



LINKING ECONOMIC DEVELOPMENT AND CHILD CARE RESEARCH PROJECT  
 CORNELL COOPERATIVE EXTENSION  
 DEPT. OF CITY AND REGIONAL PLANNING  
 W. SIBLEY HALL CORNELL UNIVERSITY ITHACA, NY 14853-6701  
 EMAIL: [childcare\\_econ@cornell.edu](mailto:childcare_econ@cornell.edu)  
 WEBSITE: <http://economicdevelopmentandchildcare.org>  
<http://economicdevelopment.cce.cornell.edu>

# Recession, Stimulus and the Child Care Sector: Understanding Economic Dynamics, Calculating Impact

By Mildred E. Warner, Ph.D. 2009

As part of the new Stimulus Bill (ARRA), states and localities may be required to show economic impact of the stimulus funds. This brief has been developed to help state policymakers calculate the stimulus effects of increased child care spending on output and employment in the state economy. There are three important aspects of the child care sector which need to be counted when assessing economic impact: **1) direct employment and output in the child care sector itself, 2) multiplier effects of the sector in the broader regional economy, and 3) the social infrastructure role child care plays in supporting the parent workforce.** All of these are short term economic effects. This report will address each of these aspects in turn and show how to calculate these effects using an example with data from the State of Kansas. But first we must understand the structure of the child care sector.

## UNDERSTANDING THE CHILDCARE SECTOR

The child care sector is like an iceberg. The tip, above the water line, is composed of formal market-based center care and family child care. Center care is most likely to be captured in economic census data. Census data are based on establishment reports sent to employers with more than ten employees. This leaves out most child care providers. Thus economic census data should be complemented with state administrative data to provide a fuller accounting of the child care sector. Licensed family care is well represented in state administrative data. However, many family providers are license exempt. An excellent alternative estimate of family care is the

Mildred E. Warner is Professor of City and Regional Planning at Cornell University and Co-Director of Cornell's Linking Economic Development and Child Care project. The project is supported by funds from the W.K. Kellogg Foundation. The project is co-directed by Louise Stoney of the Alliance for Early Education Finance and includes as partners Gerry Cobb of the Smart Start National Technical Assistance Project and Barbara Gault of the Institute for Women's Policy Research.



Census Self Employment data base (drawn from IRS records of individuals who pay taxes and are child care providers). Many of these individuals are license exempt or choose not to be licensed. The 2001 estimates of the self employed providers for each state are provided on the Cornell website.

A look at the iceberg shows clearly that the majority of care lies below the waterline – invisible to both economic census and state administrative data. To the extent you can estimate the informal paid child care sector, you should try to do so. The iceberg figure uses estimates from the Center for Child Care Workforce study (Burton, et al 2004) to estimate the paid portion of child care supply not captured in formal

statistics. We see this paid, but uncounted, care is as large as the formal family care sector. Next down in the iceberg is unpaid family friend and neighbor care which is as large as all paid child care (formal and informal) combined. At the bottom of the iceberg is the majority of care – unpaid parental care – which we estimated using the American Time Use Survey of how adults spend their time.

Economists agree that child care is a very complex sector. Parents substitute between formal center and licensed family care, paid informal care, unpaid family friend and neighbor care, and parental care. When the economy contracts and employment shrinks, the first part of the child care sector to disappear is formal center care. Parents without employment cannot afford to keep children in center care (which is typically the most expensive), and will either remove their children from paid care altogether, or substitute down the iceberg to lower cost formal and informal family care options.

*When the economy contracts, formal center care contracts and family care expands.*

Over the last two decades child care policy makers have worked to promote higher quality formal care options for our children. There has been an increase in center based care options since the introduction of the child care subsidy program – especially in low income and minority urban areas (Covington 2007). Government subsidies increased the effective demand of low income working parents and this resulted in a supply response. However, the current recession may erode most of those gains especially in the highest quality center care part of the sector. In effect, a portion of the center care tip of the iceberg will calve into the ocean and disappear. When a center goes out of business it is very hard to bring it back on line.

It is important to understand how the child care sector responds to economic crisis. While center care shrinks, family care increases as unemployed parents move into child care as an alternative form of employment. This helps meet continued demand for child care in the short term. However, **when the economy bounces back, many of these new family providers will return to the regular work force leading to shrinkage in the family child care sector precisely at the same time as demand for child care is rising.** Centers, due to higher start up costs, will not expand immediately and communities will face a shortage of child care that hampers economic recovery.

**It is important that child care administrators think of their role in the economic recovery as preserving the**

**formal child care system that is a critical social infrastructure for economic development.** This means subsidizing center slots even if parents are unemployed so that children have consistency of care and centers do not close their doors. If, instead, administrators choose the cheaper option of supporting more family and informal care, they will contribute to creating a sector that is more hidden below the waterline after the recession than before. States also may wish to structure their stimulus funds to encourage more family providers to become licensed. It is not in the interest of the economy or of the child care sector, to continue to have the majority of care outside the formal counted economy.

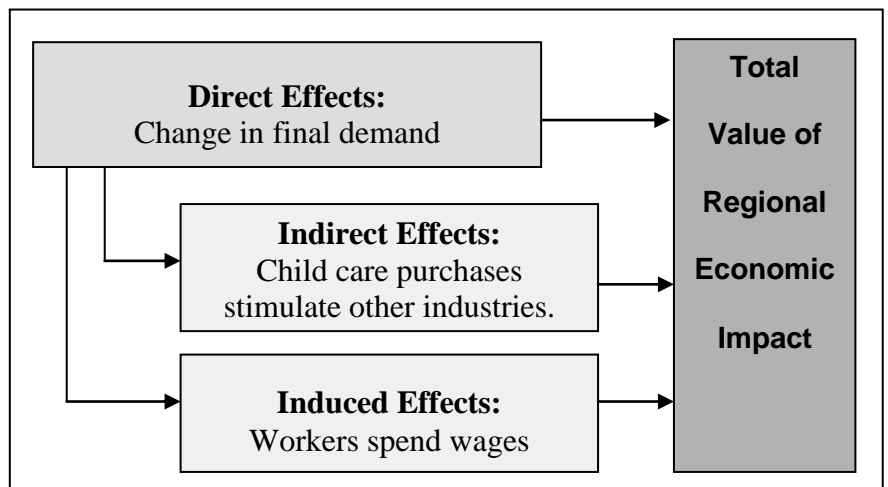
### UNDERSTANDING LINKAGE EFFECTS

The logic behind the stimulus money is that these expenditures will have ripple or multiplier effects through the rest of the economy. Increased demand in any sector not only has the *direct effect* of the new money expended and additional jobs created, but also an *indirect effect* through inter-industry purchase linkages, and an *induced effect* through increased expenditures of households. As Senator Durbin noted in the January 2009 Senate debate on the ARRA:

*"[T]he money spent in creating a job has to be looked at in the long term. If you create a job for a worker in Illinois and that worker ends up getting paid \$50,000 a year, that worker is going to take his or her paycheck and spend it. In spending that paycheck, it is going to put more money back into the economy. At the shops and stores they go to there will be receipts, profits, more people working, and the people who are working there will take their paychecks and go on and spend them as well. It is the so-called multiplier effect."*

Multipliers are measured with input-output models of the regional economy. The combined linkage effect of indirect (industry expenditures) and induced (household expenditures) is called the Type II multiplier and illustrated in the Figure below. Over 70 state and local teams have conducted economic

**Model of Child Care's Linkage Effects**



impact models of the child care sector over the last decade. If your state has done so, you should use data from that report. Links to all state reports conducted to date can be found on the Cornell Linking Economic Development and Child Care website. In addition, Cornell University has conducted input-output models for all 50 states and you can use this data to calculate the multiplier effects of additional child care expenditures in your state. A brochure describing the input-output modeling technique and the full report with data tables on multipliers for all 50 states can be found at our website(Liu et al. 2004, Warner 2009).

### CALCULATING ECONOMIC IMPACT

Below is an example of how to work through an analysis of the impact of additional federal spending on the child care sector. The example is based on data from the 2003 Kansas Economic Impact report. If your state has an economic impact report, you can use it. If not, you can use your own administrative data and complement it with the economic census data compiled for each state and available on Cornell's website, and the multipliers calculated by Cornell for all fifty states.

There are three steps. First, you must calculate direct effects: the stimulus dollar infusion and employment created by those dollars. Second, you must calculate the linkage effects of those stimulus dollars on economic output and employment statewide. Third, you may wish to measure the social infrastructure effect on employed parents who need child care in order to work. Note, because we are in a recession, some of your stimulus dollars may not be creating new jobs, but preventing current jobs from disappearing. Job losses also have linkage effects – in fact, this is the downward spiral the stimulus money is designed to stem. You can calculate linkage effects on the loss averted. Remember, our goal is to try to maintain as much of the child care infrastructure as possible, so it is there to support parents and employers when economic growth returns. The recession is worldwide, but in other advanced industrialized countries more of the child care sector is government funded. These countries will preserve more of their child care sector during these recessionary times. If we allow ourselves to lose our best quality care, we will be poorly positioned to compete with other nations when the economy rebounds.

#### Empirical Example of Calculating the Stimulus Effect

**1. Direct Effects:** Count the direct dollar infusion (this is the amount of the stimulus money). Let's say you spend

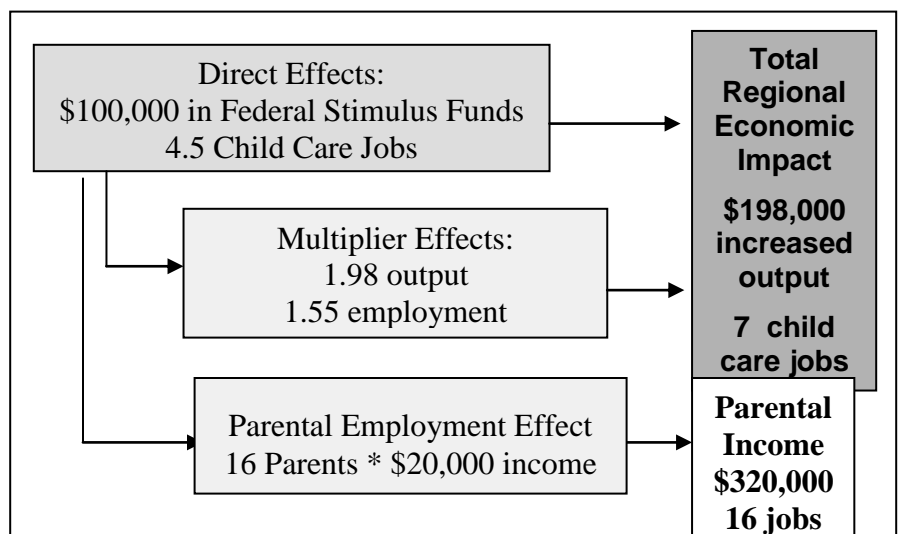
\$100,000 in additional federal stimulus dollars on child care. To determine the jobs created in the child care industry as a result of stimulus investments you need to turn this dollar infusion into the number of children served. Use average subsidy per child to determine this. For example, at an average subsidy of \$3146 per child in Kansas, an additional \$100,000 in subsidy funds would serve 32 children. Given an average child:staff ratio of 7.4 (calculated by taking # children in care/number child care workers statewide) the direct effect of the \$100,000 stimulus money would be about 4 ½ new jobs in the child care sector. You also can use specific ratios by age of child and type of care if you have that data. For more information on how to count the direct employment and output effects of the child care sector see Cornell's Methodology Guide (Ribeiro and Warner 2004).

**2. Linkage Effects:** The total impact is more than \$100,000 or 4.5 jobs because of the multiplier effect.

- a. To get the economic output linkage effect you multiply the direct stimulus dollars, \$100,000, by the Type II output multiplier which is 1.98 for Kansas (it is around 2 for most states). The total impact subsidy dollars will have on the Kansas State economy is  $\$100,000 \times 1.98 = \$198,000$ – in the short term!
- b. To get the employment linkage effect you multiply the direct jobs created, 4.5, by the Type II employment multiplier, 1.55 (it is around 1.5 for most states), and the total employment impact is 7 jobs.

**3. Social Infrastructure Effects:** If you think child care subsidies are enabling the parents of those children to go to work, this can be calculated by multiplying number of parents served by average wage to get a parent wage effect. If the additional \$100,000 in subsidy funds are supporting 32 children, let's assume 2 children per low income Kansas parent and

#### Calculating the Stimulus Effect



the parents all get low wage service sector jobs. The subsidy is serving 16 parents who we estimate earn a service wage of \$20,000/yr for a \$320,000 additional parental wage effect. Keep this parent wage effect separate from the direct and linkage effects in 1 and 2 above, but you can report it as an additional benefit of child care investments, which other stimulus expenditures do not offer. Parent wages should count in the sector where they find work, not in childcare. But child care is unique as an infrastructure because it enables parents to work. So some mention of this parental employment effect is appropriate.

In a recession many parents may be looking for work and not yet finding jobs. In this case, the social infrastructure argument is not based on parent employment currently, but on the importance of preserving a critical infrastructure necessary for future economic recovery. This is the argument of the infrastructure expenditures supported in the rest of the ARRA – roads and bridges, broadband, etc. In fact, the multipliers (under linkage effects in 2 above) are higher for child care than for other infrastructures like interurban passenger transit, hospitals, job training, water supply and sewerage systems (Warner 2009).

## **CHILDCARE AND ECONOMIC DEVELOPMENT**

*Economic developers recognize child care is a critical social infrastructure.*

Economic developers are increasingly recognizing the importance of child care both as an economic sector itself and as a critical social infrastructure for the economy. Statewide surveys in Wisconsin and New York find the majority of economic developers believe child care should be part of economic development policy (Nacker 2005, Cornell 2006). Congress agrees, and this is why child care was included in the Stimulus Bill. The economic recession will restructure the child care sector, reducing formal center care and expanding family care and informal care. A modern economy requires a high quality child care sector. Much of our work to improve quality and access to formal sector care could be lost with the recession. Using stimulus dollars to keep the formal child care sector strong during the recession is a way to ensure that our earlier investments in quality and access are not lost.

We also need to engage economic developers in each state to address the many market challenges of the child care sector. These include 1) opportunities for shared services to achieve economies of scale, 2) clear market signals for quality (for both providers and parents) to overcome consumer information problems, 3) subsidies or tax credits for parents to increase effective demand for quality, and 4) direct subsidies to providers to ensure quality. For economic development strategies for the child care sector see (Warner et al 2004 and Stoney 2004).

All other infrastructure sectors in our economy receive significant public support because we recognize that the private sector alone cannot bear the cost of a quality infrastructure. Public goods require public investment. All of society benefits from quality child care, but parents still bear the majority of the costs. By recognizing the importance of child care as part of economic recovery, we can now push to have child care included as a priority investment in future infrastructure and economic development programs. Our economy depends on it.

## **RESOURCES**

Burton et al (2002). Estimating the Size and Components of the US Child Care Workforce and Caregiving Population: Key Findings from the Child Care Workforce Estimate. Washington, DC: Center for the Child Care Workforce.

Cornell 2006. *NYS Survey of Economic Development and Child Care*. Cornell Univ.

Covington, Kenya, 2007. Evidence of Dynamic Geographic Shifts in Metropolitan Child Care Markets Over the 1990s, *International Journal of Economic Development*, 9(3):159-204.

Liu, Zhilin, Rosaria Ribeiro and Mildred Warner, 2004. *Comparing Child Care Multipliers in the Regional Economy: Analysis from 50 States*, Ithaca, NY: Cornell Univ.

Nacker, Roger 2005. Economic Development Survey in Wisconsin, Strongest Links Conference, Madison, WI.

Ribeiro, Rosaria and Mildred Warner. 2004. *Measuring the Regional Economic Importance of Early Child Care and Education: The Cornell Methodology Guide*. Ithaca, NY: Cornell.

Shellenback, K. 2004. *Child Care and Parent Productivity: Making the Business Case*, Cornell Univ.

Stoney, Louise 2004. *Collective Management of Early Childhood Programs: Approaches that Aim to Maximize Efficiency, Help Improve Quality and Stabilize the Industry*. Cornell Univ.

Stoney, L. & A. Mitchell. 2009. *Maximizing Resources from the Stimulus Package: Possible Strategies for Funding Quality Rating and Improvement Systems*. The Build Initiative.

Warner, M.E. 2009. *Child Care Multipliers: Stimulus for the States*. Cornell Univ.

Warner, M. E., 2007. Child Care and Economic Development: Markets, Households and Public Policy, *International Journal of Economic Development*, 9(3):111-121.

Warner, M.E. & Z. Liu 2006. The Importance of Child Care in Economic Development: A Comparative Analysis of Regional Economic Linkage, *Economic Development Quart.* 20(1):97-103

Warner, M., Adriance, S., Barai, N., Hallas, J., Markeson, B., Morrissey, T. & Soref, W. 2004. *Economic Development Strategies to Promote Quality Child Care*, Ithaca, NY: Cornell.

*Reports above are available on the Cornell web site.*