

# Growing Apart in Los Angeles

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If Los Angeles County were a country, it would be the 24th largest economy in the world, bigger than countries like Norway and Poland. L.A. is also the most populous county in the nation. Because of its mammoth size, we can use L.A. as a snapshot of the national and state economies. Like the nation, L.A.'s residents have a wide range of incomes. Like California's, the economic dichotomy of L.A. is displayed through a wealthy and rising coast and a lagging and desperate inland.

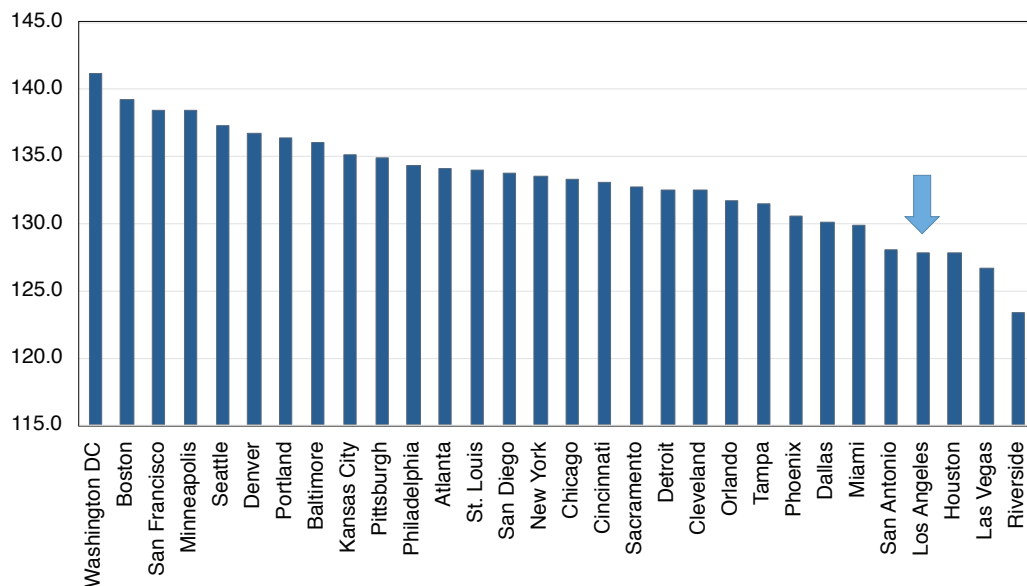
Over the past decade, the rising areas of L.A. have been as prosperous as other vibrant cities, such as Silicon Valley and San Francisco, while the falling areas have been a drag on the L.A. economy as a whole. In the following

sections, we begin by showing the First 5 LA/UCLA City Human Capital Index in 2012 for all the major cities in the U.S. Next, we present the city human capital index of L.A. County by zip code. Finally, we highlight the areas of L.A. that demonstrate prosperity and those that indicate decline. Finally, we illustrate how economic performance is associated with human capital level within L.A.

## The 2012 City Human Capital Index

Figure 1 displays the First 5 LA/UCLA City Human Capital Index (CHCI) ranking for the 30 largest cities (metropolitan statistical areas or MSAs) in 2012 calculated based on the 2012 American Community Survey. By and large, one

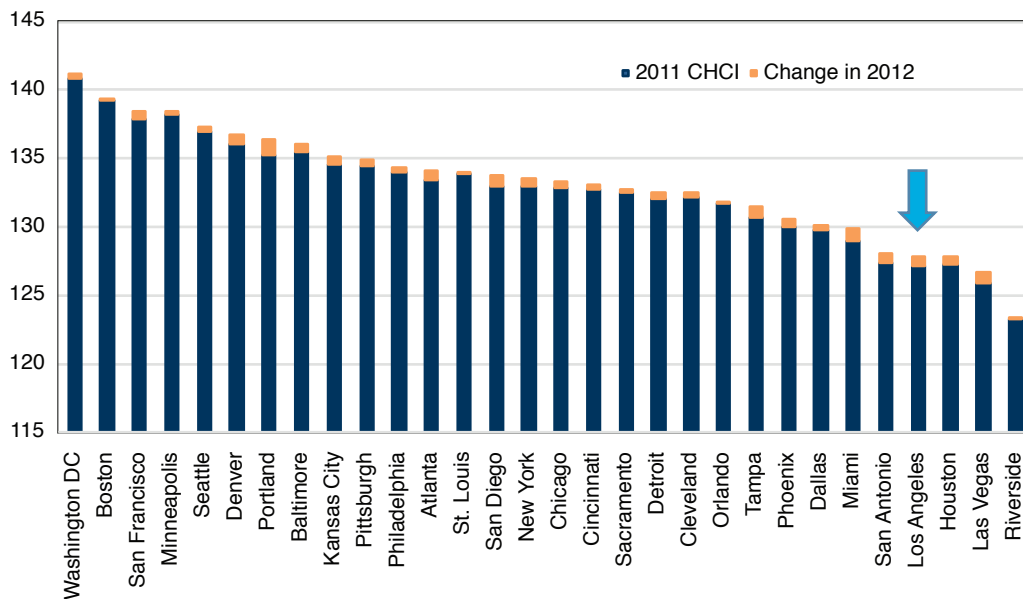
Figure 1 2012 City Human Capital Index for the 30 Largest Cities in the U.S.



Source: Author's calculation based on the 1-year American Community Survey, 2012.

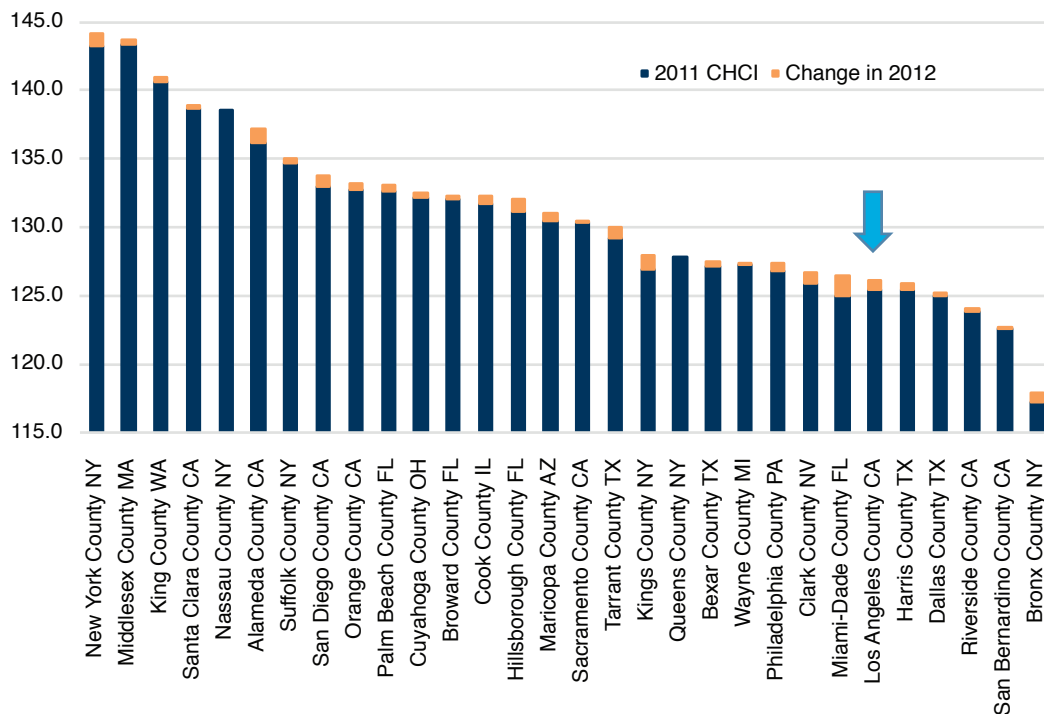
## GROWING APART IN LOS ANGELES

Figure 2 2011 and 2012 City Human Capital Index for the 30 Largest Cities in the U.S.



Source: Author's calculation based on the 1-year American Community Survey, 2012 and the 3-year American Community Survey, 2010-2012.

Figure 3 2011 and 2012 City Human Capital Index for the 30 Largest Counties in the U.S.



Source: Author's calculation based on the 1-year American Community Survey, 2012 and the 3-year American Community Survey, 2010-2012.

tenth of the index number represents the average number of schooling years for adult residents in each of the metropolitan areas. In 2012, the index for L.A. (which includes Los Angeles and Orange Counties) was 127.9, meaning that the average education attainment of residents was 12.8 years. L.A. ranked 27th among 30 major cities, trailed only by Houston, Las Vegas, and Riverside. Washington DC ranked number one with a CHCI of 141. The leading cities also included Boston, San Francisco, Minneapolis, and Seattle. The CHCI for the largest 100 cities is shown in Appendix 1.

Figure 2 shows the CHCI for the 30 largest cities in 2011 and the change between 2011 and 2012. In 2012, the CHCI increased by an average of 0.5 for these 30 cities. L.A.'s CHCI increased by 0.8, better than the average, from 127.1 in 2011 to 127.9 in 2012. As a result, its ranking improved from 28th in 2011 to 27th in 2012, now surpassing Houston.

The previously stated rankings are based on metropolitan areas. L.A. includes both Los Angeles County and Orange County. To look at human capital at the county level, Figure 3 presents the CHCI for the 30 largest counties for 2011 and 2012 in the U.S. L.A. County's CHCI is 125.4 in 2011 and 126.2 in 2012, increasing human capital by 0.7 point. Despite its progress, L.A. County still, as in the past, has a lower level of human capital than L.A. metro as Orange County has a higher level of human capital. Among the 30 largest counties, L.A. ranked 25th in human capital in both 2011 and 2012, followed by Harris County TX, Dallas County TX, Riverside County CA, San Bernardino County CA, and Bronx County NY.

The leading counties in terms of human capital in 2012 were New York County (Manhattan): 144.2, Middlesex County (Boston): 143.7, King County WA (Seattle): 141, Santa Clara County (Silicon Valley): 139, Nassau County NY (Long Island): 138.5, Alameda County: 137, Suffolk County NY (Long Island): 135, San Diego County: 134, and Orange County: 133. In summary, L.A.'s human capital in 2012 is still lagging behind other major cities and counties, but it is improving at a faster speed than the average.

#### The Quality-Adjusted First 5 LA/UCLA City Human Capital Index

As of now, the First 5 LA/UCLA City Human Capital Index is calculated mainly based on the quantity of education attainment for adult residents with an adjustment based on school enrollment for residents before 25 years old. For instance, we assign residents with a high school diploma a human capital number of 12 years, bachelor's degrees are assigned 16 years, and master's degrees or higher 18 years. However, it is very likely that the human capital of 4 additional schooling years in college has a better return than 4 additional schooling years in high school. In other words, a better measurement of human capital might not be the linear documentation of schooling years.

Table 1 indicates this possibility. The median earnings do not grow one to one with additional schooling years. If we transform the earnings series with different degrees to an earnings ratio and fix the associate's degree's earning as 14, we can get the earnings ratio in Column 3. The master's degree is 23, bachelor's degree: 19, associate's degree: 14,

Table 1 Earnings and Unemployment Rates by Educational Attainment

|                            | CHCI<br>Schooling<br>Year | Median<br>Weekly<br>Earnings<br>(\$)<br>2012 | Earnings<br>Ratio | Unemployment<br>Rate in 2012 | Quality<br>Adjusted<br>Human<br>Capital |
|----------------------------|---------------------------|--|-------------------|------------------------------|---|
| Master's degree            | 18                        | 1300   | 23                | 3.5                          | <b>23</b>                               |
| Bachelor's degree          | 16                        | 1066   | 19                | 4.5                          | <b>19</b>                               |
| Associate's degree         | 14                        | 785  | 14                | 6.2                          | <b>14</b>                               |
| Some college, no<br>degree | 13                        | 727  | 13                | 7.7                          | <b>13</b>                               |
| High school graduate       | 12                        | 652  | 12                | 8.3                          | <b>12</b>                               |
| Less than high school      | 5                         | 471  | 8                 | 12.4                         | <b>5</b>                                |

Source: Bureau of Labor Statistics.

Note: For persons age 25 and over. Earnings are for full-time wage and salary workers.

some college: 13, high school graduate: 12, and less than high school: 8. We use this series to represent the quality adjusted human capital. Since residents with less than a high school degree have a much higher unemployment rate and much lower labor participation rate than the average, we decide not to change their human capital to 8 as suggested by the earnings ratio for low-educated working residents. Rather we keep it as 5 years to reflect the poor level of human capital of those who may not be a part of the workforce.

Based on the quality-adjusted human capital measurement (bachelor's degree: 16 to 19; master's degree: 18 to 23), the higher end of human capital will play a major role in shaping a city's human capital level. In the future, we will try to include more variables to refine our quality-adjusted CHCI.

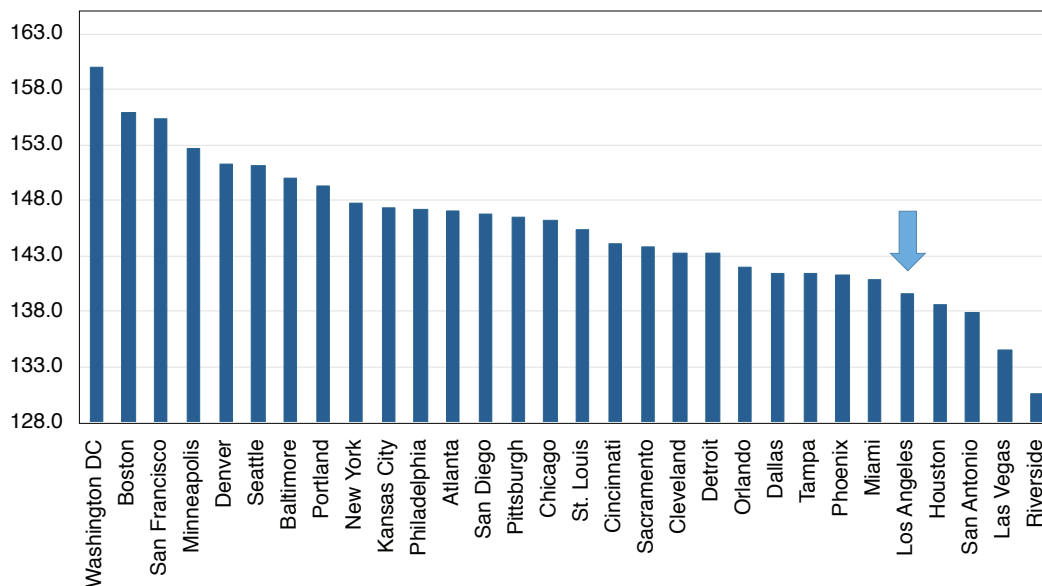
Figure 4 shows the quality-adjusted CHCI ranking for the 30 largest cities in 2012. L.A. ranked 26th among 30 cities in 2012. Compared to the original CHCI rank-

ing in Figure 1, the quality adjusted CHCI in L.A. is only marginally better than the simple CHCI (ranked 27th). The first four leading cities of quality-adjusted CHCI are the same as simple CHCI: D.C., Boston, San Francisco, and Minneapolis.

Figure 5 displays the quality-adjusted CHCI ranking for the 30 largest counties in 2012. L.A. ranked 20th among 30 counties in 2012. Compared to the original CHCI ranking in Figure 3, the quality-adjusted CHCI in L.A. is significantly better than the simple CHCI (ranked 25th). By this measurement, L.A. surpassed Bexar County TX (San Antonio), Philadelphia County PA, Miami County FL, Clark County NV (Las Vegas), and Wayne County MI (Detroit).

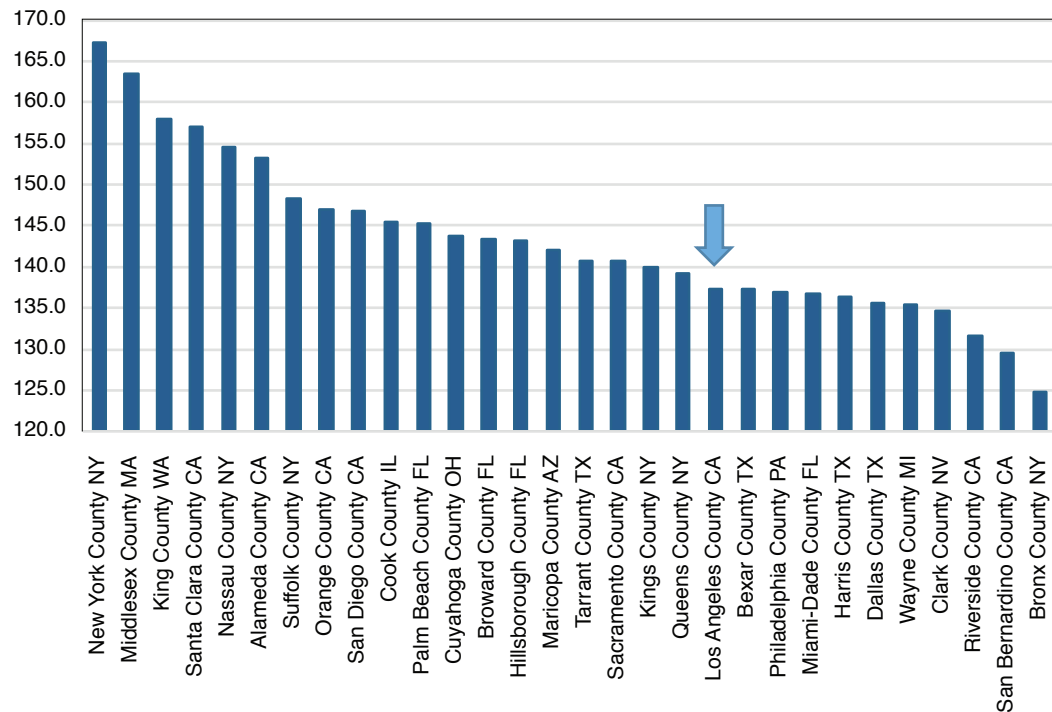
Why? This implies that L.A. County has more high-end and low-end human capital residents while these falling counties have fewer high-end human capital residents but more residents that fall in the middle. We will explain this bifurcation of L.A. in more detail in the following sections.

Figure 4 2012 Quality-Adjusted City Human Capital Index for the 30 Largest Cities in the U.S.



Source: Author's calculation based on the 1-year American Community Survey, 2012.

Figure 5 2012 Quality Adjusted City Human Capital Index for the 30 Largest Counties in the U.S.



Source: Author's calculation based on the 1-year American Community Survey, 2012.

## The City Human Capital Index in Los Angeles by Zip Code

Based on the 5-year American Community Survey (ACS) 2007 to 2011 (the mid-year being 2009), we will be able to calculate the latest CHCI by zip code in L.A. County. Table 2 displays the top 20 and the bottom 20 zip codes in terms of their CHCI. The zip code with the highest average CHCI is 90402 (Santa Monica), followed by 90094 (Playa Vista) and 90272 (Pacific Highlands). Santa Monica 90402 has a CHCI of 160, which means that the average schooling years of residents is 16 years (bachelor's degree).

On the other hand, the zip codes with the lowest human capital are 90270 (Maywood), 90011 (South Central L.A.), and 90058 (Vernon) with staggering CHCI numbers of 87 to 90. This means the average level of education for residents here is a middle school level.

Figure 6 illustrates the CHCI of all of L.A. County's zip codes with a total population of 9.9 million. The darker the green, the higher the human capital level in that zip code. It is clear that West L.A., along with Santa Monica Mountain, has the highest human capital levels. In contrast, South L.A. and the Valley have the lowest human capital (white color). The CHCI for all zip codes of L.A. is shown in Appendix 2. Next, we equally divide the whole range of CHCI in L.A. into three tiers with the high tier being 136 to 160, the middle tier being 112 to 136, and the low tier being 86 to 112. The CHCI high tier zones represent prosperous and vibrant L.A. as shown in Figure 7.

Note that this rising L.A. has a population of 2.7 million with an average CHCI of 145. In other words, rising L.A. has a higher human capital than any of the other major competitive MSAs in the nation, including Washington DC (2011 CHCI: 141, population: 5.7 million), Boston (CHCI: 139, population: 4.6 million), Silicon Valley (CHCI: 138, population: 1.7 million), Minneapolis (CHCI: 138, popula-

## GROWING APART IN LOS ANGELES

Table 2 The 2009 City Human Capital Index Top 20 and Bottom 20 Zip Codes in L.A.

| Rank | Zip Code                   | CHCI | Population | Rank | Zip Code                 | CHCI | Population |
|------|----------------------------|------|------------|------|--------------------------|------|------------|
| 1    | 90402 Santa Monica         | 160  | 12,615     | 263  | 90017 Downtown L.A.      | 101  | 22,401     |
| 2    | 90094 Playa Vista          | 160  | 4,994      | 264  | 90280 South Gate         | 100  | 94,586     |
| 3    | 90272 Pacific Highlands    | 158  | 22,765     | 265  | 91331 Pacoima            | 100  | 97,523     |
| 4    | 90077 Bel Air              | 158  | 8,571      | 266  | 90262 Lynwood            | 100  | 69,643     |
| 5    | 91108 San Marino           | 158  | 13,281     | 267  | 91733 South El Monte     | 99   | 43,459     |
| 6    | 90049 Brentwood            | 157  | 36,451     | 268  | 90221 East Compton       | 99   | 51,535     |
| 7    | 90274 Palos Verdes Estates | 156  | 25,319     | 269  | 90304 Lennox             | 99   | 26,978     |
| 8    | 90266 Manhattan Beach      | 156  | 34,986     | 270  | 90002 Watts              | 99   | 46,509     |
| 9    | 91105 Pasadena             | 156  | 10,548     | 271  | 90033 Boyle Heights      | 98   | 49,102     |
| 10   | 91011 La Canada-Flintridge | 156  | 20,308     | 272  | 90003 South Central L.A. | 98   | 66,183     |
| 11   | 90292 Marina del Rey       | 155  | 22,152     | 273  | 90255 Huntington Park    | 97   | 76,137     |
| 12   | 90024 Westwood             | 155  | 49,427     | 274  | 90022 Compton            | 97   | 67,322     |
| 13   | 90403 Santa Monica         | 155  | 24,770     | 275  | 90063 City Terrace       | 97   | 52,883     |
| 14   | 90254 Hermosa Beach        | 154  | 19,422     | 276  | 90037 South Central L.A. | 96   | 60,639     |
| 15   | 90275 Rancho Palos Verdes  | 153  | 41,712     | 277  | 90023 East L.A.          | 94   | 44,706     |
| 16   | 90212 Beverly Hills        | 152  | 11,836     | 278  | 90201 Bell               | 93   | 101,584    |
| 17   | 91030 South Pasadena       | 152  | 25,465     | 279  | 90001 Florence           | 92   | 54,760     |
| 18   | 90405 Santa Monica         | 152  | 27,350     | 280  | 90270 Maywood            | 90   | 27,454     |
| 19   | 90293 Playa del Rey        | 152  | 12,833     | 281  | 90011 South Central L.A. | 90   | 101,523    |
| 20   | 91302 Calabasas            | 152  | 25,802     | 282  | 90058 Vernon             | 87   | 3,484      |

Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.

tion: 3.3 million), and San Francisco (CHCI: 138, population: 4.4 million). Rising L.A. also has a higher CHCI than other leading major counties, such as Middlesex County MA (CHCI: 143, population: 1.5 million) and New York County (CHCI: 143, population: 1.6 million).

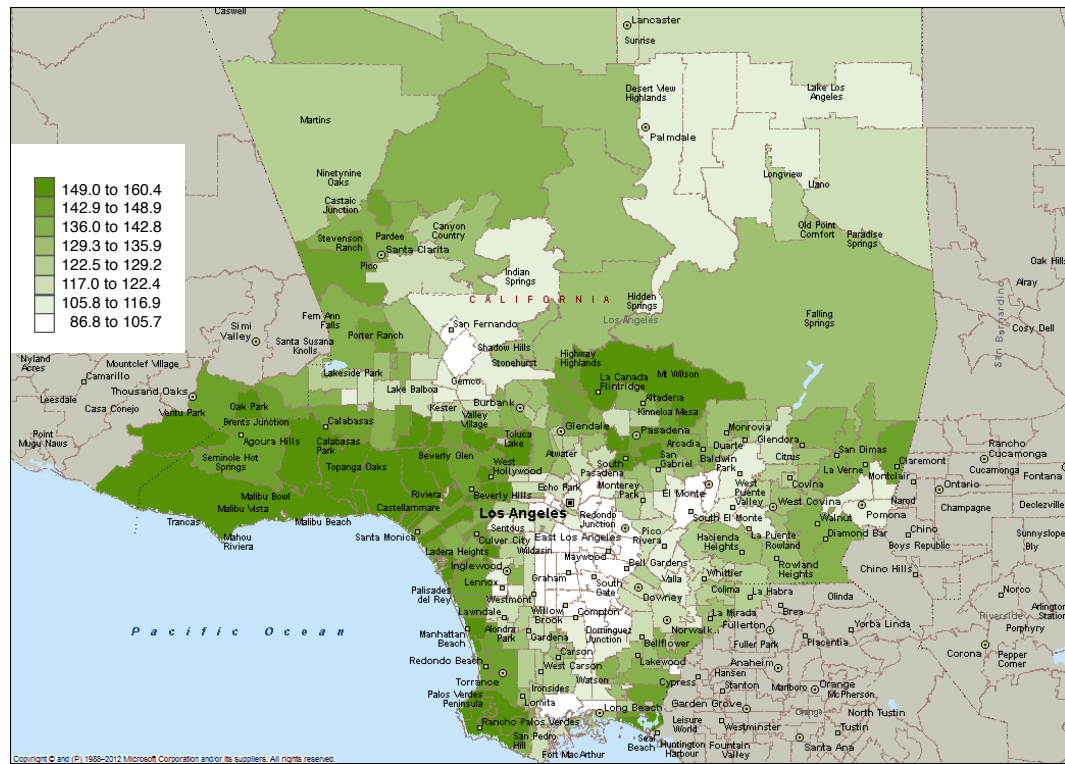
On the other hand, Figure 8 displays the lagging and struggling portions of L.A. This red-colored area has a population of 2.6 million and a gloomy CHCI of 103. If it were an independent metropolitan area, it would be the worst among the nation's 366 metro areas. The metro with the lowest CHCI is McAllen TX (2011 CHCI: 111, population: 0.8 million).

Figure 9 shows the quality-adjusted CHCI (with more weight given to college degrees or higher than in the simple CHCI) and delivers much of the same message as Figure 6. Figure 10 illustrates the top 1/3 of quality-adjusted CHCI in

L.A. County with CHCI numbers ranging from 158 to 192 with an average CHCI of 166 and a population of 2 million. Again, rising L.A. has a higher quality-adjusted CHCI than any of the other leading cities, including Washington DC (QA CHCI: 160), Boston (QA CHCI: 156), and San Francisco (QA CHCI: 155). The same message is this: rising L.A. is the most competitive economic region among major cities in the U.S. in terms of its human capital.

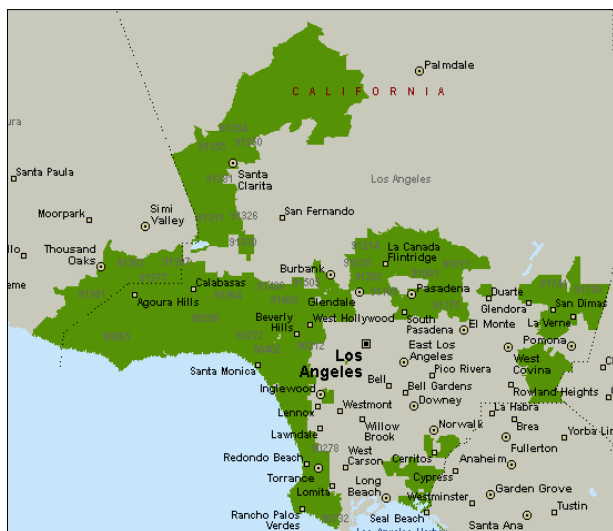
Conversely, the faltering regions of L.A. are shown in Figure 11 based on the bottom 1/3 of quality-adjusted CHCI (from 89 to 122) with an average CHCI of 109 for a population of 3.4 million. If it were an independent metropolitan area, it would be the worst among the nation's 366 metro areas. The metro with the lowest quality-adjusted CHCI is McAllen TX. Whether we focus on simple CHCI or quality-adjusted CHCI, L.A.'s extremes of human capital frame the rest of the country.

Figure 6 The 2009 City Human Capital Index in Los Angeles County by Zip Code



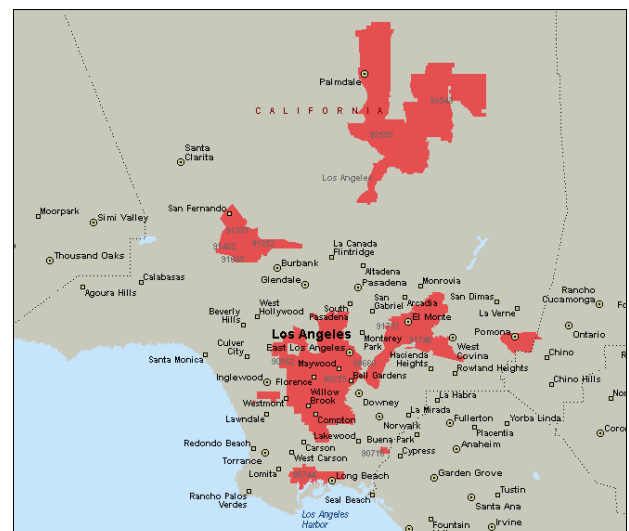
Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.

Figure 7 Prosperous L.A. Based on 2009 City Human Capital Index (Top 1/3)



Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.

Figure 8 Lagging L.A. Based on 2009 City Human Capital Index (Bottom 1/3)

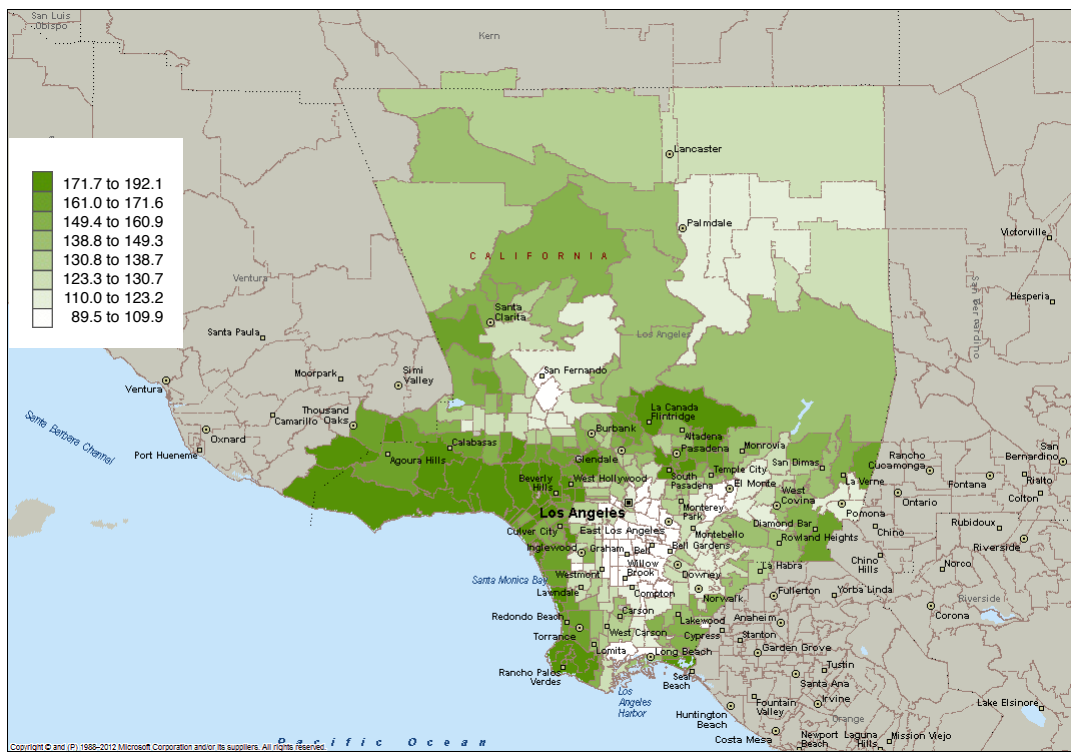


Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.



# GROWING APART IN LOS ANGELES

Figure 9 The 2009 Quality-Adjusted City Human Capital Index in Los Angeles County by Zip Code



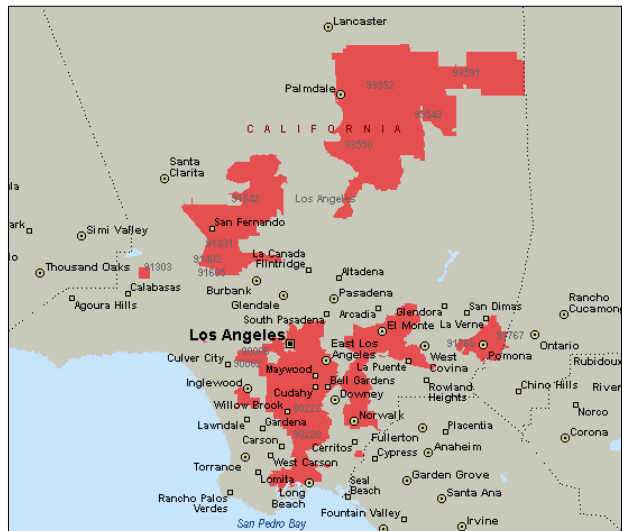
Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.

Figure 10 Prosperous L.A. Based on 2009 Quality-Adjusted City Human Capital Index



Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.

Figure 11 Lagging L.A. Based on 2009 Quality-Adjusted City Human Capital Index



Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.



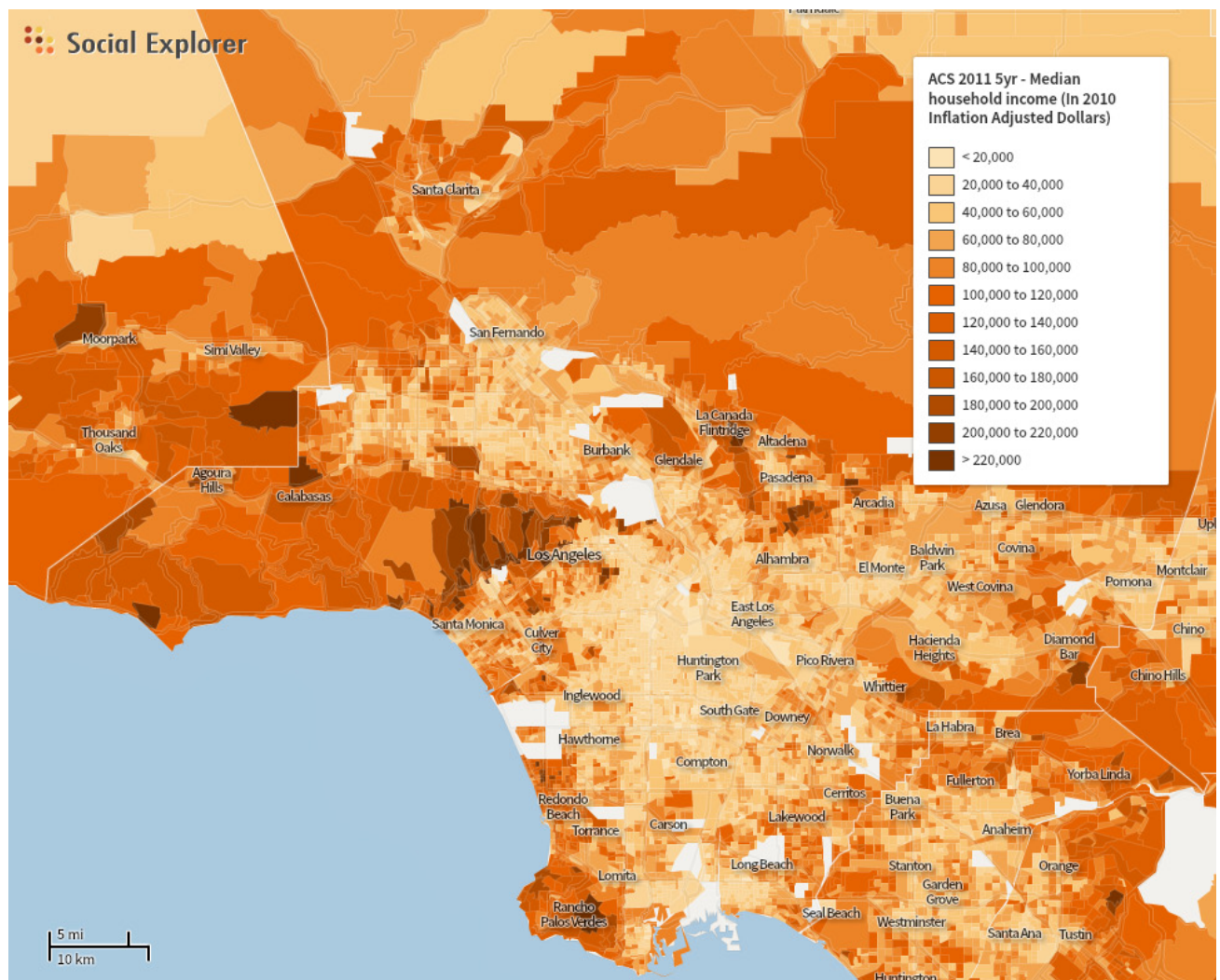
## The Association Between the CHCI and Economic Activities in Los Angeles

In previous reports, we have presented the inconvenient fact that L.A. has been falling behind other major cities in terms of job creation and income growth. We suggest that one of the main reasons is the low level of L.A.'s human capital as a whole. Are the CHCI and economic performance

correlated based on what we have found at the zip code level in L.A. County?

Figure 12 displays the 2009 median household income based on ACS 2007 to 2011 for each Census block group. The darker the color, the higher the household income of the block is. It is not surprising to see that the shading of Figure 12 corresponds with the shading of Figures 6 and 9.

Figure 12 The 2009 Median Household Income



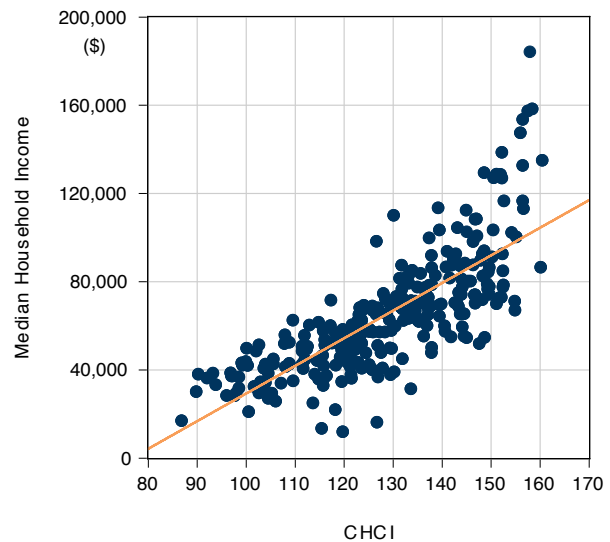
Source: 5-year American Community Survey 2007-2011 through Social Explorer; 2010 inflation adjusted dollars, by Census block group

Figure 13 shows the correlation between the 2009 CHCI and the 2009 median household income of 282 zip codes in L.A. County. We can see a very strong association between the human capital level and the household income for the zip codes of L.A. With a change of CHCI from 88 to 160, we can predict the median household income differential will be \$10,000 to \$120,000.

Figure 14 presents the 2009 median housing value based on ACS 2007 to 2011 for each Census block group. The darker the color, the higher the household income of the block. Again, we can see the resemblance of color in Figure 14 to that in Figures 6, 9, and 12. Figure 15 shows the correlation between the CHCI and the median household income of 282 zip codes in L.A. County in 2009. The human capital level is directly related to the median housing value for each zip code in L.A. With a change of CHCI from 88 to 160, we can predict that the difference in median housing value will be from \$100,000 to \$1 million.

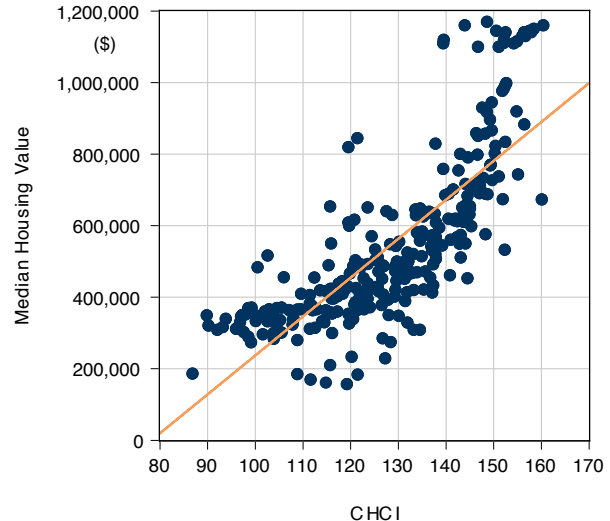
Figure 16 presents the 2009 employment to population ratio (for ages 16 and older) based on ACS 2007 to 2011 for each zip code. The darker the color, the higher the ratio in that zip code. For instance, Hermosa Beach (Zip code: 90254) and Playa del Rey (Zip code: 90254) have the highest ratio (73.8%) in L.A. By and large, we can see a similar pattern of color in Figure 16 and in Figures 6, 9, 12, and 14. There are several regions, such as Malibu, Beverly Hills, and Rancho Palos Verdes that are an exception with their high CHCI but low employment-to-population ratios. Figure 17 shows the correlation between the CHCI and the employment to population ratio of the 282 zip codes in L.A. County in 2009. The human capital level is moderately correlated to the employment resilience for zip codes in L.A. With a change of CHCI from 88 to 160, we can conjecture that the employment to population ratio will change from 50% to 65%.

Figure 13 Correlation Between the 2009 CHCI and the Median Household Income of Los Angeles County Zip Codes



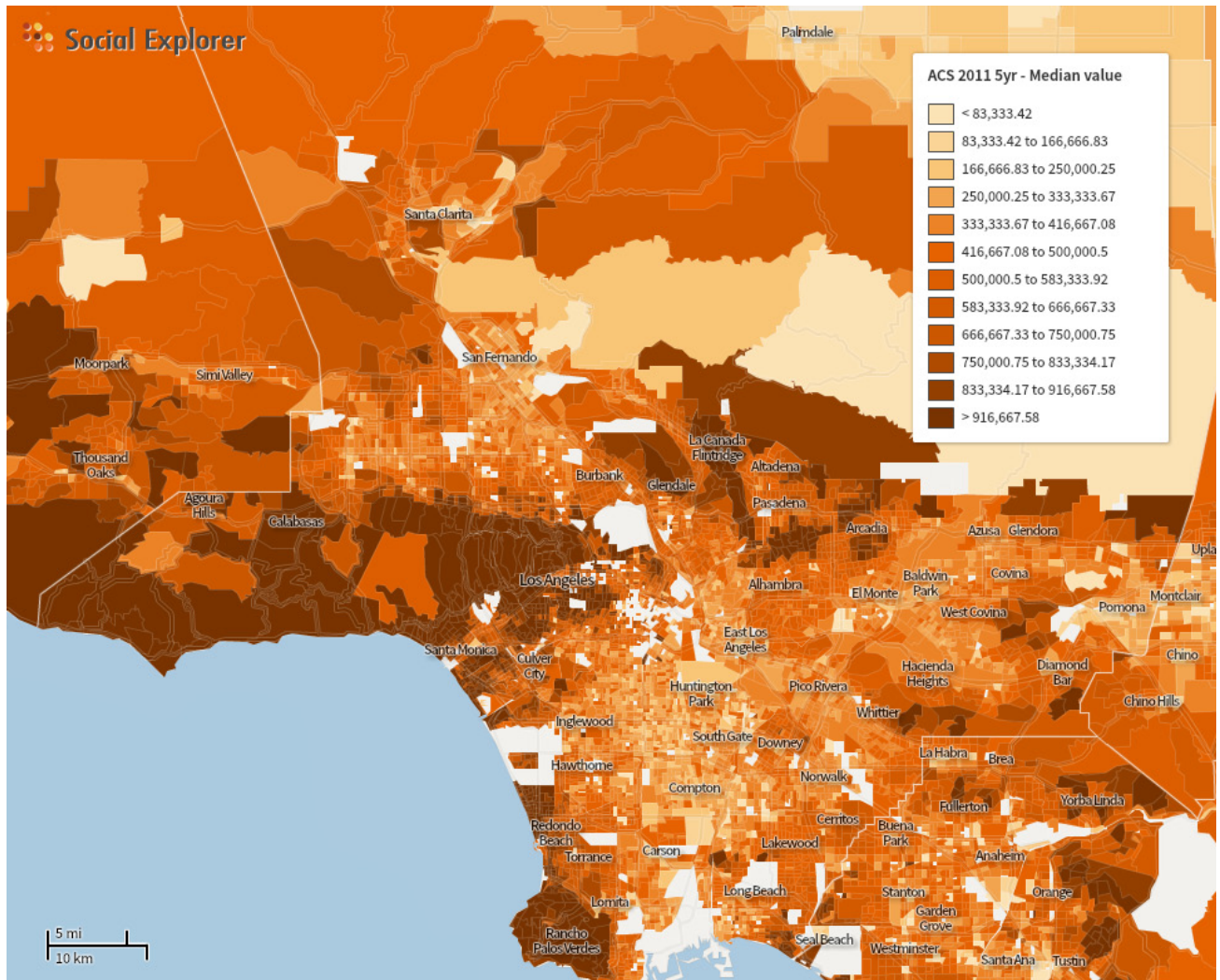
Source: 5-year American Community Survey 2007-2011

Figure 15 Correlation Between the 2009 CHCI and the Median Housing Value of Los Angeles County Zip Codes



Source: 5-year American Community Survey 2007-2011

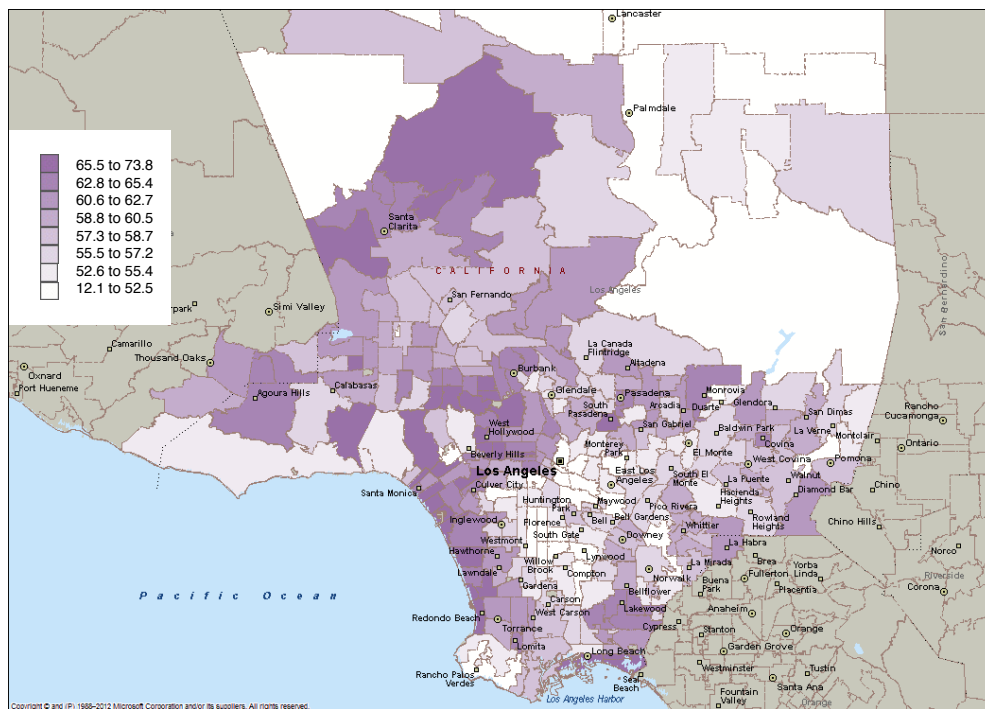
Figure 14 The 2009 Median Value of Housing Units



Source: 5-year American Community Survey 2007-2011 through Social Explorer; 2010 inflation adjusted dollars, by Census block group

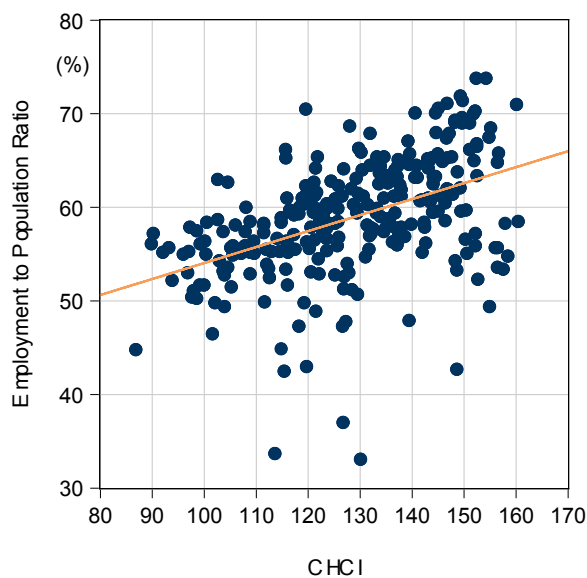


Figure 16 The Employment to Population Ratio



Source: 5-year American Community Survey 2007-2011, by Zip Code

Figure 17 Correlation Between the 2009 CHCI and the Employment to Population Ratio of Los Angeles County Zip Codes



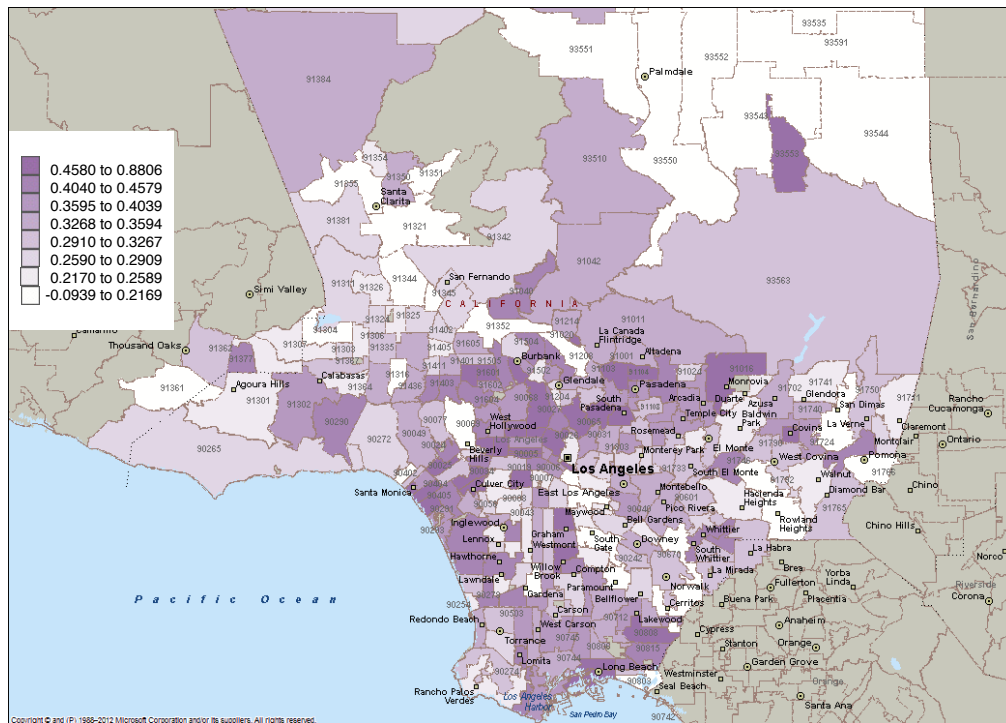
Source: 5-year American Community Survey 2007-2011

In past reports, we provided evidence that a city with higher human capital on average will have higher income, more employment, and higher home prices. In this report, the evidence indicates that the association between human capital and other economic variables among zip codes within L.A. County is similarly valid.

Figure 18 presents the nominal median income growth rate from 2000 to 2009 for each zip code in L.A. where darker colors indicate higher growth rates. For example, Downtown L.A. (Zip code: 90013) has increased 84%, Long Beach (Zip code: 90802): 74%, Pasadena (Zip code: 91103): 67%, and Montrose (Zip code: 91020): 66%. In general, the income growth of each zip code in Figure 18 resonates with the employment to population ratios in Figure 16. However, the good news is that some low-income regions in South L.A. have had relatively higher growth during the past decade.

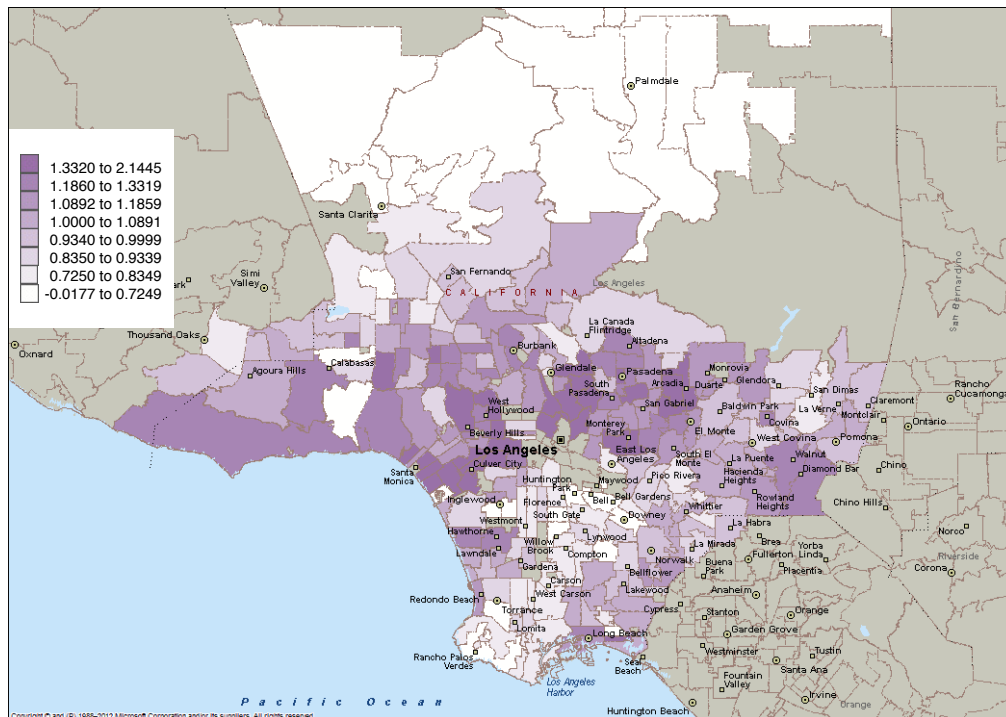
Figure 19 shows the nominal median home sale price growth rate from 2000 to 2013 for each zip code in L.A. based on Zillow. The darker the color, the higher the growth rate. For example, Venice (Zip code: 90291) has

Figure 18 The Median Household Income Growth from 2000 to 2009



Source: 5-year American Community Survey 2007-2011 and 2000 U.S. Census

Figure 19 The Median Home Sale Price Growth from 2000 to 2013



Source: Zillow.com, by Zip code

increased by 214%, Silver Lake (Zip code: 90026): 199%, San Marino (Zip code: 91108) has increased 187%, and Park La Brea (Zip code: 90036): 181%. In general, the housing price growth of each zip code in Figure 19 correlates to the employment to population ratios in Figure 16.

Figure 20 displays the total payroll employment percentage change from 2002 for L.A. County, San Diego, San Francisco, Silicon Valley, Orange County, and West L.A. where West L.A. (with a population of 619,000) is a portion of prosperous L.A. as shown in Figure 7. With its high level of human capital and surging Silicon Beach, West L.A. has had superior job creation over the past decade. In contrast, the whole of L.A. is falling behind with total negative job growth during the same period.

## Conclusions

The take-away points from our report are as follows:

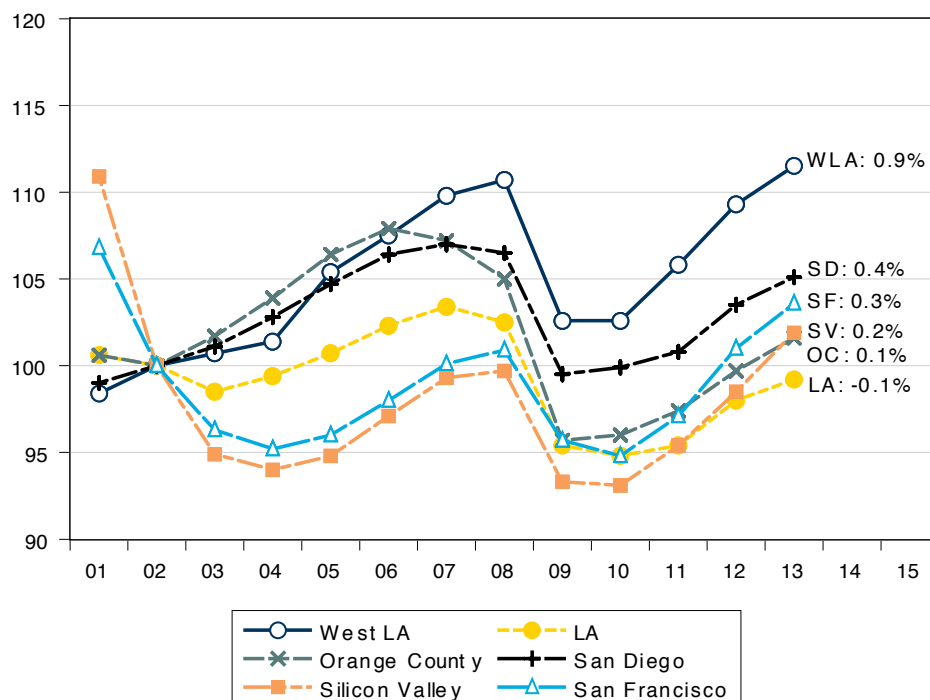
- L.A.'s human capital falls behind other major cities. The good news, though, is that we have seen L.A. make prog-

ress in the past two years as its ranking went from 28th to 27th among 30 largest cities.

- By dividing the City Human Capital Index of L.A. zip codes into three tiers and labeling the top one-third of zip codes as prosperous L.A. and the bottom one-third as faltering L.A., we begin to see a tale of two cities. Rising L.A. leads the country in human capital while falling L.A. comes in last.
- Within L.A. County, we find that regions with high human capital are not surprisingly correlated with higher income level, higher home value, and higher employment while regions with low human capital show just the opposite.

One implication of this report is this: the most significant cause of the staggering economic inequality in L.A. is its stunning disparity in human capital. If we want to achieve L.A.'s long-term shared prosperity and reduce the substantial income gap, the key is to improve human capital levels in the lagging regions of L.A. A fundamental investment into the education of L.A.'s children will yield positive results in time if undertaken with dedication and patience.

Figure 20 Total Payroll Employment Percentage Change from 2002 for Some Selected Regions in California



Source: Quarterly Census of Employment and Wages and California Employment Development Department

Note: 2013 is estimated and the percentage number on the right of each line is the compound annual growth rate.

Appendix 1 The 2012 First 5 LA/UCLA City Human Capital Index for 100 Largest Metropolitan Areas in the U.S.

| <b>2012 100 Largest Metro Areas Ranking</b>                   | <b>CHCI</b> | <b>Population</b> |
|---|-------------|-------------------|
| Madison, WI Metro Area  | 142.0       | 583,869           |
| Washington-Arlington-Alexandria, DC-VA-MD-WV Metro Area       | 141.2       | 5,804,333         |
| Bridgeport-Stamford-Norwalk, CT Metro Area                    | 140.2       | 933,835           |
| Boston-Cambridge-Quincy, MA-NH Metro Area                     | 139.3       | 4,640,802         |
| Durham-Chapel Hill, NC Metro Area                             | 138.6       | 522,826           |
| San Francisco-Oakland-Fremont, CA Metro Area                  | 138.5       | 4,455,560         |
| San Jose-Sunnyvale-Santa Clara, CA Metro Area                 | 138.4       | 1,894,388         |
| Minneapolis-St. Paul-Bloomington, MN-WI Metro Area            | 138.4       | 3,353,724         |
| Albany-Schenectady-Troy, NY Metro Area                        | 137.8       | 874,646           |
| Colorado Springs, CO Metro Area                               | 137.8       | 668,353           |
| Raleigh-Cary, NC Metro Area                                   | 137.8       | 1,188,564         |
| Provo-Orem, UT Metro Area                                     | 137.6       | 550,461           |
| Seattle-Tacoma-Bellevue, WA Metro Area                        | 137.3       | 3,552,157         |
| Denver-Aurora-Broomfield, CO Metro Area                       | 136.7       | 2,645,209         |
| Hartford-West Hartford-East Hartford, CT Metro Area           | 136.7       | 1,214,400         |
| Des Moines-West Des Moines, IA Metro Area                     | 136.6       | 588,999           |
| Portland-Vancouver-Hillsboro, OR-WA Metro Area                | 136.4       | 2,289,651         |
| Rochester, NY Metro Area                                      | 136.3       | 1,056,940         |
| Austin-Round Rock-San Marcos, TX Metro Area                   | 136.1       | 1,834,303         |
| Baltimore-Towson, MD Metro Area                               | 136.1       | 2,753,149         |
| Columbus, OH Metro Area                                       | 135.7       | 1,878,714         |
| Buffalo-Niagara Falls, NY Metro Area                          | 135.3       | 1,134,210         |
| Kansas City, MO-KS Metro Area                                 | 135.1       | 2,064,296         |
| Worcester, MA Metro Area                                      | 135.0       | 806,163           |
| Pittsburgh, PA Metro Area                                     | 134.9       | 2,360,733         |
| Omaha-Council Bluffs, NE-IA Metro Area                        | 134.6       | 886,348           |
| Milwaukee-Waukesha-West Allis, WI Metro Area                  | 134.4       | 1,566,981         |
| Honolulu, HI Metro Area                                       | 134.4       | 976,372           |
| Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metro Area        | 134.3       | 6,018,800         |
| Syracuse, NY Metro Area                                       | 134.2       | 660,934           |
| Columbia, SC Metro Area                                       | 134.1       | 785,641           |
| Atlanta-Sandy Springs-Marietta, GA Metro Area                 | 134.1       | 5,442,113         |
| Salt Lake City, UT Metro Area                                 | 134.0       | 1,161,715         |
| Ogden-Clearfield, UT Metro Area                               | 134.0       | 562,356           |
| St. Louis, MO-IL Metro Area                                   | 133.9       | 2,819,381         |
| New Haven-Milford, CT Metro Area                              | 133.9       | 862,813           |
| San Diego-Carlsbad-San Marcos, CA Metro Area                  | 133.8       | 3,177,063         |
| Virginia Beach-Norfolk-Newport News, VA-NC Metro Area         | 133.7       | 1,693,567         |
| Poughkeepsie-Newburgh-Middletown, NY Metro Area               | 133.6       | 671,834           |
| North Port-Bradenton-Sarasota, FL Metro Area                  | 133.6       | 720,042           |
| Boise City-Nampa, ID Metro Area                               | 133.5       | 635,964           |
| New York-Northern New Jersey-Long Island, NY-NJ-PA Metro Area | 133.5       | 19,160,024        |
| Indianapolis-Carmel, IN Metro Area                            | 133.5       | 1,798,786         |
| Akron, OH Metro Area  | 133.4       | 702,262           |
| Charleston-North Charleston-Summerville, SC Metro Area        | 133.4       | 697,439           |
| Nashville-Davidson--Murfreesboro--Franklin, TN Metro Area     | 133.4       | 1,645,638         |
| Charlotte-Gastonia-Rock Hill, NC-SC Metro Area                | 133.3       | 1,831,084         |
| Richmond, VA Metro Area                                       | 133.3       | 1,280,678         |
| Chicago-Joliet-Naperville, IL-IN-WI Metro Area                | 133.3       | 9,522,446         |
| Springfield, MA Metro Area                                    | 133.2       | 697,258           |

Source: Author's calculation based on the 1-year American Community Survey, 2012.



| <b>2012 100 Largest Metro Areas Ranking</b>         | <b>CHCI</b> | <b>Population</b> |
|---|-------------|-------------------|
| Cincinnati-Middletown, OH-KY-IN Metro Area          | 133.1       | 2,146,560         |
| Tucson, AZ Metro Area                               | 132.9       | 992,394           |
| Jackson, MS Metro Area                              | 132.8       | 548,945           |
| Sacramento--Arden-Arcade--Roseville, CA Metro Area  | 132.7       | 2,196,482         |
| Detroit-Warren-Livonia, MI Metro Area               | 132.6       | 4,292,060         |
| Harrisburg-Carlisle, PA Metro Area                  | 132.5       | 553,980           |
| Cleveland-Elyria-Mentor, OH Metro Area              | 132.5       | 2,063,535         |
| Wichita, KS Metro Area                              | 132.4       | 628,242           |
| Dayton, OH Metro Area                               | 132.4       | 842,858           |
| Jacksonville, FL Metro Area                         | 132.2       | 1,377,850         |
| Palm Bay-Melbourne-Titusville, FL Metro Area        | 132.2       | 547,307           |
| Little Rock-North Little Rock-Conway, AR Metro Area | 132.2       | 715,210           |
| Albuquerque, NM Metro Area                          | 132.1       | 902,794           |
| Grand Rapids-Wyoming, MI Metro Area                 | 132.1       | 785,352           |
| Orlando-Kissimmee-Sanford, FL Metro Area            | 131.7       | 2,223,674         |
| Birmingham-Hoover, AL Metro Area                    | 131.5       | 1,136,650         |
| Toledo, OH Metro Area                               | 131.5       | 650,050           |
| Allentown-Bethlehem-Easton, PA-NJ Metro Area        | 131.5       | 827,171           |
| Knoxville, TN Metro Area                            | 131.5       | 709,492           |
| Tampa-St. Petersburg-Clearwater, FL Metro Area      | 131.5       | 2,842,878         |
| Oklahoma City, OK Metro Area                        | 131.4       | 1,296,565         |
| Louisville/Jefferson County, KY-IN Metro Area       | 131.1       | 1,302,457         |
| Providence-New Bedford-Fall River, RI-MA Metro Area | 130.7       | 1,601,374         |
| Tulsa, OK Metro Area                                | 130.6       | 951,514           |
| Phoenix-Mesa-Glendale, AZ Metro Area                | 130.5       | 4,329,534         |
| Oxnard-Thousand Oaks-Ventura, CA Metro Area         | 130.3       | 835,981           |
| Baton Rouge, LA Metro Area                          | 130.3       | 815,298           |
| Greenville-Mauldin-Easley, SC Metro Area            | 130.1       | 653,498           |
| Dallas-Fort Worth-Arlington, TX Metro Area          | 130.1       | 6,647,496         |
| Scranton--Wilkes-Barre, PA Metro Area               | 130.0       | 563,629           |
| Miami-Fort Lauderdale-Pompano Beach, FL Metro Area  | 129.9       | 5,762,717         |
| Memphis, TN-MS-AR Metro Area                        | 129.8       | 1,333,315         |
| Greensboro-High Point, NC Metro Area                | 129.4       | 736,065           |
| New Orleans-Metairie-Kenner, LA Metro Area          | 129.1       | 1,205,374         |
| Cape Coral-Fort Myers, FL Metro Area                | 129.0       | 645,293           |
| Augusta-Richmond County, GA-SC Metro Area           | 128.6       | 568,161           |
| Chattanooga, TN-GA Metro Area                       | 128.2       | 539,094           |
| San Antonio-New Braunfels, TX Metro Area            | 128.1       | 2,234,003         |
| Los Angeles-Long Beach-Santa Ana, CA Metro Area     | 127.9       | 13,052,921        |
| Houston-Sugar Land-Baytown, TX Metro Area           | 127.8       | 6,204,161         |
| Youngstown-Warren-Boardman, OH-PA Metro Area        | 127.4       | 558,206           |
| Las Vegas-Paradise, NV Metro Area                   | 126.6       | 2,000,759         |
| Lancaster, PA Metro Area                            | 125.4       | 526,823           |
| Lakeland-Winter Haven, FL Metro Area                | 125.3       | 616,158           |
| Riverside-San Bernardino-Ontario, CA Metro Area     | 123.4       | 4,350,096         |
| Stockton, CA Metro Area                             | 122.4       | 702,612           |
| El Paso, TX Metro Area                              | 120.9       | 827,398           |
| Fresno, CA Metro Area                               | 118.8       | 947,895           |
| Bakersfield-Delano, CA Metro Area                   | 117.7       | 856,158           |
| McAllen-Edinburg-Mission, TX Metro Area             | 112.5       | 806,552           |

Source: Author's calculation based on the 1-year American Community Survey, 2012.

Appendix 2 The 2009 First 5 LA/UCLA City Human Capital for Zip Codes in L.A. County

| Zip Code | CHCI  | Zip Code | CHCI  | Zip Code | CHCI  | Zip Code | CHCI  |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 90001    | 92.0  | 90038    | 119.5 | 90230    | 137.6 | 90404    | 141.8 |
| 90002    | 98.5  | 90039    | 134.6 | 90232    | 143.0 | 90405    | 152.4 |
| 90003    | 97.6  | 90040    | 102.0 | 90240    | 125.7 | 90501    | 128.3 |
| 90004    | 121.4 | 90041    | 135.0 | 90241    | 120.5 | 90502    | 126.5 |
| 90005    | 115.7 | 90042    | 119.4 | 90242    | 118.2 | 90503    | 143.4 |
| 90006    | 102.6 | 90043    | 125.1 | 90245    | 144.6 | 90504    | 134.5 |
| 90007    | 118.2 | 90044    | 105.2 | 90247    | 121.2 | 90505    | 144.1 |
| 90008    | 129.5 | 90045    | 145.8 | 90248    | 121.9 | 90601    | 129.3 |
| 90010    | 137.9 | 90046    | 147.6 | 90249    | 125.9 | 90602    | 121.3 |
| 90011    | 89.8  | 90047    | 120.5 | 90250    | 119.8 | 90603    | 135.6 |
| 90012    | 113.6 | 90048    | 149.6 | 90254    | 154.2 | 90604    | 123.0 |
| 90013    | 126.7 | 90049    | 156.6 | 90255    | 97.2  | 90605    | 117.3 |
| 90014    | 119.7 | 90056    | 150.2 | 90260    | 118.8 | 90606    | 112.9 |
| 90015    | 106.0 | 90057    | 104.5 | 90262    | 99.9  | 90631    | 125.8 |
| 90016    | 114.8 | 90058    | 86.8  | 90265    | 150.5 | 90638    | 132.5 |
| 90017    | 100.5 | 90059    | 101.6 | 90266    | 156.4 | 90640    | 117.5 |
| 90018    | 109.6 | 90061    | 103.9 | 90270    | 90.2  | 90650    | 117.2 |
| 90019    | 123.6 | 90062    | 107.1 | 90272    | 158.4 | 90660    | 111.9 |
| 90020    | 130.2 | 90063    | 96.8  | 90274    | 156.4 | 90670    | 116.0 |
| 90021    | 115.4 | 90064    | 149.2 | 90275    | 152.6 | 90701    | 122.7 |
| 90022    | 97.0  | 90065    | 121.0 | 90277    | 148.2 | 90703    | 141.9 |
| 90023    | 93.8  | 90066    | 139.4 | 90278    | 147.1 | 90704    | 119.5 |
| 90024    | 154.9 | 90067    | 148.6 | 90280    | 100.3 | 90706    | 121.0 |
| 90025    | 148.2 | 90068    | 151.8 | 90290    | 151.1 | 90710    | 123.6 |
| 90026    | 120.8 | 90069    | 149.7 | 90291    | 146.7 | 90712    | 132.9 |
| 90027    | 137.8 | 90077    | 157.9 | 90292    | 155.1 | 90713    | 133.9 |
| 90028    | 133.6 | 90089    | 138.8 | 90293    | 152.3 | 90715    | 126.8 |
| 90029    | 115.9 | 90094    | 160.1 | 90301    | 114.0 | 90716    | 105.1 |
| 90031    | 102.9 | 90201    | 93.2  | 90302    | 121.3 | 90717    | 130.4 |
| 90032    | 112.0 | 90210    | 148.6 | 90303    | 108.8 | 90723    | 105.5 |
| 90033    | 97.9  | 90211    | 143.9 | 90304    | 98.5  | 90731    | 122.2 |
| 90034    | 140.6 | 90212    | 152.5 | 90305    | 137.1 | 90732    | 137.8 |
| 90035    | 146.7 | 90220    | 108.8 | 90401    | 148.7 | 90742    | 139.5 |
| 90036    | 152.1 | 90221    | 99.1  | 90402    | 160.4 | 90744    | 103.6 |
| 90037    | 96.0  | 90222    | 103.9 | 90403    | 154.8 | 90745    | 124.0 |

| Zip Code | CHCI  | Zip Code | CHCI  | Zip Code | CHCI  | Zip Code | CHCI  |
|----------|-------|----------|-------|----------|-------|----------|-------|
| 90746    | 131.8 | 91204    | 125.7 | 91367    | 145.3 | 91741    | 138.6 |
| 90755    | 135.3 | 91205    | 126.9 | 91377    | 151.9 | 91744    | 107.9 |
| 90802    | 131.9 | 91206    | 136.2 | 91381    | 144.9 | 91745    | 131.0 |
| 90803    | 151.1 | 91207    | 146.3 | 91384    | 126.6 | 91746    | 109.5 |
| 90804    | 122.9 | 91208    | 147.8 | 91387    | 133.2 | 91748    | 132.1 |
| 90805    | 114.5 | 91214    | 143.6 | 91390    | 139.2 | 91750    | 137.3 |
| 90806    | 115.8 | 91301    | 146.7 | 91401    | 124.4 | 91754    | 126.8 |
| 90807    | 137.1 | 91302    | 152.2 | 91402    | 108.0 | 91755    | 122.1 |
| 90808    | 141.0 | 91303    | 115.6 | 91403    | 149.3 | 91765    | 142.8 |
| 90810    | 116.1 | 91304    | 125.2 | 91405    | 116.4 | 91766    | 111.4 |
| 90813    | 103.6 | 91306    | 121.6 | 91406    | 121.1 | 91767    | 116.1 |
| 90814    | 145.0 | 91307    | 142.3 | 91411    | 121.8 | 91768    | 112.5 |
| 90815    | 143.1 | 91311    | 137.9 | 91423    | 146.6 | 91770    | 112.4 |
| 91001    | 137.9 | 91316    | 144.1 | 91436    | 152.2 | 91773    | 136.7 |
| 91006    | 141.5 | 91321    | 122.0 | 91501    | 135.2 | 91775    | 136.5 |
| 91007    | 142.6 | 91324    | 133.1 | 91502    | 125.6 | 91776    | 123.6 |
| 91008    | 139.4 | 91325    | 136.9 | 91504    | 133.7 | 91780    | 133.9 |
| 91010    | 123.6 | 91326    | 145.0 | 91505    | 137.2 | 91789    | 142.4 |
| 91011    | 156.0 | 91330    | 138.7 | 91506    | 136.7 | 91790    | 123.5 |
| 91016    | 131.9 | 91331    | 100.1 | 91601    | 129.7 | 91791    | 131.9 |
| 91020    | 143.3 | 91335    | 120.8 | 91602    | 144.5 | 91792    | 131.4 |
| 91024    | 149.4 | 91340    | 102.6 | 91604    | 149.6 | 91801    | 129.3 |
| 91030    | 152.4 | 91342    | 114.8 | 91605    | 111.4 | 91803    | 125.1 |
| 91040    | 130.6 | 91343    | 118.8 | 91606    | 118.3 | 93510    | 131.7 |
| 91042    | 129.6 | 91344    | 134.9 | 91607    | 140.5 | 93532    | 134.5 |
| 91101    | 144.5 | 91345    | 122.8 | 91702    | 119.5 | 93534    | 121.5 |
| 91103    | 119.7 | 91350    | 137.3 | 91706    | 107.8 | 93535    | 119.2 |
| 91104    | 128.7 | 91351    | 128.0 | 91711    | 148.3 | 93536    | 128.4 |
| 91105    | 156.4 | 91352    | 111.4 | 91722    | 123.2 | 93543    | 108.8 |
| 91106    | 143.7 | 91354    | 143.1 | 91723    | 129.2 | 93544    | 120.2 |
| 91107    | 144.0 | 91355    | 140.8 | 91724    | 131.3 | 93550    | 111.6 |
| 91108    | 157.5 | 91356    | 139.8 | 91731    | 104.5 | 93551    | 133.2 |
| 91201    | 127.5 | 91361    | 150.4 | 91732    | 105.5 | 93552    | 115.7 |
| 91202    | 137.6 | 91362    | 147.0 | 91733    | 99.2  | 93553    | 127.2 |
| 91203    | 127.8 | 91364    | 146.3 | 91740    | 129.4 | 93563    | 130.1 |
|          |       |          |       |          |       | 93591    | 114.8 |

Source: Author's calculation based on the 5-year American Community Survey, 2007-2011.