

THE FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX

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The UCLA Anderson Forecast is partnering with First 5 LA to create an index to measure and understand the current state of human capital in each metropolitan area and each county across the nation. The First 5 LA/UCLA Anderson Forecast City Human Capital Index¹ is based mainly on the adult resident's education attainment in each city. For those residents below age 25, we use school enrollment to adjust the projection of future education attainment to provide some degree of forward-looking perspective. We use the data from 5-year estimates (2006-2010) collected by the American Community Survey of the Census Bureau. The methodology of the index is detailed in Appendix 1.

The goal of this index is to be a simple barometer for measuring and comparing the level of human capital in each city. As the UCLA Anderson Forecast has always argued², current education and workforce development in the U.S. are inadequate for the 21st century. In the past, less educated workers could easily find well-paying jobs in this land of dreams. It is not so anymore!

In this highly competitive global economy, foreigners, robots, and computers are taking away jobs, both blue and white collar. This is the core reason of the rising inequality and the sluggish job recovery. The best long-term solution is to improve our youths' education in quantity and quality. They must and will be able to use their knowledge and creativity to innovate in technology and business in the future.

With the periodical publication and the free access of this index, the public and policymakers will have a clearer picture of their local human capital status and city vibrancy. As a result, especially for those less-educated cities, residents can rethink and reallocate private and public resources in order to enhance their city's competitiveness and rejuvenate their city's growth. This article focuses on the discussions for Los Angeles and other California areas.

“I believe the children are our future
teach them well and let them lead the way
show them all the beauty they possess inside
give them a sense of pride to make it easier
let the children's laughter
remind us how we used to be...”

Michael Masser and Linda Creed,
The Greatest Love of All,
1977

THE CITY HUMAN CAPITAL INDEX (CHCI) BY METROPOLITAN AREAS

Table 1 shows the First 5 LA/UCLA City Human Capital Index (CHCI) for the top ten, the middle ten (around the Los Angeles metro area), and the bottom ten cities among 942 metropolitan and micropolitan statistical areas in the U.S. The interpretation of the CHCI is straightforward. One-tenth of the index number will be the average schooling years of the residents in this area. For example, the number one city, Los Alamos, has a CHCI of 154.5. That said, the average education attainment in Los Alamos is 15.45 schooling years, which is close to obtaining a bachelor’s degree.

Note that in our CHCI calculation, a high school graduate is measured as 12 schooling years, an associate’s degree is measured as 14 schooling years, a bachelor’s degree is measured as 16 years, and a graduate or professional degree is counted as 18 years (see Appendix 1).

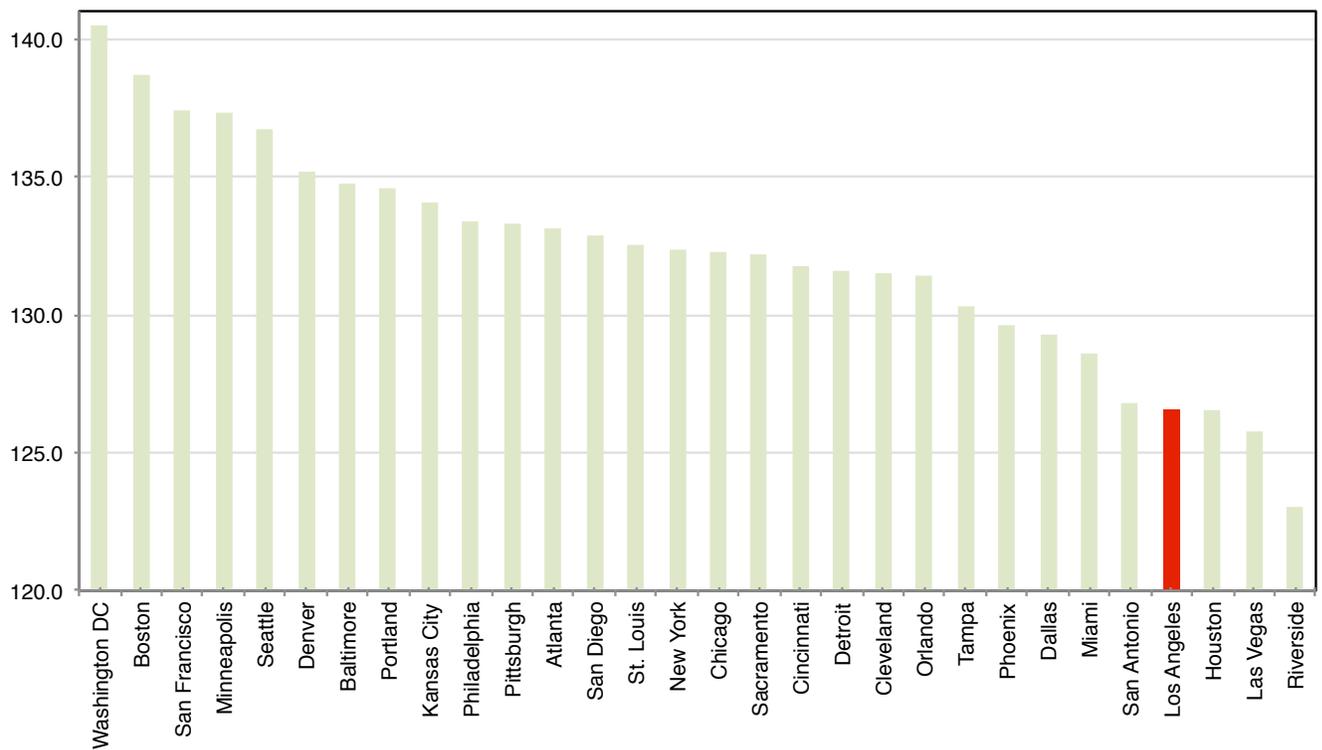
Take a look at the top ten cities with the highest CHCIs in Table 1. All of them are small or mid-sized college towns or they have a special research center. Los Alamos has

Los Alamos National Laboratory as a major employer. Ithaca is home to Cornell University. Boulder is the home of the University of Colorado, Pullman: Washington State University, Ann Arbor: University of Michigan, Lawrence: University of Kansas, Ames: Iowa State University, Corvallis: Oregon State University, Laramie: University of Wyoming, and Iowa City: University of Iowa.

The CHCI in the Los Angeles metropolitan area (including Los Angeles and Orange Counties) is 126.6. This number means that the average number of schooling years in L.A. is 12.66, which is 2.8 years lower than the number one city, Los Alamos. The bottom 10 cities with the lowest CHCs are striking in terms of their low human capital level: from 11.05 years to 9.93 years. All of these 10 cities are located in Texas (8 cities) and Florida (2 cities). And five of these Texas cities are along the border between the U.S. and Mexico.

It can sometimes be misleading to compare a colossal metro area, e.g. L.A. with a population of 12 million, to a small college town, e.g. Ithaca with only 100,000 residents. Therefore, we have controlled the city size and rank their human capital level against cities of similar size.

Figure 1 First 5 LA/UCLA City Human Capital Index for the 30 Largest Cities in the U.S.



Source: Author’s calculation based on the 5-year American Community Survey, 2006-2010.

Table 1 First 5 LA/UCLA City Human Capital Index Ranking for All Metro Areas

Rank	All Metro Areas	CHCI	Population
1	Los Alamos, NM Micro Area	154.5	18,091
2	Ithaca, NY Metro Area	147.2	100,612
3	Boulder, CO Metro Area	146.9	290,177
4	Pullman, WA Micro Area	146.3	43,747
5	Ann Arbor, MI Metro Area	146.3	343,947
6	Lawrence, KS Metro Area	145.8	109,052
7	Ames, IA Metro Area	145.5	87,594
8	Corvallis, OR Metro Area	145.2	84,158
9	Laramie, WY Micro Area	144.6	34,926
10	Iowa City, IA Metro Area	143.4	148,620
481	Galesburg, IL Micro Area	126.7	70,677
482	Kokomo, IN Metro Area	126.7	99,458
483	Huntington, IN Micro Area	126.6	37,321
484	Sherman-Denison, TX Metro Area	126.6	119,111
485	Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
486	Las Vegas, NM Micro Area	126.6	29,321
487	Houston-Sugar Land-Baytown, TX Metro Area	126.5	5,709,313
488	Wichita Falls, TX Metro Area	126.5	150,953
489	Albany-Lebanon, OR Micro Area	126.5	114,315
490	Lima, OH Metro Area	126.5	106,586
933	Hereford, TX Micro Area	110.5	19,054
934	Brownsville-Harlingen, TX Metro Area	110.0	393,566
935	Lamesa, TX Micro Area	109.8	13,853
936	McAllen-Edinburg-Mission, TX Metro Area	109.0	736,973
937	Clewiston, FL Micro Area	107.2	39,030
938	Eagle Pass, TX Micro Area	105.9	52,493
939	Raymondville, TX Micro Area	105.2	21,769
940	Wauchula, FL Micro Area	103.8	27,521
941	Pecos, TX Micro Area	102.8	13,269
942	Rio Grande City-Roma, TX Micro Area	99.3	59,989

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010.

Note: Total number of cities is 955. But 13 cities do not have sufficient data to calculate the CHCI.

The CHCI Ranking Among the 30 Largest Metro Areas
First, let's take a look at the human capital among the 30

largest metro areas (for those cities with populations over
1.8 million). Table 2 displays the human capital ranking

Table 2 First 5 LA/UCLA City Human Capital Index for the 30 Largest Cities in the U.S.

Rank	30 Largest Metro Areas	CHCI	Population
1	Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	140.5	5,416,691
2	Boston-Cambridge-Quincy, MA-NH Metro Area	138.7	4,489,250
3	San Francisco-Oakland-Fremont, CA Metro Area	137.4	4,244,889
4	Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	137.3	3,229,181
5	Seattle-Tacoma-Bellevue, WA Metro Area	136.7	3,356,089
6	Denver-Aurora-Broomfield, CO Metro Area	135.2	2,464,415
7	Baltimore-Towson, MD Metro Area	134.8	2,683,160
8	Portland-Vancouver-Hillsboro, OR-WA Metro Area	134.6	2,170,801
9	Kansas City, MO-KS Metro Area	134.1	1,999,718
10	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area	133.4	5,911,638
11	Pittsburgh, PA Metro Area	133.3	2,358,313
12	Atlanta-Sandy Springs-Marietta, GA Metro Area	133.1	5,125,113
13	San Diego-Carlsbad-San Marcos, CA Metro Area	132.9	3,022,468
14	St. Louis, MO-IL Metro Area	132.5	2,792,309
15	New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area	132.4	18,700,715
16	Chicago-Joliet-Naperville, IL-IN-WI Metro Area	132.3	9,384,661
17	Sacramento--Arden-Arcade--Roseville, CA Metro Area	132.2	2,107,092
18	Cincinnati-Middletown, OH-KY-IN Metro Area	131.8	2,110,398
19	Detroit-Warren-Livonia, MI Metro Area	131.6	4,345,978
20	Cleveland-Elyria-Mentor, OH Metro Area	131.5	2,086,589
21	Orlando-Kissimmee-Sanford, FL Metro Area	131.4	2,083,626
22	Tampa-St. Petersburg-Clearwater, FL Metro Area	130.3	2,745,350
23	Phoenix-Mesa-Glendale, AZ Metro Area	129.6	4,080,707
24	Dallas-Fort Worth-Arlington, TX Metro Area	129.3	6,154,265
25	Miami-Fort Lauderdale-Pompano Beach, FL Metro Area	128.6	5,478,869
26	San Antonio-New Braunfels, TX Metro Area	126.8	2,057,782
27	Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
28	Houston-Sugar Land-Baytown, TX Metro Area	126.5	5,709,313
29	Las Vegas-Paradise, NV Metro Area	125.7	1,895,521
30	Riverside-San Bernardino-Ontario, CA Metro Area	123.1	4,114,751

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010.

for the 30 largest cities in the U.S. Washington DC is ranked number one with a CHCI of 140.5 (14 schooling years), followed by Boston, San Francisco, Minneapolis, and Seattle. The largest metro—New York—comes in 15th with a CHCI of 132.4, followed by the third largest metro—Chicago—with a CHCI of 132.4. And the second largest metro—L.A.—ranks as 27th with a CHCI of 126.6. L.A. trails Atlanta, San Diego, Sacramento, Detroit, Phoenix, Dallas, Miami, etc. Among the 30 largest cities, only three metros lag behind L.A.: Houston, Las Vegas, and Riverside (Inland Empire). Figure 1 provides a graphic output for Table 2.

THE CHCI RANKING AMONG THE 50 LARGEST METRO AREAS

If we rank the CHCIs of the 50 largest metro areas (for those cities whose population is above 1 million) as shown in Table 3, L.A. is still number 4 from the bottom, trailed by the same lagging cities: Houston, Las Vegas, and the Inland Empire. In the new top-10 list, we can see some smaller cities getting on it. For example, San Jose (Silicon Valley) ranks number 5 with a CHCI of 137.3, and Austin ranks number 9 with a CHCI of 135.

Table 3 First 5 LA/UCLA City Human Capital Index for the 50 Largest Cities in the U.S.

Rank	50 Largest Metro Areas	CHCI	Population
1	Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	140.5	5,416,691
2	Boston-Cambridge-Quincy, MA-NH Metro Area	138.7	4,489,250
3	Raleigh-Cary, NC Metro Area	137.4	1,069,694
4	San Francisco-Oakland-Fremont, CA Metro Area	137.4	4,244,889
5	San Jose-Sunnyvale-Santa Clara, CA Metro Area	137.3	1,793,888
6	Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	137.3	3,229,181
7	Seattle-Tacoma-Bellevue, WA Metro Area	136.7	3,356,089
8	Denver-Aurora-Broomfield, CO Metro Area	135.2	2,464,415
9	Austin-Round Rock-San Marcos, TX Metro Area	135.0	1,627,571
10	Hartford-West Hartford-East Hartford, CT Metro Area	135.0	1,203,823
41	Dallas-Fort Worth-Arlington, TX Metro Area	129.3	6,154,265
42	Providence-New Bedford-Fall River, RI-MA Metro Area	129.3	1,602,822
43	New Orleans-Metairie-Kenner, LA Metro Area	128.7	1,105,020
44	Miami-Fort Lauderdale-Pompano Beach, FL Metro Area	128.6	5,478,869
45	Memphis, TN-MS-AR Metro Area	128.2	1,301,248
46	San Antonio-New Braunfels, TX Metro Area	126.8	2,057,782
47	Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
48	Houston-Sugar Land-Baytown, TX Metro Area	126.5	5,709,313
49	Las Vegas-Paradise, NV Metro Area	125.7	1,895,521
50	Riverside-San Bernardino-Ontario, CA Metro Area	123.1	4,114,751

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010.

THE CHCI RANKING AMONG THE 100 LARGEST METRO AREAS

If we rank the CHCIs of the 100 largest metro areas (for those cities whose population is above 0.5 million), L.A. is the 89th, trailed additionally by some California inland cities, i.e. Stockton, Modesto, Fresno, and Bakersfield as shown in Table 4. In this new top-10 list, it is very similar to Table 3. Appendix 2 presents the full list of the 100 largest cities with their CHCIs and Appendix 3 displays the full list of the 200 largest cities. Combining Tables 2, 3, and 4, we can conclude that the L.A. metro is not competitive in its human capital level.

THE CITY HUMAN CAPITAL INDEX AT COUNTY LEVELS

Now, let's take a look at the human capital index based on the county level as shown in Table 5. In this way, we can separate Los Angeles County and Orange County. The number one is Falls Church City (county level) in Virginia with a CHCI of 154.7 followed by Los Alamos County, New Mexico with a CHCI of 154.5, similar to its metro ranking status. Los Angeles County's CHCI is 124.8, which is lower than L.A. metro's (including Orange County) 126.6. It implies that Orange County's CHCI is much higher than 126.6. The bottom ten counties

Table 4 First 5 LA/UCLA City Human Capital Index Ranking for the 100 Largest Cities in the U.S.

Rank	100 Largest Metro Areas	CHCI	Population
1	Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	140.5	5,416,691
2	Madison, WI Metro Area	140.5	557,744
3	Boston-Cambridge-Quincy, MA-NH Metro Area	138.7	4,489,250
4	Bridgeport-Stamford-Norwalk, CT Metro Area	138.1	905,342
5	Raleigh-Cary, NC Metro Area	137.4	1,069,694
6	San Francisco-Oakland-Fremont, CA Metro Area	137.4	4,244,889
7	San Jose-Sunnyvale-Santa Clara, CA Metro Area	137.3	1,793,888
8	Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	137.3	3,229,181
9	Colorado Springs, CO Metro Area	136.8	622,809
10	Seattle-Tacoma-Bellevue, WA Metro Area	136.7	3,356,089
89	Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
91	Las Vegas-Paradise, NV Metro Area	125.7	1,895,521
92	Lancaster, PA Metro Area	125.0	511,250
93	Lakeland-Winter Haven, FL Metro Area	123.9	590,116
94	Riverside-San Bernardino-Ontario, CA Metro Area	123.1	4,114,751
95	Stockton, CA Metro Area	120.9	673,613
96	Modesto, CA Metro Area	119.4	509,682
97	Fresno, CA Metro Area	119.1	908,830
98	El Paso, TX Metro Area	117.9	772,280
99	Bakersfield-Delano, CA Metro Area	116.7	815,693
100	McAllen-Edinburg-Mission, TX Metro Area	109.0	736,973

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010.

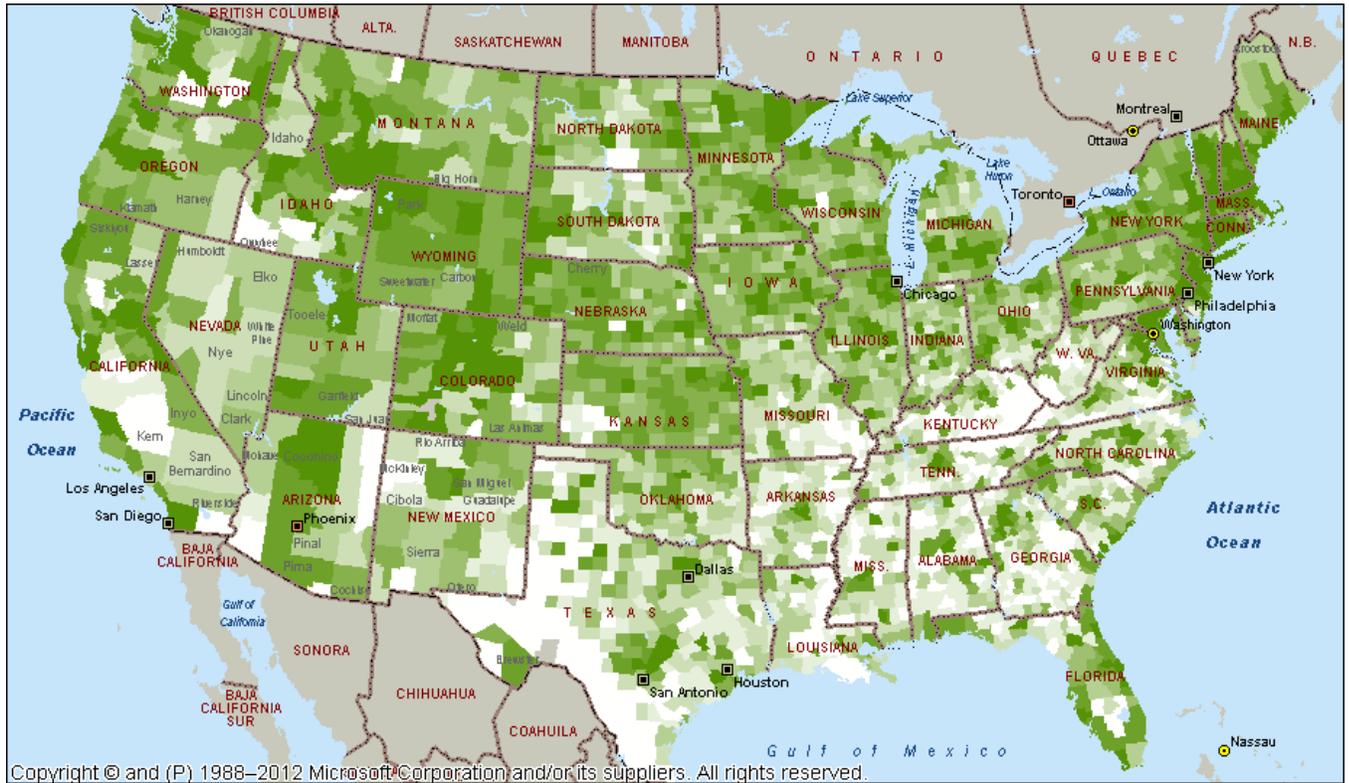
Table 5 First 5 LA/UCLA City Human Capital Index for All Counties

Rank	All Counties	CHCI	Population
1	Falls Church City, Virginia	154.7	11,465
2	Los Alamos County, New Mexico	154.5	18,091
3	Arlington County, Virginia	152.0	197,467
4	Howard County, Maryland	148.0	279,366
5	Pitkin County, Colorado	147.9	16,389
6	Tompkins County, New York	147.2	100,612
7	Boulder County, Colorado	146.9	290,177
8	Douglas County, Colorado	146.7	273,440
9	Johnson County, Iowa	146.5	126,994
10	Whitman County, Washington	146.3	43,747
1618	Monroe County, Wisconsin	124.9	44,053
1619	Dodge County, Wisconsin	124.8	88,935
1620	Cheyenne County, Kansas	124.8	2,783
1621	Belmont County, Ohio	124.8	70,403
1622	Los Angeles County, California	124.8	9,758,256
1623	Lewis County, New York	124.8	27,017
1624	Audubon County, Iowa	124.8	6,186
1625	Houston County, Alabama	124.8	99,029
1626	Marion County, Missouri	124.8	28,579
1627	Sumter County, South Carolina	124.8	106,601
3129	Hardee County, Florida	103.8	27,521
3130	Brooks County, Texas	103.6	7,349
3131	Gaines County, Texas	102.8	16,658
3132	Reeves County, Texas	102.8	13,269
3133	Zapata County, Texas	102.4	13,609
3134	LaGrange County, Indiana	102.0	36,996
3135	Hudspeth County, Texas	100.9	3,441
3136	Presidio County, Texas	100.2	7,703
3137	Starr County, Texas	99.3	59,989
3138	Holmes County, Ohio	97.7	42,068

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010.

Note: Total number of counties is 3,143. But 5 counties do not have sufficient data to calculate the CHCI.

Figure 2 First 5 LA/UCLA City Human Capital Index Map for Counties in the U.S.



Source: Author’s calculation from the 5-year American Community Survey, 2006-2010
 Note: The darker the color in each county, the higher the CHCI is.

are again mostly located in the Texas area with CHCI levels ranging from 103.8 to 97.7. Figure 2 displays the human capital level in the geographical output for the whole nation. The darker the color in each county, the higher the CHCI is. The South and Texas tend to have lower levels of human capital compared to other parts of the nation.

Again, if we only look at the 30 largest counties, in which the population ranges from 1.2 million to the 9.8 million of Los Angeles County, the result of the CHCI ranking is shown in Table 6. L.A. County, as the largest county in the U.S., ranks 24th among 30, which is only slightly better than its metro ranking.

Table 6 First 5 LA/UCLA City Human Capital Index

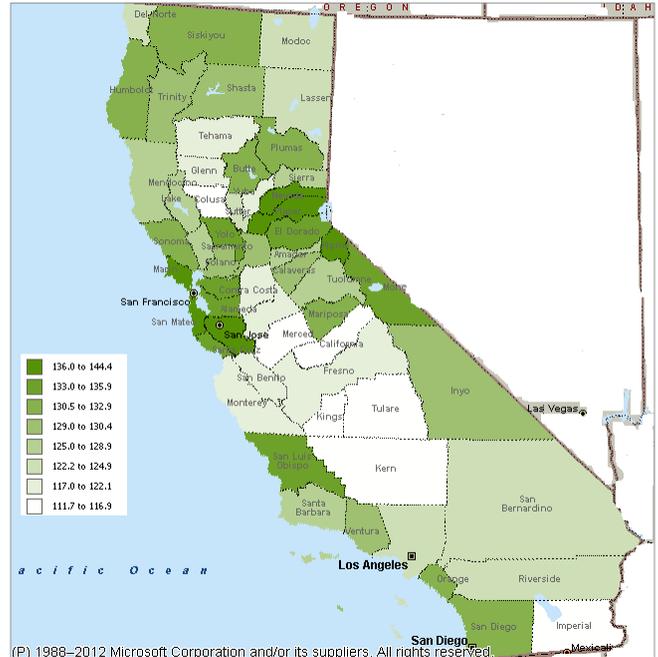
Rank	30 largest Counties	CHCI	Population
1	Middlesex County, Massachusetts	142.8	1,479,491
2	New York County, New York	142.2	1,583,345
3	King County, Washington	140.5	1,879,189
4	Nassau County, New York	138.3	1,329,083
5	Santa Clara County, California	137.9	1,739,396
6	Allegheny County, Pennsylvania	136.7	1,223,066
7	Alameda County, California	135.4	1,477,980
8	Suffolk County, New York	134.3	1,482,548
9	San Diego County, California	132.9	3,022,468
10	Orange County, California	132.1	2,965,525
11	Palm Beach County, Florida	132.1	1,299,356
12	Broward County, Florida	131.7	1,734,139
13	Cuyahoga County, Ohio	131.6	1,293,825
14	Cook County, Illinois	131.0	5,172,848
15	Sacramento County, California	130.1	1,395,144
16	Maricopa County, Arizona	130.0	3,751,410
17	Tarrant County, Texas	129.0	1,743,300
18	Queens County, New York	127.6	2,199,169
19	Bexar County, Texas	126.7	1,650,052
20	Wayne County, Michigan	126.7	1,870,362
21	Philadelphia County, Pennsylvania	126.2	1,504,950
22	Kings County, New York	126.1	2,466,782
23	Clark County, Nevada	125.7	1,895,521
24	Los Angeles County, California	124.8	9,758,256
25	Harris County, Texas	124.7	3,950,999
26	Miami-Dade County, Florida	124.5	2,445,374
27	Dallas County, Texas	124.5	2,321,014
28	Riverside County, California	123.7	2,109,464
29	San Bernardino County, California	122.5	2,005,287
30	Bronx County, New York	117.3	1,365,725

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010

THE CHCI RANKING IN CALIFORNIA COUNTIES

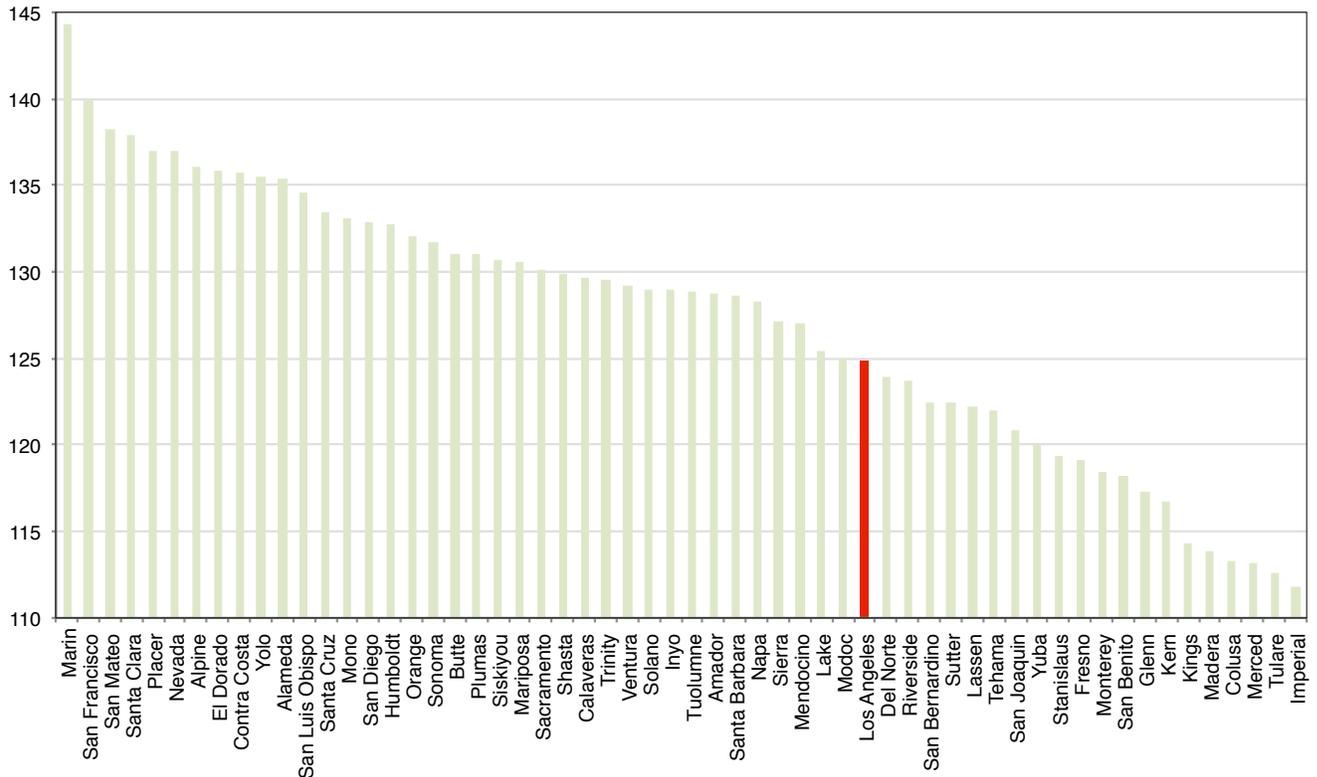
Let's focus on the CHCI in California at the county level. Figure 3 illustrates the ranking. Marin County (CHCI: 144.4) is the first, San Francisco (CHCI: 139.9) is the second, San Mateo (CHCI: 138.3) is the third, and Santa Clara (CHCI: 137.9) is the fourth, all of which are around the Bay Area. L.A. County is ranked 38th among 58 counties. Figure 4 depicts the human capital level in the geographical output in California. The central valley, with an economic focus on agriculture, and Imperial County appear to have the lowest human capital levels. The UCLA Anderson Forecast³ has presented evidence of the uneven recovery between inland and coastal California. In addition to the disproportionate dependence on the housing market in inland California, we believe that the relative lower level of the CHCI in inland California is another attribute to its anemic economic and employment recovery.

Figure 4 First 5 LA/UCLA City Human Capital Index Map for Counties in California



Source: Author's calculation based on the 5-year American Community Survey, 2006-2010

Figure 3 First 5 LA/UCLA City Human Capital Index Ranking for Counties in California



Source: Author's calculation based on the 5-year American Community Survey, 2006-2010

THE DISTRIBUTION OF HUMAN CAPITAL LEVELS

The First 5 LA/UCLA City Human Capital Index is based on the average level of all residents in the area for simplicity and comparability. To understand how the human capital level is distributed, Figure 5 illustrates the percentage distribution of adult residents (above age 25) for major counties in California and major metropolitan areas in the rest of the nation.

In each graph, the left seven columns represent the percentage of each category of education attainments (1: less than 9th grade; 2: 9th to 12th grade, 3: High school graduate; 4: Some college without degree; 5: Associate's degree; 6: Bachelor's degree; 7: Graduate or professional degree). The right column denotes the average education attainment for that area. Compared with other major cities, it is clear that L.A. has a larger proportion of less-educated residents. For example, for Category 1 (less than 9th grade) and Category 2 (9th to 12th grade), the percentage is 13.9% and 10.2%, respectively. No other cities in Figure 5 have more than 10% of their residents in these categories.

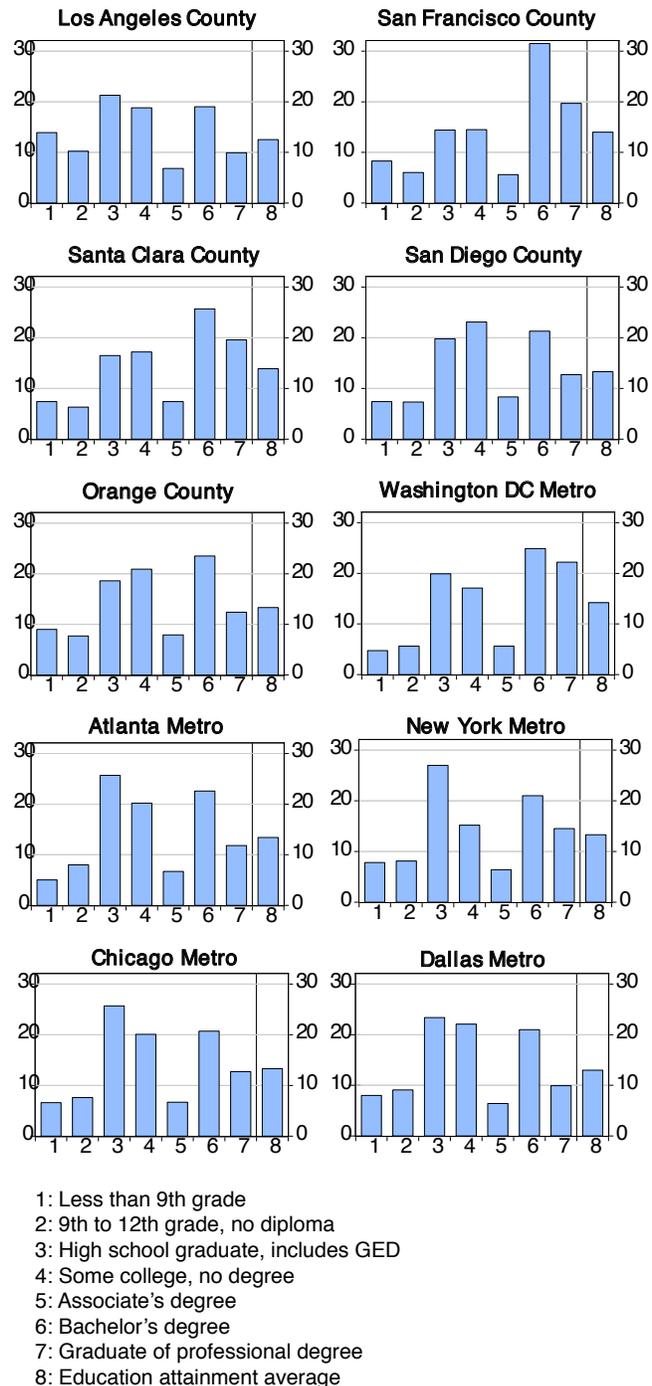
When a city has more less-educated residents, it naturally will have fewer high-educated residents. For instance, for Category 6 (bachelor's degree) and Category 7 (graduate or professional degree), L.A. has only 19% and 9.9%, respectively. By contrast, San Francisco County and Santa Clara County have above 20% residents or so with higher human capital. In summary, it is evident that the human capital level in L.A. is lagging behind other major cities in California and in the nation.

THE ASSOCIATION BETWEEN THE CHCI AND ECONOMIC PERFORMANCES

One might wonder whether differences between cities in the CHCI statistics really matter. For example, L.A.'s CHCI is 124.8 and San Diego's CHCI is 132.9, resulting in an 8.1 disparity. It implies that, on average, L.A.'s human capital level is 0.81 of a year lower than San Diego. Does this have any significant economic consequence?

The labor economic literature has provided well-known evidence: the rule of thumb is that each additional schooling year for an individual will increase one's wage by 10% after carefully controlling a list of social-economic variables. In other words, the higher human capital causes the higher income because of the enhanced productivity.

Figure 5 The Distribution of Education Attainment for Residents above 25 Years Old in Selected Counties and Metropolitan Areas



Source: Author's calculation based on the 5-year American Community Survey, 2006-2010

The income and benefit per capita in L.A. on average from 2006 to 2010 is \$27,344 per year. By contrast, the income per capita in Orange County and San Diego are \$34,017 and \$30,715, respectively. What accounts for the differences among these three Southern California counties? One of the reasons would be human capital. According to the above labor economic estimate, if L.A.'s CHCI could improve by 10 (gaining one year education attainment) to the proximate level of San Diego's, L.A.'s income could be predicted to increase by \$2,734, in general, to \$30,000. This translates directly to an increase of \$27 billion for the whole of L.A. County's personal income!

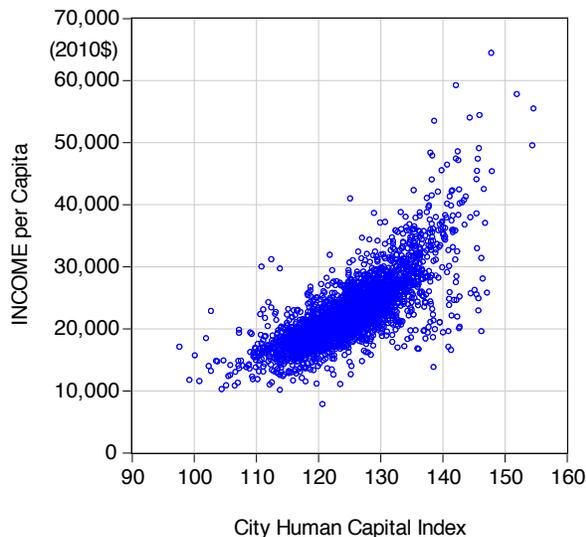
Here, we apply this rule of thumb of micro evidence onto macro/regional data to see if the individual evidence could explain the cross-sectional difference. We conduct a simple ordinary least squared regression based on our sample of 3,138 counties across the nation, in which the dependent variable is the county's average income and benefit per capita (in 2010 dollar) and the independent variable is each county's CHCI. The result is highly significant: we find that a 10-point increase of CHCI (one additional schooling year) will predict an increase of \$5,860 per person per year on average in that county. Our cross-sectional estimate here is higher than the labor economic evidence mentioned above. That is because we do not control other variables. For example, we could see different causality in play: a city/

county with a higher income will be more likely to invest more on education. Nevertheless, our result definitely supports the conventional economic wisdom. Figure 6 illuminates the same concept: with CHCI increases from 100 to 140 across counties, we can see their income per capita enhances from \$10,000 to \$35,000.

We also conduct the same ordinary least squared regression based on our sample for 942 metro and micro cities across the nation, in which the dependent variable is the city's average income and benefit per capita (in 2010 dollar) and the independent variable is each city's CHCI. The result is similar to the county's: we find that a 10-point increase of CHCI (one additional schooling year) will predict an increase of \$5,124 per person on average in that county. Figure 7 illuminates the same concept: with a CHCI increase from 100 to 140 across counties, we can see their income per capita enhances from \$10,000 to \$30,000.

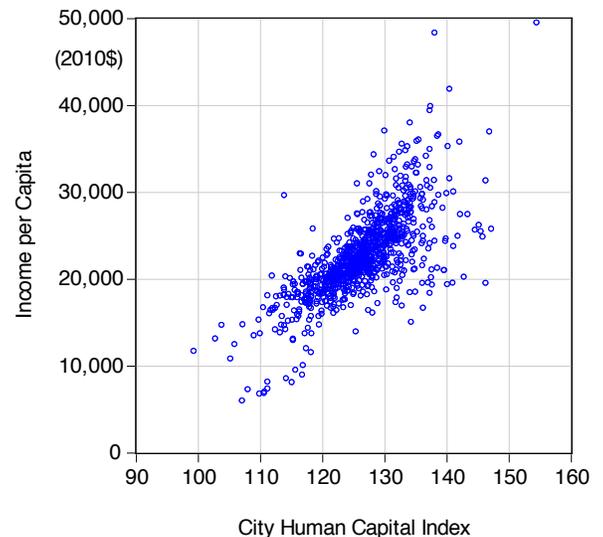
The CHCI is correlated to its local unemployment rate. It is well known that the unemployment rate is higher for less-educated workers and is lower for higher-educated workers. Again, we conduct a simple ordinary least squared regression based on our sample for 3,138 counties and 942 cities across the nation, in which the dependent variable is the county (city)'s average unemployment rate in 2006 to 2010 and the independent variable is each county (city)'s CHCI.

Figure 6 The Correlation between the First 5 LA/UCLA CHCI and the Income per Capita Across Counties in the U.S.



Source: Author's calculation based on 3,138 counties from the 5-year American Community Survey, 2006-2010

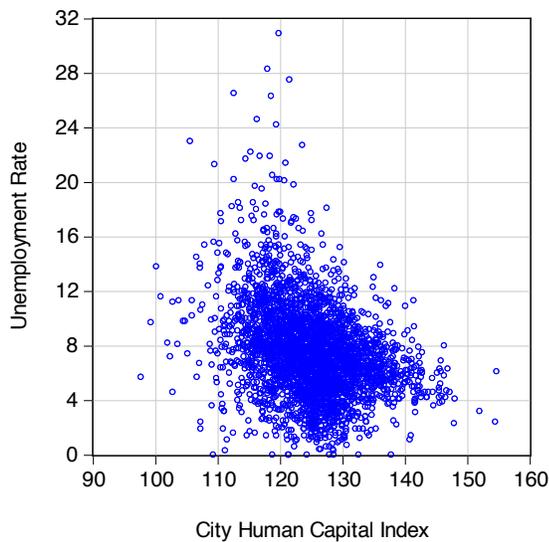
Figure 7 The Correlation Between the First 5 LA/UCLA CHCI and the Income per Capita Across Cities in the U.S.



Source: Author's calculation based on 942 metro and micro cities from a 5-year American Community Survey, 2006-2010

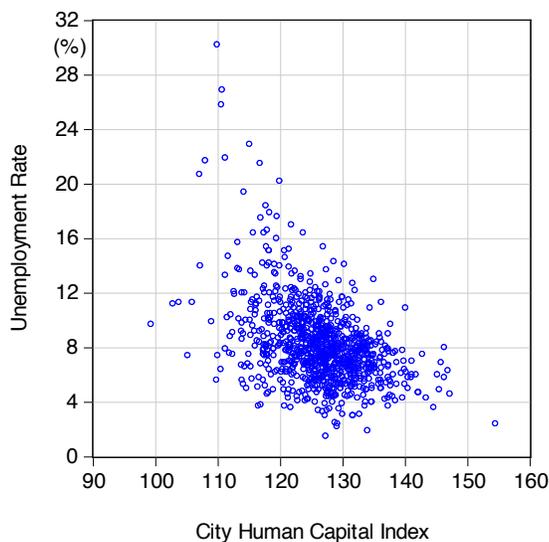
The result is significant as well: We find that a 10-point increase of the CHCI (one additional schooling year) in a county will predict a decrease of unemployment rate by 1.6% on average. And a 10-point increase of the CHCI in a city will predict a decrease of unemployment rate by 1.9%. Figures 8 and 9 exhibit the negative relationship

Figure 8 The Correlation Between the First 5 LA/UCLA CHCI and the Unemployment Rate Across Counties in the U.S.



Source: Author's calculation based on 3,138 counties from the 5-year American Community Survey, 2006-2010

Figure 9 The Correlation Between the First 5 LA/UCLA CHCI and the Unemployment Rate Across Cities in the U.S.



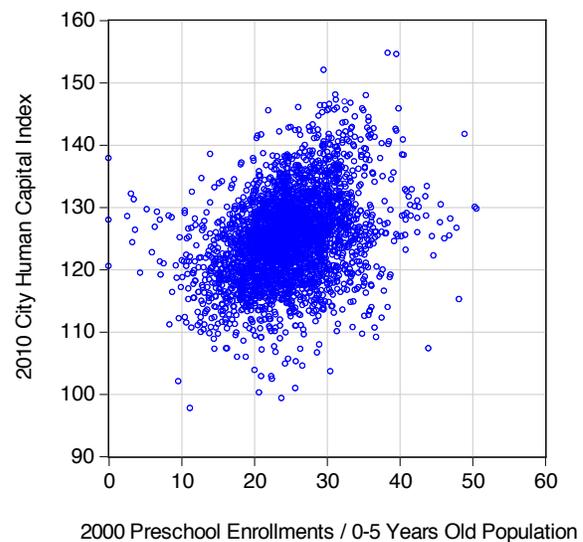
Source: Author's calculation based on 942 cities from the 5-year American Community Survey, 2006-2010
The Association Between the CHCI and Early Childhood Education

between the CHCI and unemployment rate for counties and cities. Yu (2012)⁴ provides further discussion on the latest association between employment and the human capital levels in the major cities in the U.S.

In our methodology of constructing First 5 LA/UCLA CHCI, we have not yet include the enrollment of preschool or nursery school. However, this does not mean that early childhood education is irrelevant to the future development of human capital. On the contrary, the economic literature has demonstrated that early childhood investments of high quality have remarkable positive results on increasing a student's test scores, schooling and earnings as well as reducing the crime rate (for details, see Heckman (1999)⁵).

For example, the success of the Perry Preschool program (from 1962-1967) is evident.⁶ In the Perry program, 123 at-risk African Americans at ages 3 and 4 were randomly divided into (1) an experiment program that received a high-quality preschool education, and (2) a comparison group who received no preschool education. The two-year treatment was then discontinued and persons were followed over their lifetime. The study compares the performance of these two groups when they are at age 40. 77% of the program group graduated from high school while only 60% of the no-program group graduated from high school. And 60% of the program

Figure 10 The Correlation Between the 2010 First 5 LA/UCLA CHCI and the 2000 Preschool Enrollment Rate Across Counties in the U.S.



Source: Author's calculation based on 3,137 counties from the 2000 Census and the 5-year American Community Survey, 2006-2010

group earned more than \$20,000 while only 40% of the no-program group earned more than \$20,000.

To see if preschool education is correlated to future human capital, we use the preschool enrollment over the 0- to 5-year-old population in each county from the 2000 Census as the independent variable and our current CHCI as the dependent variable to run the ordinary least square regression. The result is significant: a 10% enrollment increase will predict an improvement of the CHCI by 4.1 (0.4 school year). Figure 10 shows the association between the preschool enrollment in 2000 and the CHCI in 2010.

CONCLUSIONS

The First 5 LA/UCLA Anderson Forecast City Human Capital (CHCI) Index provides a simple index to measure a city's or a county's competitiveness and vibrancy in terms of its residents' education attainment. The index is easily interpreted as the average number of schooling years in the city (index number/10). The CHCI is based on the Census' American Community Survey (ACS) data.

When the updated ACS data is available, we will be able to update our results and then announce the newer CHCI. The further discussions, development, and implications of the CHCI will be reported quarterly in the future.

Los Angeles' CHCI is 124.8, meaning that its residents' human capital level is about 12.5 years. L.A.'s human capital level trails other major cities in the nation and California. For instance, L.A.'s CHCI is the 27th among the 30 largest metro areas in the nation; it is the 89th among the 100 largest metro areas. In California, L.A. is also lagging behind coastal areas, such as San Francisco, Silicon Valley, Orange County, and San Diego.

The CHCI is correlated to other local economic performances, e.g. income and unemployment rate. The economic evidence of one schooling year contributing to a 10% increase of income is well supported by our CHCI across the nation. We, therefore, suggest that it is imperative for those low CHCI cities, including L.A., to improve their human capital. And we recommend that the high-quality early childhood education investment would be a cost-efficient way to achieve the goal.

ENDNOTES

1. Data for the City Human Capital Index can be found at [Http://www.uclaforecast.com/CHCI](http://www.uclaforecast.com/CHCI)
2. Edward Leamer, "Wall Street, K-Street or Main Street? Who Can Save US?" UCLA Anderson Forecast, June 2012, and "What's the Matter With the U.S. Job Market?" UCLA Anderson Forecast, December 2010.
3. Jerry Nickelsburg, "Bifurcated and Buffeted," UCLA Anderson Forecast, September 2011.
4. William Yu, "What Accounts for the Differences in Employment Growth Across U.S. Cities?" UCLA Anderson Forecast, March 2012.
5. James Heckman, "Policies to Foster Human Capital," NBER Working Paper 7288.
6. See HighScope Perry Preschool Study, <http://www.highscope.org/content.asp?contentid=219>.

APPENDIX 1 THE METHODOLOGY OF FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX

We compute the CHCI based on three parts with corresponding population percentages as follows. We do not consider the migration factor of human capital because there is no available data.

- 1) For those residents who are above 25 years of age, we calculate the CHCI by assigning the schooling year with the following categories:
 - Category 1: Less than 9th grade: we assign 5 schooling years (50 CHCI points) for this percentage of residents.
 - Category 2: 9th to 12th grade: we assign 10 schooling years.
 - Category 3: High school graduate: we assign 12 schooling years.
 - Category 4: Some college, no degree: we assign 13 schooling years.
 - Category 5: Associate's degree: we assign 14 schooling years.
 - Category 6: Bachelor's degree: we assign 16 schooling years.
 - Category 7: Graduate or professional degree: we assign 18 schooling years.

- 2) For those residents who are between 18 and 24 years of age, we estimate the CHCI by assigning the schooling year with the following categories:
 - Category 1: less than high school graduate: we assign X schooling years, in which X is estimated by the CHCI average of Categories 1 and 2 from Part (1) in the same region.
 - Category 2: High school graduate: we assign 12 schooling years.
 - Category 3: Some college or associate's degree: we assign Y schooling years, in which Y is estimated by the weighting average of Categories 4, 5, 6, and 7 from Part (1) in the same region.
 - Category 4: Bachelor's degree or higher: we assign 16 schooling years.

- 3) For those residents who are between 5 and 17 years of age, we forecast their future potential CHCI based on the CHCI average of the CHCI of residents from Part (1) in the same region with the following weighting adjustment of their current school enrollment rate:

- 4)
 - Category 1: 5 to 9 years old: if the area's enrollment rate is, say 94%, 94% will be assigned CHCI calculated from Part (1) and 6% of this area's residents will be assigned as 2 schooling years.

 - Category 2: 10 to 14 years old: if the area's enrollment rate is Z, Z will be assigned CHCI calculated from Part (1) and 1-Z of this area's residents will be assigned as 7 schooling years.
 - Category 3: 15 to 17 years old: if the area's enrollment rate is Z, 1-Z of this area's residents will be assigned as 11 schooling years.

APPENDIX 2 FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX RANKING FOR THE 100 LARGEST CITIES IN THE U.S.

Rank	100 Largest Metro Areas	HCI	Population
1	Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	140.5	5,416,691
2	Madison, WI Metro Area	140.5	557,744
3	Boston-Cambridge-Quincy, MA-NH Metro Area	138.7	4,489,250
4	Bridgeport-Stamford-Norwalk, CT Metro Area	138.1	905,342
5	Raleigh-Cary, NC Metro Area	137.4	1,069,694
6	San Francisco-Oakland-Fremont, CA Metro Area	137.4	4,244,889
7	San Jose-Sunnyvale-Santa Clara, CA Metro Area	137.3	1,793,888
8	Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	137.3	3,229,181
9	Colorado Springs, CO Metro Area	136.8	622,809
10	Seattle-Tacoma-Bellevue, WA Metro Area	136.7	3,356,089
11	Albany-Schenectady-Troy, NY Metro Area	136.1	865,982
12	Portland-South Portland-Biddeford, ME Metro Area	135.8	513,139
13	Denver-Aurora-Broomfield, CO Metro Area	135.2	2,464,415
14	Austin-Round Rock-San Marcos, TX Metro Area	135.0	1,627,571
15	Hartford-West Hartford-East Hartford, CT Metro Area	135.0	1,203,823
16	Baltimore-Towson, MD Metro Area	134.8	2,683,160
17	Des Moines-West Des Moines, IA Metro Area	134.7	552,889
18	Rochester, NY Metro Area	134.7	1,049,836
19	Portland-Vancouver-Hillsboro, OR-WA Metro Area	134.6	2,170,801
20	Omaha-Council Bluffs, NE-IA Metro Area	134.3	845,820
21	Worcester, MA Metro Area	134.2	791,855
22	Columbus, OH Metro Area	134.2	1,798,377
23	Kansas City, MO-KS Metro Area	134.1	1,999,718
24	Syracuse, NY Metro Area	133.6	658,811
25	New Haven-Milford, CT Metro Area	133.5	856,688
26	Ogden-Clearfield, UT Metro Area	133.5	526,394
27	Honolulu, HI Metro Area	133.4	936,984
28	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area	133.4	5,911,638
29	Pittsburgh, PA Metro Area	133.3	2,358,313
30	Milwaukee-Waukesha-West Allis, WI Metro Area	133.2	1,539,897
31	Poughkeepsie-Newburgh-Middletown, NY Metro Area	133.1	666,353
32	Atlanta-Sandy Springs-Marietta, GA Metro Area	133.1	5,125,113
33	Akron, OH Metro Area	133.1	703,093
34	Buffalo-Niagara Falls, NY Metro Area	133.0	1,137,266
35	Palm Bay-Melbourne-Titusville, FL Metro Area	132.9	540,583
36	San Diego-Carlsbad-San Marcos, CA Metro Area	132.9	3,022,468
37	Salt Lake City, UT Metro Area	132.8	1,090,848
38	Columbia, SC Metro Area	132.7	744,145
39	Virginia Beach-Norfolk-Newport News, VA-NC Metro Area	132.6	1,663,070
40	St. Louis, MO-IL Metro Area	132.5	2,792,309
41	New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area	132.4	18,700,715
42	Charleston-North Charleston-Summerville, SC Metro Area	132.4	641,930
43	Charlotte-Gastonia-Rock Hill, NC-SC Metro Area	132.4	1,687,440
44	Chicago-Joliet-Naperville, IL-IN-WI Metro Area	132.3	9,384,661
45	Sacramento--Arden-Arcade--Roseville, CA Metro Area	132.2	2,107,092
46	Tucson, AZ Metro Area	132.1	964,462
47	Indianapolis-Carmel, IN Metro Area	132.0	1,717,259
48	Harrisburg-Carlisle, PA Metro Area	131.9	541,758
49	North Port-Bradenton-Sarasota, FL Metro Area	131.9	694,819

Rank	100 Largest Metro Areas	HCI	Population
50	Springfield, MA Metro Area	131.9	691,119
51	Cincinnati-Middletown, OH-KY-IN Metro Area	131.8	2,110,398
52	Boise City-Nampa, ID Metro Area	131.6	598,730
53	Detroit-Warren-Livonia, MI Metro Area	131.6	4,345,978
54	Dayton, OH Metro Area	131.6	843,218
55	Cleveland-Elyria-Mentor, OH Metro Area	131.5	2,086,589
56	Richmond, VA Metro Area	131.4	1,235,365
57	Orlando-Kissimmee-Sanford, FL Metro Area	131.4	2,083,626
58	Nashville-Davidson--Murfreesboro--Franklin, TN Metro Area	131.2	1,541,541
59	Albuquerque, NM Metro Area	131.2	862,165
60	Jacksonville, FL Metro Area	131.1	1,319,195
61	Knoxville, TN Metro Area	131.0	685,335
62	Grand Rapids-Wyoming, MI Metro Area	131.0	772,621
63	Wichita, KS Metro Area	131.0	609,383
64	Jackson, MS Metro Area	130.9	533,673
65	Oklahoma City, OK Metro Area	130.8	1,218,920
66	Toledo, OH Metro Area	130.8	653,650
67	Little Rock-North Little Rock-Conway, AR Metro Area	130.8	681,812
68	Allentown-Bethlehem-Easton, PA-NJ Metro Area	130.4	812,027
69	Tampa-St. Petersburg-Clearwater, FL Metro Area	130.3	2,745,350
70	Birmingham-Hoover, AL Metro Area	129.8	1,115,485
71	Tulsa, OK Metro Area	129.8	917,367
72	Phoenix-Mesa-Glendale, AZ Metro Area	129.6	4,080,707
73	Louisville/Jefferson County, KY-IN Metro Area	129.4	1,261,825
74	Dallas-Fort Worth-Arlington, TX Metro Area	129.3	6,154,265
75	Cape Coral-Fort Myers, FL Metro Area	129.3	606,165
76	Providence-New Bedford-Fall River, RI-MA Metro Area	129.3	1,602,822
77	Oxnard-Thousand Oaks-Ventura, CA Metro Area	129.2	809,080
78	Greenville-Mauldin-Easley, SC Metro Area	129.0	621,286
79	Baton Rouge, LA Metro Area	128.9	787,961
80	Scranton--Wilkes-Barre, PA Metro Area	128.7	561,113
81	New Orleans-Metairie-Kenner, LA Metro Area	128.7	1,105,020
82	Miami-Fort Lauderdale-Pompano Beach, FL Metro Area	128.6	5,478,869
83	Greensboro-High Point, NC Metro Area	128.3	709,142
84	Memphis, TN-MS-AR Metro Area	128.2	1,301,248
85	Augusta-Richmond County, GA-SC Metro Area	127.4	544,180
86	Chattanooga, TN-GA Metro Area	126.8	518,288
87	San Antonio-New Braunfels, TX Metro Area	126.8	2,057,782
88	Youngstown-Warren-Boardman, OH-PA Metro Area	126.8	571,975
89	Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
90	Houston-Sugar Land-Baytown, TX Metro Area	126.5	5,709,313
91	Las Vegas-Paradise, NV Metro Area	125.7	1,895,521
92	Lancaster, PA Metro Area	125.0	511,250
93	Lakeland-Winter Haven, FL Metro Area	123.9	590,116
94	Riverside-San Bernardino-Ontario, CA Metro Area	123.1	4,114,751
95	Stockton, CA Metro Area	120.9	673,613
96	Modesto, CA Metro Area	119.4	509,682
97	Fresno, CA Metro Area	119.1	908,830
98	El Paso, TX Metro Area	117.9	772,280
99	Bakersfield-Delano, CA Metro Area	116.7	815,693
100	McAllen-Edinburg-Mission, TX Metro Area	109.0	736,973

APPENDIX 3 FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX FOR THE 200 LARGEST CITIES IN THE U.S.

	CHCI	Population
Akron, OH Metro Area	133.1	703,093
Albany-Schenectady-Troy, NY Metro Area	136.1	865,982
Albuquerque, NM Metro Area	131.2	862,165
Allentown-Bethlehem-Easton, PA-NJ Metro Area	130.4	812,027
Amarillo, TX Metro Area	127.2	245,177
Anchorage, AK Metro Area	133.7	368,414
Ann Arbor, MI Metro Area	146.3	343,947
Appleton, WI Metro Area	131.7	222,359
Asheville, NC Metro Area	130.8	416,276
Atlanta-Sandy Springs-Marietta, GA Metro Area	133.1	5,125,113
Atlantic City-Hammonton, NJ Metro Area	128.0	273,162
Augusta-Richmond County, GA-SC Metro Area	127.4	544,180
Austin-Round Rock-San Marcos, TX Metro Area	135.0	1,627,571
Bakersfield-Delano, CA Metro Area	116.7	815,693
Baltimore-Towson, MD Metro Area	134.8	2,683,160
Barnstable Town, MA Metro Area	140.2	217,483
Baton Rouge, LA Metro Area	128.9	787,961
Beaumont-Port Arthur, TX Metro Area	124.2	384,583
Binghamton, NY Metro Area	131.8	252,181
Birmingham-Hoover, AL Metro Area	129.8	1,115,485
Boise City-Nampa, ID Metro Area	131.6	598,730
Boston-Cambridge-Quincy, MA-NH Metro Area	138.7	4,489,250
Boulder, CO Metro Area	146.9	290,177
Bremerton-Silverdale, WA Metro Area	134.2	247,336
Bridgeport-Stamford-Norwalk, CT Metro Area	138.1	905,342
Brownsville-Harlingen, TX Metro Area	110.0	393,566
Buffalo-Niagara Falls, NY Metro Area	133.0	1,137,266
Burlington-South Burlington, VT Metro Area	138.7	209,381
Canton-Massillon, OH Metro Area	127.9	405,334
Cape Coral-Fort Myers, FL Metro Area	129.3	606,165
Cedar Rapids, IA Metro Area	133.8	254,571
Champaign-Urbana, IL Metro Area	139.9	228,688
Charleston, WV Metro Area	125.6	304,033
Charleston-North Charleston-Summerville, SC Metro Area	132.4	641,930
Charlotte-Gastonia-Rock Hill, NC-SC Metro Area	132.4	1,687,440
Chattanooga, TN-GA Metro Area	126.8	518,288
Chicago-Joliet-Naperville, IL-IN-WI Metro Area	132.3	9,384,661
Chico, CA Metro Area	131.0	218,635
Cincinnati-Middletown, OH-KY-IN Metro Area	131.8	2,110,398
Clarksville, TN-KY Metro Area	127.4	263,531
Cleveland-Elyria-Mentor, OH Metro Area	131.5	2,086,589
College Station-Bryan, TX Metro Area	134.7	219,058
Colorado Springs, CO Metro Area	136.8	622,809
Columbia, SC Metro Area	132.7	744,145
Columbus, GA-AL Metro Area	126.8	290,204
Columbus, OH Metro Area	134.2	1,798,377
Corpus Christi, TX Metro Area	122.8	423,717
Dallas-Fort Worth-Arlington, TX Metro Area	129.3	6,154,265
Davenport-Moline-Rock Island, IA-IL Metro Area	130.9	376,736

	CHCI	Population
Dayton, OH Metro Area	131.6	843,218
Deltona-Daytona Beach-Ormond Beach, FL Metro Area	129.3	496,053
Denver-Aurora-Broomfield, CO Metro Area	135.2	2,464,415
Des Moines-West Des Moines, IA Metro Area	134.7	552,889
Detroit-Warren-Livonia, MI Metro Area	131.6	4,345,978
Duluth, MN-WI Metro Area	132.9	278,337
Durham-Chapel Hill, NC Metro Area	138.1	488,508
El Paso, TX Metro Area	117.9	772,280
Erie, PA Metro Area	130.2	279,234
Eugene-Springfield, OR Metro Area	133.8	347,156
Evansville, IN-KY Metro Area	128.2	355,854
Fayetteville, NC Metro Area	128.9	357,122
Fayetteville-Springdale-Rogers, AR-MO Metro Area	126.4	445,626
Flint, MI Metro Area	128.6	433,054
Fort Collins-Loveland, CO Metro Area	141.1	291,162
Fort Smith, AR-OK Metro Area	121.9	294,478
Fort Wayne, IN Metro Area	130.0	412,067
Fresno, CA Metro Area	119.1	908,830
Gainesville, FL Metro Area	139.8	260,930
Grand Rapids-Wyoming, MI Metro Area	131.0	772,621
Greeley, CO Metro Area	128.3	242,860
Green Bay, WI Metro Area	129.6	302,755
Greensboro-High Point, NC Metro Area	128.3	709,142
Greenville-Mauldin-Easley, SC Metro Area	129.0	621,286
Gulfport-Biloxi, MS Metro Area	126.1	241,122
Hagerstown-Martinsburg, MD-WV Metro Area	125.9	264,648
Harrisburg-Carlisle, PA Metro Area	131.9	541,758
Hartford-West Hartford-East Hartford, CT Metro Area	135.0	1,203,823
Hickory-Lenoir-Morganton, NC Metro Area	122.0	362,665
Holland-Grand Haven, MI Metro Area	133.2	261,376
Honolulu, HI Metro Area	133.4	936,984
Houston-Sugar Land-Baytown, TX Metro Area	126.5	5,709,313
Huntington-Ashland, WV-KY-OH Metro Area	125.1	287,112
Huntsville, AL Metro Area	133.4	401,694
Indianapolis-Carmel, IN Metro Area	132.0	1,717,259
Jackson, MS Metro Area	130.9	533,673
Jacksonville, FL Metro Area	131.1	1,319,195
Kalamazoo-Portage, MI Metro Area	134.4	323,831
Kansas City, MO-KS Metro Area	134.1	1,999,718
Kennewick-Pasco-Richland, WA Metro Area	125.0	238,406
Killeen-Temple-Fort Hood, TX Metro Area	128.2	388,448
Kingsport-Bristol-Bristol, TN-VA Metro Area	123.3	307,637
Knoxville, TN Metro Area	131.0	685,335
Lafayette, LA Metro Area	126.8	267,302
Lakeland-Winter Haven, FL Metro Area	123.9	590,116
Lancaster, PA Metro Area	125.0	511,250
Lansing-East Lansing, MI Metro Area	136.2	463,602
Laredo, TX Metro Area	112.4	240,346
Las Vegas-Paradise, NV Metro Area	125.7	1,895,521
Lexington-Fayette, KY Metro Area	134.1	459,761
Lincoln, NE Metro Area	137.7	296,056
Little Rock-North Little Rock-Conway, AR Metro Area	130.8	681,812
Longview, TX Metro Area	124.2	210,226
Los Angeles-Long Beach-Santa Ana, CA Metro Area	126.6	12,723,781
Louisville/Jefferson County, KY-IN Metro Area	129.4	1,261,825

APPENDIX 3 FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX FOR THE 200 LARGEST CITIES IN THE U.S. (CONT'D)

	CHCI	Population
Lubbock, TX Metro Area	129.9	276,139
Lynchburg, VA Metro Area	127.2	248,742
Macon, GA Metro Area	125.0	231,172
Madison, WI Metro Area	140.5	557,744
Manchester-Nashua, NH Metro Area	135.4	399,555
McAllen-Edinburg-Mission, TX Metro Area	109.0	736,973
Memphis, TN-MS-AR Metro Area	128.2	1,301,248
Merced, CA Metro Area	113.2	250,699
Miami-Fort Lauderdale-Pompano Beach, FL Metro Area	128.6	5,478,869
Milwaukee-Waukesha-West Allis, WI Metro Area	133.2	1,539,897
Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	137.3	3,229,181
Mobile, AL Metro Area	126.1	408,620
Modesto, CA Metro Area	119.4	509,682
Montgomery, AL Metro Area	129.1	370,554
Myrtle Beach-North Myrtle Beach-Conway, SC Metro Area	128.9	258,267
Naples-Marco Island, FL Metro Area	130.0	316,931
Nashville-Davidson--Murfreesboro--Franklin, TN Metro Area	131.2	1,541,541
New Haven-Milford, CT Metro Area	133.5	856,688
New Orleans-Metairie-Kenner, LA Metro Area	128.7	1,105,020
New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area	132.4	18,700,715
North Port-Bradenton-Sarasota, FL Metro Area	131.9	694,819
Norwich-New London, CT Metro Area	134.4	272,360
Ocala, FL Metro Area	125.4	326,833
Ogden-Clearfield, UT Metro Area	133.5	526,394
Oklahoma City, OK Metro Area	130.8	1,218,920
Olympia, WA Metro Area	136.0	243,563
Omaha-Council Bluffs, NE-IA Metro Area	134.3	845,820
Orlando-Kissimmee-Sanford, FL Metro Area	131.4	2,083,626
Oxnard-Thousand Oaks-Ventura, CA Metro Area	129.2	809,080
Palm Bay-Melbourne-Titusville, FL Metro Area	132.9	540,583
Pensacola-Ferry Pass-Brent, FL Metro Area	130.4	445,778
Peoria, IL Metro Area	131.6	376,046
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area	133.4	5,911,638
Phoenix-Mesa-Glendale, AZ Metro Area	129.6	4,080,707
Pittsburgh, PA Metro Area	133.3	2,358,313
Port St. Lucie, FL Metro Area	127.8	413,981
Portland-South Portland-Biddeford, ME Metro Area	135.8	513,139
Portland-Vancouver-Hillsboro, OR-WA Metro Area	134.6	2,170,801
Poughkeepsie-Newburgh-Middletown, NY Metro Area	133.1	666,353
Prescott, AZ Metro Area	130.8	209,260
Providence-New Bedford-Fall River, RI-MA Metro Area	129.3	1,602,822
Provo-Orem, UT Metro Area	137.5	495,922
Raleigh-Cary, NC Metro Area	137.4	1,069,694
Reading, PA Metro Area	126.1	407,310
Reno-Sparks, NV Metro Area	130.3	416,860
Richmond, VA Metro Area	131.4	1,235,365

	CHCI	Population
Riverside-San Bernardino-Ontario, CA Metro Area	123.1	4,114,751
Roanoke, VA Metro Area	128.9	304,995
Rochester, NY Metro Area	134.7	1,049,836
Rockford, IL Metro Area	126.9	347,539
Sacramento--Arden-Arcade--Roseville, CA Metro Area	132.2	2,107,092
Salem, OR Metro Area	126.2	383,639
Salinas, CA Metro Area	118.5	407,435
Salt Lake City, UT Metro Area	132.8	1,090,848
San Antonio-New Braunfels, TX Metro Area	126.8	2,057,782
San Diego-Carlsbad-San Marcos, CA Metro Area	132.9	3,022,468
San Francisco-Oakland-Fremont, CA Metro Area	137.4	4,244,889
San Jose-Sunnyvale-Santa Clara, CA Metro Area	137.3	1,793,888
San Luis Obispo-Paso Robles, CA Metro Area	134.6	265,577
Santa Barbara-Santa Maria-Goleta, CA Metro Area	128.7	416,051
Santa Cruz-Watsonville, CA Metro Area	133.5	256,901
Santa Rosa-Petaluma, CA Metro Area	131.7	474,047
Savannah, GA Metro Area	130.8	335,980
Scranton--Wilkes-Barre, PA Metro Area	128.7	561,113
Seattle-Tacoma-Bellevue, WA Metro Area	136.7	3,356,089
Shreveport-Bossier City, LA Metro Area	127.2	393,350
Sioux Falls, SD Metro Area	133.6	221,095
South Bend-Mishawaka, IN-MI Metro Area	129.8	318,951
Spartanburg, SC Metro Area	125.0	278,167
Spokane, WA Metro Area	134.6	461,262
Springfield, MA Metro Area	131.9	691,119
Springfield, MO Metro Area	130.4	427,566
St. Louis, MO-IL Metro Area	132.5	2,792,309
Stockton, CA Metro Area	120.9	673,613
Syracuse, NY Metro Area	133.6	658,811
Tallahassee, FL Metro Area	136.0	360,391
Tampa-St. Petersburg-Clearwater, FL Metro Area	130.3	2,745,350
Toledo, OH Metro Area	130.8	653,650
Topeka, KS Metro Area	131.6	231,386
Trenton-Ewing, NJ Metro Area	135.5	364,445
Tucson, AZ Metro Area	132.1	964,462
Tulsa, OK Metro Area	129.8	917,367
Tuscaloosa, AL Metro Area	128.9	213,754
Utica-Rome, NY Metro Area	128.8	298,865
Vallejo-Fairfield, CA Metro Area	129.0	410,042
Virginia Beach-Norfolk-Newport News, VA-NC Metro Area	132.6	1,663,070
Visalia-Porterville, CA Metro Area	112.6	429,404
Waco, TX Metro Area	125.7	229,587
Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area	140.5	5,416,691
Wichita, KS Metro Area	131.0	609,383
Wilmington, NC Metro Area	132.6	349,522
Winston-Salem, NC Metro Area	129.2	468,922
Worcester, MA Metro Area	134.2	791,855
Yakima, WA Metro Area	115.3	236,542
York-Hanover, PA Metro Area	127.7	428,175
Youngstown-Warren-Boardman, OH-PA Metro Area	126.8	571,975

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010

APPENDIX 4 FIRST 5 LA/UCLA ANDERSON FORECAST CITY HUMAN CAPITAL INDEX RANKING FOR COUNTIES IN CALIFORNIA

Rank	California Counties	CHCI	Population
1	Marin County	144.4	248,601
2	San Francisco County	139.9	789,172
3	San Mateo County	138.3	704,327
4	Santa Clara County	137.9	1,739,396
5	Placer County	137.0	336,477
6	Nevada County	136.9	98,186
7	Alpine County	136.1	1,176
8	El Dorado County	135.8	179,053
9	Contra Costa County	135.7	1,024,809
10	Yolo County	135.5	196,418
11	Alameda County	135.4	1,477,980
12	San Luis Obispo County	134.6	265,577
13	Santa Cruz County	133.5	256,901
14	Mono County	133.1	13,905
15	San Diego County	132.9	3,022,468
16	Humboldt County	132.8	133,058
17	Orange County	132.1	2,965,525
18	Sonoma County	131.7	474,047
19	Butte County	131.0	218,635
20	Plumas County	131.0	20,392
21	Siskiyou County	130.6	44,690
22	Mariposa County	130.6	18,290
23	Sacramento County	130.1	1,395,144
24	Shasta County	129.9	176,906
25	Calaveras County	129.6	45,994
26	Trinity County	129.5	13,701
27	Ventura County	129.2	809,080
28	Solano County	129.0	410,042
29	Inyo County	129.0	18,434
30	Tuolumne County	128.9	56,074
31	Amador County	128.8	38,327
32	Santa Barbara County	128.7	416,051
33	Napa County	128.3	134,051
34	Sierra County	127.2	3,366
35	Mendocino County	127.0	87,487
36	Lake County	125.5	64,371
37	Modoc County	125.0	9,605
38	Los Angeles County	124.8	9,758,256
39	Del Norte County	123.9	28,471

Rank	California Counties	CHCI	Population
40	Riverside County	123.7	2,109,464
41	San Bernardino County	122.5	2,005,287
42	Sutter County	122.5	93,420
43	Lassen County	122.3	35,081
44	Tehama County	122.0	62,575
45	San Joaquin County	120.9	673,613
46	Yuba County	120.1	71,160
47	Stanislaus County	119.4	509,682
48	Fresno County	119.1	908,830
49	Monterey County	118.5	407,435
50	San Benito County	118.3	54,492
51	Glenn County	117.3	27,935
52	Kern County	116.7	815,693
53	Kings County	114.3	151,122
54	Madera County	113.9	147,738
55	Colusa County	113.3	21,165
56	Merced County	113.2	250,699
57	Tulare County	112.6	429,404
58	Imperial County	111.7	168,052

Source: Author's calculation based on the 5-year American Community Survey, 2006-2010