

The Economic Impact and Profile of Connecticut's Early Child Education Industry

Stanley McMillen, Ph.D.

Member UCONN/OEC Partnership

What do we hope to learn?

- Need to understand the current economic value of the ECE sector in Connecticut's economy.
 - Formal ECE sector consists of businesses (family homes, group homes and centers)
 - They buy goods & services
 - Pay taxes
 - Employ workers with various skills
 - Provide family support (nutrition, medical, special ed)

What do we hope to learn?

- Need to estimate the supply of and demand for ECE services in the state its counties.
 - How many facilities of what type with what capacity are in each county?
 - What is their enrollment & vacancy rate by age group and facility type?
 - What is the age distribution of children < 12 in each county?

What do we hope to learn?

- Need to show the private & public costs of providing ECE in CT.
 - What does it cost the CT taxpayer to fund ECE?
 - How much do parents pay?
 - Are these costs or investments?
 - Which subsidies & grants in what amounts are distributed to what facilities?

Why is this study important?

- Need to show that the ECE sector is unique and is part of the state's infrastructure as it develops human capital.
 - ECE does not produce goods or services.
 - ECE 'produces' human capital.
 - Human capital is the cognitive and non-cognitive skills and abilities that people possess.
 - Cognitive skills include reading, writing, math and problem solving
 - Non-cognitive skills include behavioral control, resiliency, critical thinking, empathy...

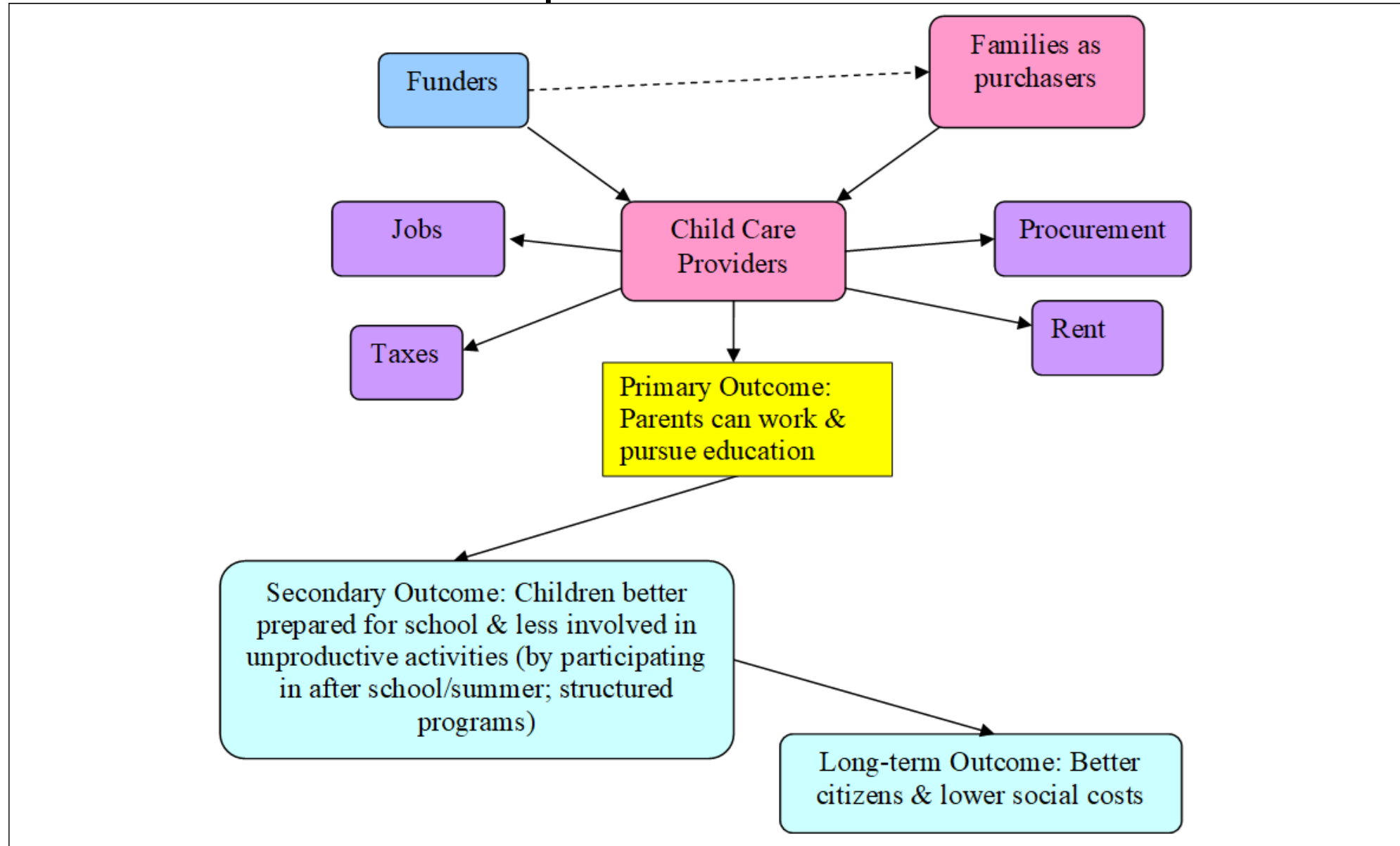
Why is this study important

- ECE is a vital link with CT's workforce.
 - ECE allows parents to work or obtain education and/or job training
 - ECE provides family support in nutrition, health, respite.
 - Prepares children < 6 for public school & enhances their success leading to more productive future workers

How did we do this study?

- Examine the formal sector; i.e., the market-based ECE sector
 - Regard the informal sector as home care (still important, but almost invisible..we estimate the size of the informal sector).
- Use the Connecticut economic model from Regional Economic Models, Inc. in Amherst, MA (REMI).
- REMI is a dynamic, structural model of the state economy and is connected to all other states and the world and to all industries in the USA.
- E.g., if Pratt & Whitney hires (or lays off) 500 engineers, there will be growth (shrinkage) in the state economy. The economy adjusts over time to the 'shock' of Pratt's action.

Conceptual Framework



What data did we use?

- Our primary data source for costs, sales, enrollment, capacity and facility type is the 2-1-1 data from the fall 2019 survey.
- We use OEC data on the various subsidies and grants.
- We use Census data from 2019 as available.
- We use Connecticut Dept. of Labor data for ECE occupation wages.
- We use REMI data that is derived from Census, Bureau of Economic Analysis, Bureau of Labor Statistics, and Connecticut's line-item budget numbers from the 2018-2019 SFY.
- We use County Business Patterns as a comparison source for ECE sector wages and sales for the formal sector.

What (counterfactual) assumptions did we make?

- We assume that if ECE disappeared, one parent in a married couple family with children under 12 in formal ECE would leave the workforce; all single parents with children under 12 in formal care would leave.
- We assume that there are spillover and neighborhood effects equal to the estimated (dollar) value added of the formal ECE sector.
- We assume that wages and spending by parents who leave the workforce decline (calculations are explicit).
- We assume that the portion of public spending on formal care is returned to taxpayers (informal providers continue to receive C4K).
- We assume the counterfactual disappearance of Connecticut's formal ECE sector is unique and that other states' labor markets are as constrained as CT's was in 2019. This assumption mitigates in-migration.

So, what happens in this thought experiment?

- The counterfactual is a reasonable approach to estimating the economic value of a sector already established in the economy. If we added the sector to the existing sector (in the model), we would encounter resource constraints such as there could be more workers or children than actually exist and the state budget would need to expand beyond reason to accommodate the additional people.
- This approach is similar to a plant or military base closing.
- As the formal sector disappears, providers' spending on goods and services disappears and the wages ECE workers earn are lost to the economy.
- All businesses are affected to some degree.

What else happens in this thought experiment?

- As jobs in various industries are vacated, workers not needing formal ECE services migrate from surrounding states to take these jobs.
- The Connecticut economy initially contracts and then slowly grows as migrants take jobs and production increases but with fewer parents needing formal care.
- We acknowledge but do not estimate the growth in the informal sector as less mobile parents struggle to find care for their children.

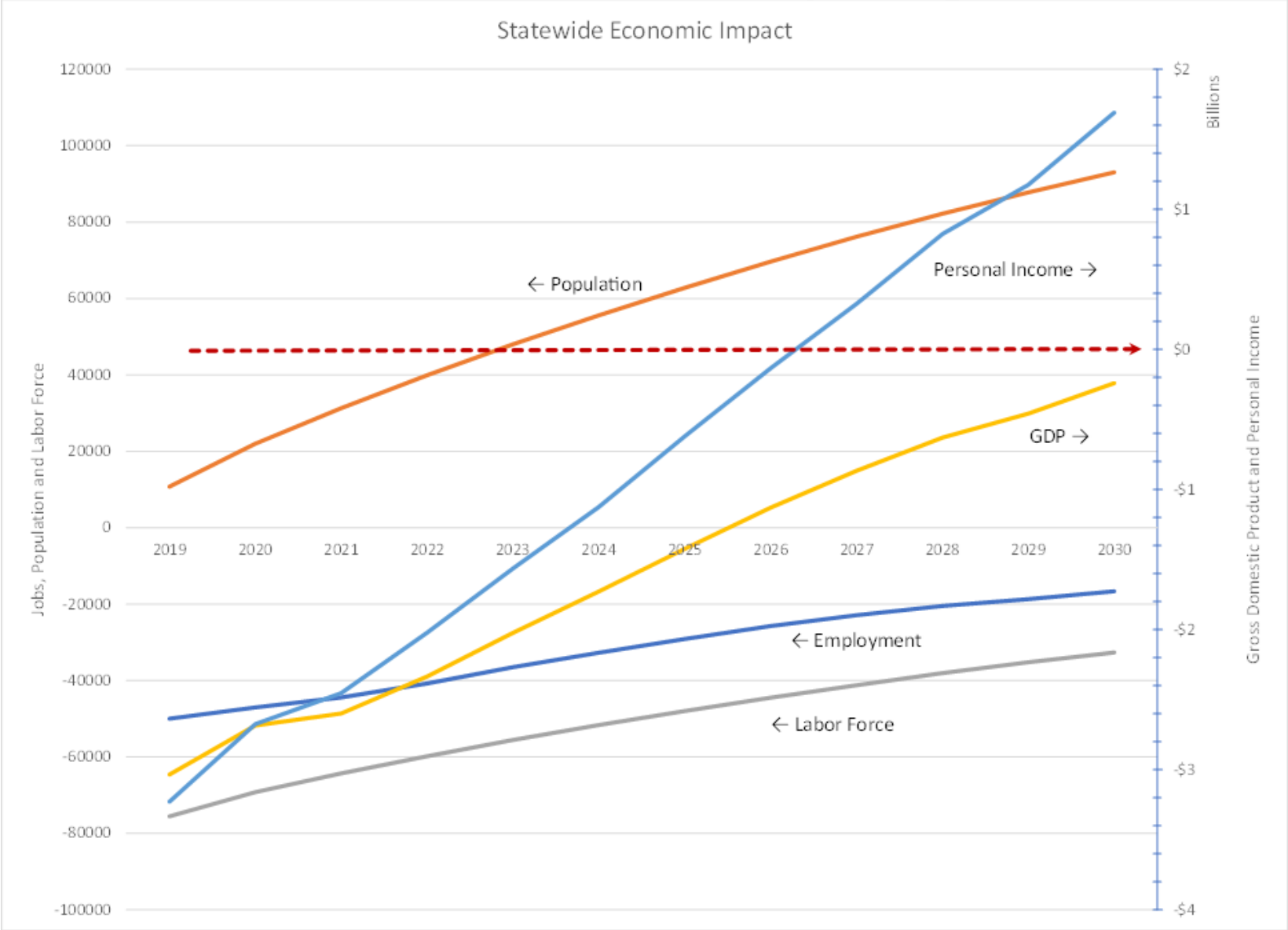
What do the model inputs look like?

- Of the 140,362 parents using ECE, 84,671 (60%) parents use it of necessity or because it allows a married spouse to work.
 - 40% of parents using ECE are married and work regardless
- Personal incomes increase by \$3.9 billion
- Personal consumption increases by \$1.6 billion
- ECE brings in \$1.5 billion in revenue
- State taxes increase by \$181 million to support ECE subsidies & grants
- ECE (NAICS 6244) employs 27,000 workers
- Spillover effects (peer-to-peer & neighborhood) are \$452 million

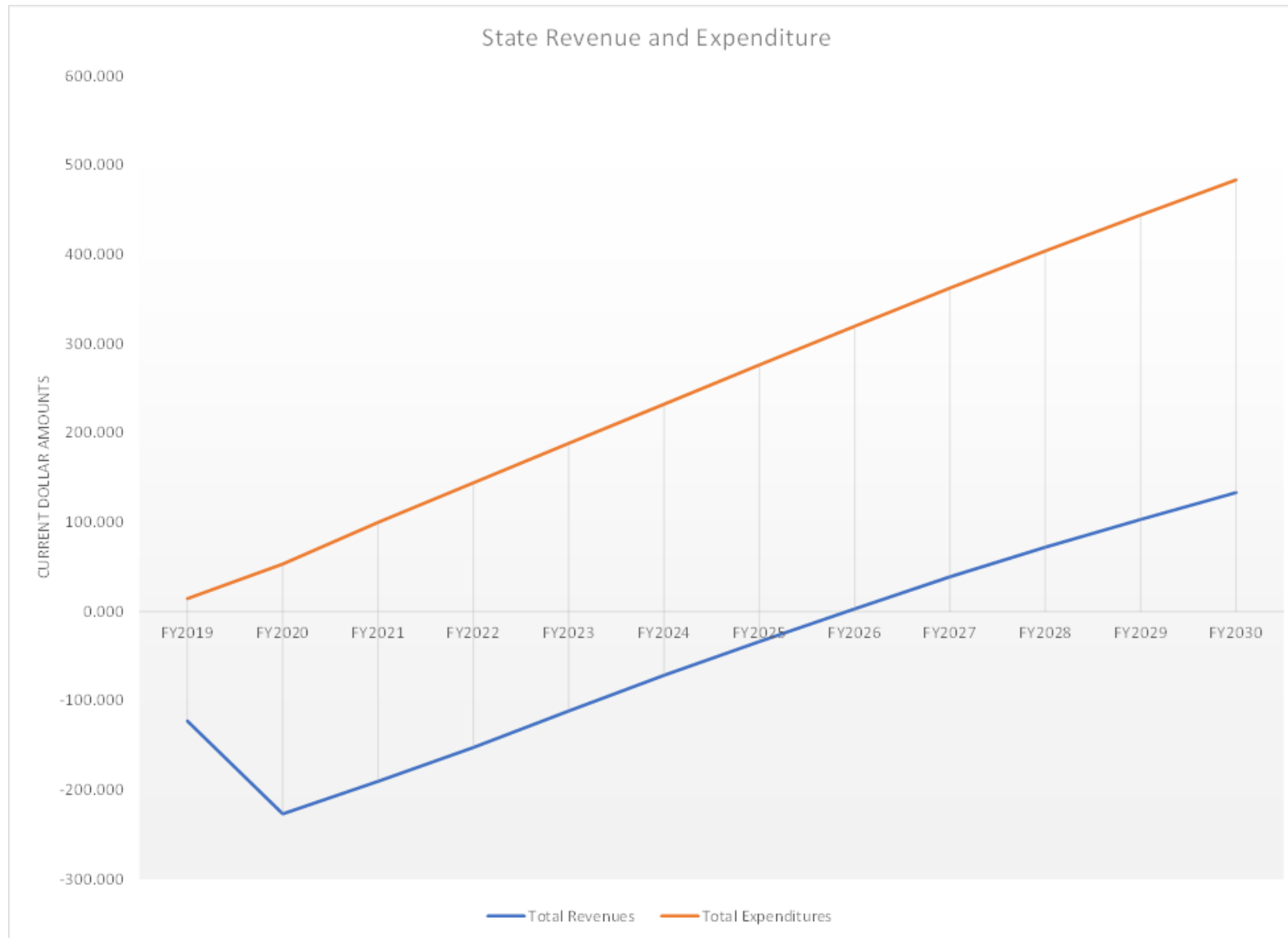
What are the (counterfactual) results?

	Average Annual Change 2019 through 2030						
County	Employment	Gross Regional Product	Population	Migrants	Labor Force	Personal Income	Output (Sales)
Fairfield	-8,008	-\$379,718,594	22,162	4,486	-12,159	-\$56,583,333	-\$594,060,503
New Haven	-7,493	-\$378,420,069	8,634	2,208	-11,837	-\$224,250,000	-\$582,017,572
Hartford	-7,136	-\$322,359,571	18,458	3,432	-11,058	\$59,333,333	-\$490,157,674
Tolland	-1,906	-\$97,034,820	4,919	244	-3,835	-\$47,583,333	-\$145,364,521
Litchfield	-1,695	-\$99,996,913	918	321	-3,053	-\$140,833,333	-\$152,703,008
Windham	-1,543	-\$70,730,564	770	343	-2,523	-\$59,833,333	-\$108,005,326
New London	-1,906	-\$97,034,820	4,919	996	-3,835	-\$47,583,333	-\$145,364,521
Middlesex	-2,111	-\$108,771,821	1,654	402	-2,933	-\$133,416,667	-\$166,534,288
Statewide	-32,077	-\$1,596,037,542	56,585	6,862	-51,288	-\$817,166,667	-\$2,459,525,778
Statewide NPV @ 5%		-\$15,488,893,557				-\$9,534,828,164	-\$24,075,298,365
Statewide Total Change over 12 Years	-384,926	-\$19,152,450,500	92,988	82,340	-615,460	-\$9,806,000,000	-\$29,514,309,340

How does the state economy adjust over time?



What is the fiscal response?



What did we learn from this study?

- About 140,000 parents (9% of CT's workforce) used formal ECE services in 2019.
- The formal ECE sector took in about \$1.5 billion in revenue in 2019.
- The value added of \$452 million approximates the spillover and neighborhood effects (children and families exposed to others who participate in ECE are themselves positively affected).
- The formal ECE sector employed about 27,000 workers who earned \$329 million in 2019.

What did we learn from this study?

Sector	Workers
Educational services	59,333
Fabricated metal product manufacturing	29,780
General merchandise stores	27,649
ECE	27,000
Credit intermediation and related activities	22,653
Securities, commodity contracts, investments	22,106
Real estate and rental and leasing	20,113
Hotels and Lodging	11,663
Chemicals (incl. Pharmaceuticals)	7,915
U.S. Postal Service	8,200
Agriculture, forestry, fishing and hunting	4,739

What did we learn from this study?

- ECE workers are low paid compared with similarly credentialed workers in other industries, notably public and private education services.
- Estimate the informal sector serves approximately 263,032 children, receives approximately \$137 million in annual revenue and that sector employs about 46,000 workers.
- There is a vast and growing literature that examines the role ECE plays in the economy and in human development.

What did we learn from this study?

- Public and private investment in formal ECE confers rates of return of 14% or more per year through:
 - Lower grade retention, fewer special ed kids, lower teen pregnancy rates, less teenage crime, greater HS completion and college entrance and higher long-term economic wellbeing compared with cohorts who did not use formal ECE services.
 - In improving educational outcomes, ECE improves economic mobility and promotes self-sufficiency that reduces inequality and reliance on public assistance.
- ECE is a unique industry that in addition to employment and goods and services purchases *creates human capital. It is part of the state's labor supply infrastructure.*

Questions???

Contact Information:

Stanley McMillen

Stanley.mcmillen@uconn.edu