

Colorado Children's Campaign



The Economic Impact of Child Care in Colorado

Miles K. Light, Ph.D.
Research Faculty at the Business Research Division
Leeds School of Business
University of Colorado

Contributing Authors
Carolyn Wagner, Gary Horvath and Richard Wobbekind

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Introduction

In 2003, the Colorado Children’s Campaign commissioned a study¹ to define and describe the relationship between early childhood care and education and the Colorado economy. Like other economic impact studies², we find that early care and early childhood intervention plays a significant role in Colorado’s economy by generating additional state revenues and employment. We have also found that there exists a *positive economic externality* in subsidized child care. Child care subsidies enable low-income parents to work on a full-time basis, which reduces their dependence upon welfare – this generates a net-savings for state and county welfare budgets. Because most of a child’s cognitive abilities are determined early in life (90 percent between the ages of birth and 3), “targeted intervention” offers an attractive social investment for the state. Several studies have found that by providing child care to

at-risk children at an early stage in development, substantial savings arise from lower social deviance, lower special education costs, and higher tax-yields later in life. This makes subsidized child care, especially “early intervention” an attractive social investment from a long-term growth viewpoint.

Selected Economic Results for Colorado

\$1.06 Billion	The child-care industry’s contribution to gross state product (GSP)
18,919	Number of jobs created by the formal child-care industry
\$7.50	Government return on a \$1.00 investment in early child care and intervention over the first 20 years of a child’s life
\$1.36	State welfare budget savings from providing \$1.00 of child-care services

This paper quantifies the economic linkage between child care and the Colorado economy through three

main channels: an immediate spending effect, an employment effect, and an investment effect. We describe these linkages briefly in the introduction, then we investigate each linkage in the main body of the report. The individual effects can be described as follows:

- There is an **immediate economic effect**, where the sale of child care services contributes immediately to state employment and output. Dollar-for-dollar, the immediate economic effect of child care spending is larger than most other industries in Colorado³. This effect is large because child care is a predominantly locally-owned and operated industry. The immediate spending effect measures total child care spending by registered child care providers in Colorado, and also captures the related activities in the state economy. Using an input-output model for Colorado, we found that one dollar of expenditures on child care generates \$1.89 in additional output for the state. **In 2001, direct child care spending in Colorado was \$570 million, and indirect child care spending was \$492 million. The total output effect is \$1,062 million in 2001. The industry provided direct employment for 12,447 residents plus 6,472 jobs in related industries. In all, child care accounted for 18,919 jobs in Colorado.**

¹ This study was funded by The Piton Foundation, the Ford Foundation, the Colorado Child Care Association and the BEA foundation. The authors would like to thank Honey Neihaus, Barbara O’Brien, Bruce Atchison, Anna Jo Haynes, and Katherine Gold of the Colorado Children’s Campaign; Leslie Bulicz, Department of Human Services; Bryan Schultz, CORRA; and everybody else for helping on this report.

² There are several previous studies that identify the economic impact of child care activities. Recent examples are studies for: Alameda County, California; Santa Clara County, California; Boulder and Larimer Counties, Colorado; and Kansas State, to name a few.

³ Spending on child care services has a larger “economic multiplier” than 90 percent of the industries in Colorado. See section 3 (Immediate Economic Effect) for complete details.



- There is an **enabling effect**, where the provision of child care allows parents to participate in the workforce. This effect is especially important for low-income, single mothers who would be forced to exit the labor market without child care subsidies. The child care service allows parents to continue working during early childhood. This is called the enabling effect. While the utilization of child care services is a *choice* for middle-class families, it is a *necessity* for the working poor. **We estimate that government-subsidized child care enables poor families to earn \$111 million dollars per year. We also estimate that recent Colorado Child Care Assistance Program (CCCAP) budget reductions will save the CCCAP program \$22 million, but will reduce poor family incomes by \$42 million and increase other welfare budgetary costs by \$26 million.**
- The third linkage is called the **investment effect**. Compared with high schools or universities, child care spending offers a relatively high return to public spending because the cost of early education is lower, and because 90 percent of a child's brain development and cognitive ability is formed before reaching kindergarten. A large portion of public-school spending can be lost on children who have faced "stressors" during the child care years. "Targeted investment" in child care for at-risk children, produces a stream of dividends seven times as large as the initial investment. The dividends arise from lower incarceration rates, lower welfare expenditures, higher lifetime incomes, and improved worker productivity.

Additional evidence comes from the Colorado Preschool Program (CPP). They estimate that 1,300 at-risk children in Colorado have been able to avoid special education programs because they received early childhood intervention. In turn, school districts save \$22.8 million over a five year period by lowering these special education outlays.

The return to early childhood education is growing clearer as more low-skill employment is outsourced to overseas firms. Most clerical, administrative, and basic customer service positions are likely to move overseas over the next 20 years. This implies that children in Colorado who are neglected today are the most likely citizens to be unemployed in 20 years. Unless a minimum level of early childhood care and education is provided to Colorado children, today's "at-risk" children will become tomorrow's "at-large" adults.

In the remainder of this report, we quantify each effect to be meaningful for state planners, policy makers, researchers, and child care providers. In the process, we characterize the child care industry from an economic viewpoint, and we introduce economic concepts related to child care spending that can be integrated into an overall plan for Colorado's economic future.

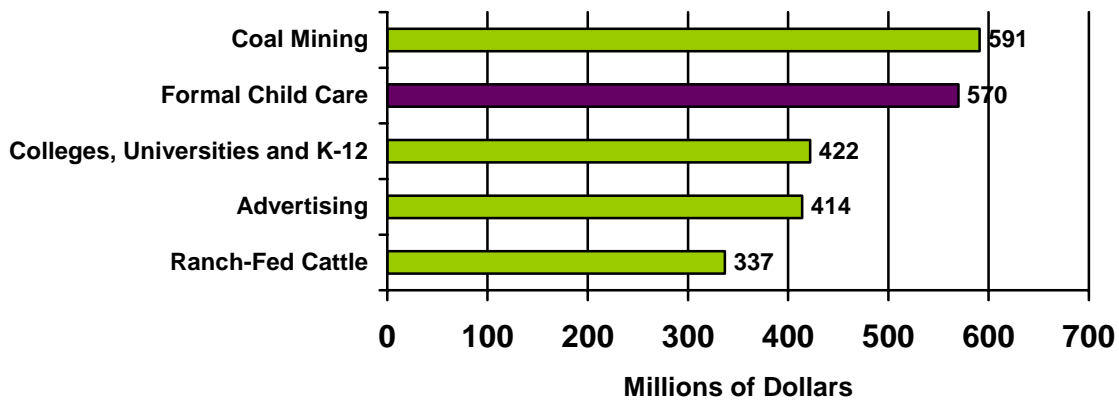


Colorado's Child Care Industry

In this section, we present some basic facts about the child care industry. In order to define what we mean by the “child care industry” in Colorado, we consider two views: one is *quantitative*, while the other is *qualitative*.

In the quantitative perspective, we describe how much money is spent on child care services, who is spending the money, and how many people are employed in the business. The qualitative view describes the nature of the service that is provided by the child care industry. In other words, the qualitative view describes why people demand child care services in Colorado.

Gross Receipts Comparisons Between Colorado Industries



Quantitative View

Total sales that were reported for child care services were \$570 million in 2001⁴. This represents 0.3 percent of the 2001 gross state product (GSP)⁵. Child care is not the largest industry in the state (computer storage is \$2.4 billion), but it is relatively large compared with some of the other important industries in the state, such as universities, farming, ranching, and mining. The industry is comprised mostly of small- and medium-size businesses, often owned and operated by women and minorities.

Cost of Child Care in Colorado

Age	Center-based Care	Home-based Care
< 2 yrs	\$7,989	\$6,131
2 - 4 yrs	\$6,432	\$5,874
4 - 6 yrs	\$5,390	\$5,465

The Bureau of Labor Statistics reports that 12,447 people were employed in child-care provision in 2001. This level of employment is commensurate with the number of U.S. Postal Service workers in Colorado (14,243) or to the state's colleges, universities, and post-secondary schools (13,804)⁶.

Looking across the state, most of the child care facilities are located along the Front Range since more than 80 percent of the population resides

⁴ These statistics are based on data from the IMPLAN dataset for the year 2001. For more information about this database, visit www.implan.com.

⁵ Gross state product for Colorado was 173.7 Billion dollars in 2001

⁶ See related tables for a more complete ranking of employment and output for industries in Colorado.



between Colorado Springs and Fort Collins. Because of the population density along the Front Range, this area offers several types of child care services most of which are licensed. In the rural areas, in-home family child care is more prevalent and licensing is less common. Most child care in rural areas is provided on an informal basis⁷ and is not reported to the government. The market rate for child care ranges from \$5,465 to \$7,989 per year, depending upon the age of the child. Of the \$570 million in child care expenditures, the state and federal government is the largest single purchaser. Fiscal year (FY) 2001 government spending for child care subsidies was \$108 million, which accounts for 18.9 percent of total sales.

Qualitative View: The Child Care Service

How parents care for young children has fundamentally changed over the past 30 years because women have increasingly entered the workforce on a full-time basis. This change in work pattern has shifted the provision of care away from traditional at-home child care, to increasing reliance upon outside care facilities. Davidson (1998) reports that 63 percent of Colorado parents use outside care services.

In 2002, the population under age 6 was 382,523⁸. Forty-one percent of these children (157,217) were cared for at home; while the remaining 58.9 percent (225,306) received outside care services of some sort. According to data collected by the Colorado Office of Resource and Referral Agencies, 95,955 of Colorado's children received either licensed care in preschools, child care centers, licensed family child care homes or legally exempt homes. The remaining 129,351 children received care from unknown and untracked sources such as a relatives, neighbors, babysitters or nannies. As the incidence of single parenting rises and as both parents assume work on a full-time basis, the child-care industry has become a necessary and ubiquitous service. The trend toward full time work and outside child care has generated an increasing demand for child care providers. For example, the Bureau of Labor

Is \$570 million too low?

The IMPLAN database reports that Colorado sold \$570 million dollars in child care services in 2001, but many local advocates dispute this figure as too low. The \$570 million figure is the official revenue calculation reported to the Bureau of Economic Analyses (BEA). This figure is reported on the Schedule-C when child care providers report their "primary business" code. Codes between 624410-624419 are labeled "Child day care services". The total sales reported for these codes are collected by the BEA and then used in the IMPLAN dataset. The result is: \$570 million in officially reported sales for the child care industry, according to tax return data.

The Colorado consensus is that child care sales are much larger. The Child Care Association conducted a survey of providers in 1998 and found that total sales were closer to \$700 million. This survey used the average tuition for child care providers, the number of providers and average capacity. This supports the notion that total sales in Colorado may be 30 percent to 40 percent higher than what is officially reported.

The sales gap between these figures may reflect a broader view of child care services than the official statistics. Sales by a church that provides low-cost child care may be officially reported to be part of clergy revenues. Given the nature of the child care industry, with several small in-home care centers, it is likely that many providers enter incorrect or imprecise codes on tax returns, again lowering the official statistics.

We have chosen to use the official statistics for this report. The reader should be aware that the *qualitative* findings are unchanged, but that the magnitude of our economic impact figures should be considered lower-bound, conservative estimates.

⁷ Source: Mapping Early Childhood Care and Education in Colorado

⁸ Source: Colorado Population Statistics, Colorado Department of Public Health and Environment



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Statistics lists child care as one of the 10 fastest growing industries nationwide, with an expected growth rate of 26 percent between 1998-2008. These facts imply that over the next 10 years, the share of children receiving center-based care will increase from 63 percent to 75 percent.

For many families, child care has become a basic service that in some ways is similar to electricity or transportation services. Each of these basic services is considered part of the economic infrastructure for the state and each service is available to all Colorado residents. For 2/3 of the families in Colorado, child care services are essential in order for them to participate full-time in the workforce. Unlike transport or electricity service, child care provision is not subsidized for everyone. State funds are used to purchase new buses, to provide new power-lines or offer loans for water-works development, but these funds are not available for child care infrastructure development.

Although the realization that child care is a basic service has not been accepted universally, the importance of affordable child care is being reflected in the current political landscape. State governors such as George Pataki (New York) and Jim Doyle (Wisconsin) are proposing plans for comprehensive⁹ child care provision. In this light, child care is becoming an essential service, like elementary education, potable water and electricity.

After characterizing the quantitative and qualitative components of the child care industry, we proceed to describe the first economic linkage in Colorado, the immediate impact from child care spending.

⁹ “Comprehensive” usually implies affordable for all in this context.



Immediate Economic Impact: Spending and Funding

Every year, the child care industry contributes \$1.06 billion to state output and employs 18,919 state residents. This is the immediate economic impact of child care in Colorado. In this section, we explain how the child care industry contributes to the state economy and employment.

Direct and Indirect Impacts: The Output Multiplier

The immediate economic impact is composed of two effects: a direct effect and an indirect effect. Economists combine these two effects to measure the total impact of child care spending upon the Colorado economy.

Economic Impacts from the Child Care Industry

	Direct Spending	Indirect Effect	Total Economic Impact
Gross Output (sales receipts)	\$570 million	\$492 million	\$1.062 billion
Employment	12,447	6,472	18,919 (jobs)
Employment Compensation	\$211 million	\$107.6 million	\$318.6 million (wages)
Business Taxes	\$6.6 million	\$5.7 million	\$12.3 million

The total impact of child care spending on the Colorado economy in 2001 was \$1,062 million, which can be decomposed into a \$570 million gain from direct child care spending and another \$492 million in indirect and induced spending. Similarly, total jobs generated by the child care industry were 18,919, based upon 12,447 jobs directly related to child care, and another 6,472 jobs indirectly generated through child care-related businesses. The “output multiplier” for child care

in Colorado is 1.83, which means that every additional dollar spent on child care contributes \$1.83 to the state economy. The employment multiplier is 1.52, which means that every 1.0 percent increase in child care spending will generate 1.52 percent more jobs in the child care industry.

How the economic multiplier works: The direct effect from the child care industry is easy to calculate: it is the \$570 million of spending directly to child care facilities. But like any industry, the child care business makes purchases of their own, which generates additional demand for production in the state. These secondary effects on output and employment are called indirect effects. Indirect employment refers to jobs that exist to serve the child care industry. Examples of these secondary industries are: business services (e.g., bookkeeping), tax consulting, agriculture and processed foods, and transportation for children. These industries exist to serve the child care and other industries. Similar to an increase in demand, a decline in the child care industry would cause a decrease in the number of jobs and output of these secondary industries as well. In order to capture the “total effect,” we must consider both the direct and the indirect effects.

An input-output modeling system is used to determine how child care spending circulates within the Colorado economy. Production and consumption data that is specific to Colorado, and that details more than 500 industries is used to determine what inputs are used in child care production and how much labor is employed. Once these factors are identified, we then compute the additional economic activity that is generated by an additional \$1 of spending in the child care industry. This is the economic multiplier for Colorado (the 1.89 figure), and this figure is used to calculate the impact of child care spending on the Colorado economy.



The fact that child care services are not easily imported or outsourced implies that most of the payments are made to local businesses rather than foreign manufacturers. This means that spending on child care has a relatively large impact on the state economy compared to other goods and services, such as the auto industry. A common measure of how much expenditure remains in Colorado is called the “regional purchase coefficient” (RPC). The RPC for child care is 0.92 — 92 percent of the money that is spent on child care stays within the state of Colorado. In comparison, the RPC for the auto industry is 0.14, and the RPC for medical care is 0.56. This high RPC implies that, dollar for dollar, expenditures on child care have a larger positive effect on the state economy than automobile sales, medical services, and about 80 percent of the other industries in Colorado.

The Government and Child Care

Public funding is an important element of basic child care infrastructure. Similar to elementary education, the provision of quality child care and early childhood education yields large benefits to society, but it requires social investment that cannot occur without government support. We describe the Colorado legislature’s approach to funding child care and then discuss how this funding affects the child care industry and the state economy.

Subsidies are provided primarily to help low-income families pay for child care¹⁰. This assistance allows low-income parents to work or to obtain additional training. The subsidies come in the form of direct payments to child care providers, direct subsidies to low-income families, or as tax incentives to purchase child care services. The two largest sources for child care subsidies are Head Start and the Child Care and Development Fund (CCDF). There are also two child care related tax exemptions, one from the state and another from the federal government.

The Multiplier Effect of Government Spending

As an example of how government child care spending can have an immediate (positive or adverse) impact upon the state economy, we revisit the federal government’s reduction in child care subsidies

Impact Decomposition: Change in State Output from Budget Reductions: 2001-2002

		Direct Spending	Induced Effect	Total Effect
FY2001	State	\$27,377,181	\$22,859,946	\$50,237,127
	Federal	\$81,218,462	\$67,817,416	\$149,035,878
	Total	\$108,595,643	\$90,677,362	\$199,273,005
FY2002	State	\$28,437,816	\$23,745,576	\$52,183,392
	Federal	\$56,830,325	\$47,453,321	\$104,283,646
	Total	\$85,268,141	\$71,198,898	\$156,467,039
Change	State	\$1,060,635	\$885,630	\$1,946,265
	Federal	(\$24,388,137)	(\$20,364,094)	(\$44,752,231)
	Total	(\$23,327,502)	(\$19,478,464)	(\$42,805,966)

*Budget source:

Fiscal Year 2003-2004 Staff Budget Briefing
 Department of Human Services: Colorado Works Program, Child Welfare, and Child Care
 Author: Carolyn Kampman
 Date: December 6, 2002

between 2001 and 2002. Total government funding was \$108 million for FY2001, but in FY2002, this funding fell by \$23 million to \$85 million. The precipitous fall was a combination of reduced federal funding in the amount of \$24 million, plus an increase in state funding of \$1 million.

This funding cut had an immediate negative (direct) impact of

¹⁰ Interestingly, subsidies for child care are paid for the service provision. There are no subsidies provided for child care infrastructure investment. As mentioned in the *qualitative description* this distinguishes child care services from other basic services (electricity, transportation, and water).



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reducing state output by \$23 million, but it also reduced demand for industries related to child care (the indirect effects). This indirect effect further reduced state output by \$19 million, for a total immediate loss to the Colorado economy of \$42 million. This example is detailed in the table on the previous page entitled *Impact Decomposition: Change in State Output from Budget Reductions: 2001-2002*. Although some of the federal child care spending cuts were recovered from non-traditional accounts, this example shows Colorado and federal government spending has an immediate effect upon the state economy.



The Enabling Effect: Child Care and Employment

Child Care and the Reservation Wage

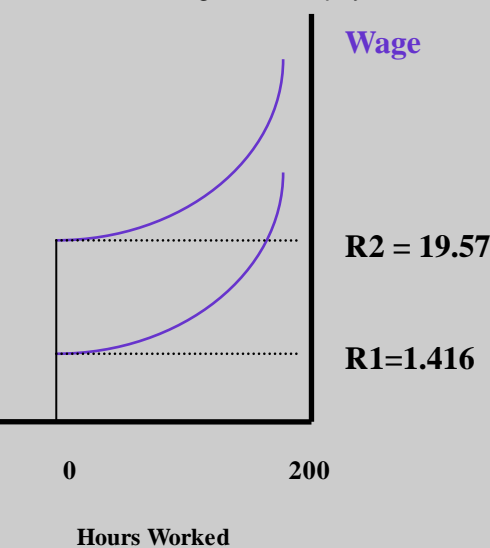
Standard labor economics introduces the concept of a “reservation wage.” For an individual considering work, accepting wage that is below the reservation wage would create a *reduction* in overall income. For example, a single-parent who receives \$200/week on welfare will not accept weekly pay below \$200 — this is their reservation wage. Child-care costs are important because they increase the reservation wage for parents. Indeed, if child care costs are \$200/week, why would a parent choose to work for \$150/week or less?

In this example, we calculate the reservation wage for a parent who is considering whether they are better off working, or not working and collecting welfare.

To calculate the requirements for welfare, we use the federal poverty line of \$15,050. An individual who can choose between working full time or receiving transfer payments must earn at least \$8.14 per hour in

order to maintain net income at the poverty line. Thus \$8.14/hour is the reservation wage for an individual with no children.

Now, if the individual has one child, they must pay for child-care services while at work. If the cost is \$5.00/hour for child-care service, then the (net of tax) reservation wage increases from \$8.14 to \$14.16/hour. For any wage below \$14.16/hour, the par-



ent would be better off on welfare rather than working. So $R_1 = \$14.16$. Similarly, an individual with two children will choose not to work if they cannot find work that pays at least \$19.57/hour. ($R_2 = \19.57). These “reservation wage” examples demonstrate why many families will choose to remain on welfare as long as possible, rather than find work. It turns out that child care is a principle component of the reservation wage for parents.

In this section we investigate the relationship between child care and the labor market. Unlike other studies that have computed the *total* wages that were “enabled” by the availability of child care, we focus upon only those residents who received *subsidized care*. We chose this approach because child care services are unlikely to become “unavailable” on a wide-scale basis. But for low-income, and even some middle income families, child care can easily become “un-affordable,” which creates an economic externality in the labor market.

Child care is considered to be an enabling industry because it permits workforce participation by parents. One child care worker, earning \$18,000 per year, can care for six children at a time¹¹, which allows up to six parents to work full time. By realizing these gains from worker-specialization, total state income rises by \$192,000¹² for each child care worker. In this way, the child care industry expands the production possibilities frontier for Colorado’s workforce. A study done in 2003 by BBC Research and Consulting reports that parents in Boulder County earned an additional \$220 million because they had access to child care services¹³.

In some cases, it makes more sense for a parent to exit the labor force and provide child care services at home. Naturally, the choice of

¹¹ The optimal child-to-worker ratio can be debated, and depends upon the age of the children under care.

¹² The average annual salary in Colorado for 2001 was \$32,000.

¹³ In order to avoid double counting, the BBC study was careful to consider only those parents who had to use child care in order to participate in the labor force, and it does not include those parents whose child care demand is unrelated to workforce participation.



whether to work or to stay at home with the children is a personal decision for every parent. However, it is well documented that aside from personal preference, the largest factors that determine labor force participation by mothers are: the prevailing wage, the number of children, and the cost and quality of child care services. Policymakers cannot change the personal preferences for each family, but they can have a substantial impact upon the remaining three factors. These factors are the focus of the current section.

Using a standard labor participation model, we can identify the link between child care subsidies and Colorado employment. This mechanism is called the *reservation wage*. (See the accompanying info-box). The reservation wage is the point where a worker is indifferent between working (and earning money), or staying at home (and collecting welfare of some sort). Holding preferences constant, any wage higher than the reservation wage, and the parent will be better off working. At any lower wage, the worker would be better off not working.

For low-income parents, child care subsidies can shift their reservation wage dollar-for-dollar. The reservation wage for those parents who are *not* eligible for subsidies or those who do *not* have children will not be impacted. The example below highlights how changes to government subsidies will change work patterns for the poor.

Relative Importance of Subsidies for Colorado’s Workforce

How important are child care subsidies to Colorado’s working class? For 80 percent of Colorado’s working families, subsidized child care support is largely irrelevant because these families can already afford child care at current market rates. However, the significance of child care support and assistance grows as we move toward low-income families, and child care subsidies are essential to those parents whose earnings are at or near poverty. Using the Colorado state average for market-rate child care, we estimate the share of net income (after tax income) required to purchase child care services and participate in the labor force. The table below shows that the state role is largely irrelevant for qualified

Child Care Expenses as Percentage of Household Income

Annual Income (\$1,000)	Occupation <i>Children in Child Care</i>	Single Income		Dual Income	
		1	2	1	2
\$72,428	Engineer/Professional	11%	23%	6%	12%
\$38,372	Schoolteacher	20%	40%	11%	21%
\$14,301	Food Service Employee	49%	97%	24%	49%
\$12,821	Retail Sales	54%	108%	27%	54%

Assumptions:

1. Engineer: 7.5% SS taxes and 15% income taxes
2. Schoolteacher: 7.5% SS taxes and 10% income taxes
3. Low wage earners: 7.5% SS taxes only
4. Budget share is net of tax share
5. Colorado average cost of child car (2 to 4 years of age): \$6,432

or professional workers who are dual-income, each earning more than \$38,000 per year. The role of child care subsidies is acute for service-sector employees, such as food-service workers and retail sales assistants. For example, the average single parent working in the food-service industry earns \$14,301 per year. At this earning level, child care for a single child represents 49 percent of family net

income. If market-rate child care costs \$6,500 per year per child, then \$30,000-\$40,000 income range represents the cutoff value where state child care subsidies become an important consideration for parents: whether to work, or to stay at home and care for the kids.



In the next section, we quantify the reservation-wage effect upon employment and the state budget. In order to identify the reservation-wage effect in concrete terms, we use figures taken from Colorado's budget reduction strategy in child care services. We compare the overall economic outcome for two different strategies Colorado is using to reduce overall expenditures.

Economic Impact of Fiscal Tightening: Three Strategies

Child care administrators throughout Colorado currently face budget reductions due to revenue shortfalls. Although nobody wishes to reduce spending on child care, Colorado's current economy has made reductions impossible to avoid. We present three strategies available to Colorado as means to reduce public spending. Although these strategies have the same state-funding targets, the effects upon the economy can be dramatically different.

Complicating the budget decisions and the forthcoming explanations is the fact that Colorado is a devolved state: some of the budget decisions are made at the state level and some at the local level. Of the three variables in the child care subsidy formula, two are set at the county level (provider reimbursement rates and CCCAP eligibility rates) and one is set at the state level (the parental fee charged as a co-payment).

The first strategy we will examine is a reduction in eligibility limits used in order to reduce the number of families who receive child care assistance. The second strategy increases the parental fee or co-payment required from families who receive subsidized care. Neither option is desirable, but we find that the co-payment option is best for Colorado's children. The co-payment strategy also costs less for the state and minimizes the impact upon Colorado's economy. Unfortunately, the first strategy has already been implemented by most counties because it was the only option available to them for reducing county expenditures. Consequently, the state of Colorado is considering changes to the parental fees structure so that more families can obtain child care subsidies. Ideally, a mechanism where state and county administrators work together to solve budget dilemmas would minimize the negative impact to low-income families. (See [State vs. County Budgeting](#) in the Appendix for a critique of state-vs.-county level planning.)

Recently, a third strategy has been presented: lower the rate of re-imbursement to child care providers. We consider the economic impacts of strategy three separately.

Strategy One: Lower Income Eligibility Limits

In FY2002, Jefferson County lowered the income limit for eligibility from 185 percent of the current poverty level to the federal minimum of 130 percent. We consider the costs and benefits of a *statewide* adoption of this policy.

One-third of the families currently receiving child care subsidies in Colorado have an income between 130 percent and 185 percent of the state poverty level¹⁴. If the income eligibility limit is lowered from 185 percent to 130 percent, policy experts predict that about 3,500 families will lose their child care subsidies.¹⁵

Under this strategy, the CCCAP program could save a substantial portion of expenses. If each of the 3,500 at-risk families received an average of \$554 per month in subsidies, then the annual savings from

¹⁴ Based on figures from the Colorado Works Program Evaluation.

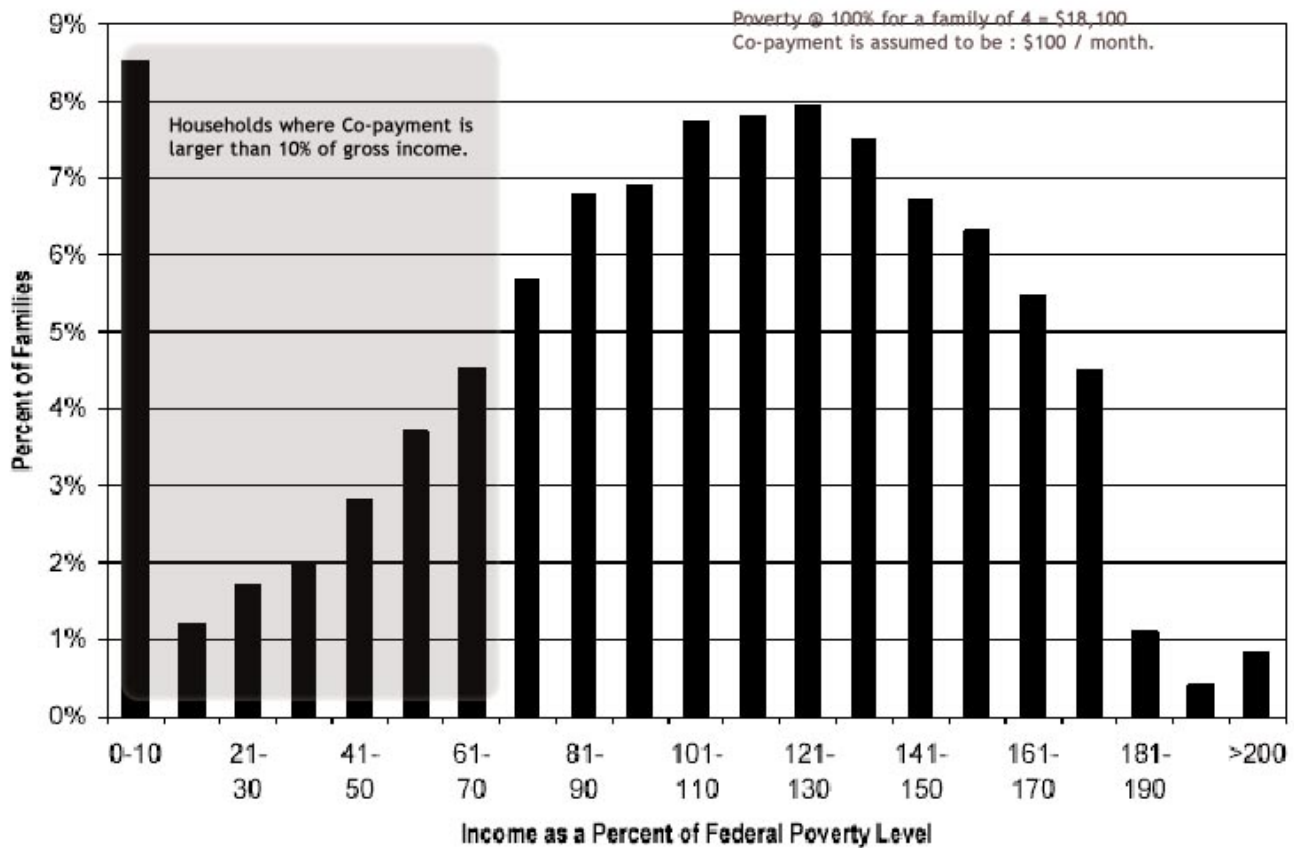
¹⁵ Berkely Policy Associates: Colorado Works Program Evaluation, Fourth Annual Report, (2003).



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eliminating them from the program would be \$23.2 million. This is approximately one-fifth of the entire CCCAP budget.

If these families are forced to quit working and stay home to watch the children, then they will fall below the state poverty limit and become eligible for Temporary Assistance for Needy Families (TANF) funds. The number of families who quit work and require new TANF funds depends on the prevailing reservation wage (again, see the info-box: Child Care and the Reservation Wage) and also upon the total allocation of TANF funds. In either case, there will be significantly increased demand for welfare from these families.



To calculate how many families will quit work, we notice that 50 percent of the families targeted for eligibility cuts currently earn between 130 percent and 160 percent of the poverty wage. These are the families that are most likely to exit the labor force because their reservation wage, with at least one child, is higher than their current wage income. Instead of working and paying for outside care, it is likely these families will be forced to exit the labor force, stay at home with the children, and apply for welfare funding. The incomes for these families will then fall toward zero, and the state will be forced to pay enough welfare in order to meet the minimum poverty level. If we assume that 1/2 of the families eliminated from CCCAP may be forced to leave their jobs, and will begin requesting additional transfers, this represents 1,750 families who will require an average of \$1,261 per month in welfare. Combined, these new families could increase TANF outlays by \$26.5 million.



Under Strategy One, the average county in Colorado will save \$554 for each household that is eliminated from the CCCAP program, but the TANF system (or another private/public organization) will incur new costs of almost \$1,261 per household for 50 percent of the households that became “ineligible” for child care benefits. The net effect for the state is then equal to \$23.2 million (CCCAP) minus \$26.5 million (TANF), for a net loss of \$3.3 million.

There is also an impact to the state economy. If we use the 50 percent figure from above and the 130 percent-160 percent poverty levels, then we find that lost wages are between \$34.1 million and \$42.0 million. In essence, this program ends up costing the counties less, but the state and federal government more.

Strategy Two: Raise the Required Co-payment for Subsidized Child Care

A second strategy is to increase the parental fee required as a co-payment from families. A higher co-payment by families alleviates budgetary constraints on the county but also avoids the cliff effect of complete subsidy cutoff. However, there are drawbacks. Total savings to the CCCAP program would be small relative to Strategy One, and this strategy would require the poorest people in the program to pay more for child care.

Impacts of Loss of Eligibility on Cost of Child Care (Cliff Effect) in Four Colorado Counties¹⁶

75th Percentile Provider Rate (under 2)	\$836			
Monthly Income at Federal Poverty Level	\$1,252			
	Jefferson	El Paso	Denver	Mesa
Maximum Eligibility Level	130%	160%	185%	225%
Income at Maximum Eligibility	\$1,628	\$2,003	\$2,316	\$2,817
Fee at Maximum Eligibility	\$165	\$226	\$282	\$399
Fee as Percentage of Income at Maximum Eligibility	10%	11%	12%	14%
Market Rate for Care	836	836	836	836
Market Rate as Percentage of Income at Maximum Eligibility	51%	42%	36%	30%
Percentage Raise Needed to Be Equally Well Off for Next Dollar	41%	30%	24%	16%

The first part of Strategy Two is an increase in the fees for multiple-children. In the current system, the cost of subsidized care is the same for 1 or 5 children in care. If additional fees are charged for multiple children, then according to the Child Care Auto Tracking System (CHATS), there would be additional savings of \$1,070,945 for Colorado counties (see Exhibit 2.12 in Berkeley Policy Associates, Fourth Report). The second part of this strategy is to increase the co-payment for all families. An additional increase of the

base fee by 20 percent would generate additional savings of \$3.2 million per year. Combined with the extra-child fee, this strategy would save \$4.2 million per year.

In contrast to Strategy One, a moderate increase in parental co-payments does not exclude families from subsidized child care. The expected net savings to the overall Colorado budget under Strategy

¹⁶ Income level based upon 2002 HHS Poverty guidelines for family of 4 (national poverty line). Co-payment is assumed to be \$100. One co-payment is assumed, with a family of 4, it may make more sense to use a co-payment for 2 children. This co-payment may not be linearly-related (i.e., it may be <200). If it were \$200, then the 10 percent-income share cutoff would rise to 133 percent of Federal poverty levels. This ironic situation implies that families are either: a) too wealthy according to county eligibility limits, b) paying more than 10 percent, which is not accepted by DHS.



Two is positive because there is no “offsetting” burden placed on the TANF system. However, the savings to the CCCAP alone would be much smaller under Strategy Two (\$4.2 million) compared to Strategy One (\$25.4 million). Strategy One ends up costing the state \$3.3 million and also forces 1,750 people out of work.

When considering reductions to CCCAP, we should balance the state budget needs with those of the families who will be cut from child care subsidies. Under Strategy One, 2/3 of the families are unaffected, while the other 1/3 of the families are completely cut off from funding. For a single parent in Jefferson County at 131 percent of the state poverty line, Strategy One would require this individual to earn an additional 41 percent at work (get a 41 percent raise) in order to compensate for lost child care subsidies. The table on the previous page entitled *Impacts of Loss of Eligibility on Cost of Child Care (Cliff Effect) in Four Colorado Counties* shows the household welfare changes for selected counties under this strategy.

Strategy Three: Lower Reimbursement Rates for Providers

A third strategy, where counties reduce the reimbursement rates offered to providers, has been available since Welfare Reform legislation was passed in 1997. This approach surfaced as a viable option for counties trying to reduce costs associated with child care when Colorado began making budget cuts in 2002-2003. Lower reimbursement rates are a more palatable option to policymakers because the budget cuts are targeted at child care providers, rather than low-income families. When compared to the previous two strategies, lower reimbursement rates are a relatively flexible approach for spending cuts, but like any reduction in spending, this approach ultimately will reduce the quality and availability of low-cost child care. We now proceed to consider the possible economic impacts of this approach.

Under Colorado’s welfare reform legislation, a county may set its own reimbursement rate to child care providers. As a result, several counties in Colorado are lowering reimbursement rates to providers as subsidy budgets shrink. Although the State of Colorado must certify that on-average, rates in Colorado meet the equal access guidelines laid out by the CCDF, many counties offer reimbursement rates far below the equal access guidelines.

Colorado Equal Access Rates¹⁷

Demographic	Infant	Toddler	Preschool	Schoolage
Child Care Homes				
Urban Counties	\$38.72	\$34.89	\$30.34	\$28.79
Rural Counties	\$20.30	\$20.37	\$19.55	\$19.66
Resort Counties	\$38.33	\$36.39	\$34.99	\$16.88
Family Child Care Homes				
Urban Counties	\$29.03	\$28.27	\$26.23	\$24.92
Rural Counties	\$21.26	\$19.81	\$19.08	\$20.62
Resort Counties	\$27.73	\$25.55	\$25.19	\$25.78

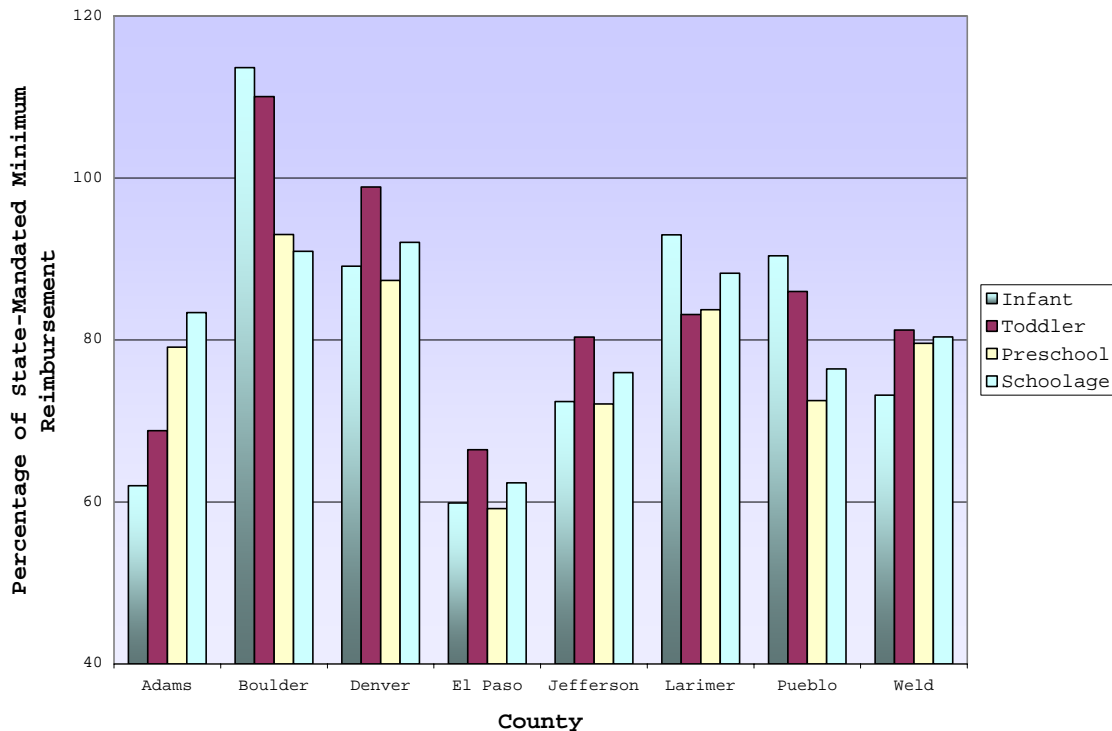
The table at left displays the CCDF equal access guidelines, then selected counties’ current reimbursement rates are presented for comparison in the table on the next page. All but one of the counties fall below the equal access guidelines – they offer rates 20 percent to 40 percent below the CCDF target. To be clear, the CCDF equal-access rate is defined as the 75th percentile rank of all provider rates in a particular region. For

¹⁷ Calculated by the CCDF as the 75th percentile of all rates for a given region type (Urban, Rural, or Resort) in which each Colorado county is categorized. Data is based upon the 2003 Market Rate Survey published by the Colorado Department of Human Services.



example, the 75th percentile in “urban” regions for infants is \$38.72. Each Colorado county that is considered to be “urban” would use \$38.72 as their equal-access rate. The term “equal access” allows that a child who receives subsidized care should have the same access to quality care as non-subsidized children.

Selected Counties’ Actual Reimbursement Rates¹⁸



How do low reimbursement rates impact subsidized child care supply, availability and quality? Naturally, lower reimbursement rates will decrease the supply, the availability, or the quality of subsidized child care. If child care providers are competitive, then the subsidy reduction forces some providers to exit the subsidized care market. Those providers that choose to remain in the low-income child care market must reduce spending in order to provide care for low-income children. Since student-to-teacher ratios are mandated by State regulations, personnel spending reductions must take the form of lower wages and/or benefits.

Compared to strategy one, where 1/3 of all families are simply eliminated, strategy three appears to be a less onerous way to reduce spending. This strategy does not directly eliminate families from child care access, but it indirectly lowers the availability and the quality of child care for the poor. How many providers will close, and how far the remaining providers will go to cut costs (e.g., by using low-quality food, lower wages, or lower maintenance), depends upon each child care center or child care home. The third strategy allows providers to self-select as low-income based care or higher cost non-

¹⁸ Rates are displayed as a percentage of the CCDF rate (as shown on previous page). A value of “100” indicates that the county reimbursement rate is equal to the CCDF equal access guideline.



subsidized providers, or as a mix. This would be considered to be a market-based solution to funding cuts, because the providers in the market self-select and decide whether or not to provide subsidized child care at the new, lower reimbursement rates. Some proponents of this strategy may show how lower rates require child care providers to be more competitive. While this is true, the quality of child care may not be held constant, which implies that subsidized and non-subsidized are not being offered equal-access as reimbursement rates are lowered. Additionally, the child care market is not a true “free market” able to respond to competitive price pressures due to the regulated number of employees required, and due to price controls imposed by County reimbursement rates. They are thus constrained on both the revenue and expense sides.

Therefore, the net impact of strategy three is subtle. We know that lower reimbursement rates will force some center and home closures, and that other centers will begin to refuse to provide care under CCDF subsidized care guidelines. The magnitude of these reductions depends upon each firm’s ability to reduce center costs, while attempting to maintain a given level of quality. Although we know that budget cuts under strategy three will reduce employment and lower output, we cannot compare the impact with the previous two strategies easily. Our *qualitative* assessment is that, dollar for dollar, reductions in subsidized spending under strategy three may be preferred, at least to strategy one, because lower reimbursement rates allow providers to determine the best way to cut costs. However, it is possible, even likely, that providers will not hold quality constant while lowering costs. This leads to a two-tier care system where wealthy children have access to high-quality providers, while low-income families must send their children to low-quality providers.



Child Care Investment: Effects on State Competitiveness and Economic Growth

According to the Colorado Office of Economic Competitiveness, Colorado's growth and prosperity is a direct result of a diverse economy, pervasive small business, and a workforce with superior skills who can compete globally in the knowledge economy. This notion of a knowledge economy is re-iterated in other studies, such as the State Technology and Science Index report by the Milken Institute (2002). In the introduction, the authors state:

The elements that make a state or a regional economy vibrant and prosperous today are fundamentally different from those of the past. Some states have been either slow to recognize these changes or to make the required transformation to participate fully. States that don't alter course quickly will leave their economies and citizens ill-prepared and potentially devastated in the future. State and regional economic performance is determined by how effectively its comparative advantages are used to create and expand knowledge assets and convert them into economic value.

According to the report, Colorado ranks second in the country in science and technology assets and competitiveness, far behind Massachusetts, but ahead of California. Since technology-based industries can increasingly choose where to locate facilities, they often choose locations with a high level of amenities, an educated workforce, and low cost.

Human Capital Investment

Public investments in child care contribute to economic growth by lowering the cost of business and, more importantly, by educating the future workforce by ensuring children enter school ready to learn.

Growing evidence indicates that early child development determines the mental capacity trajectory for Colorado's students and future workforce. They have found that certain stressors, such as malnutrition, abuse, neglect, and poor care during the first three years of life, typically cause mental deficiencies (speech impediments, lower cognitive skills, etc.). The provision of quality child care can eliminate the risk of possible stressors and set the foundation for a student's learning career. Today's children will be competing for employment in a global arena over the next 10 to 20 years, which implies they will either enter the high-skill, high-wage labor force, or they will face low-skilled, low-wage employment, or unemployment.

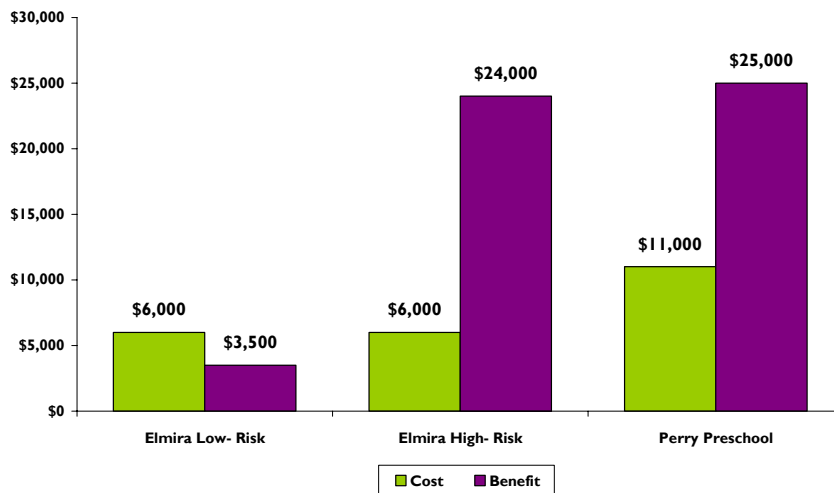
As technology improves, many more low-skilled jobs will be "outsourced" and move to countries with lower wages. Customer service centers and telephone response centers are moving to India and China; back-office jobs, such as medical transcription and basic bookkeeping, are also being done overseas where worker wages are much lower. The trend of sending low-skilled jobs offshore means that workers in Colorado must have a high level of cognitive ability. This development of cognitive capacity begins early-on.

A 1997 study by the RAND Corporation, a non-partisan research institute, found that properly-targeted child care significantly changes the lifetime activities of certain children. (see chart entitled *RAND Study on Cost-Benefit of Child Care* on page 15). In the case of the Elmira study where at-risk toddlers were given additional (high-quality) child care, the total program cost per child was \$6,000. Over the next 15 years, these children were monitored as they became teenagers and adults. The children who were placed in the Elmira high-quality child care facility earned more money, broke fewer laws, and were generally better adjusted than a control group who wasn't provided with any special care. The total savings to taxpayers, in terms of increased tax base, reduced incarceration, and



higher worker productivity was determined to be \$24,000 per child. This implies that the additional \$6,000 of targeted funds yielded a net-return worth \$18,000 per child entered into the Elmira facility¹⁹.

Rand Study on Cost-Benefit of Child Care



Naturally, there are caveats. First, the large gain in public investment occurs primarily when intervention is targeted to at-risk children. The figure above shows that on-average, those children who were not at-risk did not benefit significantly from participation in the Elmira preschool program. This implies that early childhood intervention is most effective when targeted to those children who are *at-risk* of experiencing some type of “stressor,” such as malnutrition, neglect or abuse. This reinforces the notion that most government funding should be targeted to low-income and at-risk children.

Another caveat is worker mobility. Although the RAND study properly discounts the stream of future benefits (the social dividend) at a 4 percent annual rate, it fails to consider the possibility of worker mobility. It is possible, especially in poor regions of the country, that well-educated workers will leave the state where they were raised in order to seek employment in other states. Typically, there is a positive correlation between worker education and worker mobility. Therefore, Colorado can expect to gain \$16,500 to \$31,000 per child *if she remains in Colorado*. Of course, Colorado could also gain (or lose) from immigration from other states.

Studies such as the RAND study and the Milken Institute report reinforce what most legislators already know: (1) Human capital investment is a central component to growth in a knowledge economy; and (2) Early care is crucial for cognitive development, especially to at-risk children.²⁰

¹⁹ In order to calculate the \$18,000 return, economists determined the difference in tax payments, incarceration costs, welfare costs, and other social outlays between the two groups. This stream of savings is called a “dividend stream,” similar to the dividends from investing in a company. Over the 15-year period, the stream of social dividends was worth \$18,000 in net-present value terms. The net-present value calculation is needed to compare the stream of dividends against the initial outlays of \$6,000.

²⁰ The Elmira Study was a Prenatal/Early Infancy Project that promoted maternal functioning with respect to health-related behaviors during pregnancy and infancy, parental caregiving, and maternal life course development (e.g., family planning, education, and employment. (Karoly, 1998. pg 57-59)



Findings in Colorado

The findings from the RAND study can be reinforced by considering figures from a similar program in Colorado. The largest state-funded, targeted program for early education is called the Colorado Preschool Program (CPP). It is a state-wide, publicly-funded program that provides preschool services to at-risk children. In 2003, 9,050 children were enrolled in CPP. Another 5,635 children who applied to the program were identified by their school district as at-risk, but could not participate because of limited space.²¹ Using figures from the RAND study that there exists a potential net return of \$18,000 per child²², the return to early childhood education in Colorado would total \$101,430,000.

The estimates by the RAND Corporation appear to be conservative in comparison to savings estimates by the Colorado Department of Education (CDE). Using figures from the Preschool Program, the CDE calculates that 1,300 children have been prevented from needing special education during the K-12 years. Since the cost of special education is \$6,369 per child per year, the CDE estimates that a 20 percent (1,610 student) decline in special education enrollment saves the Colorado Department of Education \$51,270,450 over five years. The Colorado Preschool Program calculates that the 1,300 students prevented from entering special education will generate savings of \$22 million over the next five years.

Unfortunately, public funding for targeted child care provision has declined as a share of gross-state product since 2000.

Business Costs and Competitiveness

Although this section is primarily concerned with the *state-wide* return on investment in child care, there also exist possibilities for businesses to capture gains from child care investments. We explain the nature of possible returns to child care investment for businesses, and also discuss which types of business stand to gain the most.

The gains to business related to child care provision have not been quantified in this study, but there exist studies to indicate that on-site child-care provision can help to attract employees and lower costs. An example is the survey conducted by the Urban Institute. In this survey, business owners mentioned reduced employee turnover, lower absentee days, and higher worker productivity as a result of improved child-care availability.

For profit-maximizing firms, the decision whether to offer child care will depend upon the relative benefits and costs. Those companies with a high ratio of low-income parents are the most likely industries to experience gains related to worker productivity and lower turnover rates. Retail sales, food service, hotel and guest services, cleaning, and recreation services are examples of these industries. High-technology and high-income industries are less likely to benefit from on-site child care services because for these families, child care services are likely to be a small portion of total household income.

²¹ Colorado Preschool Program: 2004 Legislative Report, Colorado Department of Education, Denver,

²² \$18,000 is computed as a *net* return in the following way: The program cost is: \$6,000, the program benefits were \$24,000. The net return was: \$24,000-\$6,000 = \$18,000. The \$24,000 benefits are the *net-present* value of benefits between entry age into the Elmira program (4-6 yrs) until age 15.



Recommendations

Policymakers

- Include child care provision in local and state planning processes for community growth and economic development.
- Use cost-benefit analysis at the state and local levels when making child care policy decisions that determine where to cut or add funds. Decisions should include a total costs/benefit analysis as well as marginal costs/benefit analysis. For example, the benefit of targeted intervention is \$12,000, it arrives in the form of lower incarceration rates, higher incomes, and lower special education costs. The cost is equal to an additional early-education slot, typically about \$8,000. Costs include budgetary costs, loss of employment income, or lower output levels. Benefits include increased employment income, higher state output, and expanded child care supply.
- Simplify the state budgeting process for child care and eliminate contradictory budget requirements between state and county planners: for example, allow counties to determine the parental co-payment rates in the same way that counties set Colorado Child Care Assistance Program eligibility rates.
- Increase “targeted intervention” programs such as the Colorado Preschool Program, which offer a relatively high return to public investment.
- Adopt the Berkeley Policy Associates recommendations to raise parental co-payments rather than lowering the Colorado Child Care Assistance Program income eligibility limits. If eligibility limits have already been increased, identify at-risk families for acceptance back into the subsidized care program.

Businesses

- Partner with government programs to provide convenient child care services to low-wage parents. By improving access to child care for workers, businesses can lower worker turnover and increase worker productivity. Examples of partnerships are: to provide working capital for a child care provider at or near the workplace, or to help pay the parental co-payment for workers who receive child care subsidies. Where appropriate and cost-effective, provide on-site, company-subsidized child care.

Providers:

- Differentiate your business using licensing, quality rating systems, quality staff and workforce development.
- Participate in the decision-making processes with state and local policymakers.

Children’s Advocates:

- Develop the capacity to provide unbiased, expert analysis to policymakers. As an expert, child care advocates can participate in the decision-making process. Often, experts are asked to identify what the issues should be – this level of integration will permit child care advocates to guide the policy debate, rather than simply “fight” or “support” pre-mandated policies. This is a pro-active approach to advocacy. The current approach appears to be reactive.
- If budget cuts are unavoidable, provide alternative cost savings to child care policymakers and identify the *relative* costs for each alternative.
- Quantify child care outcomes (in terms of GDP, employment, and future dividends) so the industry is comparable to other services such as public schools, police and fire protection, electricity and clean water.



Summary

In this report we have characterized some ways that the child care industry plays a role in Colorado's current and future economy. We found that there were three linkages between child care and the Colorado economy.

There is an immediate spending effect related to child care provision and related activities. The total state impact was more than \$1 billion in 2001. The child care industry is responsible for 18,462 jobs in Colorado, and because child care is predominantly operated by small businesses with female or minority owners, spending on child care has a larger relative impact (per dollar spent) than 90 percent of the industries in Colorado.

The second linkage is the enabling effect. The decision to work full time or to stay at home is one of personal choice for middle and upper income families, but single-parent and low-income families do not have this choice. These are the families where subsidized child care has the largest impact. Using the concept of a reservation-wage, we showed that without subsidized care, about 50 percent of Colorado families with incomes 130 percent to 185 percent above the poverty line will be forced to quit working for lack of affordable child care.

We found that eliminating these families from the child care assistance program saves the CCCAP budget about \$23 million, but it may end up costing other funds about \$26 million. A better method would be to raise the co-payment for all families. Lowering the eligibility limit to 130 percent of poverty also has the perverse effect of reducing the incentive to work. Many parents may choose to work less so they can report lower earnings, in order to meet the new eligibility requirements. We found that the 2002-2003 budget reductions for the CCCAP fund, if done via lower income limits, would cause state income to fall by about \$42 million as net-wages fall below the reservation wage.

Finally, other studies have found that there exists a significant return to targeted child care investment, such as the Colorado Preschool Program. Well-targeted early childhood intervention can prevent developmental disabilities in at-risk children. The state garners substantial savings from lower crime and incarceration rates, higher earnings and tax payments, and a lower probability of welfare among children who received early intervention. In a longitudinal study of children targeted by the Elmira Preschool Program, the RAND Corporation found that the cost to the state for this sort of program was \$6,000, but that the net-present value of savings was equal to \$18,000. This is obviously a good investment. However, the study also found that this return came only from "targeted" intervention. This is probably because at-risk children have a much higher likelihood of becoming welfare-recipients or criminals than the average population.

Certain businesses can benefit by providing more accessible child care to their workers. Although it is not popular in Colorado, some states have developed government-business partnerships to provide on-site child care services. Such partnerships improve employee retention for the business, while simultaneously lowering the cost of child care provision for the government. Not all companies are right for on-site child care. The government and business should target those industries with a high ratio of single-parent and low-income employees. Examples of such industries are retail sales and health care services.



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Appendix I: Colorado's Child Care Funding System

Funding Types

Appendix A describes the child care funding process in Colorado. A basic understanding of the bureaucratic funding system is a critical part of child care planning. Unfortunately, the process is not clear or streamlined. Instead, child care financing rules are a collage of disjoint initiatives, cobbled together in a way that conforms to federal mandates. The treatment here is a cursory overview, but we hope that the fundamentals have been captured and that this description is a useful introduction to Colorado's child care funding system.

Section I.A

Federal Funding

The Child Care and Development Fund (CCDF) is a federal fund allocated across states. The amount of federal funding granted to each state is based on the following statistics:

- The population of children under the age 5 and the population under the age of 13. This information is based upon the 2000 US Census.
- Fiscal Year 2000 Participants in the *Free and Reduced School Lunch Program* organized under the US Department of Agriculture
- State per-capita personal income for three years trailing the funding year, taken from the US Department of Commerce. For this overview, the years used are 1997, 1998, and 1999 and income was issued in October 2000.

Source: Administration for Families and Children: State FY 2002 CCDF Final Allocations and Earmarks; Log No. ACYF-IM-CC-02-01.

This combination of factors identifies the number of children in the state, the number of low-income families with children (indicated by the Lunch Program), and the overall average state income per-capita. The CCDF is not the only source of child-care subsidy funding, but it is the largest. There are also smaller federal funds that allocate money based upon need applications (e.g., the Child and Adult Care Food Program). These are discussed in the next section, Leveraging.

Section I.B

State Funding

About 90% of child care subsidies come from the Colorado Child Care Assistance Program (CCCAP). This program, run by the Colorado Department of Health and Welfare, combines the Federal CCDF funding with state and local funds. Most of the CCCAP funding is used to help low-income families obtain subsidized child care. The CCCAP pays for several smaller programs that are targeted to different needs. The two largest programs are: the *Colorado Works Child Care* program (CWCC), and the *Low-income Child Care* program (LICC). The Colorado Works program is an umbrella mechanism designed to facilitate employment for low-income families. The CWCC provides subsidies to working families, many of whom are making the transition off of the welfare system. The *low-income* program, LICC, resembles a welfare program. It provides need-based child care subsidies to families who earn less than 225 percent of the federal poverty level.



Colorado Child Care Funding

	County Funds	State Funds	Federal Funds	Total
General Fund		\$20,045,448		\$20,045,448
Cash Fund		\$349,880		\$349,880
Cash Fund Exempt	\$8,042,488			\$8,042,488
Child Care and Development Fund			\$56,830,325	\$56,830,325
Child and Adult Care Food Program			\$18,508,150	\$18,508,150
Head Start			\$65,129,000	\$65,129,000
TANF Transfers			\$29,925,276	\$29,925,276
Colorado Preschool Program		\$27,401,325		\$27,401,325
Total	\$8,042,488	\$47,796,653	\$170,392,751	\$226,231,892
Total Colorado Child Care Assistance Program Funds: \$115,193,417				

**Section I.C
Leveraging Federal Funds**

Funding for child care programs can be leveraged by federal funds. An example of the federal one federal funding program is the Child and Adult Care Food Program (CACFP). CACFP is an open-ended federal fund that provides meals to low-income children being cared for in *licensed* and/or *approved* child-care centers. States can increase their CACFP reimbursement by licensing and approving additional child care centers that serve low-income children.

Colorado can “leverage” state funds with federal funds if done properly. A full description of this sort of leveraging effect is available in a recent child care study for Kansas. (Stoney 2003, Appendix D) . We present this “leverage” effect for Colorado:

Colorado Funding

State and local funding

General Funds	\$20,045,448.00
Cash Funds	\$349,880.00
Cash Exempt Funds	\$8,042,488.00
Colorado Preschool Program	\$27,401,325.00

Federal Funding:

Federal funds that Colorado elects to allocate to child care

TANF	<u>\$29,925,276.00</u>
	\$85,764,417.00

Federal Funding

Child Care and Development Fund	\$56,830,325.00
Child and Adult Care Food Program	
Head Start	<u>\$65,129,000.00</u>
Food Program	\$18,508,150.00
	\$140,467,475.00



The Economic Impact of Child Care in Colorado

The leverage-effect for Colorado funding can be described using the following ratio:

Total Funding:	<u>\$140,467,475.00</u> = 1.64
State Funding:	\$85,764,417.00

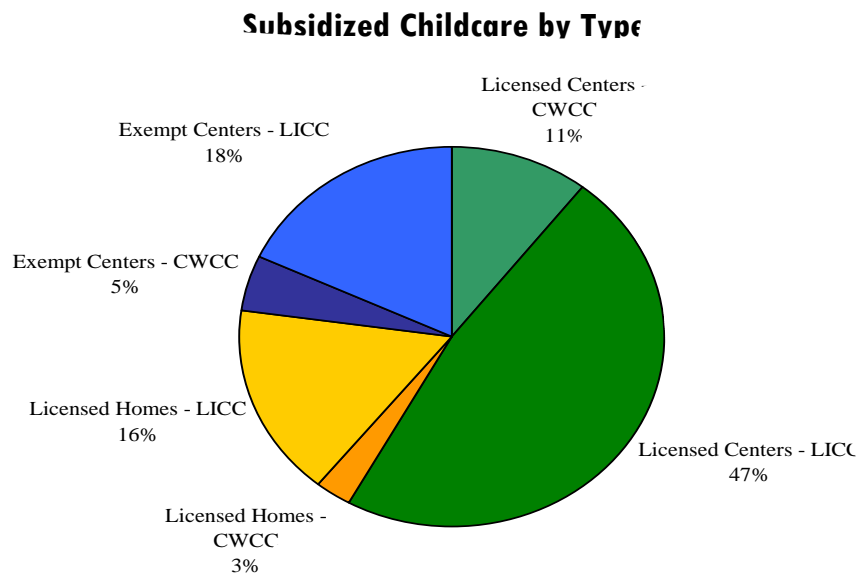
Through this leveraging effect, the overall economic impact (immediate effect, employment, and investment) could be multiplied by the ratio above. That is, one dollar spent from the *Colorado* budget can then be leveraged into 1.64 dollars of child care spending. Spending on child care has the associated economic impact multiplier of 1.89 – so the total gain to state output from \$1 of additional Colorado funding, when leveraged using federal funds is: \$3.10 of additional state output.



Appendix 2: Allocation of Child Care Funding

Section 2.A Subsidized Child Care by Type

In FY2002, 267,199 Colorado children received subsidized child care through either Colorado Works Child Care (CWCC) or Low-Income Child Care (LICC). The chart below shows what centers were used the most in Colorado, as well as the type of program that provides subsidies to these centers. Licensed centers, subsidized under the LICC program represent almost half of all subsidized child care. The CWCC is the smaller of the two state programs and provides support for about 19 percent of Colorado’s children who receive child care.



Section 2.B State vs. County Budgeting

Despite recommendations from the Fourth Colorado Works Program Evaluation (2003), most counties are choosing to completely eliminate families from child care funding. This may be perceived as the best strategy for individual counties to reduce local expenditures. But this strategy pushes many families onto welfare rolls that are state-financed. So while individual county child care expenditures fall, overall state welfare outlays may rise, wiping out the savings.

This type of divergence highlights the tradeoff between state- versus county-level planning. County-level planning offers benefits, such as greater flexibility. But these benefits must be weighed against the costs. Because each county has an incentive to maximize TANF transfers from the state to their county, these planners will always choose what’s best for them, rather than for the state overall.

The state planners have added to the confusion by insisting on county-autonomy, but at the same time setting “standards” at the state level. For example, the Counties are allowed to set the “income



The Economic Impact of Child Care in Colorado

eligibility” limits, but they cannot set the co-payment required from families. Counties are then forced to meet reduction targets using the eligibility requirements alone. After the fact, if the state changes the co-payment amount, each county will either face a deficit or a surplus, despite careful planning at the local level. It appears there has been little advance planning by the state. Each decision-maker has chosen a “status-quo” approach, where amendments are pasted to existing law, with no evidence of economic consideration or planning.



Appendix III: Comparison of Data Sources (Aka: How do BBC and Implan compare?)

The production and employment data is surprisingly similar between the recent Denver-based BBC Research and Consulting child care reports for Larimer and Boulder Counties, and the child care statistics available from the IMPLAN models for these two counties.

County Sales: Total sales in Boulder county in the BBC report was \$61.5 million in 2001, compared with 2000 IMPLAN data which reports \$53.3 million. The IMPLAN estimate is about 13% below that for the BBC. Some portion of this difference (probably about 2%) can be attributed to annual price and population changes. Larimer county data are even closer: \$39 million versus \$37. As shown in Table I, the employment figures are also quite similar.

Multipliers and Colorado State: Finally, the RIMMS-II multipliers reported in the BBC study correspond closely with multipliers from the county-specific models using IMPLAN data. Such consistent data should instill some confidence in the estimates which will be generated in the Colorado State Level BRD/CCC report. Using aggregate data for Colorado, total output in 2000 was approximately \$570

million, employing approximately 12,500 people. Employee earnings in child care were about \$211 million according to our dataset. It would be useful for the CCC experts to compare these state figures with in-house estimates.

Data Comparison for BBC/IMPLAN

	BBC	IMPLAN	BBC	IMPLAN
Child Care Sales	61,528	53,300	39,019	37,100
Child Care Employment	1,300	1,045	817	909
Multiplier	1.56	1.58	1.59	1.75

Colorado is 1.96. Typically, multipliers increase relative to the size of the economy. Also, the employment multiplier for Colorado is 1.50. Colorado employs approximately 32 child-care workers per million dollars of output.

The state-level multiplier for