

The State of Early Childhood Education: Evidence of Preschool Enrollment

*William Yu
Economist
UCLA Anderson Forecast
June 2015*

Across disciplines, the bulk of research demonstrating the substantial long-term benefits of high-quality early childhood education (ECE) programs make those programs one of the most efficient and effective instruments governments can use to improve the lives of socially and economically disadvantaged children. For instance, participation in ECE programs has led to a reduction in teen pregnancy and crime rates, an increase in high school graduation rates and overall earnings, and an improvement in adult health.

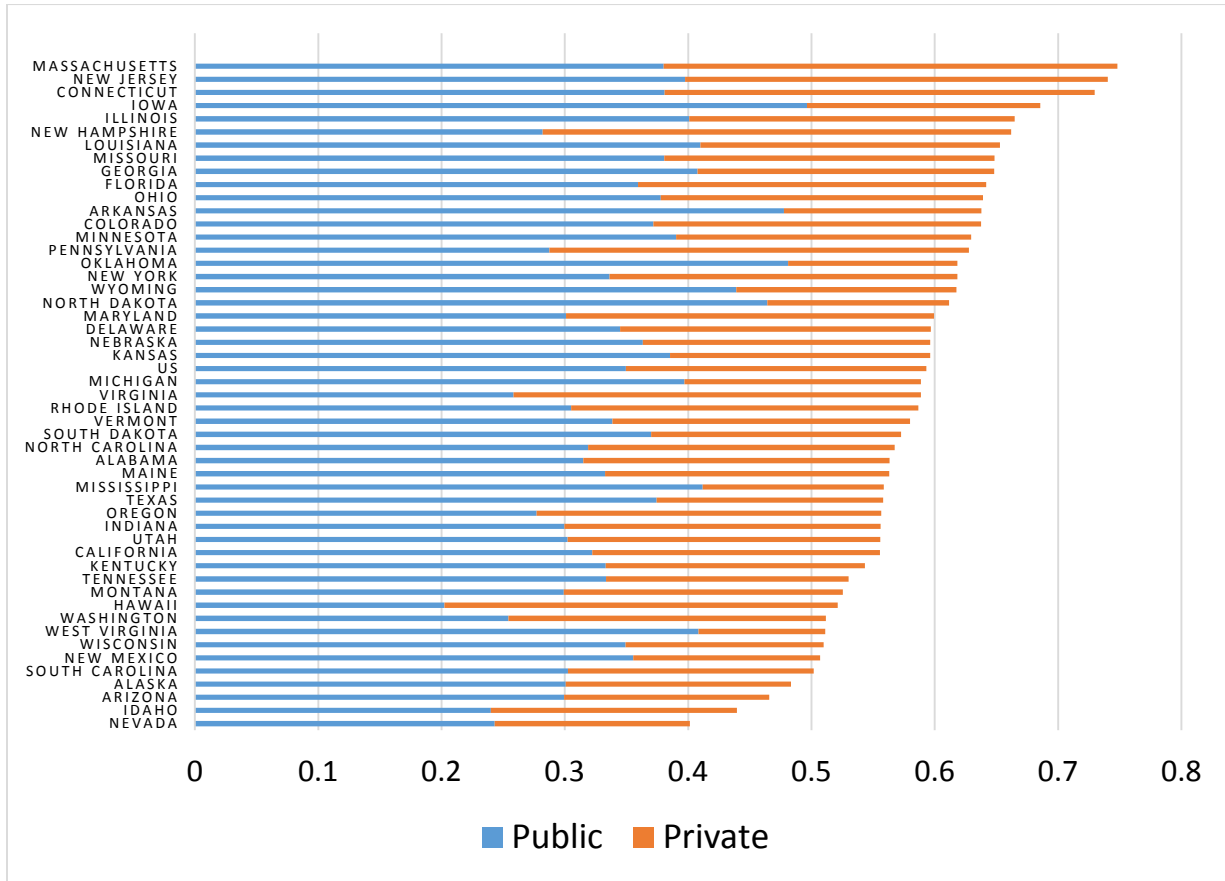
In this report, we summarize the development of ECE over time and its current state across the country and within California in terms of preschool enrollment (children ages 3 and 4). We also investigate the correlation between preschool enrollment and other socioeconomic factors.

Preschool Enrollment by State

Figure 1 displays the percentage of all 3- and 4-year-old children enrolling in preschool by state in 2013. The blue color represents the percentage of children in public preschool and the orange shows the percentage in private preschool. Massachusetts has the highest overall preschool enrollment in the nation, at 74.8%, followed by New Jersey's 74%, Connecticut's 73%, and Iowa's 68.5%. New York ranks 17th at 61.8%, just above the national average of 59.3% while California sits at 37th with 55.5%. Nevada's preschool enrollment of 40.1% is the lowest.

Isolating the numbers for public preschool enrollment, we see Iowa's 50% is the highest in the nation, followed by Oklahoma and Arkansas, both of which have 48% public enrollment. California's public preschool enrollment of 32% is lower than New York's 34%, the national average of 35%, and Texas's 37%. Hawaii's 20% is the lowest.

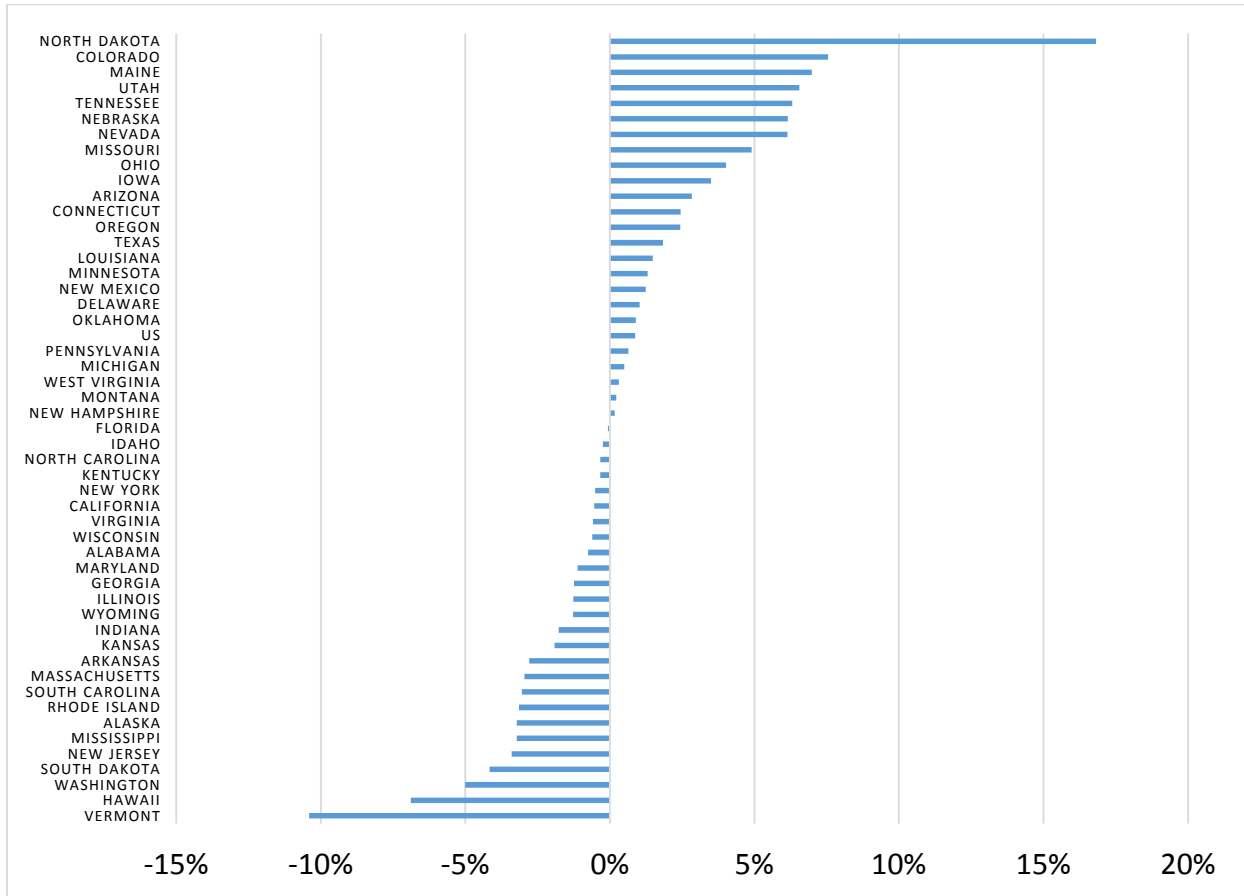
Figure 1. Percentage of 3- and 4-Year-Old Children Enrolled in Preschool by State, 2013



Source: 2013 One-year American Community Survey

Figure 2 depicts the percentage point change of preschool enrollment of 3- and 4-year-olds between 2006 and 2013. North Dakota had the highest growth: up 16.8%, from 44% in 2006 to 61% in 2013, perhaps due to the fracking oil industry boom which has generated an enormous amount of government revenue for the state. Colorado's 7.6% growth came in second, followed by Maine's 7%, Utah's 6.6%, and Tennessee's 6.3%. The nation's enrollment as a whole increased by 0.9%. California was on the declining side of the average: with enrollment dropping by 0.5%. Vermont had the largest enrollment reduction, with a decline of 10.4%.

Figure 2. Percentage Point Change of 3- and 4-Year-Old Children Enrolling in Preschool by State, 2006 to 2013

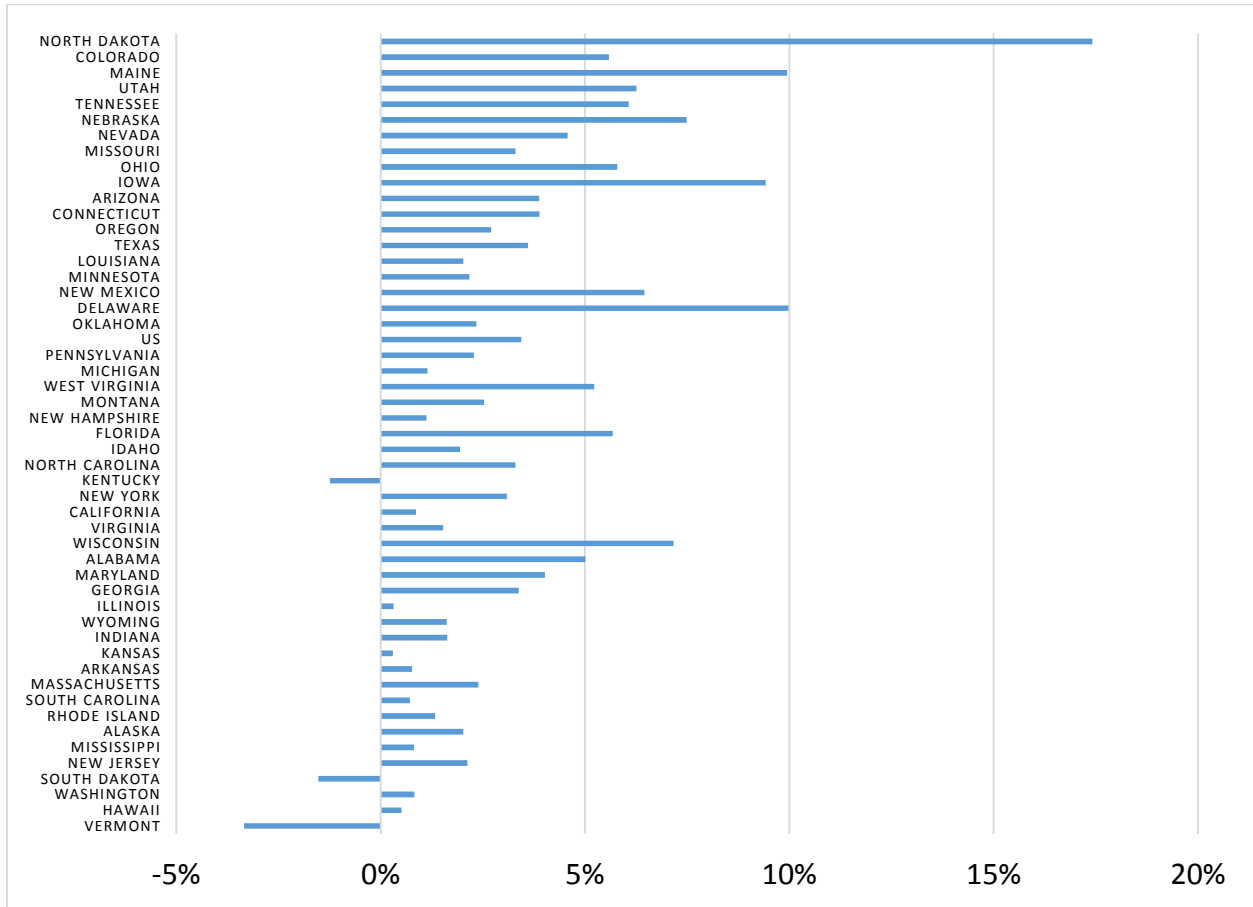


Source: 2006 and 2013 One-year American Community Surveys

Figure 3 shows the percentage point change of public preschool enrollment between 2006 and 2013. Most of the states saw growth during the period with North Dakota’s 17.4% leading the nation, followed by Delaware’s 10%, Maine’s 9.9%, and Iowa’s 9.4%. California’s public preschool enrollment increased slightly by 0.9%, lower than the national average of 3.4%. Three states’ public enrollment declined: Kentucky (-1.2%), South Dakota (-1.5%), and Vermont (-3.3%).

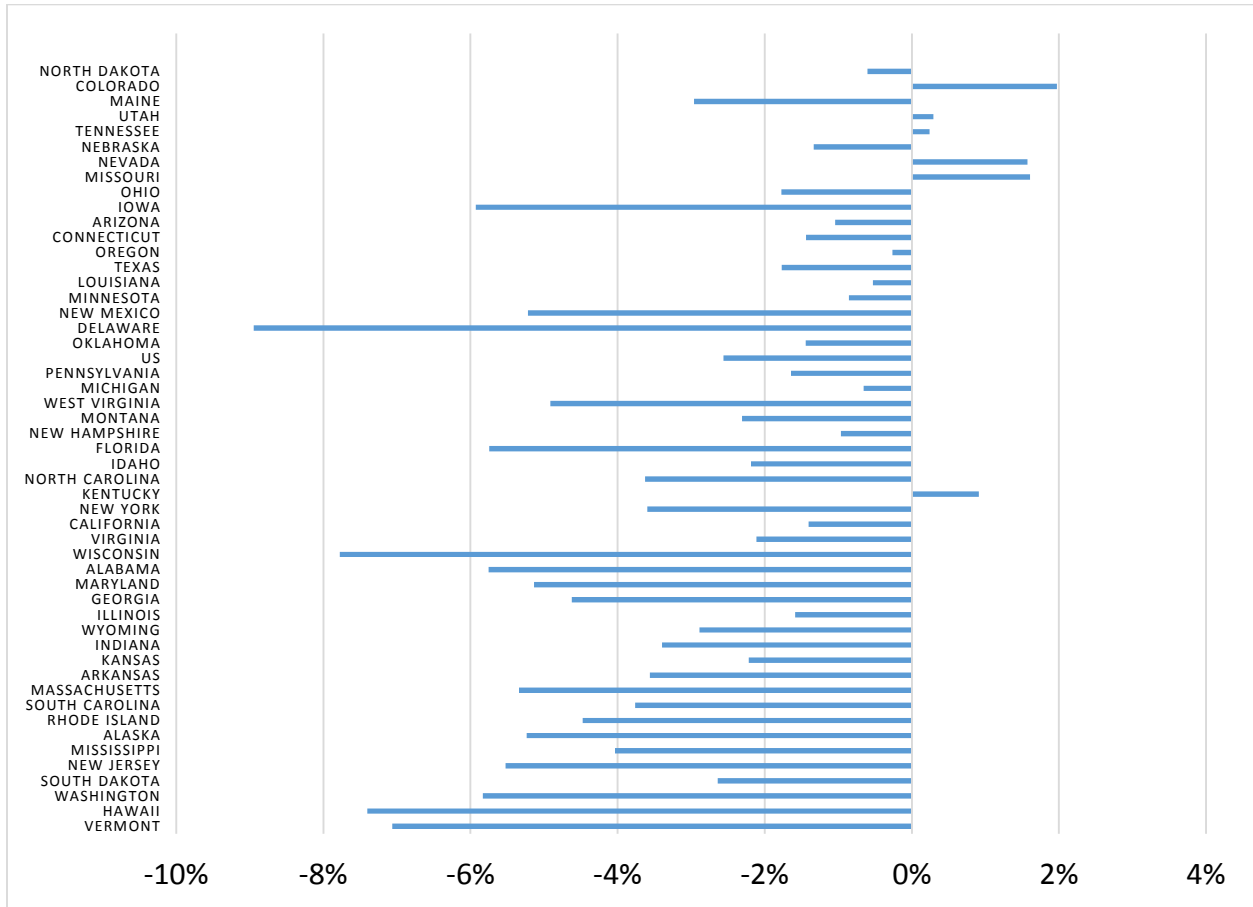
Figure 4 presents the percentage point change of private preschool enrollment between 2006 and 2013. As opposed to the widespread increase of public preschool enrollment, we see general declines in private preschool enrollment during the period. One possible reason is that the Great Recession and its anemic recovery caused too much financial difficulty in US households to pay for private schooling.

Figure 3. The Percentage Point Change of 3- and 4-Year Old Children Enrolling in Public Preschool, by State, 2006 to 2013



Source: 2006 and 2013 One-year American Community Surveys

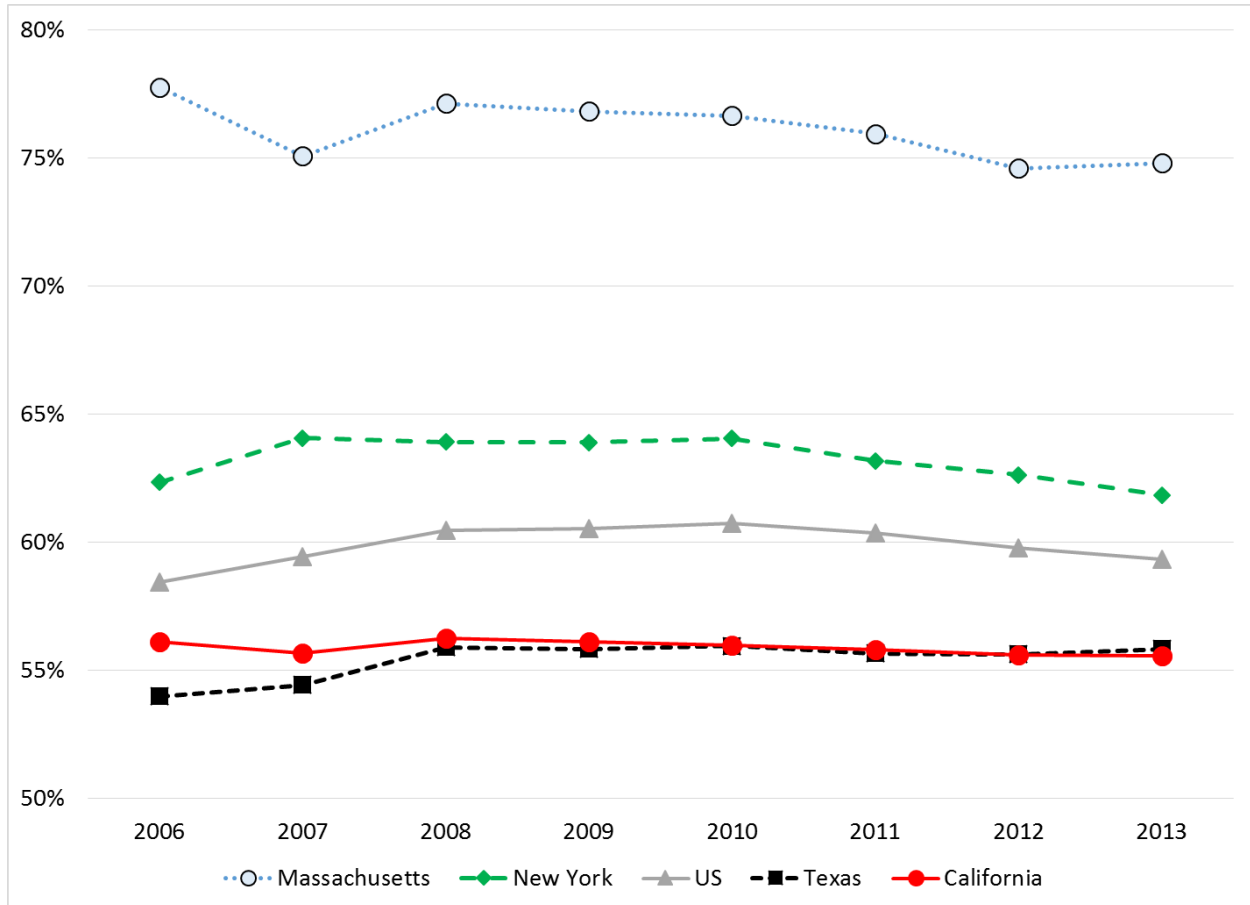
Figure 4. The Percentage Point Change of 3- and 4-Year-Old Children Enrolling in Private Preschool of 50 States between 2006 and 2013



Source: 2006 and 2013 One-year American Community Surveys

Figure 5 shows the percentage of preschool enrollment in selected states from 2006 to 2013. California's enrollment is persistently lower than the nation's average during this period. Texas's enrollment rate surpassed California's by 2013.

Figure 5. The Percentage of 3- and 4-Year-Old Children Enrolling in Preschool, Selected States, 2006 to 2013

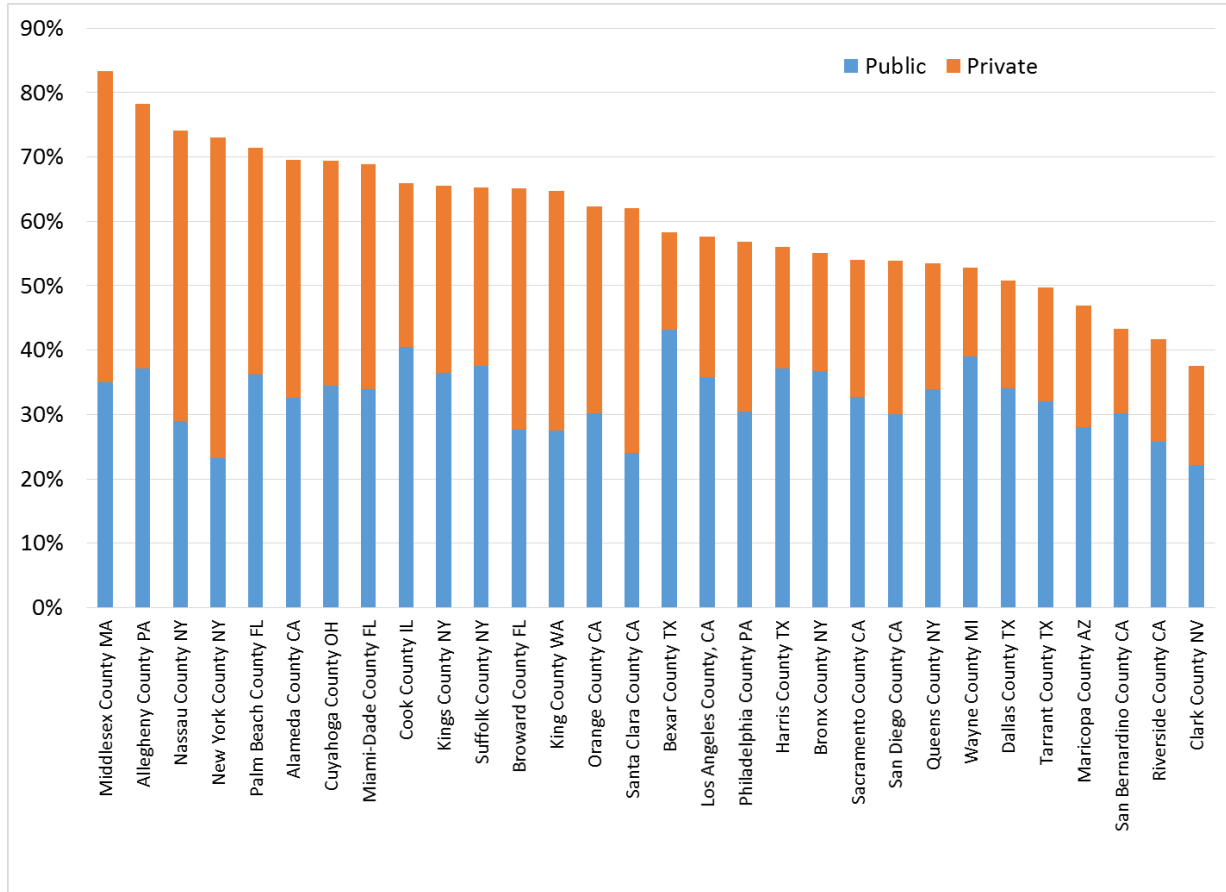


Source: 2006 to 2013 One-year American Community Surveys

Preschool Enrollment by County

Figure 6 presents the preschool enrollment for the 30 largest counties in the nation. Middlesex County, MA (Boston) has the highest enrollment rate at 83.4%, followed by Allegheny County, PA (Pittsburgh) at 78.3%, Nassau County, NY (Long Island) at 74.2%, and New York County, NY (Manhattan) at 73%. California’s Alameda, Orange, and Los Angeles counties are at 69.6%, 62.2%, and 57.6% respectively, with Los Angeles falling right near the middle of the thirty counties. San Bernardino County (43.3%), Riverside County (41.8%), and Clark County (Las Vegas), NV (37.5%) are the counties with the lowest enrollment. That said, L.A. County’s preschool enrollment is higher than California’s 55.5% rate but lower than the national average of 59.3%.

Figure 6. Percentage of 3- and 4-Year-Old Children Enrolling in Preschool, 30 Largest US Counties, 2013

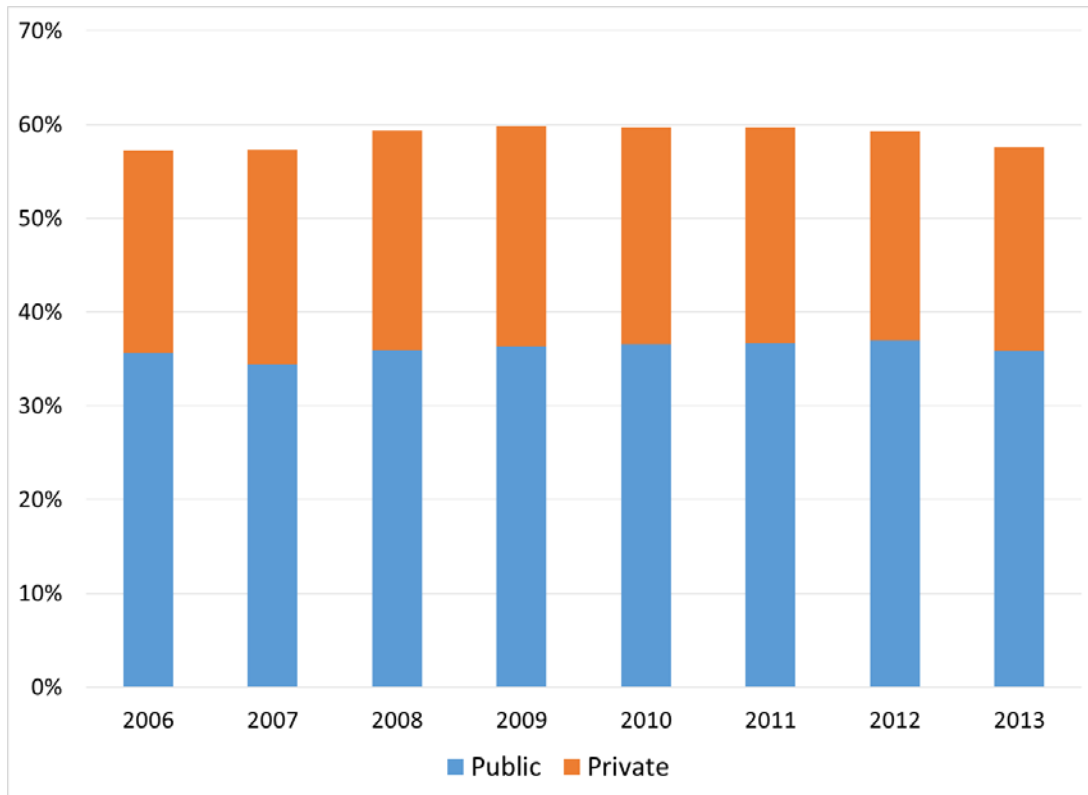


Source: 2013 One-year American Community Survey

Preschool Enrollment in California and Los Angeles

Figure 7 displays the preschool enrollment in Los Angeles County from 2006 to 2013. The enrollment rates rose slightly from 57.2% in 2006 to 57.3% in 2007, 59.3% in 2008, 59.8% in 2009, and then slightly declined to 59.7% in 2010 and 2011, 59.3% in 2012, and 57.6% in 2013. Contrary to this relatively stable number for L.A., we have heard the Great Recession and the following local government budget cuts have reduced the preschool enrollment. Therefore, it is not certain that these statistics from the American Community Survey reflect the true preschool enrollment rates during this period.

Figure 7. Percentage of 3- and 4-Year-Old Children Enrolling in Preschool in Los Angeles County, 2006 to 2013

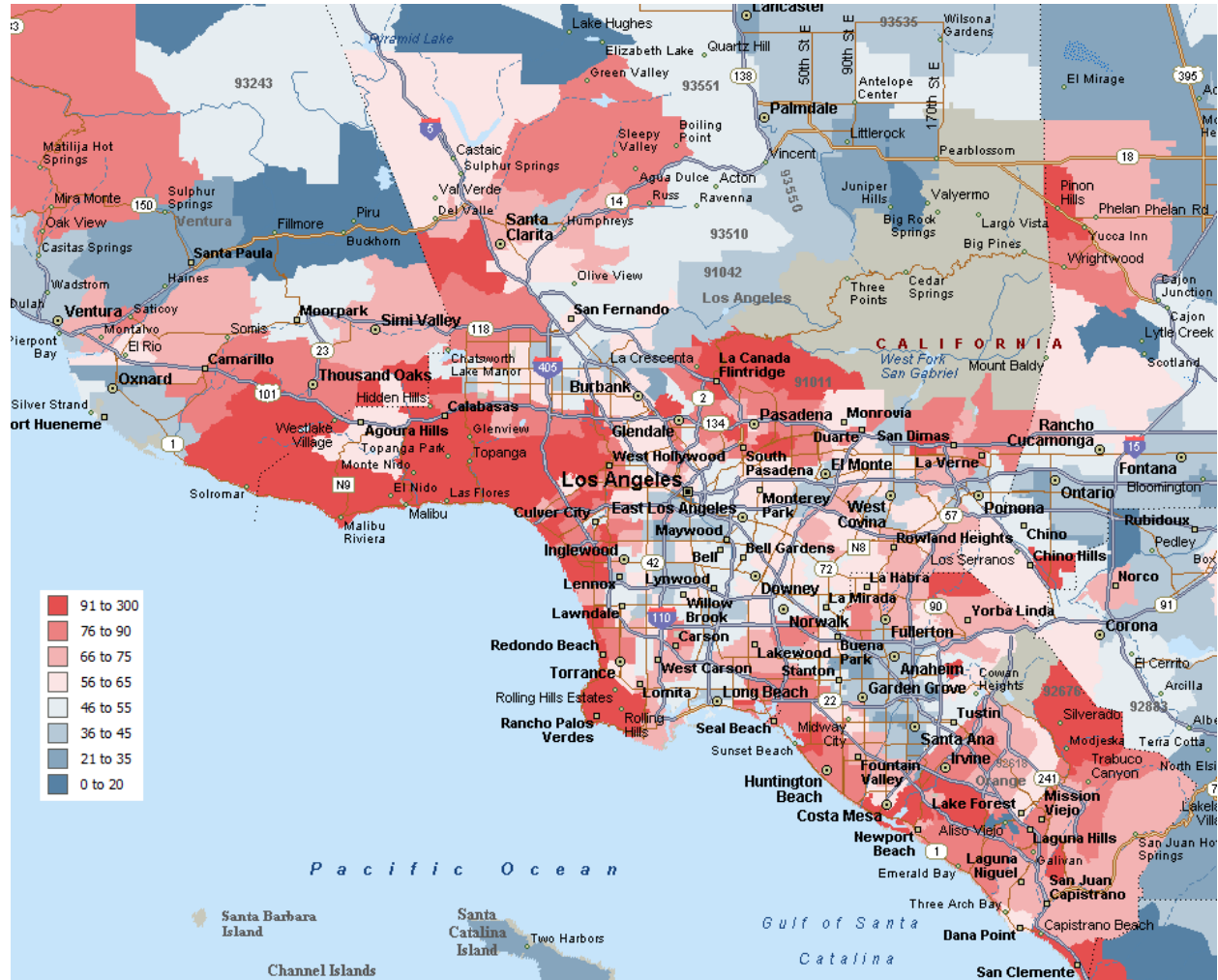


Source: Multiple-year American Community Surveys

Figure 8 depicts the preschool enrollment by zip code in the Los Angeles metro area. The red colored zip codes represent preschool enrollment above 55%. The darker the red color gets, the higher the enrollment rate it represents. The blue color, on the other hand, means the enrollment rate is below 55%, and the darker the color is, the lower the rate is. Some areas have enrollment rates higher than 100%, possibly because children in other areas come to preschool in that region or because the two variables (number of preschool students and number of children ages 3 and 4) are measured in different ways. Nevertheless, the statistics should be persistent and comparable across regions in a relative, if not an absolute, way.

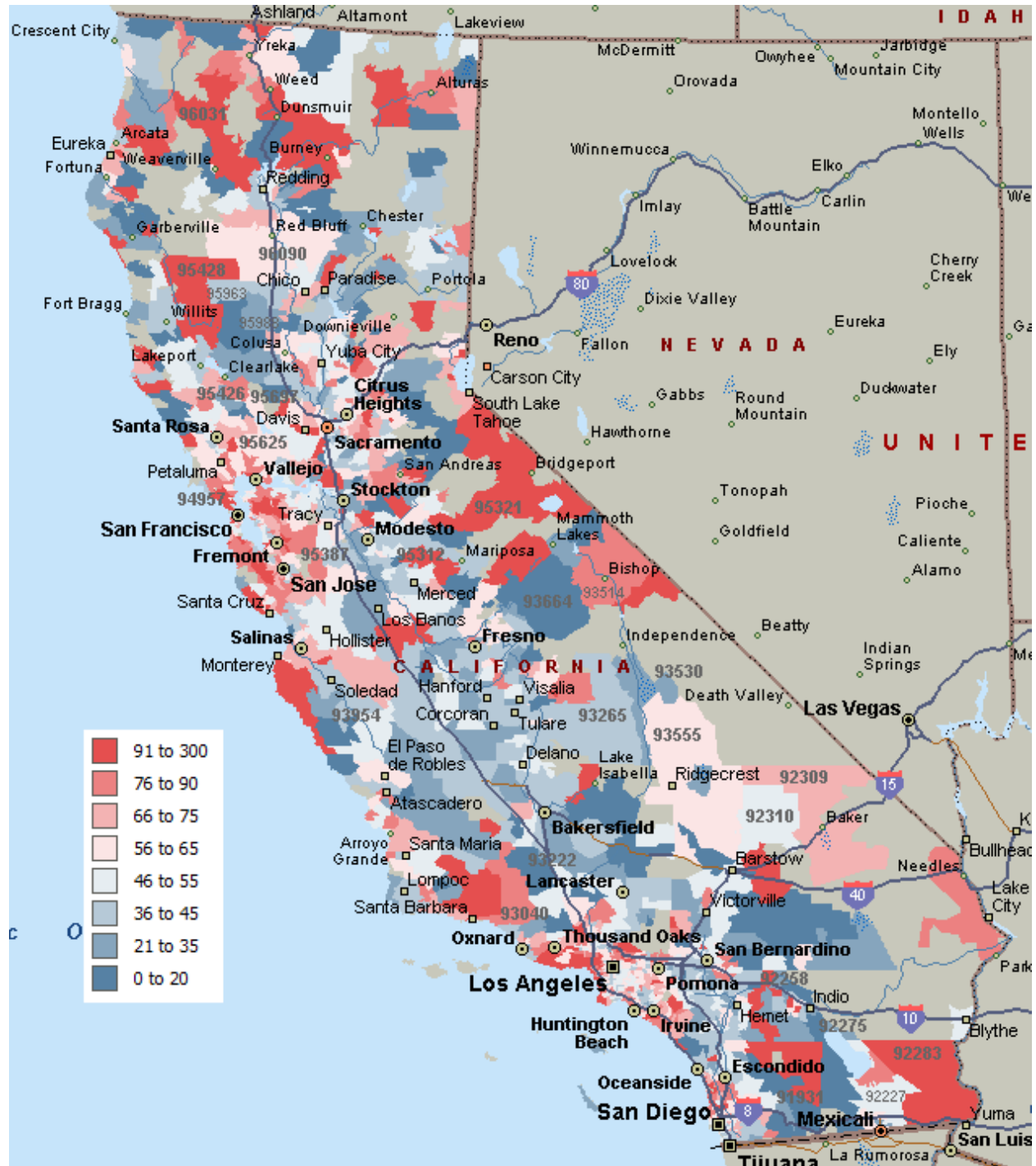
We can see that preschool enrollment rates are higher in West L.A. and Pasadena areas and lower in South L.A. The geographic pattern is similar to the distribution of human capital and income. Figure 9 illustrates the preschool enrollment by zip code for California. Coastal California has higher enrollment rates generally while Central Valley and Inland Empire have lower enrollment rates. Appendix A shows all the enrollment rates, public and private, by zip code in Los Angeles County.

Figure 8. Percentage of 3- and 4-Year-Old Children Enrolling in Preschool By Zip Code in Los Angeles, 2013



Source: 2013 5-Year American Community Survey (mid-year: 2011)

Figure 9. Percentage of 3- and 4-year-old Children Enrolling in Preschool By Zip Code in California, 2013



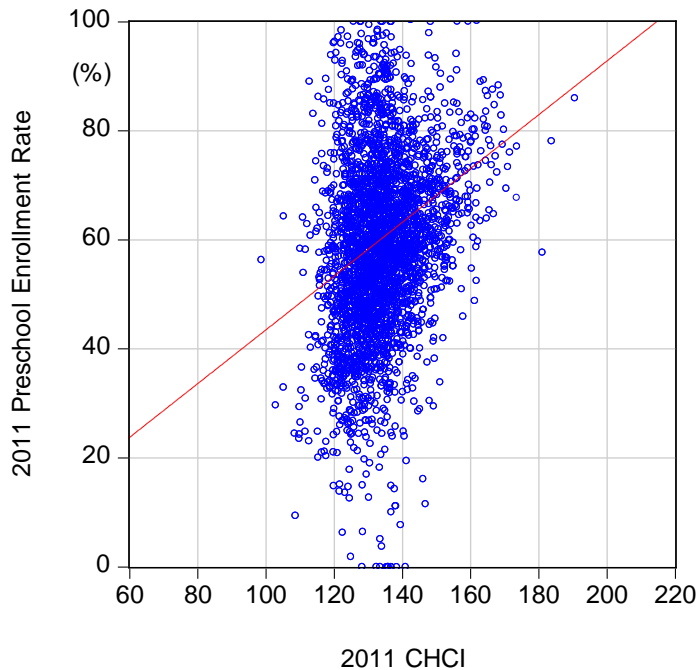
Source: 2013 Five-year American Community Survey (mid-year: 2011)

The Difference in Preschool Enrollment Across Regions

After looking at this series of preschool enrollment information, the next question is why do some regions have high preschool enrollment while others have low? After trying many possible economic and demographic factors that might correlate to the difference of preschool enrollment rates across the region, we found two persistent and robust predictors: (1) the City Human Capital Index (CHCI) and (2) Per-capita income.

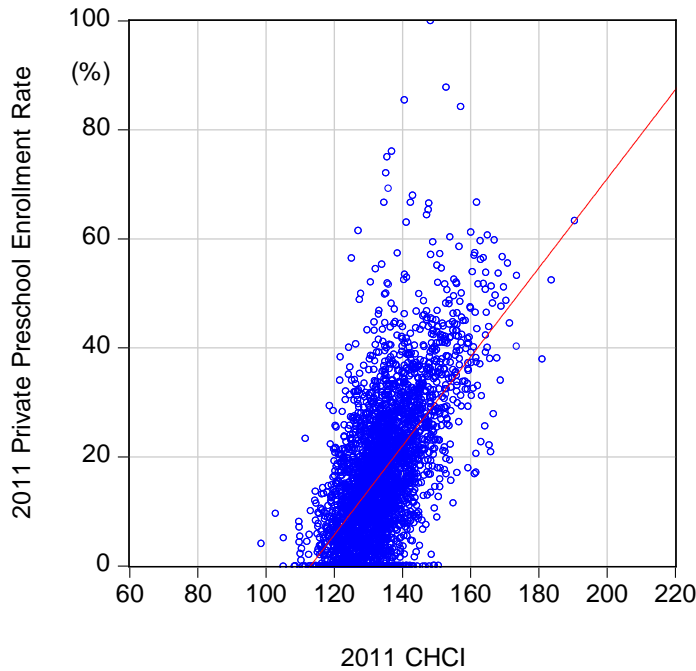
Figure 10 illustrates the correlation between the CHCI and the preschool enrollment rate across counties in the U.S. in 2011. We can see a positive relationship between these two variables. However, the association is not obvious. In fact, CHCI only explains 5% of the variation of preschool enrollment in the counties surveyed. Figure 11 shows the stronger correlation between the CHCI and the private preschool enrollment rate of a county in 2011. In this case, the CHCI is able to explain 35% of the variation of private preschool enrollment across counties.

Figure 10. The Correlation Between City Human Capital Index (CHCI) and Preschool Enrollment Rates Across 3126 Counties in 2011



Source: 2013 Five-year American Community Survey (mid-year: 2011)

Figure 11. The Correlation Between City Human Capital Index (CHCI) and Private Preschool Enrollment Rates Across 3126 Counties in 2011



Source: 2013 Five-year American Community Survey (mid-year: 2011)

If we add the additional variable of per capita income, these two variables are able to explain 36% of the enrollment variation across the country as shown in the following equation.

$$\text{Private preschool enrollment} = -73 + 0.59 \times \text{CHCI} + 0.51 \times \text{Per-capita income (Thous \$)}$$

(t-Statistics)
(14.8)
(6.1)
R² = 0.36 U.S. Counties

The regression result indicates that with a ten point addition of CHCI in a region, which is approximately a one year increase in schooling of local adult residents, the preschool enrollment rate will increase by 5.9%. Similarly, a \$10,000 increase in income will predict an enrollment rate boost of 5.1%. Both predictors are statistically significant.

The reasons for these two predictors are not surprising. More educated parents are more likely to work full-time and are more likely to value the importance of ECE. Therefore, they are more likely to enroll their children in preschool. Meanwhile, families with higher incomes are more likely to be able to afford to send their children to preschool, especially to private ones.

Combining Figures 10 and 11, we see that the correlation between public preschool enrollment and the CHCI and per-capita income is much weaker. That is because in some low income areas, the government intervenes to provide public ECE programs to help disadvantaged children attend preschool. The Head Start programs nationwide are an example.

Now let's focus on California. Figure 12 presents the correlation between the CHCI and preschool enrollment of zip codes in California in 2011. We can see a clear positive relationship

between these two variables. Figure 13 shows the even closer correlation between the CHCI and private preschool enrollment.

When we add the second predictor – per-capita income - we will be able to explain 25% of the variation of enrollment in California. For private preschool, these two predictors can explain 56% of the enrollment difference.

$$\text{Preschool enrollment} = -2.2 + 0.33 \times \text{CHCI} + 0.53 \times \text{Per-capita income (Thous \$)}$$

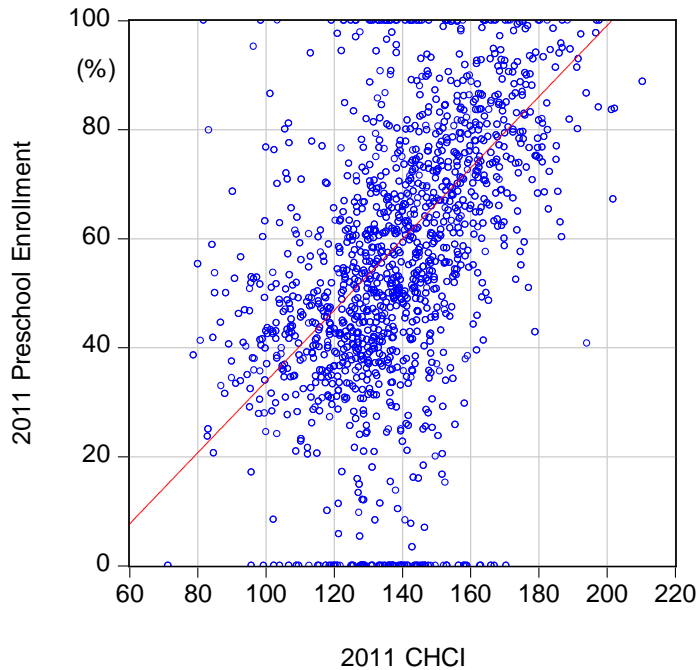
(t-Statistics)
(5.1)
(5.5)
 $R^2 = 0.25$
CA Zip Codes

$$\text{Private preschool enrollment} = -65 + 0.54 \times \text{CHCI} + 0.61 \times \text{Per-capita income (Thous \$)}$$

(t-Statistics)
(9.6)
(7)
 $R^2 = 0.56$
CA Zip Codes

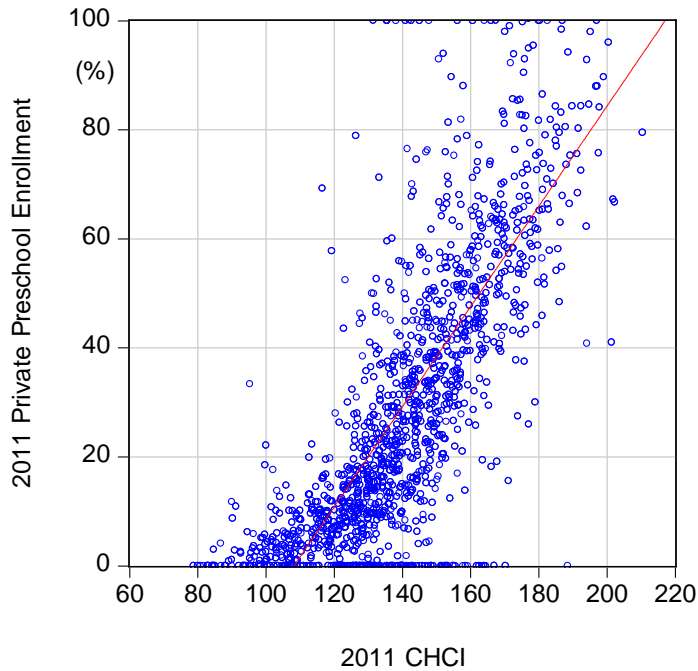
The coefficients are all statistically significant and similar to those we got from the nation equation in the previous section.

Figure 12. The Correlation Between City Human Capital Index (CHCI) and Preschool Enrollment Rates Across 1497 Zip Codes in California in 2011



Source: 2013 Five-year American Community Survey (mid-year: 2011)

Figure 13. The Correlation Between City Human Capital Index (CHCI) and Private Preschool Enrollment Rates Across 1497 Zip Codes in California in 2011



Source: 2013 Five-year American Community Survey (mid-year: 2011)

To see the latest data for the correlation, Figure 14 presents the correlation between the CHCI and the preschool enrollment rate of public school districts in California in 2013. Figure 15 displays the correlation between the CHCI and private preschool enrollment. We can again see a clear positive relationship between these two variables, especially for private preschool enrollment. The two predictors CHCI and per-capita income in the regression will be able to explain 75% of the variation of private preschool enrollment in a school district.

$$\text{Private preschool enrollment} = -52 + 0.37 \times \text{CHCI} + 0.91 \times \text{Per-capita income (Thous \$)}$$

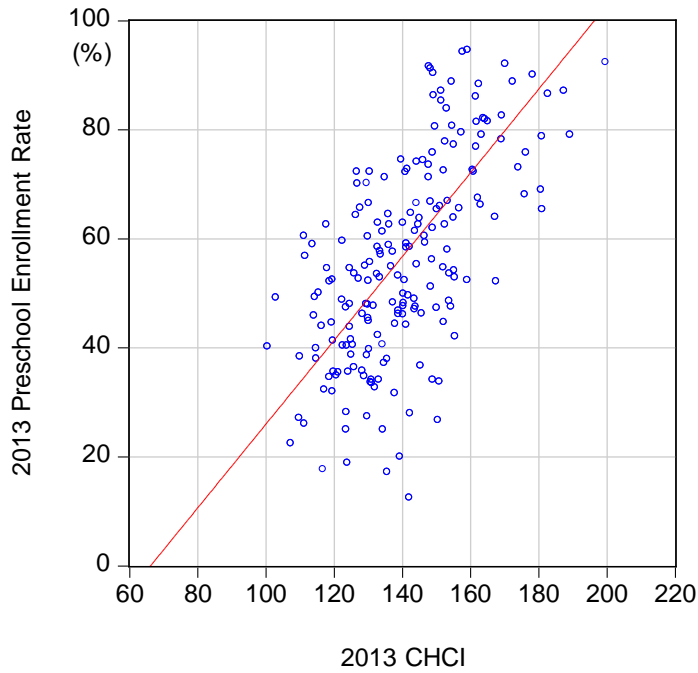
(t-Statistics)

(2.3)

(3.4)

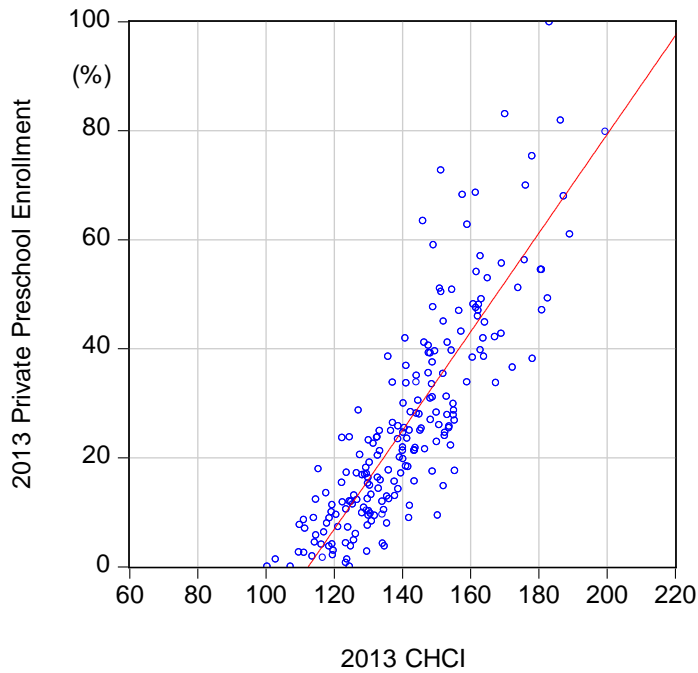
$R^2 = 0.75$ CA School Districts

Figure 14. The Correlation Between City Human Capital Index (CHCI) and Preschool Enrollment Rates Across 209 School Districts in California in 2013



Source: 2013 One-year American Community Survey

Figure 15. The Correlation Between City Human Capital Index (CHCI) and Private Preschool Enrollment Rates Across 209 School Districts in California in 2013



Source: 2013 One-year American Community Survey

Current Preschool Enrollment and Future City Human Capital Index

Finally, an important question should be addressed: Will higher preschool enrollment in a region predict or even cause a better ranking for that region in the future? To answer this question thoroughly, we need more detailed data and research, especially to answer a causality question. Nevertheless, a simple equation might be able to shed some light on the answer. And that answer seems to be a resounding yes.

The following regression shows that two variables in a county in 2007 will be able to predict the human capital level of that county in 2011. Of course, the CHCI in 2007 is the strongest predictor of the CHCI in 2011 with a coefficient of 0.96. This is not surprising given the fact that human capital level would not change much in just 4 to 5 years. What is interesting is that after controlling for the CHCI level in 2007, the preschool enrollment in 2007 is a statistically significant predictor of the CHCI in 2011. In other words, if the human capital level in two regions are the same now, the region with higher preschool enrollment will see a higher human capital level in five years.

$$\begin{array}{l} \text{'11 CHCI} = 6.9 + 0.96 \times \text{'07 CHCI} + 0.004 \times \text{'07 Preschool Enrollment} \\ \text{(t-Statistics)} \quad (226) \quad (2) \quad R^2 = 0.94 \quad \text{U.S. Counties} \end{array}$$

How can this be? One possible reason is that a region with more available preschool infrastructure is likely to attract more highly-educated parents to move there, thus boosting the local CHCI and setting a trend to continue its increase in the next generation. The other possibility is that high preschool enrollment is correlated with some as-yet-unknown factor which drives higher human capital. The following regression with 200 school districts' data in California shows a longer horizon prediction. A school district in 2006 with a higher preschool enrollment will be able to predict a higher CHCI in 2013.

$$\begin{array}{l} \text{'13 CHCI} = 7.3 + 0.96 \times \text{'06 CHCI} + 0.05 \times \text{'06 Preschool Enrollment} \\ \text{(t-Statistics)} \quad (30) \quad (1.9) \quad R^2 = 0.92 \quad \text{CA School Districts} \end{array}$$

Conclusions

This report shows three general results: First, there is a significant variation of preschool enrollment across states, counties, and zip codes. Second, some states have shown substantial change in preschool enrollment over the past several years. Third, there is a high correlation between human capital and preschool enrollment in regions, whether measured by county, zip code, or school district. We believe that there is an interactive relationship between these two variables. In other words, higher human capital will drive up preschool enrollment in the region, and an area with higher preschool enrollment will be attractive to a more highly-educated workforce, thus driving up human capital.

The sample data are not deep enough for us to investigate the relationship between a region's preschool enrollment and its city human capital level in the twenty years or so it would take a preschool child to become a contributing adult in society. However, other research has shown significant long-term individual and social benefits from the investment of non-cognitive skills in children through quality early childhood education.

The evidence does not support a long-lasting effect in cognitive (academic) skills; rather, the effect seems to diminish over time. Some have used this fact to argue against continuing support of ECE; however, there are other factors at work. We suggest that the fading-out of cognitive skill improvement for those disadvantaged children who received quality ECE may be due to the low-quality public school education they receive after finishing preschool. Therefore, an appropriate response should be improving public education to build upon the foundation of quality early childhood education, not cutting out ECE. No matter their background, every child in the US deserves a chance to thrive and develop their innate capacity. Early childhood education may seem like a small matter, but it is one of the things that matters most to our future.

**Appendix A. Preschool Enrollment Rate Among 3 and 4 Years Old in Los Angeles County
by Zip Code, 2011 (%)**

Zipcode	Total	Public	Private	Zipcode	Total	Public	Private	Zipcode	Total	Public	Private
90001	57	54	2	90059	48	47	1	90302	53	38	15
90002	43	41	2	90061	43	38	5	90303	57	47	10
90003	37	36	1	90062	42	39	3	90304	42	38	4
90004	58	39	19	90063	53	49	4	90305	55	29	26
90005	60	45	15	90064	105	24	80	90401	100	85	16
90006	44	34	10	90065	61	27	35	90402	104	0	104
90007	70	66	4	90066	81	39	42	90403	74	20	54
90008	76	34	42	90067	100	100	0	90404	75	41	34
90010	30	0	30	90068	62	0	62	90405	111	17	95
90011	41	40	1	90069	100	8	92	90501	48	25	22
90012	57	46	11	90073	NA	NA	NA	90502	68	29	39
90013	8	0	8	90077	135	2	133	90503	84	21	62
90014	NA	NA	NA	90089	NA	NA	NA	90504	74	28	45
90015	43	31	12	90094	NA	NA	NA	90505	62	17	46
90016	67	55	12	90201	52	49	2	90601	70	39	31
90017	28	27	1	90210	116	17	99	90602	47	36	11
90018	50	39	12	90211	74	0	74	90603	64	15	49
90019	61	36	25	90212	79	26	53	90604	60	32	28
90020	82	41	40	90220	55	42	13	90605	52	36	16
90021	50	50	0	90221	43	38	5	90606	47	31	16
90022	52	48	3	90222	57	51	6	90631	64	41	23
90023	38	35	3	90230	84	48	35	90638	50	24	26
90024	65	0	65	90232	55	28	26	90640	53	42	11
90025	90	30	61	90240	61	35	26	90650	51	40	11
90026	68	58	10	90241	54	40	14	90660	61	52	9
90027	62	33	29	90242	58	48	10	90670	63	63	0
90028	39	16	23	90245	74	30	44	90701	78	47	31
90029	60	42	18	90247	62	52	9	90703	81	37	44
90031	49	44	6	90248	62	36	25	90704	31	25	6
90032	47	40	7	90249	45	39	6	90706	66	51	15
90033	49	43	6	90250	49	37	13	90710	67	53	15
90034	78	52	26	90254	93	20	74	90712	73	49	24
90035	92	9	83	90255	53	50	3	90713	74	47	27
90036	83	13	70	90260	63	52	11	90715	36	22	14
90037	28	28	0	90262	54	49	4	90716	52	43	9
90038	52	36	16	90263	NA	NA	NA	90717	68	29	39
90039	82	54	29	90265	112	34	78	90723	43	35	8
90040	48	35	13	90266	111	32	79	90731	73	47	26
90041	78	10	68	90270	41	41	0	90732	67	28	38
90042	67	41	26	90272	121	2	120	90742	NA	NA	NA
90043	72	43	29	90274	114	16	98	90744	51	47	3
90044	46	37	8	90275	94	19	75	90745	70	51	19
90045	95	28	67	90277	100	32	68	90746	76	31	45
90046	81	18	63	90278	86	25	61	90755	NA	NA	NA
90047	59	44	15	90280	51	46	5	90802	52	18	34
90048	87	4	83	90290	100	0	100	90803	50	27	23
90049	105	11	94	90291	93	30	62	90804	79	24	55
90056	101	24	76	90292	78	17	62	90805	57	38	18
90057	64	63	1	90293	121	29	93	90806	50	42	8
90058	42	42	0	90301	70	51	19	90807	50	47	4

Source: 2013 Five-year American Community Survey (mid-year: 2011)

**Appendix A. Preschool Enrollment Rate Among 3 and 4 Years Old in Los Angeles County
by Zip Code, 2011 (%)**

Zipcode	Total	Public	Private	Zipcode	Total	Public	Private	Zipcode	Total	Public	Private
90808	69	45	24	91340	61	51	10	91744	46	42	4
90810	75	24	51	91342	54	47	7	91745	57	30	27
90813	49	41	8	91343	46	36	9	91746	71	68	3
90814	43	41	2	91344	90	45	45	91748	73	38	36
90815	100	52	48	91345	48	37	11	91750	76	40	36
90822	82	25	57	91350	72	38	34	91754	58	20	38
91001	NA	NA	NA	91351	43	24	19	91755	62	25	36
91006	NA	NA	NA	91352	44	34	10	91765	70	6	64
91007	78	24	55	91354	66	25	41	91766	49	45	4
91008	72	21	51	91355	69	18	50	91767	54	39	15
91010	80	21	59	91356	76	22	53	91768	40	28	12
91011	50	0	50	91361	92	29	63	91770	57	40	16
91016	82	45	37	91362	86	29	57	91773	76	34	41
91020	101	20	80	91364	93	19	74	91775	100	22	78
91024	64	31	33	91367	85	21	64	91776	57	34	23
91030	164	70	94	91377	98	55	43	91780	83	50	34
91040	62	32	30	91381	95	26	68	91789	65	14	51
91042	42	18	24	91384	57	36	21	91790	58	43	15
91101	62	9	54	91387	70	28	42	91791	41	28	13
91103	66	14	52	91390	78	14	64	91792	56	23	34
91104	90	36	54	91401	53	24	29	91801	60	28	31
91105	184	24	160	91402	50	47	3	91803	62	41	21
91106	68	5	63	91403	90	5	86	93510	70	28	41
91107	78	36	42	91405	45	30	14	93532	70	29	42
91108	91	13	78	91406	60	44	16	93534	11	6	6
91201	94	61	33	91411	57	41	16	93535	8	8	0
91202	108	54	55	91423	79	19	59	93536	37	26	11
91203	66	33	33	91436	88	6	82	93543	53	37	17
91204	81	71	10	91501	30	15	15	93544	39	19	20
91205	47	38	10	91502	65	62	3	93550	55	4	51
91206	83	26	57	91504	57	31	26	93551	71	36	35
91207	49	0	49	91505	64	24	40	93552	49	49	0
91208	79	20	59	91506	60	17	43	93553	34	34	0
91210	67	0	67	91601	59	35	24	93563	0	NA	NA
91214	82	34	49	91602	74	10	64	93591	50	38	11
91301	66	16	50	91604	136	32	104				
91302	130	2	128	91605	59	50	8				
91303	43	24	18	91606	62	42	20				
91304	49	20	29	91607	98	16	82				
91306	57	39	18	91702	40	30	10				
91307	93	20	72	91706	56	52	4				
91311	78	24	55	91711	85	36	49				
91316	81	18	63	91722	47	33	13				
91321	61	21	40	91723	65	34	31				
91324	82	34	48	91724	71	33	37				
91325	60	32	28	91731	49	44	5				
91326	84	21	63	91732	39	32	7				
91330	NA	NA	NA	91733	43	42	2				
91331	52	49	3	91740	114	58	56				
91335	54	37	17	91741	85	34	51				

Source: 2013 Five-year American Community Survey (mid-year: 2011)

Appendix B. Preschool Enrollment Rate Among 3 and 4 Years Old, City Human Capital Index, and Per-capita Income in California, By School District, 2013

School District (SD)	Preschool Enrollment (%)			CHCI	Per-capita Income (\$)
	Total	Public	Private		
Alum Rock Union Elementary SD	45	35	10	119	18,477
Anaheim Elementary SD	40	29	12	123	20,588
Bakersfield City Elementary SD	36	33	3	120	15,605
Berrysa Union Elementary SD	66	19	47	157	35,282
Santa Maria-Bonita Elementary SD	23	23	0	107	17,349
Panama-Buena Vista Union Elementary SD	63	43	20	133	24,988
Caion Vallev Union Elementary SD	63	50	12	136	24,651
Campbell Union Elementary SD	52	19	34	159	41,914
Chula Vista Elementary SD	38	25	13	136	24,251
Cupertino Union Elementary SD	79	18	61	189	56,859
East Whittier City Elementary SD	59	41	18	136	24,291
El Monte City Elementary SD	63	49	13	118	17,497
Encinitas Union Elementary SD	89	52	36	172	49,243
Escondido Union Elementary SD	46	29	17	128	23,067
Etiwanda Elementary SD	64	34	30	155	31,983
Evergreen Elementary SD	47	19	28	150	36,178
Franklin-McKinlev Elementary SD	49	33	15	122	20,768
Fullerton Elementary SD	71	31	40	148	29,491
Goleta Union Elementary SD	73	34	38	161	28,950
Hawthorne Elementary SD	55	31	24	125	18,147
Huntington Beach City Elementary SD	82	40	42	164	51,992
Jefferson Elementary SD (San Mateo County)	28	17	11	142	27,940
La Mesa-Spring Valley SD	55	27	28	144	28,070
Lancaster Elementary SD	34	25	8	131	19,281
Menifee Union Elementary SD	65	26	39	136	24,576
Merced City Elementary SD	70	58	12	127	17,465
Modesto City Elementary SD	41	39	2	120	16,610
Mountain View Whisman Elementary SD	69	15	54	181	59,939
Newhall Elementary SD	87	14	73	151	36,352
Oak Grove Elementary SD	61	40	21	144	32,798
Ocean View Elementary SD (Orange County)	90	43	48	149	34,153
Ontario-Montclair Elementary SD	50	32	18	115	16,420
Oxnard Elementary SD	53	41	11	120	21,592
Palmdale Elementary SD	36	28	7	121	17,067
Pleasant Vallev Elementary SD (Ventura County)	81	30	51	155	40,023
Redwood City Elementary SD	67	28	39	148	40,409
Roseville City Elementary SD	45	30	15	152	33,569
Salinas City Elementary SD	35	25	9	121	19,251
San Mateo-Foster City Elementary SD	102	45	57	163	47,892
Santa Cruz City Elementary SD	66	27	40	163	28,453
Santa Rosa Elementary SD	47	21	26	139	26,627
Saugus Union Elementary SD	48	25	22	154	36,824
South Bay Union Elementary SD (San Diego)	54	41	13	126	17,170
Sunnyvale Elementary SD	78	36	43	169	45,579
Sylvan Union Elementary SD	13	4	9	142	28,263
Victor Elementary SD	19	18	1	124	14,742
Westside Union Elementary SD	48	26	22	144	29,685
Westminster Elementary SD	67	43	23	130	21,730
Whittier City Elementary SD	59	35	24	133	23,161
Acalanes Union High SD	139	17	122	180	65,683
Anaheim Union High SD	45	30	15	130	22,224
Antelope Vallev Union Joint High SD	36	26	10	128	20,118
Santa Barbara Unified SD (7-12)	82	37	45	164	39,756
Campbell Union High SD	72	24	48	161	45,617
Centinela Vallev Union High SD	60	36	24	122	19,558

Appendix B. Preschool Enrollment Rate Among 3 and 4 Years Old, City Human Capital Index, and Per-capita Income in California, By School District, 2013

School District (SD)	Preschool Enrollment (%)			CHCI	Per-capita Income (\$)
	Total	Public	Private		
Chaffev Joint Union High SD	55	30	25	137	24,788
Delano Joint Union High SD	40	40	0	100	9,728
East Side Union High SD	53	30	23	139	28,712
El Dorado Union High SD	73	28	45	152	34,352
El Monte Union High SD	46	37	9	114	15,828
Escondido Union High SD	48	30	18	129	23,526
Fallbrook Union High SD	20	0	20	139	29,205
Fremont Union High SD	79	24	54	181	52,653
Fullerton Joint Union High SD	67	33	34	144	28,471
Grossmont Union High SD	63	42	21	140	27,091
Hanford Joint Union High SD	27	25	3	130	21,369
Huntington Beach Union High SD	81	41	39	150	35,893
Jefferson Union High SD	46	21	25	146	32,686
Kern Union High SD	41	29	11	126	20,635
Liberty Union High SD	72	30	42	141	33,390
Merced Union High SD	47	43	4	124	18,039
Modesto City High SD	45	36	9	130	21,971
Mountain View-Los Altos Union SD	87	19	68	187	72,775
Nevada Joint Union High SD	34	3	31	149	30,654
Oxnard Union High SD	55	38	17	129	26,495
Perris Union High SD	53	24	29	127	20,211
Petaluma Joint Union High SD	92	52	39	148	37,272
Placer Union High SD	86	27	59	149	35,765
Roseville Joint Union High SD	49	23	25	154	34,448
Salinas Union High SD	32	28	4	120	20,205
San Dieguito Union High SD	87	37	49	183	57,525
San Mateo Union High SD	88	40	48	162	50,813
San Rafael City High SD	89	49	40	155	46,402
Santa Cruz City High SD	68	22	46	162	30,335
Santa Maria Joint Union High SD	35	31	4	119	21,314
Santa Rosa High SD	49	28	21	144	29,925
Sequoia Union High SD	79	30	49	163	54,009
Shasta Union High SD	75	57	17	140	23,683
Victor Valley Union High SD	25	24	1	124	13,953
Sweetwater Union High SD	40	30	10	130	21,159
Tamalpais Union High SD	128	29	100	183	74,903
Tulare Joint Union High SD	38	32	6	115	17,394
Whittier Union High SD	52	36	16	130	21,805
William S. Hart Union High SD	56	23	33	149	34,547
Hesperia Unified SD	39	27	12	125	17,222
Upland Unified SD	62	45	17	149	28,535
Apple Valley Unified SD	37	27	10	135	23,720
Pleasanton Unified SD	73	22	51	174	49,757
Lake Elsinore Unified SD	33	23	9	132	22,125
Temecula Valley Unified SD	37	12	25	145	28,592
Murrieta Valley Unified SD	59	38	22	147	28,049
Redondo Beach Unified SD	92	9	83	170	52,369
Natomas Unified SD	27	17	9	150	28,766
Tracy Joint Unified SD	42	26	16	133	26,034
Alhambra Unified SD	63	32	30	145	25,902
Turlock Unified SD	34	24	10	131	22,623
Twin Rivers Unified SD	64	58	6	126	16,752
Santa Barbara Unified SD	54	28	26	154	36,625
ABC Unified SD	64	36	28	145	27,107

Appendix B. Preschool Enrollment Rate Among 3 and 4 Years Old, City Human Capital Index, and Per-capita Income in California, By School District, 2013

School District (SD)	Preschool Enrollment			CHCI	Per-capita Income (\$)
	Total	Public	Private		
Alameda City Unified SD	94	26	68	158	44,574
Alvord Unified SD	36	28	7	124	18,187
Antioch Unified SD	41	31	10	134	24,206
Azusa Unified SD	48	48	0	125	17,270
Baldwin Park Unified SD	61	52	9	111	15,182
Bellflower Unified SD	57	41	16	134	24,113
Berkeley Unified SD	65	18	47	181	41,656
Burbank Unified SD	34	8	26	151	33,727
Capistrano Unified SD	82	29	53	165	49,451
Carlsbad Unified SD	103	56	47	162	40,526
Central Unified SD	35	24	11	129	19,841
Chico Unified SD	78	53	25	153	27,044
Chino Valley Unified SD	59	34	25	142	29,231
Clovis Unified SD	66	15	51	151	32,795
Coachella Valley Unified SD	27	24	3	110	17,308
Colton Joint Unified SD	40	23	17	124	18,354
Compton Unified SD	57	50	7	112	14,447
Conejo Valley Unified SD	123	84	39	164	47,182
Corona-Norco Unified SD	50	30	20	140	27,303
Covina-Valley Unified SD	54	30	24	133	23,891
Davis Joint Unified SD	112	30	82	187	32,196
Desert Sands Unified SD	52	27	25	141	31,668
Downey Unified SD	70	60	10	130	23,026
Elk Grove Unified SD	46	24	22	140	24,410
Fairfield-Suisun Unified SD	58	24	34	137	26,700
Folsom-Cordova Unified SD	63	39	24	153	32,335
Fontana Unified SD	44	40	4	116	16,824
Fremont Unified SD	64	22	42	167	43,504
Fresno Unified SD	36	32	5	126	15,692
Garden Grove Unified SD	44	32	12	125	19,928
Glendale Unified SD	76	38	37	149	30,359
Hacienda La Puente Unified SD	48	40	8	130	22,970
Hayward Unified SD	61	49	12	134	25,575
Hemet Unified SD	39	22	17	130	19,020
Inglewood Unified SD	60	48	12	130	23,071
Jurupa Unified SD	55	47	8	118	18,630
Las Virgenes Unified SD	76	6	70	176	53,581
Livermore Valley Joint Unified SD	53	26	27	155	41,715
Lodi Unified SD	53	28	25	133	23,023
Long Beach Unified SD	46	32	14	139	26,611
Los Angeles Unified SD	58	37	21	134	26,330
Lucia Mar Unified SD	50	31	18	142	31,595
Lynwood Unified SD	49	48	1	103	12,811
Madera Unified SD	26	24	3	111	14,973
Manteca Unified SD	72	55	17	127	20,769
Milpitas Unified SD	67	26	41	153	31,090
Montebello Unified SD	49	45	4	114	17,667
Monterey Peninsula Unified SD	65	43	23	150	28,969
Moreno Valley Unified SD	28	18	11	124	17,926
Morongo Unified SD	34	20	14	133	19,192
Mount Diablo Unified SD	85	35	50	151	36,328
Napa Valley Unified SD	48	18	30	140	32,669
New Haven Unified SD	47	32	16	144	27,797

Appendix B. Preschool Enrollment Rate Among 3 and 4 Years Old, City Human Capital Index, and Per-capita Income in California, By School District, 2013

School District (SD)	Preschool Enrollment			CHCI	Per-capita Income (\$)
	Total	Public	Private		
Newport-Mesa Unified SD	86	18	69	162	54,454
Norwalk-La Mirada Unified SD	56	41	15	131	22,137
Oakland Unified SD	74	38	35	148	31,966
Oceanside Unified SD	17	9	8	136	24,069
Orange Unified SD	61	19	41	147	34,200
Pajaro Valley Joint Unified SD	66	45	20	128	25,142
Palm Springs Unified SD	44	31	13	138	25,761
Palo Alto Unified SD	92	13	80	200	65,632
Paramount Unified SD	59	57	2	114	15,427
Pasadena Unified SD	77	29	47	162	40,714
Placentia-Yorba Linda Unified SD	84	53	31	153	33,984
Pomona Unified SD	42	38	4	125	19,388
Poway Unified SD	83	27	56	169	47,956
Redlands Unified SD	54	26	29	155	28,644
Rialto Unified SD	52	43	9	119	15,246
West Contra Costa Unified SD	48	23	25	140	29,042
Riverside Unified SD	44	26	18	141	23,790
Rowland Unified SD	48	22	26	137	24,233
Sacramento City Unified SD	65	36	28	143	25,200
Saddleback Valley Unified SD	80	36	43	157	38,688
San Bernardino City Unified SD	32	26	6	117	13,907
San Diego City Unified SD	58	30	28	153	32,255
San Francisco Unified SD	81	27	54	162	51,686
San Jose Unified SD	55	19	35	152	40,668
San Juan Unified SD	51	24	27	148	31,605
San Leandro Unified SD	73	49	23	142	31,641
San Lorenzo Unified SD	72	53	19	130	23,633
San Luis Coastal Unified SD	77	50	28	155	26,140
San Marcos Unified SD	58	25	34	141	29,188
San Ramon Valley Unified SD	110	34	75	178	57,423
Santa Ana Unified SD	38	31	8	110	17,233
Santa Clara Unified SD	52	19	34	168	42,854
Santa Monica-Malibu Unified SD	90	52	38	178	61,336
Simi Valley Unified SD	74	11	63	146	37,648
South San Francisco Unified SD	74	39	35	144	30,543
Stockton Unified SD	40	28	12	115	14,673
Torrance Unified SD	95	32	63	159	36,912
Tustin Unified SD	42	25	18	155	36,847
Vacaville Unified SD	59	22	37	141	32,357
Vallejo City Unified SD	32	16	16	138	25,698
Ventura Unified SD	91	60	31	148	32,327
Visalia Unified SD	34	21	13	131	20,336
Vista Unified SD	25	21	4	134	24,493
West Covina Unified SD	71	68	4	135	21,460
Yuba City Unified SD	48	25	23	132	21,730
Irvine Unified SD	68	12	56	176	39,228
Val Verde Unified SD	18	16	2	117	15,242

Source: 2013 One-year American Community Survey