

MEASURING THE REGIONAL ECONOMIC IMPORTANCE OF EARLY CARE AND EDUCATION:

THE CORNELL METHODOLOGY GUIDE

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This methodology guide is designed to help study teams answer basic questions about how to conduct a regional economic analysis of the child care sector. This guide describes some of the unique challenges of analyzing child care as an economic sector, as well as some of the opportunities a regional economic development framing can bring to the child care policy debate. Any remaining errors are the sole responsibility of the authors.

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TERMS USED IN THIS REPORT

Backward linkage: The purchases of one sector from its suppliers. Input-output multipliers only measure backward linkages.

CACFP: (Child and Adult Care Food Program) Federal funding for nutritious food for children in regulated child care settings.

Center-based child care: Programs that provide care and education for a group of young children in formal settings outside of a home, includes for-profit or not-for-profit programs, public and private establishments, Head Start programs, pre-kindergarten and child development programs.

Child Care Resource and Referral (CCR&R): Intermediary agencies that help assess community need, develop supply, provide parent referral services, and help families make informed child care choices. Many CCR&R agencies train providers in child development, health and safety, and business management and may sponsor CACFP programs.

Child care subsidies: Federal funds for child care available through the Child Care Development Fund (CCDF), which is disbursed by the states. States and some local governments also match a portion of their federal funds. Each state establishes its own guidelines for the use of these funds, as well as the procedures and time frames for applying.

Direct effects: Typically measured in dollars of output or number of employees stimulated by the initial demand for a sector's services. In input-output models, the direct effects are the changes in a sectors' output or employment stimulated by a change in that sector's final demand.

Economic development: Economic development is typically measured in terms of jobs and income, but it also includes improvements in human development, education, health, choice, and environmental sustainability. Business and economic developers in the US are increasingly recognizing the importance of quality of life, which includes, environmental, and recreational amenities, as well as social infrastructure such as child care, in attracting and retaining businesses in a community.

Employment multiplier: An estimate of the gross number of jobs that would be created throughout the regional economy from an increase in demand for child care services large enough to stimulate the addition of one new job in the child care industry.

External demand: Demand from outside the regional economy of interest, e.g. federal demand in a state model.

Family child care home: One provider caring for one or more unrelated children in a home other than the child's home. Regulations vary by state. Most economic studies use this term to refer to providers that are regulated, licensed or license-exempt, but *not* informal providers.

Final demand: A sector's outputs are demanded both inside and outside the regional economy. Final demand in an input-output framework is that portion of demand that is *not* used in the production of other outputs inside the regional economy (intermediate demand). Final demand includes consumption, investment, government, and exports.

Forward linkage: Sales from one sector to other sectors in the regional economy enable the purchasing sectors to produce output. A measure of a sector's "enabling" function is its forward linkage.

Group family home: Family homes caring for a larger number of unrelated children in a home, other than the child's home, and needing one or more adult assistants. Group family homes typically have a provider-to-child ratio determined by the ages of the children who are present.

Gross receipts: Total revenues received by child care providers. Gross receipts can be estimated by multiplying child care enrollment by price of care (accounting for type of care, child's age and geographic location) and adding in direct government payments to providers.

Head Start: Head Start is a comprehensive child development program that serves children from ages 3- 5 and their families. Early Head Start serves children under age three. The program is child-focused and has the overall goal of increasing the school readiness of young children in low-income families. Program grantees and delegate agencies deliver a range of services that encompass all aspects of a child's development and learning.

Indirect effects: Count the multiple rounds of inter-industry purchases spurred by child care industry spending. Child care businesses purchase food and supplies from other industries, in turn stimulating output in those industries.

Informal care: Composed of family, friend and neighbor care that is not licensed or regulated. These providers are typically *not* included in child care economic analysis.

Induced effects: Capture the impact of household spending. Employees spend their wages in the larger economy and these expenditures generate demand in other industry sectors (housing, groceries, etc.).

Input-output analysis: A form of regional economic modeling that economic development analysts typically use to assess the linkage effects of different sectors in the regional economy. Input/Output analysis shows how the spending of any industry "ripples" through an economy.

License-exempt child care: Child care establishments exempt from licensing include family home providers caring for a limited number of children (e.g. <2 children other than the provider's own children in NYS), or part day preschool or public school-based programs that do not fall under state child care agency review. License-exempt home providers are still typically inspected for fire and safety considerations.

Licensed child care: The state requirement that any child care establishment that meets a state definition must have the permission of the state in order to care for children. Child care establishments that fall within the definition are required to get a license and cannot operate without permission from the state, 2) establishments are required to meet the state standards (typically child-to-staff ratios, provider qualifications, health and safety requirements, and provider background checks for child abuse and neglect and criminal records) in order to operate, and 3) the state can withdraw its permission if an establishment fails to meet the standards. Licensed child care typically includes centers, group family homes and licensed child care homes.

Linkage effects: As money circulates between industries in the regional economy it stimulates economic activity.

Output multipliers: (for the child care industry) Estimate the total sales that would be generated in the entire economy by each dollar of increased direct spending for child care services.

Pre-kindergarten: Publicly funded child development/education program for children ages three to five. Can be in both public and private settings depending on the state.

Regulated child care: A general term that covers all forms of rules that are applied to child care establishments, including: building safety approvals, fire safety approvals, licensing, funding requirements, criminal record checks, and child abuse and neglect clearances. Regulated, but not licensed establishments, would be required to meet fewer standards (as in license-exempt home providers). Informal providers are not part of regulated child care.

Type I multiplier: Includes the direct effects of the child care sector and the indirect effects of inter-industry purchases.

Type II multiplier: Includes direct effects of the child care sector, indirect effects of inter-industry purchases, and induced effects generated by household and worker expenditures.

SECTION ONE

LINKING ECONOMIC DEVELOPMENT AND CHILD CARE

Increasingly, states, counties, and municipalities are recognizing the value of child care to the regional economy. As part of this effort, policymakers and researchers are using economic development methods to broaden public support and develop innovative financing solutions for the child care sector.

In this report, the term child care refers to the full range of non-profit and for-profit early education and child care programs.

The economic importance of child care has three components: its effect on the regional economy, its effect on parents (social infrastructure supporting workers and their employers), and its effect on children (investing in human development and education). These three effects are represented by the trillium flower above. The educational impact on children has been the primary focus of most child care policy. This is probably the most important effect of the child care industry, in the long term, by helping children prepare for school and lead healthier, more productive lives. Long-term studies have found high societal returns from investments in early education (Rolnick and Grunewald, 2003; Barnett, 1995; Committee for Economic Development, 2002). However, these long-term effects have not been measured in regional economic impact models nor have they substantially influenced state economic development policy. Economic studies of the child care sector primarily have focused on market challenges affecting parental choice, quality, and labor force issues (Helburn and Bergmann, 2002; Blau, 2001; Burton et. al, 2002).



Economists and planners are beginning to recognize the important contributions the child care sector makes to the regional economy in both the short and long term. Across the country, states and localities are using regional economic analysis to estimate the size of the child care sector and its linkage effects in the regional economy. This methodology guide is designed to help state and local teams conduct such studies. The focus is on the short term regional economic effects of the child care sector – the *regions* petal in the trillium flower above.

The child care industry is composed of many small businesses that directly contribute to growth in jobs and income. The majority of US parents seek care and education for their children through a private system composed of non-profit, for-profit and family providers. These providers are small businesses that form an integral part of the regional economy, although they are typically not viewed as such. The sector also stimulates linkage effects in the broader regional economy. Calculating the size and linkages of the child care sector is the primary focus of this methodology guide.

Child care is an integral part of the regional economy.

Parents and providers have traditionally been considered the primary beneficiaries of child care policy. An economic development framing extends the beneficiaries to all community members, especially economic development interests. New partners are crucial to opening up new ideas for public policy, as well as new approaches to financing child care.

A high quality child care system, just like roads and bridges, is part of the infrastructure for economic development.

Economic development is typically measured in terms of jobs and income. However, research in the last 20 years has pointed to the importance of a broader definition of economic development. Economists now acknowledge the importance of human development and environmental sustainability for economic development (Sen, 1999; United Nations, 2003). Business and economic developers in the US are increasingly recognizing the importance of “quality of life,” which includes environmental, educational, and recreational amenities, in attracting and retaining businesses in a community (Florida, 2002).

The growth in importance of service sectors, such as child care, has raised new challenges and opportunities for economic development policy beyond the traditional focus on export demand (Pendall et al., 2004). The child care sector reflects these broader conceptions of economic development. Its primary function is to promote human development of young children and a secondary role is to enhance choice for parents who need child care in

order to work. Women’s labor force participation has increased markedly in the last four decades along with the growth of the paid child care sector (US House of Representatives Committee on Ways & Means, 2000). Child care is critical to community sustainability and improves quality of life. Where the child care sector has been remiss, is in measuring the basic jobs and income effects of the sector itself. This guide is designed to help state and local teams measure the size of child care as an economic sector.

Across the US, communities are forming teams to conduct regional economic analyses of the child care sector to help strengthen the awareness of child care as an important component of the social infrastructure that supports economic development.

These teams represent a growing social movement to promote investments in quality, affordable child care. More than two-dozen studies have been completed (9 states and 21 counties), and more than a dozen additional studies are underway (7 more states and 6 counties) (See Appendix A for detailed information on all of the completed studies). The Cornell University Linking Economic Development and Child Care Research Project helped review many of these studies.

This methodology guide is designed to help study teams answer basic questions about how to conduct a regional economic analysis of the child care sector. Specific examples are drawn from a local study, Tompkins County, NY, and two state studies, Kansas and New York, which the Cornell team conducted. Other state and local studies are also highlighted in this report: Vermont (Windham Child Care Association & Peace and Justice Center, 2002), Maine (Hildebrand, 2003), California (Moss, 2001), Minnesota (Traill & Wohl, 2003), Milwaukee (Levine and Fendt, 2002), Florida (Florida’s Children Forum, 2003), and Rhode Island (Quigley and

Notarantonio, 2003). This guide describes some of the unique challenges of analyzing child care as an economic sector, as well as some of the opportunities a regional economic development framing can bring to the child care policy debate.

CHALLENGES AND OPPORTUNITIES

Framing child care as economic development is an entirely new approach for most child care professionals, who typically do not think of child care as an economic sector. Child care experts involved in these studies report that their work has resulted in a new awareness of the sector's importance to local and state economies. State teams also now recognize the necessity of consistent, economically-oriented child care data and the need to address the business challenges of the sector, such as management and marketing.

Service sectors, such as child care, present analytical challenges from a regional economic stand point. Regional economic analysis, such as input-output models were originally built to study the backward linkages (i.e. purchases) of export-based sectors like agriculture, forestry and manufacturing, and there is a limit to how well input-output models can measure the forward linkages (i.e. sales which enable other industries to produce) of service sector industries (Warner et al., 2003). With the growth in service sector employment (which now comprises 80 percent of all employment nationally), more attention is being focused on how to measure the regional economic importance of service industries.¹

An economic development framing offers new opportunities for the child care field. The Cornell Linking Economic Development

¹ The Cornell research team is working on developing new methods to measure both forward and backward linkages. This guide however, includes a discussion of traditional input-output multipliers that measure only backward linkages.

and Child Care Research Project is conducting research to develop a better theoretical and empirical understanding of how the child care sector contributes to the broader regional economy, and to help build a new policy framework for child care that addresses the sector's importance from an economic development perspective.

"Business and the economy as a whole gain a more productive work force when employees feel confident that their children are secure and learning. And society as a whole benefits when more families are self-sufficient and the next generation of citizens is well prepared for its adult responsibilities." (Committee for Economic Development, 1993)

REPORT OVERVIEW

The purpose of this report is to provide a basic set of tools for states and localities interested in conducting a regional economic analysis of the child care sector. This guide discusses:

- ❖ the key steps of a regional economic analysis,
- ❖ guidelines for data collection and analysis using examples from previous studies, and
- ❖ policy applications that an economic development frame offers.

Section 2: Building your Team

Discusses the importance of building a team of data experts, economic developers and policy makers to oversee the study process. It also raises questions that must be answered before an analysis can begin, such as: what to include in the child care sector and what geography to include in your regional analysis.

Section 3: Measuring the Size of the Sector

Describes how to measure the size of the child care sector by the number of establishments, employees, children served, and gross receipts. This is the most important part of a regional economic analysis. Obtaining accurate, up-to-date data is a crucial first step in any analysis. There are serious challenges in reconciling data from different sources (US Census, County Business Patterns, state child care licensing data, and national surveys). This section provides a thorough description of data sources and methods used.

Section 4: Parents Served

The child care sector has two sets of direct customers: children served and parents who purchase child care. Section 4 presents methods for measuring the number of working parents served by child care and estimating working parent purchasing power.

Section 5: Input-Output Analysis

Describes input-output analysis, a form of regional economic modeling that economic development analysts typically use to assess the linkage effects of different sectors in the regional economy. Input-output analysis shows how the spending of any industry “ripples” through the economy. This section shows how multipliers can be used to measure the strength of economic linkages of the child care sector.

Section 6: Effects of Government Investment

Discusses the role of government investment in promoting access to child care and improving the quality of early care and education programs. This section provides examples of how regional economic analysis can be used to show the economic development impact of public spending on child care.

Section 7: Economic Development Policy Options

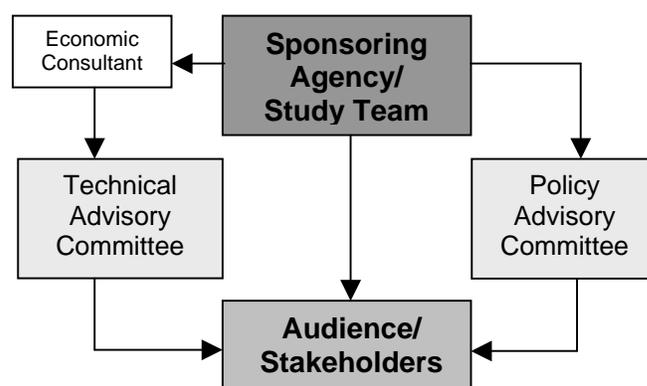
Discusses the potential of an economic development framing for child care to increase public and private support for the field. It describes several policy and implementation strategies that could serve as guides for early care and education leaders. This section also describes the importance of involving stakeholders in the process and developing resource materials for specific policy audiences.

The needs and goals of the child care sector vary across states and localities. Study teams should carefully consider *why* they are conducting a study and use these goals to help guide the analysis and presentation of results. A regional economic analysis of the child care sector requires a considerable investment of organizational time and resources. This is why most state teams work collaboratively with a broad range of government, business and education stakeholders. We hope this methodology guide will help facilitate that process.

SECTION TWO

FIRST STEPS: BUILDING YOUR TEAM

Before conducting an economic analysis of the child care sector, it is important to consider the target audiences and the primary objectives of the study. Meeting with stakeholders to clarify the goals and purpose of the study helps focus the work, and builds support for the analysis itself and subsequent policy innovations. Establishing advisory committees is the best way to get stakeholders involved.



Possible Members of Advisory Committees:

Business and Economic Development

- Chamber of Commerce Members and Business Leaders
- Economic Development Experts
- Workforce Development Board
- Public Relations Experts

Child Care

- Child Care Resource and Referral Agencies (CCR&Rs)
- Child Care Advocates

Government Agencies

- Education, Licensing, Human Services etc.

Academic & Foundation Representatives

The advisory committees, in addition to the lead agency staff, help orient the consultant to the goals of the project and ensure the foci, data and messages reflect project goals.

Experts in state data systems, CCR&R data and Census data can help teams understand collection methods and determine why estimates differ across sources. Academics can help advise on data interpretation and on survey design strategies, should the study team elect to conduct surveys. Economic development and policy professionals help teams keep focused on overall goals which sometimes can get lost when the teams are enmeshed in detailed data discussions. Public relations experts and foundation representatives help teams think about the audience and the importance of balancing thoroughness and credibility with simplicity and ease of understanding.

We have found study teams benefit from two advisory committees: 1) a technical advisory committee that has expertise in different data sources to ensure the data and methods are robust to criticism, and 2) a policy advisory committee to bring non-traditional partners (business, economic developers) into the planning and decision making process. Typically, projects will engage an economic consultant to help conduct the analysis.

DEFINING THE CHILD CARE SECTOR

The first decision to be made before conducting a regional economic analysis is to decide on what types of care to include as part of the sector and which data sources to use. The child care field is comprised of many types of care – public and private, center and family based, licensed, license-exempt, and informal. Most study teams have decided to

count both the child care and early education (Head Start and pre-kindergarten) portions of the sector. This is a critical political choice that leads to a more inclusive vision of the child care sector and helps to break down the barriers between the education and care portions of the sector. Most studies chose to include only licensed care, both public and private, and center and family providers. Some studies also counted informal providers who are registered with CCR&Rs and license-exempt providers that are approved to provide child care to children receiving government subsidies.² These choices should be based on local realities, available data, and goals of the regional economic analysis. For example, if strengthening the economic performance of the informal portion of the sector is a priority, then efforts to estimate it should be a focus of the study team.

DEFINING THE GEOGRAPHIC AREA OF THE STUDY

A regional economic analysis is just that – regional. The next critical question for each study team is, “*What is the region of interest?*” State studies will naturally want an analysis of the state as a whole. But each state may have several important sub-regions. In Kansas, for example, we conducted separate analyses for the Kansas City metropolitan region and Wichita. Because Kansas is also a rural state, we worked with the advisory committee to identify “rural market towns” and “deep rural” counties and conducted separate analyses for a sample of each locality type. In New York, the study team did analyses for the state as a whole,

² Licensed care describes child care programs in a center or provider’s home that follow state regulations for staff-to-child ratios, educational, health and safety standards. Regulated, license-exempt providers are subject to fire and sanitation regulations but are not subject to other requirements of licensure. Informal providers are composed of family, friend, and neighbor care that are not licensed or regulated.

New York City, the Long Island and northern NYC suburbs, and each of the large upstate metro regions. The remaining counties were divided into three income classes, by the Office of Children and Family Services, to determine market rates. The study team sampled counties from each of these categories and ran county models on these. The purpose of these sub-state analyses was to get a sense of the differences among locality types.

When choosing a geography of interest, care must be given to 1) the realities of how an economic region operates, 2) the political realities of what stakeholders consider to be relevant regional boundaries, and 3) the availability of data at a regional scale. There will be problems with data suppression due to confidentiality at the local level, but if state administrative data or Resource and Referral (CCR&R) agency data has good coverage at the local level then addressing sub-state differences may be possible. Where an economic region crosses state boundaries, as in Kansas City and New York City, study teams may decide to focus only on that portion of the region inside their state – because that would be most relevant for policy purposes. Whatever geographies are chosen, care must be taken to ensure data match the relevant geography.

ADDRESSING DATA CHALLENGES: THE IMPORTANCE OF A TECHNICAL ADVISORY COMMITTEE

The steps of collecting data and comparing it across multiple sources are a critical, but time consuming, part of the process. Credibility of the analysis rests on careful review and selection of data. We find study teams need to establish a technical advisory committee to help resolve data discrepancies and capture the full diversity of the sector. The Technical Advisory Committee should have expertise on the following sources: Child Care Resource and Referral data, state licensing data,

government finance and tax data, education data, and economic and demographic data. Selection of data sources should not be left to an economic consultant, as reconciling the differences in child care sector data requires a collective review process because these data sources will differ based on methodology of collection and definition of elements being measured. Study teams often have to triangulate between different data sources.³

Choosing which data to include from conflicting sources is also a challenge and requires teams to confront the current frameworks of child care data. Caring for young children is the product of the child care sector, yet no one source measures exactly how many children receive care. Data are available on children that receive public subsidies from within the welfare policy framework. Within the framework of education, data are available for public programs such as, Head Start and pre-kindergarten. However, the majority of child care businesses are private care establishments, and we do not have comprehensive data on the majority of children served. A regional economic analysis requires a comprehensive view, including all providers—public and private—and children served.

BUILDING NEW PARTNERSHIPS: THE IMPORTANCE OF A POLICY ADVISORY COMMITTEE

The main objective of conducting a regional economic analysis of child care is to engage non-traditional partners — business leaders and experts in economic and community development, banking, housing, workforce development — in forging new strategic alliances aimed at increasing investments in the sector. Study teams should establish a

³ Triangulation is a qualitative technique used to hone in on an estimated data point using multiple data methods and data sources.

Policy Advisory Committee that brings together these non-traditional partners. This committee is responsible for specifying the objectives and goals of the research project. Getting the stakeholders involved early in the process will help ensure the analysis is focused on data needed for subsequent policy recommendations. However, these economic development leaders may not want to be involved in the detailed data discussions of the Technical Advisory Committee. While some members may sit on both committees, study teams must be careful not to burden business leaders with detailed data discussions. This is why we recommend having two advisory committees.

The Cornell Project is tracking the policy innovations stimulated by an economic development framework. The report, *Framing Child Care as Economic Development: Lessons From Early Studies* (Stoney, 2004b), highlights the partnership work of advisory committees. The following are some examples of how study teams engaged policy advisory committees and how this influenced the goals and foci of their analyses.

In *Tompkins County, NY*, the economic study of the child care sector was initiated by the Early Education Partnership (EEP), a project of the Tompkins County Chamber of Commerce, the Day Care and Child Development Council and Cornell University. Funding was provided by Cornell and the W.K. Kellogg Foundation. The Partnership, which works to create local solutions for child care finance, brings together leaders from the economic development, business, higher education, philanthropic, social services and government sectors (Warner et al., 2003). Each of these policy leaders brought a different perspective to the table and contributed to the enrichment of the debate and the design of the project. For instance, in Tompkins County, the economic analysis was

part of a larger plan to raise new public and private child care funding to build a community scholarship fund for all working families. This fund also will promote administrative efficiency within the child care sector (Early Education Partnership, 2002a).

The *Kansas State* team worked in partnership with the economic development community for this study. The project was funded by the Kansas Department of Social and Rehabilitation Services (SRS) and conducted by the Mid-America Regional Council—the regional planning organization for the Kansas City metro region—which worked closely with Cornell University, SRS and the Kansas Association of Child Care Resource and Referral Agencies to conduct the research and analysis. This project was part of a larger multi-sectoral effort by the Metropolitan Council on Child Care to strengthen early education in the Kansas City region. In addition to determining the size of the child care sector in the state, the Kansas report gave attention to the importance of public funding. The State was in fiscal crisis and the regional economic analysis was used to frame public funds for child care subsidies as a strategy to support workers and their employers, and to draw new, federal funds into the state. The study team used the economic development frame to demonstrate that child care subsidies are more than welfare, they are an important economic investment for the state of Kansas (Stoney, et al., 2003).

“Investing in child care makes economic sense for the state of Kansas. It is an investment that will pay off in many ways: by supporting jobs and families, fueling local economies, drawing additional federal funds into Kansas, and providing crucial child care for the next generation of workers.” (Stoney et al., 2003)

The goals of the *Vermont* study were to educate policymakers, business leaders, economic developers, and planners. The economic impact study was jointly sponsored by the Windham Child Care Association, a resource and referral agency, and the Peace and Justice Center, a non-profit organization working for livable wages and workers' rights. Academics served on the advisory committee and a policy analyst, who had previously worked on the State's livable wage campaign, conducted the analysis. Vermont's study was funded by the Autumn Harp Foundation and the Child Care Services Division of Vermont's Agency of Human Services and the agency was actively involved in the project from the beginning. Vermont's final report not only illustrates the child care industry's impact on the larger economy, but also the percentage of family expenditures on child care, the growing demand for child care subsidies, and the wages of child care staff (Windham Child Care Association & Peace and Justice Center, 2002). Results of the study are being shared with business groups (e.g. Chambers of Commerce) and planning organizations across the state. As a result the legislature included a section on child care in Governor Douglas' 2002 Jobs Bill (Pratt, 2004).

In *California*, the Local Investment in Child Care Project (LINCC) was initiated by the National Economic Development and Law Center (NEDLC) and funded by the David and Lucille Packard Foundation. NEDLC worked closely with the California Child Care Resource and Referral Network in the collection and analysis of data. The shortage of licensed child care slots to meet the growing demand for child care was a key reason for this project. The economic development frame was used to promote policies aimed at expanding the number of child care facilities that provide quality licensed care in that state. NEDLC conducted a statewide study and several county studies

using similar methods and messages in each. Many counties have since developed planning tools to facilitate the creation of new child care supply (Hildebrand, 2001a).

Framing child care as economic development can help communities articulate its value as an infrastructure for economic development and identify alternative policies to increase public and private support for the sector. Alliances between the child care and business communities may lead to greater understanding of the importance of child care, new business practices which could be used to improve the efficiency of the sector, and new policy tools not traditionally applied in human services. This is the promise of an economic development frame.

SECTION THREE

MEASURING THE SIZE OF THE CHILD CARE SECTOR

The child care industry represents a large and growing economic sector. In New York State, the child care sector was found to include 22,000 regulated establishments, employing 119,000 workers, serving 623,000 children and bringing in almost \$4.7 billion in gross receipts annually.

Measuring the size of the child care sector: number of businesses (establishments), number of employees, product (children served) and sales (gross receipts)—is the first order of business in an economic analysis. This is the most important and time consuming part of the economic analysis.

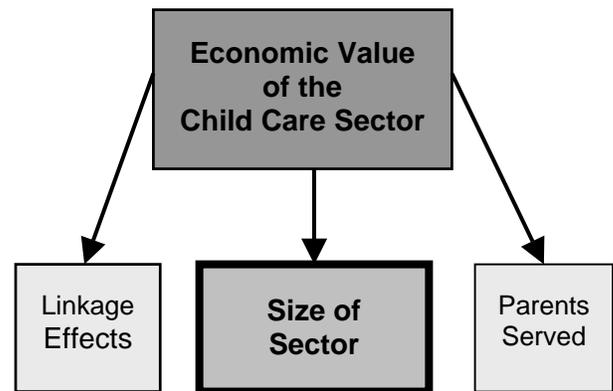
Size of the Child Care Sector:

- ✓ *Number of Establishments*
- ✓ *Number of Employees*
- ✓ *Number of Children Served*
- ✓ *Gross Receipts*

In this section, we provide examples of the methods used to collect data and measure the size of the child care sector.

COLLECTING ECONOMIC DATA FOR CHILD CARE

The child care sector includes for-profit, non-profit, and publicly funded establishments. There also are a large number of self-employed providers who may not be registered or licensed, and who are even harder to enumerate. In addition, some child care establishments are attributed to other sectors, including social services and education.



Different data sources capture different aspects of the sector and it is difficult to match the data from one source to another. Unfortunately, there is no single data source available that provides data on all types of care. Deciding which data sources to use and what portion of the sector to count (part and full-time, licensed, licensed-exempt, etc.) is a policy choice that research teams have to make collectively.

We recommend that researchers use sources that capture the majority of the child care providers in the area being studied. Study teams who conduct child care economic analyses typically end the process with a new appreciation for the importance of comprehensive data and a renewed commitment to more integrated child care data systems.

State and Local Administrative Data

Most studies use licensing data from their state agencies and compare it to Child Care Resource & Referral network (CCR&R) data. State licensing data provide the number of licensed establishments, the legal capacity of children by age group, and staffing ratios that can be used to estimate employment. State market rate surveys are a source of data for the price of child care by type of provider, age

group, location and, in some cases, actual enrollment. One advantage of state administrative data is the consistency in method of collection across establishments, employees, children served, and price of care. State administrative sources also can be used to calculate the amount of government investment in the child care industry. CCR&R data can confirm and enrich state data, and may provide local vacancy rates and average prices. CCR&R data often include larger numbers of family providers and license-exempt programs.⁴ Some study teams have conducted surveys or used an existing survey from another source to add to the available data.

National Economic Data

National economic data sources such as the County Business Patterns, Economic Census, US Census Nonemployer Statistics, and Bureau of Labor Statistics report on certain aspects of the child care sector and can be used for a comparison with state and local administrative data. Most national economic data are available in two main categories: employer and non-employer (e.g. self-employed) establishments. When comparing state administrative data to national economic data on child care, study teams should pay close attention to the definition and coverage of the sector by each data source (see Appendix B for detailed information on national data sources). Most national data sources report on the number of child care establishments, size of labor force, gross receipts, and employee compensation, but none report on the number of children served by child care providers. National data sources provide only the aggregate number of establishments and do not distinguish between type of care, or licensed and unlicensed care.

⁴ Both state administrative and CCR&R data have some limitations and this varies across states. If possible, study teams should triangulate state licensing and CCR&R data to get a better estimate of the size of the sector.

MEASURING THE SIZE OF THE SECTOR

Any economic sector is measured primarily by its size: total number of businesses, number of workers, product, and revenue. For the child care sector, this includes: number of child care establishments, size of the child care labor force, number of children served by paid care, and total gross receipts of the sector. Following is a detailed description of the methods used to measure the size of the child care sector.

I. Number of Establishments

The child care sector is composed of a large number of small businesses. The number of establishments is the first piece of data to collect and forms the basis for calculating many of the other measures. Most studies base the number of establishments on state licensing data. This typically includes centers, family and group family care homes, and registered after-school programs.

New York State: 22,000 regulated child care establishments

Kansas State: 8,650 licensed child care establishments

Some government funded programs such as Head Start and pre-kindergarten are included in the licensing data and some might be license-exempt, depending on the regulations in each state. Knowing how the sector is structured is critical in order to avoid double counting or under counting the sector.

What to include in the count of establishments will depend on each state. For example, in Kansas publicly funded pre-kindergarten is totally within the public school system, so the study team decided *not* to include it in the total number of child care establishments, because it does not involve the private sector. By contrast, in New York State pre-kindergarten is funded both in private child

care and public school settings. The New York team decided to include a complete count of all publicly funded pre-kindergarten, and thus added pre-kindergarten in public schools to the totals because it is regulated by the Department of Education and not already counted in the licensing data.

Some part-time programs may be license-exempt (nursery schools, summer camps) and not captured in the licensing data. Unless an alternative administrative record can be found that tracks these providers, they are generally left out of the analysis. At the local level, if CCR&Rs collect data on these providers, they can be added to the study. In Tompkins County, the CCR&R had data on nursery schools and other part-time programs so these were included in the count of establishments.

Types of Early Care and Education Establishments:

- ✓ Center care
- ✓ Group family home providers
- ✓ Family home providers
- ✓ License-exempt family providers
- ✓ Part-time care and education (after school care, pre- school)
- ✓ Summer camp
- ✓ Head Start in both private and public settings
- ✓ Publicly funded pre-kindergarten in both private and public settings

Child Care Resource and Referral Agencies: Intermediary Services for Parents and Providers

In any economic sector, intermediaries connect consumers to producers and strengthen industry linkages between producers themselves. Child Care Resource and Referral (CCR&R) agencies play such a role in the child care sector, providing an essential infrastructure for child care providers and consumers. CCR&R agencies help assess community need, provide referral services, develop supply, and help families make informed child care choices. CCR&Rs also play an important intermediary role for providers. For example, they may serve as sponsors for the US Department of Agriculture Child and Adult Care Food Program (CACFP), thereby enabling home-based providers to access these federal funds. Many CCR&Rs train providers in child development, health and safety, and in business management.

The revenue and jobs generated by CCR&R agencies could be considered part of the child care industry, although to date no state or local study has included them in the estimate of the sector. In New York State, for example, the network of CCR&Rs covers every county and New York City. The 42 CCR&Rs have aggregate budgets that total \$77.6 million in 2002 (Warner et. al, 2003).

For accuracy, studies should count all that it is possible to estimate accurately but should not add those portions that cannot be substantiated. For this reason, most studies do not attempt to count informal family, friend, and neighbor care. However, this can be a substantial part of the sector and the US Census Bureau Nonemployer data can give a rough estimate of the informal providers in the area being studied (see Appendix B).⁵

Most states have good administrative data on that portion of license-exempt providers approved to provide care for children receiving child care subsidies. The New York report counted the number of children served by license-exempt providers providing subsidy care, but did not include these providers in the total number of establishments. By contrast, the Tompkins County report included licensed-exempt providers who registered with the CCR&R. Tompkins County was able to include a more comprehensive count of providers because the local CCR&R had conducted an extensive survey of the child care sector in 2001.

National economic data on the number of establishments can be used to compare and triangulate with the data from state licensing agencies and CCR&Rs. National sources for the number of employer establishments are primarily the Economic Census and the County Business Patterns. The data from these two sources can be added to the Nonemployer (self-employed providers) data series from the US Census Bureau to get an estimate of the total number of non-school-based child care establishments in the area studied (see Appendix B).

Table 1 illustrates how regulated care as a share of total establishments is extremely different for New York and Kansas. In New York, a large portion of the child care sector is in the self-employed sector and not counted in the licensing data. By contrast, Kansas licensed data captures more providers that are self-employed.

Table 1. Comparison of Child Care Establishment by Data Source

<i>Data Sources</i>	<i>New York</i>	<i>Kansas</i>
State Licensing Data (2002)	22,000	8,645
Estimate Based on National Economic Data	52,950	10,329
<i>Nonemployer Establishments (US Census 2001)</i>	<i>49,047</i>	<i>9,643</i>
<i>Employer Establishments (County Business Patterns 2001)</i>	<i>3,903</i>	<i>686</i>

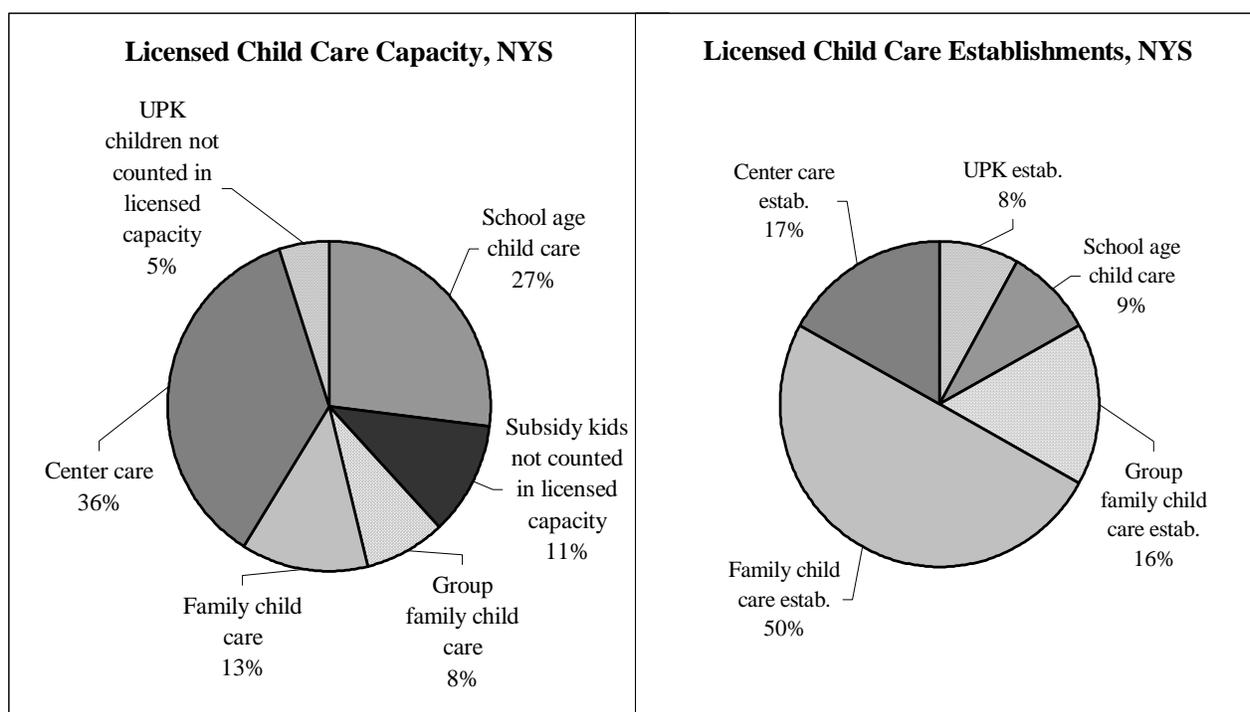
⁵ For example, the New York study found 14,648 regulated family providers in the state, but the Census Nonemployer statistics for 2001 reported 49,047 self-employed family providers who pay taxes as sole business proprietors. The difference between these two figures is a rough estimate of the number of unlicensed family providers (34,399) in New York.

Understanding the Structure of the Child Care Market

Study teams should pay attention to the sector's structure. It is important to know what type of provider is dominant in your region in order to elaborate an effective policy that will reach the largest number of providers and children served. As Figure 1, from the New York report shows, it is often the case that the

majority of providers are home-based small businesses, but the majority of children are served in center-based care. While 66 percent of establishments are home based, only 32 percent of the regulated child care capacity is home-based. Thus, policies to address the needs of providers may differ from policies designed to reach the majority of children served.

Figure 1. New York State Comparison of Establishments and Regulated Capacity



Economic Analysis of the Early Care and Education Sector in New York, Cornell University Technical Report, July 2003. New York Office of Children and Family Services, New York State Licensing Data, 2002 and Education Department, 2002. Note: UPK stands for Universal Pre-kindergarten.

II. Child Care Labor Force

The number of employees is a critical measure of the size of the child care sector. Most studies use staffing ratios by type of care and age of children to estimate employment.

Child care employs:

- **New York State: 119,000 workers**
- **Kansas State: 14,370 workers**

The general formula counts: one employee per family provider, 1.5 - 2 employees per group family provider, and the actual staffing ratio by children's age group distribution in centers. This formula will vary by state based on licensing regulations. The employment estimates using staffing ratios are based on licensing data and include only the regulated (license and license-exempt) child care sector.

Counting Support Staff

Some studies add staff for administrative support in centers, if the data are available. For instance, the New York study team used data from the Child Care Professional Retention Program (to estimate support and administrative staff for each center teacher). The New York report also used data from the Department of Education to estimate pre-kindergarten employment (not included in licensing data). Studies conducted by the National Economic Development Law Center (NEDLC) estimated the number of administrative and support staff based on a "typical" center. California assumed that each center employs a custodian, a cook, and an administrative assistant for every 80 children or more enrolled (Hildebrand and Upp, 2001a).

Estimating the Child Care Workforce:

- ✓ One employee per family provider
- ✓ 1.5 to 2 employees per group family provider
- ✓ Actual staffing ratio by children's age group distribution in centers
- ✓ Administrative support staff for centers, if data are available
- ✓ License-exempt providers, if data are available (such as family providers and public schools)

Some studies adjusted the employment data to account for the length of operating hours in most centers (over 8 hours). The New York study assumed that most centers stay open from 7 am to 6 pm, so there is an additional 0.38 FTE for every full time employee. Maine's study used a similar method based on average hours per week that full-time and part-time facilities were open.

State Survey Data

Other studies used survey data to estimate the number of employees in the child care sector. The Vermont report used data from a regional survey of child care providers to estimate licensed center and registered family care employment. Vermont's employment estimate also includes administrative and support staff. In Vermont, the survey response rate was about 72 percent and researchers assumed the profile of the centers and family care providers that did not respond was similar to those that did. Maine also used survey data to measure employment. The number of child care employees was obtained from the State of Maine Child Care 2002 Market Rate Survey. This data was extrapolated to the state level based on data on licensed caregivers provided by Maine's Department of Human Services.

National Data Sources

National data sources also can be used to estimate the size of the child care labor force, but these sources only offer an aggregate number, which includes employees in both licensed and unlicensed facilities. As with the number of establishments, data on employment is available from the Economic Census, County Business Patterns, the US Census Nonemployer Statistics, and the Bureau of Labor Statistics. The Nonemployer data series (self-employed providers) from the US Census Bureau can be added to the employee data from the Economic Census or the County Business Patterns to get an alternate estimate of the total number of employees in the child care sector.

As Table 2 shows, the comparison between national and administrative data on employment varies between Kansas and New York.

The Human Services and Policy Center (HSPC) at the University of Washington has compiled a catalog of state data sources to measure the size of the child care labor force (Breuning et al, 2003). HSPC is also working in collaboration with the Center for Child Care Workforce to develop a framework and methodology for measuring the U.S. child care workforce more accurately than is presently done.

Table 2. Comparison of Child Care Employment by Data Source

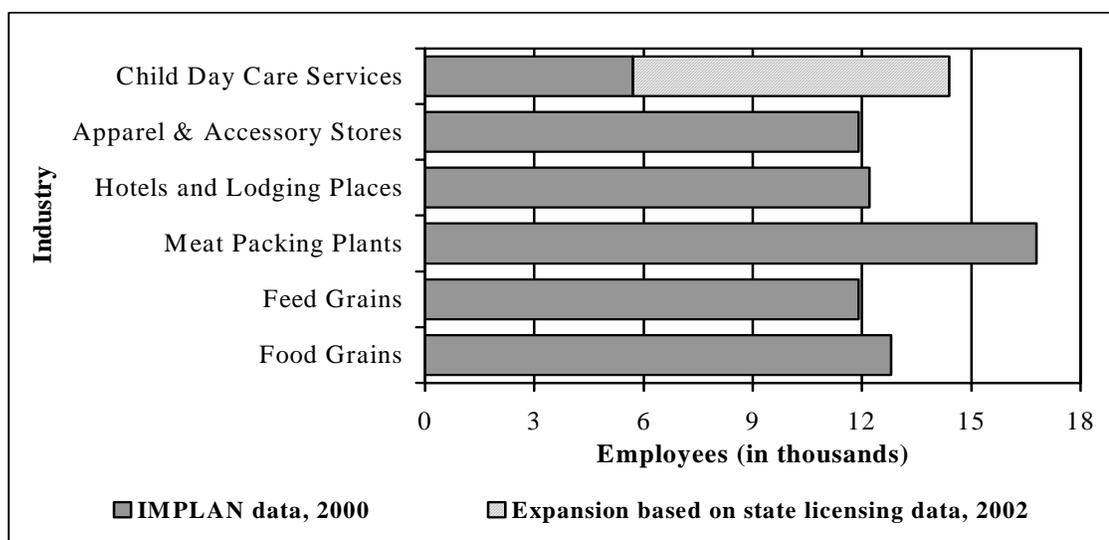
<i>Data Sources</i>	<i>New York</i>	<i>Kansas</i>
Estimate Based on State Licensing Data and Staffing Ratios, 2002	119,564	14,730
Estimate Based on National Economic Data	101,987	16,215
<i>Nonemployer Establishments (US Census 2001)</i>	<i>49,047</i>	<i>9,643</i>
<i>Employer Establishments (County Business Pattern 2001)</i>	<i>52,940</i>	<i>6,572</i>

Note: The New York data also include employees in school-based settings and these are excluded from the national economic data on child care employment.

Total employment can be used to compare the size of the child care sector to other local industries. Figure 2, from the Kansas report, shows a comparison between child care employment and other important industries in Kansas. Data on employment in other industries is available from the Economic Census, the County Business Patterns, Bureau of Labor Statistics, and economic modeling programs such as IMPLAN.⁶

⁶ The IMPLAN regional modeling program uses data from several sources including the Bureau of Labor Statistics, Bureau of Economic Analysis, and the US Census Bureau. The IMPLAN modeling software provides data for 528 sectors of the economy including child care.

Figure 2. Direct Employment in the Child Care Sector, Kansas



Source: IMPLAN data for 2000 and the Kansas Department of Health and Environment, Licensing Data Estimate 2002.

Wages and Employee Turnover

Some studies use wage data from the Bureau of Labor Statistics (see Appendix B) to compare average wages for child care workers with average wages in other service industries. The Florida and Vermont reports compare child care workers' wages to other low paying jobs in those states. Florida's report compares state child care workers' and preschools teachers' average wages in Florida to the national average for these two occupational categories. The study found that Florida wages in both categories are lower than the national average (Florida's Children Forum, 2003).

Some studies used staff recruitment and retention data to illustrate how low wages in the child care field lead to high turnover rates. Maine's report found that high turnover rates force child care providers to spend more of their revenue re-hiring and re-training new employees, thus reducing their capacity to expand their programs to meet the growing demand for care. Minnesota's report found that high turnover has a negative effect on the sustainability and quality of the child care industry.

III. Children Served

The children served by the child care industry are its product, yet comprehensive data on the number of children served is unavailable. The number of children served is needed to estimate the gross receipts of the child care sector. This data also can be used to estimate the demand-supply gap in the child care market.

Child Care Serves:

- **623,000 children in New York State**
- **107,000 children in Kansas State**

Capacity and Enrollment Estimates

Most studies use licensing data to estimate the number of children served. The general formula used by study teams is to multiply the number of providers by the legal capacity of each. State licensing regulates the overall capacity for family and group family care, and staffing ratios of centers by age of child. Capacity may over count the number of children served due to vacancy rates, but it may be hard to get data on actual enrollment.

In some states, the licensing agency or the CCR&Rs might keep an updated database on enrollment. The Minnesota and Tompkins County (NY) reports used actual enrollment data from their state and local agencies. California, Rhode Island and Kansas adjusted the number of children served by the licensed capacity using vacancy rates. Vacancy rate estimates may be available from point-in-time surveys, such as market rate or CCR&R surveys. New York did not have data on vacancy rates. Maine's study team used the 2002 Child Care Market Rate and Workforce Study Survey enrollment results (children ages 0-13) and extrapolated to the state level based on Maine's Department of Human Services data.

Some studies also included a count of some of the children served in license-exempt care. Children served by license-exempt providers approved to care for children receiving government subsidies are available from state administrative data. Some states have a large number of subsidy children placed in license-exempt care. According to the Child Care Bureau (2000), 26 percent of all US children (55 percent in some states) receiving subsidies are placed in license-exempt care. The Tompkins County study included the number of children served by license-exempt providers who "register" with the local CCR&R. The New York State report included the number of subsidy children served by license-exempt providers.

Most studies also count the number of children served by government-funded programs, such as Head Start and pre-kindergarten. These programs can be found in both licensed and license-exempt establishments. Study teams should make sure they are not double counting the number of children served in licensed establishments when they add data on children from education-related data sources.

Using National Surveys and Census Estimates
Some studies used national survey data such as the National Survey of America's Families to estimate number of children served by paid child care (see Appendix C). Such an approach assumes that each state reflects the national average. We have found quite a bit of variation in use of paid care across the states and recommend that national surveys that do not have state level estimates, be used for comparison purposes only. In some cases there are representative data available at the state level to estimate number of children served.⁷

Other studies compared the number of children served by licensed care with the number of children in need of care while parents work. In order to make this comparison, study teams use data from the US Census Bureau on the number of children living in families where all parents present are in the labor force (see Appendix C).⁸ For example, the Census data show that 764,721 children under age 6 are living with working parents in New York State, however, the estimated number of children (ages 0-13) served in licensed care is only 623,000 children. Maine's report shows that only one in four children in need of care while their parents work, is placed in licensed care. Some of the children not counted in New York's and Maine's administrative data are likely to be in paid care and some are in the care of non-paid relatives. Again, children served are the product of the child care sector. Estimating potential need for care (children of working parents) and actual licensed supply can provide an estimate of the supply - demand gap and the need for market expansion.

⁷ The National Survey of America's Families has representative data for 13 states (see Appendix D).

⁸ This number includes children living in dual-parent households (both parents in labor force) and children in single parent households (parent in labor force).

IV. Gross Receipts

Gross receipts are the total revenue received by child care providers. The Kansas and New York studies estimated gross receipts by multiplying child care enrollment by price of care (accounting for type of care, child's age and geographic location) and adding in direct government payments to providers.

Gross receipts of child care:

- **New York State: \$4.7 billion**
- **Kansas: \$500 million**

It is difficult to get an accurate estimate of gross receipts. National studies consistently find consumer expenditure survey estimates to be lower than provider based engineering estimates (Smith, 2002; Giannarelli, 2000). We recommend using engineering estimates based on provider enrollment and fees because that links most directly to the source for data on establishments, labor and children served and thus provides internal consistency to the report. However, such engineering estimates may overstate revenues to the extent there is a vacancy rate, part time children using only half of a full day slot, or weeks when a slot is empty due to child turnover.

Provider Fees

The formula used by most studies to estimate provider fees is: the total licensed capacity adjusted for vacancy rate, if vacancy data are available, times the average price of care by type of care and age of child. Average price of care data are available from either state market rate surveys or CCR&R data on local prices.

In the Kansas and New York studies, the average price of care was calculated by multiplying weekly charges (by age group and type of care), times the number of weeks in care. Our method assumed that for all

GROSS RECEIPTS =

Provider Fees $\{(Total\ capacity - vacancy\ rate) * price\ by\ type\ of\ care, age\ of\ child\ and\ location)\}$, +

Government direct payments to providers (such as CACFP, quality and retention grants), +

Government funded programs (which have no parent fees, such as Head Start and pre- kindergarten)

categories except school age child care, children are in care 52 weeks a year. School-age child care weekly charges were multiplied by 40 weeks, and summer care costs were multiplied by 12 weeks.⁹ Table 3 shows how the New York Study team estimated provider fees. Other studies have used similar techniques but used different assumptions for number of weeks and price of care. These are choices study teams will have to make.

In the Kansas and New York State reports conducted by Cornell, we compared the IMPLAN gross receipts estimates, which are based on the US Bureau of Labor Statistics Consumer Expenditure Survey, with our project team derived estimates. The provider fees portion of our gross receipts estimate is the closest proxy to what IMPLAN measures. However, to compare to IMPLAN we subtract government subsidies from provider fees because parents do not pay that portion. We find our estimates to be 15 to 25 percent higher IMPLAN's gross receipts.

⁹ The licensing data did not indicate differences in summer and school year enrollment. It is possible that some school age programs are closed in the summer, however, the NYS team assumed these children were still in some form of full-time paid care.

Table 3. Provider Fees: Estimate for New York State

Total		Formula
Centers	\$ 2.18 Billion	Weekly Cost of Care by Age x Capacity by Age x 52 weeks (for infant, toddler and preschool care) + [Part-time school age Weekly Cost x Capacity x 40 Weeks (school year)] + [Full-time Weekly Summer Cost x Capacity x 12 weeks (summer)]
Family Care	\$ 0.55 Billion	Weekly Average Cost Across All Age Brackets x Total Capacity x 52 weeks
Group Family Care	\$ 0.38 Billion	Weekly Average Cost Across All Age Brackets x Total Capacity x 52 weeks
School-Age Care	\$ 0.53 Billion	Part-time Weekly Cost x Total Capacity x 40 weeks (school year) + [Full-time Weekly Summer Cost x Total Capacity x 12 weeks (summer)]
Total	\$ 3.64 Billion	

Economic Analysis of the Early Care and Education Sector in New York, Cornell University Technical Report, July 2003. Data source: NYS Office of Children and Family Services, Market Rate Survey, 2002

Government Funding

The next component of gross receipts is *government-funded programs* that do not charge tuition, such as Head Start, Early Head Start and pre-kindergarten. Data on these programs are available from state and federal agencies. The other component of gross receipts is *government direct payments to providers* to improve quality, nutrition (Child and Adult Care Food Program), and staff retention. These represent an important source of revenue beyond provider fees. *Subsidies to license-exempt providers* can also be added because they are not already counted in the licensed provider fees.¹⁰ New York included these subsidies, but the Kansas report did not. Table 4 shows how gross receipts were estimated for the Kansas report.

Gross receipts estimates can be used to compare the relative size of the child care sector to important industries in the area studied, or other industries that require similar training and skills as child care.

¹⁰ Subsidies for parents using licensed providers should not be added as they are already included in the estimate of provider fees.

Table 4. Gross Receipts of the Kansas Child Care Industry

Private Sector	Providers	Children Served	Weekly Rate	Weekly Receipts	Yearly Total
<i>Center Care</i>	1,067				
Center Infant (0-11 months)		7,099	\$134	\$954,734	
Center Toddler (12-17 months)		2,748	\$114	\$313,193	
Center Toddler (18-29 months)		3,734	\$106	\$395,283	
Center Preschooler (30-59 months)		13,952	\$95	\$1,319,495	
<i>Home-based Child Care</i>					
<i>Licensed Homes</i>	3,786				
Infant (0-17 months)		8,499	\$86	\$731,411	
Preschool (18-59 months)		14,168	\$87	\$1,235,193	
School age (59 months and up)		9,075	\$79	\$712,699	
<i>Registered Homes</i>	2,769				
Infant (0-17 months)		4,431	\$87	\$383,985	
Preschool (18-59 months)		5,539	\$80	\$442,024	
School age (59 months and up)		3,256	\$73	\$238,296	
<i>Group Homes</i>	752				
Infant (0-17 months)		2,424	\$98	\$237,141	
Preschool (18-59 months)		2,956	\$86	\$254,712	
School age (59 months and up)		1,603	\$77	\$123,622	
<i>Part-Time Care and Education</i>	271				
Licensed as Preschool		8,313	\$33	\$272,494	
Licensed as School-Age Care		11,237	\$54	\$606,967	
Total Private	8,645	99,035**		\$8,221,250	\$427,505,020
<i>Government Funded Programs*</i>		Children		Public Funding	
Early Head Start . Kansas		1,183		\$7,973,754	
Early Head Start—Federal				\$6,983,741	
Head Start—Federal		6,801		\$43,517,705	
<i>Government Quality Payments to Providers</i>					
Smart Start (Tobacco Settlement)				\$3,000,000	
SRS Early Learning Quality Grants				\$4,276,403	
Child and Adult Care Food Program				\$23,882,436	
Total Government		7,984		\$89,634,039	\$89,634,039
Total		107,019			\$517,139,059

Investing in the Child Care Industry: An Economic Development Strategy for Kansas, a report by Mid-America Regional Council, April 2003 Data Source: Kansas Dept. of Social and Rehabilitation Services, 2002.

* Only government funds that increase gross receipts for child care providers were included. Funds for licensing and administration were excluded.** This number may include a portion of the children in the Government Funding section. Data do not allow us to separate the children served by government program funds placed in private care settings.

CHILD CARE IS AN IMPORTANT ECONOMIC SECTOR

Measuring the size of the child care sector shows that it is an important sector in its own right. The New York State study found over 22,000 small businesses, employing 119,000 workers, serving 623,000 children and generating approximately \$4.7 billion in gross receipts. The Kansas study found the sector includes 8,650 businesses, 14,000 workers, serves 100,000 children and generates approximately \$500 million in gross receipts.

Studies supported by the Cornell team have not attempted to collect tax information because many child care providers are non-profit and many of the for-profit family providers make little profit after accounting for labor costs.

Study teams should collect data of interest to their stakeholders. This is why it is so important to work with advisory committees to define the primary goals and targets of the study before collecting data on the sector. The Tompkins County study team was concerned with access and affordability of care for moderate and low-income families who work in the county. The Kansas study team sought to show that child care subsidies are an important economic investment for the state. The economic development framework helps focus attention on the economic contributions of the child care sector. Measuring the size of the sector is extremely important because it shows that child care is worthy of economic attention from policy makers, businesses, and economic developers.

SECTION FOUR

ESTIMATING PARENTS SERVED

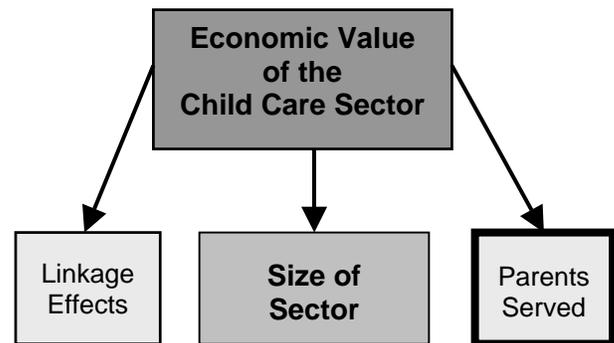
Parents are the customers of the child care sector, but the sector lacks comprehensive data on its customer market. A first step in measuring the parent market for child care is simply to count the total number of parents who use paid child care. Not all working parents use paid child care (some rely on unpaid relatives). Additionally, some parents who do not work still demand child care for its educational value. These parents also constitute part of child care demand.

However, most states and CCR&R systems do not collect data on all parents using paid care. This chapter focuses on estimating the number of working parents who use paid care because this group is of particular interest to economic developers.

The number of working parents can be multiplied by the median wage to estimate the total employment income of parents who use paid child care. This gives an estimate of the purchasing power of the parent customer market.

ESTIMATING THE NUMBER OF WORKING PARENTS WITH CHILDREN IN PAID CARE

There is no national or state data source that measures the number of parents with children in paid care. Study teams used a variety of methods including US Census data and national surveys, to get an estimate of the number of working parents with children in paid care. The New York and Kansas study teams used state tax agency data on the number of working parents who claim the Dependent and Child Care Tax Credit (DCTC). There is no established method for counting the number of working parents using paid care. Some of these methods used by state teams are described below.



Data Sources:

Working Parents

- ✓ US Census Bureau data on children under age 6 by employment status of parents

Parents Using Paid Care

- ✓ National surveys on child care arrangements by type of care (CPS, SIPP, NSAF, and NHES)
- ✓ State tax agency data on number of parents that claim the Dependent and Child Care Tax Credit

Census Data

The Tompkins County and Maine reports used US Census Bureau data on children under age 6, by employment status of parents, to estimate the ratio of working parents per child.¹¹ The ratio was then applied to the total number of children in paid child care to estimate the total number of working parents associated with children in paid care.

¹¹ These two studies defined working parents needing paid care as single parents that work and dual-parent families with both parents working. These studies assumed that dual-parent families with only one parent working would not demand paid care.

Vermont and Rhode Island used data on adult labor force participation to estimate the total number of working parents with children in paid care. However, not all working parents have children in paid child care. The *Current Population Reports: Who is Minding the Kids* (US Census, Spring 2002) shows that only 42.3 percent of preschoolers are placed in non-relative care (see Appendix D). This number is even lower for school age children. Thus, this approach is likely to over count the number of parents with children in paid child care.

Survey Data

National surveys have been used to estimate the number of children in paid care (see Appendix D). Several county studies in California used the National Survey of America's Families (NSAF) estimates for children placed in paid care (48 percent of children under 5 years of age) multiplied by the number of parents in the labor force to get an estimate of the number of working parents with children in paid care. However, it is important to remember that the NSAF only covers 13 states and one cannot assume the NSAF averages are applicable for every state. Minnesota relied on statewide parent survey data to estimate the number of working parents with children in non-parental care.

Another study conducted a survey but differentiated parents using paid care for employment purposes from those who use paid care for educational enrichment. Although the child care sector provides both education and care, and all parents who purchase care are its customers, this approach discounts those who use child care primarily for educational purposes, and thus underestimates the true size of child care demand.

Dependent and Child Care Tax Credit Data

The Kansas and New York studies used state Dependent and Child Care Tax Credit (DCTC) claim data to count the number of working parents with children in paid child care.¹² Study teams using Dependent and Child Care Tax Credit data should make sure to count married couples that file jointly as two parents. The DCTC provides a conservative estimate of the number of working parents with children in paid care because low-income parents, who do not owe taxes, are unlikely to claim the credit. However, this method directly counts actual working parents who use paid care. Estimates relying on Census or national survey data require assumptions about actual use of paid care.

Table 5, from the New York report, shows how the number of working parents with children in care was calculated for that state. The number of parents with children in paid care in the New York report (745,435) is higher than the number of children served by New York State regulated care (623,000) because tax credit claims include parents who use informal (unregulated) child care and the New York State report only focused on regulated care.

¹² To claim the credit, both parents in a two-parent household must be working and each earning more than is spent on child care. The Federal tax credit can be used for eldercare as well, however, Internal Revenue Services data for tax year 2000 show that 97.6 percent of returns claim the Dependent and Child Care Tax Credit for a child and 98.8 percent of the dollar amount is for child care credit (IRS, Statistics of Income Bulletin, 2003).

Table 5. New York State Dependent and Child Care Tax Credit

	<i>No. of filers</i>	<i>Amt (\$1,000)</i>
Total Filers	505,846	201,550
<i>Single</i>	9,328	5,429
<i>Married Jointly</i>	239,589	47,087
<i>Head of Household</i>	256,929	149,034
Additional Married Working Parent ¹	239,589	
Total Working Parents	745,435	201,550

Source: NYS Office of Tax Policy Analysis, Tax Year 2000

¹Married filing-jointly figure is doubled to account for both working parents that file under the same form.

Data Limitations

The methods described in this section represent initial attempts of several study teams to estimate number of working parents with children in paid care. The variation in methods illustrates the need to build better data systems on parents served by the child care sector. The number of working parents with children in paid care and the number of parents in the workforce are both important elements that shape the demand for child care.

Some studies have limited their focus to single parents and mothers in dual-earner households. We have found that business leaders reject this approach because it under counts true market demand and fails to recognize that child care supports workers regardless of gender and family structure. This is one reason why employers make work/life and child care programs available to all employees.

ESTIMATING PARENT PURCHASING POWER

Market demand includes both an estimate of the number of working parents using paid care as well as their purchasing power. Wage income provides a reasonable estimate of purchasing power and can be roughly calculated by multiplying the number of working parents, with children in paid care, by the median income for the area.¹³ The following calculation from the Kansas report simply provides an estimate of working parent purchasing power:

<p>67,440 Working Parents X \$29,356 Kansas Median Annual Income</p> <hr style="width: 50%; margin: auto;"/> <p>= \$1.98 billion</p>
--

Other studies adjusted total earnings by a discount factor for lower earnings of the woman worker. Such methods underestimate the aggregate purchasing power of parents and carry the implicit assumption that child care only supports women workers.¹⁴

¹³ If it is possible to get more detailed information on income distribution of families using paid care, then this should be used. For example, when focusing specifically on families using subsidies,

use income estimates for that population group, not the population as a whole.

¹⁴ The national report (M.Cubed, 2002) only counted the total earnings of the mother in the dual-parent household, plus the earnings of single working parents. This approach assumes there is no investment/education/consumption value to child care – e.g. that child care’s only value is to support working parents. Child care has an educational investment value in its own right which is likely to be the most important economic contribution of the sector.

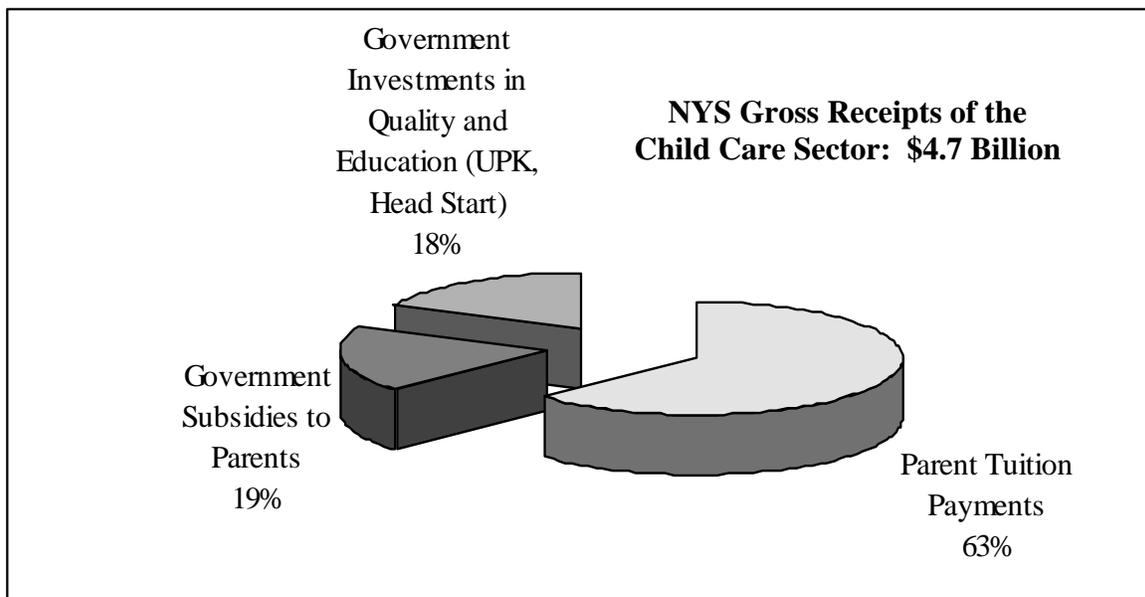
PARENT TUITION: A LARGE PROPORTION OF FAMILY EXPENDITURES

Unlike higher education where tuition represents only 35% of total costs (Mitchell et al., 2001), parent tuition costs represent the largest portion of the gross receipts of the child care sector. Estimates for New York (see Figure 3) show that parent tuition accounts for 63 percent of the gross receipts of the child care sector, and government investment in quality early education, and subsidies for low-income parents account for the rest.¹⁵

- Riders only pay a “token” amount toward the cost of public transit (26% of cost of urban public transit)*
- Parents pay the majority of the costs of child care

* The Urban Transit Fact Book, available at <http://www.publicpurpose.com/>

Figure 3. NYS Estimate of Gross Receipts of the Child Care Sector by Source



Economic Analysis of the Early Care and Education Sector in New York, Cornell University Technical Report, July 2003. Source: NYS Office of Children and Family Services, 2002

¹⁵ New York State spent \$874 million on subsidies in 2002, of which \$674 went to licensed providers. This sum was subtracted from the \$3.64 billion in provider fees to reflect the actual level of parent contributions. (Total Gross Receipts in NYS: \$2.9 billion parent fees, \$874 million subsidies, \$828 million quality and education investments = \$4.7 billion.)

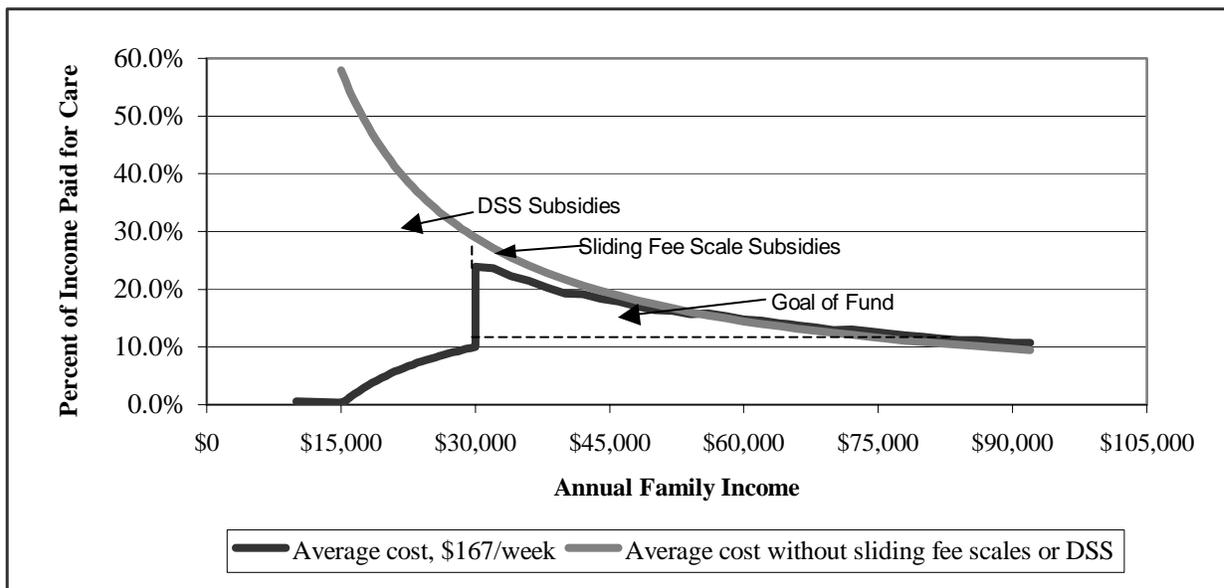
The price of care can be used to assess the affordability of care across income brackets and regions. As shown in Figure 4 below, child care comprises a significant portion of total family expenditures. The goal of the Tompkins County study team was to create a community fund so all families could gain access to affordable child care. To illustrate demand for the fund, the study team used the average weekly charges for a 3 year-old in a child care center, and then estimated the percentage paid by parents after accounting for government subsidies and sliding fee scales.

The graph below (Figure 4) shows the cliff effect. Moderate-income working families pay the highest percentage of family income for child care and receive little support. This group was the primary target of the Tompkins County team and they have initiated a campaign to increase utilization of tax credits, employer sponsored flexible spending accounts, and public subsidies, enlisting employer support in educating workers about these programs.

Child care costs are high for most parents, but child care providers are among the lowest paid workers in the economy. The current average price of full-time child care is \$6,600 - \$11,000 per child in NYS, and many families have multiple children in care. The Vermont study found child care expenses to be larger than expenditures on housing.

Policy makers in the child care field face the challenge of making child care affordable for parents, while improving the profitability of the sector and providing living wages for child care workers. Most studies find that increased government support is the best way to address these challenges. The importance of government investment in child care will be discussed in Section 6 of this report.

Figure 4. Continuum of Existing Subsidies: DSS and Sliding Fee Scales Tompkins County

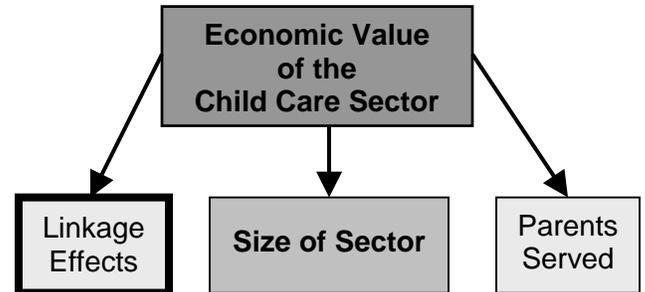


Source: Based on survey data of child care centers, Tompkins County, NY 2002. Chart prepared by Benjamin McCloskey. Note: These estimates assume one child per family.

SECTION 5

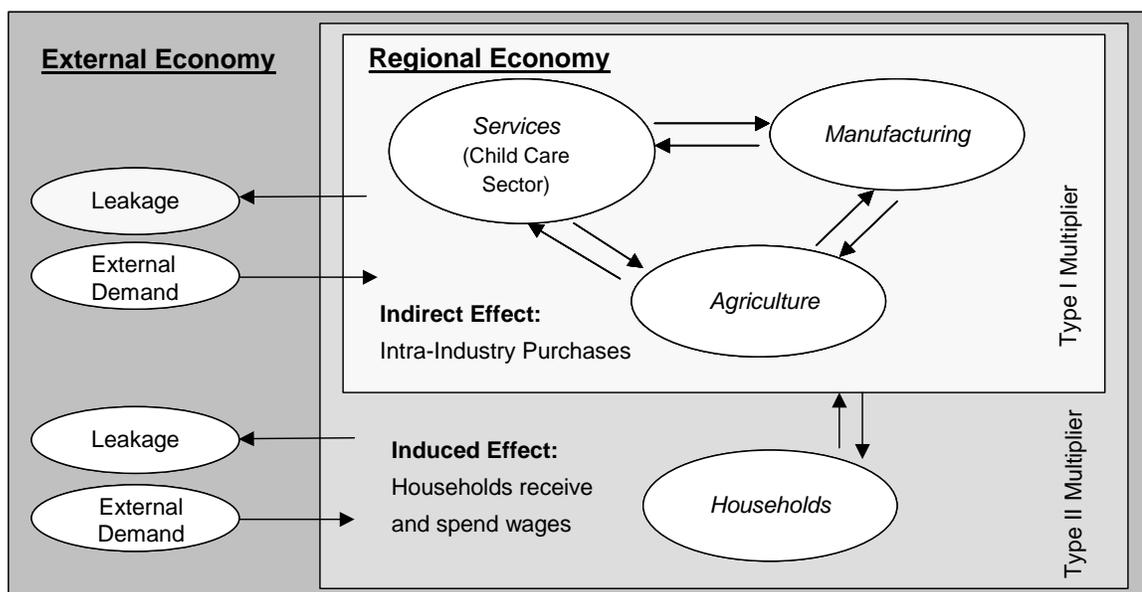
MEASURING THE REGIONAL ECONOMIC LINKAGES OF THE CHILD CARE SECTOR

Child care’s importance as an economic sector stems not only from its direct employment and output in the regional economy, but also from its linkages to other industries. From a regional economic standpoint, the most important measure of a sector’s economic importance is the size of employment and output. However, the regional economic impact of a sector involves more than simply its size; each industry also has a *linkage effect* in the broader regional economy. The regional economy is composed of many industries that buy and sell from each other. These inter-industry purchases can be measured to show the relative strength of inter-industry linkages for each industry in the regional economy. Child care businesses and employees purchase goods and services that stimulate economic activity in other industries. Economic impact analysis makes it possible to estimate the dollar value of these linkages.



This section provides an overview of regional economic modeling, known as input-output analysis, and how it can be used to better understand the economic contribution of the child care sector. A simple model of the regional economy is provided below. As money circulates between industries in the regional economy, it stimulates economic activity. These activities can be considered “ripples” in the regional economy pond. Money leaks out of the regional economy through savings or purchases made outside the region. The ripple effect is larger when the leakages are smaller.

Figure 5. Model of the Regional Economy



INPUT-OUTPUT ANALYSIS

Input-output models are based on the assumption that export demand (or the ability of industries to sell to the external economy) is the engine that generates activity in the regional economy. Changes in final demand¹⁶ (*direct effects*) infuse local industries with new funds, which increase output and employment. There are two types of linkage effects that input-output analysis measures:

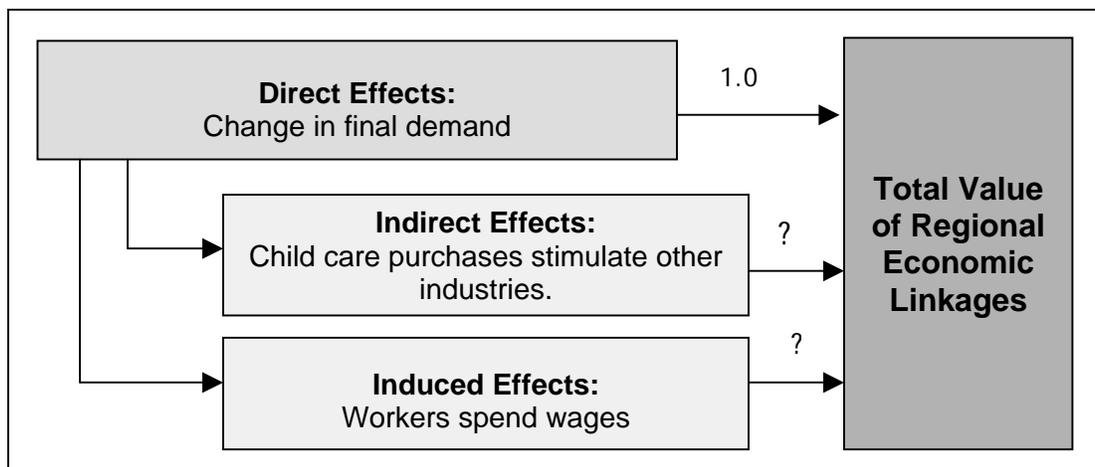
- ❖ *Indirect effects* count the multiple rounds of inter-industry purchases spurred by child care industry spending. Child care businesses purchase food and supplies from other industries, in turn stimulating output in those industries.
- ❖ *Induced effects* capture the impact of household spending. Employees spend their wages in the larger economy and these expenditures generate demand in other industry sectors (housing, groceries, etc.).

The direct, indirect and induced effects of the child care sector are shown in Figure 6.

Multipliers, or “linkage effects,” can be calculated for output, employment, labor income and value-added; however output and employment multipliers are the most common and most easily understood.

- ❖ An *output multiplier* for the child care industry estimates the total sales that would be generated in the entire economy by each dollar of increased direct spending for child care services.
- ❖ The *employment multiplier* is an estimate of the gross number of jobs that would be created throughout the regional economy from an increase in demand for child care services large enough to stimulate the addition of one new job in the child care industry.

Figure 6. Model of Child Care’s Linkage Effects



¹⁶ A sector’s outputs are demanded both inside and outside the regional economy. Final demand in an input-output framework is that portion of demand that is not used in the production of other outputs inside the regional economy (intermediate demand). Final demand includes consumption, investment, government and exports.

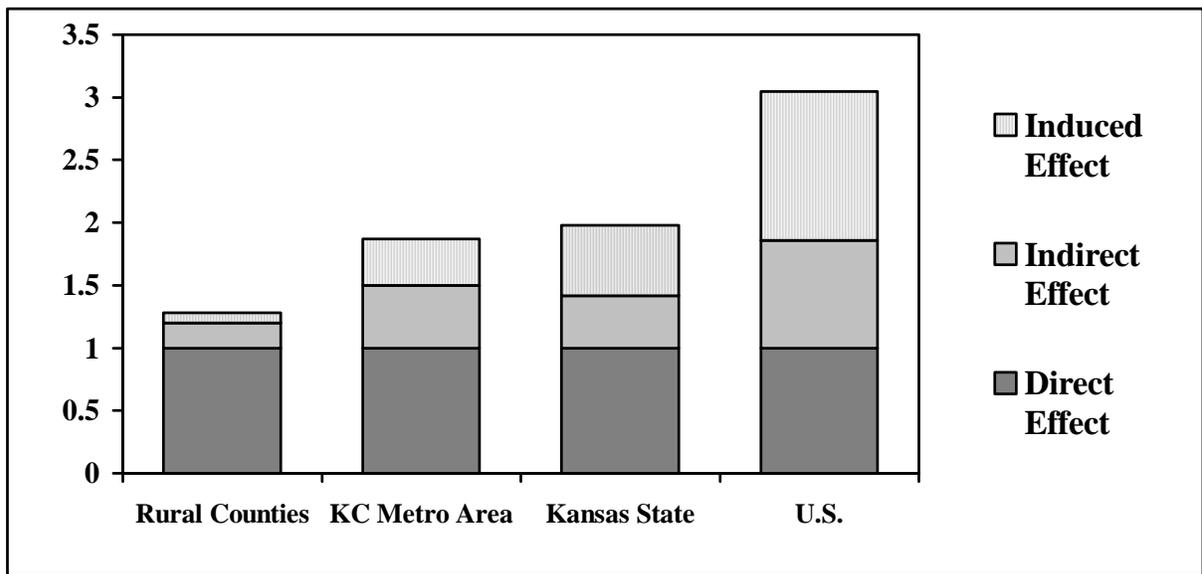
Generally, the Larger the Economy, the Larger the Linkage Effect

Multipliers express the degree of interdependence between sectors in a region's economy and therefore vary considerably across regions and sectors. Typically, larger economies have larger multipliers because they are more self-sufficient than smaller economies, therefore the leakages are smaller. In Kansas, the Kansas City Metro region's multipliers were almost as large as the state as a whole (see Figure 7). Economic activity within the metro region is highly interconnected – leading to large linkage

effects. Agriculture is an industry with strong vertical integration in the rest of the state, but much of the linkage for other sectors occurs outside the state.

Multipliers measure linkage – and size is only a rough proxy for economic structure. It is also possible for smaller, isolated economies to have large multipliers because there is less leakage to the outside world. For example, in the New York State study, Long Island had larger multipliers than the five boroughs of New York City.

Figure 7. Output Multipliers Typically Increase with Size of Economy, Kansas



Source: IMPLAN analysis conducted by Cornell University using IMPLAN 2000 data. Type I multipliers include direct and indirect effects, and Type II multipliers include direct, indirect and induced effects.

IMPLAN Modeling Program

Regional economic modeling known as input-output analysis can be used to measure the linkage effect of any industry. The IMPLAN modeling software is the most commonly used program for the regional economic analysis of the child care sector. IMPLAN allows the user to build economic models to estimate the effect of economic changes in a state or region. The program includes data for

528 business and industry sectors (4 digit SIC in manufacturing and 2-3 digit for other sectors) including child care. The data used by IMPLAN are primarily from federal sources including the Input-Output Accounts from the Bureau of Economic Analysis (BEA), the Covered Employment and Wages Program (ES202) from the Bureau of Labor Statistics (BLS), and others (IMPLAN 2002).

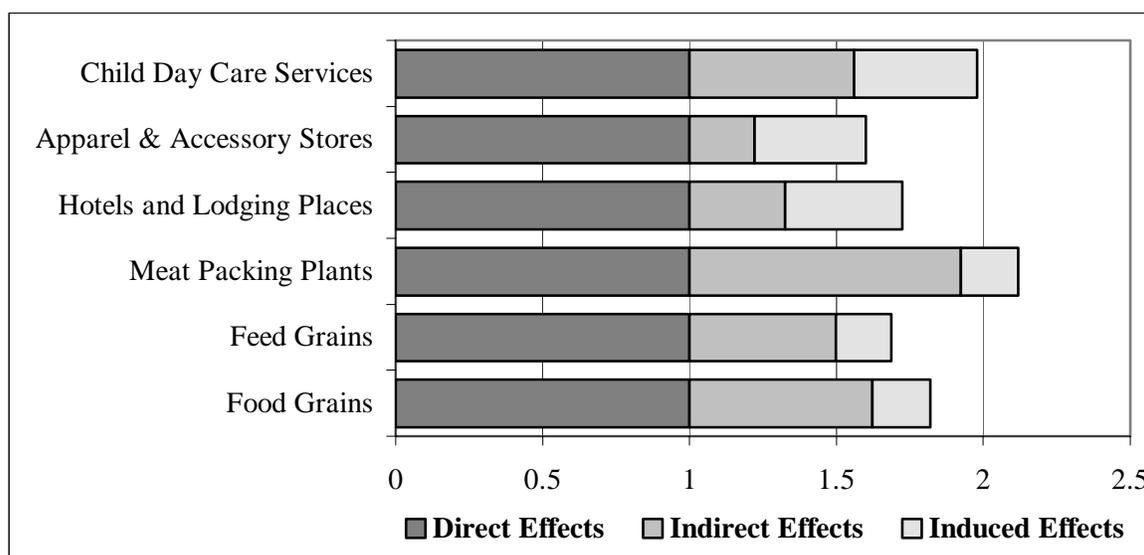
COMPARING THE CHILD CARE SECTOR WITH OTHER ECONOMIC SECTORS

Multipliers help policy makers understand the different linkage effects associated with different industries. For example, policy makers might want to know if allocating funds to the child care industry is likely to produce more or less regional economic linkage than investments in other infrastructure sectors such as job-training programs, education, water and sewer or transportation.

One of the uses of multipliers is for comparison between industries. In the Kansas study, child care output multipliers were compared with those of other important Kansas industries, as shown in Figure 8.¹⁷ Child care multipliers were higher

than retail or lodging – economic sectors which typically get economic development attention. The output linkages for child care reflect the fact that most of the child care industry’s purchases are local and these inputs are likely to be produced locally. The retail industry, by contrast, purchases many of its inputs from outside the local economy – which creates a leakage. The meat packing industry purchases many of its inputs locally – a reflection of the vertical integration of Kansas’ agriculture industry and its importance as an economic driver for the state. Across states, comparisons between child care multipliers and those for agriculture or manufacturing are more variable – reflecting the different composition of regional economies due to specialization.

Figure 8. Output Multipliers by Industry, Kansas



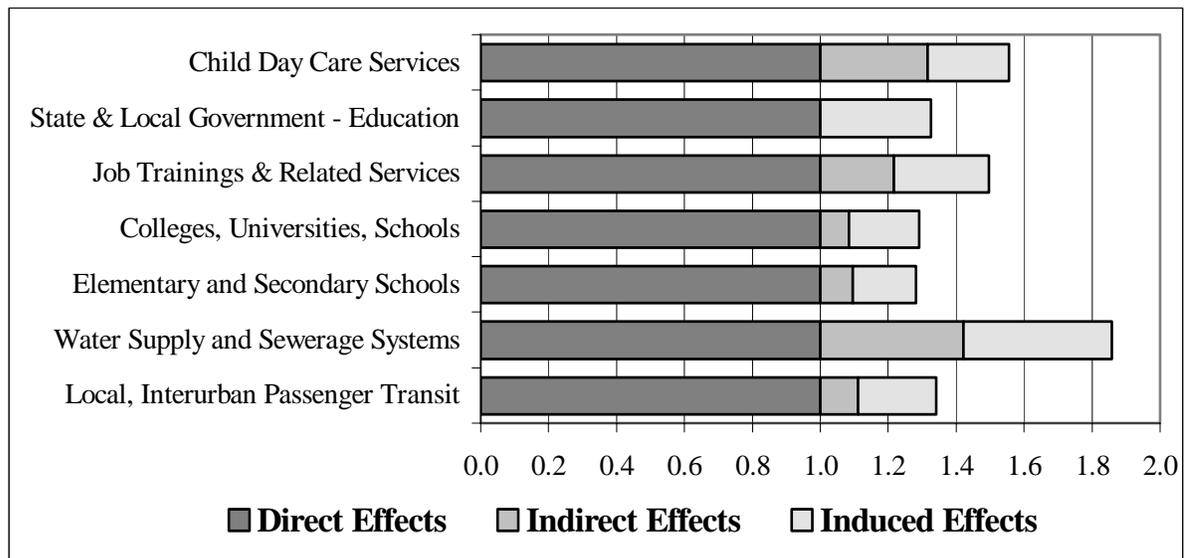
Source: IMPLAN analysis conducted by Cornell University using IMPLAN 2000 data. Type I multipliers include direct and indirect effects and Type II multipliers include direct, indirect and induced effects.

¹⁷ An industry’s economic impact on an area is not only a function of its multiplier, but how much money it is attracting to the economy from outside the region (external demand). Therefore, while it may be appropriate to compare industry multipliers within a broad sector like services, or similar infrastructure sectors, it is less appropriate to compare multipliers between services and manufacturing or agriculture.

In Kansas and in other states, we have found child care has similar multipliers to other infrastructure sectors: education, job training, transportation. Figure 9 shows child care employment multipliers are slightly higher than in other infrastructure sectors, except water and sewer (this reflects the capital intensive nature of water and sewer relative to the other infrastructure sectors). Job training, education and physical infrastructure are typically viewed as worthy of public tax-based expenditure, both for the intrinsic value of their products and for their economic development impact, while child care is rarely considered in economic development terms. However, output and employment multipliers show similar strength of inter-industry linkage for the child care sector.

Milwaukee used the output and employment multipliers to show which industries would be affected by a change in child care demand. Calculating the indirect labor effects on specific sectors in the regional economy can be very helpful for economic development planning purposes. This technique can be used to project changes in labor demand in other sectors if there is an increase in demand in one sector (Shideler and Fikkert, 2001).

Figure 9. Employment Multipliers by Infrastructure Sector, Kansas



Source: IMPLAN analysis conducted by Cornell University using IMPLAN 2000 data. Type I multipliers include direct and indirect effects and Type II multipliers include direct, indirect and induced effects.

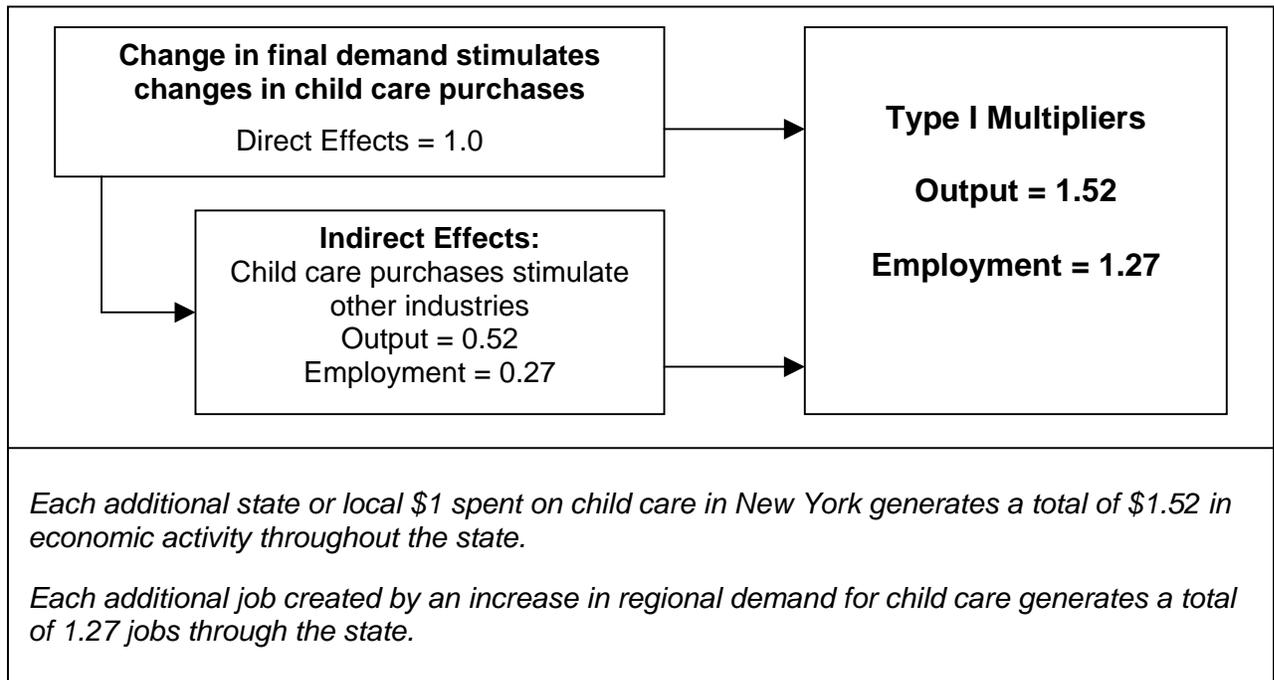
USING INPUT-OUTPUT MODELING TO ASSESS CHANGES IN THE REGIONAL ECONOMY

Input-output modeling is used to measure the impact of a change in demand. Changes in demand act as a “shock” to the economy and the input-output analysis tells us the full impact of that shock (on both the sector in question and the other sectors to which it is linked). Multipliers should be used only on net changes to the economy that increase or decrease final demand. Some studies multiplied the gross receipts and employment of child care by its output and employment multipliers to estimate the total economic impact of the sector. This method is not appropriate because it treats gross receipts as equivalent to final demand, which over counts the impact. Multipliers should be used as a tool to help calculate the economic impact of *changes* in demand, or viewed on their own as a measure of the strength of inter-industry linkages. A loss/increase in government funding would be an example of a change in final demand.

Use Type I multipliers for changes in internal (regional or local) demand.

Input-output analysis normally assumes that demand originates outside the local economy. However, households are the primary purchasers of child care, and demand is usually local. Type I multipliers treat households as external (exogenous) to the economy being modeled. Type I multipliers include only the direct effects of the child care sector and the indirect effects of inter-industry purchases. (see Figure 10). Child care businesses typically purchase more locally than other industries and these business linkages are captured in the Type I multipliers. Type I multipliers do not include the induced effects of household spending. To increase their spending on child care, households would have to reduce their spending on some other sector, and thus, we do not attempt to calculate induced effects on changes in internal demand.

Figure 10. New York State Type I Multiplier, “Linkage Effect”



Source: IMPLAN Multipliers, 2000

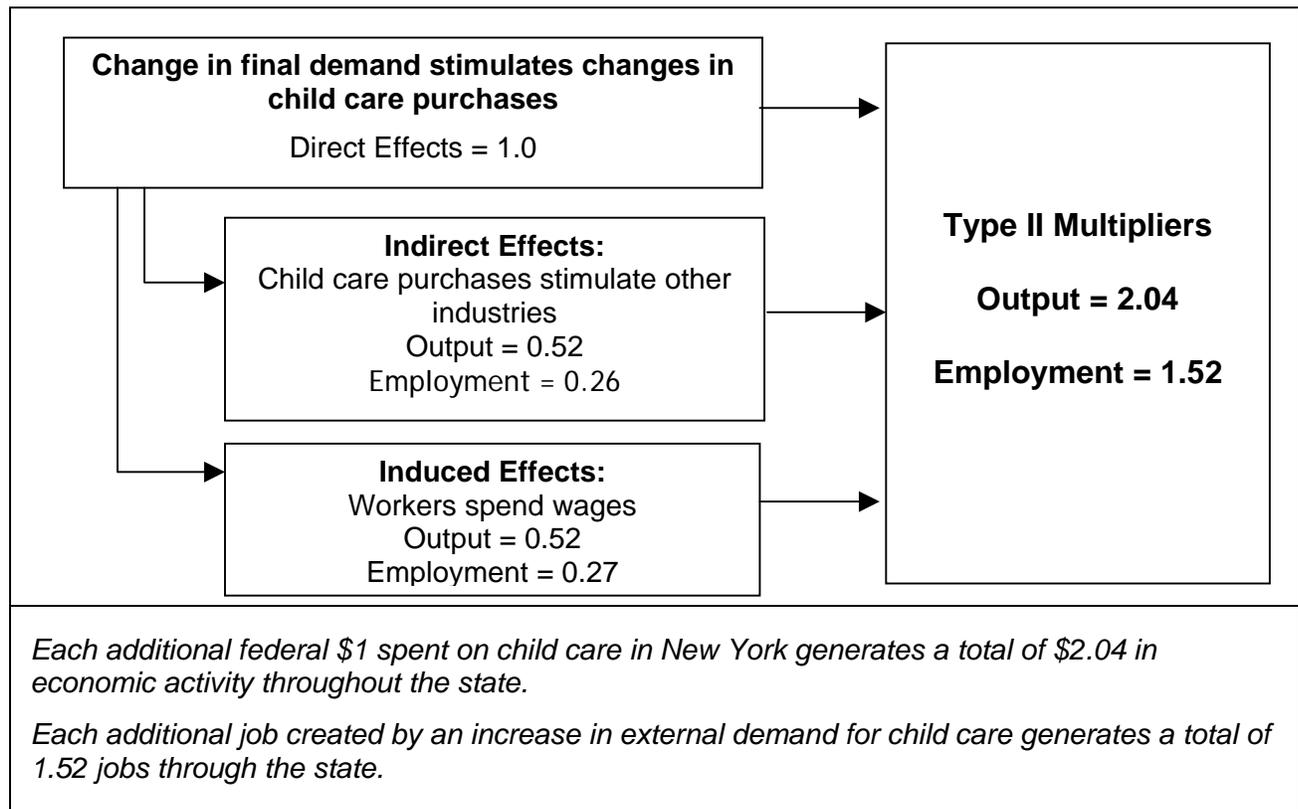
In a state level regional model, state funds form part of the demand from inside the region. In 2003 New York State was facing a serious fiscal crisis and one of the scenarios in the 2003 state budget debates was to eliminate the state funded pre-kindergarten program. A cut of this magnitude would create a shock to the early care and education system. The total effects would extend beyond the direct cuts in employment and income to the child care sector. Reduced spending by the child care sector would have a linkage effect on industries that supply food, furniture and other goods to the child care sector. The direct effect of this shock was estimated to be \$204 million in state funds and 6,000 workers. To determine the indirect effects, a Type 1 multiplier was used to show an additional loss of \$106 million ($\$204 \times .52$) for a total loss of \$310 million to the state economy. Similarly, the indirect effects of the employment loss

were 1,620 jobs ($6,000 \times .27$) for a total job loss of 7,620 jobs. Fortunately, the State was able to find funds to keep the program going.

Use Type II multipliers for changes in external demand.

Type II multipliers include the direct, indirect, and induced effects and are used to calculate the impact of a change in external demand for child care (see Figure 11). The primary source of external demand for child care is federal investment in a state's child care sector. We can presume that federal funding is an external investment that supplements household demand for child care. Because this shock can be treated as net new demand to the regional economy, we can include both the indirect effect of industry purchases *and* the induced effect of household and worker expenditures in calculating the total linkage effects.

Figure 11. New York State Type II Multiplier, "Linkage Effect"



Source: IMPLAN Multipliers, 2000

For example, Head Start funding is primarily federal. These federal funds supplement parental demand for child care. In New York State in 2002, \$420 million in Federal funds were spent on Head Start programs. Due to the indirect and induced linkage effects, these federal funds have a total regional economic effect in the State of \$857 million ($\420×2.04 Type II multiplier).

There is some debate among economists about whether it is appropriate to use Type I or Type II multipliers when analyzing shocks to the child care sector.¹⁸ We used Type II multipliers on external demand, e.g. federal aid in the New York State model (the Head Start example above). In the pre-kindergarten example above, a Type I multiplier (which assumes no change in household expenditures) was used for the state funds. However, one could assume that if state funding for pre-kindergarten had ceased, this would have stimulated some changes in household expenditure. Study teams should carefully consider which approach is most appropriate for their context, recognizing no optimal solution is available given the importance of household demand, state and federal funding to the child care sector. Some study teams have decided to put most of the detail on their linkage analysis in an appendix due to unresolved debate about how to handle the child care sector in an input-output framework.

METHODOLOGICAL CHALLENGES OF USING INPUT-OUTPUT MODELS

Input-output models are based on the export base theory of economic growth, which argues that external demand – exports – is what drives economic activity. While exports are certainly important, consumer demand

¹⁸ Type I multipliers assume households do not change expenditures with changes in income while Type II estimates assume households change expenditures linearly with income.

now accounts for 63% of US final demand. Exports, by contrast, only comprise 9% of final demand nationally.¹⁹ Thus, economic models that give primacy to export demand may be missing important internal sources of regional economic activity.

The demand for child care is primarily local – from households. Federal funding for child care has increased dramatically under welfare reform and these federal funds supplement parental demand and serve as a source of external demand in a state’s economy. Thus, using input-output models to analyze changes in federal funding is similar to using them for export-based demand.

The role of household consumption is still important in its own right. Some economists argue we should not count household effects (the induced effects) because households would have spent their money on something else anyway. However, others recognize the importance of local consumer demand for economic development. Local governments are keenly aware of the importance of capturing leakages to strengthen the local economy. This is why the competition for regional retail establishments is so keen. Household demand is an important part of the linkage effect of child care.

Input-output models were originally built to study the impacts of export-based sectors like agriculture, forestry and manufacturing. However with the growth in service sector employment (which now comprises 80 percent of all employment nationally), more attention has been focused on the economic impact of services. Business, financial and information services are now recognized as important sources of economic growth (Drennan, 2002). Personal and consumer services, while not economic drivers, are also leading sources of employment growth in regional economies.

¹⁹ Economic Report of the President, 2002.

Child care, due to its labor intensive nature, is a significant employer and an important service sector which supports parents who enter the labor force.

There is a limit to how well input-output models can measure the impact of a service sector such as child care. Input-output multipliers measure only backward linkages, i.e. the linkage between one industry and its suppliers. The child care sector demands primarily labor, supplies and food for its direct use. The most important contribution of child care is its consumption/investment effect in educating young children. An additional value is the role child care plays in supporting parents who work. Child care's capacity to support working parents can be termed a "forward linkage." Forward linkages are not measured in input-output model multipliers.²⁰ The Cornell project is working on a procedure to use input-output modeling tools to measure the combined impact of backward and forward linkages. This alternative approach will better capture the regional economic importance of child care. In the meantime, using standard input-output analysis to look at the child care sector is justified, especially if care is taken to distinguish local from external demand.

²⁰ Some studies have used the input-output model to run multipliers on parent wages and have attributed all of this impact to child care (M.Cubed 2002). We do not recommend this. Parents earnings are not attributable to the child care industry, but to the industries where parents actually work. The support child care provides to parent workers is a forward linkage that is not counted in an input-output multiplier. The Cornell research team is working on a new approach to input-output modeling that accounts for the forward linkages (sales) of the child care sector.

SECTION SIX

ECONOMIC DEVELOPMENT EFFECTS OF GOVERNMENT INVESTMENTS IN CHILD CARE

Government investment in early care and education has historically been viewed as welfare, and responses have largely focused on the poor. Even when an early education frame is used to drive funding, the strongest arguments are for boosting the early learning opportunities for disadvantaged children. When child care is viewed through the lens of economic development, however, the response need not be limited just to poor families, school districts or center-based care. The frame embraces the industry as a whole—all types of providers in all settings.

An economic development framing encourages investment in child care as an industry that generates jobs, contributes to the economy through the purchase of goods and services, promotes child development and supports working families at all income levels.

This section describes how regional economic analysis can be used to measure the short-term regional economic effects of government investments in child care.²¹ First, we describe the different types of government investments and their role in strengthening the market for child care. Then, we show how state and local dollars spent on child care leverage federal funds that ripple (linkage effects) through the economy in the same way as the dollars generated by exports.

²¹ Economic studies of tax and government expenditure generally find a positive impact of investment on economic development, while taxes have a limited negative effect (Bartik, 1991; Bingham and Bowen, 1994).

Special attention is given to the role of child care subsidies as an economic development investment that supports working parents and strengthens the regional economy. Government investments in child care are more than education or welfare, they are a critical component of the infrastructure for economic development.

GOVERNMENT INVESTMENT STRENGTHENS THE CHILD CARE MARKET

Government investment in child care improves the quality of early education, assists in the regulation of the child care market, and ensures that quality child care is accessible to low-income working parents. There are four main types of government investment in child care: 1) government funded programs, 2) direct payments to providers to improve quality, 3) expenditures for licensing and regulation, and 4) subsidies to support working parents.

- *Government funded programs* include Head Start, Early Head Start and pre-kindergarten and these can be based in public or private facilities. Government investment in these programs improves the quality of care, particularly for low-income families who could not otherwise afford these services.
- *Government direct payments to providers* include grants to improve quality, to subsidize food, and to fund employee retention programs. These investments improve the quality of care and promote stability among the child care workforce.

- *Government expenditures for licensing and regulation* set standards through regulation, and provide training for providers on child development and early education.
- *Government subsidy payments* help cover tuition costs for low-income working parents. This strengthens the local economy and improves the opportunities for low-income families.

Table 6 shows the breakdown of government investments in child care in Kansas by source and purpose of investment.

Funding Source	Purpose	Kansas Funds	Federal Funds (Discretionary)*	Federal Funds (Designated)**
Kansas General Revenue	Subsidies	\$14,505,028		
Kansas Tobacco Settlement Funds	Subsidies	\$1,399,995		
	Smart Start - Quality	\$3,000,000		
Federal Child Care Development Funds (CCDF)	Subsidies			\$18,625,148
	Licensing			\$2,197,856
	Early Learning Quality Grants			\$4,066,111
	Kansas Early Head Start (EHS)			\$7,973,754
Federal TANF Funds Transferred to CCDF	Subsidies		\$15,796,597	
	Early Learning Quality Grants		\$210,292	
Federal SSBG Funds	Subsidies		\$488,435	
Federal Food Stamp Education and Training	Subsidies			\$396
Federal Early Head Start (EHS) Funds	Early Head Start (EHS)			\$6,983,741
Federal Head Start (HS) Funds	Head Start (HS)			\$43,517,705
Federal Child and Adult Care Food Program (CACFP)	Food Subsidies to Child Care Programs			***\$26,289,249
Total Funding		\$18,905,023	\$16,495,324	\$109,653,960

“Investing in the Child Care Industry: An Economic Development Strategy for Kansas.” May 2003. Source: Kansas Dept. of Social and Rehabilitation Services, State Fiscal Year 2002.

* Federal funds that Kansas has the discretion to use for early childhood care and education programs.

** Federal funds that are specifically designated for early childhood care and education programs.

*** CACFP funds include administrative costs.

Public funds for pre-kindergarten are left out because Kansas’s pre-kindergarten is based solely in the public school system.

Government investments strengthen the child care market and help sustain a critical social infrastructure for economic development.

Leveraging Federal Funds with State Dollars

State and local investments leverage federal dollars by building the quality and licensing system that enables the state to draw down federal funding. Federal dollars represent the most important source of external demand for child care. Leverage is based not just on federal funds that require a state match but also state investments in the infrastructure (such as licensing and child care resource and referral services) necessary to draw down federal funds. The leverage figures do not imply that new state investments will result in more federal funds. Rather they show the current relationship between state and federal funds.²² Table 7 shows the method developed by the Kansas study team to determine how Kansas state funds leverage federal funds.

²² Without licensing, or some sort of state approval system, child care programs could not access federal Child and Adult Care Food Program (CACFP) dollars. Without recruiting, many providers would not know about the program or sign up. Similarly, funding for Head Start and Early Head Start is based on competitive bidding. In past competitions, Head Start and Early Head Start proposals were looked upon more favorably if they attracted funding from multiple sources to provide full-day, year-round services. To this end, the commitment of state funds to Early Head Start and Head Start, as well as a state’s willingness to make child care subsidy funds available to Head Start programs, helps make proposals more attractive to the federal administration.

Table 7. Estimating Leverage of State Funds to Federal Funds, Kansas

1. Kansas funding includes the following three categories (all funds are SFY2002):

State general fund.....	\$14,505,028
Tobacco settlement funds used for child care	\$4,399,995
Federal funds that Kansas elected to use for child care but which could have been used for other purposes (such as TANF & SSBG).....	\$16,495,324
	<hr/>
	\$35,400,347

2. Federal funding includes federal funds that could only be used for early care and education services in Kansas (including Child Care Development Funds, Food Stamp Employment and Training, Head Start, Early Head Start and Child and Adult Care Food Program).

Federal funds.....	\$109,653,960
--------------------	---------------

The Leverage of Federal Funds to Kansas Investment is the ratio:

$$\frac{\$109,653,960}{\$35,400,347} = 3.09754$$

Every dollar Kansas invests in child care leverages \$3 in federal funds.

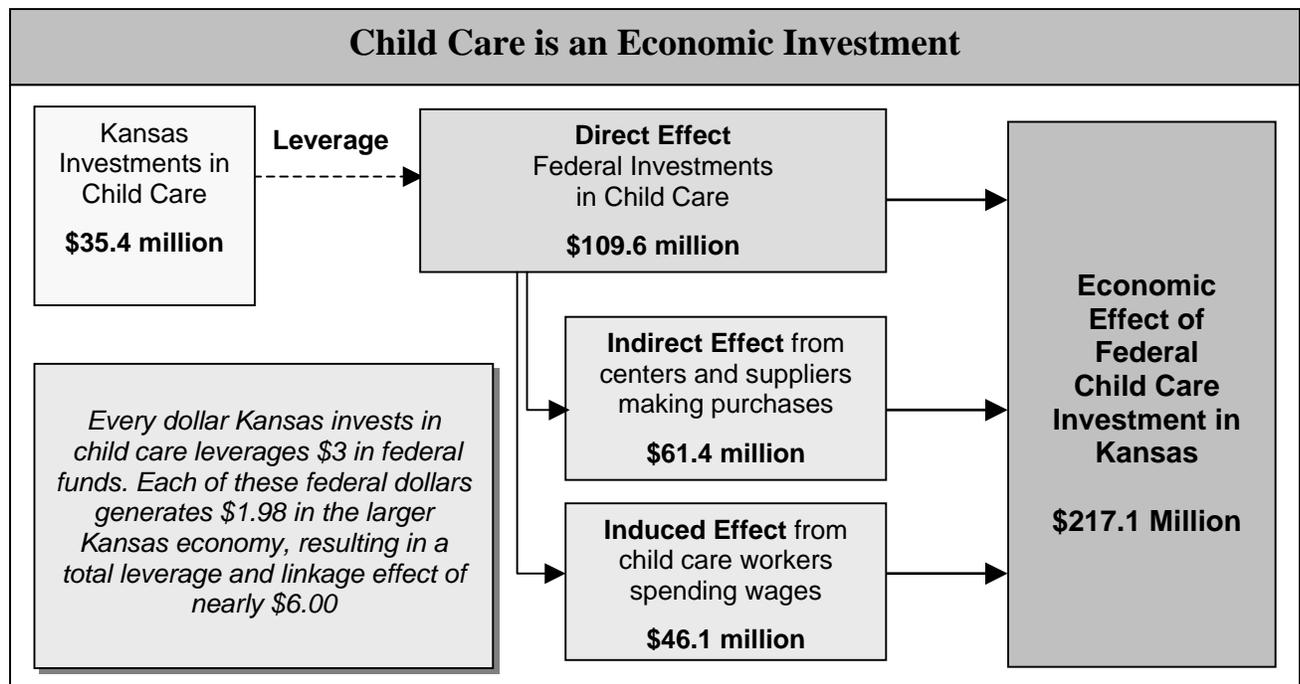
“Investing in the Child Care Industry: An Economic Development Strategy for Kansas.” May 2003. Source: Kansas Dept. of Social and Rehabilitation Services, State Fiscal Year 2000. Note: Had Kansas decided not to include TANF transfers in its “state” share the leverage would have been twice as high.

Measuring the Linkage Effect of External Demand

A major source of growth in the regional economy is external demand. In the child care sector, where most of the demand is local (from households), federal investments represent the most important source of external demand. External demand spurs economic development by bringing in additional dollars to the state economy. We can use the Type II multipliers from the input-

output analysis to determine the linkage effect of these federal dollars. Figure 12 from the Kansas report shows that each federal dollar generates a total linkage in the broader Kansas economy of \$1.98, for a total impact of \$217 million on the regional economy. This linkage effect, combined with the leverage effect, creates a combined impact of more than \$6.00 for every dollar the state invests in the child care sector (\$3,00 in leverage* \$1.98 in linkage = \$6.00).

Figure 12. Measuring Leverage and Linkage Effects of Government Investment in Early Care and Education, Kansas



“Investing in the Child Care Industry: An Economic Development Strategy for Kansas.” May, 2003. Source: Based on SRS data for 2002.

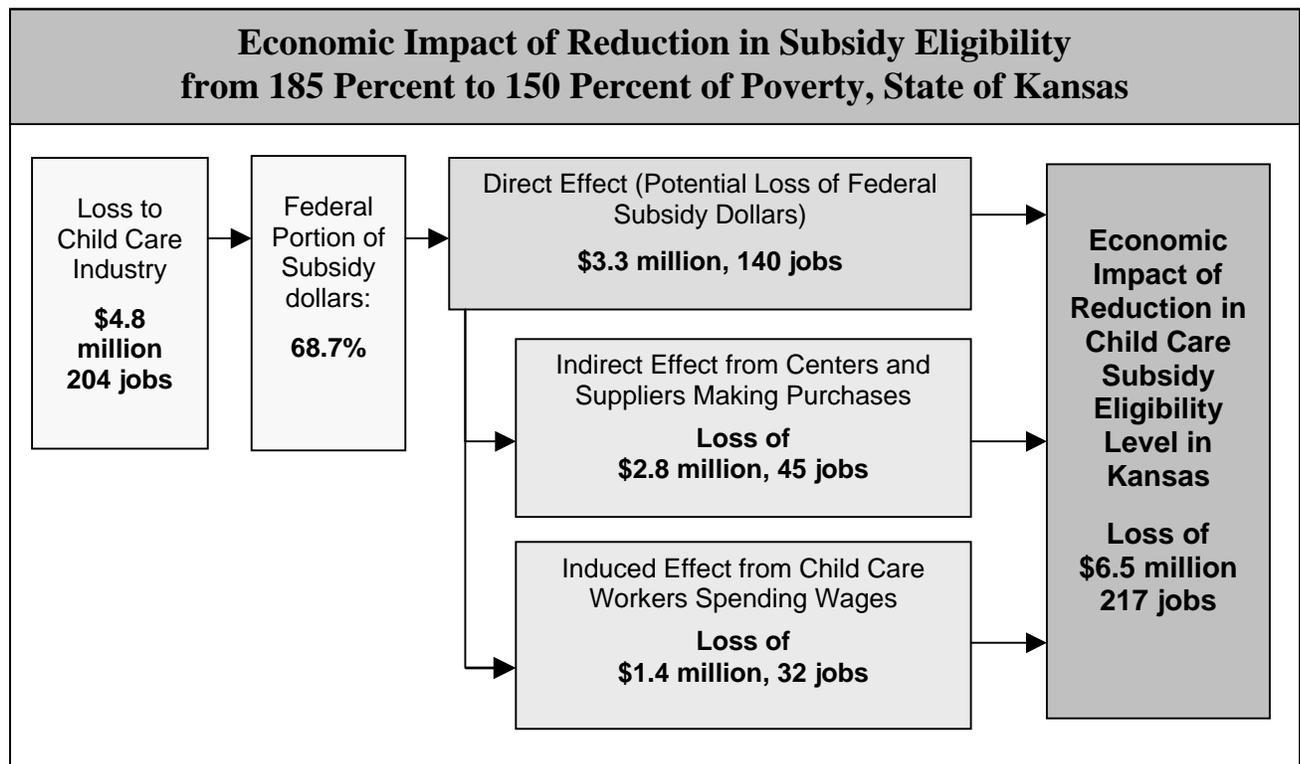
Measuring leverage and linkage is most appropriate for new dollars or a shock to the child care market (such as a proposed budgetary reduction). Kansas, like many other states in 2003, was experiencing budget difficulties. Revenues were down and budget cuts were proposed in nearly all sectors of state and local government. One of the proposals in 2002 was to reduce the eligibility

for child care subsidy from 185 to 150 percent of poverty. The study team used the regional economic analysis to demonstrate that child care subsidies are more than welfare, they are an economic development investment for the state of Kansas.

The Kansas study measured the effect on the state economy if the level of child care subsidy eligibility were reduced, which would have the “shock” effect of reducing the total demand for child care in the state.²³ Figure 13 illustrates how the loss of federal funding from such a policy change would ripple through the state economy. A Type I

multiplier could have been applied to the state portion of the subsidy funds, but to be conservative, only the federal (external) portion of the subsidy funds was analyzed. The Type II multiplier, which includes the direct, indirect, and induced effects, was multiplied by the federal portion of the subsidy funds.²⁴

Figure 13. Economic Impact of Reduction in Subsidy Eligibility, Kansas



“Investing in the Child Care Industry: An Economic Development Strategy for Kansas.” May, 2003. Source: Kansas Dept. of Social and Rehabilitation Services, 2002

²³ The direct effect of the reduction in eligibility level was based on Kansas Dept. of Social and Rehabilitation Services data. \$4.8 million = the number of working parents who would lose subsidies (1043 parents with 1,518 children in child care) times the average subsidy per child (\$3,146). 204 jobs = the average ratio of child care teachers to children 7.4 * 1,518 children. Federal funds comprise 68.7% of subsidy funding so the direct loss was reduced to 68.7% of the total.

²⁴ The output direct effect = 1, indirect effect = 0.56, and induced effect = 0.42 for total Type II output multiplier = 1.98. The employment direct effect = 1, indirect effect = 0.32, and induced effect = 0.23 for total Type II employment multiplier = 1.55.

SUBSIDIES MAKE WORK PAY FOR PARENTS AND EMPLOYERS

Quality child care is expensive from the perspective of parents – especially parents in low wage employment. Subsidies make it possible for low income working parents to afford the cost of quality child care. Parents who join the labor force or who are able to maintain stable employment with the help of child care subsidies contribute to local economic development through their earned income. All three Cornell studies (Tompkins County, Kansas and New York) emphasize the importance of publicly funded child care as a strategy that supports both employers and employees.

Child care subsidies to parents represent a vital support to promote business and employment growth. According to the Child Care Bureau, 80 percent of all children receiving subsidies were in paid care because of parent employment (ACF800, FY 2000). A four state study found 65 - 80% of parents receiving subsidies work in either retail trade or in services (Okuyama and Weber, 2001), so subsidies support these growing sectors in particular. A recent study by the National Bureau of Economic Research and Wellesley College showed that policies implemented in the State of Rhode Island to expand child care subsidy eligibility and increase provider reimbursement rates “significantly increased the probability that family heads of households would leave welfare for work” (Witte, 2003). It also increased their working hours from part-time to full-time.

Estimating the Number of Working Parents with Children Receiving Subsidies

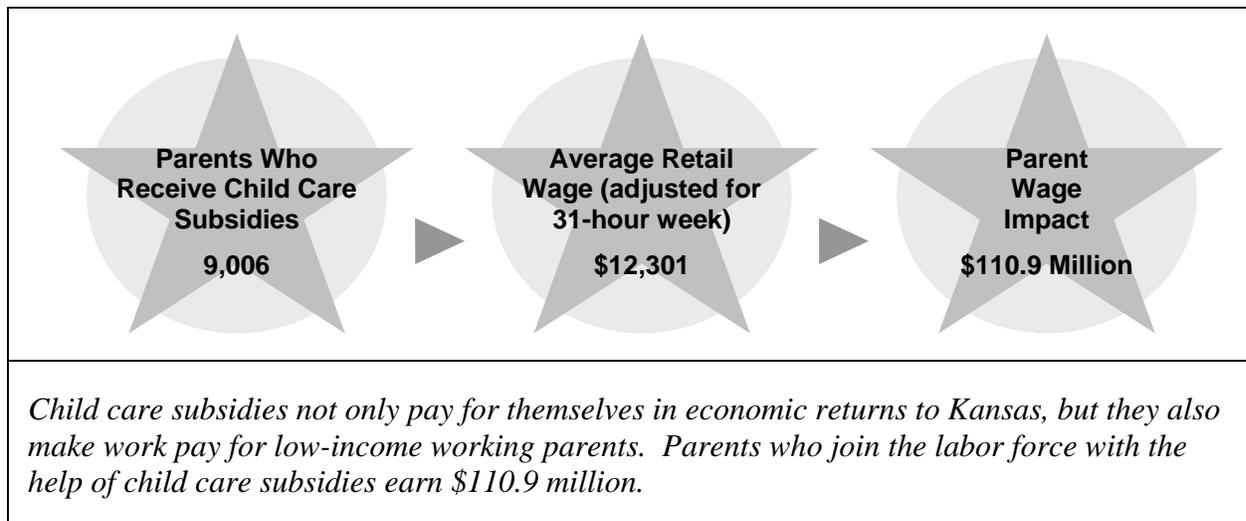
In order to estimate the economic development effect of child care subsidies, researchers need to determine the number of parents receiving child care subsidies. This number must be estimated from child care subsidy data which is collected on the basis of

family cases. The Child Care Bureau ACF-800 data provide the average number of families receiving subsidies monthly. Monthly averages are better than yearly totals because they don't double count people who enter and leave the system multiple times in a year.

For the Tompkins County report, the Department of Social Services estimated that client families are typically single parents with at least two children, so a ratio of two children per parent was assumed. Thus, with 413 children enrolled, the number of parents receiving child care is about 206. The New York and Kansas teams worked closely with the state agencies that run the child care subsidy program to get an estimate of the number of parents and children served by subsidies.

Subsidy parent income can be estimated using the area's average wages for low income families. Because the majority of parents receiving child care subsidies work in retail and non-professional services, the average annual wage for retail workers can be used to estimate parent wages. In Tompkins County, the majority of parents with subsidies do not work full-time hours, so the annual average retail wage of \$16,755 was reduced by 25% to reflect a 30 hour workweek (\$12,500). Kansas reviewed the actual distribution of earnings for parents receiving subsidies and found it roughly equaled the average retail wage for a 31-hour work week (see Figure 14). The New York report used the average wage of a low-wage worker (defined as a worker at the 20th percentile). Another option would be to use the income eligibility threshold for child care subsidies.

Figure 14. Estimated Wages of Parents Receiving Child Care Subsidies, Kansas



Investing in the Child Care Industry: An Economic Development Strategy for Kansas, a report by Mid-America Regional Council, April 2003 Source: Kansas Dept. of Social and Rehabilitation Services, 2002.

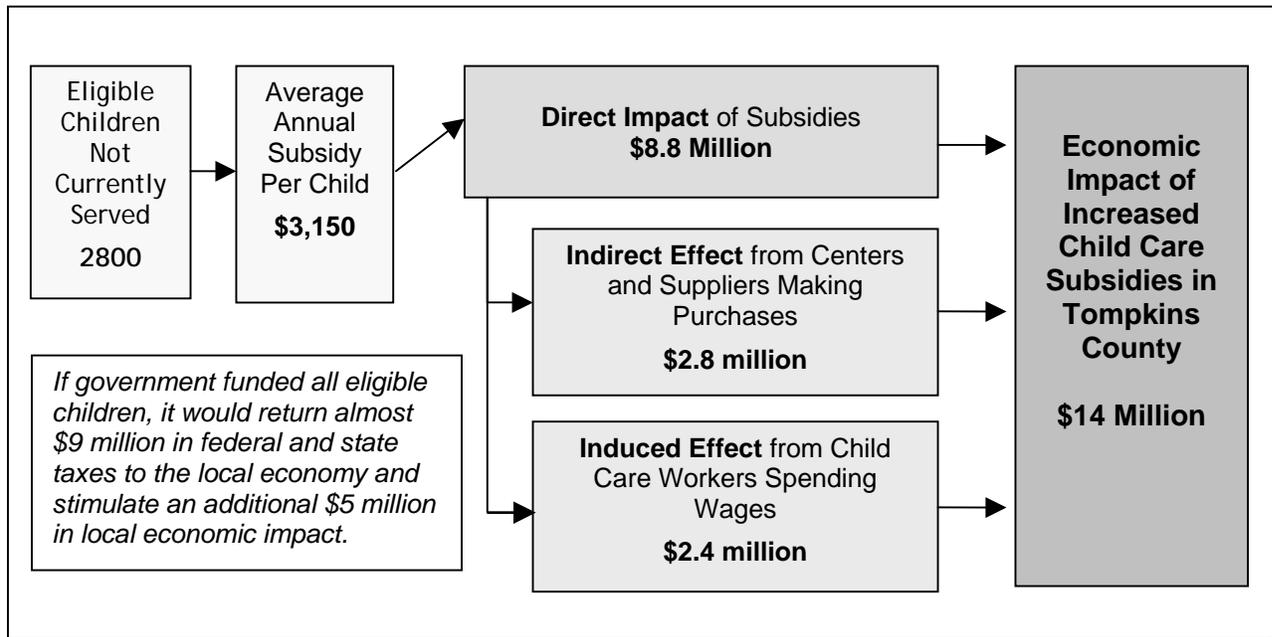
The wages earned by parents who receive child care subsidies also make an important contribution to the economy. Child care subsidies support low-income working parents and the businesses who employ these parents. The New York report demonstrated that between 1992 and 2000, nine of the top fifteen fastest growing industries in New York were in the service sector, many of them paying significantly less than the state's average wage of \$40,658. Growth in these service industries represented over 30% of the total state job growth (Fiscal Policy Institute, 2001).

Meeting the Eligibility Gap, Tompkins County, NY

Tight county budgets coupled with hiring freezes and staff reductions in the Department of Social Services made it difficult to reach out to eligible working parents in Tompkins County. Failure to utilize the county's subsidy dollars had resulted in shrinkage in the county

allocation from \$1.8 million in 2000 to \$1.4 million in 2002. The Department of Social Services was concerned because it was serving only 14 percent of the eligible children in the county (based on Child Health Insurance Program eligibility estimates). The Department wanted to increase the demand for subsidies so it could increase its allocation from the state. Local human resource managers were not initially aware of the income levels (under \$32,000 a year for a family of four) that would make many of their employees eligible for subsidies. To reach out to working parents, a set of materials was developed by the Early Education Partnership on tax credits, FSAs, and public subsidies. By reaching parents through their employers rather than through the social service office, the Partnership could reduce the stigma of applying for public support, and businesses could extend the reach of social services staff to eligible working parents.

Figure 15. Meeting the Eligibility Gap, Tompkins County



Fill The Gap: Child Care Support Employers and Workers, published by the Tompkins County Early Education Partnership, May 2002. Source: Tompkins County Dept. of Social Services, 2002.

Using fiscal year 2002 data provided by the Department of Social Services, we estimated the number of eligible children not served by the subsidy program (2,800) and the average annual subsidy per child (\$3,150). The Early Education Partnership used the Type II multiplier to measure the effect of fully funding the public subsidy program. Figure 15 shows the linkage effects of meeting the eligibility gap in Tompkins County.²⁵ The Chamber of Commerce used the results to show that if government funded all eligible children, it would return almost \$9 million in federal and state taxes to the local economy and stimulate an additional \$5 million in local economic impact.

SUMMARY

Public subsidies for child care provide a key support, not just for working families, but for the businesses that need to recruit and retain employees with young children. This chapter has shown how an economic development framing can be used to demonstrate that government investments in child care have short-term economic benefits that extend beyond the direct effects because the increased demand for child care in turn increases demand for other industries due to child care industry purchases. State investments leverage federal funds that increase final demand for quality child care. This benefits not only the child care sector itself, and the children and parents it serves, but also helps stimulate the broader regional economy.

²⁵ Because both state and federal portions of subsidy funds represent external demand to the county economy, a Type II multiplier was used.

SECTION SEVEN

ECONOMIC DEVELOPMENT STRATEGIES FOR CHILD CARE: FROM ANALYSIS TO POLICY CHANGE

A healthy economy requires strong businesses and productive workers. Child care not only fuels that strength, it is an industry that provides positive, short-term returns. Regional economic analysis tells the story of a sector composed of thousands of small businesses, which employ thousands of workers and serve thousands of children. Not only is the sector important economically in its own right, it is also a critical component of the social infrastructure that supports parent workers and their employers. New definitions of economic development emphasize more than jobs and income; they recognize the importance of investments in human capital, quality of life and sustainability. Economic investments focused on the child care sector achieve all of these goals.

By broadening the framing of child care to include economic development, we broaden the framing of economic development policy as well. When child care is recognized as part of the economic development infrastructure, it opens the way for more sustainable economic development policies focused on improving quality of life and social infrastructure in communities. Investments in the child care sector support families, businesses, and society as a whole.

The primary value of a regional economic analysis is to identify the size of the child care sector and opportunities for economic development intervention.

State and local economic development policy is typically focused on tax abatements and infrastructure investment (Warner, 2001; Bartik, 1991). Tax abatements have been criticized for their limited effects on economic growth (Lynch, 1996). However, government investment in social infrastructure and quality of life is now being recognized for its positive impact on economic growth (Bartik, 1996; Florida, 2002). Child care, because of the nature of the service it provides to the economy, has a positive economic development effect.

Economic development strategies can be used to promote investment in early care and education:

- ❖ To strengthen the competitive position of the many small business providers,
- ❖ To improve retention and quality among its teachers,
- ❖ To enhance access for all families, and
- ❖ To support employers by providing care at the times and locations most needed by working parents.

Researching the economic impact of the child care and early education sector has been a learning process for all the teams involved. Many exciting new policy approaches are being explored as a result of these studies. This is the promise of an economic development approach. The Cornell University Linking Economic Development and Child Care Research Project is currently tracking policy innovations. Examples are provided on our website and are highlighted below.

SUPPORTING CHILD CARE BUSINESSES

Economic development strategies can be used to improve facilities and management of child care providers.

Child Care Business Policy Innovations:

- Offer small business incentives to assist child care providers with facilities and operating costs.
- Develop economies of scale to help reduce the overhead of running individual child care establishments.
- Use zoning, land use and transportation policies to address shortage of licensed child care facilities.
- Use economic development language and marketing practices to attract informal providers into the regulated system.
- Expand and coordinate industry data collection.

Support for Small Business

It is useful to compare child care to other small businesses that receive economic development attention to promote entrepreneurship, and improve business management. Access to economic development incentives geared to small businesses—loans, business management training and support—could assist child care providers with upgrading facilities and reducing operating costs.

Several community development organizations have developed initiatives to support child care businesses. For example, the Rhode Island Local Investment Support Corporation (www.liscnet.org/rhode_island) has established a Child Care Facilities Fund (RICCFF), which invested more than \$2 million in Rhode Island in 2002 for low-interest loans and small grants to support facility improvement of centers and

family child care homes. These investments help child care businesses improve the quality of their service. The Enterprise Foundation has established a financing model to provide support for child care facilities and works with partners across the United States to provide grants and loan support

(<http://www.enterprisefoundation.org/solutions/childcare/index.asp>).

Developing Economies of Scale

Enabling small child care businesses to reach some economies of scale could help these businesses operate more efficiently and bring some stability to an industry that is often economically fragile. Mechanisms used in other industries to streamline billing, marketing, and purchasing might help strengthen cash flow and reduce overhead in the child care industry. The field already has some examples of efficiencies in staffing, food service and collection management. Helping child care programs spend less time on back-office tasks and more time delivering quality care, while maintaining the diversity of providers and parent choice in the market, is an important step.

In Ohio, a child care resource and referral agency has recently launched a new initiative, “Centers that Care”: an integrated employment marketing program for participating providers. Centers that Care will recruit, screen, interview, and profile potential child care employees and provide participating centers with a computerized data base of qualified job applicants. The goal of this initiative is to facilitate the hiring of child care workers saving time for center directors who would normally have to recruit and screen staff themselves (Stoney, 2004a).

Using Zoning, Land Use, and Transportation Policies to Address Shortage of Licensed Child Care Facilities

The needs of child care businesses should be reflected in land use and economic development policies. In some states, child care homes are exempt from small business zoning rules restrictions, but in other states (e.g. California) zoning rules can pose an impediment to expansion of child care supply. One of the goals of the California county studies was to expand planning policies to include a supportive approach to child care. The Child Care Planning Council in Alameda County, CA, prepared a child care facilities planning report, as well as a case study for a developer agreement that links land use and child care (Freeman, Dektar, and Garling, 2002). The City of Bakersfield, CA has also included child care as a priority in the “City’s Consolidated Plan 2005.” This major planning document directs the city to set aside Community Development Block Grant monies and other funds to build child care centers and increase family home provider services to accommodate over 1,000 children (Hildebrand and Upp, 2001b).

Bringing Informal Providers into the Regulated System

Bringing more providers into the regulated system can be beneficial. Parents will benefit from increased market information on the availability of child care in their area, providers will have access to licensing agency services, and CCR&Rs and policy makers will be able to address the needs of the sector more effectively. Whereas regulatory policy often sets up barriers to entry, an economic development approach might identify *incentives* needed to entice child care businesses to become licensed. For example, Maine established a child care tax credit that gave a premium to parents who use licensed child care. Many states provide start up grants for equipment, but funds are typically insufficient to attract family providers.

In addition, bringing informal providers into the regulated system expands child care sector data to include more of the children in non-parental care. All parts of the child care and early education system need to commit to and invest in comprehensive data collection; bringing informal providers into the system is just one step in this critical process.

SUPPORTING THE CHILD CARE WORKFORCE

Economic development strategies can be used to reduce turnover rates among child care employees, improve wages and educational levels, and improve quality of care.

Child Care Workforce Policy Innovations:

- Promote education, recruitment, retention and wage compensation programs to help reduce provider turnover and improve quality of care.

Scholarship Programs to Improve Educational Standards

Scholarship programs help cover the costs of higher education or training for early care and education workers. One such program, the T.E.A.C.H. Early Childhood Project, is currently being implemented in 23 states. T.E.A.C.H. provides scholarships for teachers in regulated child care centers and homes (Center for the Child Care Workforce, 2003).

Wage Supplement Initiatives

Several states and local governments have designed programs to supplement the wages of child care providers. North Carolina’s Child Care Wage\$ Project provides salary supplements to low paid teachers based on their educational level. The project is designed to reward teacher education and continuity of care (Mitchell et al., 2003). In San Francisco (CA), WAGES PLUS has set a predetermined wage floor for various staff

and provider categories. Providers who receive salaries below the threshold for their particular category receive government funding to fill the wage gap (Hildebrand and Upp, 2001b).

INVESTING IN CHILDREN

Investments in quality have both short and long-term impacts on economic development. In the long-term, quality child care can help children be ready for school and lead healthier, more productive lives. In the short-term, investment in quality will strengthen the child care sector without raising the cost for working parents.

Policy Innovations to Improve Quality of Care:

- Expand public investments
- Utilize regulations to enhance quality and sustainability
- Offer incentives to quality programs

Tiered Reimbursement Rates

Tiered child care subsidy reimbursement rates can provide economic incentives for providers who serve low-income children to offer high-quality care. A total of 34 states have linked higher reimbursement rates to quality standards (Center for the Child Care Workforce, 2003). Quality rating systems establish tiered reimbursement rates for child care subsidies, improve links to various public and private grant programs, and increase awareness among parents about the quality of a particular child care program. One example is the Colorado Educare Quality Rating System described in the box above.

“The Educare Colorado Quality Rating System is a voluntary system that allows parents to better determine quality child care for their children from birth through kindergarten. With the expertise of many diverse early childhood educators and advocates, the Quality Rating is based on five key measures of quality: Classroom Environment, Parent Involvement, Staff Credentials, Staff to Child Ratios, and Accreditation. Colorado providers are rated on a four star continuum, with four stars being the highest Educare Colorado Quality Rating.”

Source: Educare Colorado website, 2003.

Licensing and Regulations

States can use licensing regulations to improve the quality of care through lower child–staff ratios and higher training requirements for providers. A report by the Children’s Defense Fund points out that only 10 states meet national recommendations for staff–child ratios in center-based care, and most states do not require all family care providers to meet regulations. (Ewen et al., 2001). However, simply raising licensing and regulation requirements without giving attention to cost and price constraints faced by child care providers and parents can have the adverse effect of driving child care providers and parents out of the regulated care system.

Public Investment in Early Care and Education

Improvements in the quality of care require an investment beyond that expected from parent fees. States can expand investment in programs such as Head Start, Early Head Start, and pre-kindergarten to improve quality of early care and education. These programs are particularly important for low-income children who cannot afford quality private care. Long-term studies have found high societal returns from investments in early education (Barnett, 1995). Between 1992 and 1999, state spending in pre-kindergarten initiatives has expanded from \$0.7 billion to \$1.7 billion, an increase of 243 percent (Schulman et al., 2003).

SUPPORTING EMPLOYERS AND WORKING PARENTS

Increasingly, economic developers and businesses are recognizing the importance of social and educational investments, which promote a high quality of life (Florida, 2002; Warner et al., 2003). Investment in child care builds the social infrastructure that helps employers attract and retain workers. Reliable child care contributes to economic productivity by supporting working parents, and by reducing employee absenteeism and turnover rates (Hofferth and Collins, 2000). Parents are the primary purchasers of child care and the high costs prevent many parents from purchasing the quality care their children need.

Policy Innovations for Parents and Their Employers:

- Promote tax credits and flexible spending accounts
- Utilize available tax credits
- Implement and utilize subsidy programs
- Partner with others in community to share child care resources and services

Child Care Benefits: The Bottom Line

Boosting Recruitment: 85 percent of employers report that providing child care services improved employee recruitment. About one in three working parents is willing to change employers or trade salary and benefits for work/family programs that fit his/her needs.

Reducing Turnover: Almost two-thirds of employers found that providing child care services reduced turnover.

Lowering Absenteeism: Child care breakdowns leading to employee absences cost businesses \$3 billion annually in the United States. Fifty-four percent of employers report that child care services had a positive impact on employee absenteeism, reducing missed workdays by 20 to 30 percent.

Increasing Productivity: 49 percent of employers report that child care services had helped boost employee productivity.

Source: The Child Care Partnership Project Employer Toolkit. It's Good Business to Invest in Child Care. U.S. Department of Health and Human Services. <http://nccic.org/ccpartnerships>.

Flexible Spending Accounts

The employer community can help families pay for child care by creating *Flexible Spending Accounts (FSAs)* where employees can place up to \$5,000 of their earnings in a pre-tax account. Employees withdraw the money by submitting receipts for child care services. Since FSAs are non-taxable, the result is a significant tax savings for the worker and the employer (Early Education Partnership, 2002c).

Unfortunately, the FSA is not indexed to inflation and the maximum yearly contribution of \$5,000 has not been raised since the inception of the federal FSA program in 1983. The business community

can play a critical role in pointing out to government the economic benefit of increasing the maximum level to reflect the actual price of care.

Many employees hesitate to use the FSA because it operates by reimbursement and any money left in the account at year-end is forfeited. Nationwide, only 2-4% of workers participate in such programs when offered (Early Education Partnership, 2002c). Some employers have addressed this problem by starting the plan year in February so employees will have reimbursable expenses immediately, or by supplementing employee contributions. For example, New York State government made its FSA more employee-friendly by ensuring that refunds are processed quickly and by not withholding money the first or last month of the year in order to aid their employees' cash flow. Con Agra helps employees pay child care costs. Company contributions along with payroll deductions are placed in employee FSA accounts (Mitchell et al., 1997).

Tax Credits

Governments can use *tax credits* to help parents pay the costs of child care. The federal government and 27 states offer a Dependent and Child Care Tax Credit (DCTC) (Donahue et al., 2002). However, the amount of allowable credit is still very low and the Federal Dependent and Child Care Tax Credit has not been raised sufficiently to cover the cost of care.²⁶ Of the 27 states with credits, only 10 have made the

²⁶ Until 2002, there had not been a change in the federal limits since they were established in 1981. The increase for tax year 2002 to \$3,000 (one child) and \$6,000 (two children) still leaves the tax credits at only two-thirds the level they could be. If the credit had been indexed for inflation, today they would be worth \$4,596 for one child and \$9,192 for two, much closer to the current cost of care. (Early Education Partnership, 2002d)

DCTC refundable. The federal DCTC is also non-refundable. Making the DCTC credits refundable would help low income working parents who do not earn enough income to owe taxes. The DCTC also can be linked to child care quality. Maine, for example, doubles the credit for taxpayers who enroll their child(ren) in a program that meets the state's quality standards.

Tax Abatements for Employers

Tax abatements for businesses are used as motivation for locating or staying in a regional area. When tied to child care, tax abatements can be designated to reduce working parents' expenditures on child care. Austin, Texas, has recently earmarked 20% of a tax abatement package for work force development and child care (Mitchell, Stoney, & Ditcher, 2001). By including child care as an up front provision, employers understand that their tax reduction pays a double benefit in the care infrastructure it helps develop.

Child Care Subsidy Programs

Since welfare reform, government subsidy support to low-income working parents has increased over 250% (Mezey et al., 2002a). Unfortunately, only 15-30% of eligible children currently receive child care subsidies (Mezey et al 2002b). Child care subsidies "make work pay" for low income parents and support business and employment growth in the regional economy.

"Child care is a central part of the infrastructure for economic development in Tompkins County. When employers support child care not only are they supporting their employees, but also the economic development of the county."

Source: "Child Care Supports Workers!" Early Education Partnership of Tompkins County (May 2002a).

In Tompkins County, NY, the Early Education Partnership launched an initiative to increase utilization of subsidies by involving area employers in helping to advertise subsidies to eligible employers. Such business community support also enabled the Department of Social Services to successfully advocate for expansion in the county's state subsidy allocation. Framing child care as an infrastructure that supports local businesses was key to securing business leadership and sustaining interest in the group (Warner et al., 2003).

Subsidy programs also can be fashioned as *public-private partnerships* so that employers match government funds in order to ensure child care for their employees. In states that have engaged the private sector, innovative policy has resulted in expanded funding for child care. For instance, the State of Florida approved legislation (The Child Care Partnership Act) that encourages businesses to help low income parents pay for child care. Based on this law, the state government will match the funds used by employers to subsidize child care. Since 1996, Florida's Child Care Partnership Act has attracted \$19 million in private sector support for subsidies to low income employees (Mitchell, et al. 2001).

Communicating and Working with Business Leaders

A primary goal of economic analyses is to reach new stakeholders. Involving such stakeholders in a Policy Advisory Committee from the outset will help ensure that the study is focused on issues where there is potential for policy change. Such partners also will ensure the materials are presented in a manner accessible to a broader economic development audience.

As the Chamber of Commerce President in Tompkins County, NY noted, the business community appreciates short, clear summaries of the issues. Thus, the Early Education Partnership developed one page overviews with easy to read graphics. Other states have prepared full-length reports, but supplemented these with shorter executive summaries (produced as a brochure or pamphlet), public relations materials, web sites and journalistic coverage in the local media.

Presentation can be as important as content, and it deserves almost as much attention as the analysis itself. The materials need to respond to the interests of the target audiences. Presenting child care as economic development is a new concept both to the child care community and the economic development community. It is critical to make the material as simple and as clear as possible but the assumptions of the analysis must be clearly stated, especially if your team has struggled with conflicting data. Credibility is paramount.

NEW VISIONS FOR ECONOMIC DEVELOPMENT POLICY

In recent years, economists and policymakers have begun to realize that growth in jobs and income, the traditional measures of successful economic development, are insufficient to gauge a society's true level of progress (United Nations, 2003; Sen, 1999). Business and economic developers in the US increasingly recognize the importance of "quality of life," which includes environmental, educational, and recreational amenities, in attracting and retaining businesses in a community (Bartik, 2003; Florida, 2002; Warner et al., 2003).

The business community is beginning to recognize the value of the child care sector. The report released in 2002 by the influential Committee for Economic Development called for "the United States to acknowledge society's stake in and responsibility for early education." Employers have long recognized the importance of quality child care as it relates to increased employee productivity. There is now an opportunity for the business and economic communities to join with the child care and early learning community to enhance the quality of early education and, in turn, strengthen the regional economy.



Economic development arguments can help us to broaden the collective responsibility for care. While framing child care as economic development can open up the field to new sources of support and to new ideas, we do not want to undermine the educational and social values of child care. Investing in children now will benefit society later by creating a better-educated and more productive workforce, ensuring that more people are able to care for themselves without government support (Lakoff and Grady, 1998). Public surveys show that the majority of people rank early education programs as a high priority (Brandon, 2003). The US is increasingly becoming a knowledge economy and investments in the future workforce are critical to our long-term economic competitiveness.

The economic importance of the early care and education sector includes three components: human development of children which builds the foundation for our future workforce, support for working parents and their employers, and child care's role as an economic sector in the regional economy.

This methodology guide has focused on the regional economic importance of child care – the *regions* petal in our trillium flower. However, as child care policymakers work to measure the field's contribution in the traditional economic development terms of jobs and income, they should not forget the field's importance for human development and the long-term economic returns from quality.

**APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)**

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
Mississippi: statewide	2003	Low-Income Child Care Initiative	Carol Burnett Mississippi Low-Income Child Care Initiative P.O. Box 204 Biloxi, MS 39533 228-374-2218 Fax: 228-374-2219 carolbur@bellsouth.net	Margery Van Meter, with input from Dr. Bob Neal at MS Institutions of Higher Learning	Investing in Futures: The Business of Child Care in Mississippi	http://www.mschildcare.org/
Jefferson & Hardin Counties, Kentucky	2003	4Cs of Kentucky	Susan Vessells, Director 4Cs of Kentucky 1215 So. Third St. Louisville, KY 40203 Phone: (502) 636-1358 Fax: (502) 636-1488 www.4cforkids.org	National Economic Development Law Center	The Economic Impact of the Child Care Industry in Jefferson and Hardin Counties	http://4cforkids.org/
Monterey, CA	Winter 2003	Monterey County Department of Social Services	Kathleen Murray-Phillips, Child Care Planning Council Coordinator 1000 S.Main St. Suite 108 Salinas, California 93901 Phone: (831) 796-3530 Fax: (831) 755-8476 E-mail: murray-phillipska@co.monterey.ca.us	National Economic Development Law Center	The Economic Impact of the Child Care Industry in Monterey County	Contact Kathleen Murray-Phillips at http://www.co.monterey.ca.us/childcare/cares.htm
Merced County, CA	2003	Merced County Children and Families Commission	Tammy Moss Program Administrator 3327 M Street, Suite C Merced, CA 95340 (209) 725-3776 (209) 725-3778 fax tmoss@co.merced.ca.us	National Economic Development Law Center	The Economic Impact of the Child Care Industry in Merced County	http://prop10.merced.ca.us/pdfs/cceir.pdf

**APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)**

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
Florida	Fall 2003	Florida Children's Forum	Phyllis Kalifeh, Executive Director Florida Children's Forum 2807 Remington Green Circle Tallahassee, FL 32308 pkalifeh@fcforum.org	MGT of America, Inc. 2123 Centre Pointe Blvd. Tallahassee, Florida 32308 Nina Barrios 850-386-3191 x 286 nbarrios@mgtofamerica.com	The Economic Impact of Child Care in Florida	http://www.fcforum.org/resource.cfm
Minnesota (state wide study)	Fall 2003	Minnesota Child Care Resource and Referral Network	Ann McCully, Executive Director MN R&R Network 380 Lafayette Road, Suite 103 St. Paul, MN 55107	National Economic Development and Law Center 2201 Broadway, Suite 815 Oakland, CA 94612 (510) 251-2600 jen@nedlc.org	The Economic Impact of the Child Care Industry in Minnesota	http://mnchildcare.org/index.html/cceireport.pdf
New York Statewide	July 2003	NYSCCC and the New York State Office of Children and Family Services	Carol Saginaw Director, NYSCCC 230 Washington Avenue Extension Albany, NY 12203 csaginaw@nyscccc.org www.nyscccc.org	Cornell University, Mildred Warner PhD Dept. of City & Regional Planning West Sibley Hall Ithaca, NY 14853 607-255-816 mew15@cornell.edu	An Economic Analysis of the Child Care Industry in New York: State: Cornell University Technical Report Power Point	http://economicdevelopment.cce.cornell.edu
Colorado, Larimer County	Summer 2003	Larimer County Early Childhood Council	Wendy Watson Early Childhood Council of Larimer County P.O. Box 271708 Ft. Collins, CO 80527 970-231-9756 (cell) 970-278-1383 ECC@frii.com	BBC Research & Consulting 3773 Cherry Creek N. Drive, Suite 850 Denver, CO 80209-3827 www.bbcresearch.com bbc@bbcresearch.com	Economic Impact of the Early Care & Education Industry in Larimer County	Full report available at: http://www.fortnet.org/ECC/ http://www.co.larimer.co.us/compass/sub_ed_early.htm http://www.CORRA.org

**APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)**

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
Colorado, Boulder County	Summer 2003	Early Care and Education Council of Boulder County	Nancy Leahy City of Boulder, Children, Youth and Families 2160 Spruce Street Boulder, CO 80302 303-441-1913 (fax) 303-441-4348 leahyn@ci.boulder.co.us	BBC Research & Consulting 3773 Cherry Creek N. Drive, Suite 850 Denver, CO 80209-3827 www.bbcresearch.com bbc@bbcresearch.com	Economic Impact of the Early Care & Education Industry in Boulder County	http://www.CORRA.org
City of Minneapolis	June, 2003	Greater Minneapolis Day Care Association	Nancy Johnson GMDCA 1628 Elliot Ave. South Minneapolis, MN 55404 (612) 341-1177 nancyj@gmdca.org	Michelle Odom col@costofliving.biz	Executive Summary: The Child Care Industry: Supporting Jobs and Economic Development in Minneapolis	Executive Summary available at: http://gmdca.org/pdf/Eissfinal.pdf
Maine: Statewide	June, 2003	Early Learning Opportunities Consortium Portland, ME	Judy Reidt-Parker People's Regional Opportunity Program (PROP) 510 Cumberland Ave Portland, ME 04101 (207) 874-1140 JudyRP@propeople.org	Alex Hildebrand Consultant 33 Vesper St. Portland, ME 04101 207-831-4881 alexh@maine.rr.com	Report and Executive Summary: The Economic Impact of the Child Care Industry in Maine	Executive Summary available at: http://www.propeople.org/ExecSum2a.pdf
Rhode Island: Statewide	April, 2003	Options for Working Parents	Julie Anne Valladares, Executive Director Commerce Center 30 Exchange Terrace Providence, RI 02903 Phone: (401) 272-7510 julie@optionsforworkingparents.com	Charles J. Quigley, PhD & Elaine M, Notarantonio, PhD, Professors of Marketing, Bryant College	The Economic Impact of Rhode Island's Child Care Industry Slideshow Methodology notes	http://www.optionsforworkingparents.com/Economic%20Impact%20Study.htm

APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
Kansas: Statewide	March, 2003	Kansas City Metropolitan Council on Child Care	Abby Thorman Kansas City Metropolitan Council on Child Care 600 Broadway 300 Rivergate Center Kansas City, MO 64105 816-474-4240 athorman@marc.org	Cornell University, Mildred Warner PhD Dept. of City & Regional Planning West Sibley Hall Ithaca, NY 14853 607-255-6816 mew15@cornell.edu	Report and Executive Summary: Investing in the Child Care Industry: An Economic Development Strategy for Kansas	http://www.marc.org/mccc/kseconimpactexecsum.pdf http://www.marc.org/mccc/kseconimpactreportfinal.pdf http://economicdevelopment.cce.cornell.edu/
North Carolina: Rowan County	January 2003	Rowan Partnership for Children	Rosemarie Allen, Executive Director Rowan Partnership for Children P.O. Box 1036 Salisbury, NC 28145-1036 Ph: 704.630.9085 Fax: 704.630.6259	Scope View Strategic Advantage Bill Millett, President 501-C Fenton Place Charlotte, NC 28207 www.scopeview.net	Executive Summary	www.scopeview.net
California: Contra Costa County	January, 2003	Contra Costa Child Care Council	Kate Ertz-Berger Executive Director (925) 676-5442 kate@cocokids.org	National Economic Development and Law Center 2201 Broadway Suite 815 Oakland, CA 94612 (510) 251-2600 (510) 251-0600 fax jen@nedlc.org	Report and Executive Summary available: "The Economic Impact of the Child Care Industry in Contra Costa County"	www.cocokids.org
Wisconsin: Milwaukee	September, 2002	Early Childhood Council of Milwaukee	Jeri Rose Planning Council for Health & Human Services 414-224-0404 jrose@planningcouncil.org	UW-Milwaukee Center for Economic Development Pamela Fendt http://www.ced.uwm.edu	Report and Executive Summary available on the web	http://www.ced.uwm.edu

**APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)**

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
U.S.A. (National Study)	Fall, 2002	National Child Care Association	Lynne White Executive Director National Child Care Association 1019 Rosser Street Conyers GA 30012 1-800-543-7161 Fax 770-388-7772 Nccallw@mindspring.com	Steven Moss (Mcubed Consulting)	The National Economic Impacts of the Child Care Sector	http://www.nccanet.org/NC%20Impact%20Study.pdf
Vermont: Statewide	June, 2002	Windham Child Care Association & the Peace and Justice Center	Ellen Pratt Windham Child Care Center 45 Watt Pond RD Putney, VT 05346 Phone: 802-387-4512 Fax: 802-387-2142 empratt@sover.net	Doug Hoffer drhoffer@adelphia.net	Report & Executive Summary: "The Economic Impact of Vermont's Child Care Industry" PowerPoint presentation available from Ellen Pratt Vermont Economic Progress Council "2002 Update: A Plan for a Decade of Progress" available at http://www.thinkvermont.com/vepc/pdf/VEPC_report.pdf	http://www.windhamchildcare.org/pdf/wcc-book.pdf

APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
New York: Tompkins County	Spring 2002	Tompkins County Early Education Partnership	Sue Dale-Hall Day Care & Child Development Council of Tompkins County 609 West Clinton Ithaca, NY 14850 607-273-0259 Fax: 607-273-3141 sue@daycarecouncil.org Jean McPheeters President Tompkins County Chamber of Commerce 904 East Shore Drive Ithaca, NY 14850 607-273-7080 jean@tccofc.org	Cornell University, Mildred Warner PhD Dept. of City & Regional Planning West Sibley Hall Ithaca, NY 14853 607-255-6816 mew15@cornell.edu	Fact sheets that graphically display economic impact Parent & employer outreach materials Multiple papers & resource materials on designing and costing out a community fund	http://www.daycarecouncil.org/EEP/index.htm http://economicdevelopment.cce.cornell.edu/
Texas: San Antonio	May, 1999	Smart Start of San Antonio, Texas	Nancy Hard Consulting Manager Smart Start 816 Cameron Suite 215 San Antonio, TX 78212 Tel: 210-225-0276 nhard@fsasatx.org	Jon Hockenyo Managing Director Texas Perspectives, Inc. 111 Congress Avenue Suite 1200 Austin, Texas 78701 512-328-8300 Fax 512-480- 3257	Report: "Public Funding of Childcare Services: Subsidy or Human Capital Investment?" PowerPoint presentation: "Child Care Return on Investment"	http://www.sanantonio.gov/betterjobs/pdf/chldcareecostudywhy.pdf

**APPENDIX A. MATRIX OF CHILD CARE ECONOMIC IMPACT STUDIES
(Completed studies as of January, 2004)**

State/city	Date Completed	Lead Agency	Contact Person	Research Firm Completing Study	Resource Materials Available	Link for Copies
California: County Studies	1997-2003	National Economic Development & Law Center	Jen Wohl National Economic Development and Law Center 2201 Broadway, Suite 815 Oakland, CA 94612 (510) 251-2600 Fax: (510) 251-0600 Jen@nedlc.org	NEDLC	The Local Investment in Child Care (LINCC) Project of NEDLC completed an additional 13 studies in counties around California. The counties and their dates of completion are: <ul style="list-style-type: none"> • Merced County (2003) • Contra Costa (update), 2003 • Butte, 2002 • Sonoma, 2002 • Mariposa, 2002 • Santa Clara, 2002 • Alameda, 2002 • Orange, 2002 • San Mateo, 2001 • Ventura, 1999 • Monterey, 1997 • Santa Cruz, 1997 • Contra Costa, 1997 • Kern, 1997 	Contact NEDLC or see the following sites: <ul style="list-style-type: none"> • Merced http://prop10.merced.ca.us/pdfs/cceir.pdf • Contra Costa www.cocokids.org • Butte www.bcoe.org • Sonoma www.sonoma4cs.org • Mariposa http://www.mariposa-lpc.org/docs/EconomicImpact.pdf • Santa Clara http://www.childcareoptions.org/ • Alameda www.co.alameda.ca.us/childcare/index.htm • Orange www.unitedwayoc.org/community_results/initiatedocs/17/EIR.pdf • San Mateo http://www.thecouncil.net/report.html • Ventura www.childcareplanningcouncil.org

APPENDIX B. NATIONAL ECONOMIC DATA

When comparing national economic data to state and local administrative data on child care, study teams should pay close attention to the definition and coverage of the sector according to each data source. While national data sources can provide points of comparison for the number of child care establishments and employment, the data are not available by type of care. National data sources provide only the aggregate number of establishments and do not distinguish between type of care (center or family care providers) or licensed and unlicensed care.

National economic data are available in two main categories: employer and non-employer establishments. The economic data include number of establishments, employment, gross receipts, and annual payroll. National data sources vary in coverage and definition of the child care sector. For instance, the data from the Occupational Employment Survey (OES) is not comparable to other sources described in this section because the data are collected based on occupation, not the industry. The OES is a smaller survey that excludes the self-employed. Although the County Business Patterns and Economic Census do not include the self-employed, these two sources are comparable with the US Census Nonemployer Statistics Series, and thus, can be added to reach an estimate of the total number of tax paying child care providers.

The data provided by these national data sources are protected by the US Code on confidential information disclosure, therefore, some of the data might not be available at the local level, depending on the size of the child care sector in a particular location.²⁷ Most national economic data sources use the North

American Industry Classification System (NAICS) or the Standards Industry Classification (SIC) definition of child care services.

2002 NAICS 624410 Child Day Care Services

Comprised of establishments primarily engaged in providing care to infants and/or children. These establishments generally care for preschool children, but may care for older children when they are not in school, and/or offer pre-kindergarten programs. These establishments include *babysitting services, child day care centers, family day care services, Head Start programs (not part of elementary school system), nursery schools, pre-kindergarten centers (not part of elementary school system), and preschool centers.*

SIC 8351 Child Day Care Services

Establishments primarily engaged in the care of infants or children, or in providing pre-kindergarten education, where medical care or delinquency correction is not a major element. These establishments may or may not have substantial educational programs. These establishments generally care for pre-kindergarten or preschool children, but may care for older children when they are not in school. These establishments include *child day care centers, family day care services, Head Start centers (except in conjunction with schools), nursery schools, and preschool centers.*

²⁷ In accordance with U.S. Code, Title 13, Section 9, no data is published that would disclose the operations of an individual employer.

The following is a detailed description of national economic data sources for child care:

ECONOMIC CENSUS collects survey data of more than 5 million businesses across the United States and federal administrative data from the Internal Revenue Services (IRS). Federal administrative data are used to supplement the data for small employers and non-employer firms. The definition of “small” employer firms varies across sectors. “Small” firms are generally single establishment companies that meet specified minimum annual sales (usually \$1,000) and maximum payroll. The number of employees varies across sectors; in the sectors derived from the NAICS services sector, the “small” companies have 1 to 4 employees. Nonemployer establishments are comprised primarily of businesses filing IRS Form 1040, Schedule C, for sole business proprietors. The child care sector is defined according to the NAICS 624410 Child Day Care Services. Estimates based on geographic areas are available at the national, state, county, metropolitan area, and zip code levels, depending on disclosure rules described earlier. The data available from the Economic Census include *gross receipts, number of establishments, number of employees, and annual payroll*. The data are available every five-years and the last year available is 1997.

The URL address is:

<http://www.census.gov/epcd/www/econ97.html>

COUNTY BUSINESS PATTERNS (CBP) data are taken from the Business Register, the Census Bureau's file of all known single and multi-establishment companies. The data also are extracted from the Annual Company Organization Survey, the Economic Censuses, the Annual Survey of Manufactures, and Current Business Surveys, as well as administrative records of the Internal Revenue Service (IRS), the Social Security

Administration (SSA), and the Bureau of Labor Statistics (BLS). The child care sector is defined according to the NAICS 624410 Child Day Care Services. The data available from CBP include *number of establishments, number of employees, and annual payroll*.

Estimates based on geographic areas are available at the national, state, county, metropolitan areas, and zip code levels, depending on disclosure rules described earlier. The data are available every year and the last year available is 2001. The URL address is:

<http://www.census.gov/epcd/cbp/view/cbpview.html>

US CENSUS BUREAU NONEMPLOYER STATISTICS is extracted from administrative records of the Internal Revenue Service (IRS) and is comprised primarily of *sole proprietorship businesses* filing IRS Form 1040, Schedule C. The data are provided in US, state, metro areas, and county formats. Until 1997, this data was part of the Economic Census, however, in 1998 the Nonemployer statistics became an annual series and it is available up to the year 2001. The child care sector is defined according to the NAICS 624410 Child Day Care Services. The data available from the Nonemployer series include the *number of establishments and earnings*. Estimates based on geographic areas are available at the national, state, county, and metropolitan areas. The URL address is:

<http://www.census.gov/epcd/nonemployer/>

COVERED EMPLOYMENT AND WAGES (CEW), formerly known as the ES-202, is a program of the Bureau of Labor Statistics (BLS) and the State Employment Security Agencies (SESAs). The CEW collects data on employment and wages for workers covered by State Unemployment Insurance (UI) laws and Federal workers covered by the Unemployment Compensation for Federal Employees (UCFE) program.

Publicly available files include data on the *number of establishments, monthly employment, and quarterly wages*, by NAICS industry and by geographic area. Estimates based on geographic areas are available at the national, state, county, and metropolitan area levels. The data also are aggregated to annual levels. The CEW data are considered by many to be the most accurate data source because CEW estimates are annual averages, while the Economic Census and County Business Patterns are only point-in-time estimates. The CEW program does not include data on nonemployer establishments (self-employed). The data are available every year and the last year available is 2001. The URL address is: <http://www.bls.gov/cew/home.htm>

OCCUPATIONAL EMPLOYMENT STATISTICS (OES) data are collected through an annual mail survey designed to produce estimates of employment and wages for specific occupations. The OES survey is a federal-state cooperative program between the Bureau of Labor Statistics (BLS) and State Employment Security Agencies (SESAs). The OES program collects data on wage and salary workers in non-farm establishments in order to produce *employment and wage* estimates for over 700 occupations (self-employed persons are not included in the estimates). The OES program produces these occupational estimates by geographic area and by industry. Estimates based on geographic areas are available at the national, state, and metropolitan area levels. The OES program surveys approximately 400,000 establishments per year, taking three years to fully collect the sample of 1.2 million establishments. The data collected for early care and education are available in three different occupational categories: child care administrators - in the management occupations category, child care workers - in the personal services category, and preschool teachers - in the education services category. The URL address is: <http://www.bls.gov/oes/home.htm>

OCCUPATIONAL EMPLOYMENT CATEGORIES FOR EARLY CARE AND EDUCATION:

11-9031 Education Administrators, Preschool and Child Care Center/Program

Plan, direct, or coordinate the academic and non-academic activities of preschool and child care centers or programs. Exclude "Preschool Teachers" (25-2011).

39-9011 Child Care Workers

Attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks such as dressing, feeding, bathing, and facilitating activities. Excludes "Preschool Teachers" (25-2011) and "Teacher Assistants" (25-9041).

25-2011 Preschool Teachers, Except Special Education

Instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school. Facilities include: preschool, day care center, or other child development facility. May be required to hold State certification. Exclude "Child Care Workers" (39-9011) and "Special Education Teachers" (25-2041 through 25-2043).

IMPLAN REGIONAL ECONOMIC MODELING is a software program commonly used for the regional economic analysis of the child care sector. IMPLAN allows the user to build economic models to estimate the effect of economic changes in states and counties. The program includes data for 528 industrial sectors (4 digit SIC in manufacturing and 2-3 digit for other sectors) including child care. Data are available for states and counties, and ZIP code areas within the US. The IMPLAN data are primarily based on the Covered Employment and Wages Program (CEW), but the data are adjusted to account for the self-employed, based on data from the Bureau of Economic Analysis (BEA) and other sources. Even after adjusting for the self-employed, IMPLAN's estimate for employment is much lower than estimates using County Business Patterns and Nonemployer statistics (see Table B1). The data available for the child care sector include *gross receipts, employment, and employment compensation*. The URL for the IMPLAN software group is: <http://www.implan.com/products.html>

OTHER RECOMMENDED CHILD CARE DATA SOURCES

Several organizations also have comprehensive early care and education databases. Some of the databases available on the Web include:

The **National Child Care Information Center** (NCCIC) "Searchable Database" provides data for child care subsidies, state demographics, child care licensing, and program enrollment and participation. This database provides information on child care in U.S. states, the District of Columbia, and Puerto Rico. The data are available at: <http://www.nccic.org/>

The **National Institute for Early Education Research** also collects, archives and disseminates state level data for early care and education. The State Databank is available at: <http://nieer.org/states/>

KIDS COUNT also offers several national and state-by-state databases to track the status of children in the US and offers two databases online. The databases include an index of child well-being used to rank states and supplemental data on education, health, and economic conditions for each state, and allow the user to view data on Age and Sex, Race, Hispanic Origin, Living Arrangements, Income and Poverty, Employment, Language, Disability Status, Parental Employment, Neighborhood Characteristics and Child Care Use. The data are available at: <http://www.aecf.org/kidscount/>

TABLE B1. Comparison of National Economic Data Sources for Child Care Employment

STATE	Number of Employees, IMPLAN 2000	Number of Employees, OES- Bureau of Labor Statistics 2001	Number of Employees in Employer Establishments, County Business Patterns 2001	US Census Non-employer (self-employed) Establishments, 2001	STATE	Number of Employees, IMPLAN 2000	Number of Employees, OES- Bureau of Labor Statistics 2001	Number of Employees in Employer Establishments, County Business Patterns 2001	US Census Nonemployer (self-employed) Establishments, 2001
AL	10,513	4,610	11,249	4,347	MT	2,130	1,680	2,312	2,620
AK	1,663	620	1,468	2,260	NE	4,828	3,480	4,640	7,652
AZ	11,964	5,740	10,326	8,827	NV	4,286	2,180	4,488	2,120
AR	7,636	6,890	6,447	3,811	NH	5,213	1,930	4,854	2,391
CA	59,363	35,550	63,369	86,590	NJ	30,008	18,930	29,188	9,768
CO	12,447	4,870	12,929	10,331	NM	3,696	1,880	3,981	5,619
CT	11,965	5,550	12,625	8,128	NY	52,791	48,460	52,940	49,047
DE	2,592	1,330	3,162	1,826	NC	28,184	11,820	28,531	10,732
DC	2,907	1,390	2,456	746	ND	1,287	1,350	1,808	3,239
FL	39,196	26,580	39,660	15,741	OH	26,334	16,470	29,686	20,754
GA	29,122	10,090	28,360	10,505	OK	8,701	4,320	9,627	6,626
HI	2,865	1,510	1,769	1,227	OR	8,381	4,260	5,826	11,149
ID	2,540	1,410	2,289	3,388	PA	31,757	17,570	33,906	10,750
IL	27,560	10,130	30,051	36,725	RI	3,231	2,270	3,350	1,853
IN	12,807	11,070	13,920	15,496	SC	10,783	4,940	11,226	3,647
IA	8,266	5,700	7,941	13,830	SD	1,817	2,300	1,989	3,167
KS	5,663	4,730	6,572	9,643	TN	14,706	8,420	16,178	7,751
KY	10,876	8,110	11,945	6,802	TX	59,903	30,210	61,710	30,361
LA	10,474	5,120	10,770	5,659	UT	3,733	1,640	3,528	5,611
ME	3,625	1,630	3,451	3,395	VT	1,859	2,180	1,842	2,264
MD	15,559	10,350	15,056	13,590	VA	19,694	6,930	22,333	13,571
MA	23,416	10,020	24,622	11,217	WA	15,417	7,540	16,867	9,780
MI	16,949	18,880	18,052	31,795	WV	2,714	1,660	2,990	3,634
MN	11,640	5,830	12,936	21,772	WI	16,228	6,180	16,705	12,401
MS	10,074	3,580	8,179	2,908	WY	1,559	1,290	1,286	1,770
MO	14,347	7,360	15,498	15,587	USA	725,269	418,540	746,893	584,423

APPENDIX C. US CENSUS BUREAU: DECENNIAL CENSUS DATA

The US Census of Population and Housing is, by far, the most comprehensive national data source on children. All of the Census data used in the economic analyses of child care come from the Summary File 3 (SF 3) Sample Data. The Census data can be downloaded from American Fact Finder on the Census website: <http://factfinder.census.gov/>.

Important data sources commonly used in assessing children and parents for an economic analysis of the child care sector include:

- P8. Sex by Age [79] - Universe: Total Population
- P15. Family Type by Presence of Own Children Under 18 Years By Age of Own Children [20] - Universe: Families
- P45. Presence of Own Children under 18 by Age of Own Children by Employment Status for Females 16 years and over [22] - Universe: Females 16 years and over
- P46. Age of Own Children Under 18 Years in Families and Sub-families by Living Arrangements by Employment Status of Parents [27] - Universe: Own Children Under 18 Years in Families and Subfamilies
- P77. Median Family Income 1999 (dollars) [1] - Universe: Families

Table C1. Data on Children with Working Parents in New York State

Total number of children under 6 years of age living with families and subfamilies, (Census 2000, SF-3, Table P46)	1,405,240
Number of children under 6 years of age living with two parents (Census 2000, SF-3, Table P46)	983,918
Number of children under 6 years of age living with one parent: Parent in Labor Force (Census 2000, SF-3, Table P46)	421,322
Number of children under 6 years of age living with working parents (excludes dual-parent households with only one parent in labor force), (Census 2000, SF-3, Table P46)	764,721
<i>Number of children under 6 years of age living with two-parents, both parents in labor force, (Census 2000, SF-3, Table P46)</i>	488,013
<i>Number of children under 6 years of age living with one parent, parent in labor force, (Census 2000, SF-3, Table P46)</i>	276,708
Number of families with children under 6 years of age, (Census 2000, SF-3, Table P15). ²⁸	999,401

²⁸ The US Census breaks families with children under 18 years of age into three categories: families with children under 6 years of age only, families with children under 6 years of age and children 6-17 years of age, and families with children between ages 6-17 years only. In order to get the total number of families with children under 6 years of age, we added the number of families with children under 6 years of age only (519,519) to the number of families with children under 6 years of age and 6-17 years of age (479,882).

ESTIMATING POTENTIAL DEMAND FOR CHILD CARE

Some study teams have attempted to estimate the number of children that may need care while parents work by using Census data on the number of own children under age 18, by living arrangement and by employment status of parents (Census 2000, SF-3, Table P46).²⁹ The total number of children in need of care equals the number of children living with two parents (both parents in labor force) plus the number of children living with one parent (parent in labor force). Table C1 shows the estimate of children under 6 years of age in New York State that may need child care while parents work.

ESTIMATING NUMBER OF WORKING PARENTS PER CHILD BASED ON US CENSUS DATA

Because US Census data on children under 13 years of age by family and parent employment status is unavailable, the New York State study team used data on “own children” under 6 years of age living with

families and subfamilies by parent employment status of parents (Census 2000, SF-3, Table P46) and data on the number of families with “own children”, children under 6 year of age (Census 2000, SF-3, Table P15) to estimate the number of working parents per child (see Table C1).

Estimating the number of working parents per child in NYS requires essentially four steps, as shown in Table C2.

The 2000 Census shows that there are 764,721 children under age 6 in New York living with working parents (Table C1). According to the Census, there are 888,465 working parents associated with each child under age 6 (see Table C2). However, not all parents have children in paid child care. In New York, only 745,435 parents claim the state Dependent and Child Care Tax Credit (DCTC).

Table C2. Estimating Number of Working Parents per Child in New York State

Step 1	Ratio of children under 6 years of age to families with children under 6 years of age	
	= 1,405,240 children /999,401 families	1.41 children per family
Step 2	Estimate of parents in dual earner families, both parents in labor force	
	= (488,013 children * 2 parents)/1.41 children per family	692,217 parents
Step 3	Estimate of parents in single-parent families, parent in labor force	
	= 276,708 children / 1.41 children per family	196,247 parents
Step 4	Total working parents associated with children under 6 years of age	
	= 692,217 +196,247	888,465 parents

²⁹ US Census data for “own children” living with families and subfamilies is slightly smaller than the total number of children because some children live with related families. For New York State, the total number of children under 6 years of age is 1,491,866 and the number of “own children” under 6 years of age in families and sub-families is 1,405,240.

APPENDIX D. NATIONAL SURVEYS ON EARLY CARE AND EDUCATION

A number of national surveys provide data on child care. These surveys are excellent and often have sample sizes large enough to provide reliable estimates at the state level. Descriptions of some of these surveys are provided below: questions asked, geographic coverage, etc. These surveys provide estimates of children served by non-parental care but estimates may not be available for smaller geographies such as the state or county level. In such cases, study teams should use state and local administrative data and only use national data for comparison purposes.

Four major national surveys are described here. One of the surveys is conducted by the *US Census Bureau*—the Survey of Income and Program Participation (SIPP)—and is the basis for the Current Population Reports, “Who is Minding the Kids.” The *Bureau of Labor Statistics* conducts another survey—Current Population Survey (CPS)—that is used to estimate number of children in paid care at the state level. Another survey is the National Survey of America’s Families (NSAF) conducted for the *Urban Institute and Child Trends* by Westat, a nationally renowned survey research firm. The *National Center for Education Statistics* also conducts a survey on early education and after school programs—the National Household Education Survey (NHES)—that includes data on child care arrangements.

US CENSUS BUREAU SURVEY OF INCOME AND PROGRAM PARTICIPATION (SIPP) collects data on income, labor force information, program participation and eligibility data, as well as general demographics. The survey sample was expanded in 1996 to include over 37,000 households. The Child Care Topical Module includes several questions regarding child care, including: child care arrangements by type of care, hours per week spent in non-parental care, number of child care arrangements used per week, and weekly amount paid for care, including the amount paid to relatives such as a grandparent.

Based on the SIPP child care data, the US Census Bureau developed the *Current Population Reports: Who’s Minding the Kids?* This report provides a national and regional estimate of child care arrangements and family characteristics. This report is available every two years and the last year available is Spring 1999. The data are available for preschoolers (children under 5 years old) and for school-age care (children between 5 and 14 years of age). Table D1 shows the child care arrangements used by employed mothers of preschoolers in 1995 and 1999 based on the SIPP survey. The URL is: <http://www.census.gov/population/www/socdemo/childcare.html>

Table D1. Primary Child Care Arrangements Used by Employed Mothers of Preschoolers

<i>Type of Arrangement</i>	<i>Fall 1995</i>	<i>Spring 1999</i>
Total children under 5 years (Numbers in thousands)	10,047	10,587
Total	100.0	100.0
Relative Care	43.4	50.4
Non-Relative Care	53.6	42.3
Other	2.9	7.3

Source: US Census Bureau Current Population Reports “Who is Minding the Kids”, Spring 1999.

CURRENT POPULATION SURVEY ANNUAL DEMOGRAPHIC SUPPLEMENT (CPS) (MARCH SUPPLEMENT) collects data concerning work experience, multiple sources of income, migration, household composition, health insurance coverage, and receipt of non-cash benefits. Beginning in the year 2001, the survey also included three questions on child care. The Current Population Survey (CPS) (March Supplement) samples about 218,000 individuals. The sample provides

national aggregate estimates and serves as part of model-based estimates for individual states and other geographic areas, so this data would be fine for state level analysis of child care arrangements. The US Census Bureau recommends using a three-year rolling average to get an estimate for individual states. The data are available at: www.bls.census.gov/cps

CPS Child Care Variables:

HRCCYN: Did (you/anyone in this household) pay for the care of (your/their) (child/children) while (you/they) worked last year (include preschool and nursery school; exclude kindergarten or grade/elementary school)?

HRCCAYN: At any time during 20XX did (you/anyone in this household) receive child care services or assistance so (you/they) could go to work, school or training?

HRNUMCC: Number of people in this household receiving child care assistance?

PAIDCCYN: Did any (child/children) need care while parent worked?

NATIONAL SURVEY OF AMERICA'S FAMILIES (NSAF) is conducted for the Urban Institute and Child Trends by Westat, a survey research firm. The survey data are drawn to represent national, as well as, state data on the non-institutionalized, civilian population of persons under age 65. Thirteen states are included: Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin. The survey sample includes over 42,000 households. The survey incorporates measures of child well-

being, including child care arrangements. The questions on child care include *arrangements by type of care, hours per week spent in non-parental care, number of child care arrangements used, monthly and weekly amount paid for care, and others*. Table D2 illustrates results from the 1999 National Survey of American Families. The data are available at: <http://www.urban.org/Content/Research/NewFederalism/NSAF/Overview/NSAFOverview.htm>

Table D2. Primary Child Care Arrangements for Children with an Employed Parent					
Children Under Age 5		Children Age 5		Children Ages 6 -12	
Center-Based Care	28%	Center-Based Care	40%	Before/After School Program	15%
Family Child Care Provider	14%	Before/After School Program	8%	Family Child Care Provider	7%
Relative Care	27%	Family Child Care Provider	11%	Relative Care	23%
Nanny/Babysitter	4%	Relative Care	19%	Nanny/Babysitter	4%
Parent Care	27%	Nanny/Babysitter	3%	Parent Care/Other Care	41%
		Parent Care/Other Care	19%	Self-Care	10%

Source: "Primary Child Care Arrangements of Employed Parents: Findings from the 1999 National Survey of America's Families", Urban Institute-Occasional Paper 59, May 2002.

NATIONAL HOUSEHOLD EDUCATION SURVEY (NHES) is conducted by the National Center for Education Statistics (NCES) and examines the arrangements of children who receive care from persons other than their parents, regardless of parental activities while in care or educational settings. The survey is available every two-years and the most recent data available are for the year 2001. The early education survey (ECP-

NHES: 2001) includes interview data completed with parents of 6,749 children, of whom 3,599 were infants or toddlers, and of whom 3,150 were preschoolers. The school-age care survey (ASPA-NHES: 2001) contains interview data completed with parents of 9,583 children in kindergarten through 8th grade, including 9,388 students enrolled in regular public or private schools and 195 home-schooled children. These data are only available at the national level. The URL for the NHES is:

http://nces.ed.gov/nhes/surveytopics_early.asp

The National Household Education Survey (NHES) includes questions on the following topics:

- 1) Children's participation in formal and informal non-parental care and education programs such as: *relative care, non-relative care, center-based care, and Head Start and Early Head start programs.*
- 2) Characteristics of care arrangements such as: *time spent in non-parental care, number of children in paid versus unpaid care, and numbers of children per providers in the particular care arrangement.*

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