Issue Brief: Using Data Tools to Compare Regional Economic Well-Being in California

Executive Summary

This Issue Brief surveys 11 data tools that measure and analyze how people and places are doing across California based on various indicators for economic, social, physical, and environmental well-being. Commission staff developed this resource to support state leaders, who will need to utilize objective metrics and data tools as they implement the Community Economic Resilience Fund (CERF), a statewide initiative to encourage inclusive regional economic planning and development, and address broad issues of regional equity.

The data tools identified and compiled in the Brief include the Governor's Office of Business and Economic Development's Community and Place-Based Data Tool, the Economic Innovation Group's Distressed Communities Index, and the Office of Environmental Health Hazard Assessment's CalEnviroScreen.

In addition to identifying existing data tools that provide insight into the health of regional economies, this Brief also discusses how these tools can shape perceptions of regions' economic well-being and how they can offer different—even contrasting—depictions of how places are faring.

Although the tools discussed in this Brief all provide thorough information about the well-being of California's regions, they also vary in key ways, including the number of individual metrics used (ranging from four to 37), the specificity of geographic areas covered (ranging from census tracts to large regions), whether they focus on a single topic or compile data on multiple topics, and whether they ultimately produce an overall score or simply a compilation of individual metrics.

In analyzing these tools, the Commission illustrates five ways in which data tools can shape how we perceive regional economic well-being:

- **How regions are defined:** Perception of the overall well-being of regions can vary significantly based on how regions are delineated. An example is the state's southern border, which is sometimes viewed as one region, or is sometimes bifurcated into a coastal region focused on San Diego County and an inland region consisting of Imperial County. The Southern Border region performs relatively well when viewed as a single area. However, when viewed independently, San Diego and Imperial Counties perform notably differently than each other, sometimes even on opposite ends of the spectrum. Similar differences can be found elsewhere in the state, depending on regional definitions.

- **Which metrics are used:** Which metrics are used and differences in how similar metrics are calculated can play a big role in changing our perception of areas. For example, the federal poverty rate, California Poverty Measure, and Real Cost Measure all seek to capture similar concepts, but the outputs of these metrics vary considerably across tools.

- **Number of metrics used:** While single metrics can offer a simple and standardized way to compare progress over time, they lack nuance and only account for one of the many aspects that contribute to the well-being of individuals and societies. Alternatively, data tools that combine a wide range of metrics have the potential to provide a more comprehensive picture of the well-being of an area. However, when pulling metrics from a variety of domains—such as environmental quality and economic prosperity—differences in how regions perform across domains can be masked.

- **Granularity of the geography covered:** Analyzing well-being across wider geographies can obscure disparities that exist within communities in the same region. Data tools that allow users to compare and contrast based on census tract, zip code, and city level open up the opportunity to explore some of the variations in well-being that exist among communities within the same region.

- **Time of data collection:** Accuracy-related concerns arise when pulling data from anomalous time periods, such as the COVID-pandemic. When comparing regional performance in anomalous eras it can be helpful to examine changes over time (looking at whether the trajectory of disparities is widening or narrowing), as opposed to focusing solely on snapshot comparisons.

Introduction

This Issue Brief is part of the Little Hoover Commission's study on equitable regional economic development, which launched earlier this year and focuses on California's efforts to close regional disparities and promote greater prosperity across the state.

In recent years, California has expanded its efforts to support regional economic development. Notably, in 2021, the state invested $600 million into the Community Economic Resilience Fund (CERF), a statewide initiative to encourage inclusive regional economic planning and development.

Objective metrics and data tools will play a key role in helping state leaders and policymakers measure regional disparities, formulate plans to best target resources to address regional challenges, and track efforts to lift up regional economies.

With this in mind, this Issue Brief offers a compilation of existing tools that measure and analyze how people and places are doing across California based on various indicators for economic, social, physical, and environmental well-being. It also utilizes examples from across the state to illustrate five ways in which data tools can shape our understanding of an area's well-being.

There are legitimate reasons why indices use different measures. This Issue Brief does not offer commentary as to which tools are preferential to others. Rather, it aims to illustrate the ways in which these differences can impact how we view regional disparities.

How Data Tools Can Shape our Understanding of Well-Being

Data tools can play an important role in helping policy- and change-makers address regional economic development. They provide informed, objective data on what issues exist and where, thus helping better direct resources or efforts. They can allow for easy comparison between geographical areas and across time.

But they also have the power to shape how well—or how poorly—we think a region is performing overall or based on a specific policy area. In this Issue Brief, the Commission highlights 11 data tools that provide information on the well-being of regions and places in California. Utilizing examples from across the state, this Brief underscores five ways in which these tools can shape how we understand and subsequently address regional disparities.

Data Tools Overview

While the 11 data tools the Commission identified all attempt to gauge the well-being of areas within California, the tools vary in several key ways. *See Appendix 1 for more information on the differences between the data tools identified in this Brief.*

First, the tools cover differing geographic areas, ranging from census tracts to variously delineated regions that cover large swaths of the state.

Well-Being Data Tools

CalEnviroScreen (California Office of Environmental Health Hazard Assessment): Mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects.

California Dream Index (California Forward): Measures 10 indicators for economic mobility, security, and inclusion to track progress towards the "California Dream."

Community & Place-Based Data Tool (Governor's Office of Business and Economic Development): Interactive map that provides economic development, business, workforce, and demographic data for California cities, counties, and economic regions.

Distressed Communities Index (Economic Innovation Group): Examines the economic well-being of U.S. ZIP codes and counties and sorts them into five quintiles of well-being: prosperous, comfortable, mid-tier, at risk, and distressed.

County Health Rankings and Roadmaps (University of Wisconsin Population Health Institute)[a]

> **Health Factors Rankings:** Compares California counties by a variety of modifiable community conditions in four factor areas (health behaviors, clinical care, economic and social factors, and physical environment) to gauge how healthy communities can be in the future.

Health Outcomes Rankings: Compares the physical and mental well-being of county residents through measures that represent the length and quality of life typically experienced in the community.

Healthy Places Index (Public Health Alliance of Southern California): Combines 23 community characteristics linked to health outcomes across eight domains (economic, social, etc.) to compare the relative performance of different geographies of the state.

Human Development Index (Measure of America of the Social Science Research Council): Measures social and economic development by focusing on three key dimensions of well-being: health, education, and income.

Metro Monitor (Brookings Institution): Tracks the economic performance of the nation's metropolitan areas along three dimensions critical to successful economic development: growth, prosperity, and inclusion.

Opportunity Atlas (Opportunity Insights): Allows users to explore outcomes (e.g., earnings or educational attainment) for individuals based on the neighborhoods (census tracts) in which they grew up.

Vitality Index (Hamilton Project): A composite measure of several different indicators of economic activity and well-being used to determine the economic vitality of states and counties.

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[a] *We have included the Health Factors Rankings and Health Outcomes Rankings as separate tools as they utilize unique metrics and seek to measure different concepts.*

Second, some tools provide a sense of how well areas of the state are doing in specific domains—or categories—such as health (Health Outcomes Rankings) or the economy (Metro Monitor). Other tools include metrics from a variety of domains to capture a more holistic sense of how well geographies are performing.

But even when tools incorporate the same domains, they often vary in the type of metrics they utilize to evaluate each domain. For example, the California Dream and Vitality Indices both include housing-related metrics, but the Dream Index uses the affordable rent rate and homeownership rate while the Vitality Index uses the housing vacancy rate.

The tools also include differing numbers of metrics, ranging from four (Human Development Index) to 37 (Opportunity Atlas).

Finally, the tools offer varying outputs, including a compilation of individual metrics or an overall score.

See Appendix 3 for those tools that include an overall score or index ranking and Appendix 4 for those tools that include data compilations.

How Regions are Defined

How we delineate regions impacts our perception of the well-being of areas.

For example, several state programs and initiatives—such as the Community Economic Resilience Fund (CERF), Strong Workforce Program, and the K-16 Education Collaboratives—group together San Diego and Imperial Counties into a single, "Southern Border" region.

The California Dream Index, which does so, gives the San Diego-Imperial region an overall well-being score that is slightly above the median score for California regions in 2019. The Community & Place Based-Data Tool—which allows users to explore demographic, economic, and workforce data for California's cities,

Geographic Designations and Data Tools

GEOGRAPHIC DESIGNATIONS

Community Economic Resilience Fund (CERF) Region: A county or collection of counties that have been grouped based on economic and related factors for inclusive regional economic development planning under the CERF program. There are 13 CERF-designated regions.[1]

Metropolitan Statistical Area (MSA) and Core Based Statistical Area (CBSA): A county or collection of counties that surround an urbanized area (with at least 50,000 people for MSAs and 10,000 people for CBSAs) and that have a high degree of economic or social integration.[2] MSAs and CBSAs are defined by the U.S. Office of Management and Budget.

County: A political and administrative division of a state. In California, there are 58 counties.

Census Tract: A relatively small subdivision of a county with around 2,500 to 8,000 residents.

ZIP Code Tabulation Area (ZIP Code): An approximate area representation of U.S. Postal Service Zip Codes, used by the U.S. Census Bureau for tabulating census data. ZIP Codes can cross county and state lines.

GEOGRAPHIC DESIGNATIONS AND REGIONAL INDICES

Sometimes multiple geographic designations cover the same area. For instance, Kern County, the Bakersfield MSA (metro area), and the Kern County CERF region all have the same geographic boundaries. While regional delineations can include just a single county or metro area, more often, they include multiple counties and metro areas. Regional boundaries generally respect the boundaries of metro areas. However, one metro area—San Jose-Sunnyvale-Santa Clara (comprised of San Benito and Santa Clara Counties) is divided into two regions in the CERF program.

See additional details on which indices use which designations in Appendix 1.

counties, and economic regions—shows that the Southern Border Region ranks third highest for bachelor's degrees and seventh highest for median household income (out of the 13 CERF regions).

However, independently, San Diego and Imperial Counties perform notably differently than each other.

The Health Factors Rankings and Healthy Places Index rank San Diego County among the top twenty counties for community well-being. Meanwhile, these tools place Imperial County on the opposite end of the spectrum. The Healthy Places Index finds that Imperial County scores second lowest among California counties with regard to measures of community well-being (across eight domains including economic, social, and physical health) while the Health Factors Rankings finds that Imperial County displays the lowest measures for community well-being (across four factor areas: health behaviors, clinical care, economic and social factors, and physical environment) among California counties.

Graphic A: Regional Groupings Can Overshadow County Differences

How San Diego and Imperial Counties Fare on Different Data Tools

Index	San Diego County	Imperial County	Output	Range and Orientation *(higher ranking/score to lower ranking/score)*
California Dream Index	63	58	California county score	78 to 51
Distressed Communities Index	Prosperous	Distressed	Well-being quartile	Prosperous to distressed
Health Outcomes Ranking	15	33	California county rank	1 to 58
Health Factors Ranking	16	58	California county rank	1 to 58
Healthy Places Index	19	56	California county rank	1 to 57
Human Development Index	11	30	California county rank	1 to 48
Vitality Index	0.52	-1.27	Nationwide county score	3.07 to -4.33

Perception of the overall well-being of California's Southern Border can thus vary significantly based on whether San Diego and Imperial Counties are grouped into a single region, or understood as constituting distinct regions.

Which Metrics are Used

Our perception of the well-being of an area is also impacted by which type of metrics analysts include in their data tools.

Data tools differ in the domains—or categories—they include as well as the metrics used to evaluate those domains. Differences in how similar metrics are calculated can also play a big role in changing our perception of an area.

For example, multiple tools rely on a cost of living or poverty metric to help express the economic well-being of areas. However, not all tools rely on the same definition of "poverty."

Here are three different metrics used by data tools to measure cost of living and poverty:

Graphic B: Measuring Cost of Living and Poverty

FEDERAL POVERTY RATE

Three times the cost of the economy food plan published by the U.S. Department of Agriculture.

Tools using this metric: Healthy Places Index, Distressed Communities Index, and the Opportunity Atlas.

Developed by: Economists at the Social Security Administration in 1963.

CALIFORNIA POVERTY MEASURE

Considers changes in costs and standards of living and factors in resources from social safety net programs.

Note: This metric is not used by the data tools surveyed in this brief, but is included here to further illustrate how different ways of calculating metrics can impact analysis of area's well-being.

Developed by: Stanford University and the Public Policy Institute of California.

INCOME ABOVE COST OF LIVING

Factors in the costs of housing, health care, child care, transportation, and other basic needs to capture what it costs to live in California.

Tools using this metric: California Dream Index[b]

Developed by: California Forward utilizing United Ways of California's Real Cost Measure.

Despite aiming to capture similar concepts—the share of individuals or households in an area that do not have enough money to cover basic needs—the outputs of these metrics vary considerably across tools. As a result, our perception of the relative affluence of areas can differ based on how we calculate poverty levels.

For instance, the poverty rate for Merced County—which the Distressed Communities Index shows to be "mid-tier"—ranges from 13 to 47 percent across tools. Santa Barbara County—which the Distressed Communities Index shows to be "comfortable"—has a poverty rate that ranges from 15 to 38 percent. See graphic C.

[b] The California Dream Index also uses the official poverty rate to develop its "Prosperous Neighborhoods" indicator, which captures the percent of residents that live in census tracts with less than 20 percent in poverty. Since this metric offers a slightly different perspective on poverty, it is not included in the comparison in this section.

The question of whether poverty is higher in Merced or Santa Barbara depends on the metric used. For example, according to the federal poverty measure, which the Distressed Communities Index employed in its evaluation of county economic well-being, the 2020 poverty rate was 19 percent in Merced County and 13 percent in Santa Barbara County. Conversely, the California Poverty Measure (CPM) essentially reverses the poverty rates for the two counties; according to the CPM, the average poverty rate in 2017-2019 was 21 percent in Santa Barbara County and 13 percent in Merced County.

Graphic C: Poverty Rates Vary Considerably Across Data Tools

Estimated poverty rates for Merced and Santa Barbara Counties

	California Poverty Measure *Poverty rate, as calculated by PPIC and Stanford University (2017–2019 average)*	Distressed Communities Index *Federal poverty rate (ACS 2016 - 2020)*	Healthy Places Index *Earning less than 200% of the federal poverty rate (ACS 2015-2019)*	2017 California Dream Index *Households with incomes below cost of living, as calculated by United Way's Real Cost Measure*
Merced County	13%	19%	46%	47%
Santa Barbara County	21%	13%	33%	38%

*Note: The Healthy Places Index and California Dream Index both include metrics that reflect the percentage of people and households living **above** the respective cost of living/poverty levels. For the sake of comparison between metrics, we have reversed this number to get the percentage of individuals and households living **below** the respective cost of living/poverty levels. ACS = American Community Survey.*

The Number of Metrics Used

Another way that data tools can shape our perception of the well-being of an area is in the number of metrics used.

SINGLE METRIC
Using a single metric to gauge the well-being or relative prosperity of an area has its advantages. For instance, it can offer a simple and standardized way to compare progress over time and across areas. Using a single metric, however, also has its limitations. It lacks nuance and a single factor only accounts for one of the many aspects that contribute to the well-being of individuals and societies.

We can explore the impact of using a single metric versus multiple metrics by comparing how counties rank by median household income, a frequent indicator of economic well-being, against their Health Factors Ranking (which includes measures related to health behaviors, clinical care, social factors, and physical environment).

As noted in graphic D below, there is a positive correlation between a county's median household income and its Health Factors Rank. Counties with higher median incomes—notably, counties located in the Bay Area region—also received relatively better Health Factors Rankings.

However, the graph also highlights clear differences. For example, many counties in the San Joaquin Valley region have higher median incomes but received relatively worse Health Factors Ranks. Conversely, many of the North State and Redwood Coast region counties have lower median incomes but received relatively better Health Factors Ranks. This suggests that considering multiple metrics can provide a more holistic and nuanced picture of an area's well-being.

Graphic D: Health Factors Rank vs. Median Household Income Rank
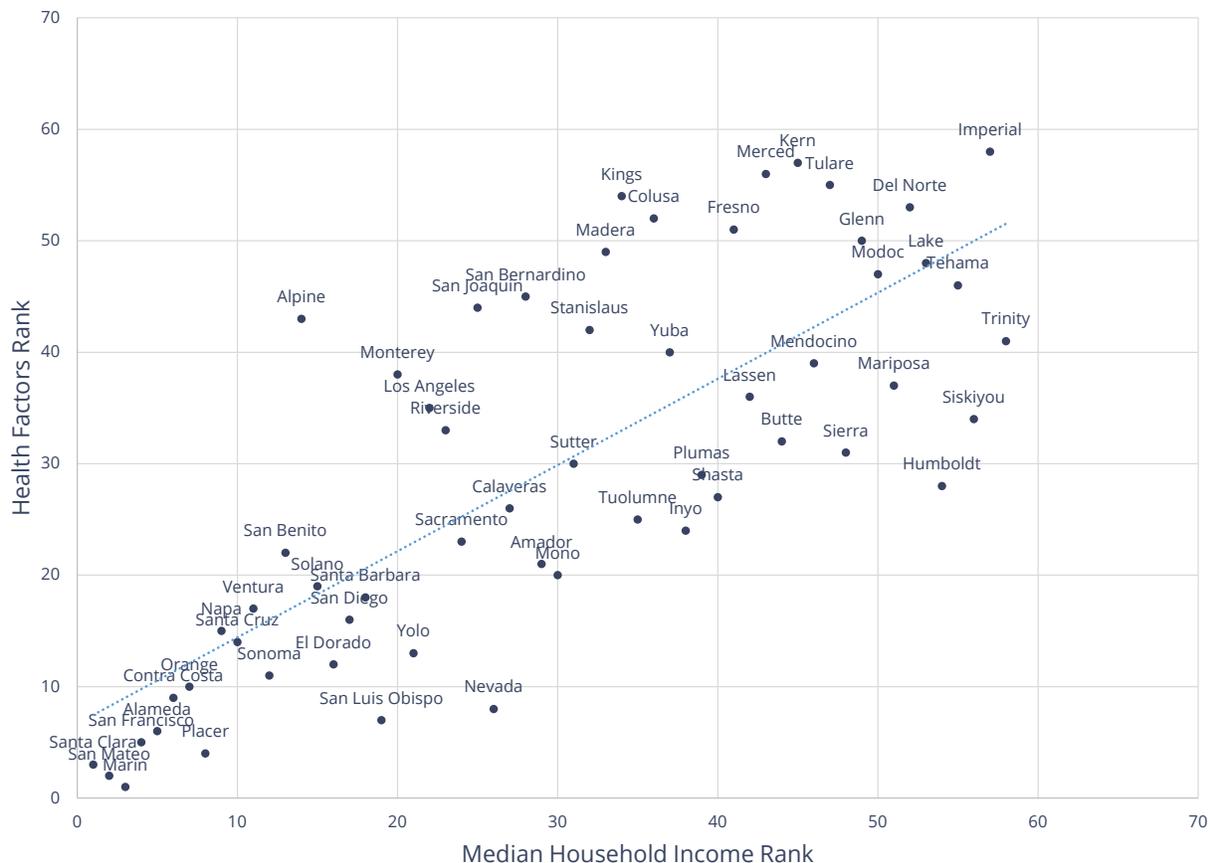
Note: The rankings in this chart range from 1 to 58, with 1 being both the highest median household income rank and the highest health factors rank.
Source: U.S. Census Bureau. "2016-2020 American Community Survey (5-year estimates)." Retrieved from the California Department of Finance.
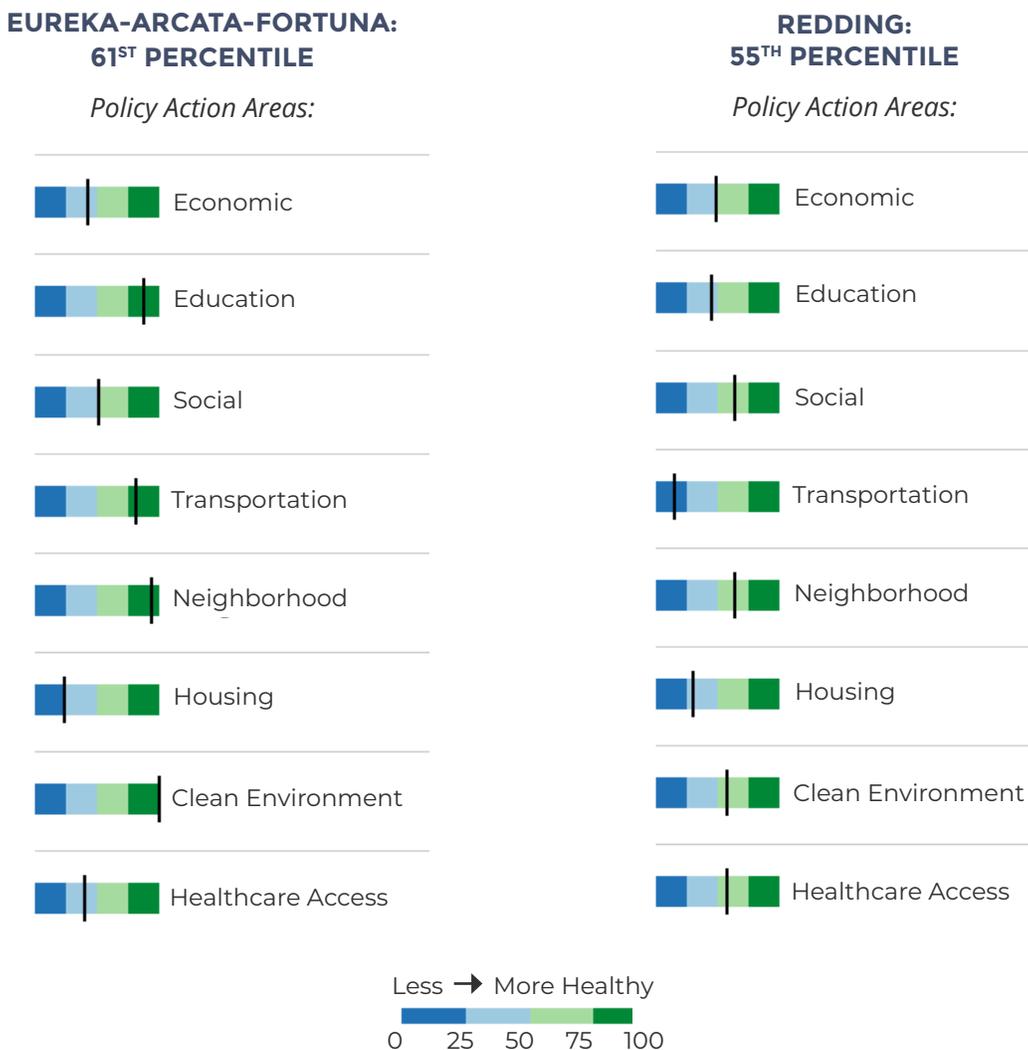*https://dof.ca.gov/reports/demographic-reports/american-community-survey/.*

MULTIPLE METRICS

Regional indices that combine a wide range of indicators into a single, aggregate score have the potential to provide a more comprehensive picture of the well-being of an area. However, when indices include metrics from a variety of domains—such as environment, economic, and social—differences in how regions perform across domains can be masked.

For instance, the Healthy Places Index—which aims to measure community well-being using 23 different metrics spanning eight domains—ranks the Eureka-Arcata-Fortuna (Eureka) and Redding Core-Based Statistical Areas (CBSAs) relatively similarly overall. Eureka has healthier community conditions than 61 percent of the state's CBSAs while Redding is healthier than 55 percent.

However, upon closer examination, we can see that these areas possess different strengths and face varying challenges. Based on the identified metrics, Eureka scores much better than Redding in the education, transportation, neighborhood, and clean environment domains. Conversely, Redding scores relatively higher in the economic, social, housing, and healthcare access domains.

Graphic E: The Healthy Places Index Ranks Eureka-Arcata-Fortuna and Redding Similarly Overall but Differences Emerge in the Details

EUREKA-ARCATA-FORTUNA:
61ST PERCENTILE

Policy Action Areas:

Economic

Education

Social

Transportation

Neighborhood

Housing

Clean Environment

Healthcare Access

REDDING:
55TH PERCENTILE

Policy Action Areas:

Economic

Education

Social

Transportation

Neighborhood

Housing

Clean Environment

Healthcare Access

Less → More Healthy

0   25   50   75   100

By focusing on the overall score, the differences between domains can get lost and we can make incorrect assumptions about conditions within regions. Further, as state and regional leaders look at where to invest funding to boost regional development, it is important they understand the interplay between domains beneath the overall score of a region. This will help ensure a better understanding of the problems facing regions and inform decisions about where to concentrate efforts and investments.

The Granularity of the Geography Covered

Our perception of the well-being of an area is further influenced by how narrow or broad the geography of the area under analysis is. Data tools that allow users to compare and contrast based on census tract, zip code, or metro area open up the opportunity to explore some of the variations in well-being that exists among communities within the same region.

For example, the San Joaquin Valley, a large swath of Central California that accounts for around 10 percent of the state's population, consistently receives low scores with respect to economic, social, and physical well-being across multiple indices. The California Dream Index gave the San Joaquin Valley region[c] the lowest overall score among its 13 regions in 2020. The Healthy Places Index (which uses the same regional definition) found that over half of census tracts in the San Joaquin Valley rank in the least healthy quartile, compared to other regions in the state.[3]

Recognizing the size and diversity of the San Joaquin Valley—and with a desire to provide greater investment to the underserved area—the CERF leaders divided the region into three separate subregions:

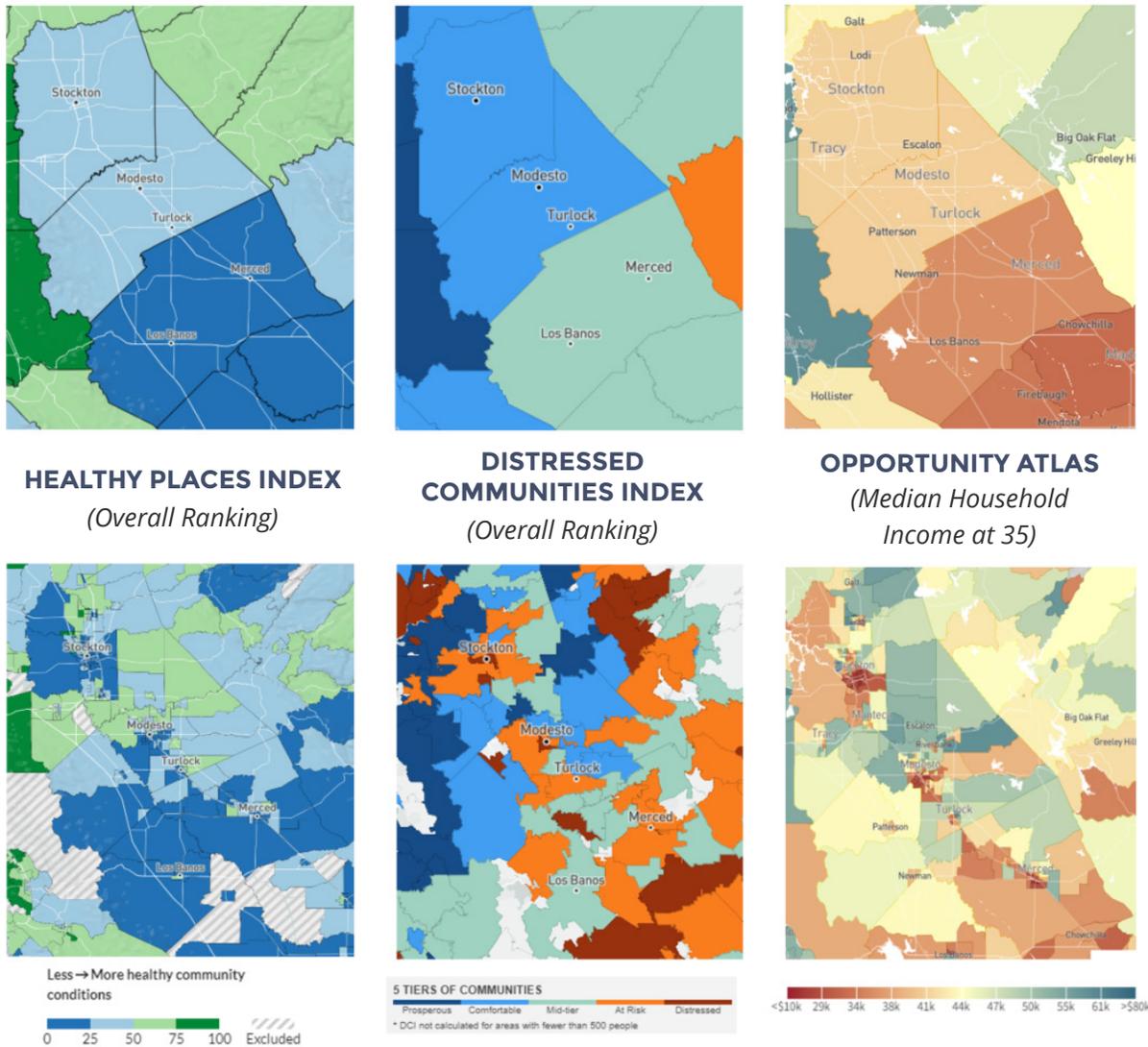| NORTHERN SAN JOAQUIN VALLEY	CENTRAL SAN JOAQUIN VALLEY	KERN COUNTY
San Joaquin County	Fresno County	Kern County
Stanislaus County	Kings County	
Merced County	Madera County	
	Tulare County	

Breaking up the San Joaquin Valley into three regions helps to recognize the existing support networks within each subregion as well as their respective economic ties and industries.[4] However, there are still significant differences in prosperity and well-being that exist among neighborhoods and communities within each subregion.[a]

For instance, the Healthy Places Index—which combines 23 community characteristics linked to health outcomes across eight domains (economic, social, etc.) to compare the relative performance of different geographies of the state—illustrates these differences within the Northern San Joaquin Valley region. The Index ranks San Joaquin County in the second lowest quartile of counties with respect to health outcomes, but at the census tract level, we see that neighborhoods in Stockton rank in the bottom quartile of neighborhoods while surrounding communities may rank in third highest quartile. A similar pattern holds for Stanislaus and Merced Counties.

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[c] The California Dream Index refers to the San Joaquin Valley region as the Central Valley region. For consistency in our analysis, we are labeling the region as the San Joaquin Valley, but both labels refer to the same set of counties (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare).

Graphic F: Wider Geographies Can Hide Local Disparities

HEALTHY PLACES INDEX
(Overall Ranking)

DISTRESSED COMMUNITIES INDEX
(Overall Ranking)

OPPORTUNITY ATLAS
(Median Household Income at 35)

As seen in Graphic F, other data tools, like the Distressed Communities Index and Opportunity Atlas, also show how more granular analysis reveals significant local disparities below higher-level regional measures. The CalEnviroScreen similarly reveals a local patchwork of varying levels of pollution burden and vulnerabilities among neighborhoods.

When characterizing the well-being of regions, it is important to have an understanding of the disparities that exist within those regions. The wider the geography, the more differences between communities are reduced. This is a significant point as the state government prepares to invest in regional economic development: supporting economic development in a distressed or disadvantaged regional area does not necessarily guarantee that investment and jobs will flow to distressed or disadvantaged communities within the region. CERF guidelines accordingly direct collaboratives to identify how planned initiatives will support disinvested communities at the census tract and neighborhood level.

Time of Data Collection

Finally, perception of the well-being of an area is impacted by the time in which the data used in the analysis was collected.

The COVID-19 pandemic has had a tremendous impact on Californians' lives. This period of great social and economic upheaval also illuminates the challenges that arise when pulling data during and surrounding anomalous periods. Similar concerns relate to data from other anomalous periods in the state's history, such as the Great Recession, the tech boom of the late 1990s, or the post-Cold War decline of the aerospace industry.

Pre-pandemic data may no longer provide an accurate basis for comparing regional performance or evaluating the current scale of regional disparities. At the same time, more recent data may reflect severe but ultimately temporary impacts from the COVID-19 pandemic and accompanying recession.

For example, the unemployment rate in the Inland Empire stood at about four percent immediately prior to the outbreak of COVID, peaked at 16 percent in Spring 2020, declined to eight percent in Spring 2021, and again stood at about four percent in Summer 2022.[5] By comparison, in Fresno, the pre-pandemic unemployment rate was slightly higher at seven percent, reached a similar peak in Spring 2020 at 17 percent, declined to 10 percent in Spring 2021, and finally reached its pre-pandemic unemployment rate slightly earlier in February 2022.

Graphic G: Unemployment Rate in the Inland Empire and Fresno Metro Area
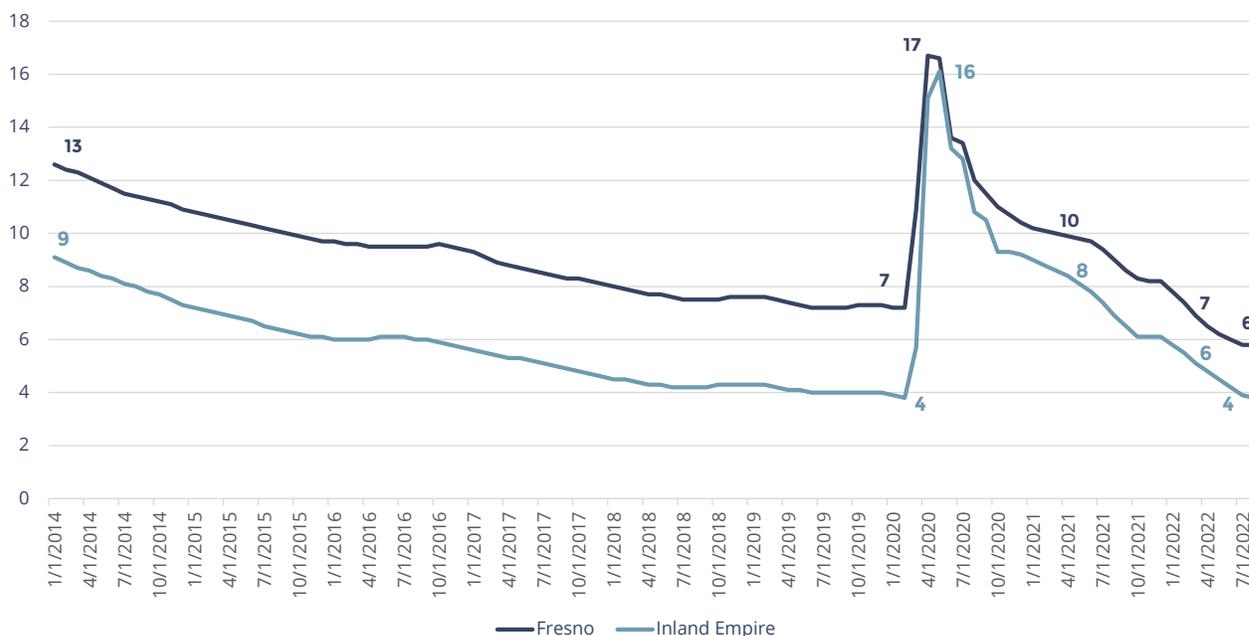
Source: U.S. Bureau of Labor Statistics. "Unemployment Rate in Riverside-San Bernardino-Ontario, CA (MSA)." Retrieved from FRED, Federal Reserve Bank of St. Louis. https://fred.stlouisfed.org/series/RIVE106UR. Also, U.S. Bureau of Labor Statistics. "Unemployment Rate in Fresno, CA (MSA)." Retrieved from FRED, Federal Reserve Bank of St. Louis. https://fred.stlouisfed.org/series/FRES406UR.

However, while the Inland Empire's unemployment rate in Summer 2022 is similar to its pre-pandemic rate (four percent), Fresno's unemployment rate has dipped slightly lower than its pre-pandemic unemployment rate to six percent.[6]

It may be some years before it is clear where apparent changes in relative regional performance reflect actual adjustments in regional trajectories or are simply temporary effects from the pandemic that will disappear as pre-pandemic trends reassert themselves.

These challenges relative to comparing regional performance in the COVID-era suggest that it may be helpful when evaluating regional disparities to examine changes over time (looking at whether the trajectory of disparities is widening or narrowing), as opposed to focusing solely on snapshot comparisons. Some data tools, like the Brookings Metro Monitor, track key metrics over a period of time, allowing users to follow and compare regional trajectories based on indicators like regional income, productivity, and job creation.

Appendix 1: Overview of Data Tools

The Commission identified 11 data tools that provide thorough information about California's regional well-being. These tools differ in several ways:

DOMAINS AND METRICS

One way that the data tools vary is in the kinds of data they include. Some tools focus on providing a sense of how well areas in California are doing in specific domains or categories. For instance, the Health Outcomes Rankings seek to reflect the physical and mental well-being of counties. Alternatively, the Metro Monitor tracks economic growth performance metrics for the nation's largest metro areas.

However, most of the data tools that the Commission identified include metrics from a variety of domains. For the purpose of this Brief, these metrics have been divided into the following domains: economics, education, social, environment, health, transportation, housing, physical environment, and demographic characteristics.

In addition to differing domains, these tools also utilize disparate metrics within those domains. For example, the California Dream, Vitality, and Distressed Communities Indices all include metrics that fall within the housing domain. However, they utilize different metrics to depict these domains. The California Dream Index uses affordable rent rate (percent of people paying more than 30 percent of their income on rent) and homeownership rate (percent of people who own their own home). Conversely, the Vitality Index and the Distressed Communities Index both use the housing vacancy rate (percent of habitable housing that is unoccupied).

Finally, these tools also vary in the number of metrics utilized, ranging from four (Human Development Index) to 37 (Opportunity Atlas).

GEOGRAPHIC AREA

The tools cover differing geographic areas, ranging from census tracts to independently-defined regions that cover large swaths of the state. Counties are the most frequently-used geographic area among the tools, with eight of 11 data tools utilizing this level of geography.

OUTPUT

The tools vary in the outputs that they offer. Some tools, such as the Community and Place-Based Data Tool, provide a compilation of individual metrics. Others, such as the Vitality Index, use statistical methods to combine metrics (or domain scores) into an overall score. Some, including the Human Development Index, provide a combination of these outputs and offer both an overall score as well as individual metrics.

Appendix 2: Chart with Broad Overview of the Data Tools

	CalEnviroScreen	California Dream Index	Community and Place-Based Data Tool	Distressed Communities Index	Health Rankings and Roadmaps*		Healthy Places Index	Human Development Index	Metro Monitor	Opportunity Atlas	Vitality Index
					Health Factors Rankings	Health Outcomes Rankings					
Geographies Covered											
Census Tract	X						X			X	
Zip Code				X			X				
Metro Areas or Cities			X				X	X	X		
Counties		X	X	X	X	X	X	X			X
Region		X	X								
State		X	X	X				X			X
Other							X	X			
Domains and Metrics											
Economic	X	X	X	X	X		X	X	X	X	X
Education	X	X	X	X	X		X	X		X	
Social	X				X		X			X	
Environment	X	X			X		X				
Health	X		X		X	X	X	X		X	X
Transportation	X	X	X		X		X			X	
Housing	X	X	X	X	X		X			X	X
Physical Environment		X					X			X	
Demographic Characteristics			X							X	
Total Metrics:	**21**	**10**	**34**	**7**	**30**	**5**	**23**	**4**	**15**	**37**	**6**
Output											
Score(s) and/or Ranking(s)		X		X	X	X	X	X			X
Data Compilation	X	X	X	X	X	X	X	X	X	X	X
Data Time Frame											
Time Frame	2009-21	2010–20	2013-21	2016–20	2014-20	2010-20	2011–19	2014-19	2009–19	1990-2016	2013-17

The County Health Rankings and Roadmaps also provides related metrics outside of those utilized in the Health Factors and Outcomes Rankings.

Appendix 3: Chart Comparing Data Tool Metrics (Indices and Rankings)

| | California Dream Index | Distressed Communities Index | County Health Rankings and Roadmaps | | Healthy Places Index | Human Development Index | Vitality Index |
			Health Factors Rankings	Health Outcomes Rankings			
Economic	% households with incomes above the "real cost of living" measure *(United Way)* % of residents living in census tracts with less than 20% in poverty	Federal poverty rate Unemployment rate *(ages 25 to 54)* Median household income ratio *(median household income as a % of metro area median household income, or state median household income, for non-metro areas)* % change in number of jobs *(2016 to 2020)* % change in businesses *(2016 to 2020)*	Unemployment rate *(ages 16 and older)* % children in poverty Income inequality *(ratio of household income in the 80th percentile to income at the 20th percentile)*		Above poverty *(% with income >200% of federal poverty level)* Employment rate *(ages 25-64)* Per capita income	Median earnings	Median household income Federal poverty rate Employment rate *(ages 25 to 54)* Unemployment rate
Education	In pre-school *(% ages 3 to 4)* % population with an Associate's degree or higher, or a career technical education certificate	No high school diploma *(% ages 25+)*	Have high school diploma or equivalent *(% ages 25+)* Some post-secondary education *(% ages 25-44)*		Bachelor's education or higher *(% adults 25+)* In high school *(% ages 15 to 17)* In pre-school *(% ages 3 to 4)*	Educational degree attainment *(% of adults 25+)* School enrollment *(% ages 3 to 24)*	
Housing	Affordable rent (% paying >30% of their income on rent) Homeownership rate	Housing vacancy rate	Severe housing problems *(% households with at least 1 of 4 housing problems: overcrowding, housing costs that >50% of income, lack of kitchen facilities, or lack of plumbing facilities)*		Homeownership rate % households with basic kitchen facilities and plumbing Low-income homeowner severe housing cost burden *(% paying >50% of income on housing)* Low-income renter severe housing cost burden *(% paying >50% of income on housing)* Uncrowded housing *(% households with ≤1 occupant per room)*		Housing vacancy rate
Social			% of children in single-parent households Membership social associations Violent crime offenses Deaths due to injury		Voting in 2020 *(% registered voters voting in the 2020 general election)* Census response rate *(% responding to the 2020 census, short form)*		

	California Dream Index	Distressed Communities Index	County Health Rankings and Roadmaps		Healthy Places Index	Human Development Index	Vitality Index
			Health Factors Rankings	Health Outcomes Rankings			
Health			% adult smoking	Premature death *(years of potential life lost before age 75 per 100,000 population, age-adjusted)*	% adults insured *(ages 18 to 64)*	Life expectancy	Life expectancy
			Adult obesity *(% age ≥18 with BMI ≥30 kg/m2)*	Poor or fair health *(self-reported)*			
			Food environment index	Poor physical health days *(self-reported)*			
			Physical inactivity	Poor mental health days *(self-reported)*			
			Access to exercise opportunities	% of live births with low birthweight *(<2,500 gm)*			
			Excessive drinking				
			Alcohol-impaired driving deaths				
			STIs				
			Teen births				
			% uninsured				
			Primary care physicians to population ratio				
			Dentists to population ratio				
			Mental health providers to population ratio				
			Preventable hospital stays				
			Mammography screenings				
			Flu vaccinations				
Environment	Median air quality % of population served by water districts with no water quality violations		Air pollution *(PM2.5)* Presence of health-related drinking water violations		Diesel PM Drinking water contaminants Air Quality: Ozone Air Quality: PM 2.5		
Transportation	Census tract mean commute time to work		Driving alone to work Long (30 min+) commute – driving alone		% with automobile access Active commuting *(% of workers ages ≥16 commuting by walking, cycling, or transit, excluding working from home)*		
Physical Environment	Broadband access				Park access *(% living within ½-mile of a park, beach, or open space >1 acre)* Tree canopy *(population-weighted % of the census tract area with tree canopy)* Retail density *(combined employment density for retail, entertainment, supermarkets, and educational uses - jobs/acre)*		

Appendix 4: Chart Comparing Data Tool Metrics (Data Compilations)

	CalEnviroScreen	Community & Place Based Data Tool	Metro Monitor	Opportunity Atlas
Economic	Poverty (% of population living below two times the federal poverty level) Unemployment rate (age 16+)	Labor force status Unemployment rate Unemployment rate change (1 year) Largest job counts by occupation # of employees Workforce distribution (blue collar vs white collar) # of businesses # and share of business by type # of jobs and businesses by NAICS # and share of businesses by # of employees Median household income Median annual and hourly wages by occupation Household income distribution Median household expenditures Consumer expenditures by type Tax rate by type	<u>2009 to 2019:</u> % change in the number of jobs % change in gross metropolitan product (GMP) % change in the number of jobs at young firms % change in productivity (GMP divided by number of jobs) % change in the average annual wage % change in standard of living (GMP divided by total metro population) % point change in the employment rate % change in median earnings % point change in the relative poverty rate % point change in white/people of color employment rate gap Change in white/people of color median earnings gap % point change in the white/people of color relative poverty rate gap <u>2005-09 to 2015-19:</u> % point change in top/bottom neighborhoods employment rate gap Change in top/bottom neighborhoods median household income gap % point change in top/bottom neighborhoods relative earnings poverty rate	<u>Children's outcomes in adulthood:</u> Household income (HHI) at age 35 Indiv. income (excluding spouse) at age 35 Spouse's income at age 35 Employment rate at age 35 Hours worked per week at age 35 Hourly wage ($/hour) at age 35 Fraction in top 20% based on HHI Fraction in top 1% based on HHI Fraction in top 20% based on indiv.income Fraction in top 1% based on indiv. income HHI (stayed in commuting zone) Indiv. income (stayed in commuting zone) HHI for U.S. natives HHI for immigrants Indiv. income for U.S. natives Indiv. income for immigrants <u>Neighborhood characteristics:</u> Job growth rate (2004 to 2013) Median HHI of residents (2012-16) Median HHI of residents (1990) Poverty rate Density of jobs
Education	% with less than high school degree (age 25+)	Educational attainment Number of colleges Number of universities Top 5 universities and # of graduates Top college programs and # of graduates		<u>Children's outcomes in adulthood:</u> High school graduation rate College graduation rate <u>Neighborhood characteristics:</u> Fraction college graduates in 2012-16
Housing	Housing-burdened (paying >50 percent of income on housing costs) low-income (income <80 percent of county's median family income) households	Homeowners vs. renters rate Total households vs. families Number of housing units by type Households by size		<u>Neighborhood characteristics:</u> Median rent

	CalEnviroScreen	Community & Place Based Data Tool	Metro Monitor	Opportunity Atlas
Social	Linguistic isolation *(limited English speaking households)*			Children's outcomes in adulthood: Incarceration rate Fraction married at age 35 Neighborhood characteristics: Fraction single parents Census response rate
Health	Asthma emergency department visits Cardiovascular disease *(emergency department visits for heart attacks)* Low birth-weight infants			Children's outcomes in adulthood: Teenage birth rate *(women only)*
Environment	Ozone concentrations in air PM2.5 concentrations in air Diesel particulate matter emissions Drinking water contaminants Children's lead risk from housing Use of certain high-hazard, high-volatility pesticides Toxic releases from facilities Toxic cleanup sites Groundwater threats from leaking underground storage sites and cleanups Hazardous waste facilities and generators Impaired water bodies Solid waste sites and facilities			
Transportation	Traffic impacts	Means of transportation to work Mean commute travel time Number of airports		Neighborhood characteristics: Fraction with short work commutes
Physical Environment				Children's outcomes in adulthood: % staying in same census tracts as adults % staying in same commuting zone as adults
Demographic Characteristics		Median age Age distribution Total population Sex distribution Ethnicity distribution Race distribution		Children's outcomes in adulthood: Number of children Neighborhood characteristics: Fraction non-white Foreign-born share Population density

Notes

1. Governor's Office of Planning and Research, Labor and Workforce Development Agency, Governor's Office of Business and Economic Development. "Finalized CERF Regions and Responses to Frequently Asked Questions." https://opr.ca.gov/economic-development/cerf/docs/20211217-CERF_Final_Regions_FAQ.pdf.

2. Find the current list of California MSA's here: https://www.labormarketinfo.edd.ca.gov/definitions/metropolitan-statistical-areas.html. Also, U.S. Census Bureau. "Glossary." https://www.census.gov/programs-surveys/metro-micro/about/glossary.html.

3. Coline Bodenreider, MPH, et al. Public Health Alliance of Southern California. "Health Places Index 3.0." Page 32. March 31, 2022. https://www.assets.website-files.com/613a633a3add5db901277f96/624a02bba72d6628b96ae461_HPI3TechnicalReport2022-03-31.pdf.

4. Governor's Office of Planning and Research, Labor and Workforce Development Agency, Governor's Office of Business and Economic Development. "Community Economic Resilience Fund Program (CERF) Proposed Economic Regions for High Road Transition Planning Grants: Released for Public Comment." https://www.edd.ca.gov/siteassets/files/Jobs_and_Training/pubs/wsin21-20att1.pdf.

5. U.S. Bureau of Labor Statistics. "Unemployment Rate in Riverside-San Bernardino-Ontario, CA (MSA)." Retrieved from FRED, Federal Reserve Bank of St. Louis. https://fred.stlouisfed.org/series/RIVE106URN.

6. U.S. Bureau of Labor Statistics. "Unemployment Rate in Fresno, CA (MSA)." Retrieved from FRED, Federal Reserve Bank of St. Louis. https://fred.stlouisfed.org/series/FRES406UR.