

# *Measures of Distribution and Concentration*

Pam Perlich  
URBPL 5/6010: Urban Research  
University of Utah  
Revised 11/08/2006

# Measures

---

- Index of Dissimilarity
  - Compares subset to entire group – evenness
- Location Quotient
  - Relative Concentration
- Hachman Index
  - Index of Similarity – Weighted LQ
- Gini Coefficient / Lorenz Curve
  - Inequality

# Racial and Ethnic Residential Segregation in the United States: 1980-2000

*Census 2000 Special Reports*

Issued August 2002

CENSR-3

By  
John Iceland  
and  
Daniel H. Weinberg  
with  
Erika Steinmetz

<http://www.census.gov/hhes/www/housing/resseg/pdfdoc.html>

U S C E N S U S B U R E A U

*Helping You Make Informed Decisions • 1902-2002*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU

United States  
**Census  
2000**

http://www.census.gov/hhes/www/housing/housing\_patterns/gettable\_msa.html

uguide.pdf American Communit... Uin\_Profile.pdf (ap...

Housing Patterns - MSA/PMSA Table Creation

**U.S. Census Bureau**

**Housing Patterns** powered by Google  Search This Site

[Housing Patterns Main](#) [Overview](#) [Report Materials](#) [Working Papers](#) [Definitions](#)

**MSA/PMSA Table Creation**

To create a table, select one or more items in the Race/Ethnicity list, one or more items in the MSA/PMSA list, any number of items in the index list, one or more years in the year list, and a unit of analysis, and press the Get Table button. Note that indexes may be displayed in columns or in rows. (Columns are generally preferable, but tables with a large number of indexes may be too wide to print.) See list of the [data that are not available](#). Note that there is a limit to the size of a generated table; see [criteria for a table that is too large to display](#).

| Race / Ethnicity                           | MSA / PMSA                   |
|--|------------------------------|
| All Race/Ethnic Groups                     | St. Louis, MO MSA            |
| American Indian and Alaska Native          | Salem, OR PMSA               |
| Asian and Pacific Islander                 | Salinas, CA MSA              |
| Asian                                      | Salt Lake City-Ogden, UT MSA |
| Native Hawaiian and Other Pacific Islander | San Angelo, TX MSA           |
| Black or African American                  | San Antonio, TX MSA          |
| Non-Hispanic Black or African American     | San Diego, CA MSA            |
| Hispanic                                   | San Francisco, CA PMSA       |

| Index                            | Year      | Unit of Analysis |
|----------------------------------|-----------|------------------|
| Atkinson with b=5 (A5)           | All Years | Tract            |
| Atkinson with b=9 (A9)           | 2000      | Block Group      |
| Correlation Ratio (V)            | 1990      |                  |
| Dissimilarity (D)                | 1980      |                  |
| Distance Decay Isolation (DPxx*) |           |                  |

Display indices in  Columns or  Rows

After you have made your selections, then  or

**Criteria for a Table that is Too Large to Display**

A table will be generated unless it is so large that it will take a browser an excessively long time to load. You may generate a smaller table or, from these linked pages, you may download the data for all MSAs/PMSAs in [text file](#) or [Excel file](#) format. A table is "too large to display" if it meets any of the criteria below.

For tables with indices displayed in COLUMNS:

Interpolation.xls

Done

Adblock

start D:\AAA\LRB... D:\AAA\Cen... Microsoft... Firefox Microsoft... Microsoft Po... censr-3.pdf Adobe Acrob... 5:22 PM

[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

## Study Overview

---

- Measure changes in housing segregation – 1980, 1990, 2000
- Used 5 measure, including the Index of Dissimilarity
- Relied on decennial census data
- Had to bridge changes in definitions for “apples-to-apples” comparison

# Bridges: Race / Ethnicity

---

- Non-Hispanic Whites are reference group
  - 2000: White alone, Not Hispanic
  - In the report, total population = non-Hispanic Whites + the subject minority group.
- Other groups – 1990 categories:
  - African American (Black)
  - Asian and Pacific Islander (API)
  - American Indian and Alaska Native (AIAN)
  - Hispanic
- For 2000
  - Include those who selected a race alone or in combination with others
  - Separate Asian and Native Hawaiian and Other Pacific Islander (NHOPI)

## Bridges: Areas

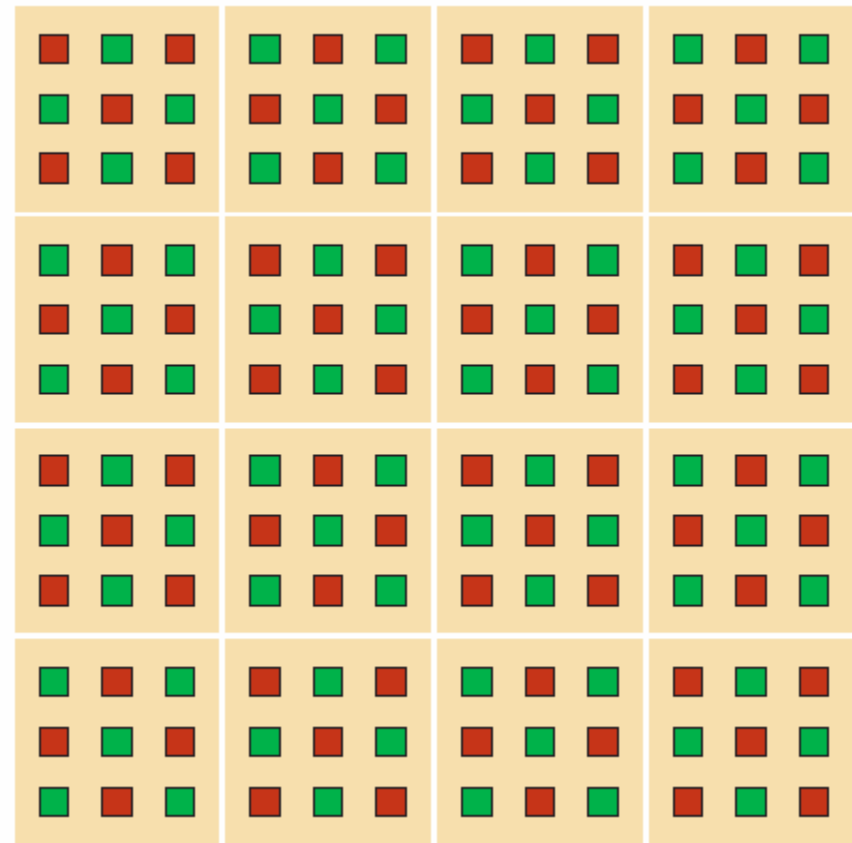
---

- Housing Markets – Metropolitan Areas
  - Independent and Primary MSAs (not consolidated)
  - Measure same area as June 30, 1999 definitions
- Small Areas = census tracts
  - 2,500 to 8,000 people
  - Approximates “neighborhood”

# Index of Dissimilarity: Evenness

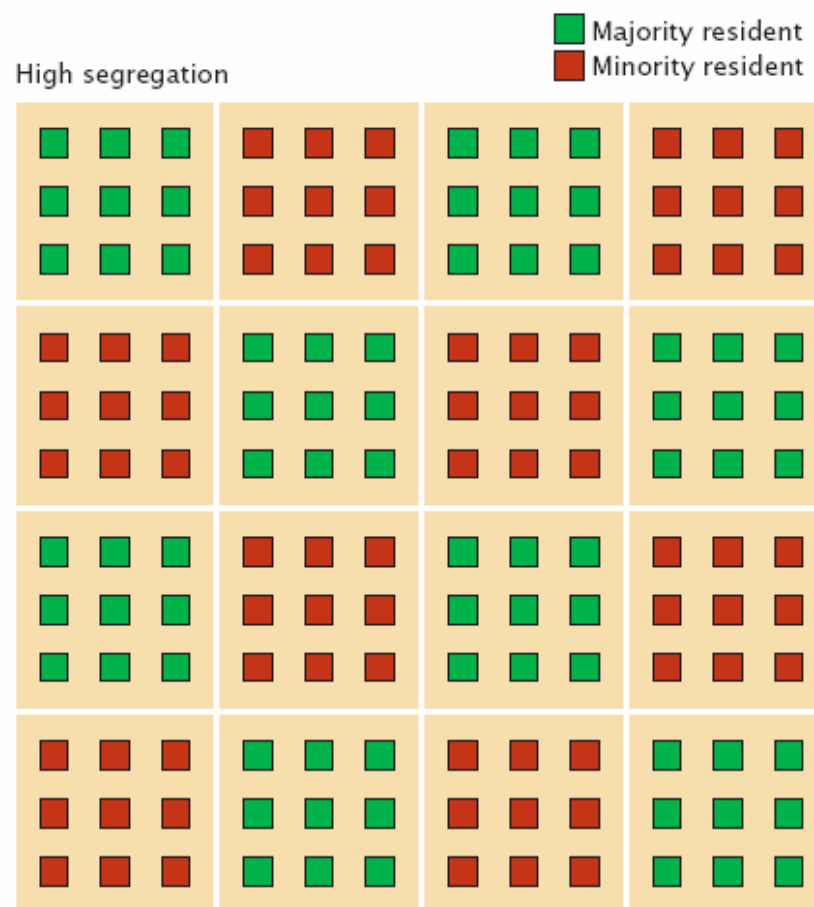
- If  $ID = \text{zero}$  → even distribution
  - Distribution in sub areas is identical to distribution in total area
  - Complete integration

Low segregation



# Index of Dissimilarity: Evenness

- If  $ID = one \rightarrow$  uneven distribution
  - Subgroups are concentrated spatially
  - Complete segregation



## Calculation for Hispanics

---

$$ID = \frac{\sum_i (t_i | p_i - P |)}{2TP(1 - P)}$$

Summing data for all census tracts (there are  $i$ ) within a given area

$t_i$  is the total population in tract  $i$

$p_i$  is the Hispanic share (proportion) of the population tract  $i$

$T$  is the total population of the larger area (e.g., city or metro)

$P$  is the Hispanic share (proportion) of the population in the larger area

Note: In the report, the index is calculated as if non-Hispanic Whites and the minority group in question were the only two groups in the total population.

# Perfect Equality

---

|                     | Tract 1 | Tract 2 | Total |
|---------------------|---------|---------|-------|
| Hispanic Population | 10      | 90      | 100   |
| Total Population    | 100     | 900     | 1,000 |

**Note: In the report, the index is calculated as if non-Hispanic Whites and the minority group in question were the only two groups in the total population.**

## Example: Perfect Equality

---

$$ID = \frac{\sum_i (t_i | p_i - P |)}{2TP(1 - P)}$$

If Hispanics are the same share (proportion) of the population in all tracts

- $p_i = P$
- $p_i - P = 0$
- Numerator is zero
- $ID = \text{zero}$

**Note: In the report, the index is calculated as if non-Hispanic Whites and the minority group in question were the only two groups in the total population.**

## Example: Complete Inequality

---

|                     | Tract 1 | Tract 2 | Total |
|---------------------|---------|---------|-------|
| Hispanic Population | 100     | 0       | 100   |
| Total Population    | 100     | 900     | 1,000 |

**Note: In the report, the index is calculated as if non-Hispanic Whites and the minority group in question were the only two groups in the total population.**

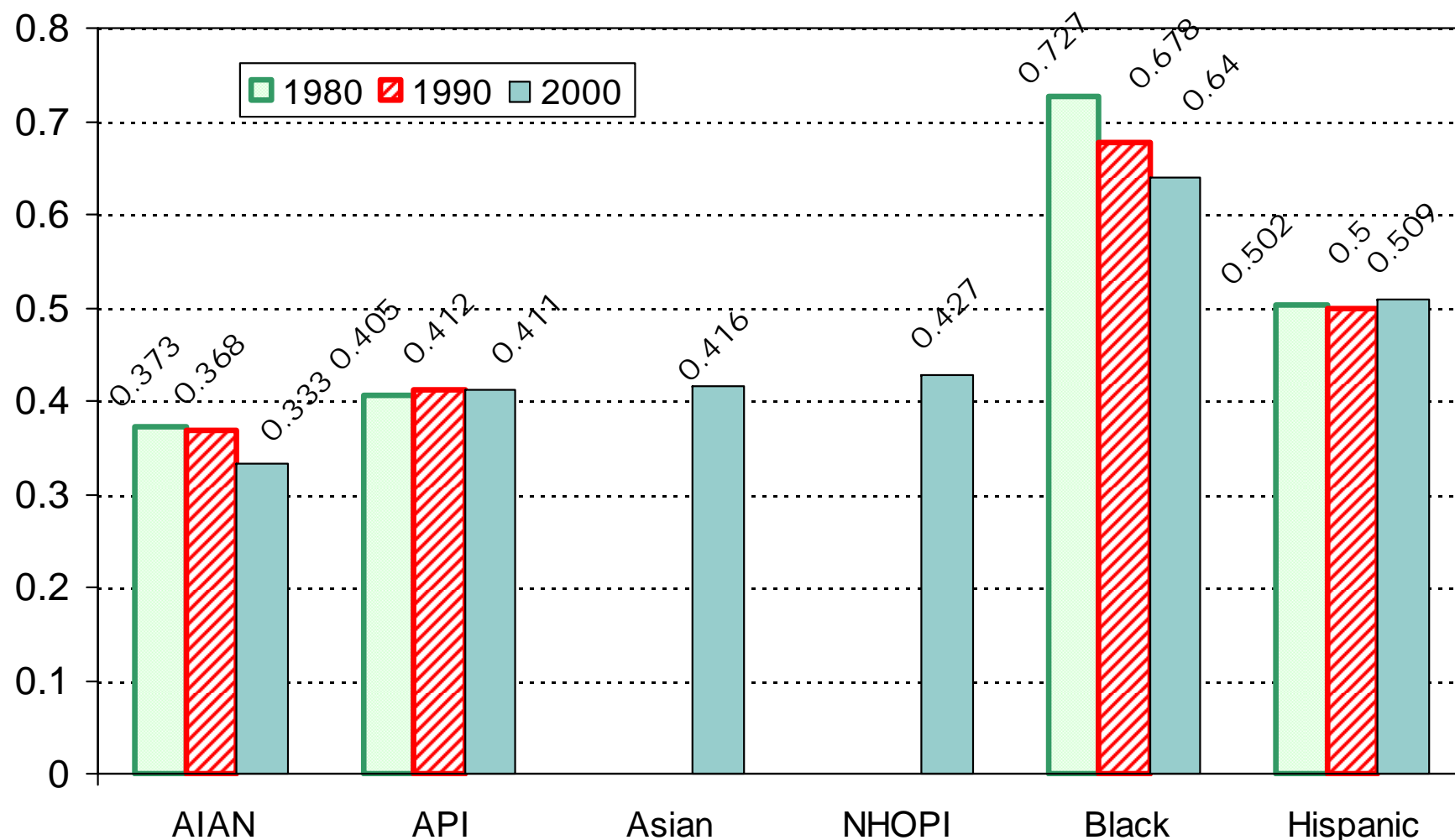
## Example: Perfect Inequality

---

$$ID = \frac{100 * |100\% - 10\%| + 900 * |0\% - 10\%|}{2 * 1,000 * 10\% * (1 - 10\%)}$$

$$ID = \frac{90 + 90}{200 * (90\%)} = 1$$

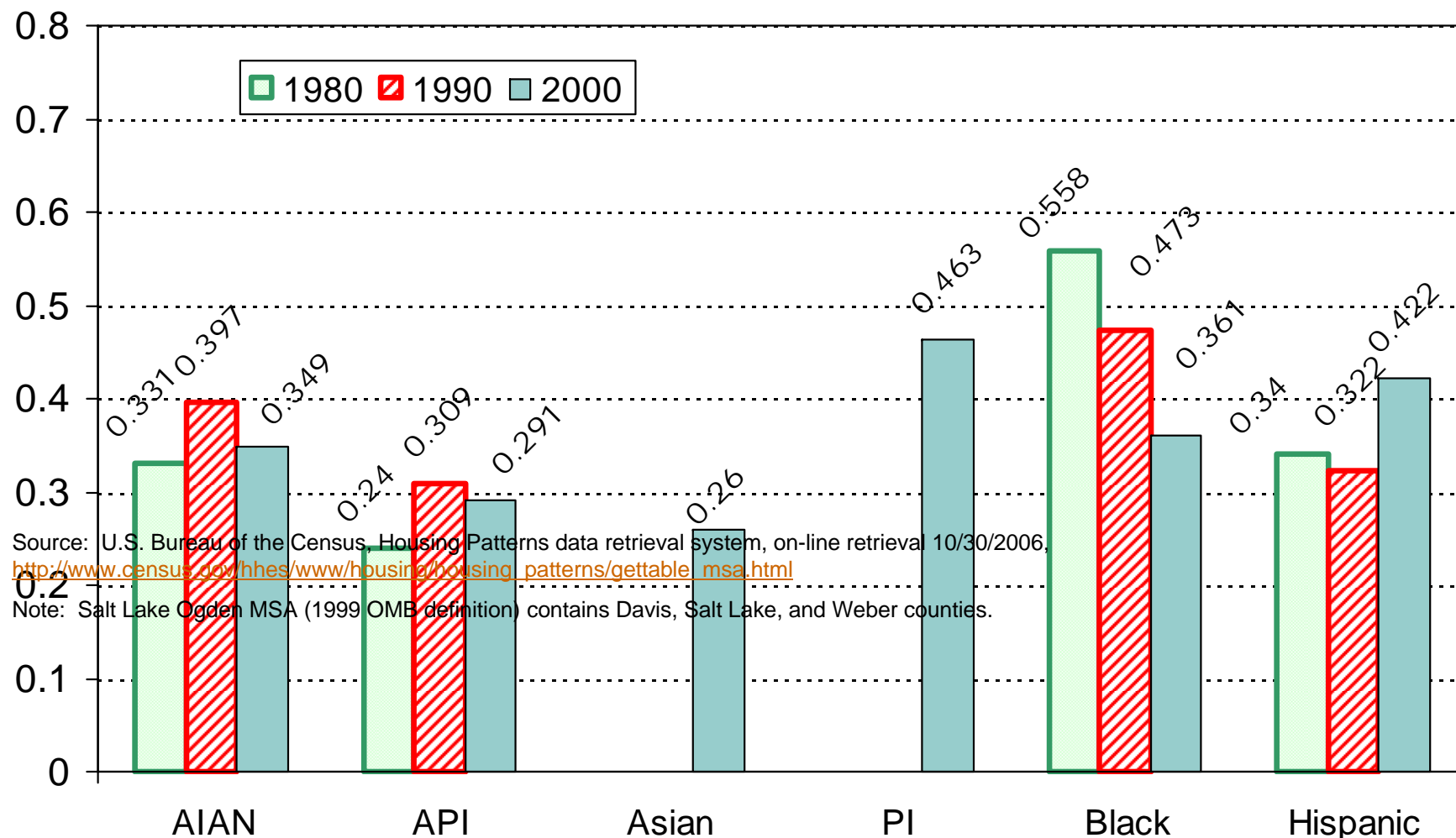
# All MSAs Index of Dissimilarity- 1980, 1990, 2000 (Tract)



Note: AIAN: American Indian and Alaska Native; API: Asian and Pacific Islander; NHOPI: Native Hawaiian and Other Pacific Islander.

Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Salt Lake Ogden MSA Index of Dissimilarity- 1980, 1990, 2000 (Tract)



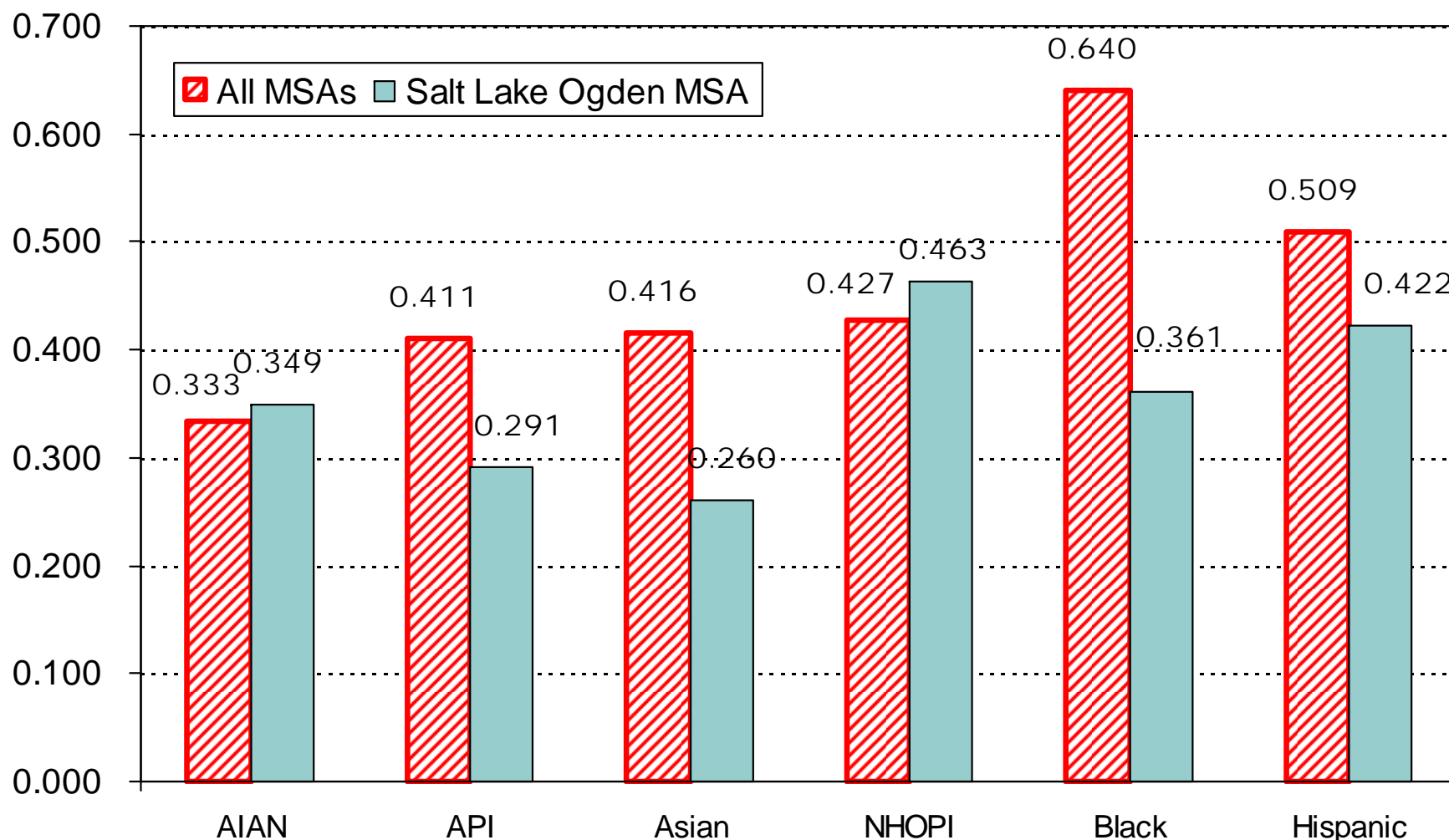
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006, [http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

Note: Salt Lake Ogden MSA (1999 OMB definition) contains Davis, Salt Lake, and Weber counties.

Note: AIAN: American Indian and Alaska Native; API: Asian and Pacific Islander; NHOPI: Native Hawaiian and Other Pacific Islander. Salt Lake Ogden MSA (1999 OMB definition) contains Davis, Salt Lake, and Weber counties.

Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006, <http://www.census.gov/hhes/www/housing/> Perlich, U of U

# All MSAs and Salt Lake Ogden MSA Index of Dissimilarity- 2000 (Tract)

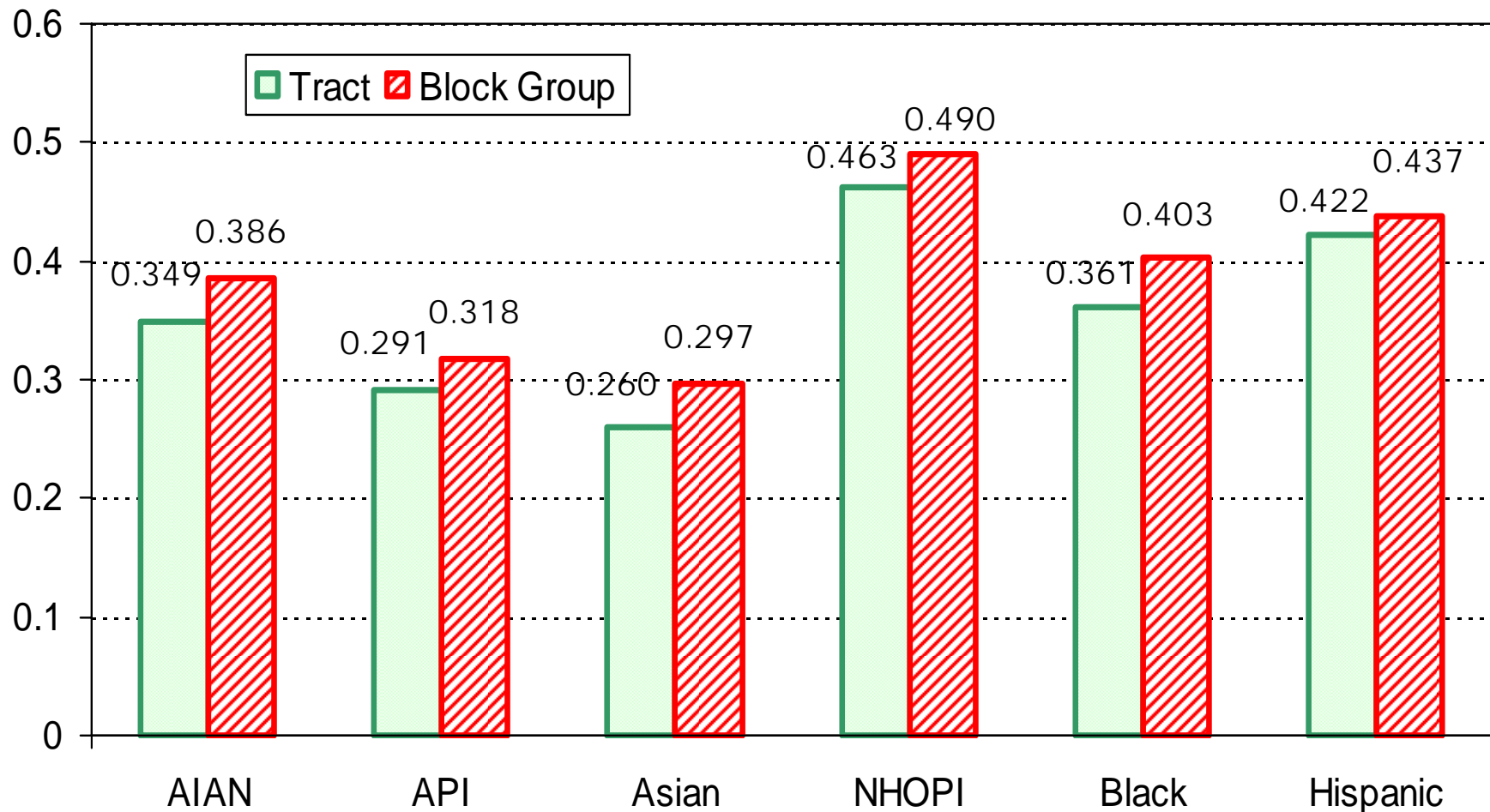


Note: AIAN: American Indian and Alaska Native; API: Asian and Pacific Islander; NHOPI: Native Hawaiian and Other Pacific Islander. Salt Lake Ogden MSA (1999 OMB definition) contains Davis, Salt Lake, and Weber counties.

Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006, <http://www.census.gov/hhes/www/housing/>

Perlich, U of U

# Salt Lake Ogden MSA Index of Dissimilarity, 2000 - Tract and Block Group



Note: AIAN: American Indian and Alaska Native; API: Asian and Pacific Islander; NHOPI: Native Hawaiian and Other Pacific Islander. Salt Lake Ogden MSA (1999 OMB definition) contains Davis, Salt Lake, and Weber counties.

Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006, <http://www.census.gov/hhes/www/housing/>

Perlich, U of U

## Index of Dissimilarity- All MSAs

|          | 1980  | 1990  | 2000  |
|----------|-------|-------|-------|
| AIAN     | 0.373 | 0.368 | 0.333 |
| API      | 0.405 | 0.412 | 0.411 |
| Asian    | N/A   | N/A   | 0.416 |
| NHOPI    | N/A   | N/A   | 0.427 |
| Black    | 0.727 | 0.678 | 0.640 |
| Hispanic | 0.502 | 0.50  | 0.509 |

Source: Iceland, John, Daniel H. Weinberg, and Erika Steinmetz, U.S. Census Bureau, Series CENSR-3, *Racial and Ethnic Residential Segregation in the United States: 1980-2000, 2002.*

Perlich, U of U

## Index of Dissimilarity - Salt Lake Ogden MSA

---

| Group              | 1980  | 1990  | 2000  |
|--------------------|-------|-------|-------|
| AIAN               | 0.331 | 0.397 | 0.349 |
| API                | 0.24  | 0.309 | 0.291 |
| Asian              | N/A   | N/A   | 0.26  |
| NHOPI              | N/A   | N/A   | 0.463 |
| Black              | 0.558 | 0.473 | 0.361 |
| Non-Hispanic Black | 0.558 | 0.471 | 0.359 |
| Hispanic           | 0.34  | 0.322 | 0.422 |

Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

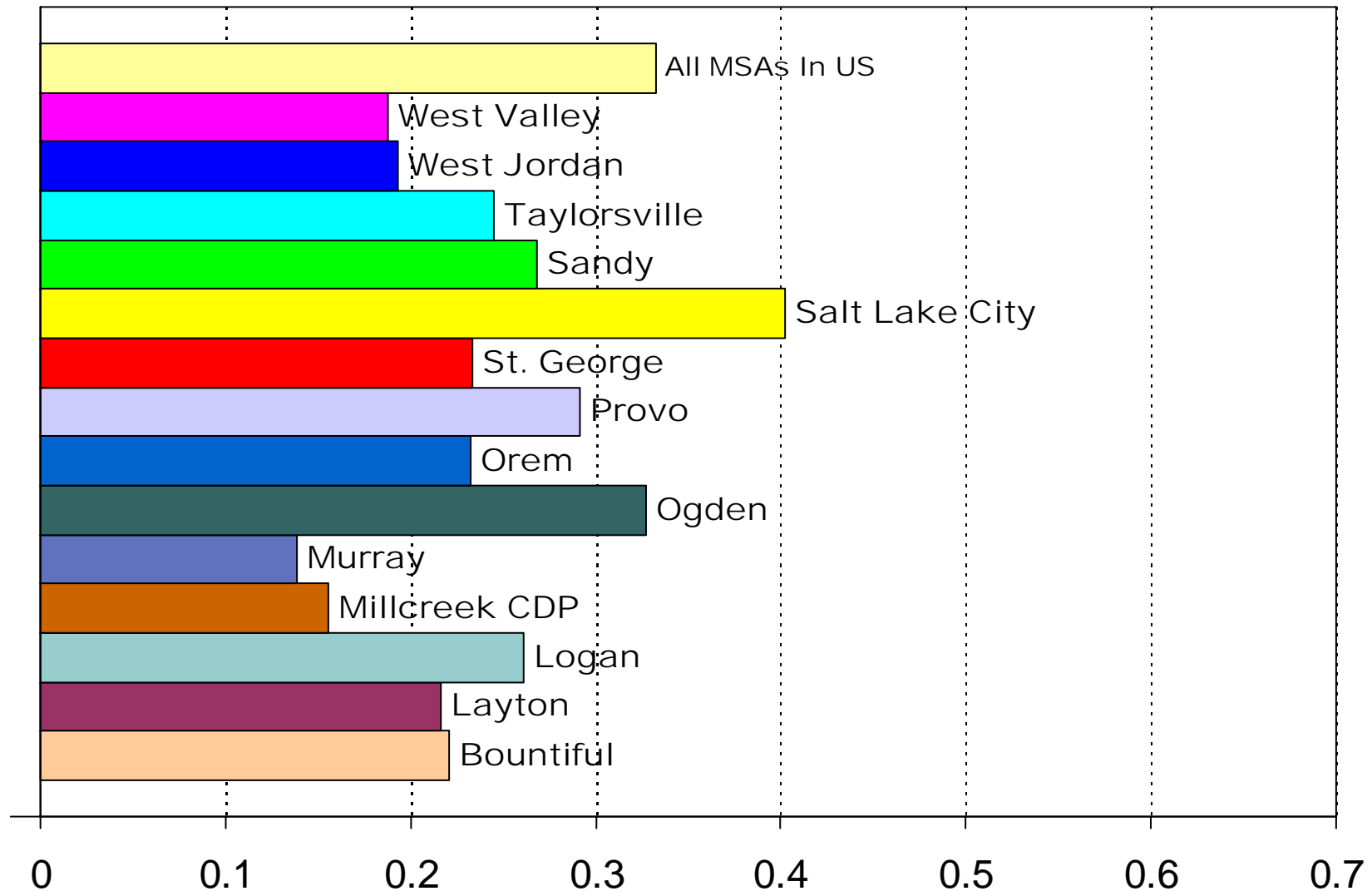
## Index of Dissimilarity – Tract and Block Group, 2000 Salt Lake Ogden MSA

---

| Group              | Tract | Block Group |
|--------------------|-------|-------------|
| AIAN               | 0.349 | 0.386       |
| API                | 0.291 | 0.318       |
| Asian              | 0.260 | 0.297       |
| NHOPI              | 0.463 | 0.490       |
| Black              | 0.361 | 0.403       |
| Non-Hispanic Black | 0.359 | N/A         |
| Hispanic           | 0.422 | 0.437       |

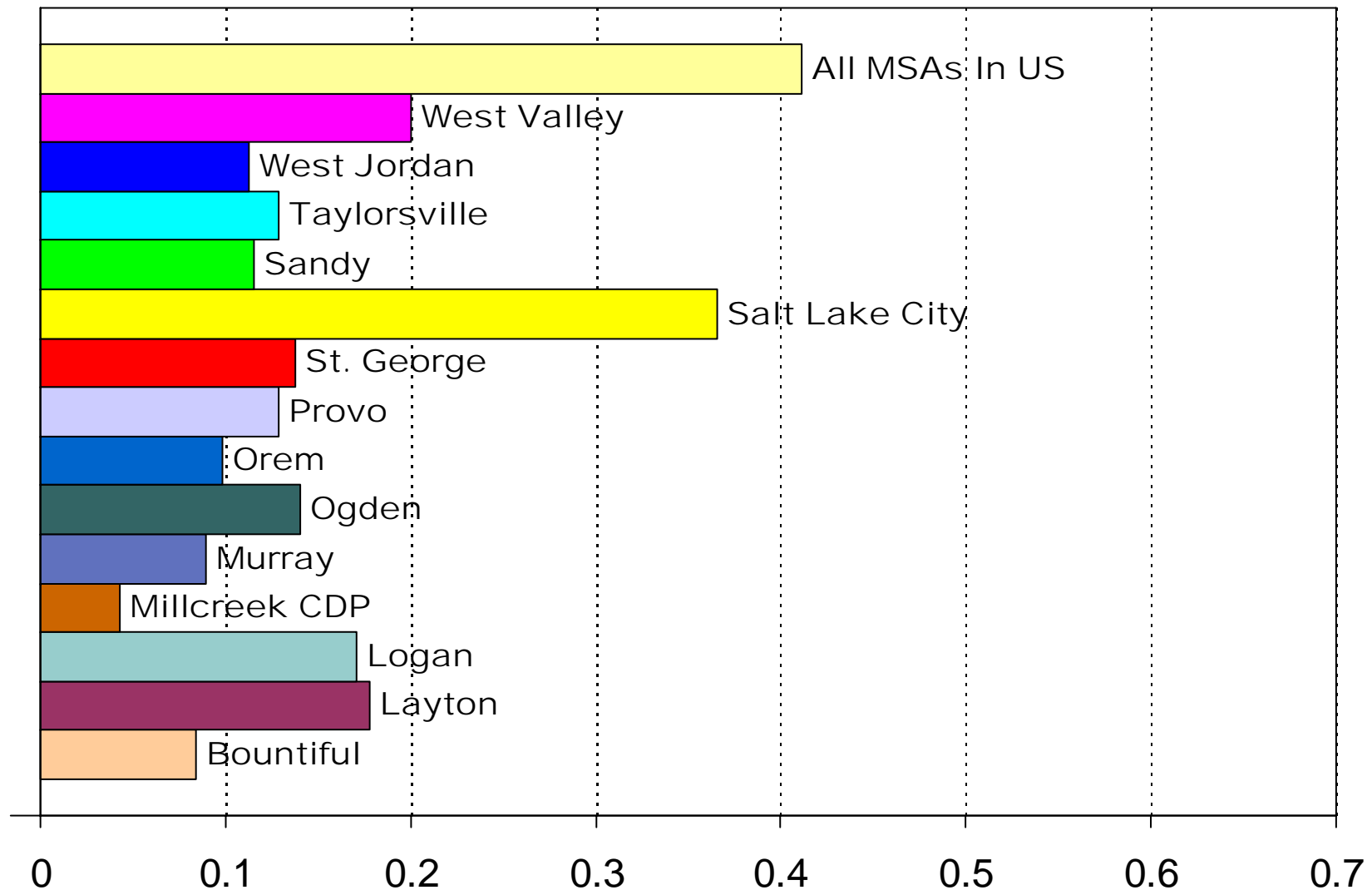
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: American Indian and Alaska Native (AIAN)



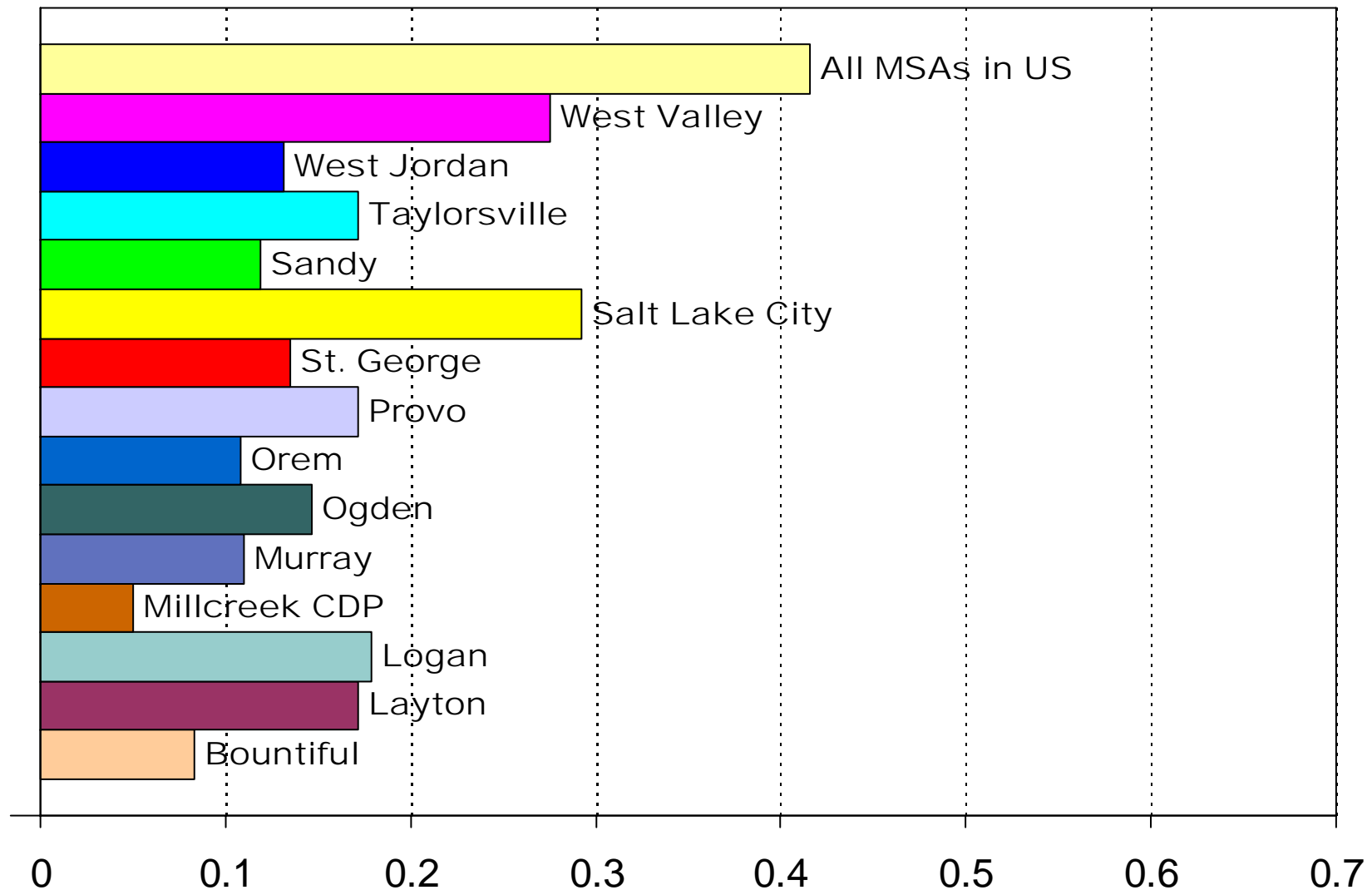
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: Asian and Pacific Islander (API)



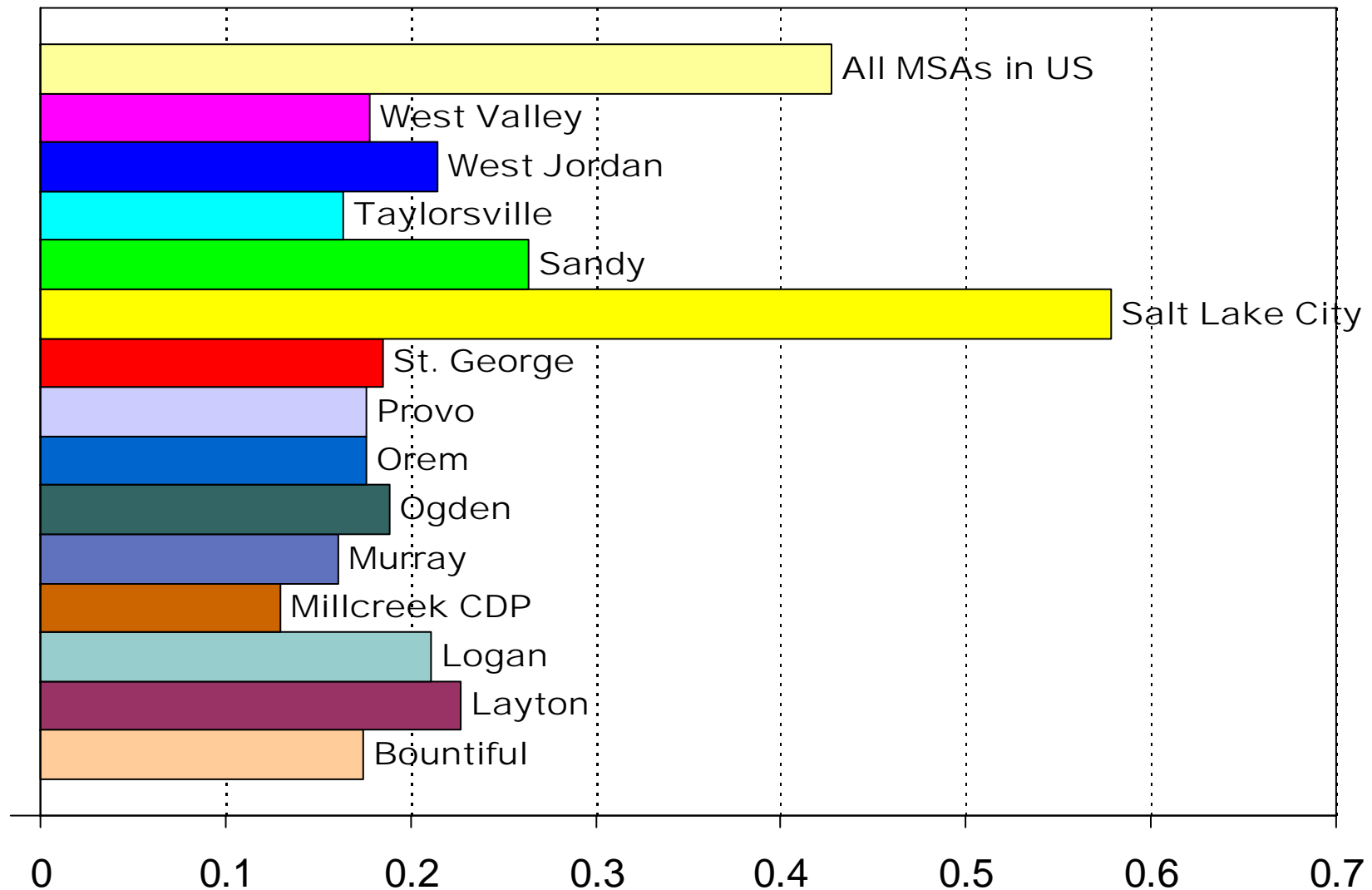
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: Asian



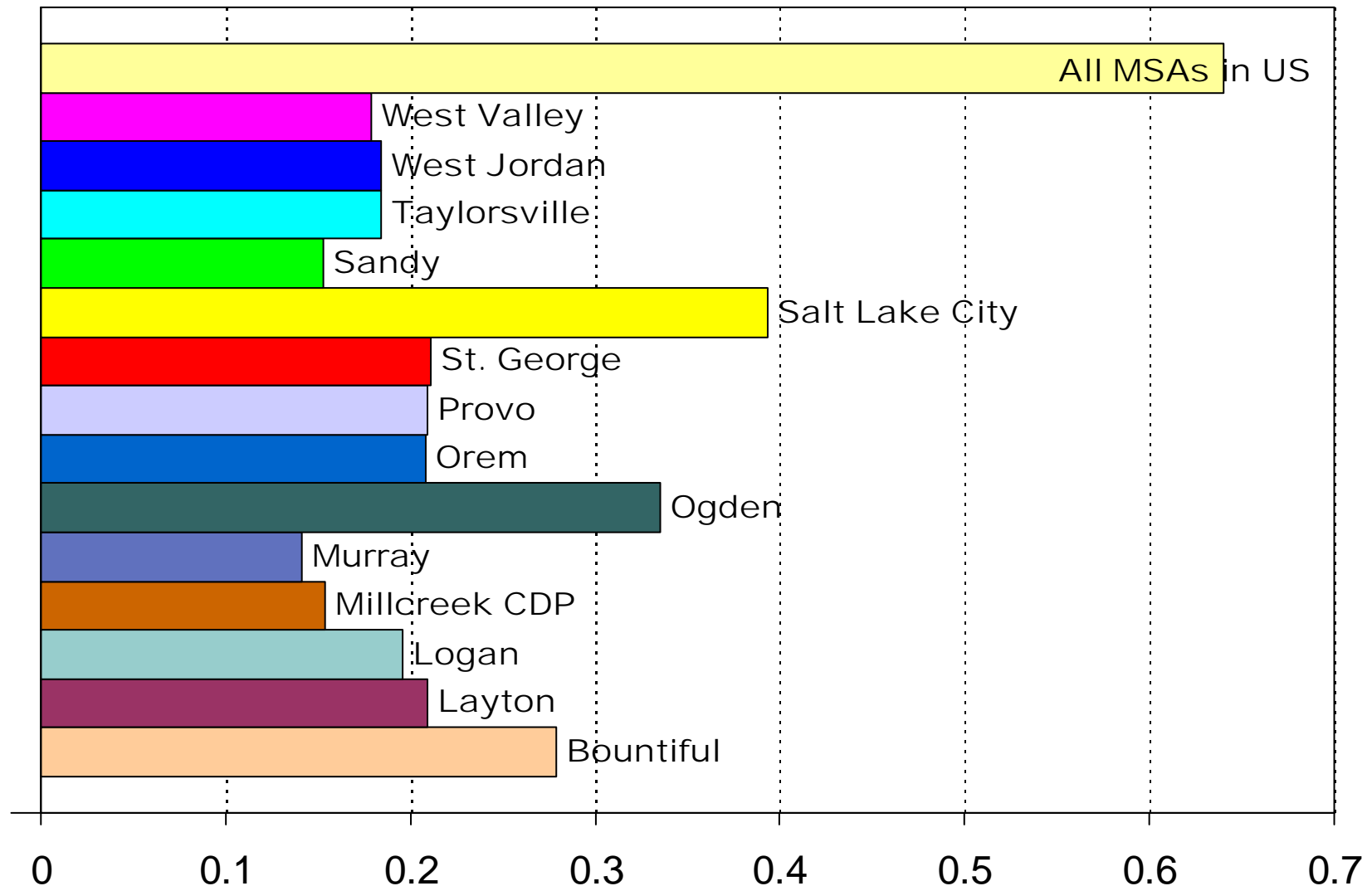
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: Native Hawaiian & Other Pacific Islander (NHOPI)



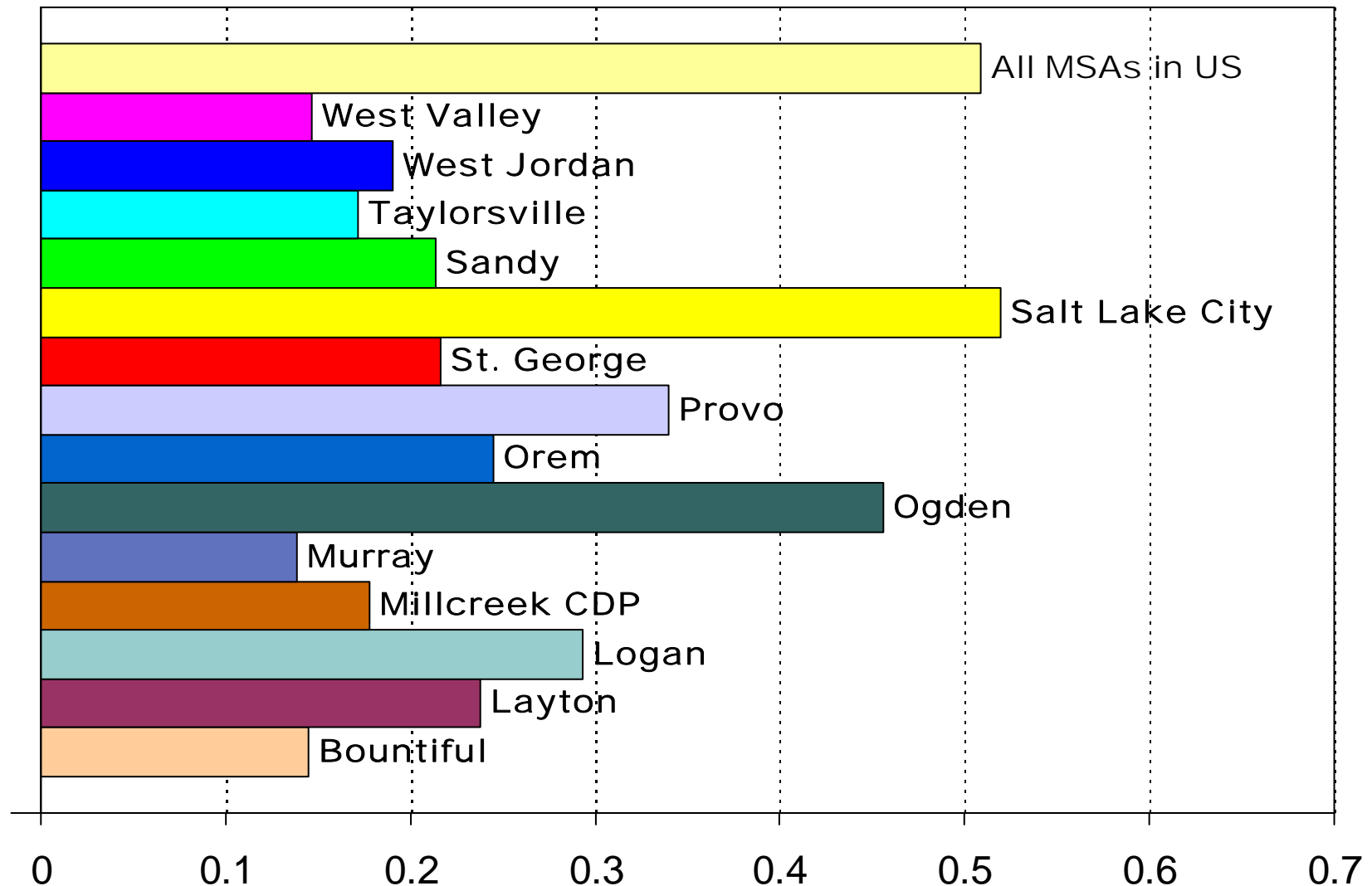
Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: Black or African American



Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Index of Dissimilarity for Places in Utah, 2000: Hispanic or Latino



Source: U.S. Bureau of the Census, Housing Patterns data retrieval system, on-line retrieval 10/30/2006,  
[http://www.census.gov/hhes/www/housing/housing\\_patterns/gettable\\_msa.html](http://www.census.gov/hhes/www/housing/housing_patterns/gettable_msa.html)

# Location Quotient

---

- Relative concentration
- Measure of specialization
- $0 \leq LQ < \infty$
- $LQ > 1$  indicates concentration relative to reference region
- $LQ > 1$  is sometimes used to identify basic industries

## Location Quotient Formula

---

$$LQ_i = [(e_i / e_t) / (E_i / E_t)]$$

$LQ_i$  : Location Quotient local industry i

$e_i$  : total employment in local industry i

$E_i$  : national employment in industry i

$e_t$  : total local employment

$E_t$  : total national employment

# Location Quotient Calculation

---

|                                     | Employment<br>in Industry i | Total<br>Employment | Industry Share of<br>Area |
|-------------------------------------|-----------------------------|---------------------|---------------------------|
| Local Area                          | 10                          | 100                 | 10%                       |
| Local Area<br>Share of<br>Base Area | 2%                          | 1%                  | N/A                       |
| Base Area                           | 500                         | 10,000              | 5%                        |

$$LQ_i = [(e_i / e_t) / (E_i / E_t)]$$

$$2 = [(10\%) / (5\%)]$$

# Hachman Index

---

- Index of similarity
- Weighted location quotients
- If the HI = 1
  - Distribution of subject area is identical to reference region
  - All location quotients are = 1
- Value of HI is sensitive to extent of industry detail

# Hachman Index Formula

---

$$HI = \frac{1}{\sum_j \left[ \left( \frac{EMP_{UTAHj}}{EMP_{USj}} \right) \times EMP_{UTAHj} \right]}$$

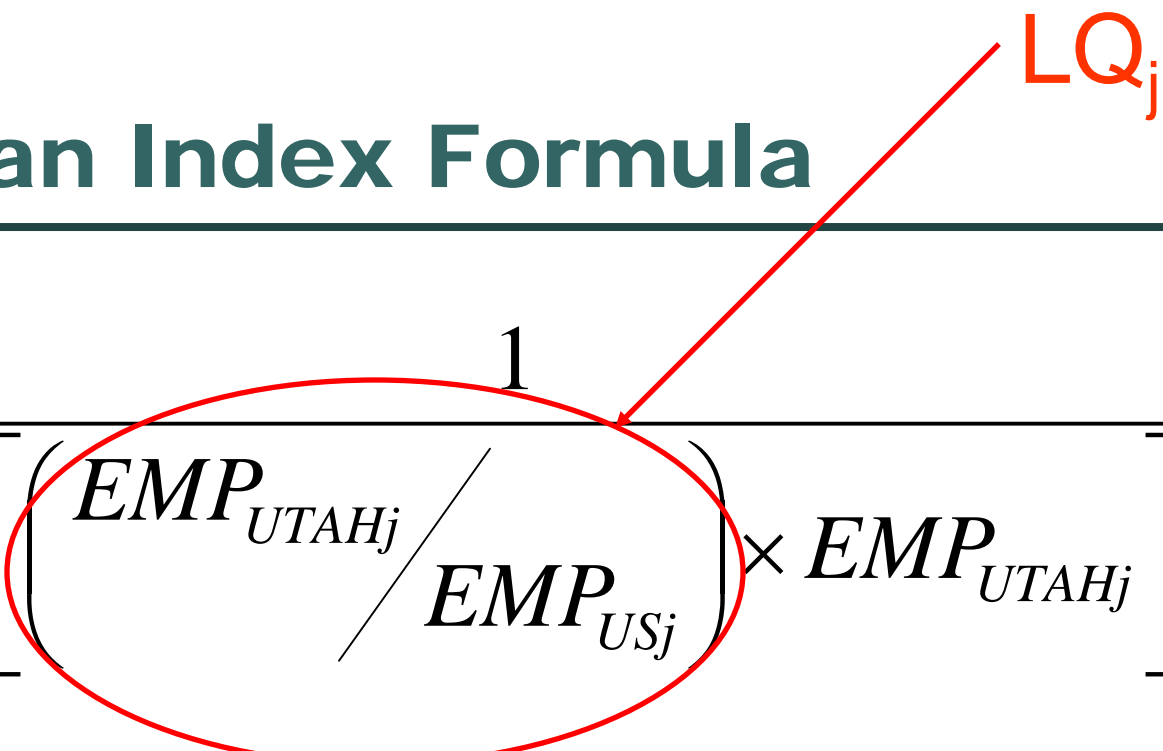
$EMP_{UTAHj}$  is the share of total Utah employment in industry j

$EMP_{USj}$  is the share of total US employment in industry j

HI is the reciprocal of the sum of LQs weighted by industry shares

# Hachman Index Formula

---

$$HI = \frac{1}{\sum_j \left[ \left( \frac{EMP_{UTAHj}}{EMP_{USj}} \right) \times EMP_{UTAHj} \right]}$$


$EMP_{UTAHj}$  is the share of total Utah employment in industry j

$EMP_{USj}$  is the share of total US employment in industry j

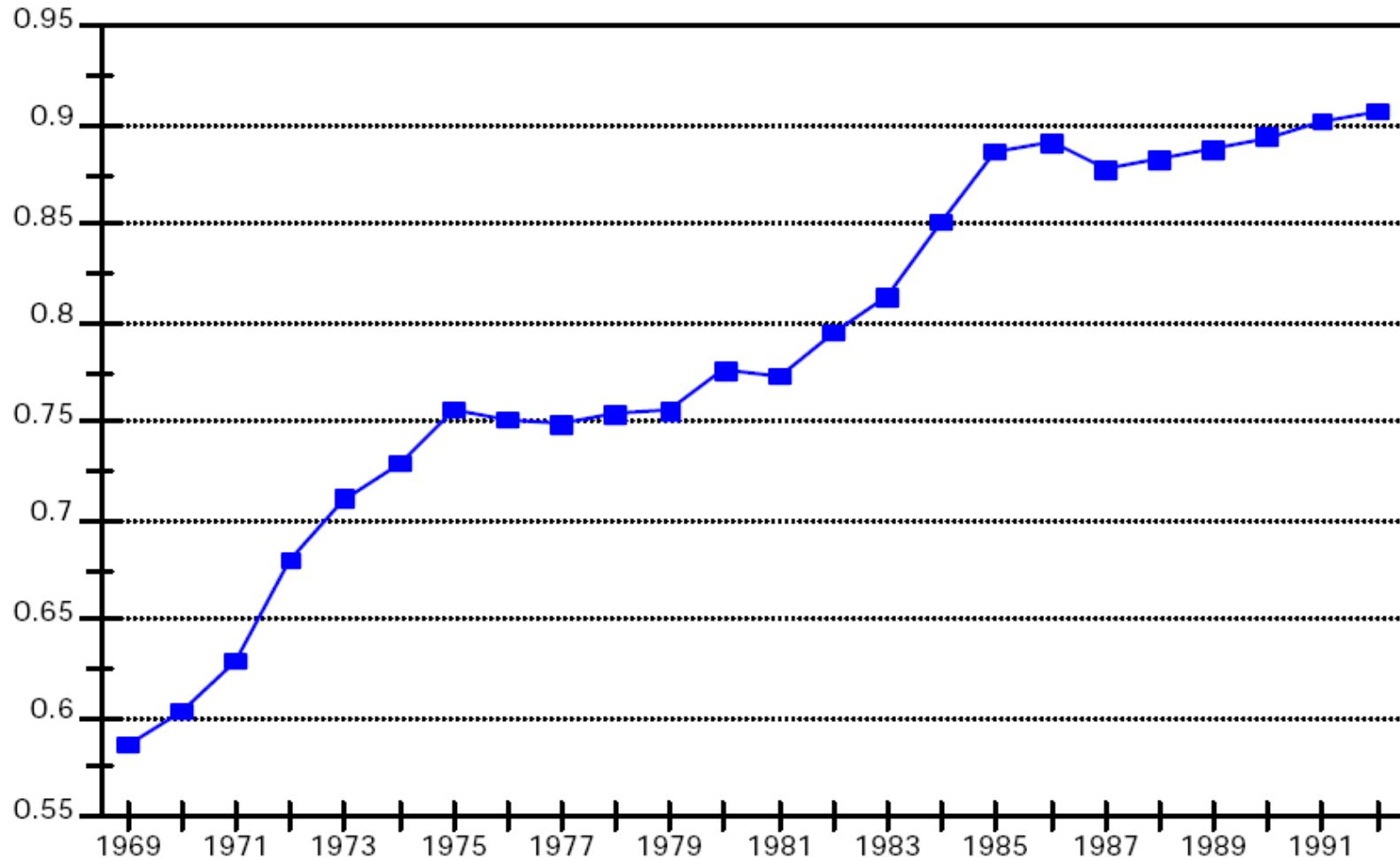
HI is the reciprocal of the sum of LQs weighted by industry shares

|                                 | Labor Share   |      |                      |
|---------------------------------|---|------|----------------------|
| Industry (j)                    | US  | Utah | LQ                   |
| 1                               | 25%   | 100% | 4                    |
| 2                               | 25%   | 0%   | 0                    |
| 3                               | 25%   | 0%   | 0                    |
| 4                               | 25%   | 0%   | 0                    |
| Mean LQ<br>Weighted<br>by Share | $4 = (4 \times 1) + (0 \times 0) + (0 \times 0) + (0 \times 0)$ |      |                      |
| Hachman Index                   |   |      | .25 or $\frac{1}{4}$ |

|                                 | Labor Share  |      |                      |
|---------------------------------|--|------|----------------------|
| Industry (j)                    | US   | Utah | LQ                   |
| 1                               | 25%  | 50%  | 2                    |
| 2                               | 25%  | 50%  | 2                    |
| 3                               | 25%  | 0%   | 0                    |
| 4                               | 25%  | 0%   | 0                    |
| Mean LQ<br>Weighted<br>by Share | $2=(2 \times (0.5))+(2 \times (0.5))+(0 \times 0) +(0 \times 0)$ |      |                      |
| Hachman Index                   |  |      | .50 or $\frac{1}{2}$ |

|                                 | Labor Share   |      |    |
|---------------------------------|---|------|----|
| Industry                        | US  | Utah | LQ |
| 1                               | 25%   | 25%  | 1  |
| 2                               | 25%   | 25%  | 1  |
| 3                               | 25%   | 25%  | 1  |
| 4                               | 25%   | 25%  | 1  |
| Mean LQ<br>Weighted<br>by Share | $1=(1 \times .25)+(1 \times .25)+(1 \times .25)+(1 \times .25)$ |      |    |
| Hachman Index                   |   |      | 1  |

# Utah's Hachman Index, 1969 - 94



Source: Pamela S. Perlich (1994) "Diversification and the Utah Economy," pages 207-213 from *The Economic Report to the Governor* (Salt Lake City, Utah: Governor's Office of Planning and Budget).

Note: Index is calculated with 2-digit SIC employment data for Utah relative to the U.S.

# Economy.com Uses HI

---

## **INDUSTRIAL DIVERSITY**

Industrial diversity is defined as the extent to which a state's industrial structure approximates the U.S. industrial structure.

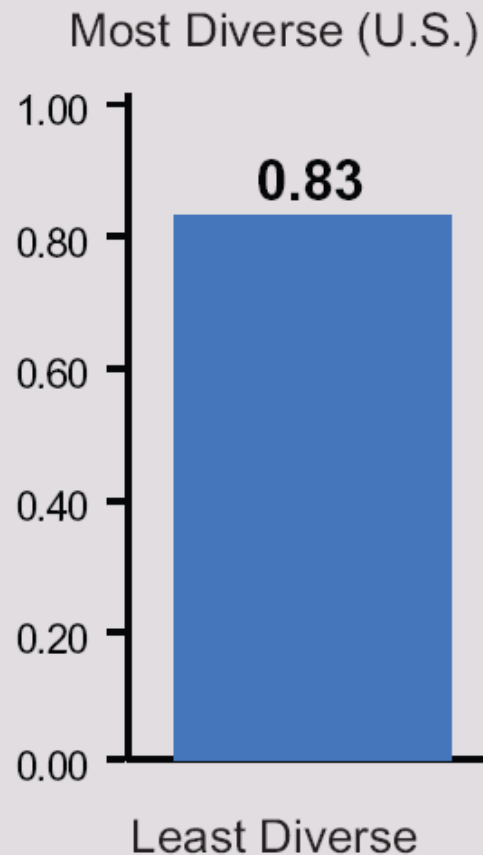
Diversity is derived using the following formula:

$$\text{Diversity} = 1/\sum((\text{EMP}_{ij}/\text{EMPUS}_j)*\text{EMP}_{ij})$$

Where EMP = share of employment in four-digit NAICS industry j during period 2003-05; i = state; US = U.S. The Diversity measure is bounded between 0 and 1. 1 means the state has the same industrial structure as the U.S.; 0 means it has a totally different industrial structure than the U.S. Formula derived from Hachman index, Bureau of Business and Economic Research, Univ. of Utah, December 1994.

# UTAH

## INDUSTRIAL DIVERSITY



## INDUSTRY EMPLOYMENT

| Sector                      | UT    | U.S.  |
|-----------------------------|-------|-------|
| Construction                | 6.6%  | 5.3%  |
| Manufacturing               | 10.4% | 10.9% |
| <i>Durable</i>              | 66.3% | 62.3% |
| <i>Nondurable</i>           | 33.7% | 37.7% |
| Transport/Utilities         | 4.1%  | 3.7%  |
| Wholesale Trade             | 3.7%  | 4.3%  |
| Retail Trade                | 12.1% | 11.4% |
| Information                 | 2.7%  | 2.4%  |
| Financial Activities        | 5.9%  | 6.1%  |
| Prof. & Business Services   | 12.5% | 12.5% |
| Education & Health Services | 11.2% | 12.9% |
| Leisure & Hosp.Services     | 9.2%  | 9.5%  |
| Other Services              | 3.0%  | 4.1%  |
| Government                  | 18.0% | 16.4% |

*Percent of total employment, 2005*

## LOCATION QUOTIENTS

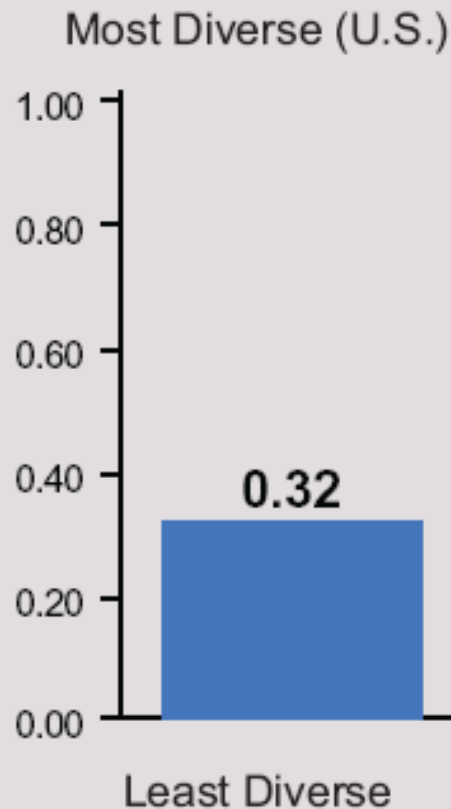
*5 Highest at 3-digit NAICS Level*

| NAICS Industry                         | Location Quotient |
|--|-------------------|
| 516 Internet Publishing & Broadcasting | 2.81              |
| 339 Miscellaneous Manufacturing        | 2.80              |
| 518 Internet Serv., Web Search, & Data | 2.52              |
| 212 Mining (except Oil and Gas)        | 2.35              |
| 213 Support Activities for Mining      | 1.81              |

*Moody's Economy.com, 2005*

# WYOMING

## INDUSTRIAL DIVERSITY



## INDUSTRY EMPLOYMENT

| Sector                      | WY    | U.S.  |
|-----------------------------|-------|-------|
| Construction                | 7.5%  | 5.3%  |
| Manufacturing               | 3.7%  | 10.9% |
| <i>Durable</i>              | 48.9% | 62.3% |
| <i>Nondurable</i>           | 51.1% | 37.7% |
| Transport/Utilities         | 4.7%  | 3.7%  |
| Wholesale Trade             | 2.9%  | 4.3%  |
| Retail Trade                | 11.7% | 11.4% |
| Information                 | 1.7%  | 2.4%  |
| Financial Activities        | 4.1%  | 6.1%  |
| Prof. & Business Services   | 6.0%  | 12.5% |
| Education & Health Services | 8.4%  | 12.9% |
| Leisure & Hosp. Services    | 12.3% | 9.5%  |
| Other Services              | 3.8%  | 4.1%  |
| Government                  | 25.3% | 16.4% |

*Percent of total employment, 2005*

## LOCATION QUOTIENTS

*5 Highest at 3-digit NAICS Level*

| NAICS Industry                       | Location Quotient |
|--------------------------------------|-------------------|
| 213 Support Activities for Mining    | 23.88             |
| 212 Mining (except Oil and Gas)      | 17.98             |
| 486 Pipeline Transportation          | 17.39             |
| 211 Oil and Gas Extraction           | 13.90             |
| 324 Petroleum & Coal Products Manuf. | 3.86              |

*Moody's Economy.com, 2005*

# State Rankings: Hachman Index 4 Digit NAICS, 2003-05 Average

| STATE     | HI          | STATE | HI   | STATE | HI   |
|-----------|-------------|-------|------|-------|------|
| IL        | 0.88        | AL    | 0.76 | RI    | 0.67 |
| MO        | 0.87        | VA    | 0.76 | NE    | 0.66 |
| CO        | 0.86        | NC    | 0.75 | AR    | 0.65 |
| PA        | 0.85        | OR    | 0.75 | ME    | 0.64 |
| CA        | 0.84        | KY    | 0.72 | MT    | 0.64 |
| OH        | 0.84        | WI    | 0.72 | SD    | 0.63 |
| TX        | 0.84        | KS    | 0.71 | CT    | 0.62 |
| FL        | 0.83        | NM    | 0.71 | MS    | 0.61 |
| MN        | 0.83        | WA    | 0.71 | LA    | 0.60 |
| NJ        | 0.83        | OK    | 0.70 | DE    | 0.58 |
| <b>UT</b> | <b>0.83</b> | SC    | 0.70 | ND    | 0.56 |
| TN        | 0.81        | IN    | 0.69 | HI    | 0.46 |
| AZ        | 0.80        | NH    | 0.69 | WV    | 0.43 |
| MD        | 0.80        | VT    | 0.69 | WY    | 0.32 |
| GA        | 0.79        | MI    | 0.68 | NV    | 0.27 |
| NY        | 0.78        | IA    | 0.67 | AK    | 0.23 |
| MA        | 0.77        | ID    | 0.67 | DC    | 0.17 |

Moody's Economy.com, Inc. • [www.economy.com](http://www.economy.com) • [help@economy.com](mailto:help@economy.com) • Précis STATE

Note: NAICS is the North American Industry Classification System. See [www.census.gov/naics.html](http://www.census.gov/naics.html)

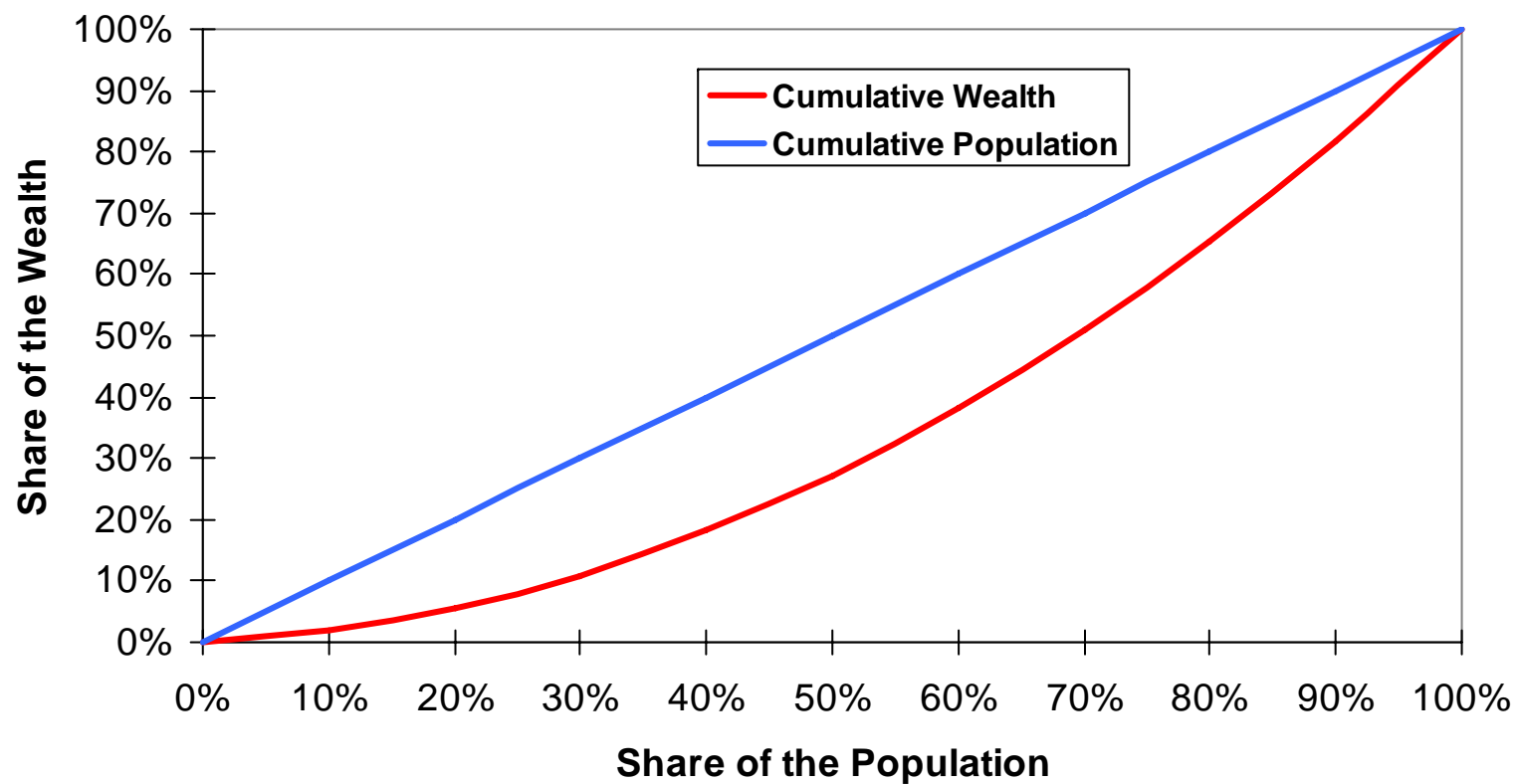
# Lorenz Curve

---

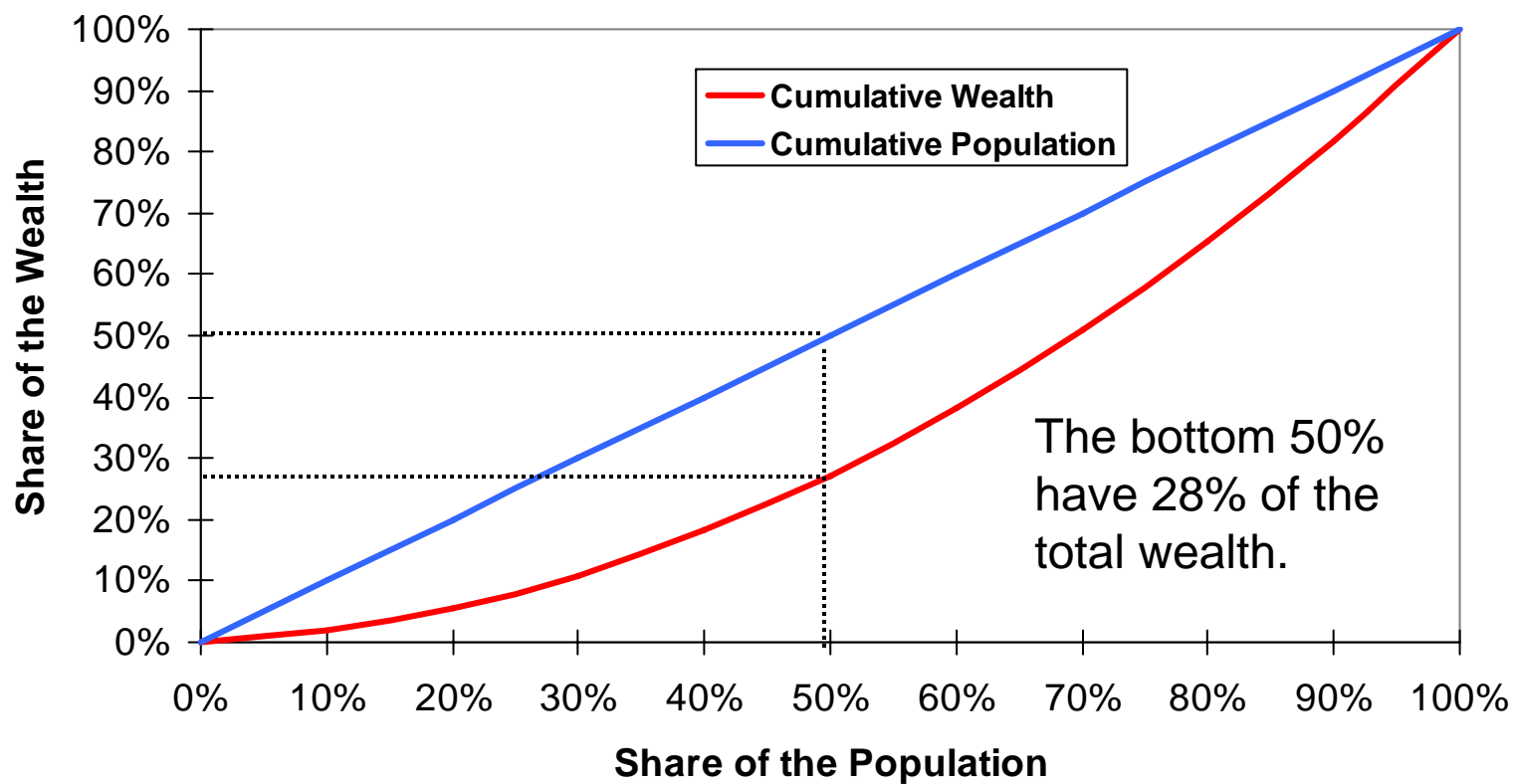
- Measure of inequality: example - wealth
- 45° line indicates perfect equality
- Plot the cumulative distribution of wealth of the population
  - Array data from low to high
  - Calculate cumulative distribution
  - Further the curve is from the 45° line → more unequal distribution

# Lorenz Curve

---

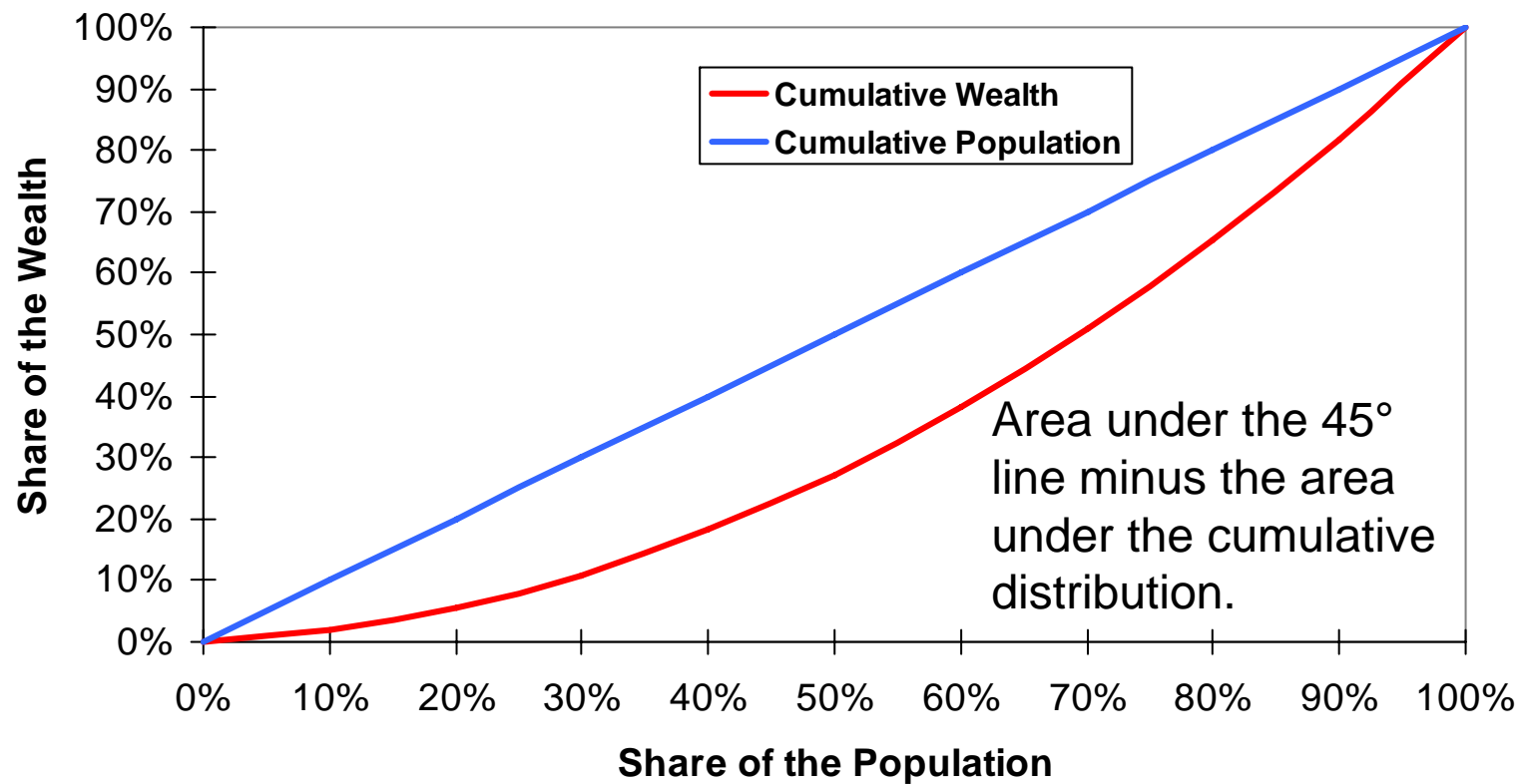


# Lorenz Curve

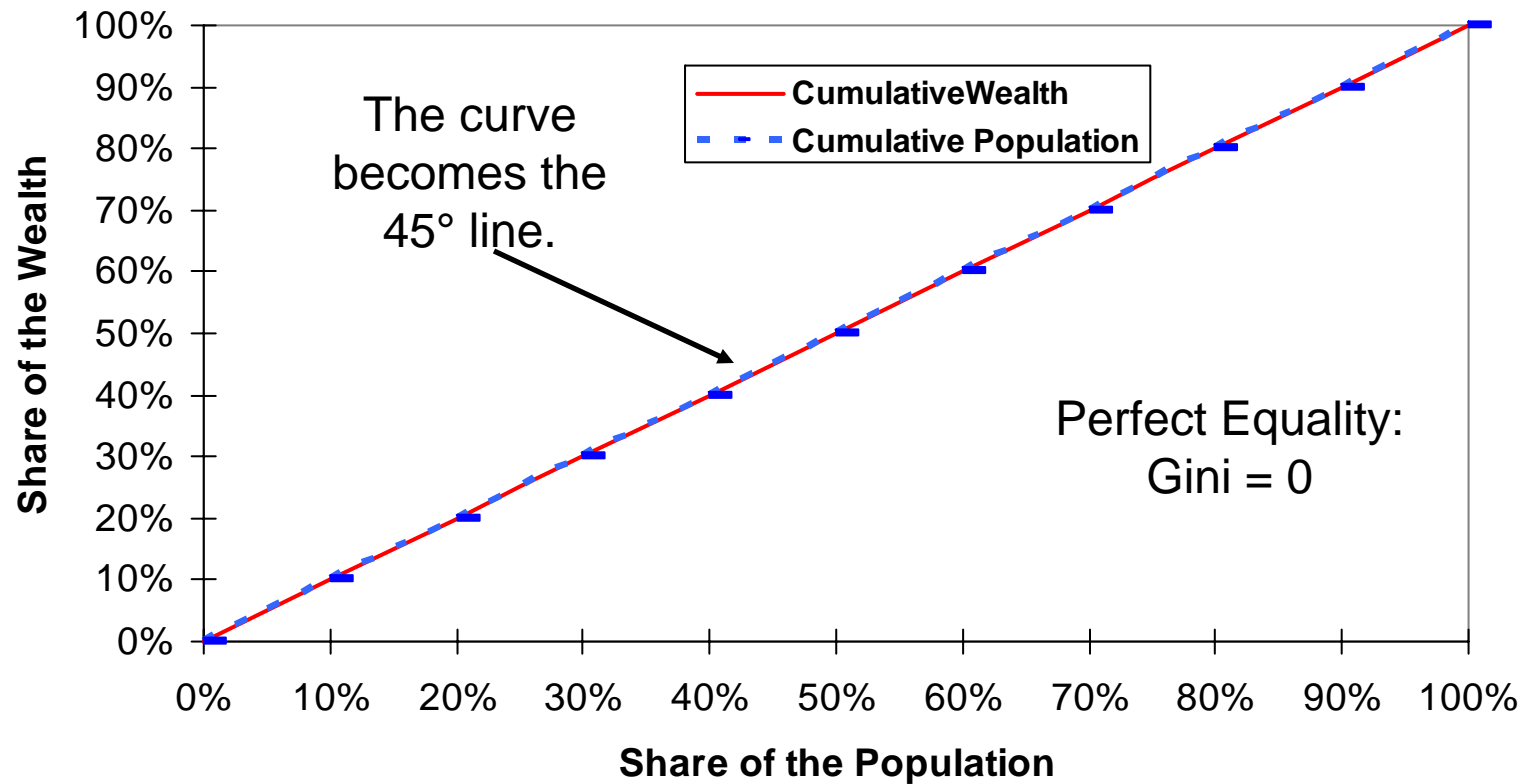


# Gini Coefficient

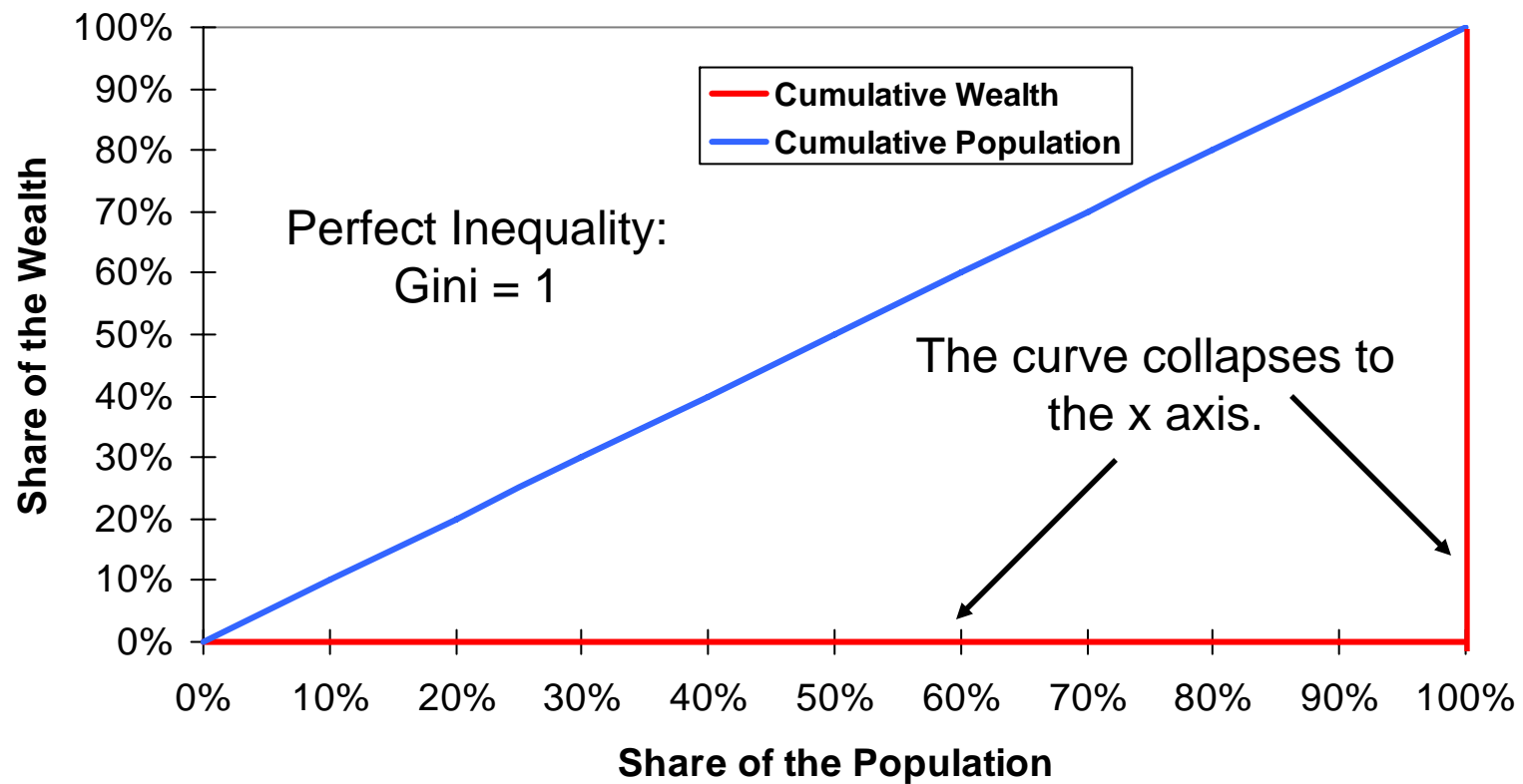
---



# Gini Coefficient



# Gini Coefficient



# Summary

---

- Index of Dissimilarity: (Un)Evenness
  - $0 \leq ID \leq 1$
- Location Quotient: Relative Concentration
  - $0 \leq LQ < \infty$
- Hachman Index: Index of Similarity
  - $0 \leq HI \leq 1$
- Gini Coefficient / Lorenz Curve: Inequality
  - $0 \leq GC \leq 1$