2007. Government spending on child care over the same period increased by 4000%; its spending on child care was forty times higher in 2007 than in 1974.

**Figure 6:** Commonwealth child care spending and female labour force participation (LFP) 1974–2007



Sources: ABS; Productivity Commission; Commonwealth Government<sup>31</sup>

Not only is the rate of increase in government child-care expenditure far in excess of the rate of increase in female labour-force participation over this long period, there is no visible temporal correspondence between the two trends. Most of the increase in government spending occurred from the beginning of the 1990s, while most of the increase in female

**Government spending on child care ... was forty times higher in 2007 than in 1974.**

**Women were already working in increasing numbers well before government child-care spending escalated.**

labour-force participation occurred in the preceding decades. This makes it difficult to argue that spending on child care provided the impetus for increased female employment. Increased female employment may have created a demand for subsidised child care, but the trend data show that women were already working in increasing numbers well before government child-care spending escalated.

Nonetheless, there is some disagreement about this in the literature. A 1993 study by Joan Corbett found that increases in child-care funding in one year were followed by increases in female labour-force participation the next, suggesting that child-care availability was driving female labour supply.<sup>32</sup> But research by Bob Gregory in 1999 found the opposite. Gregory reports that the large increase in employment of women with dependent children in the 1980s preceded the rapid expansion of commonwealth-funded child-care places in the 1990s, and that the 1990s were associated with a marked decline in the rate of growth of employment of mothers. Gregory concluded that 'there is a very weak link between the government induced provision of child care places and the aggregate employment of women.'<sup>33</sup>

Figure 6 shows that female labour-force participation in the main child-bearing years has risen fairly steadily, with no evidence of a response to fluctuations in child-care expenditure. Deciding how much of the overall increase in female labour-force participation can be attributed to subsidised child care would be an exercise in pure speculation. Numerous major social and economic changes likely to have influenced female labour-force participation have occurred since the early 1970s, including increased female educational attainment, wage equality, changing family structures, the expansion of the service industry, more opportunities for part-time employment, and a growing economy.<sup>34</sup> None of these can be singled out as a decisive cause of that increase, and government-subsidised child care cannot be either.

### **The price elasticity of labour-force participation**

Government spending on child care is intended to make it more affordable for families—to reduce its cost. There is a body of research literature that examines the relationship between the cost of child care and maternal labour supply (labour-force participation and hours of work of mothers of dependent children). Most of this research uses survey data to create predictive models.

The findings are presented as 'elasticities,' a term used in economics to describe the strength of the relationship between two variables. Elasticity varies between 0 and infinity. The lower the figure, the weaker the relationship between the two variables. An elasticity of less than 1 is considered 'inelastic,' that is, changes in one variable are associated with only small changes in the other. If the elasticity has a negative sign, it means an increase in one variable is associated with a decrease in the other.

Many definitions of elasticity imply causality, as the indicator is usually used to gauge changes in demand for products and services as a result of price changes. But in the case of broad social statistics, causality cannot be inferred. Changes in women's labour-force participation that occur over time may result from a variety of factors.

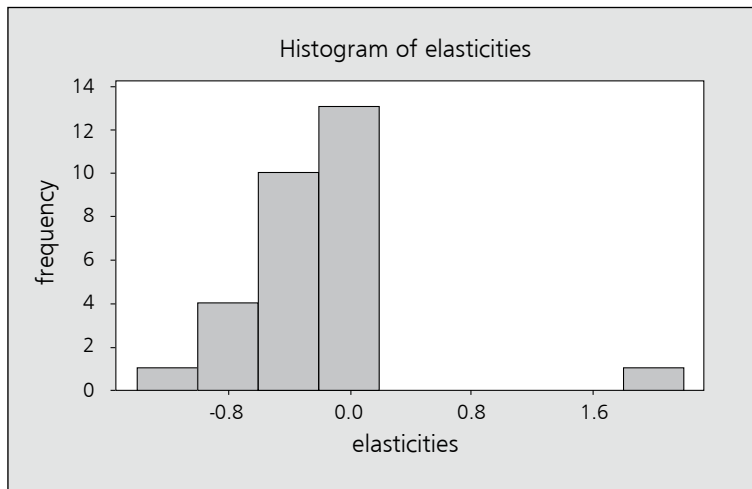
The elasticity of labour-force participation with respect to child-care costs, or the 'price elasticity of labour-force participation,' tells us whether labour-force participation changes when child-care prices change, and by how much. Elasticity is a useful indicator because it demonstrates the strength of the relationship and can be used to predict the effects of policies.<sup>35</sup>

Figure 7 is a histogram of estimated elasticities taken from a review of the most commonly cited experimental studies of price elasticity. A full list of these studies and the derived elasticity estimates is presented in the appendix to this paper.

In published research to date, price elasticities of labour-force participation for mothers routinely fall within the range of -1 to 0, with only one exception.<sup>36</sup> Indeed, the majority are smaller than -0.5. This signifies a negative relationship between price and labour

supply, as would be expected, but the size of the relationship is within the range usually described as ‘inelastic.’ This suggests that child-care costs are only weakly associated with labour-force participation.

**Figure 7:** Price elasticities of labour supply found in literature—frequency distribution



**Source:** Various studies (see Appendix)

One of the reasons that beliefs about child-care costs and female labour supply often contradict the evidence is because researchers interpret their findings according to different standards. Many of the studies on this subject describe findings on child-care cost and labour supply as ‘strong’ or ‘significant,’ when the estimated elasticities of labour supply presented would be considered ‘inelastic’ in economic literature. Caution must therefore be used when taking these interpretations at face value.

The international research is interesting and instructive, and the estimated elasticities presented in the appendix to this paper show the range of studies and their findings. It does not include quasi-experimental studies that evaluate the impact of child-care subsidies on labour supply using actual responses. Although such studies have tended to find a similar size relationship between care costs and labour supply, the elasticity estimates are of the opposite sign.<sup>37</sup> Including them in the above dataset would require converting the results to a negative sign to accurately reflect the direction of the relationship, but this is not empirically straightforward.

Family and work policies are interdependent, and are often a function of a broader national culture,<sup>38</sup> so Australian research is of particular interest. The findings for Australia have consistently been of negative sign. That is, higher child-care costs were associated with lower female labour-force participation, but there is less variation in the strength of the relationship than in overseas studies. Empirical evidence dating from the 1980s suggests that child-care costs have a small, economically insignificant relationship to female labour supply in Australia.

One of the earliest Australian studies was by Francis Teal in 1992. He estimated that a child-care subsidy of 50% would raise female labour-force participation by six percentage points and time spent at work by eight hours a week. He concluded that there was no evidence that child-care subsidies would be an effective means of producing more full-time work rather than part-time work. Teal’s overall analysis was that the price of formal care has a ‘small’ effect on female labour-force participation and the number of hours worked.<sup>39</sup>

In 1998, Deborah Schofield and Josh Polette of the NATSEM at the University of Canberra examined the effect of child-care subsidies on the after-tax income of working mothers using formal child care. They found that the subsidies benefited all working mothers, with low-income and single mothers benefiting most. On this basis, Schofield and Polette claimed that ‘child care subsidies substantially reduce the cost of child care as

**Empirical evidence dating from the 1980s suggests that child-care costs have a small, economically insignificant relationship to female labour supply in Australia.**

**As costs of formal care decrease, demand for it grows, but only some of this is due to more mothers entering the labour force.**

a barrier to work for many mothers returning to work.’ But their research did not actually investigate labour supply, and they assumed that the cost of child care was a barrier to work for mothers. It is possible that the subsidies were simply a windfall for mothers who would have worked regardless.

Indeed, the next major paper, in 1999, found that child-care costs were not a major factor in the employment decisions of mothers. Deborah Cobb-Clark, Amy Liu, and Deborah Mitchell reported that preferences and attitudes toward child-rearing can keep mothers out of the labour force, and claim that ‘child care costs may not be as large a barrier to employment as they are often perceived to be.’<sup>40</sup>

In an address to the Australian Population Association in 2004, Australian Institute of Family Studies (AIFS) research fellow Jennifer Baxter summarised the evidence of the relationship between child care and labour-force participation as ‘inconclusive.’<sup>41</sup> In her research on child-care trends over the 1980s and 1990s, Baxter found that ‘increases in formal care alone have not been responsible for the increased employment of mothers,’ and that the dominant trend in child-care use was the shift from informal to formal care.<sup>42</sup>

Economists Denise Doiron and Guyonne Kalb have pointed out that this transfer from informal and formal child care reduces the price elasticity of mothers’ labour-force participation.<sup>43</sup> As costs of formal care decrease, demand for it grows, but only some of this is due to more mothers entering the labour force. Much of the increased demand for formal care comes from mothers already in the labour force transferring their children from informal to formal care. When this happens, there is little net gain in labour-force participation.

Doiron and Kalb used data from the ABS *Child Care Survey 1996* and *Survey of Income and Housing Costs 1996–97* to model the effects of changes in child-care costs on mothers’ labour supply. In a 2002 study, they found that higher child-care costs reduce labour supply by a ‘modest’ amount on average, but found a stronger relationship between child-care costs and labour supply for low-income and single mothers.<sup>44</sup> They suggest that child-care subsidies may increase labour-force participation in these groups. In subsequent research, published in 2005, Doiron and Kalb used simulations to estimate elasticities. The new modelling again showed that low-income and single mothers were more affected by child-care costs, but even these effects were in the range generally defined as inelastic. Doubling the gross price of child care reduced labour-force participation by around 2.2% for lone parents and 1.2% for married women. Doubling net costs instead of gross price resulted in somewhat larger effects, -4.5% and -2.5% for lone parents and married women respectively. They find elasticities at the ‘low end of the range’ of international findings.<sup>45</sup>

In another analysis using the same ABS datasets, Doiron and Kalb estimated changes in maternal labour supply when gross and net child-care costs were increased by 10%. Since labour supply has a nonlinear response to child-care costs, the derived elasticities from the 10% increase were smaller than those for the earlier paper. Once again, the elasticities for single and low-income mothers were higher than for partnered mothers.<sup>46</sup>

Later research by Guyonne Kalb and Wang-Sheng Lee of the Melbourne Institute of Applied Economic and Social Research builds on these findings using 2002 data from wave 2 of the HILDA survey. Kalb and Lee again found elasticity estimates at the ‘lower end of the range’ reported in the international literature, and again describe the link between child-care cost and labour supply as ‘modest.’ The results also confirmed the finding of higher elasticities for low-income and single mothers, but the labour supply responses to child-care costs were still low. For example, they found that a 10% increase in the net cost of child care would result in a 0.7% decrease in labour-force participation and a 1.4% decrease in working hours for single mothers.

Anu Rammohan and Stephen Whelan of the University of Sydney also used data from the HILDA 2002 survey to derive estimates of the price elasticity of labour-force participation of married mothers.<sup>47</sup> Rammohan and Whelan describe the elasticities as indicating an insignificant relationship between child-care costs and labour supply. They

conclude that the cost of child care is 'relatively unimportant' in mothers' decisions about labour market activity, and suggest that child-care subsidies are likely to have 'little or no impact' on married mothers' employment or hours of work.

Further analysis of the HILDA dataset by Rammohan and Whelan in 2007 supports their earlier contention. They found that child-care costs were not an important factor in married mothers' decisions to work either part-time or full-time. The estimated elasticities were somewhat higher for full-time employment than part-time, but Rammohan and Whelan describe the relationship between child-care costs and married mothers' labour-market activity as 'small and economically insignificant'.<sup>48</sup>

In a 2007 review of the literature on child-care costs and mothers' labour-market activity, Guyonne Kalb noted that despite researchers' presumption of a strong link between child-care costs and labour supply, evidence from overseas research suggests that this link is 'more complicated and harder to estimate than was at first believed,' that the estimated responses of labour supply have been 'smaller than expected,' and that they are particularly small in Australia.<sup>49</sup> Kalb's work, along with Denise Doiron and Wang-Sheng Lee, has repeatedly shown this to be the case.

To relate this to the current policy environment, Kalb and Lee simulated the predicted responses in mothers' labour supply to an increase in child-care subsidies from 30% to 50% of the out-of-pocket costs of care as proposed by the TOCC in 2006.<sup>50</sup> In 2007 this policy became an election promise of the Labor Party as led by Kevin Rudd, and is therefore particularly pertinent. In July this year, the Child Care Tax Rebate (CCTR) will increase to 50% of out-of-pocket costs.

Kalb and Lee found that increasing the CCTR from 30% to 50% would result in an average increase in working hours of 0.57 hours per week for single parents and 0.2 hours per week for partnered mothers, and would have a negligible effect on partnered fathers. The modelling predicts that labour-force participation would increase by 3.5% for single parents and 1% for partnered mothers.

Kalb and Lee also calculated the predicted cost to government of the increased subsidy and the likely returns to government in increased tax revenue and reduced income support payments. The cost-benefit analysis for single parents is favourable. Kalb and Lee estimate that government would recoup close to 100% of its additional outlay on child-care subsidies for single parents. However, for couple families they predict a return to government of only 43% of the additional outlay. That is, there would still be a substantial net cost to government, and therefore to taxpayers, somewhere in the order of \$327 million.<sup>51</sup>

There is, then, good reason to doubt that an additional outlay on child-care subsidies will pay for itself, an argument put forward by the Task Force on Care Costs (TOCC), which commissioned the study. The TOCC claims that increasing the CCTR to 50% would 'approach revenue neutral' for the government, despite findings that are clearly to the contrary. The TOCC bases its conclusion not on direct cost-benefit analysis, but rather on unmeasured indirect returns generated by 'secondary economic benefits' including increased productivity, increases in skills, reduction in the cash economy, and improved quality of life. The Kalb and Lee modelling does not demonstrate or measure these secondary impacts, but the TOCC estimates they are 'likely to eliminate the government revenue shortfall.' A further reason for caution is that the Kalb and Lee model does not account for potential fee increases following increased subsidies, which is a highly likely outcome.<sup>52</sup>

A cost-benefit analysis of increased child-care subsidies in the Canadian province of Quebec produced a similar result.<sup>53</sup> It found that increased revenue fell far short of offsetting the cost to government; the subsidy caused a 'crowding out' of the informal sector, as has been noted in Australia. Increases in use of formal child care in Quebec exceeded the increases in female labour supply by roughly a third. In effect, a large proportion of the subsidies went to women already in the workforce.

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## Conclusion

It is commonly assumed that children are a ‘barrier’ to women’s participation in the paid work force. This is true to the extent that it is very difficult to care for small children and work outside the home at the same time. But using the word ‘barrier’ can distort the situation. Having children stops many women from taking up paid work, but this can be voluntary. Many women prefer to care for their children at home while they are young.

The Family and Work Decisions Study by the Australian Institute of Family Studies found that mothers’ decisions not to use formal care were more often based on concerns about the effects of care on children than cost or availability.<sup>54</sup> In surveys about barriers to employment, such as those conducted by the ABS, women who say that they do not work because they are caring for their children are not necessarily saying that they want to abdicate that responsibility.

Flowing from the belief that children are a barrier to women’s paid employment is the assumption that if child care were more affordable and accessible, more mothers would enter the paid workforce. This rests on another assumption: that child care is presently unaffordable and inaccessible.

Child care has become more expensive over the last decade, but for most families it still represents a relatively small proportion of their household budget. Only a small minority of families say that the cost of care prevents them from using it. Government subsidies have contributed significantly to reducing the out-of-pocket costs of child care for families that use it, at least in the short term. Over time, though, it seems that government spending on child care has failed to rein in escalation in the costs of care, and may have contributed to it.

If historic trends are a guide to the future, the cost of child care will continue to climb unabated and demands for public funding of it will intensify.<sup>55</sup> The need for more child-care workers in an already strained labour force, and the emphasis on these workers having tertiary qualifications, will put upward pressure on wages.

The evidence suggests that increasing subsidies for child care is unlikely to deliver significant economic advantages, at least in terms of overall female labour-market participation. Add this to the ambiguous research findings on the developmental effects of child care on children,<sup>56</sup> and it can be concluded that there is no support in the economic and social science literature for the argument that child-care expenditure is a sound ‘investment’ when applied across the population.

Florence Jaumotte warns in an OECD report that policies of increasing child-care subsidies across the population ‘will most likely impose a net budgetary cost, even though they may be partially self-financing. In turn, this may require an increase in tax rates creating other distortions in the economy, or a cut in other budgetary expenditures.’<sup>57</sup> Every family that chooses to use child care wants the best possible care for their child. Understandably, they want highly trained and well-paid staff, the best facilities and services, convenient locations and hours, and everything else in between. The problem is that nobody wants to pay for it, so in the end, everybody does.

For the broader population, particularly higher-income families, the cost of child care seems to have a marginal effect on maternal employment decisions. The weak relationship between child-care costs and labour supply indicates that in middle- to high-income families where both parents work, they do so mainly because they want to, for their own satisfaction or to maintain their preferred standard of living. Taxpayer funding specifically provided to subsidise these families’ use of child care is difficult to defend on the basis of national economic or public goods.

There is some evidence that child-care costs have an effect on the labour-force participation of low-income and single mothers with pre-school-age children. It is tempting to suggest that there may be a case for government contributions to the costs of child care to maintain labour force attachment for these families, but this would only add another layer to the already complex array of means-tested welfare and family support benefits available. A new, simplified, and neutral approach to supporting these families is required, preferably through the taxation system.



## Appendix: Elasticity estimates

Year	Authors	Country	Sample	Elasticity
1988	Blau and Robins <sup>58</sup>	US	Married mothers	Labour-force participation (LFP) -0.38
1989	Blau and Robins <sup>59</sup>	US	Married mothers	LFP -0.77
1992	Gustaffson and Stafford <sup>60</sup>	Sweden	Married mothers	LFP -0.872
1992	Ribar <sup>61</sup>	US	Married mothers	LFP -0.74
1995	Ribar <sup>62</sup>	US	Married mothers	LFP -0.088
1997	Powell <sup>63</sup>	Canada	Married mothers	LFP -0.38 Hours -0.32
1998	Blau and Hagy <sup>64</sup>	US	Married and single mothers	LFP -0.20
1998	KimmeI <sup>65</sup>	US	Married mothers Single mothers	LFP -0.92 LFP -0.22
1999	Anderson and Levine <sup>66</sup>	US	Married mothers Unmarried mothers	LFP -0.303 LFP -0.473
2000	Michalopoulos and Robins <sup>67</sup>	Canada	Married mothers	LFP -0.156
2002	Michalopoulos and Robins <sup>68</sup>	Canada	Single mothers	LFP -0.259
2002	Oishi <sup>69</sup>	Japan	Partnered mothers	LFP -0.6
2003	Chone and others <sup>70</sup>	France	Partnered mothers	LFP -0.04
2003	Connelly and KimmeI <sup>71</sup>	US	Married mothers Single mothers	LFP -0.433 LFP -1.030
2004	Del Boca and others <sup>72</sup>	Italy	Partnered mothers	Hours -0.194
2004 and 2005	Doiron and Kalb <sup>73</sup>	Australia	Partnered mothers Single mothers	LFP -0.02 Hours -0.03 LFP -0.1 Hours -0.15
2004	Lokshin <sup>74</sup>	Russia	All mothers	LFP -0.12
2005	Doiron and Kalb <sup>75</sup>	Australia	Partnered mothers Single mothers	LFP -0.012 Hours -0.033 LFP -0.046 Hours -0.065
2005	Parera-Nicolau and Mumford <sup>76</sup>	UK	Partnered mothers	+1.99
2005	Rammohan and Whelan <sup>77</sup>	Australia	Married mothers	LFP -0.12 Hours -0.32
2006	Wrohlich <sup>78</sup>	Germany	Partnered mothers	LFP -0.02 Hours -0.06
2007	Kornstad and Thoresen <sup>79</sup>	Norway	Partnered mothers	LFP -0.12 Hours -0.17
2007	Kalb and Lee <sup>80</sup>	Australia	Partnered mothers Single mothers	Hours -0.0 to -0.028 Hours -0.137 to -0.164
2007	Rammohan and Whelan <sup>81</sup>	Australia	Married mothers	LFP part-time -0.06 LFP full-time -0.21

## Endnotes

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- <sup>7</sup> As above.
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- <sup>13</sup> Jennifer Baxter, 'Increasing Employment of Partnered Mothers: Changes in Child Care Use' (paper presented at the 12th Biennial Conference of the Australian Population Association, Canberra, 15–17 September 2004), [www.apa.org.au/upload/2004-3A\\_Baxter.pdf](http://www.apa.org.au/upload/2004-3A_Baxter.pdf).
- <sup>14</sup> Paula Mance, 'To What Extent Do Family Characteristics Explain Child Care Use in Australia for Children Under School Age?' (paper presented at the 9<sup>th</sup> Australian Institute of Family Studies Conference, Melbourne, 9–11 February 2005), [www.melbourneinstitute.com/hilda/Biblio/cp/Mance2005.pdf](http://www.melbourneinstitute.com/hilda/Biblio/cp/Mance2005.pdf); Ian Davidoff, 'Evidence on the Child Care Market,' *The Economic Roundup* (Summer 2007).
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- <sup>21</sup> Steering Committee for the Review of Government Service Provision, *Report on Government Services 2007* (Melbourne: Productivity Commission, 2007), Table 14A.18

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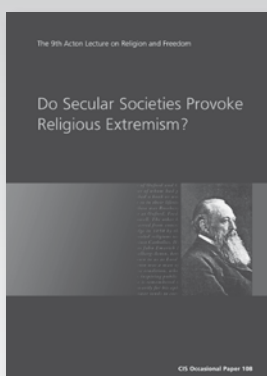
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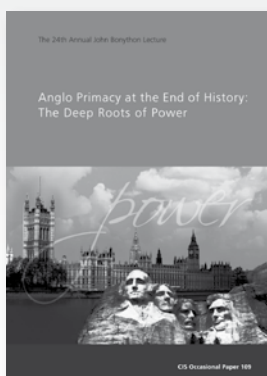


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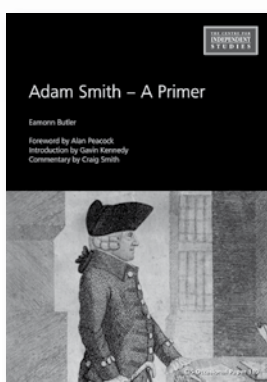
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