

Historical Report: Methodological Notes¹

Overview

The Opportunity Index is a unique tool designed to provide a snapshot of what opportunity looks like at the state and county levels. The Index focuses on ***the conditions present in different communities*** and is designed to help local communities connect economic, academic, civic, and other factors together to support opportunity and economic mobility. The Historical Series Opportunity Index tracks ten indicators, representing some of the most important of these factors for the nation overall as well as for the 50 states and Washington DC across the decades spanning 1970 to 2010.

Differences Between the Historical Series Opportunity Index and today's Opportunity Index

The Historical Series Opportunity Index measures conditions that affect opportunity from 1970 to 2010 by looking at the same three dimensions of opportunity as the standard Opportunity Index published annually by Measure of America and Opportunity Nation since 2011. Every effort has been made to use the same indicators and methods in the calculation of both; however, not all of the same indicators used in the Opportunity Index are available for all years of the Historical Series and six indicators are not available in any similar form. **As a result, the Historical Series and standard series cannot be compared with one another.**

The table below summarizes the differences between the two versions of the Opportunity Index:

DIMENSION	THEME	OPPORTUNITY INDEX	HISTORICAL SERIES OPPORTUNITY INDEX
Jobs and Local Economy	JOBES	Unemployment Rate (%)	same
	WAGES	Median Household Income (\$)	same
	POVERTY	Poverty (% of population below poverty line)	same
	INEQUALITY	80/20 Ratio (Ratio of household income at the 80 th percentile to that at the 20 th percentile)	<i>Gini index of income inequality</i>
	ASSETS	Banking Institutions (commercial banks, savings institutions, and	<i>HISTORICAL DATA NOT AVAILABLE</i>

¹ Measure of America thanks Thomas Snyder of the National Center for Education Statistics for his expertise on historical educational completion data.

		credit unions per 10,000 residents)	
	AFFORDABLE HOUSING	Households Spending Less than 30% of Household Income on Housing Costs (%)	<i>HISTORICAL DATA NOT AVAILABLE</i>
	INTERNET ACCESS	High-Speed Internet (% of households for states; 5-level categories for counties)	<i>HISTORICAL DATA NOT AVAILABLE</i>
Education	PRESCHOOL	Preschool (% ages 3 and 4 in school)	same
	HIGH SCHOOL GRADUATION	On-Time High School Graduation (% of freshmen who graduate in four years)	same
	POSTSECONDARY COMPLETION	Associate Degree or Higher (% of adults 25 and older)	same
Community Health and Civic Life	CIVIC ENGAGEMENT	Group Membership (% of adults 18 and older involved in social, civic, sports, and religious groups)	<i>HISTORICAL DATA NOT AVAILABLE</i>
	VOLUNTEERISM	Volunteerism (% of adults ages 18 and older)	<i>HISTORICAL DATA NOT AVAILABLE</i>
	YOUTH ECONOMIC AND ACADEMIC INCLUSION	Youth Not in School and Not Working (% ages 16-24)	same
	COMMUNITY SAFETY	Violent Crime (per 100,000 population)	same
	ACCESS TO HEALTH CARE	Primary Care Providers (per 100,000 population)	<i>Medical doctors (per 100,000)</i>
	ACCESS TO HEALTHY FOOD	Grocery Stores and Produce Vendors (per 10,000 population)	<i>HISTORICAL DATA NOT AVAILABLE</i>

Methodology

Calculating the Opportunity Index requires three general steps: normalizing each indicator in order to put them all on a common scale; averaging rescaled scores together within each of the three dimensions of the Index; and averaging dimension scores together to calculate the Opportunity Index. All of the indicators in the Opportunity Index are weighted equally, and each of the three dimensions makes up one-third of the final Index value.

Normalizing Indicators

Data for the indicators used in the Opportunity Index come in many different forms, ranging from percentages to ratios, rates, or dollar values. In order to include them in a composite index, it is necessary to *rescale* the data so that they are all expressed in a common form. The Opportunity Index uses a simple rescaling procedure that compares the performance of a state or county on a given indicator to the highest and lowest outcomes observed anywhere on the same indicator. The numerical values of the highest and lowest outcomes have been set so as to be sensitive to the range of outcomes observed at the state and county levels as well as extreme outliers and to anticipate changes in these

indicators in the future. Therefore, the lowest and highest outcome values used may not literally represent the highest and lowest values observed across counties and states in a given year. The natural log of median household income been used in the process of rescaling this indicator to normalize the highly skewed distribution of the data. The rescaled value ranges from 0 to 1, where 0 represents the worst possible outcome and 1 represents the best possible outcome. The general formula for rescaling indicators using this method is given below:

For some indicators, higher values *do not* represent positive or desirable outcomes, such as the unemployment rate, poverty rate, Gini index, youth not in school and not working, and the violent crime rate. In these cases, the outcome of the rescaling formula is subtracted from 1, as shown below:

The exact lowest and highest outcome values used in the calculation of the Opportunity Index Historical Series are summarized in the table below.

DIMENSION	THEME	INDICATOR	LOWEST OUTCOME	HIGHEST OUTCOME
Jobs and Local Economy	JOBS	Unemployment Rate (%)	0.0	16.0
	WAGES	Median Household Income (\$) ²	\$30,000	\$75,000
	POVERTY	Poverty (% of population below poverty line)	0.0	30.0
	INEQUALITY	Gini index of income inequality	0.3	0.6
	AFFORDABLE HOUSING	Households Spending Less than 30% of Household Income on Housing Costs (%)	40.0	95.0
Education	PRESCHOOL	Preschool (% ages 3 and 4 in school)	5.0	90.0
	HIGH SCHOOL GRADUATION	On-Time High School Graduation (% of freshmen who graduate in four years)	55.0	100.0
	POSTSECONDARY COMPLETION	Associate Degree or Higher (% of adults 25 and older)	0.0	75.0
Community Health and Civic Life	YOUTH ECONOMIC AND ACADEMIC INCLUSION	Youth Not in School and Not Working (% ages 16-24)	0.0	35.0
	COMMUNITY SAFETY	Violent Crime (per 100,000 population)	0.0	1,000.0
	ACCESS TO HEALTH CARE	Medical Doctors (per 100,000 population)	0.0	600.0

² Median household income, the lowest outcome figure, and the highest outcome figure are all subject to a log transformation in the rescaling formula.

Calculating Dimension Scores and the final Opportunity Score

Once all the indicators are on a scale of 0 to 1 where 1 represents the most desirable possible outcome, scores are calculated for each of the three dimensions of the Index. Scores are the average (arithmetic mean) of the rescaled values for all the indicators in the dimension. For example, the Education Score for a state is the average of rescaled scores for that state on preschool enrollment, on-time high school graduation, and postsecondary completion. Dimension scores range from 0 to 1.

After subscores have been calculated for all three dimensions, the final Opportunity Score for states is the average (arithmetic mean) of the three dimension scores, multiplied by 100 to put the overall value on a scale of 0 to 100. This is the final Opportunity Score used to rank the 50 states and Washington DC on the Opportunity Index Historical Series.

Data Notes

Indicators used in the Opportunity Index Historical Series have been carefully analyzed to ensure that they are broadly comparable across time. In some cases, changes in the data source or definition of an indicator over time can complicate the comparability of that indicator. Please see the descriptions of each indicator below for more information on comparability issues.

Most of the indicators used in the Index are estimates based on an analysis of survey data and are, therefore, subject to both sampling and non-sampling error. Different indicator values, dimension scores and overall Opportunity Scores do not imply that differences between states or differences within a state over time are necessarily statistically significant.

Sources

JOBS AND LOCAL ECONOMY DIMENSION

Indicator: Unemployment Rate (%)

Definition: The total number of people who do not have jobs but who have actively looked for work within the preceding four weeks and are available to work as a percentage of the total number of people in the labor force.

Source: Bureau of Labor Statistics for 2010-1980, Measure of America calculations from Ruggles et al. for 1970.

Notes: Data for 2010-1980 are non-seasonally adjusted estimates for the population ages 16 and older. Data for 1970 are non-seasonally adjusted estimates for the population ages 14 and older.

Indicator: Median Household Income (2012 dollars)

Definition: The income of the household exactly in the middle of the distribution of households by income, ranked from wealthiest to poorest. Household income includes earnings from work and other income from interest, dividends, Social Security, pension payments, unemployment compensation, and other regularly received forms of money for all members of the household.

Source: U.S. Census Bureau, American Community Survey for 2010 and Historical Income Tables for States for 2000-1970.

Notes: Because income is not distributed equally across individuals or households, the average (mean) household income is much higher than the median. Median household income in 2010 for the United States was about \$53,000 whereas average household income is about \$72,000. All median household income figures in the Opportunity Index Historical Series are expressed in inflation-adjusted 2012 dollars. Historical income data for 2000, 1990, 1980, and 1970 refer to income received in the years 1999, 1989, 1979, and 1969, respectively.

Indicator: Poverty (% of population below poverty line)

Definition: Percentage of people of all ages living on incomes below the federal poverty line.

Source: U.S. Census Bureau, American Community Survey for 2010 and Historical Poverty Tables for States for 2000-1970.

Notes: Historical poverty data for 2000, 1990, 1980, and 1970 refer to poverty status in the years 1999, 1989, 1979, and 1969, respectively.

Indicator: Gini index of income inequality

Definition: The Gini index is a statistical measure of income inequality. A Gini index value of 1 represents complete inequality (one household has all the income in a given state) and a Gini index value of 0 represents complete equality (all households in a given state have the exact same incomes).

Source: U.S. Census Bureau, American Community Survey for 2010 and Historical Income Tables for States for 2000-1970.

Notes: Estimates for all years except 1970 reflect income inequality among households. Estimates for 1970 reflect income inequality among families. Because not all 'households' are 'families', comparisons of this indicator between 1970 and other years should be made with caution. Historical income inequality data for 2000, 1990, 1980, and 1970 refer to the income distribution among households and families in the years 1999, 1989, 1979, and 1969, respectively.

EDUCATION DIMENSION

Indicator: Preschool (% ages 3 and 4 in school)

Definition: The percentage of children ages 3 and 4 enrolled in public or private nursery school, preschool, or kindergarten.

Source: U.S. Census Bureau, American Community Survey for 2010, U.S. Census Bureau, Census 2000 for 2000, and Measure of American analysis of data from Ruggles et al. for 1990-1970.

Notes: Data on preschool enrollment for 2010 are three-year estimates from the U.S. Census Bureau, American Community Survey. Multi-year estimates are used to permit the calculation of more stable estimates for the small populations in question. Preschool enrollment rates from previous years are calculated from decennial Census long-form data. Interpretation of changes over time in preschool enrollment rates should be made with caution due to slight changes in the survey questions asking about enrollment. The decennial Census long form asked respondents about enrollment in school during the previous two months while the American Community Survey asks about enrollment during the previous three months. Also, the exact text of the questions used to ask about enrollment status has changed slightly over historical Census years.

Indicator: On-Time High School Graduation (% of freshmen who graduate in four years)

Definition: The percentage of public high school freshmen that graduate after four years of high school.

Source: U.S. Department of Education, *Digest of Education Statistics 2012* for 2010-1990 and Measure of America calculations using data from the U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics for 1980 and 1970.

Notes: This indicator is based on the number of diplomas awarded to members of a graduating class divided by the estimated size of the class four years earlier. Data for 2010 are for the graduating class of 2010. Data for 2000, 1990, 1980, and 1970 are for the cohorts graduating in 2001, 1991, 1981, and 1971, respectively.

Indicator: Associate Degree or Higher (% of adults 25 and older)

Definition: The percentage of adults ages 25 and older who have completed an associate degree or higher.

Source: U.S. Census Bureau, American Community Survey for 2010, U.S. Census Bureau, Census 2000 for 2000, and Measure of American analysis of data from Ruggles et al. for 1990-1970.

Notes: The U.S. Census Bureau has measured educational attainment as the highest degree completed since 1990. Prior to 1990, educational attainment was measured in years of schooling completed. In the Opportunity Index for 1970 and 1980, adults 25 and older who completed two or more years of post-secondary education were considered to have attained the equivalent of an associate degree or higher for the purposes of this analysis. Caution should be used when interpreting changes over time on this indicator however because it is possible that figures for 1970 and 1980 include adults who completed two years of postsecondary education but did not complete a degree.

COMMUNITY HEALTH AND CIVIC LIFE DIMENSION

Indicator: Youth Not in School and Not Working (% ages 16-24)

Definition: The percentage of the population ages 16 to 24 who are not enrolled in school and who are not working (either unemployed or not in the labor force).

Source: Measure of America analysis of data from the U.S. Census Bureau, American Community Survey 2010 and Census 2000 and Ruggles et al. for 1990-1970.

Notes: Interpretation of changes over time in the percentage of youth not in school and not working should be made with caution due to slight changes in the survey questions asking about enrollment and labor force participation. The decennial Census long form asked respondents about enrollment in school during the previous two months while the American Community Survey asks about enrollment during the previous three months. Also, the exact text of the questions used to ask about enrollment and labor force participation has changed slightly over historical Census years.

Indicator: Violent Crime (per 100,000 population)

Definition: Total number of violent crimes per 100,000 people. Violent crimes include homicide, rape, robbery, and assault.

Source: U.S. Department of Justice

Notes: Comparisons of the violent crime rate over time should be made with the following caveats in mind. Data for the District of Columbia in 2000 include reports from the Zoological Police but not from the Metro Transit Police. Data for Illinois for 1990, 2000 and 2010 include estimates of the total number of rapes and overall data for the state for 2000 and 2010 were adjusted by the Uniform Crime Reporting Program to improve comparability with data from other states. Data for Kansas, Kentucky, and Montana for 2000 are based on the estimated number of total offenses for these states. Data for Minnesota for 2010 reflect only the cities of Minneapolis and St. Paul.

Indicator: Medical doctors (per 100,000 population)

Definition: The number of active, non-federal medical doctors per 100,000 residents.

Sources: Measure of America calculations using medical workforce data from the U.S. Department of Health and Human Services, *Area Health Resources Files* and population data from the U.S. Department of Health and Human Services, CDC-WONDER on-line database and the U.S. Census Bureau (Hobbs et al.).

Notes: Rates for 2010-1990 were calculated using July 1st estimates of the resident population for these years. As mid-year population estimates for 1970 and 1980 were not available, rates for 1980 and 1970 were calculated using April 1st counts of the resident population instead.

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