

How the Child Care Industry Contributes to the Economy of Champaign County, Illinois

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Executive Summary

Many people appreciate the child care industry as the provider of an important social service, but very few people recognize the economic importance of this sector. This study estimates the economic contribution of the child care industry in Champaign County, Illinois. We use input/output modeling techniques to measure the direct and secondary economic activity associated with the child care sector. We also estimate the number of parents that depend upon the use of child care services to enter or remain in the workforce.

We estimate that child care providers directly create approximately 1,185 jobs and \$19.1 million of income. Including secondary effects, we estimate that child care providers generate about 1,601 jobs and \$30.9 million of income. Furthermore, we estimate that about 4,081 working parents depend upon the availability of child care services. Our results display that the child care industry represents a vital component of the local economy providing a significant contribution to employment, income, and the supply of labor within Champaign County.

Introduction

Child care service providers supply an important service to Champaign County residents, but, as noted by Keyser and Hartley (2002), their economic importance often goes unappreciated. In part, because of the child care sector's numerous small firms and home-based providers, many business leaders, public officials, and citizens do not understand its significant economic role and contribution. This economic impact study quantifies the child care sector's economic contribution and helps people understand its economic role that is distinct from its roles as a service provider. Using input/output analysis and data from the Current Population Survey (CPS), we estimate the child care service sector's direct and secondary economic activity as well as the number of people able to work due to the availability of child care services.

Methodology

In order for the child care sector to deliver services, it must purchase goods and services from local businesses and households. For instance, a child care provider might buy its food supplies at a local grocery store and purchase labor from local households. The salaries and wages child care providers pay to households stimulate further economic activity as households spend their earnings on goods and services. The additional economic activity associated with the operations of the child care sector is referred to as secondary economic activity. Input/output analysis allows us to examine both the direct and secondary economic activity of the child care sector. Input/output analysis provides an estimate of the jobs and income created within the child care sector and the additional economic impact attributable to economic activity generated by the supply of services to child care providers and by the purchases of persons employed within the child care sector. We use these same economic modeling techniques in our work with the Illinois Rural Health Workshop, a joint program between University of Illinois Extension and the Illinois Health Education Consortium/AHEC working with rural communities in Illinois through the development and provision of economic information about the local health care sector (www.ace.uiuc.edu/ruralhealth).

To perform input/output analysis on the economic data for Champaign County, we use IMPLAN, a regional modeling software system produced by the Minnesota IMPLAN Group. IMPLAN consists of software and a database containing information on output, employment, income, and final demand. IMPLAN data is compiled from several government data sources including Bureau of Economic Analysis, Bureau of Census, and Bureau of Labor Statistics.

Income, output, and employment multipliers represent the primary output of the input/output model. Multipliers break down an economic stimulus into three components: direct effects, indirect effects, and induced effects. Direct effects represent output, employment, and purchases in the child care sector. Indirect effects represent output, employment, and purchases associated with sup-

porting sectors providing inputs to the child care sector. Induced effects represent purchases made by child care workers and the workers of supporting sectors. We use Type SAM employment multipliers to estimate total (direct, indirect, and induced) economic activity. We believe the Type SAM multiplier represents the most accurate multiplier available, and its use of information about inter-institutional transfers (non-market financial flows) accounts for leakages to commuting, social security tax payments, income taxes, and savings.

Due to the number of small firms and home-based firms in the child care sector, estimating employment within this sector can prove challenging. Rather than estimating child care sector employment with federally mandated child-staff ratios, we use employment information provided by the Child Care Resource Service (CCRS). The data from CCRS is limited in that it omits some license-exempt and self-employed child care workers, but we believe it represents the most complete estimate of employment in Champaign County's child care sector. We estimate income and output for the child care sector using state-level output per worker and earnings per worker estimates from IMPLAN.

Input/output analysis provides a means of calculating total economic activity, but it does not account for the child care sector's effect on the supply of labor within Champaign County. In other child care impact studies (Warner, 2002), researchers used a 1:1 ratio of working parents to children in care when estimating the number of

parents able to work due to the availability of child care services. However, using a 1:1 ratio of working parents to children in care fails to consider the idea that one working parent may have two or more children in child care. Using data from the CPS, we estimate about 0.71 working parents for every child in care. We also use CPS data to estimate the proportion of total workers using child care services (working parents with children in care/total working people). We estimate that about 5.5 percent of total workers utilize child care services. By estimating those individuals that are able to work due the availability of child care services, we provide a more complete picture of the child care sector's economic contribution.

A Portrait of Champaign County, Illinois

Champaign County, Illinois (pop.179,643)¹ is located in central Illinois approximately 135 miles from Chicago and 180 miles from St. Louis. Champaign County is also within close proximity of Springfield (85 miles), Decatur (50 miles), Bloomington (55 miles), and Peoria (90 miles). Champaign County's population grew at a rate of 3.8%¹ from 1990-2000, while in comparison, the state of Illinois saw a growth rate of 8.6%¹ and the United States saw a growth rate of 13.1%¹ for the same period. Champaign County has a population per square mile of 180.2 people¹, and the majority

Table 1: Top Employers in Champaign County, Illinois

Employer	Product/Service	Employees
University of Illinois	Education	20,571
Carle Clinic	Health Care	2,918
Carle Foundation	Health Care	2,100
Champaign School District	Education	1,305
Kraft Foods	Oil, Cheese, Mayo	1,300
Textron Auto Co, Rantoul Products	Automotive Plastics	1,211
Provena Covenant	Health Care	1,200
Parkland College	Education	1,200
Urbana School District	Education	887
Christie Clinic Association	Health Care	800
Solo Cup	Plastic/Paper Cups	700
Hobbico	Hobby Prod. Distr.	700

Source: Illinois Department of Commerce and Economic Opportunity

of residents reside in the cities of Champaign (pop. 67,518)², Urbana (pop. 36,395)², Mahomet (pop. 4,877)², and Rantoul (pop. 12,857)². The University of Illinois represents the single largest employer in Champaign County, but several other large firms are located in the county (Table 1). Examination of several demographic and economic indicators displays the University of Illinois' influence on life within Champaign County.

How Does Champaign County Compare to Other Similar Illinois Counties?

In order to comprehend the environment within which Champaign County's child care sector operates, we examine demographic and economic indicators for Champaign County and compare these to similar indicators for Illinois, the nation, and several urban central Illinois counties. The larger, urban communities of Champaign/Urbana (Champaign County), Decatur (Macon County), Springfield (Sangamon County), Bloomington (McLean County), and Peoria (Peoria County) represent the major areas of residence in central Illinois. Outside of these communities, corn and soybean fields dominate the landscape and the population is well dispersed. Table 2 displays that Champaign County's population appears similar to other urban counties, and a comparatively small proportion of its population is 65 years old and over. Champaign County also has a comparatively low proportion of its population below 18 years of

age and below 5 years of age. A proportionately large share of Champaign County's population is between the ages of 18 and 65, but this is expected given the large number of students associated with the University of Illinois. As a further means of comparison, Figure 1 displays the commuting and work location preferences of Champaign County residents in comparison to Illinois, the nation, and similar urban counties.

Figure 1 displays that about 95 percent of Champaign County residents live and work within Champaign County. This implies that about only 5 percent of local residents commute outside of the county for employment. Champaign County's figure exceeds similar figures for Illinois (74.8 percent) and the nation (73.3 percent), and only Sangamon County has a larger proportion of its population seeking employment within the county. Even though a large proportion of Champaign County residents work within the county, this does not translate into higher incomes or stronger retail activity.

Table 3 displays that Champaign County's retail sales per capita figure falls below the national average and similar figures for other urban counties. Some of this is explained by Champaign County's per capita personal income level (Table 3), which falls below income levels for Illinois, the nation, and other nearby urban counties. Along with a lower income level, Champaign County has a high proportion of people living in poverty. Figure 2 displays that about 16.1 percent of Champaign County's population lives in poverty. This figure exceeds that of Illinois (10.7 percent), the nation (12.4 percent), and all of the comparison counties.

Table 2: Population Comparison

	Population	Persons under 5 years old	Persons under 18 years old	Persons 65 years old and over
Illinois	12,419,293	7.1%	26.1%	12.1%
Nation	281,421,906	6.8%	25.7%	12.4%
Champaign County, Illinois	179,669	5.8%	21.0%	9.7%
McLean County, Illinois	150,433	6.5%	23.5%	9.7%
Macon County, Illinois	114,706	6.4%	24.6%	15.2%
Peoria County, Illinois	183,433	6.9%	25.1%	14.2%
Sangamon County, Illinois	188,951	6.4%	25.0%	13.5%

Source: U.S. Census, 2000

The large college student population in Champaign County most likely explains the county’s comparatively lower per capita income figure and the high proportion of people in poverty. The remainder of this study describes the child care sector in Champaign County and its economic impact.

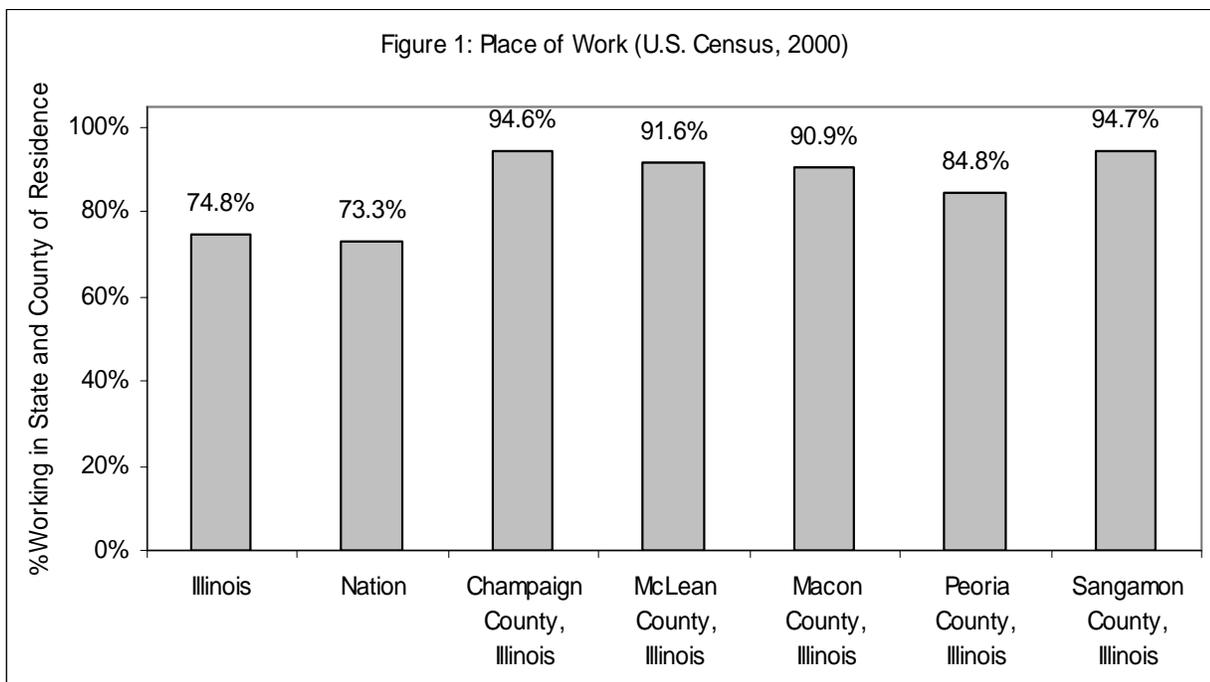
The Child Care Industry In Champaign County, Illinois

The child care industry in Champaign County serves a large number of families throughout the county. Currently, 50 licensed centers and 421 licensed family child care homes (FCC)³ are located in Champaign County, and the majority of providers are located in Champaign-Urbana/Savoy. Champaign County’s child care sector produces a significant number of jobs. Licensed centers employ approximately 759 people and licensed FCC providers employ about 426 people³. A number of license-exempt centers and license-exempt FCC homes also provide child care services, but information about these providers remains limited. CCRS, which provided data for this study, only has information for license-exempt FCC homes and license-exempt centers that voluntarily provide information. A great deal of relative

and non-relative in-home child care also takes place within Champaign County, but information on this segment of the child care market is limited. For these reasons, our analysis focuses on licensed child care providers in Champaign County.

We estimate supply in the child care sector by examining capacity at licensed providers. Licensed centers and licensed FCC providers in Champaign County have a total capacity of 6779, and these providers currently have about 1031 vacancies³. Table 4 displays that the average charge for services tends to decrease as a child’s age increases, and licensed centers have higher average rates than other child care providers. The information thus far describes the direct economic activity of the child care sector, but to attain a true measure of the child care sector’s economic contribution we use IMPLAN to perform input/output analysis on the economic data for Champaign County and estimate the secondary (indirect and induced) economic activity associated with the child care sector.

Table 5 displays the total employment impact of the child care sector in comparison to several other sectors. Child care providers directly employ 1,185 people, which exceeds employment in engineering and architectural services, feed grains, federal government-non-military, and insurance agents and brokers. The child care sector’s employ-



ment multiplier of 1.35 implies that every one job directly created in this sector leads to an additional .35 jobs. The additional .35 jobs represent the employment produced through indirect and induced effects. Thus, the 1,185 jobs directly created by the child care sector yields a total of 1,601 ($1.35 * 1,185$) jobs. Child care's total employment exceeds that of insurance agents and brokers, federal government-non-military, and feed grains. However, notice that engineering and architectural services has a larger total employment impact than

child care. Child care directly employs more people than engineering and architectural services, but child care's multiplier is much smaller than engineering and architectural services' multiplier. Because an industry's total economic impact is a function of both the size of its multiplier and its direct impact, engineering and architectural services' large multiplier counters its comparatively small direct impact. Table 6 displays the total income impact of the child care sector and compares this to several other sectors.

Table 3: Per Capita Income & Retail Activity

	Per capita income (1999)	Retail sales per capita (1997)
Illinois	\$23,104	\$8,992
Nation	\$21,587	\$9,190
McLean County, Illinois	\$22,227	\$10,406
Sangamon County, Illinois	\$23,173	\$10,404
Peoria County, Illinois	\$21,219	\$10,138
Macon County, Illinois	\$20,067	\$9,895
Champaign County, Illinois	\$19,708	\$9,131

Source: U.S. Census

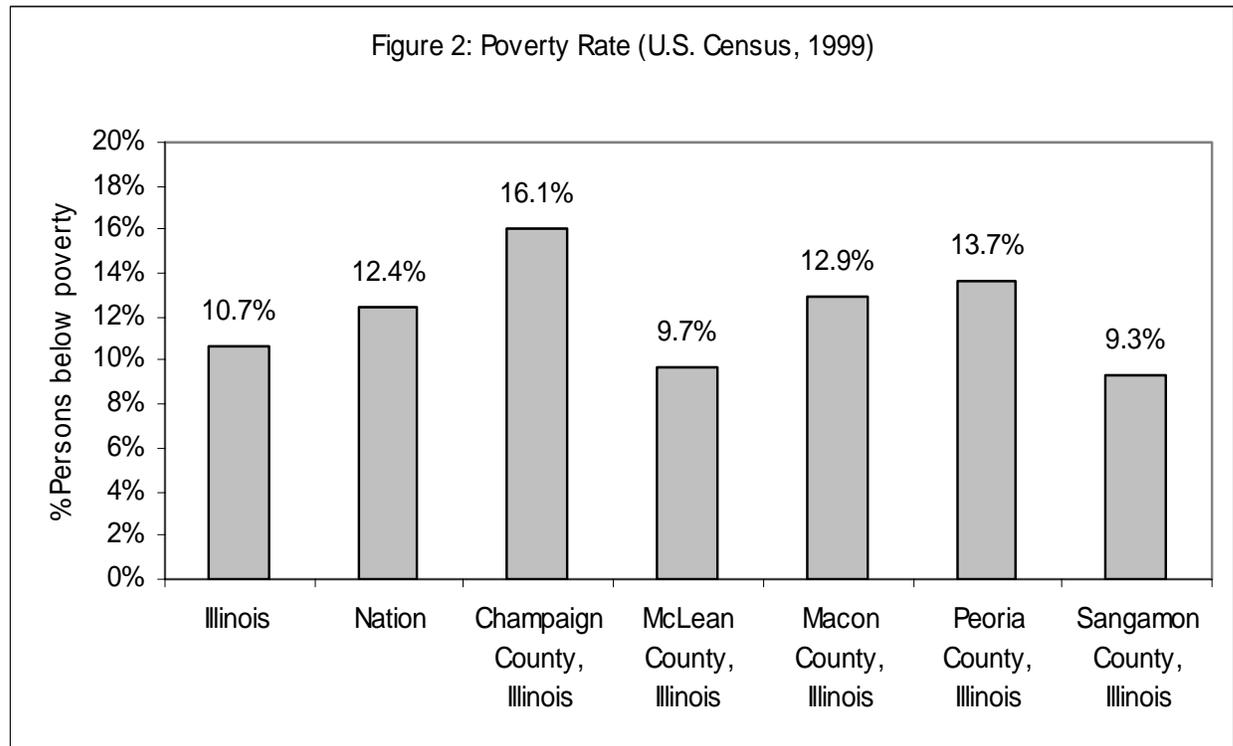


Table 6 displays that the child care sector directly generates about \$19.1 million of income. Only one other sector in Table 6, feed grains, has a smaller direct contribution to income than the child care sector. However, child care's income multiplier (1.62) is bigger than every sector in Table 6 other than banking and feed grains. Child care's income multiplier of 1.62 implies that every dollar of income directly generated in the child care sector leads to an additional \$0.62. Thus, the \$19.1 million generated by the child care sector results in a total income impact of approximately \$30.9 million (1.62 * \$19,115,000). Because of child care's comparatively large multiplier, its total income estimate appears similar to nursing and protective care,

miscellaneous retail, and insurance agents and brokers. Table 5 and Table 6 present the child care sector's total (direct, indirect, and induced) economic impact, but economic impact analysis fails to account for the number of working parents that depend upon the availability of child care services.

By allowing parents with children to enter or remain in the workforce, the availability of child care services increases the supply of labor within Champaign County. We use data from the CPS to estimate working parents using child care services. We calculated a 0.71:1 ratio of working parents to children in child care. With about 5,748³ children currently in licensed care, we estimate that about 4081 (0.71 * 5748) people in Champaign County are

Table 4: Champaign County-Average Full-Time Weekly Rates

Child Age	Licensed Center	License-Exempt Centers
Infants (0-14 months)	\$164.06	---
Toddlers (15-23 months)	\$155.07	---
Twos (24-35 months)	\$139.11	---
3's/4's (36-59 months)	\$116.21	\$118.00
5's/Kindergartners (60-71)	\$117.08	\$66.42
School-Age (6-12 years)	\$68.85	---
Child Age	Licensed FCC	License-Exempt FCC
Infants (0-14 months)	\$100.96	\$105.58
Toddlers (15-23 months)	\$98.66	\$105.02
Twos (24-35 months)	\$95.92	\$90.03
3's/4's (36-59 months)	\$90.84	\$83.86
5's/Kindergartners (60-71)	\$89.28	\$82.83
School-Age (6-12 years)	\$45.53	\$50.00

Source: Child Care Resource Service, 2003

Table 5: Champaign County Child Care Sector Employment Impact Comparison (IMPLAN 1999)

Sector Name	Employment	Type SAM Multiplier	Total Employment
Child Day Care Services	1,185	1.35	1,601
Nursing and Protective Care	1,483	1.24	1,833
Miscellaneous Retail	2,247	1.17	2,628
Banking	1,704	1.82	3,109
Insurance Agents and Brokers	1,002	1.43	1,432
Federal Government - Non-Military	1,123	1.39	1,565
Feed Grains	724	1.56	1,127
Eating & Drinking	8,204	1.19	9,791
Food Stores	3,972	1.24	4,940
Engineering, Architectural Services	982	1.92	1,882

Note: Total impact may differ due to rounding.

able to work due to the availability of child care services. It is possible that some of these 4,081 working parents receive child care subsidies, but this does not capture all of the working parents receiving child care subsidies. Based upon mean annual earnings of \$30,070⁴, working parents earn approximately \$122,718,076 ($\$30,070 * 4,081$).

In Champaign County, 3006 children receive child care subsidies, which results in about \$829,000 in revenues for child care providers⁵. Using the child care sector's output multiplier of 1.61, we estimate that child care subsidies generate over \$1,334,000 ($\$829,000 * 1.61$) in total economic activity. Furthermore, child care subsidies allow about 1,656 (assumes a 1:1 ratio of working parents to families receiving child care subsidies) low-income people to enter or remain in the workforce⁵. We estimate that low-income working parents earn approximately \$25,005,600 ($1,656 * \$15,100^6$).

Table 7 provides an estimate of the retail sales dollars generated as working parents using child care services and child care sector workers spend their earnings. We use a ratio called the "local retail sales

capture ratio" to obtain this impact. Taking the total retail sales and dividing this by total personal income derives this ratio. This figure estimates the proportion of income that residents devote to local retail sales. In Champaign County, the local retail sales capture ratio was roughly 0.36; therefore, one can estimate that residents allocate \$0.36 of every dollar towards local retail sales. In order to obtain the figures in Table 7, the local retail sales capture ratio is multiplied by the income estimates associated with each group of workers. Child care providers directly generate \$19,115,000 of income, which results in a retail sales estimate of \$6,925,989 ($.36 * \$19,115,000$). We estimate that working parents using child care services receive approximately \$122,718,706 of income, which yields a retail sales estimate of \$44,464,765 ($.36 * \$122,718,076$). We estimate that child care workers and working parents generate over \$51 million in retail sales. While this total retail sales figure is impressive, the \$128,477 (tax rate = .25%) of tax revenue further punctuates the retail sales impact of the child care sector.

Table 6: Champaign County Child Care Sector Income Impact Comparison (IMPLAN 1999)

Sector Name	Income	Type SAM Multiplier	Total Income
Child Day Care Services	\$19,115,000	1.62	\$30,927,573
Nursing and Protective Care	\$28,392,000	1.29	\$36,696,007
Miscellaneous Retail	\$25,207,000	1.35	\$34,038,525
Banking	\$53,736,000	1.80	\$96,723,349
Insurance Agents and Brokers	\$25,702,000	1.35	\$34,796,344
Federal Government - Non-Military	\$62,192,000	1.17	\$72,850,154
Feed Grains	\$1,686,000	2.79	\$4,699,101
Eating & Drinking	\$82,587,000	1.51	\$124,350,007
Food Stores	\$90,720,000	1.27	\$115,142,187
Engineering, Architectural Services	\$36,596,000	1.59	\$58,245,828

Note: Total impact may differ due to rounding.

Table 7: Champaign County Child Care Sector Retail Sales Contribution

	Income	Retail Sales	County Sales Tax Collection
Child Care Sector	\$19,115,000	\$6,925,989	\$17,315
Working Parents Using Child Care	\$122,718,076	\$44,464,765	\$111,162
TOTAL	\$141,833,076	\$51,390,754	\$128,477

Source: IMPLAN, 1999 and U.S. Census Bureau 1997

Note: Tax collection based upon tax distribution in the City of Champaign.

Conclusion

Fifty licensed child care centers and 421 licensed FCC providers care for about 5,748 children and have the potential to care for approximately 6,779 children. We estimate that child care providers directly generate almost 1,200 jobs and over \$19.1 million dollars of income. When we include secondary economic activity, we estimate that child care providers generate over 1,600 jobs and almost \$31 million of income. Additionally, many parents depend upon child care services in order to enter or remain in the workforce. We estimate that about 4,081 people in Champaign County are able to work due to the availability of child care services. We also estimate that the provision of child care subsidies allows about 1656 low-income working parents to enter or remain in the workforce. Thus, the child care sector provides an important social service, and it represents an essential part of the local economy.

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Notes

- ¹U.S. Census.
- ²Illinois Department of Commerce and Economic Opportunity.
- ³Child Care Resource Service.
- ⁴Bureau of Labor Statistics, Champaign-Urbana, IL MSA, mean annual wage, all occupations.
- ⁵Illinois Department of Human Services.
- ⁶Bureau of Labor Statistics, Champaign-Urbana, IL MSA, mean annual wage, sales and related occupations, cashiers.