How Does California's Economic Performance Compare to Other States?

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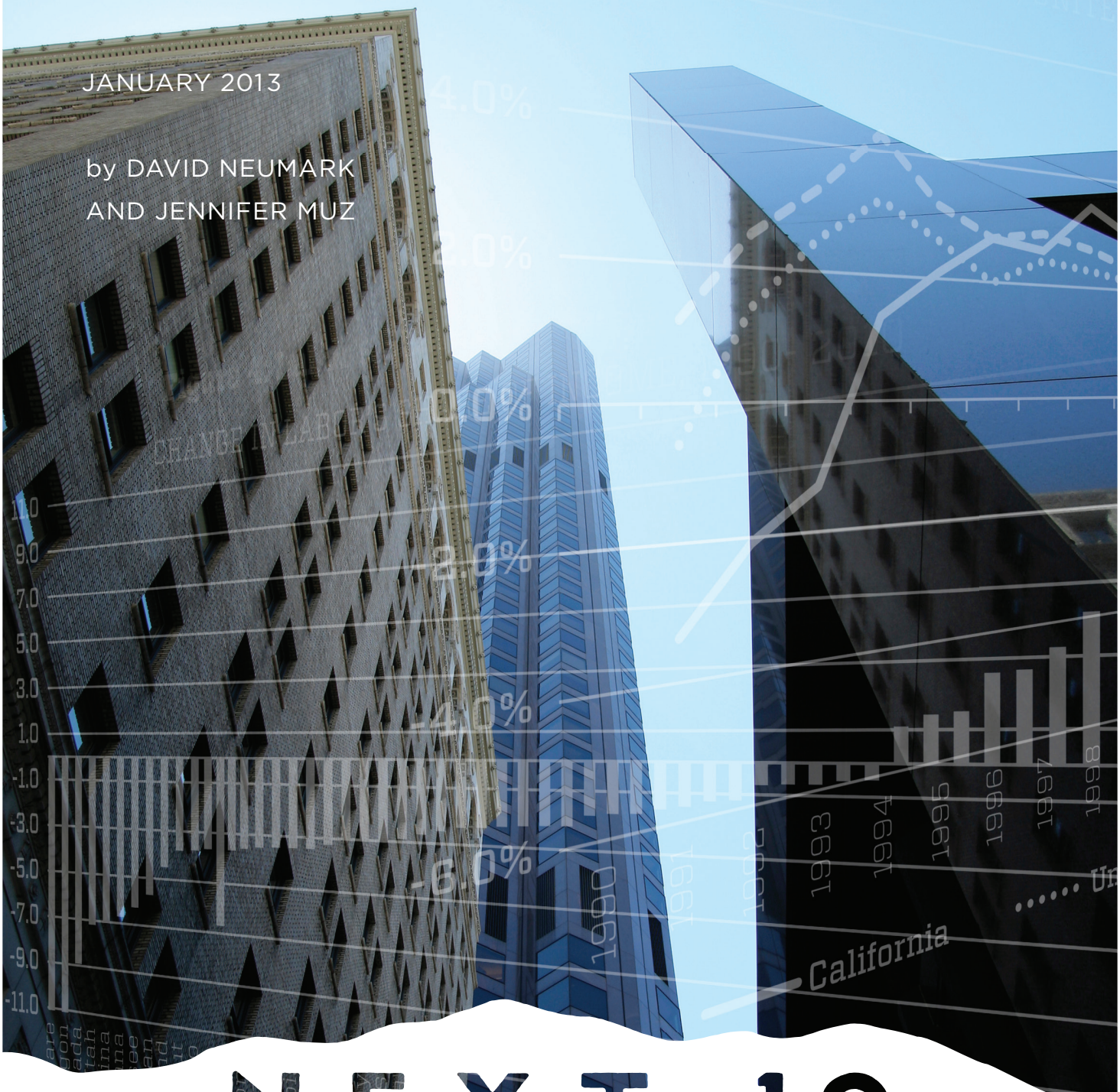
by DAVID NEUMARK
AND JENNIFER MUZ



NEXT 10

EDUCATING, ENGAGING AND EMPOWERING CALIFORNIANS TO IMPROVE OUR STATE'S FUTURE

How Does California's Economic Performance Compare to the Other States?[*]

David Neumark and Jennifer Muz

UCI Center for Economics & Public Policy and Department of Economics

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Executive Summary

In considering how state policy might improve California's economic performance – especially when comparing California policies to those in other states – it is essential to put California's economic performance into the proper context and perspective. To that end, this report provides a rich and multi-dimensional empirical description of California's economic performance relative to other states. It provides up-to-date and comprehensive longer-term comparisons that are essential to well-informed debate about where the state performs comparatively well, and where it comes up comparatively short.

Concurrent with the production of this report, we have – in conjunction with Next 10 – produced a website that contains all the data we discuss in this report and permits similar comparisons of the economic performance of other states. We call this website *Compare 50*. The data and an interactive interface are available at *www.Compare50.org*. While this report focuses on California's overall economic performance, the website will make it possible for users in other states to construct comparisons of their states' economic performance. Moreover, the *Compare50.org* website contains data on many economic outcomes that are not covered in this report, so those interested in California are *also* encouraged to visit the website to look for additional comparisons of California's economic performance to the economic performance of other states.

Of course the careful documentation of how the state's economic performance stacks up in relation to other states is not enough, in and of itself, to settle fundamental policy debates – and indeed that is not our intention. However, we are confident that policy discussions will be more fruitful if they are based on a solid foundation of facts.

Summarizing results is difficult because of the variety of measures considered, and because of the sensitivity to some of the comparisons to the period considered. Nonetheless, based on the historical record over the past two decades, the following main conclusions emerge.

- California's growth of economic output, as measured by real GSP per capita, is on par, more or less, with the rest of the nation. Although in the more recent years – especially excluding the

period since the Great Recession (2008-2011) – California' economic growth was relatively strong.

- Despite growth in economic output that has been about average, California's job growth has been more sluggish than many other states. This is true overall, and for manufacturing employment specifically. The slower job growth is not solely a function of the Great Recession hitting California harder. Even in the early- to mid-2000s, when California's economic growth was relatively strong, job growth did not exhibit the same strength. And for manufacturing, California's relative job growth performance is worse when the Great Recession is excluded.
- The slower job growth in California in recent years was accentuated by the harsh effects of the Great Recession in California, which led to very large job losses due to mass layoffs in the state.
- California's unemployment rate has consistently exceeded national as well as regional averages. Recessions in recent decades – and not only the Great Recession – have hit California particularly hard, leading to relative increases in the state's unemployment rate. To some extent higher unemployment rates in California reflects a greater representation of demographic groups that have higher unemployment rates. Even adjusting for this, though, California's unemployment rate tends to exceed other areas, and has increased in relative terms when recessions hit the state, likely because recessions increase unemployment more among minority groups.
- Blacks have higher unemployment rates than whites both nationally and in California, but the black-white gap is not notably different in California. In contrast, the Hispanic-white gap in the unemployment rate has tended to be much higher in California, although periods of strong economic growth have reduced or even eliminated this gap – again indicating that business cycle booms benefit minorities in the state, and business cycle busts worsen their economic position.
- Over the longer-term, the black-white unemployment rate gap has worsened in California in absolute terms and has worsened relative to about two-thirds of states. The Hispanic-white gap in the unemployment rate has been relatively stable in California, and, relative to other states, this

performance is better.

- Median weekly earnings in California are high relative to the nation, but in real terms have been largely stagnant over the last two decades, despite growth in real per capita GSP. However, the data to some extent reflect a rising share of the population that is Hispanic and lower paid. When we standardize for demographic composition, there is more evidence of real growth in median earnings.
- When we turn to how the state has performed in terms of closing the earnings gap between demographic groups, we find that the Hispanic-white gap in median earnings has been relatively stable, putting California in about the middle of all states. However, the black-white gap grew quite sharply in California, in contrast to most states where the gap rose by less or even declined a little.
- Median real family income has been relatively stagnant in California, although it grew in the 2000s prior to the Great Recession. The state's performance was weaker at the lower end of the family income distribution, as the 10^{th} percentile (1^{st} decile) of family income was also stagnant through the 2000s, and then fell sharply – rather than just giving up the gains – with the Great Recession. In rather sharp contrast, there was stronger growth in family incomes at the top end of the income distribution, with the 90^{th} percentile (or 9^{th} decile) growing quite steadily over the past two decades and the Great Recession leading to only slight retrenchment.
- These changes imply that over the longer-term there was real income growth for high-income families in California over the last two decades, but no growth at the middle of the income distribution and declines at the bottom. Relative to other states, though, these increases in income inequality were relatively modest, with a majority of states registering larger increases in inequality.
- Poverty appears higher in California if we do not adjust for demographic composition. If one believes higher housing costs should be accounted for in the poverty rate, this pushes the state's

poverty rate up substantially. Echoing earlier conclusions, because recessions in recent decades have hit California hard, and because low-income families suffer their effects more strongly, poverty has increased in relative terms in California as a result of recessions, especially the Great Recession. Looking at a period that includes the Great Recession, poverty rates have increased in most states. But the increases in California (whichever poverty rate we use) are among the highest; this is less apparent if the years beginning with the Great Recession are excluded. This poor performance of California is muted a bit when we look at families headed by people aged 25-64, although California's increase in poverty is still among the highest when we take account of housing prices.

What general conclusions can be drawn? Overall, there is no case for concluding that California's economic performance has been significantly better or significantly worse than most other states in the past two decades. However, there are some negative indications. First, despite average growth of economic output, job growth has been fairly slow. That is worrisome for reducing unemployment in the long-term, and is also significant because labor income is a sizable share of the tax base in California. Second, on some dimensions – but by no means all of them – distributional outcomes in California have worsened relative to many states. In particular, the earnings gap between blacks and whites has grown relatively sharply, and on many measures poverty has increased more in California than in many other states.

Ultimately, however, the purpose of this research project is not to *explain* California's economic performance overall, or in relation to other states. Rather, the purpose is to draw on a wide variety of data sources to document the facts on the economic performance of the states. This report, and the even more extensive information available at *Compare50.org*, should provide a solid empirical foundation for policy debate. In addition, they may help to identify features of the state's relative economic performance that have not been noted, generate new hypotheses or explanations regarding explanations of state economic performance, and identify both problem areas policymakers may want to address as well as those where

good economic performance in the state suggests that policy changes are not needed.

I. Introduction

Ongoing budgetary and economic difficulties in California have accentuated long-running debates about how California's economic performance compares to the economic performance of other states, and the role of policy in either helping or hindering the state's economic performance. The goal of this report is to provide a rich and multi-dimensional empirical description of California's economic performance relative to other states. It provides up-to-date and comprehensive longer-term comparisons that are essential to well-informed debate about where the state performs well and where it comes up short. Both are crucial inputs into thinking about policy. For dimensions on which the state's economy is performing well, we might want to leave well enough alone or to try to identify the policies and other factors contributing to this success and endeavor to preserve them. In contrast, identifying dimensions on which the state's economic performance is lagging can help identify policy priorities.

The comparisons we present are also a useful input into policy debate more generally. The performance of the state's economy can be measured a number of ways. Economists typically emphasize both the level of economic output – which of course grows faster the higher is economic growth – and the distribution of economic resources. Policymakers and the public in general are likely to have divergent views on the relative importance of different measures of economic performance, and it is up to the policy process to make decisions about which ones to prioritize. But a factual basis for doing this is essential. If, for example, growth in California is stagnant, but the economy is generating reduced economic inequality or lower poverty, then it may be hard to make the case for *less* emphasis on growth and *more* emphasis on equity, and conversely.

More generally, in debate about how state policy might improve California's economic performance – especially when the comparison is to policies in other states – it is essential to put California's economic performance in perspective compared to other states. For example, if we studied only California – and not other states – we might erroneously conclude that something went terribly wrong in the state since 2008 that led to sharp declines in employment and anemic job growth for many years afterward, and we could therefore be led to search for state policy factors that could be responsible.

But of course the Great Recession was in large part a national phenomenon. Insofar as we might want to ask whether there were *particular* issues facing California, we would want measures of California's economic performance relative to other states – and indeed perhaps relative to a particular set of states that are comparable on other dimensions such as size, demographic composition, etc.

We are under no illusion that the careful documentation of how the state's economic performance stacks up in relation to other states will settle our fundamental policy debates – and indeed that is not our intention. But we are confident that the debate will be more fruitful if it is based on a solid foundation of facts.

Concurrent with the production of this report, we have – in conjunction with Next 10 – produced a website that contains all the data we use, and permits similar comparisons of the economic performance of other states. We call this *Compare 50*, and the data and an interactive interface are available at *http://www.Compare50.org*. While this report focuses on California's economic performance, the website will make it possible for those in other states to construct comparisons of their states' economic performance. Moreover, the *Compare50.org* website contains data on many economic outcomes that are not covered in this report, so those interested in California are *also* encouraged to visit the website to look for additional comparisons of California's economic performance to the economic performance of other states.

We should clarify at the outset an important limitation, or "boundary," on what we do in this report. Our goal is to document, as accurately as possible, evidence on a wide array of what we view as the most important indicators of the economic performance of California and other states. Our goal is *not* to explain the differences in economic performance that we document. That is certainly an important task, and one that is also important in informing policy debate. It is simply beyond the scope of this project; to appreciate why, consider that a convincing explanation of differences in performance on any *single* indicator would likely constitute a research project in and of itself.

At the same time, in some parts of this report we engage in calculations that ask whether differences in economic outcomes across states reflect simple differences across states in their

demographic composition. We do this in cases where we think there is a compelling reason to believe that looking at the differences adjusted for demographic composition can provide a better perspective on a state's economic performance. This is not to deny, however, that there are other adjustments that could also deepen our understanding of performance differences; one example might be industry composition. The guiding principle is to stick to raw, unadjusted measures of economic performance in most cases, but also to present evidence on adjusted performance in some key places where the rationale for the adjustment is particularly strong.

II. Measuring Economic "Outputs," Rather than the "Business Climate"

Absent the kind of information this report presents, a common metric on which state economies are assessed and contrasted in public policy debate is through a somewhat amorphous concept referred to as the "business climate." Business climate indexes, which are constructed by a number of organizations, are intended to provide catchall descriptions and even rankings of how favorable state policy is to economic activity.

These business climate indexes figure prominently in policy debate.[1] Casual observation suggests that they are used most commonly in arguments for lowering taxes and regulations in states that are rated poorly on indexes that emphasize these costs of doing business and taxes more generally. Conversely, states that do well on such indexes – because of low taxes, for example – often tout these indexes or rankings in trying to attract businesses.[2] But politicians and other organizations use state rankings provided by business climate indexes to support both these and other points of view. They are often able to do this by selecting which indexes to emphasize, because state business climate rankings provide strongly divergent views of state policy environments. For example, some states that are ranked

[1] For examples of such arguments, see http://www.cagop.org/index.cfm/capitol-update_785.htm (viewed November2, 2009), http://cssrc.us/web/19/publications.aspx?id=5547&AspxAutoDetectCookieSupport=1 (viewed November 2, 2009), http://www.mpnnow.com/opinions/guest_essays/x624508858/New-study-affirms-New-Yorks-woeful-tax-climate (viewed November 2, 2009), http://www.platteinstitute.org/publications/tax-foundation-nebraskas-business-tax-climate-improving (viewed November 2, 2009), and http://www.njprofoundation.org/pdf/ffd4.pdf (viewed November 2, 2009).

[2] For examples, see http://www.dad69.state.pa.us/revenue/cwp/view.asp?A=104&Q=258387 (viewed November 2, 2009), http://www.sdreadytowork.com/dbisd/ (viewed November 2, 2009), and http://www.whywyoming.org/about.aspx (viewed November 2, 2009).

poorly in terms of taxes are ranked favorably on other dimensions, such as education and human capital, or quality of life measures including crime rates and health.[3] Notably, California is typically ranked among the worst states by indexes that emphasize taxes and costs of doing business, like regulation.

The goal of this report is not to assess what business climate indexes measure. Research doing this is described in Appendix A of this report. The key point for the purposes of this report is that there is a potentially significant limitation of a focus on business climate indexes. In particular, a focus on "inputs" into state economic growth – in the form of public policies captured in existing business climate indexes – rather than "outputs" – i.e., direct measures of state economic performance, can give a misleading sense of a state's economy. To provide a more extreme example to help illustrate the point, if a state were ranked towards the bottom on all existing business climate indexes capturing state policy, but the state outperformed many other states on many dimensions, it is not clear we would want to characterize that state as having a bad "business climate." Instead, it may be that the attempts to capture the business climate in the sets of policy variables used in these indexes miss important dimensions of what makes this state a good place to do business.

In other words, an accurate description of how states' economies are *actually performing* is a critical input into policy debate, and one that can provide more perspective – or at least additional perspective – than we can get from simply focusing on the policy inputs that underlie the existing business climate indexes.

III. Related Resources

There are other resources that can provide information on the economic performance of states, but these resources are much more limited than the types of evidence we discuss in this report and the

[3] As an example of selective use of state business climate rankings, in arguing that "Any changes to the tax system should be undertaken primarily with the health of the economy in mind," the California Chamber of Commerce cited the Tax Foundation's *State Business Tax Climate* (SBTC) index, ranking California 48th out of 50 states, the Small Business and Entrepreneurship Council's *Small Business Survival* (SBSI) index, ranking California 48th out of 51, and CFO Magazine's *State Tax Survey*, ranking California the worst in the country (http://www.calchamber.com/headlines/pages/calchambertestimonytotaxcommissioneconomyjobsclimateshouldbepriorityinexaminingcaliforniataxstructure.aspx, viewed November 3, 2009). Yet the Chamber's testimony fails to mention the SNEI, on which California ranked 8th in 2008, or the Corporation for Enterprise Development's *Development Report Card for the States-Business Vitality* (DRCS-BV) index, on which the state ranked 4th in 2007.

type and amount of information we are making available at *Compare50.org*.

First, there are the existing state business climate indexes. As discussed above, these indexes focus on policies, not economic outcomes. It is true, nonetheless, that in some cases the indexes include information on economic outcomes. Most notably, the Development Report Card for the States – Performance (DRCS-P) index includes the poverty rate and income inequality measures, along with labor market indicators such as employment, unemployment, and pay, to go with a much larger set of policy variables.[4] However, the organization that produces this index stopped creating and updating it after 2007.[5] So besides not having all the measures that will be included as part of the proposed research, this resource is no longer available.

Second, some state economic development departments have websites that permit users to get data comparing their state to other states. For example, New Hampshire's website permits pairwise comparisons of one other state at a time to New Hampshire.[6] However, the website provides point-in-time comparisons of items pulled from the usual business climate indexes. It does not provide data on outcomes, whether at a point in time or over time, and it does not provide an ability to look at all the states. Minnesota has a similar website, although it permits comparisons with multiple states.[7] Similarly, a website called "Statemaster" provides point-in-time, two-state comparisons on some economic outcomes.[8] Neither of these sources includes equity measures. The Economic Policy Institute's "Economy Track" provides information on employment and unemployment over time, one state at a time, but no other measures. And it does not provide a useful way to do state-by-state comparisons.[9]

Third, there are commercial vendors – in particular Haver Analytics[10] and *economy.com*[11] – which

[4] For details, see http://www.ppic.org/content/pubs/other/411JKR_appendix.pdf (viewed September 30, 2011). The equity measures are related to the kinds of measures that are used in this report: the ratio of mean income of families in the top quintile to mean income of families in the bottom quintile, and the percent change in the ratio of mean income of families (family income) in the top quintile to mean income of families in the bottom quintile. However, neither of these measures was updated; the index simply included these measures for the 2003-2005 period.
[5] See http://cfed.org/knowledge_center/research/DRC/ (viewed September 30, 2011).
[6] See http://www.nheconomy.com/recruitment/state-to-state-comparison.aspx (viewed September 28, 2011).
[7] See http://www.positivelyminnesota.com/mwa/deed/comparemn.aspx (viewed September 30, 2011).
[8] See http://www.statemaster.com/index.php (viewed September 28, 2011).
[9] See http://www.economytrack.org/mainchart_4.php?_tab=payroll (viewed September 30, 2011).
[10] See http://www.haver.com/ (viewed August 20, 2012).

provide data on many features of state economies, although *Compare50.org* includes data on many outcomes not covered in these sources. Moreover, these data resources are available only at a significant cost to users, whereas *Compare50.org* is a free resource.

Finally, federal agencies and departments provide the most comparable resources (drawing on the data sources that will be used in the proposed research), but they are not useful or effective substitutes for the proposed project. The United States Bureau of Labor Statistics (BLS) makes available through its website (www.bls.gov) much data collected from the Current Population Survey (CPS) and other sources. However, this source has numerous limitations. First, the BLS allows users to download many data series by state, but does not produce explicit state comparisons except on a few measures on its "Economy at a Glance" website.[12] Second, the BLS does not report all measures by state; most notably, it does not create any kinds of equity-related measures that it updates and publishes regularly.

The Census Bureau has a similar website to that of BLS ("State and County QuickFacts"), which provides more information, but again one state at a time, and only at a point in time or between two points in time.[13] It also has a "Statistical Abstract" website that lists resources on state economies, but this simply directs the user to state-specific reports produced by state agencies that are not uniform.[14]

In summary, to the best of our knowledge there *is* nothing comparable to *Compare50.org* in providing an up-to-date, accessible data tool on longer-term state economic comparisons, which is freely available to users, for the explicit purpose of informing public debate about state economic policy.

With respect to California's economy, the Public Policy Institute of California (PPIC) has, in the past, produced numerous reports on the performance of the state's economy. However, these are one-off projects, limited to a subset of outcomes, and often provide no comparison with other states.[15] Earlier

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[11] See http://www.economy.com/default.asp?src=economy_mainnav (viewed August 20, 2012).
[12] See http://www.bls.gov/eag/ (viewed September 30, 2011). This website does make it possible to display older data, although it features more recent data.
[13] See http://quickfacts.census.gov/qfd/states/01000.html (viewed September 30, 2011).
[14] See http://www.census.gov/compendia/statab/st_abstracts.html#DC (viewed September 30, 2011).
[15] For example, Kolko (2011) provides an update on California's employment and unemployment, as well as within-state comparisons, but no comparisons with other states. Kolko (n.d.) provides more comparisons with other states, but focusing only on employment and unemployment (in its comparisons), and presents only simple graphs comparing California with the United States as a whole. The same is true of Kolko (2009).

work at PPIC (e.g., Reed, 2004a and 2004b) focused on equity-related outcomes – such as sex differences in employment and wages or income and poverty trends – but this work often did not provide comparisons with other states (true of the two studies just cited), and PPIC has not done related work since then. Thus, this report provides a great deal of new information on California's economic performance and how it compares with other states. In addition, the data made available at *Compare50.org* enables policymakers, the media, and others to examine a wide array of indicators of the state's economic performance and to construct comparisons with other states or between other states over a period currently spanning over two decades.

IV. California's Economic Performance

Economic outcomes considered

The set of economic outcomes that could be considered is expansive, and some limits have to be imposed to allow the results to be presented and interpreted in a tractable way. The main "boundary" that was used to determine the outcomes covered in this report (and the larger set of outcomes available at *Compare50.org*) is to focus on economic outcomes relating to employment and income.

There are clearly other "social" indicators that are important measures of how a society is performing, such as crime rates, job satisfaction, life expectancy, intergenerational mobility, etc. There are also other potential indicators of the nature of an economy's performance, such as R&D expenditures or business startups. But from an economic perspective, command over economic resources is, ultimately, the source of "economic welfare" – the utility or satisfaction individuals and families obtain from their consumption of goods, services, and leisure. However, the analysis is not limited to average levels or growth rates of income- and employment-related economic outcomes, but also compares California to other state economies based on the distribution of economic resources and how that distribution is changing over time. In keeping with its mission of being descriptive, the report does not take an explicit stand on what distribution of economic resources is to be preferred, but it provides readers with a sense of how the view of California's economic performance might vary if, for example, relatively more weight is put on delivering rising incomes to those at the bottom of the income distribution.

With these considerations in mind, our discussion of California' economic performance focuses on the following outcomes, which are discussed in more detail in the sub-sections that follow:[16]

- Economic growth
- Job growth, unemployment, and layoffs
- Earnings
- Income distribution
- Poverty

Economic growth

We begin by looking at growth in overall state economic output, as measured by Gross State Product (GSP). Data on GSP are available from the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. The income data on the basis of which GSP is calculated include income from all sources, broken into three categories: net earnings (wage and salary income, supplements to wages and salaries, and proprietors' income, less contributions for government social insurance); property income (dividends, interest, and rent); and transfers.[17] Total income is equivalent to the total value-added output of the state's industries. In looking at state GSP, we make two adjustments. First we look at real rather than nominal GSP, to avoid the effects of nominal inflation that do not increase the economic resources available to people. And second, we use per capita GSP, to measure the growth in economic resources per person, rather than simply growth from a rising population.

The top panel of Figure 1 shows growth in real per capita state GSP for California, for the United States as a whole, and for the West Census Region.[18,19] The United States and West Region averages exclude California. The figure shows that real GSP growth in California lagged the U.S. and the West

[16] A frequently cited "outcome" measure that is not covered in this report is out-migration of firms from a state. As documented in Neumark, Zhang and Wall (2005), earlier concerns over business fleeing California (to other states) in the early 2000s were unfounded. The number of jobs lost through firms leaving the state was trivial compared to jobs created or destroyed through births or deaths of firms, or contractions or expansions of firms. A recent study updating the data through 2006 confirmed this finding (Kolko, 2010).
[17] See http://www.bea.gov/regional/index.htm (viewed October 3, 2011).
[18] All figures appear at the end of the document, before the appendices.
[19] The West Region includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Region in the early 1990s, during which time California experienced a fairly steep recession that was worse than the nation's. California's economic growth then outpaced other states and the West over the late 1990s, before the recession at the turn of the last decade, which was more severe in California. The cycle was then repeated as California's growth was higher than the nation or region through about 2006, and then the Great Recession hit California more severely. The lower panel instead provides comparisons to the 2nd and 3rd largest states with which California is often compared – New York and Texas. The pattern is somewhat similar to the top panel, especially relative to Texas. It is less pronounced relative to New York, which had high growth before the Great Recession began.

Overall, despite somewhat different cyclical patterns, it is not clear that California has, over the longer-run, experienced much faster or slower growth of real GSP. To provide this longer-term perspective, Figure 2 shows real GSP growth over the entire sample period 1990-2011.[20] The vertical bars measure overall growth in each state's real GSP, and they are rank ordered from lowest to highest.[21] In this figure, the data for California are displayed in the shaded red bar to highlight California in comparison to other states. Over this period, California's growth was a bit below median – 22 states had lower growth, and 28 had higher growth (the District of Columbia is also included in these counts).

Of course any comparison of long-term changes extended into or beyond the Great Recession can be strongly influenced by the Great Recession, which had varying impacts across states. We therefore also show in the graph real GSP growth for California through the end of 2007, with the dark red bar and associated text box pointing it out. The dark red bar appears just to the right of the state with the same rank when using the data through 2011 (Wisconsin in this graph), and the height displays the growth rate for California through 2007. Thus, we see that California's growth rate was higher through 2007 than through 2011 – which we would expect because of the Great Recession – and we see that through 2007 California's growth rate compares more favorably to other states – ranked 19th instead of 29th. Thus, excluding the Great Recession, California's economic growth outpaced about 60 percent of states in the

[20] As explained in the appendix notes, this is the implied growth rate over this period computed off of annual growth rates.
[21] Note that the District of Columbia is included in these rankings.

nation, although each of the three recessions that hit the economy in the past 20 years have – for different reasons – been more severe in California.

The difference in results through 2011 and 2007 illustrates an important point that has to be kept in mind in interpreting the graphs, like Figure 2, which compare long-term changes across states. These graphs are defined for a particular beginning and ending year, and hence can be sensitive to the beginning and ending years chosen. In contrast, the figures that show the data year by year convey the history of changes in economic outcomes in way that is, one might say, less "filtered" by the choice of years to show. There is no way to avoid this problem. It we want to characterize how some economic outcome has changed over a long period, we have to define the period, and that can influence the comparison across states. We have already seen how the ending year can affect the view of GSP growth. Given that, as Figure 1 shows, GSP growth was particularly low in California in the early 1990s – because the recession in that period was particularly harsh in California – the choice of the beginning date can also influence relative comparisons among states. For example, if we construct a version of Figure 2 including only the years 2000-2011, then California's rank in terms of growth of GSP is 26th, as compared to 28th using the data from 1990-2011. In this case, as it turns out, the difference is quite minor.[22]

This is a useful place to reiterate that this report documents and compares economic outcomes across the states. It does not try to explain these differences. Aside from the direct effects of policy, another factor that can drive differences is the combination of a state's mix of industry and national trends in that industry. For example, if a state happens to have a high share of industries that are growing more strongly nationally, then the state's economic performance will appear stronger. Since this faster growth is coming from the national trends, rather than state-specific differences in the growth of industries that are important in a state, we might want to look at deviations in state growth net of the national trends. Like other efforts to delve deeper into *why* we observe the differences we do, this additional inquiry is a

[22] We do not show the graph for 2000-2011 in the report, and the same is true for the instances below where we mention this same kind of comparison for this period. However, users can construct charts for this period or any other period covered by the data at *Compare50.org*.

topic for further research.[23]

The figures for real GSP growth tell us about overall growth of the economy. Another relevant metric, though, is how the income the economy generates is being distributed. In particular, as a simple measure of the economy's performance at delivering income growth widely, we can measure labor's share of state income. If, for example, labor's share of income (i.e., employee compensation) has been declining in California despite fairly strong growth in GSP, the performance of the state's economy in delivering income gains might be viewed as more lackluster. The personal income data used in constructing state GSP also permit the tracking of labor's share of income by state and across years.[24]

Figure 3 displays information on the year-by-year evolution of labor's share of state income – the top panel in comparison to the United States and the West, and the lower panel in comparison to New York and Texas. Looking first at the top panel, except for a brief period in 2000 and 2001, labor's share in California shows a relatively steady decline compared to the rest of the United States, from about 57.5 percent in 1990 to just below 54 percent in 2010. It also shows a fairly sharp decline during the boom of the mid-2000s. The West Region shows a similar decline over the past decade, but over the longer term the decline is sharper in California. In the three-state comparison in the bottom panel of Figure 3, we see a lower labor's share in Texas – presumably because of the large role oil plays in that state's economy. To some extent the decline in labor's share appears a bit sharper in California.

Figure 4 shows that over the longer-term, on a state-by-state comparison, the change in labor's share in California has been towards the bottom of states, with 12 states experiencing larger declines and the remainder experiencing smaller declines or, in a small number of states, increases in labor's share. The picture is the same whether or not we include the data after 2007. And if we do this ranking from 2000-2011, the state's ranking is only slightly better, with 14 states experiencing larger declines. The figure also emphasizes that labor's share declined over the longer term for most states. Thus, the growth

[23] In the business climate research described in Appendix A, an explicit distinction is made between these two sources of state economic growth.
[24] Gomme and Rupert (2004) discuss numerous issues regarding the computation of labor's share of income.

in California's economic output, as reflected in Figures 1 and 2 for GSP, appears to have been somewhat disadvantageous to labor – broadly speaking – over the past two decades.

Job growth, layoffs, and unemployment

A measure of economic performance that closely tracks output, but that takes on particular importance to state policymakers as well as state residents, is job growth. Certainly during the long and slow recovery from the Great Recession, there has been a strong focus on job growth and unemployment. These typically track economic growth closely over the longer run, but not necessarily quarter to quarter or year to year, and usually with a sizable lag. For example, following the Great Recession, aggregate U.S. economic growth became positive in the 3rd quarter of 2009,[25] whereas job growth (as measured by the payroll survey, discussed below) did not become positive until the fall of 2010.[26]

There are multiple measures of jobs in the U.S. economy. The CPS collects data from households in order to measure, among other things, the number of people employed. However, the job creation numbers that are the focus of media and policymaker attention come from a different source – the Current Employment Statistics (CES) survey, informally known as the "payroll survey." (On the first Friday of each month, employment and job counts from the CPS and the CES are released by the Department of Labor.) The CES is a very large survey of firms, and covers nonfarm wage and salary jobs.[27] Because the number of jobs in the economy and the number of employed persons are two different things conceptually, and because the CES does not cover all employment, the two data sources can differ. However, they also have had periods of diverging substantially, partly for reasons not well understood, and partly because the CES data are benchmarked to other sources (Unemployment Insurance tax records) and hence are revised each year to provide consistent historical series at the state level (Bowler and Morisi, 2006). Because of the inherent, ongoing interest in the CES job growth measure, and because the CES and CPS can diverge, it is important to track job creation using employer data.

[25] See http://www.bea.gov/national/index.htm#gdp (viewed August 27, 2012).
[26] See http://www.bls.gov/webapps/legacy/cesbtab1.htm (viewed August 27, 2012). It actually ticked up seven months earlier but then declined again slightly.
[27] For details and a comparison, see http://www.bls.gov/web/empsit/ces_cps_trends.pdf (viewed October 3, 2011).

There is, though, an alternative source of employment data from firms, the Quarterly Census of Employment and Wages (QCEW). The QCEW data are quarterly, but are based on a near census of all civilian employment, in contrast to the CES which is a sample. The QCEW data are released several months after the end of each quarter, a bit slower than the CES. However, the QCEW data are the most reliable over the long-term, because they capture nearly all employment in the U.S. economy based on census, rather than a sample. We therefore show the QCEW data in this report.

The top panel of Figure 5 shows QCEW employment growth for California relative to the rest of the United States and the West Region. To some extent, the job growth data match the output data. One fairly notable exception is that although output growth was faster in California than in the United States and West Region during the boom of the mid-2000s, job growth was not faster (although it accelerated). The implication is that, to some extent, overall economic output spurted ahead in California in these periods without quite the concomitant increases in jobs. The same pattern is apparent in the bottom panel of Figure 5, which compares job growth in California to New York and Texas. The last few years of the two panels of Figure 5 show that job losses in California during the Great Recession were particularly sharp, and considerably more so than Texas or New York. At the same time, the state has begun to recover from those losses, with growth in 2011 catching up to the rest of the country and making up ground (although job growth is still slower) relative to the two large comparison states.

Figure 6 instead focuses just on manufacturing employment. The pattern is not very different from that for overall employment, although the declines associated with the recession in the early 2000s and the Great Recession were much more pronounced in California and elsewhere, reflecting the greater cyclical sensitivity of manufacturing employment. There is a more pronounced acceleration of manufacturing employment in California relative to the comparison areas in the late-1990s boom, although this is not as apparent during the boom that occurred in the mid-2000s.

Figure 7 reports on employment growth in technology- and information-intensive industries, in particular professional, scientific, and technical services, plus information. One thing to note is that job growth in these industries, wherever we look, has tended to be quite a bit higher than overall job growth

and manufacturing job growth. For example, in 2006, before the Great Recession began, job growth in the sector was about 4 percent in California, compared with no growth in manufacturing, and growth of just under 2 percent overall. The same is true for the rest of the United States. Job growth in these two sectors was faster in California at the end of the 1990s. Relative to the rest of the United States and the West, the decline in the early 2000s was stronger, and throughout the next decade employment growth in these sectors in California was similar to the country as a whole, the West, and the comparison states. The job declines in these sectors in California during the Great Recession were somewhat larger than in the comparison areas. But the recovery has been stronger, with job growth in these sectors higher than the rest of the nation and the West in 2010, and more so – by over one percentage point – in 2011.

Looking over the long-term, in Figure 8, reinforces these points. Looking at all industries combined (in the top panel), job growth in California was relatively anemic compared to other states, despite the fact that GSP growth was relatively high.[28] For the whole period, only 11 states had slower job growth, and this is only slightly better if we look at the data only through 2007; so the slow job growth in California is not attributable to the Great Recession. The picture is only slightly better if we restrict attention to the more recent period from 2000 through 2011, during which 15 states had slower job growth than California.

The growth in manufacturing employment (middle panel of Figure 8) also fell short – in terms of state rankings – to the same extent through 2007, and slightly less so over the whole period. Since 2000, however, manufacturing job growth in California is closer to the median, with 21 states posting slower growth.

Finally, job growth in professional, scientific, and technical services, plus information, was relatively higher than in other states, as shown in the bottom panel of Figure 8. Nonetheless, whether we look at the whole sample period, exclude the period of the Great Recession, or look at data only since 2000 (not shown in the figure), California's job growth in these sectors was below the median, with well

[28] An alternative data source for measuring job growth – the Current Employment Statistics Payroll Survey – paints a very similar picture. The data and graphs are available at *Compare50.org*.

over half of states posting stronger job growth.

The focus of this report is on long-term economic changes, and the data we report in the figures is – correspondingly – on an annual basis. Nonetheless, we should note that in very recent data there is some indication that employment growth has accelerated in California to the point where the rate of job growth is higher in California than the United States as a whole. After a long spell during and after the Great Recession when job losses in California were much steeper or job growth was slower, in the past four months (through August 2012) California's job growth has moved ahead of the nation's, most recently by 0.7 percentage point (at a 2.1 percent annual rate of growth for California, compared to 1.4 percent for the United States). This is depicted in Appendix C.[29] There are not yet enough data to conclude that this is a long-term trend. But this pattern has been persistent for a few months and the difference looks to be larger than the usual month-to-month fluctuations. That said, after the much steeper job losses in California stemming from the Great Recession – which the figure shows – a somewhat faster rate of job growth in the recovery is to be expected.

The flip side of job growth is unemployment and layoffs. One of the major factors that leads to sharp increases in unemployment during a recession is mass layoffs, when firms close or downsize sharply. Mass layoffs are defined as total job losses from establishments with at least 50 workers claiming Unemployment Insurance in a five-week period, who remain unemployed for at least 30 days. We have already seen that the decline in job growth (leading to *negative* job growth) during the Great Recession was particularly sharp in California. Not surprisingly, this is reflected in a large spike in mass layoffs relative to employment. This is shown in Figure 9. Here we only compare California to the rest of the nation (top panel) and New York and Texas (bottom panel), because the data are incomplete for many of the smaller states owing to confidentiality reasons. In addition, the mass layoff data are available beginning only in 1996. The overall cyclical pattern is clear in both figures. However, it is far more pronounced in California, and the state's sharp increase in mass layoffs as a share of employment as the

[29] This figure is based on the CES payroll survey, which is available monthly and is released quickly. Note that the data in this figure – because they are monthly – are not included at *Compare50.org*.

housing bubble burst and the Great Recession began is striking.

Additional data and graphs available at *Compare50.org* show that about one third of mass layoffs are for business reasons, including contract cancellation, contract completion, domestic competition, excess inventory/saturated market, import competition, and slack work/insufficient demand/non-seasonal business slowdown. A smaller share (about one-tenth) are due to financial reasons, including bankruptcy, cost control, cost cutting, and financial difficulty. Both of these components have cyclical components, and both show striking increases in California in the mid-to-late-2000s.

Finally, California's performance with regard to mass layoffs over period for which the data are available is worse than any of the other large states for which complete data are available, for mass layoffs in total, and for mass layoffs for business or financial reasons, as shown in Figure 10. The figure covers only the large states with non-missing data for the same confidentiality mentioned above. However, the figure also shows that this is in part a by-product of the Great Recession. Looking at the data only through 2007, the layoff picture for California is not quite as bad, except for layoffs due to financial reasons, although these are much less prevalent.

The data on unemployment are reflective of these patterns in the job growth and mass layoff data. As shown in the top panel of Figure 11, California's unemployment rate was well above the national and regional unemployment rates in the early 1990s.[30] It then fell sharply relative to all of these comparisons, although it always remained above the national rate, with the minimum gap falling to about one percentage point in the early 2000s. It then climbed more sharply with the onset of the Great Recession, and has remained substantially above the comparison rates since then. In the bottom panel of Figure 11, which compares California to New York and Texas, the same general pattern is apparent, although California's unemployment rate was about the same as in each of these states in some earlier periods.

A potential problem with the simple comparisons of unemployment rates across states, as

[30] We use CPS data to measure unemployment. The BLS's Local Area Unemployment Statistics (LAUS) program produces accurate historical series on employment and unemployment by state, using the CPS as well as supplemental information – including from administrative sources – to obtain greater precision. (See http://www.bls.gov/lau/lauov.htm (viewed October 3, 2011).) But the LAUS data do not permit breakdowns by demographic characteristics of the type we report below.

reported in Figure 11, is that there are population or other differences *unrelated to economic performance* that underlie some of the differences. For example, minorities have higher unemployment rates than whites. If, then, a state has a relatively large minority share in its population, it is likely to have a higher unemployment rate for reasons unrelated to economic performance, and we would not necessarily want to consider such a state as having worse economic performance.

One way to handle such issues is to report a standardized unemployment rate that captures how state unemployment rates would differ *absent* the demographic differences between states. To construct this standardized rate, we calculate the unemployment rates for each demographic group in each state and year. However, rather than simply weighting up these unemployment rates by the actual population share in each demographic group in each state and year, we instead weight them up by the national population shares computed over the whole sample period. This gives us a measure of what the unemployment rate would be in any state and year if the population was representative of the nation over the sample period but the unemployment rate for each demographic group was the actual rate in each state and year. Thus, for example, if a state has a high population share of a demographic group that tends to have a high unemployment rate, its "standardized" unemployment rate would be lower.[31] Note that this calculation can also affect national rates because it eliminates changes in the national demographic composition over time.

For comparisons of levels – e.g., how does California's unemployment rate in 2010 compare with Nevada's? – this kind of adjustment is needed to obtain more meaningful comparisons. For comparisons of changes over time – e.g., how did California's unemployment rate change over the Great Recession, compared with earlier periods? – this kind of adjustment is less important because demographic composition changes slowly over time. Moreover, if demographic composition *does* change over a short period, a thornier question arises as to whether this demographic change should be regarded as an

[31] The other way economists handle such issues is to adjust via a regression model. For example, rather than compare raw unemployment rates across states, an economist would estimate the relationship between state unemployment rates and the demographic composition of a state, subtract out the variation attributable to this demographic composition, and then compare the adjusted data. We view the reweighting as a more intuitive way to think about the adjustment.

unrelated factor for which we want to adjust, or instead as an outcome of state economic performance that should be reflected in the state comparisons, rather than being removed.

As an example, we know that California has high Hispanic and high Hispanic immigrant shares.[32] Suppose that Hispanic immigrants in California moved to other states in large numbers because of the severity of the Great Recession in California, and in particular the decline in construction employment in which many Hispanic immigrants work.[33] Because Hispanic immigrants have higher unemployment rates, the declining share of Hispanic immigrants acts to lower the unemployment rate, thus masking the additional increase in unemployment in the state that would have occurred absent the decline in this share. This sounds like a case where we might want to do the adjustment for the changes in demographic composition, lest we understate the decline in the state's economic performance because the increase in unemployment is masked by migratory outflows of Hispanic immigrants.

The counter-argument would be that we should not adjust, because California has a "healthier" economy because its population now has fewer high-unemployment Hispanic immigrants. This counter-argument might seem insensitive, but consider an alternative scenario. Suppose instead that California was attracting highly-educated workers, who have higher earnings, lower unemployment, etc. If we looked at average earnings or overall unemployment rates – and that is the only change – it would look like the economy is doing better, whereas if we adjust for these changes, there would be no change in the state's performance. But most observers would probably agree that attracting inflows of "higher-quality" workers is a positive indicator. By the same token, then, should encouraging outflows of "lower-quality" workers also be viewed as a positive indicator?

As this discussion suggests, it is not clear that there is an absolutely correct answer as to whether to adjust for changes in demographic composition; rather, the right approach depends on what question is being asked, and readers could have different views on which type of estimates are more informative about state economic performance. Given this ambiguity, we document differences in state economic

[32] See http://quickfacts.census.gov/qfd/states/06000.html (viewed September 30, 2011).
[33] See http://www.cpwr.com/pdfs/Hispanic_Data_Brief-Nov-09.pdf (viewed September 30, 2011).

performance in terms of both unadjusted and adjusted unemployment rates (and other outcomes discussed later), so that readers can understand how these kinds of underlying demographic changes affect the economic comparisons. This gives a more complete accounting of how states are performing, and helps avoid confounding measurement of how the economy is performing and how the population is changing.

Figure 12, which displays the adjusted, or "standardized" unemployment rates, exhibits lower unemployment rates for California, as we would expect from down-weighting the state's very large Hispanic share, but similar cyclical patterns. Comparing the top panels of Figures 12 and 11, we see that at business cycle peaks (when the unemployment rate is low), the standardized and unstandardized unemployment rates for California are quite close. In contrast, the difference appears larger in periods when unemployment rates are higher. This lower cyclical sensitivity of the standardized unemployment rate reflects the changes in weights on different groups' unemployment rates in the standardized data.[34] The standardized graphs still tell a story of the recessions in the early-1990s and late-2000s affecting California more severely, but not as much. Note, also, that despite the demographic adjustment, California's unemployment rate is still, on average, higher than the nation's. Thus, the difference in the raw data (Figure 11) is not due solely to demographic composition.

When we look at California relative to New York and Texas, in the bottom panel of Figure 12, the performance of these three states does not change much. The reason is that the standardization has relatively similar effects in all three states, because they all have large minority shares. For all three states unemployment rates are adjusted downward, and more so in the recessionary periods. But the adjustments are similar for all three.

The discussion of the sensitivity of California's unemployment rate points to the differences in unemployment rates between demographic groups; after all, if these unemployment rates were the same across groups, then the standardization would have no effect. A state's economic performance may be judged not only on the "averages" it produces – such as the average unemployment rate – but also on

[34] Blacks are under-represented in California and Hispanics are strongly over-represented. Minority unemployment is more cyclically sensitive, so on net the down-weighting of Hispanics dominates in producing less cyclically-sensitive unemployment.

whether the state produces equitable outcomes between groups, and/or whether the state is moving toward greater equity. Minorities – in particular blacks and Hispanics – do worse than whites (and Asians) in terms of many labor market outcomes, and once of the most important ones is unemployment rates.

Figure 13 displays some of this information, for black-white and Hispanic-white gaps in the unemployment rate.[35] First, both panels show the pronounced gap, which is fairly persistent over time, between unemployment rates of these groups in the United States. The black-white gap averages around 6-7 percentage points, and the Hispanic-white gap averages around 3 percentage points.[36] Looking at the black-white gap in California relative to the rest of the United States, there are some fluctuations from year to year, but there is no clear difference. In contrast, in the 1990s the Hispanic-white gap was much larger in California.[37] The gap does appear to have disappeared between the 1990s and the early- to mid-2000s, although it reemerged to some extent – perhaps temporarily – with the Great Recession. Overall, though, the data provide an indication that the Hispanic-white unemployment rate gap in California has declined over the past two decades – both in absolute terms and relative to the rest of the United States.

Figure 14 provides a longer-term perspective on these changes over time in relation to each state.[38] The top panel of the figure shows that the black-white unemployment gap has worsened over the past two decades in California, and that on this dimension California's performance is worse than about three-quarters of states. If we exclude the data after 2007 the state's relative performance is a shade better, but still considerably worse than the median state. Note, though, that the change in the black-white unemployment rate through 2007 is zero, reflecting the fact – as Figure 13 shows – that in relative terms black unemployment rates rose considerably more during and after the Great Recession. Also, if we focus only on the period 2000-2011, the results are fairly similar; for that subperiod the change in the

[35] Note that in these graphs the white category excludes white Hispanics. The same is true for other graphs that follow describing race/ethnic differences.
[36] A share of these gaps can be accounted for by other differences between whites and minorities, such as higher education of whites. A large literature in labor economics tries to sort out the portion of these gaps (and gaps in earnings as well) that is attributable to discrimination. See, for example, Hellerstein and Neumark (2006).
[37] This may to some extent reflect the higher share of Hispanics in California who are recent (or illegal) immigrants.
[38] As discussed in the notes to this figure, for some states, labor market statistics for minorities are estimated quite imprecisely because of small numbers of observations. This may be the source of some of the large changes depicted in Figure 14, as many of these are for small states with small minority populations. The same problem arises with other performance measures for minorities discussed below. Appendix D provides details on the small states for which data for minorities are likely to be quite imprecise.

black-white gap in California ranks 16th, vs. 14th for the whole sample period.

The bottom panel shows that, over the whole period, the Hispanic-white unemployment gap in California has been stable, and the state's performance is a bit better than the median state. The picture through 2007 is fairly similar, although in this case we see that, as Figure 13 also suggested, the Hispanic-white gap declined; again, the difference reflects the worsening of minority unemployment relative to white employment owing to the Great Recession. In this case, though, when we leave out the 1990s California's performance is worse; for 2000-2011 California's growth in the Hispanic-white unemployment rate gap is 23rd, compared with 30th for the whole period our data cover.

Earnings

A state's economic performance should be assessed not only on how many jobs it produces, and for whom, but on the level of earnings in those jobs. Obviously higher earnings imply that individuals and families have access to more economic resources. In addition, higher-earning jobs are beneficial to state finances, entailing higher tax revenue and (like high employment/low unemployment) less dependency on welfare, income transfers, and other means of public support.

There are two important conceptual issues that arise in comparing earnings or incomes across states (and over time). The first concerns the role of taxation and government spending, and there are two considerations: what is conceptually correct, and what is feasible. With regard to feasibility, most of the data collected on individuals and households in the United States, such as the CPS data used in this and the subsequent two subsections, capture pre-tax income.[39] Some of these data sources also capture participation in government programs providing income and other support (such as food stamps or Medicaid/SCHIP), although often not the value of benefits from these programs. Thus, on a practical level, only with a good deal of guesswork and estimation can one translate measurement of income available *prior to* taxation, redistribution, and receipt of government benefits into measurement of resources available after these changes have taken place. On the tax side, researchers typically adjust for

[39] For recent years, it is also possible to measure the outcomes for which we use the CPS with the American Community Survey (ACS). The ACS has the advantage of larger samples. However, the CPS has the big advantage of quite comparable data extending back much further in time. In this report we go back to 1990. The ACS is only available beginning in the mid-2000s. See http://www.census.gov/acs/www/ (viewed October 9, 2012).

taxes via the use of tax simulators, most commonly using TAXSIM at the National Bureau of Economic Research.[40] A good summary of the redistributive effects of *federal* policy is given in the U.S. House Ways and Means Committee *Green Book*.[41]

Conceptually, however, there is good reason to focus on pre-tax, pre-distribution incomes in measuring and comparing states' economic performance. First, at the state level, the tax base on which taxes are levied and redistribution occurs is the income generated in the state. In that sense, capturing income is an accurate gauge of state economic performance. Second, much of the redistribution that occurs through direct income support or other programs is done by the federal government, and ends up redistributing resources from some states to others (as does other government spending). As a consequence, looking at incomes (and other benefits) following this redistribution does not give an accurate representation of the performance of state economies. For example, because federal policy tends to redistribute money *away* from California,[42] that should not lower evaluations of the performance of the state's economy.

Where ignoring redistribution and government benefits can be more of an issue, however, is with regard to equity, which we take up in the next two subsections. Since a focus on equity is motivated by concern about the resources going to individuals or families in different parts of the income distribution, it seems natural to measure the distribution of resources after taxes and redistribution. Nonetheless, three arguments support focusing on pre-tax income and resources. First, if we are trying to gauge the performance of state economies, we would like to know what the *economy* is delivering, rather than what the economy *plus* policy redistribution is delivering. This perspective, to be sure, is not the only one of interest; but it *is* of interest to ask, for example, whether an economy is generating high-wage jobs for

[40] See http://www.nber.org/~taxsim (viewed October 2, 2011).
[41] See the *Background Material and Data on the Programs within the Jurisdiction of the Committee on Ways and Means*, better known as the *Green Book*. Available at http://democrats.waysandmeans.house.gov/singlepages.aspx?NewsID=10490 viewed September 12, 2012). The material on redistribution is in Appendix E, Tables E-29 to E-31, available at http://democrats.waysandmeans.house.gov/media/pdf/110/appE.pdf (viewed August 27, 2012).
[42] For data for 2005, see http://www.taxfoundation.org/research/show/266.html (viewed October 2, 2011). See also Lacy (2009). Of course during the Great Recession when federal deficits have been very large, one could argue that the federal government is redistributing money to all states, from future taxpayers.

lower-skilled workers.

Second, since much of the redistribution is from federal policy, it would be inappropriate to gauge states' economies based on federal policy. If Louisiana has a high share of poor families and as a result its families receive more federal aid, should we upgrade the evaluation of the state's economic performance in terms of poverty? Thus, a focus on the income a state economy generates, rather than what the state gets through a combination of what it produces and the federal policy that gets layered onto it, is a better gauge of state economic performance.

And third, as noted above there are many practical difficulties associated with doing the post-tax, post-redistribution calculations, which would increase the complexity of the work and introduce more ambiguity into the comparisons. This report therefore focuses mainly on pre-tax, pre-redistribution calculations, although that is not to deny the value of additional information – along the lines of this report – that attempts to take into account the effects of tax and redistributive policies.

The second conceptual issue is how to treat regional differences in the cost of living, most importantly housing. Should we think of earnings as effectively lower when housing prices are higher, because the same salary from an employer buys a worker less? There is some intuitive appeal to this, but in terms of the underlying economics it might not make much sense.

Those living in a more expensive area may not simply face a higher cost of living, because that higher cost of living may reflect the greater attractiveness of the place in which they live. In urban and regional economics, the relative attractiveness of a location is referred to as its "amenities" (or disamenities), and we expect – and the data confirm – that housing prices are higher in places that are more desirable, such as places with better climates, better schools, proximity to water, etc. (e.g., Black, 1999; Gabriel and Rosenthal, 2004). If housing costs primarily reflect these kinds of amenities, then it makes no more sense to adjust earnings downward in high-cost areas than it does to view a person's earnings as lower if they tend to go to more expensive restaurants. We therefore, in this subsection on earnings, do not adjust for cost-of-living differences. However, later, when we discuss poverty, we do present some calculations adjusting for housing costs, for reasons we explain below.

We focus on median weekly earnings of employed people. Because people work different numbers of hours and earn different wages, weekly earnings reflects variation in both hours of work and wages earned per hour of work. As shown in the top panel of Figure 15, median earnings have been relatively stable over the past two decades in California, and median earnings are higher in California than in the West Region or the United States as a whole. As the bottom panel shows, median earnings in California are very similar to in New York, and both states have considerably higher earnings than Texas (by about $100). One other notable feature of both graphs is that median earnings have been relatively stable in real terms over the past two decades, with little real growth at the median, although a bit between the two decades. Given that per capita GSP has been growing in California and elsewhere, as we saw earlier (Figures 1 and 2), stagnant median earnings can reflect a few things: more earnings growth above (or below) the median than at the median; a greater share of people working, or working more hours at lower pay; or a declining fraction of economic output going to workers. We already saw evidence of declines in labor's share (Figures 3 and 4), and below we discuss evidence on what has happened to incomes at the top and bottom versus the middle of the income distribution (although with respect to family income).

Just as we standardized unemployment rates for demographic composition, we can do the same for weekly earnings. This is potentially relevant because blacks and Hispanics earn less, so higher black or Hispanic shares can result in lower earnings, which we may not want to interpret as indicative of poor economic performance in a state. As Figure 16 shows, when we standardize weekly earnings the major change is that earnings in California are higher relative to the other comparisons (and the New York-Texas gap narrows because earnings in Texas are adjusted upwards). These changes reflect adjustment for the large Hispanic share in California and Texas, coupled with notably lower earnings for Hispanics in those states. Thus, on a standardized basis, California's economy delivers relatively high median weekly earnings. Moreover, we see that once we standardize earnings there is more evidence of real earnings growth (see the top panel of Figure 16). The difference is moderate and perhaps a bit more pronounced for California, where the share Hispanic rose more sharply over this period.

This last point is depicted more clearly in Figure 17. In the top panel, using the raw data, California's earnings growth is ranked near the bottom of all states, and is only a bit better if we use the data through 2007, before the Great Recession hits. It looks quite a bit better for the 2000-2011 subperiod, but still in the bottom quarter of states (13 from the bottom). But the state's performance looks substantially better on standardized earnings – about median for the whole sample period, and 18th overall through 2007 (and, although not shown in the graph, 17th for 2000-2011).

We can also examine how California performs relative to other states with regard to differences in weekly earnings between groups, just as we did for unemployment rates. As shown in the top panel of Figure 18, in the early 1990s the black-white earnings gap was the same in California as in the rest of the United States – a little over $100 in 2011 dollars. However, the gap grew quite a bit more sharply in California than the rest of the country, ending up at more than $250, versus about $190 in the rest of the country. Note that for both California and the rest of the country the black-white earnings gap grew over this period – through 2007 and through 2011. Thus, earnings of blacks relative to whites fell everywhere (on average), but more in California. The bottom panel shows that the Hispanic-white gap is considerably larger in California[43] – about $350-$400 over the sample period. The Hispanic-white earnings gap increased for both California and the rest of the country. However, it has narrowed slightly in California relative to the rest of the country over the past two decades.

The longer-term changes are captured in Figure 19, which shows that the black-white earnings gap worsened in California more than most other states – and only a bit less so if we exclude the data after 2007 or look at the 2000-2011 subperiod (when the state is 10th from the bottom instead of 6th). In contrast, the Hispanic-white gap grew by less in California than in just over half of the states; this is similar for the data through 2007 (as shown in the figure) or for 2000-2011 as well. Note that, in both panels of the figure, minority-white earnings gaps increased in most states. The figure does not show the full range of states for the data through 2007, but anchoring these to the California data, and looking at

[43] This may reflect a larger share of illegal or more-recent Hispanic immigrants in California, who have lower human capital and are likely to work in a narrower set of sectors.

Figure 18, we can see that the decline in black and Hispanic earnings relative to whites is not attributable to the Great Recession but – especially for blacks – is a longer-term trend.

Income distribution

To this point, our focus has been on jobs, unemployment, and earnings, in the latter two cases focusing on individual workers. We have paid some attention to distributional outcomes in discussing differences in outcomes between demographic groups. Now, though, our focus on distributional outcomes becomes more explicit. In so doing, we also turn from measuring outcomes at the individual level to measuring them at the family level. We do this because it is the outcomes for all of the potential workers in a family that determine the economic resources available to that family. In this subsection we focus on family income, and in the next subsection we focus on family poverty. Although in the previous subsection we argued for the importance of looking at pre-tax and pre-transfer earnings, in this section on family income we look at total family income, which can include cash transfers (but excludes in-kind transfers and payments from the Earned Income Tax Credit). The reason we do this here is to accord with the established method of defining poverty rates in the United States, which uses this income measure.[44] Given that part of the analysis of family income in this subsection focuses on poverty, we use a consistent income measure throughout.

To establish a baseline, we first provide information on real median family income in California and other states. Because we are focusing to some extent on what the labor market is delivering in terms of economic resources, we restrict attention to families where the family head is aged 25-64 and is not self-employed. As the top panel of Figure 20 shows, median family income in California rose between the 1990s and the 2000s, before giving up much of that gain since the Great Recession. The gain over most of this period outstripped that in the United States overall and in the West Region. As the bottom panel shows, New York also experienced a gain in family income over this period, although not as pronounced, while in Texas family income was quite flat over this period.

Median income is the income at the "middle" of the family income distribution, in the exact sense

[44] See http://www.census.gov/hhes/www/poverty/about/overview/measure.html (viewed August 27, 2012).

that exactly one-half of families have higher incomes, and one-half of families have lower incomes. Looking at the median, therefore, tells us nothing about how lower-income or higher-income families fared. For example, the median could stay unchanged whether incomes below the median are rising or falling.

Figures 21 and 22 provide information on what has been happening to lower- and higher-income families. First, Figure 21 reports the same kind of information as Figure 20, but for the 10th percentile (or equivalently the 1st decile) of the family income distribution. The 10th percentile is the value of income such that 10 percent of families earn lower incomes and 90 percent earn higher incomes. As a consequence, developments at the 10th percentile are informative about how low-income families have been faring. As the top panel of Figure 21 shows, in California income at the 10th percentile has declined over the sample period. There was a drop in the early 1990s from which the state recovered by the end of the decade. There was no gain for low-income families during the boom of the mid-2000s, and then there was a substantial decline associated with the Great Recession. Compared to the rest of the United States and the West Region, low-income families (defined at the 10th percentile) have generally earned less in California, although the changes over time – and the decline over the longer period – have been fairly similar. As seen in the bottom panel, the 10th percentile of family income in California has tracked that in Texas quite closely. The 10th percentile of family income was lower in New York over most of the sample period, although the larger decline in California after the Great Recession brought the two states nearer to each other.

Turning attention to the high end of the distribution of family income, Figure 22 reports information on the 90th percentile of family income (so only 10 percent of families have higher income).[45] As the top panel of Figure 22 shows, higher-income families earn more in California than in the rest of the United States or the West Region. Furthermore, income at the top end grew quite steadily over the

[45] It is fairly standard to study the 90th percentile of the income distribution to characterize what is happening to high incomes. The reason is that data on much higher percentiles is more difficult to obtain, because of non-reporting or top-coding in publicly-available data to preserve confidentiality. However, a body of work by Saez and co-authors (e.g., Saez, 2012), pioneering the use of tax records, has focused on the top one percent (the 99th percentile) or even a more concentrated group of top earners, and shown that this group has captured a rising share of income. Similar results are obtained using confidential versions of publicly-available CPS data (Burkhauser et al., 2012).

sample period and fell only slightly during and after the Great Recession. The same growth pattern (albeit from a lower level) is apparent for the United States as a whole and the West Region, although the growth is more moderate. Looking at the bottom panel, high incomes evolved similarly in New York, Texas, and California, although California is still the highest, followed closely by New York.

The longer-term changes are reported in Figure 23. As the top panel shows, from 1990-2011 family income at the 10th percentile declined quite sharply in California, by about $4,000. This is not the worst performance among all states, but the majority of states did better, although only a few posted gains, and these were trivially small. Through 2007, however, the picture looked better in California. And for the 2000-2011 period it looks much better, with California ranked 13th, although income at the 10th percentile still fell.

Median family income – displayed in the middle panel – also fell over this period in California, by a bit more. On this metric California's performance was a bit below the median state, and was higher – with an income gain well above the median – if we omit the period beginning with the Great Recession. For 2000-2011 median income declined in California, and the change was a bit below the median state. Finally, income growth at the 90th percentile was positive, but relatively weak in California compared to most states – some of which experienced quite rapid growth in family income at the top of the distribution. If we exclude the Great Recession for this upper income measure, the difference is also relatively pronounced, with the state's performance jumping from about the lower third to just below the median.

Note that the Great Recession reduced family income at all three points of the income distribution – the 10th percentile, the median, and the 90th percentile. But incomes at the bottom and the median decline for the whole sample extending through the Great Recession, which is not the case for the 90th percentile. And absent the Great Recession (i.e., through 2007) incomes *still* declined at the 10th percentile. (For 2000-2011, income at the 90th percentile was flat in California; the state ranked 19th on this change, with about 11 states showing substantial gains.) The figures reflect the general widening of income inequality. This is true not just of California. For the whole sample period, Figure 23 shows that

incomes decline at the 10th percentile and the median in most states (fewer for the median), and rose in most states at the 90th percentile.

These changes at the 10th percentile, the median, and the 90th percentiles imply changes *between* these points of the family income distribution. There are many ways to measure the inequality of family income, but common metrics are the differences between the median and the 10th percentile, the 90th percentile and the median, and the 90th and 10th percentiles.[46] The difference between the median and the 10th percentile (50-10 differential) tells us about the gap between the middle of the income distribution and the lower end. The difference between the 90th percentile and the median (90-50 differential) tells us about the gap between the top end and the middle. And the difference between the 90th and 10th percentiles (90-10 differential) tells us about the gap between the top and bottom ends of the income distribution.

The evolution of these differences over the sample period is shown in Figure 24. As shown in the top panel, in California there was little change in the 50-10 differential, and on this measure California is about in the middle of the states, many of which experienced growth in the 50-10 differential, and many of which experienced declines in this differential. The other two panels show changes in the 90-50 and 90-10 differentials. One striking feature is that for all states except Alaska and South Carolina, both of these differentials widened substantially over this period, in many states by $20,000 real dollars or more. California experienced relatively modest widening of the family income gap between high-income families and low- or middle-income families if we look over the whole sample period, with somewhat more widening of the 90-10 gap relative to other states when the data after 2007 are excluded. For the 2000-2011 subperiod the 50-10 gap fell in California, with 13 states experiencing larger declines. But the 90-50 and 90-10 gaps grew, and they grew by more in California relative to other states than was the case for the whole period 1990-2011 or for 1990-2007.

Poverty

[46] Note that computing other measures of income inequality, such as the Gini coefficient, requires accurate data on incomes at all points of the income distribution, or some other method of dealing with top-coding.

A somewhat different perspective on the distribution of family income is obtained from looking at the poverty rate. There are two dimensions of the poverty rate that are useful and perhaps more informative than simply looking at incomes at the lower-end of the family income distribution, as we did in the previous subsection. First, the poverty rate is intended to tell us the fraction of families below some predetermined level of the income needed to satisfy a given level of needs. This is based on three times the "Economy Food Plan," calculated by Orshansky (1963) and intended to capture an adequate diet for a family. And second, the poverty rate is based not on family income only, but also on family size and structure, with the family income threshold for being considered poor rising with the number of people in the family, and depending on their ages (with children and people aged 65 and over treated as having lower income "needs"). The measurement of poverty is a somewhat controversial topic (e.g., Citro and Michael, 1995), which has led to other experimental measures (e.g., Short et al., 1999).

We first use poverty thresholds as defined by the U.S. Census Bureau. However, we then consider modifications to these poverty thresholds, which change the poverty rate calculations. We already discussed the issue of whether one should adjust for housing costs, which would have the effect of increasing the poverty rate in high-cost areas. The argument for not doing so was that those who live in high-cost areas are not just paying more for housing, but are also consuming the amenities of those higher-cost areas. However, this argument is predicated on people being able to choose where to live. One might argue that the lowest-income families (and individuals) are more constrained about where they live, but this is not borne out in observed mobility rates, which are similar for higher- or lower-income or more- or less-educated people, even for moves over longer distances (e.g., Schachter, 2004). In such a case we might not want to adjust for housing costs. But regardless of this argument, many organizations that publish statistics tracking the poor use adjustments based on housing costs, so it is useful to provide our state comparisons on these terms as well.[47]

Information on poverty rates over time in California, the rest of the United States, and the West

[47] Nelson (2004) discusses many of these issues, and reports on research on state-level poverty rates with adjustment for cost-of-living differences.

Region, are reported in Figure 25. The top panel reports raw poverty rates. We see that California's poverty rate was generally higher than the other two comparison groups, except for the early- to mid-2000s. As we did for unemployment rates and earnings, we can standardize the poverty rate to account for differences in the representation of demographic groups with higher or lower poverty rates. The standardized poverty rates are reported in the middle panel of Figure 25. This adjustment lowers the poverty rate in California considerably relative to the other groups, so that California's poverty rate is almost always lower than that for the United States as whole and for the West Region as well. This adjustment reflects the overrepresentation in California of demographic groups that have high poverty rates.

On the other hand, when we adjust for housing prices, in the lower panel, California's poverty rate becomes significantly higher, reflecting higher housing costs in the state. The gap relative to the rest of the United States is usually at least 4 percentage points, and grows in the early-1990s recession and the Great Recession. These recessions hit California harder, and low-income families are more adversely affected by recessions.

Figure 26 provides the comparisons with New York and Texas for the same three poverty rate calculations. In the raw data in the top panel, lower poverty in the 2000s (until the Great Recession) is evident in California. This persists relative to New York in the middle panel, where we standardize for demographic composition, but the California-Texas gap shrinks in this latter period. In the bottom panel, which adjusts for housing costs, California's poverty rate increases in relative terms, and it now has higher poverty for most of the sample period with the exception of the late-1990s boom.

In Figure 27 we display the longer-run changes in poverty rates for California and the other states. Regardless of which measure of the poverty rate we use, most states show an increase in poverty, although as the comparison with California's data through 2007 shows, this is in large part attributable to the Great Recession. In all three graphs California's increase over the whole period is among the largest. The relative increases in poverty in California are similar, but slightly less severe, for the 2000-2011 period for all three poverty measures. However, when we exclude the data from the onset of the Great

Recession, we no long see pronounced relatively large increases in California's poverty rate; in the top two graphs, in particular, the change in poverty in California falls back toward the middle of states.

Finally, to focus more on what the labor market delivers, Figure 28 presents the same information as Figure 27, but for the sample restricted to families headed by someone aged 25-64. Another advantage of looking at this age group is that we are more likely to capture families with younger children, and not the elderly. In this figure, the increases in poverty in California, while still present for each poverty measure, are not quite as high relative to other states. In particular, for the raw and alternative poverty rates, the increase in poverty in California is somewhat closer to the middle of the range of states, although the increase in poverty is still worse in California than most states. The relative comparisons for the other subperiods we have considered are also similar.

V. Summary

We have provided a detailed and longer-term perspective on California's economic performance relative to other states, on numerous dimensions. Summarizing results is difficult because of the variety of measures considered, and because of the sensitivity to some of the comparisons to the period considered. Nonetheless, based on the historical record over the past two decades, the following main conclusions emerge.

- California has neither significantly lagged nor significantly led the nation in terms of the growth of economic output, as measured by real GSP per capita, although in the more recent years – especially excluding the Great Recession – California' economic growth was relatively strong.
- Despite growth in economic output that has been about average, California's overall job growth has been more sluggish than the majority of states. This is true overall and for manufacturing employment growth as well. Even in the early- to mid-2000s, when California's economic growth was relatively strong, job growth did not exhibit the same strength. And for manufacturing, California's relative job growth performance is worse when the Great Recession is excluded. Perhaps surprisingly, even in the combined industries of professional, scientific, and

technical services, plus information, job growth in California has been slower than the majority of states, although—as in the rest of the county—these sectors have outpaced overall employment and manufacturing employment growth in California. However, these sectors appear to be recovering more strongly in California than elsewhere. Overall, the slower job growth in California in recent years was very much accentuated by the harsh effects of the Great Recession in California, which led to very large job losses due to mass layoffs in the state.

- California's unemployment has consistently exceeded the national as well as regional averages. Recessions in recent decades – and not only the Great Recession – have hit California particularly hard, leading to relative increases in the state's unemployment rate. To some extent higher unemployment rates in California reflects a greater representation of demographic groups that have higher unemployment rates. Even adjusting for this, though, California's unemployment rate tends to exceed other areas, and has increased in relative terms when recessions hit the state, likely because recessions increase unemployment more among minority groups.
- Blacks have higher unemployment rates than whites both nationally and in California, but the black-white gap is not notably different in California. In contrast, the Hispanic-white gap in the unemployment rate has tended to be much higher in California, although periods of strong economic growth have reduced or even eliminated this gap – again indicating that business cycle booms benefit minorities in the state, and business cycle busts worsen their economic position.
- Over the longer-term, the black-white unemployment rate gap has worsened in California in absolute terms, and has worsened relative to about two-thirds of states. The Hispanic-white gap in the unemployment rate has been relatively stable in California, and relative to other states this performance is better.
- Median weekly earnings in California are high relative to the nation, but in real terms have been largely stagnant over the last two decades, despite growth in real per capita GSP. However, to some extent the data reflect a rising share of the population that is Hispanic and lower paid.

When we standardize for demographic composition, there is more evidence of real growth in median earnings.

- When we turn to how the state has performed in terms of closing the earnings gap between demographic groups, we find that the Hispanic-white gap in median earnings has been relatively stable, putting California in about the middle of all states. However, the black-white gap grew quite sharply in California, in contrast to most states where the gap rose by less or even declined a little.
- Median real family income has been relatively stagnant in California, although it grew in the 2000s prior to the Great Recession. The state's performance was weaker at the lower end of the family income distribution, as the 10^{th} percentile (1^{st} decile) of family income was also stagnant through the 2000s, and then fell sharply – rather than just giving up the gains – with the Great Recession. In rather sharp contrast, there was stronger growth in family incomes at the top end of the income distribution, with the 90^{th} percentile (or 9^{th} decile) growing quite steadily over the past two decades, and the Great Recession leading to only slight retrenchment.
- These changes imply that over the longer-term there was real income growth for high-income families in California over the last two decades, but no growth at the middle of the income distribution and declines at the bottom. Relative to other states, though, these increases in income inequality were relatively modest, with a majority of states registering larger increases in inequality. However, for the last decade the growth in income inequality between the top and the middle or the top and the bottom was larger than in the majority of states.
- Poverty appears higher in California if we do not adjust for demographic composition. On the other hand, if one believes higher housing costs should be accounted for in the poverty rate, this pushes the state's poverty rate up substantially. Echoing earlier conclusions, because recessions in recent decades have hit California hard, and because low-income families suffer their effects more strongly, poverty has increased in relative terms in California as a result of recessions,

especially the Great Recession. Looking at a period that includes the Great Recession, poverty rates have increased in most states. But the increases in California (whichever poverty rate we use) are among the highest; this is less apparent if the years beginning with the Great Recession are excluded, and shade less apparent if we look only at 2000-2011. This poor performance of California is muted a bit when we look at families headed by people aged 25-64, although California's increase in poverty is still among the highest when we take account of housing prices.

What general conclusions can be drawn? Overall, there is no case for concluding that California's economic performance has been significantly better or significantly worse than most other states in the past two decades. However, there are some negative indications. First, despite average growth of economic output, job growth has been fairly slow. That is worrisome for reducing unemployment in the long-term, and is also significant because labor income is a sizable share of the tax base in California. Second, on some dimensions – but by no means all of them – distributional outcomes in California have worsened relative to many states. In particular, the earnings gap between blacks and whites has grown relatively sharply, and on many measures poverty has increased more in California than in many other states.

Some of the worse performance of California's economy is attributable to the greater impact of the Great Recession in California. The Great Recession was caused, of course, by the collapse in housing and financial markets, which hit California harder. However, without further research we cannot simply attribute California's much worse economic performance in the aftermath of the Great Recession to the greater impact the recession had – in the process precluding *any* role for state policy. The period of the Great Recession and its aftermath has coincided with recurrent budget difficulties in California and what is widely perceived as fairly dysfunctional decision making at the state level. It is possible that these state-specific policy factors have also contributed to the state's worse economic performance in this period, perhaps if for no other reason than impeding more aggressive responses to the Great Recession.

Ultimately, however, the purpose of this research project was not to *explain* California's economic performance overall, or in relation to other states. Rather, the purpose was to draw on a wide variety of data sources to document the facts on the economic performance of the states. This report, and the even more extensive information available at *Compare50.org*, should provide a solid empirical foundation for policy debate. In addition, they may help to identify features of the state's relative economic performance that have not been noted, generate new hypotheses or explanations regarding drivers of differences in economic performance across states, and identify both problem areas policymakers may want to address as well as those where good economic performance suggests that policy changes are not needed.

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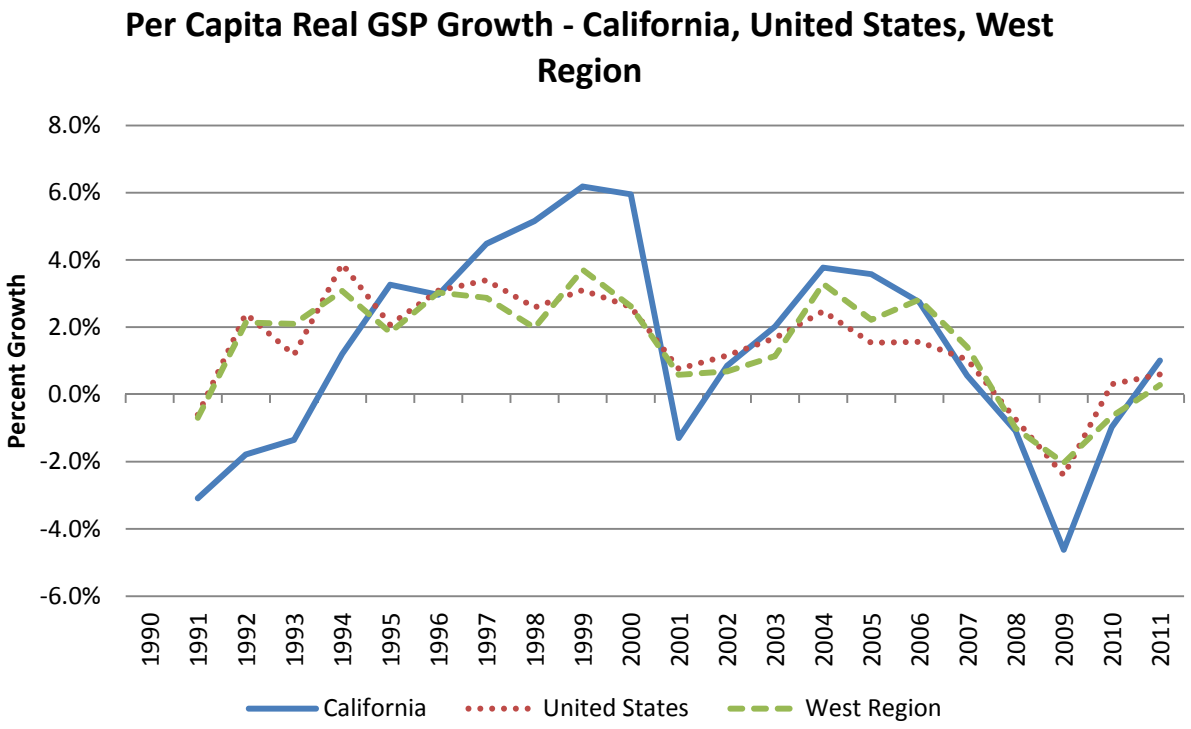
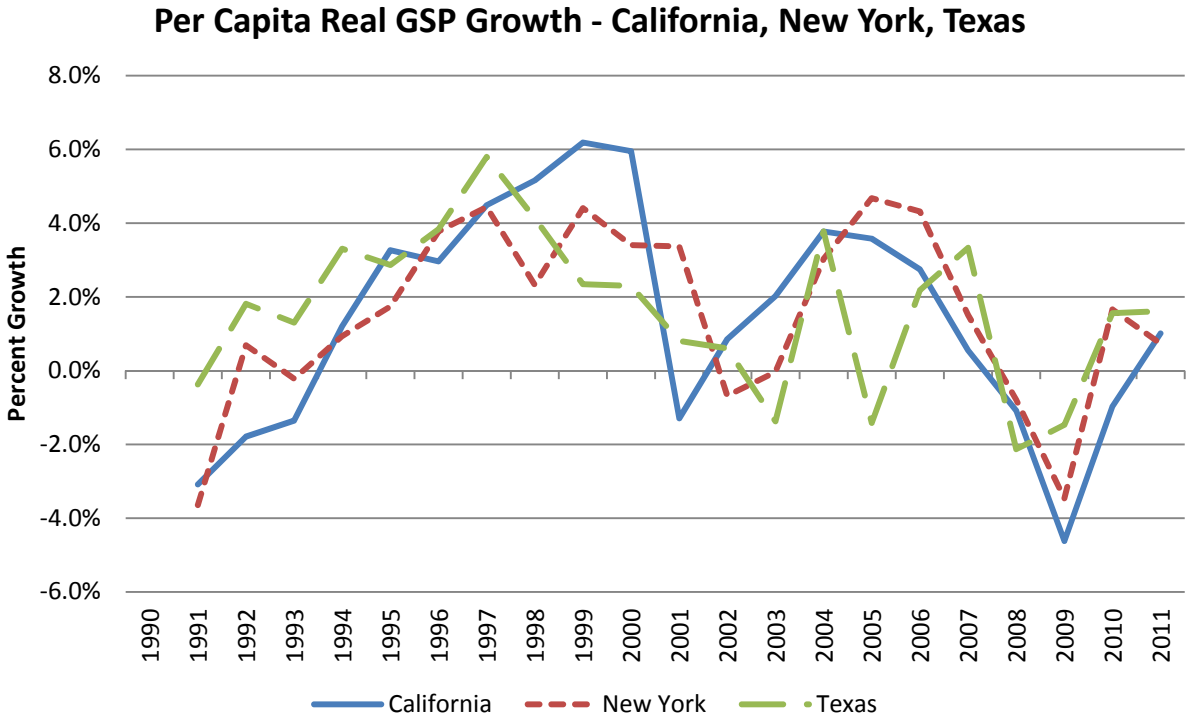
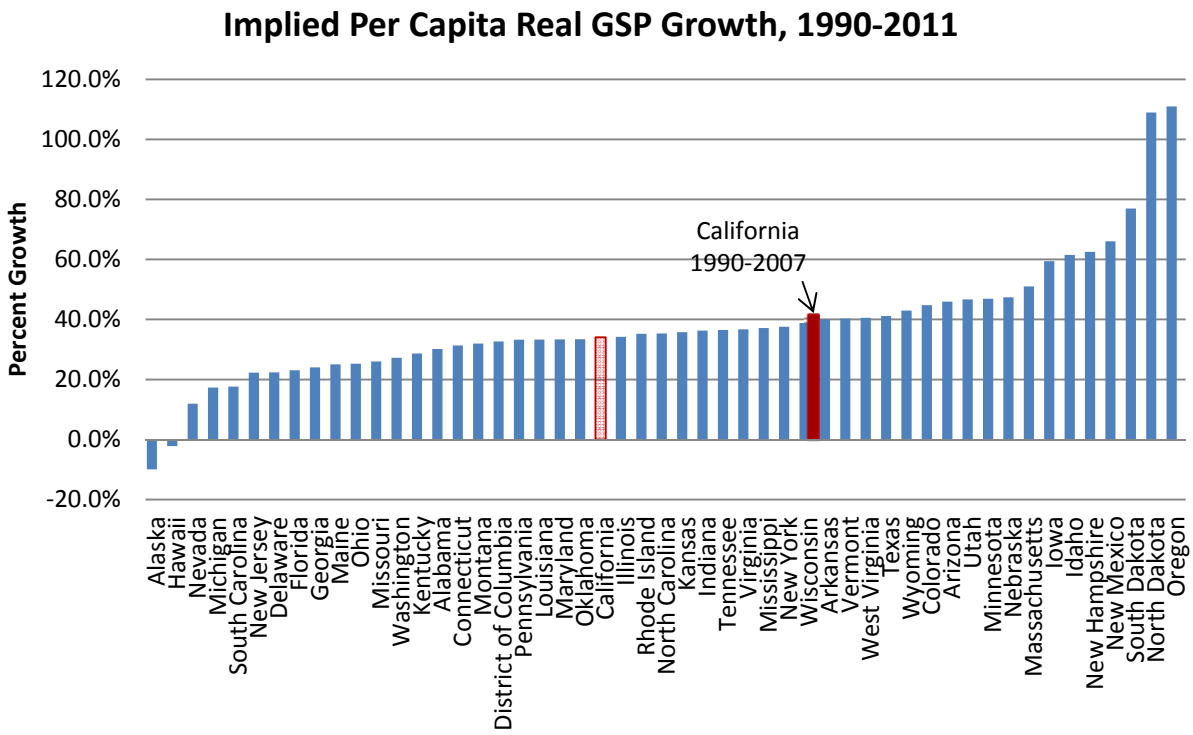
Figure 1: Real GSP Growth, by Year





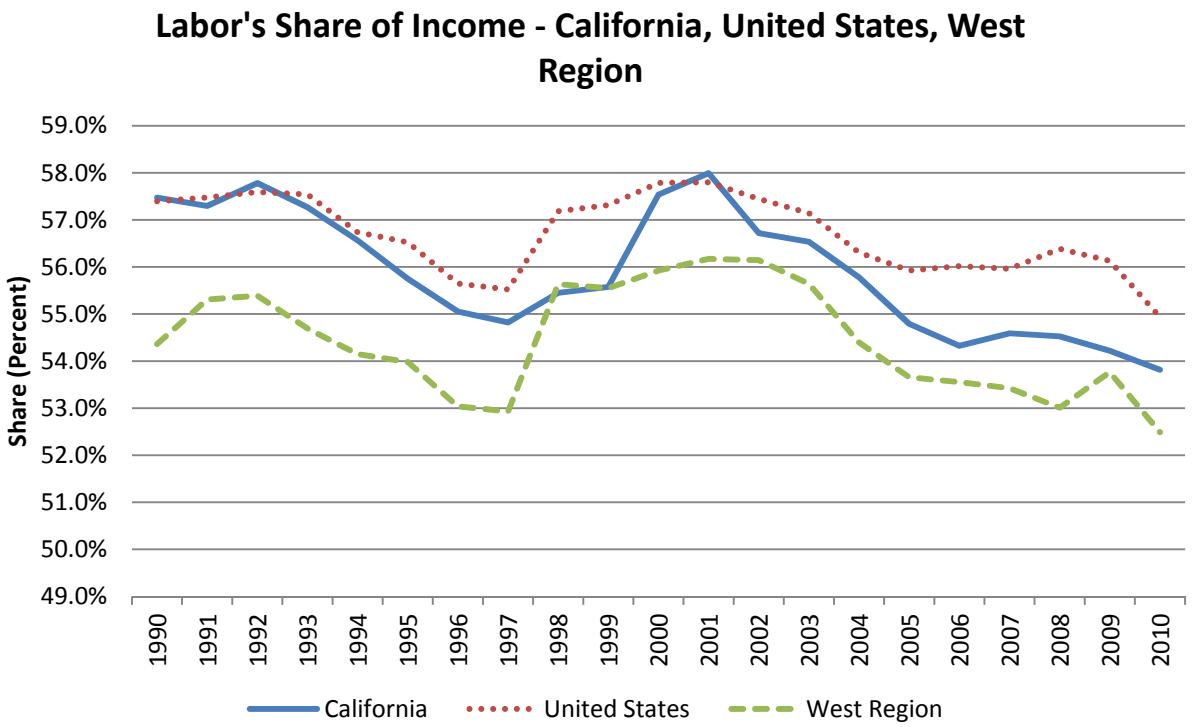
Notes: Data were obtained from the Bureau of Economic Analysis (BEA). See Appendix B for technical notes.

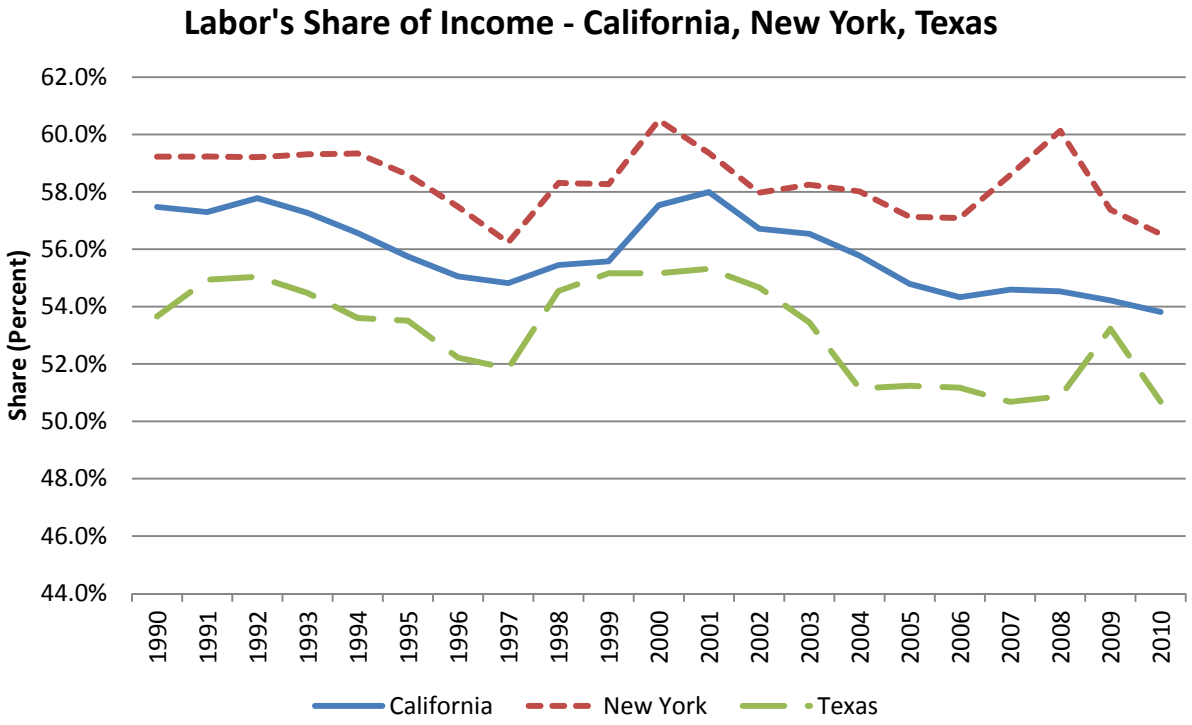
Figure 2: Real GSP Growth, Long-Term



Notes: Data were obtained from the Bureau of Economic Analysis (BEA). See Appendix B for technical notes.

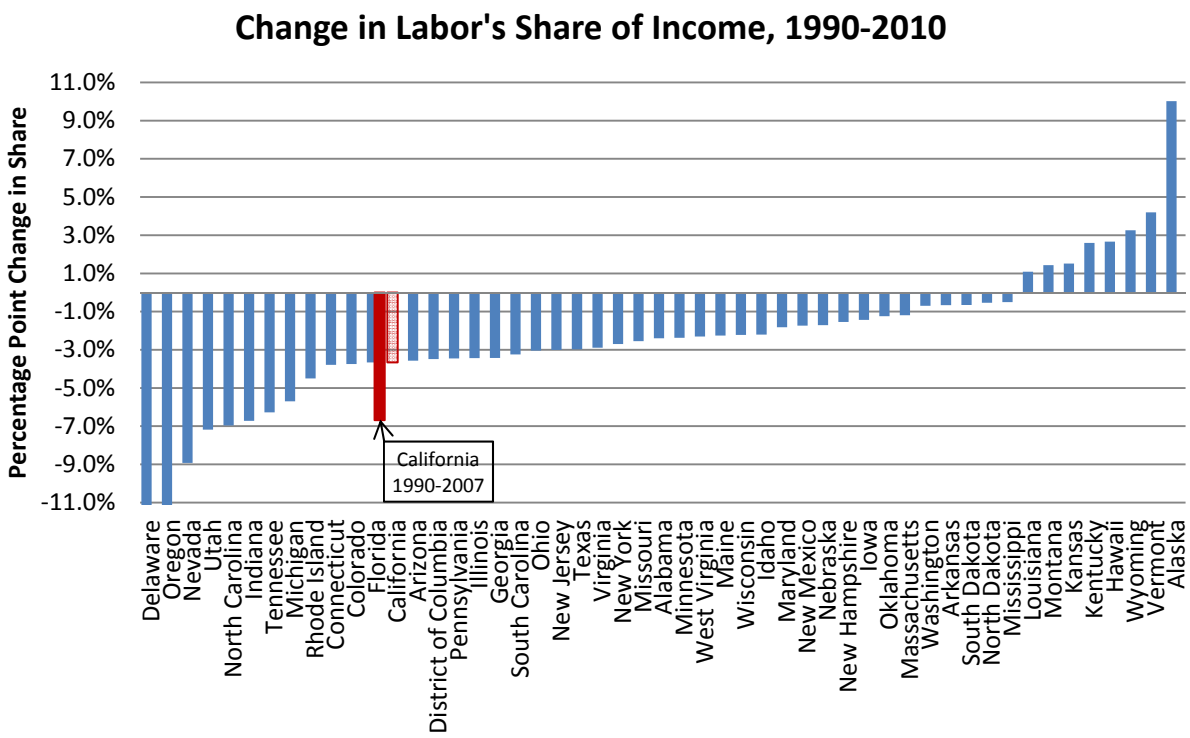
Figure 3: Labor's Share of Income, by Year





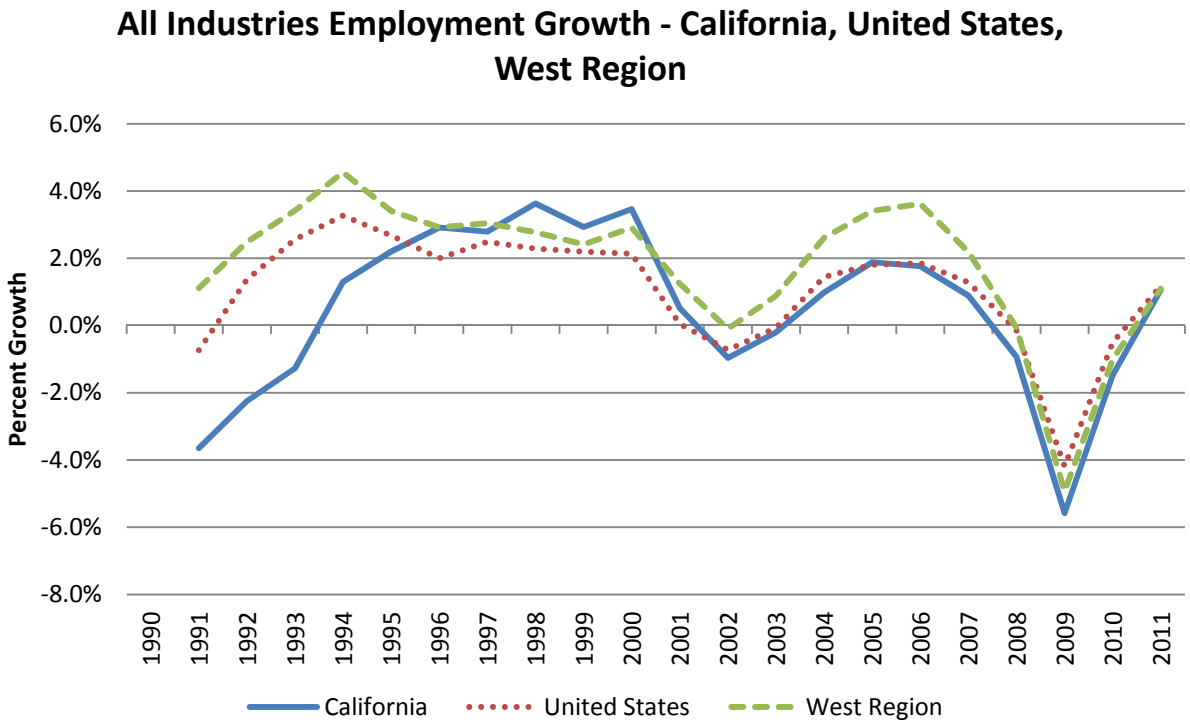
Notes: Data were obtained from the Bureau of Economic Analysis (BEA). See Appendix B for technical notes.

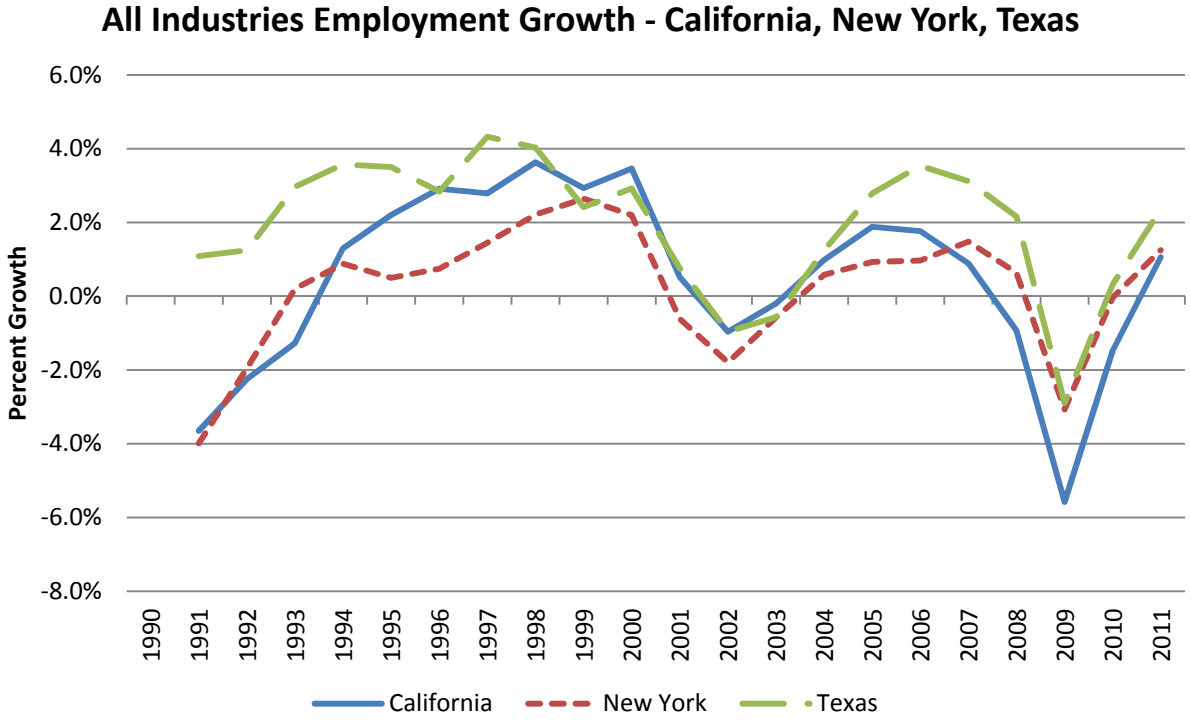
Figure 4: Labor's Share of Income, Long-Term



Notes: Data were obtained from the Bureau of Economic Analysis (BEA). See Appendix B for technical notes.

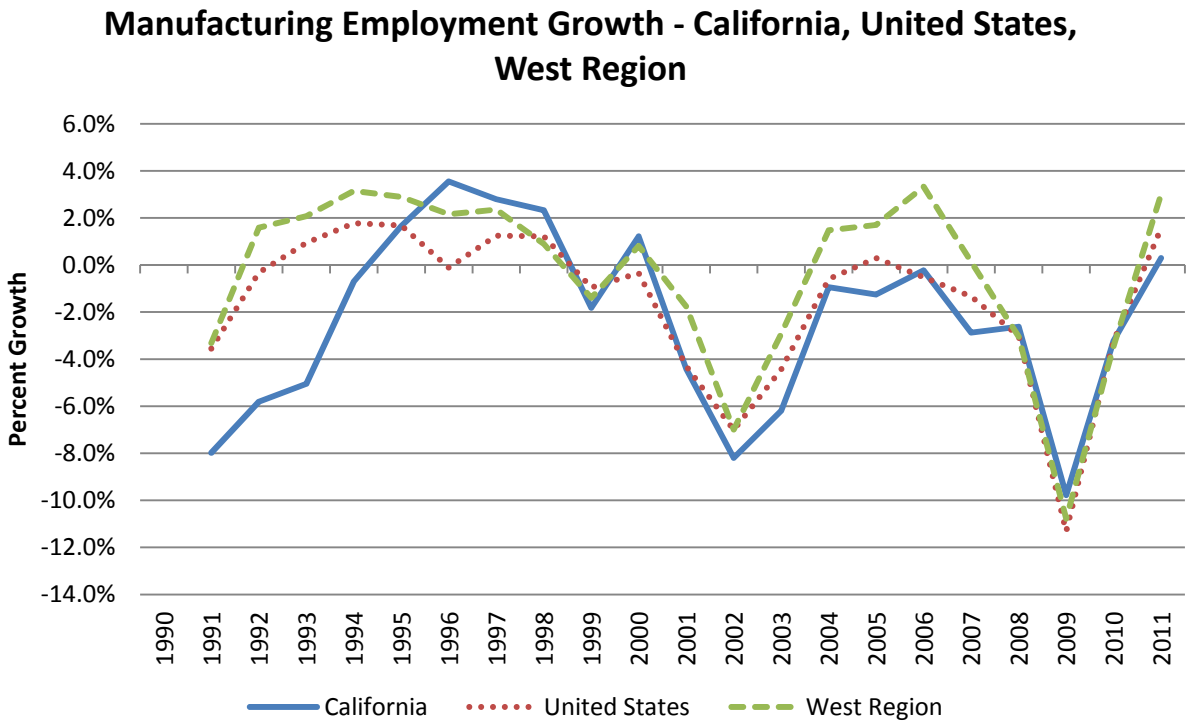
Figure 5: Overall Job Growth, by Year

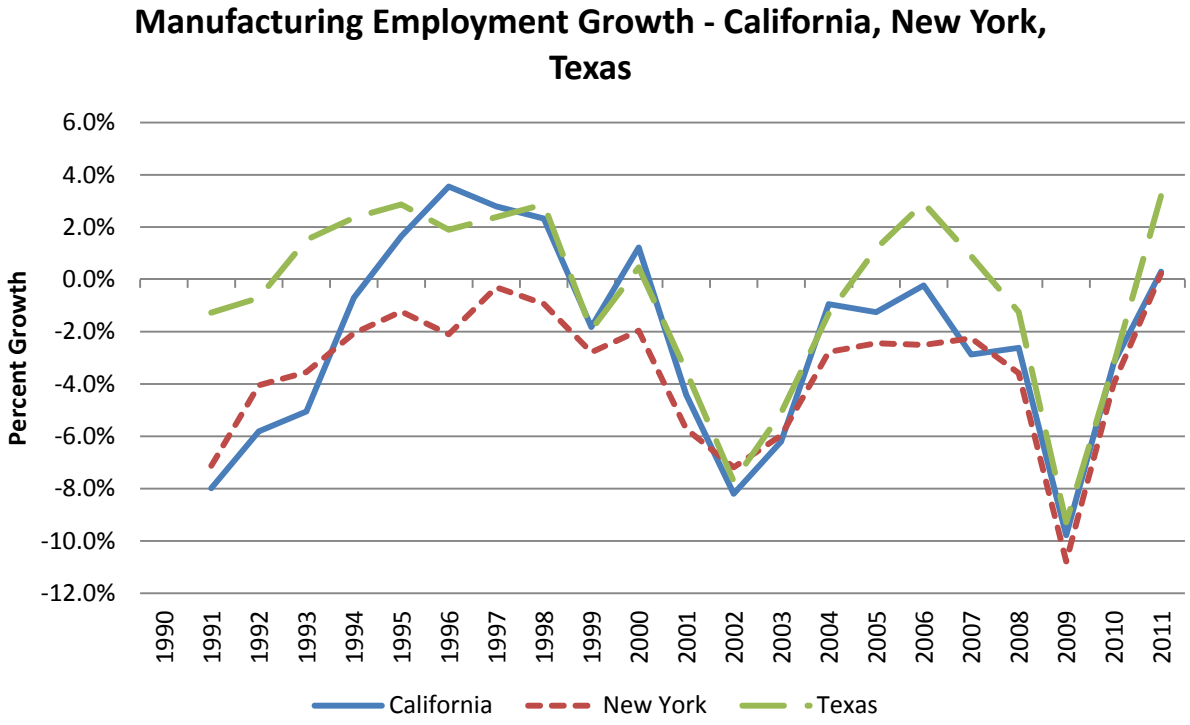




Notes: Data are from the Quarterly Census of Employment and Wages (QCEW). See Appendix B for technical notes.

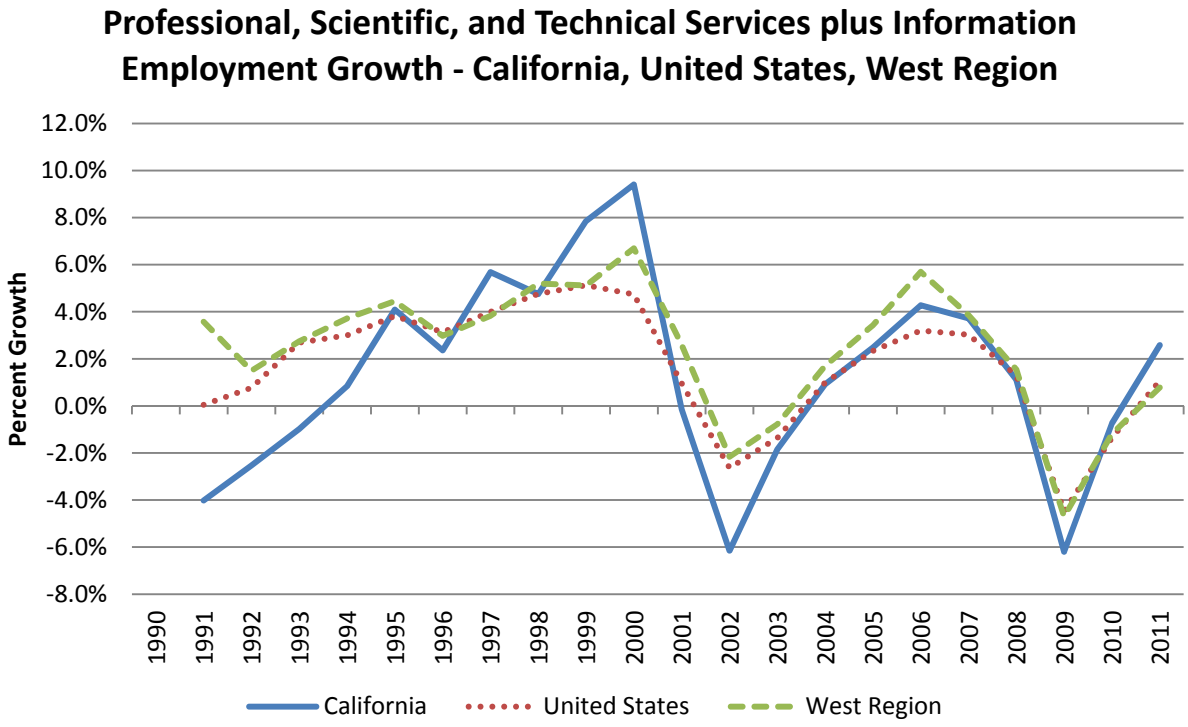
Figure 6: Manufacturing Job Growth, by Year

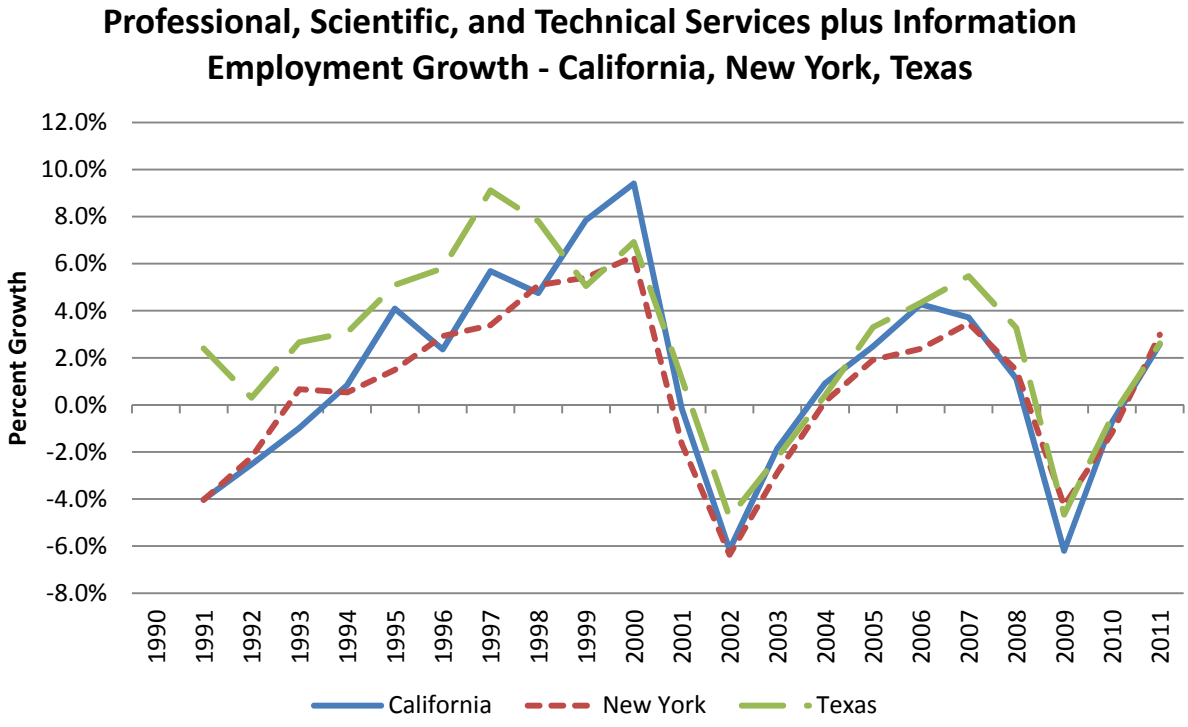




Notes: Data are from the Quarterly Census of Employment and Wages (QCEW). See Appendix B for technical notes.

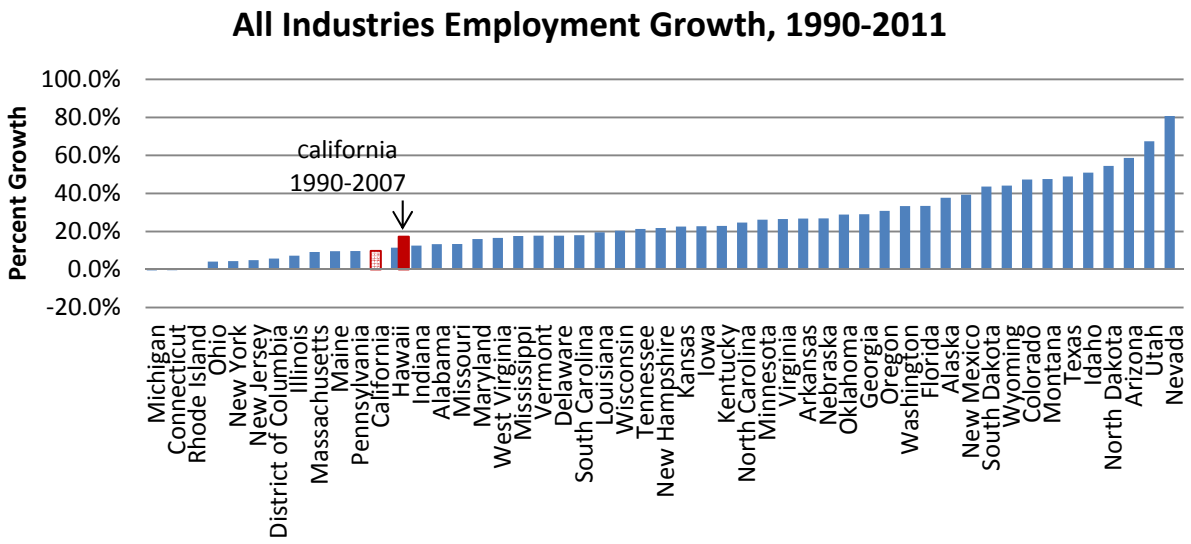
Figure 7: Professional, Scientific, and Technical Services plus Information Job Growth, by Year

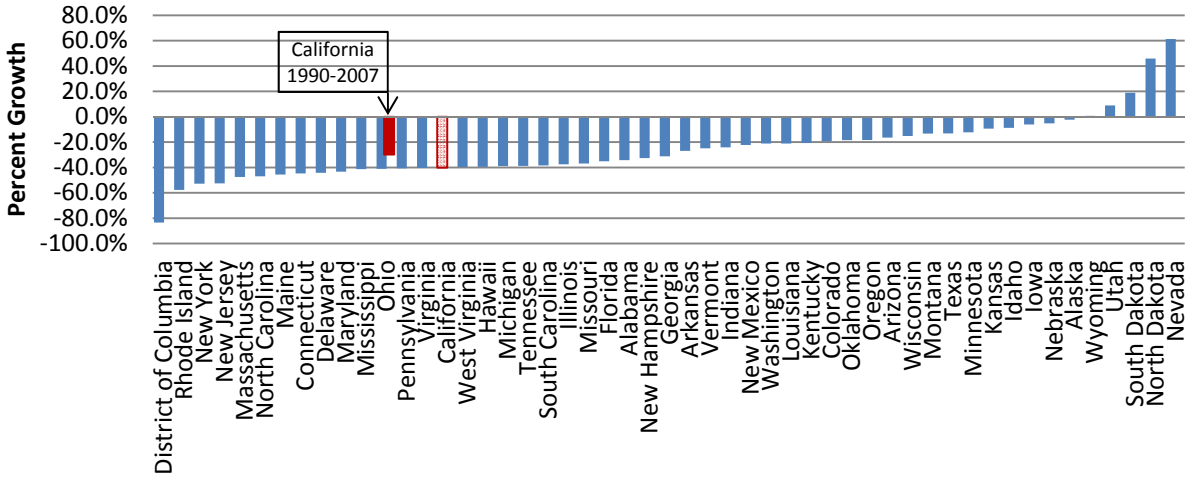


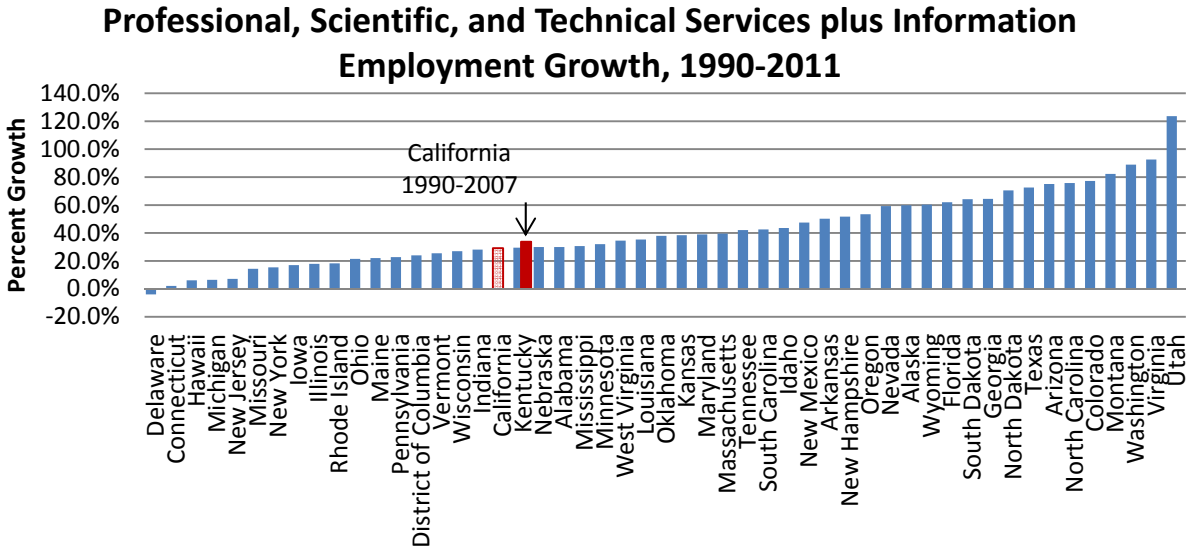


Notes: Data are from the Quarterly Census of Employment and Wages (QCEW). See Appendix B for technical notes.

Figure 8: Overall, Manufacturing, and Professional, Scientific, and Technical Services plus Information Job Growth

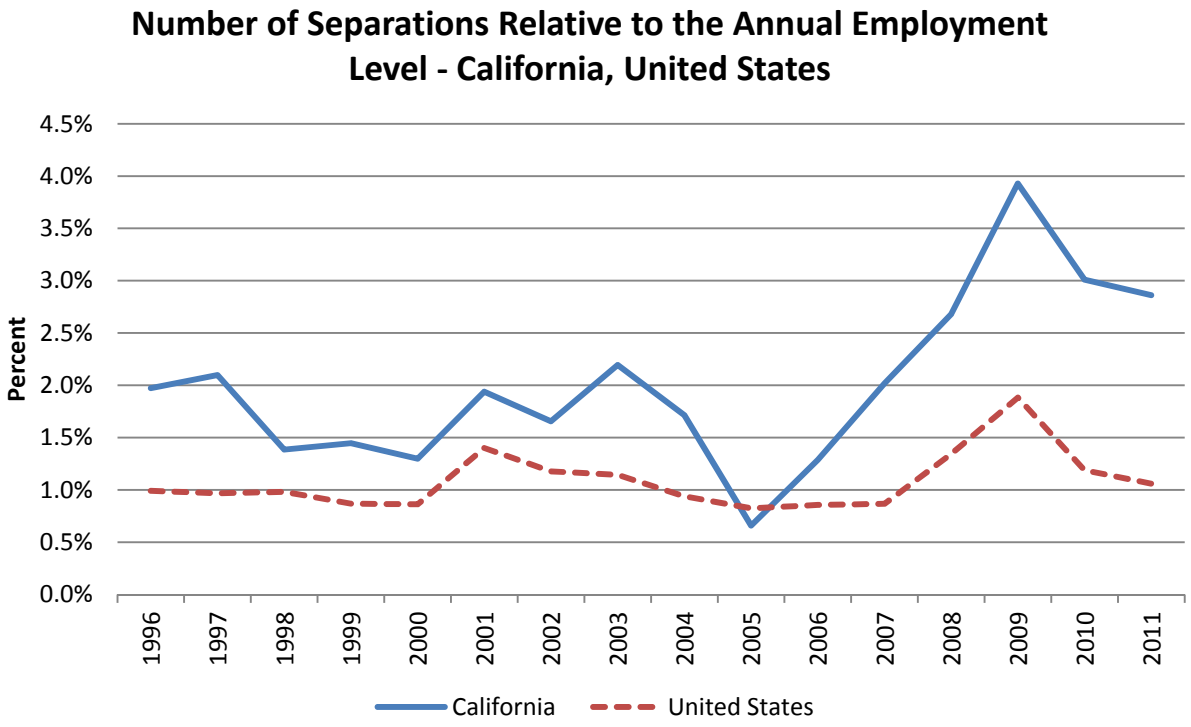


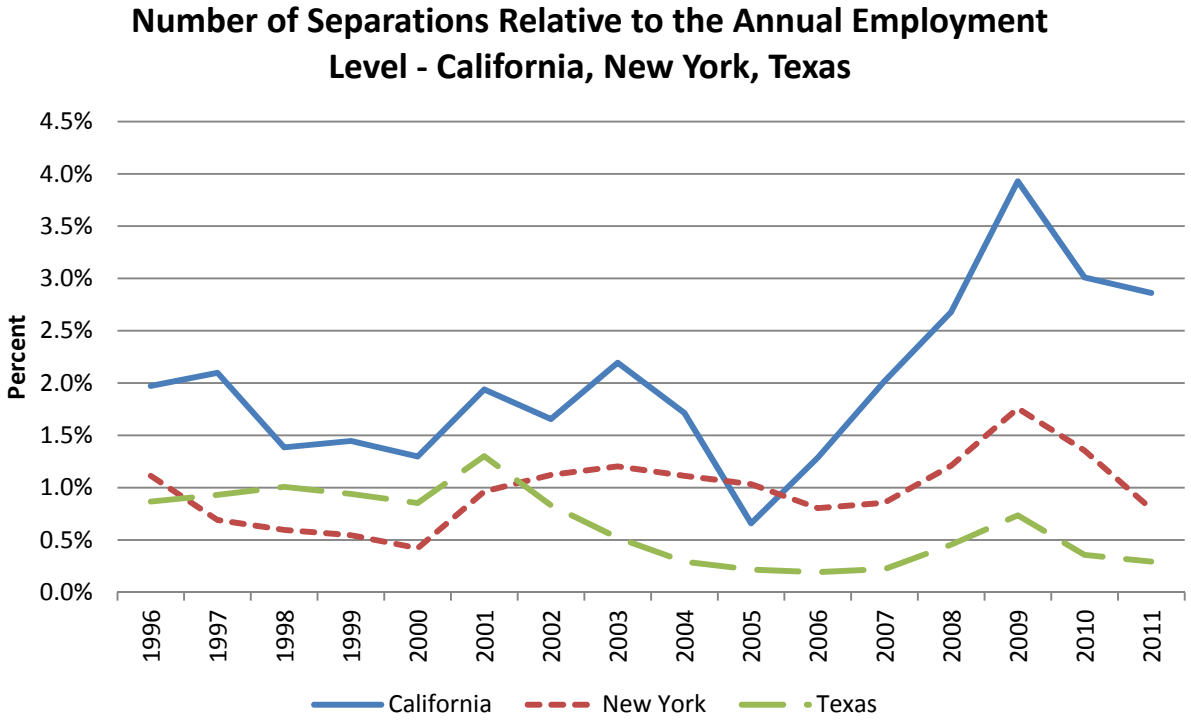




Notes: Data are from the Quarterly Census of Employment and Wages (QCEW). See Appendix B for technical notes.

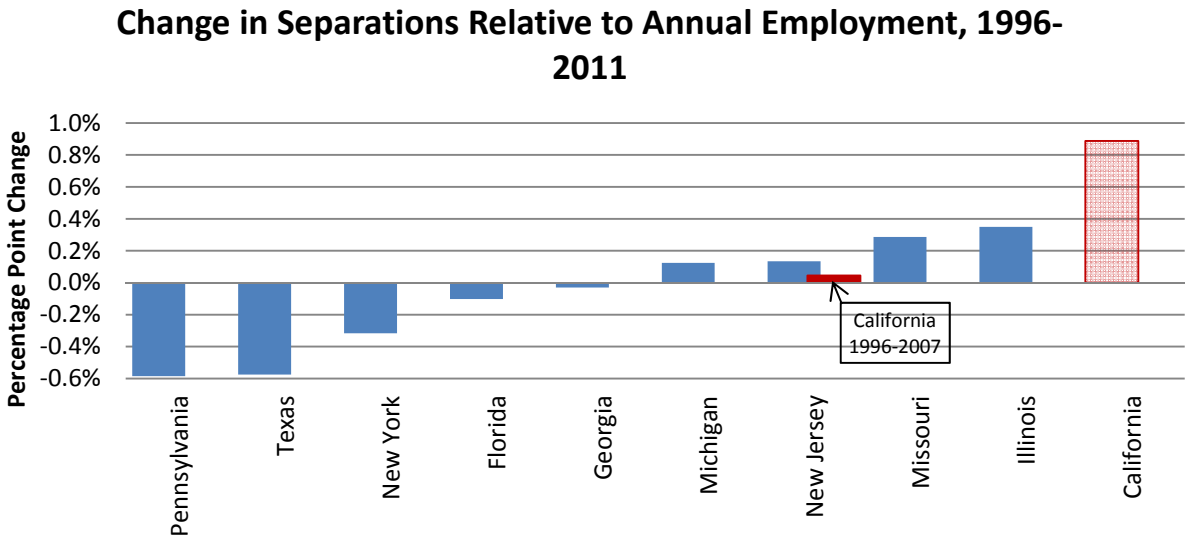
Figure 9: Mass Layoffs, by Year

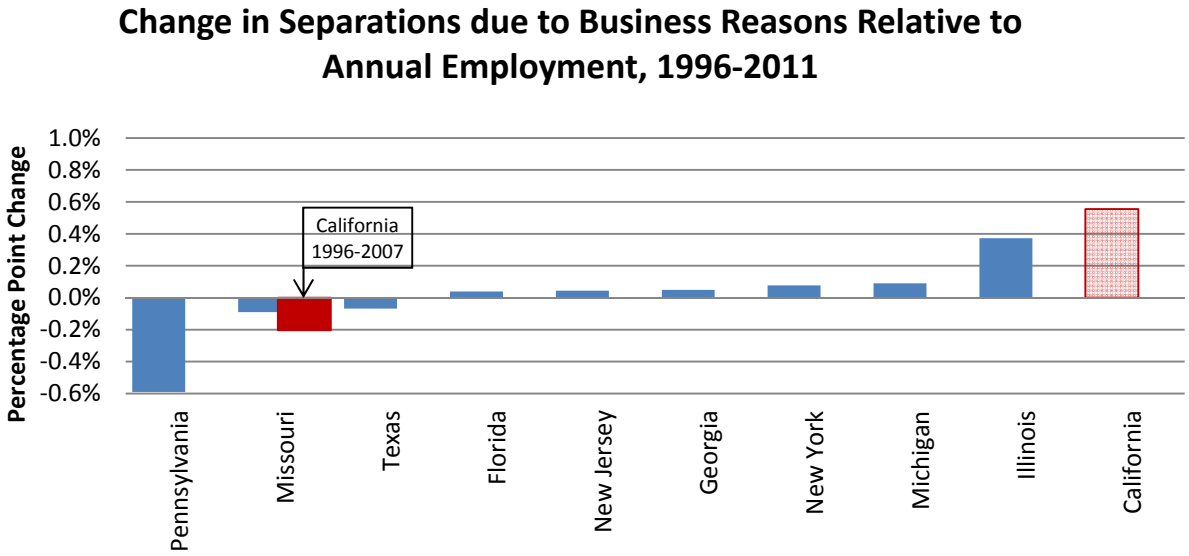


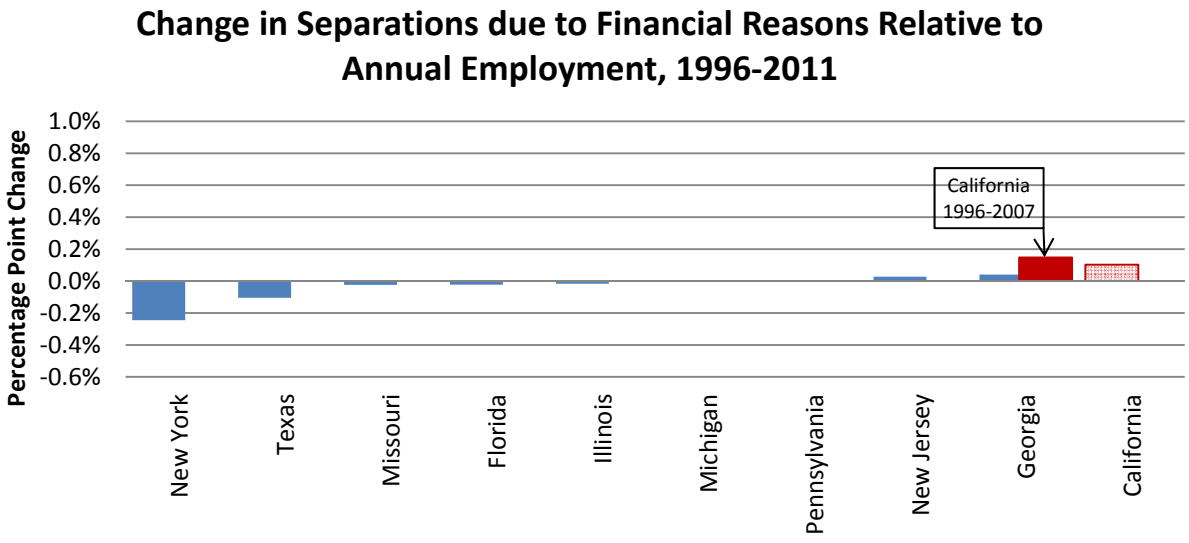


Notes: The Mass Layoff Statistics are collected jointly from State Unemployment Insurance Agencies and interviews with the establishments. See Appendix B for technical notes.

Figure 10: Mass Layoffs, Long-Term

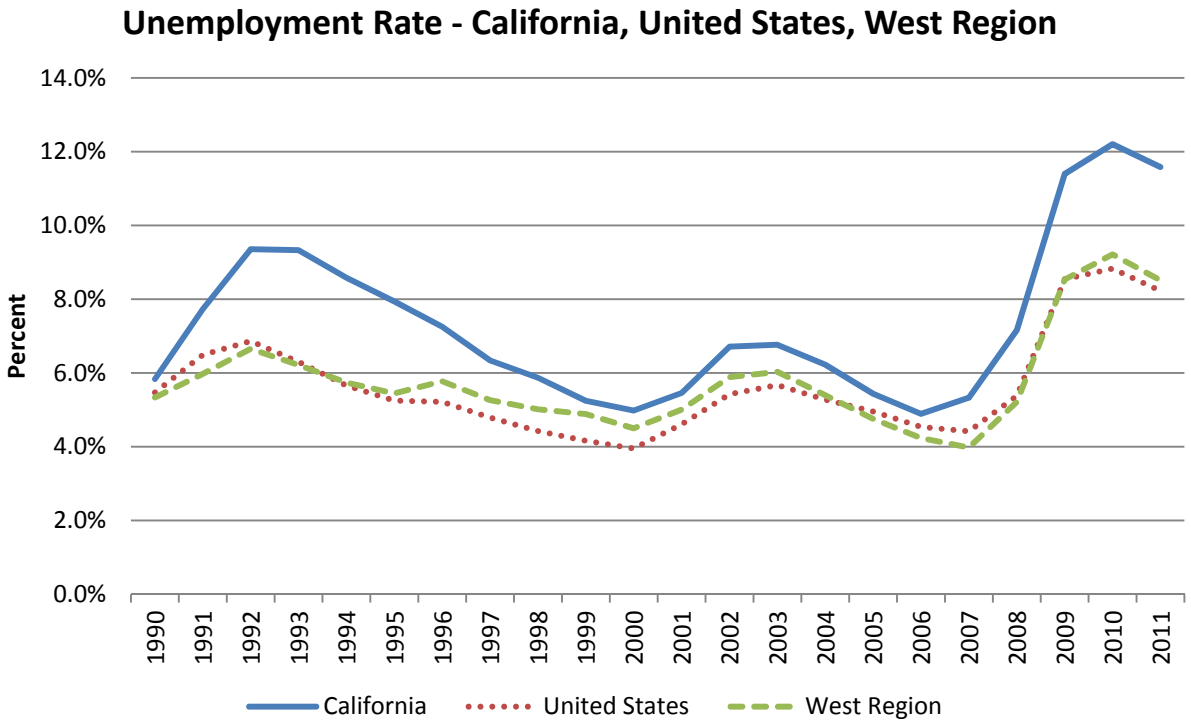


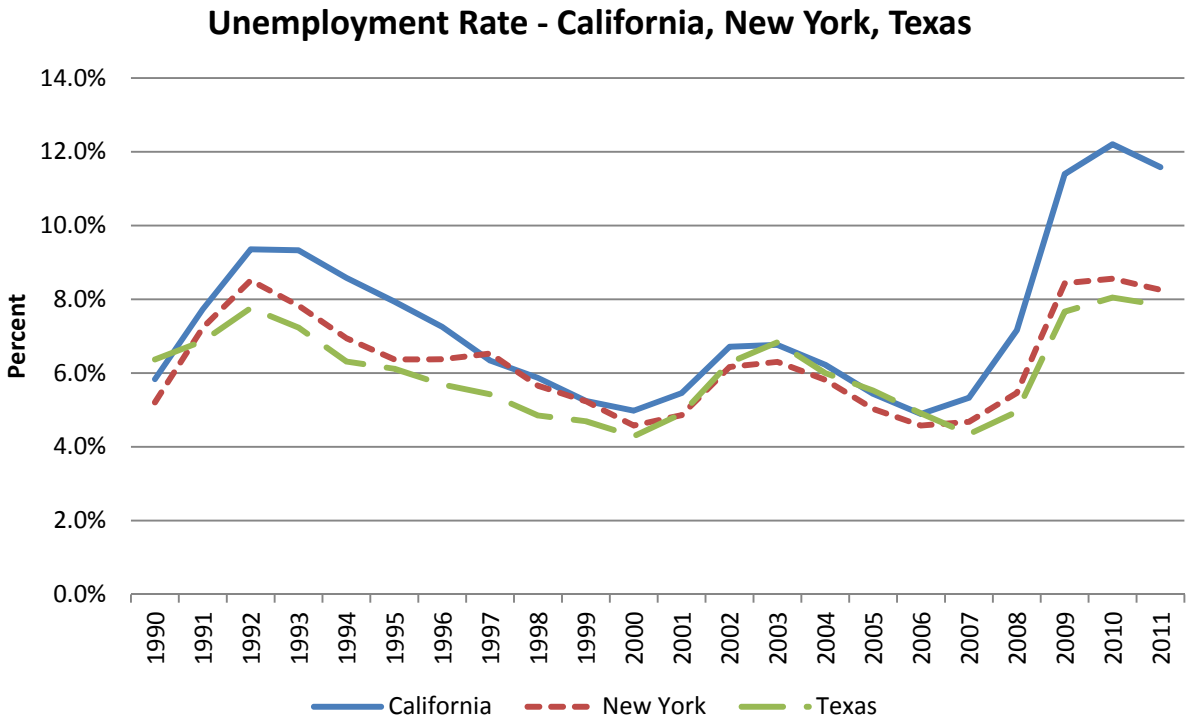




Notes: The Mass Layoff Statistics are collected jointly from State Unemployment Insurance Agencies and interviews with the establishments. See Appendix B for technical notes.

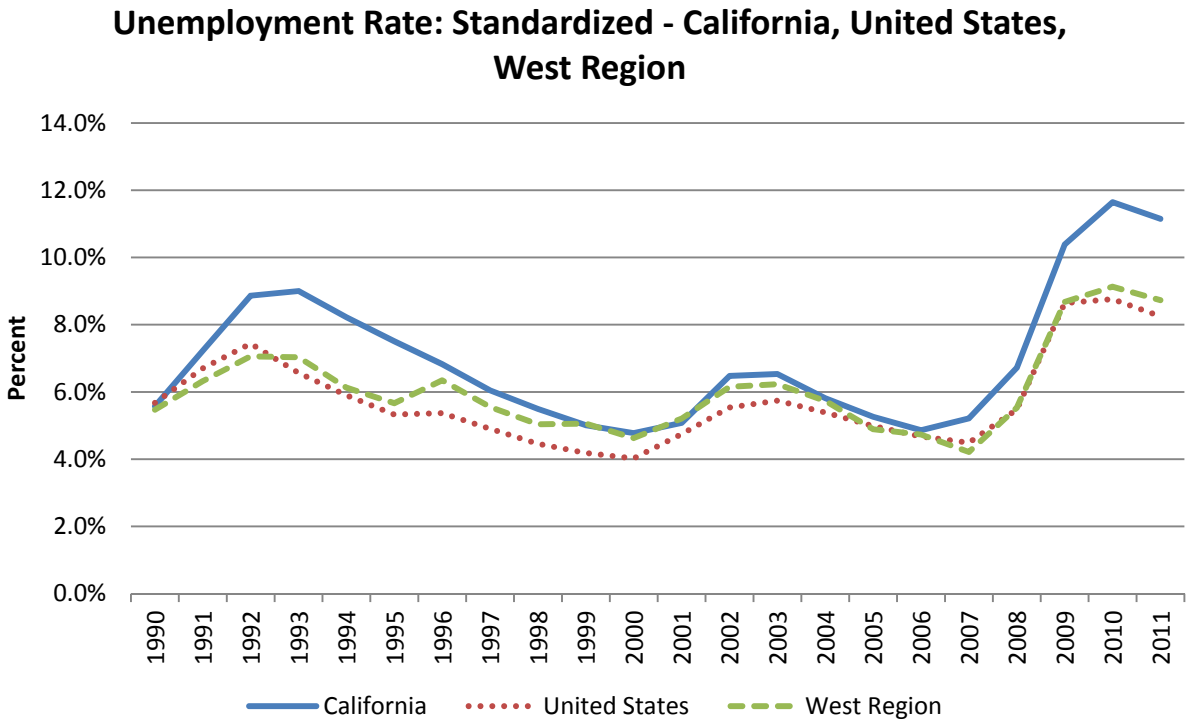
Figure 11: Unemployment Rate, by Year

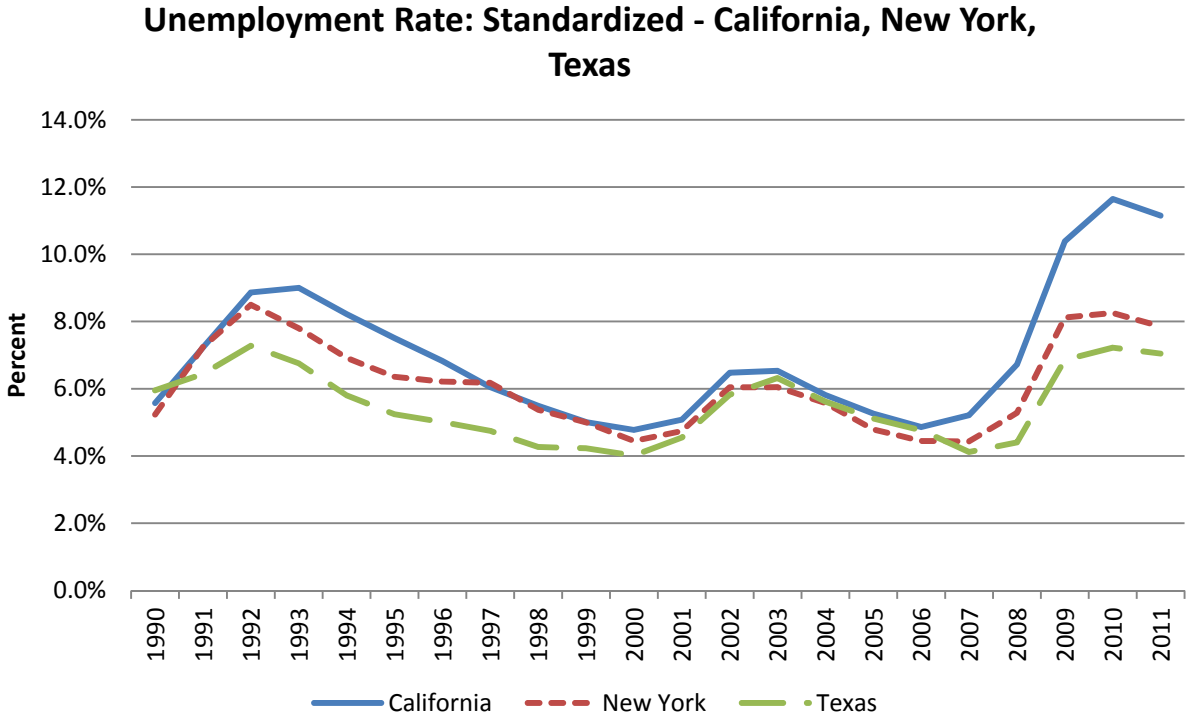




Notes: Data are from Current Population Survey monthly files. The unemployment rate is the number of unemployed persons divided by the number of persons in the labor force. See Appendix B for technical notes.

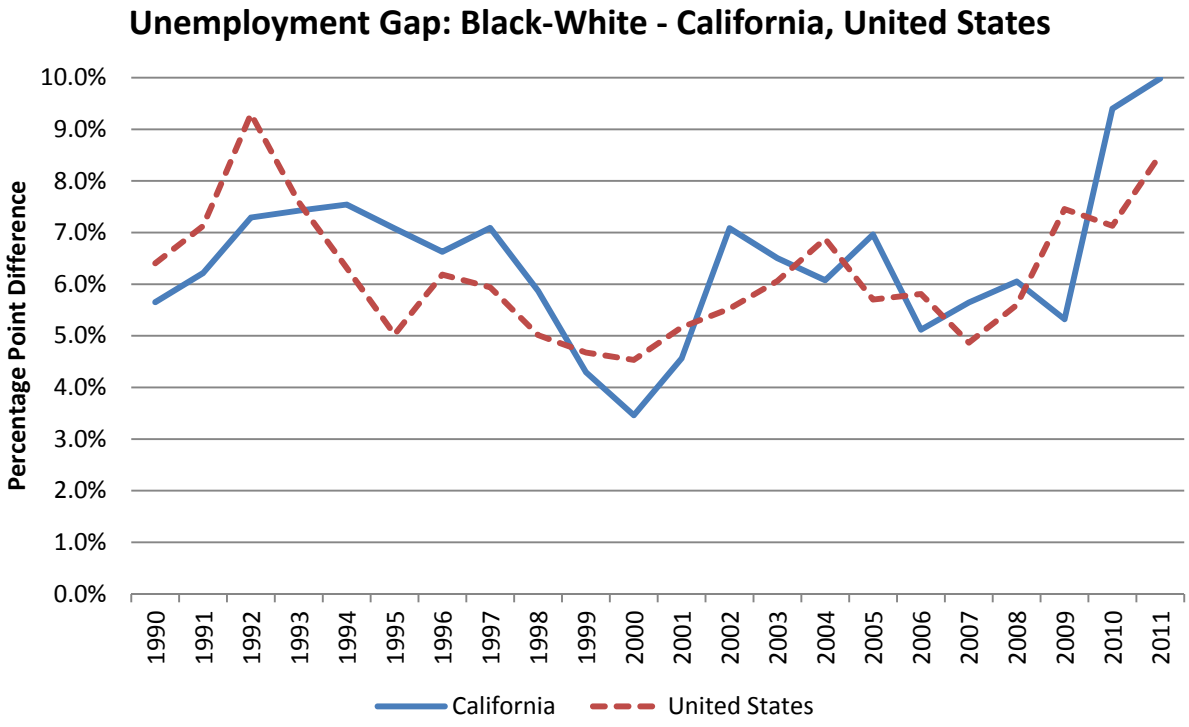
Figure 12: Standardized Unemployment Rate, by Year

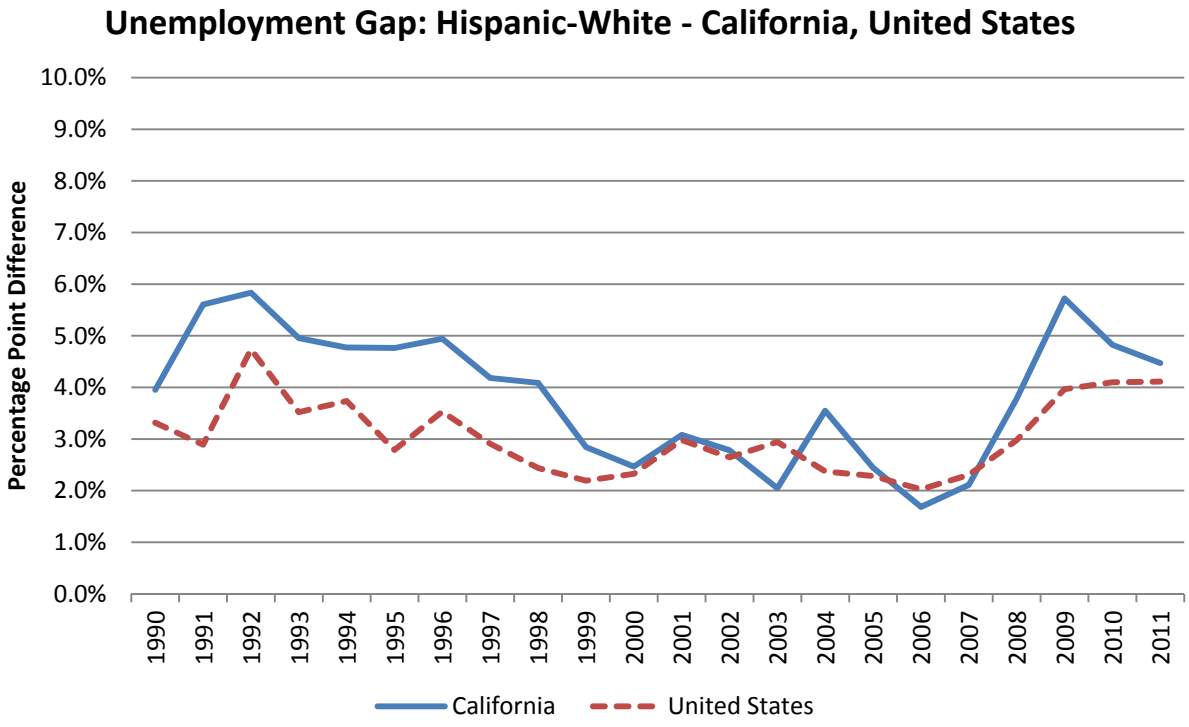




Notes: Data are from Current Population Survey monthly files. The unemployment rate is the number of unemployed persons divided by the number of persons in the labor force. See Appendix B for technical notes. Data for minorities in some states – especially small states – can be quite imprecise, and this can affect the standardization; see Appendix D for details.

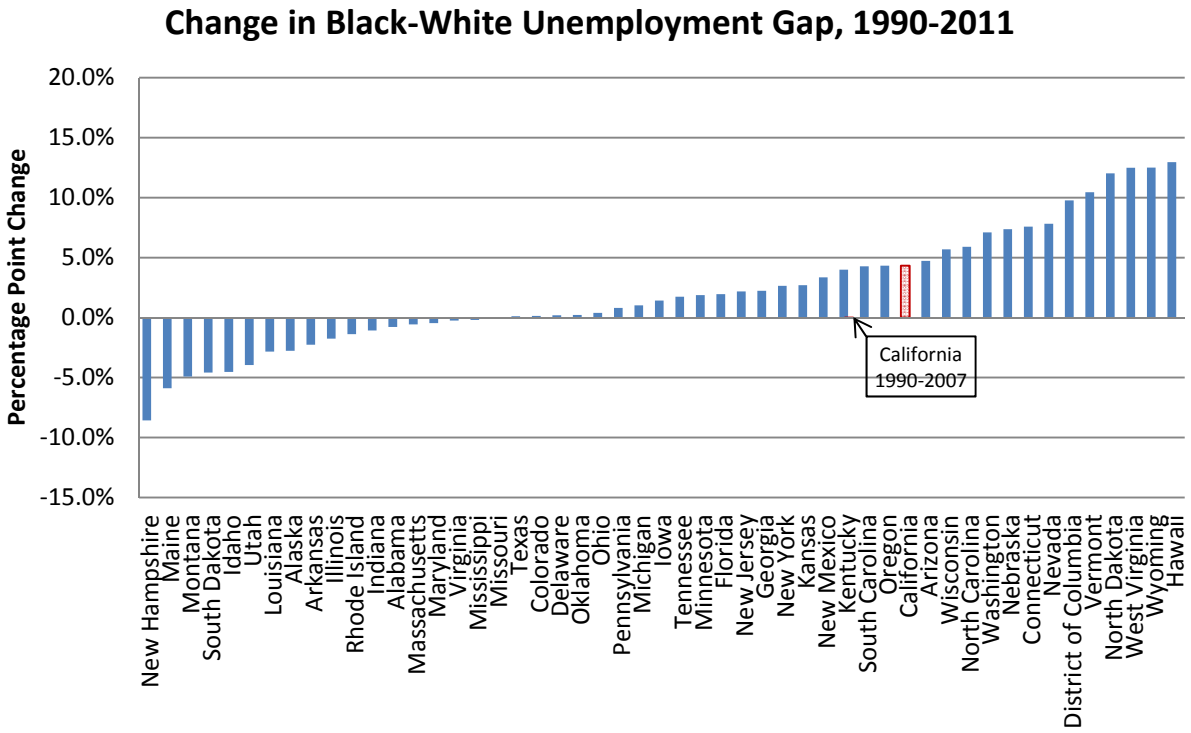
Figure 13: Black-White and Hispanic-White Differences in Unemployment Rates, by Year

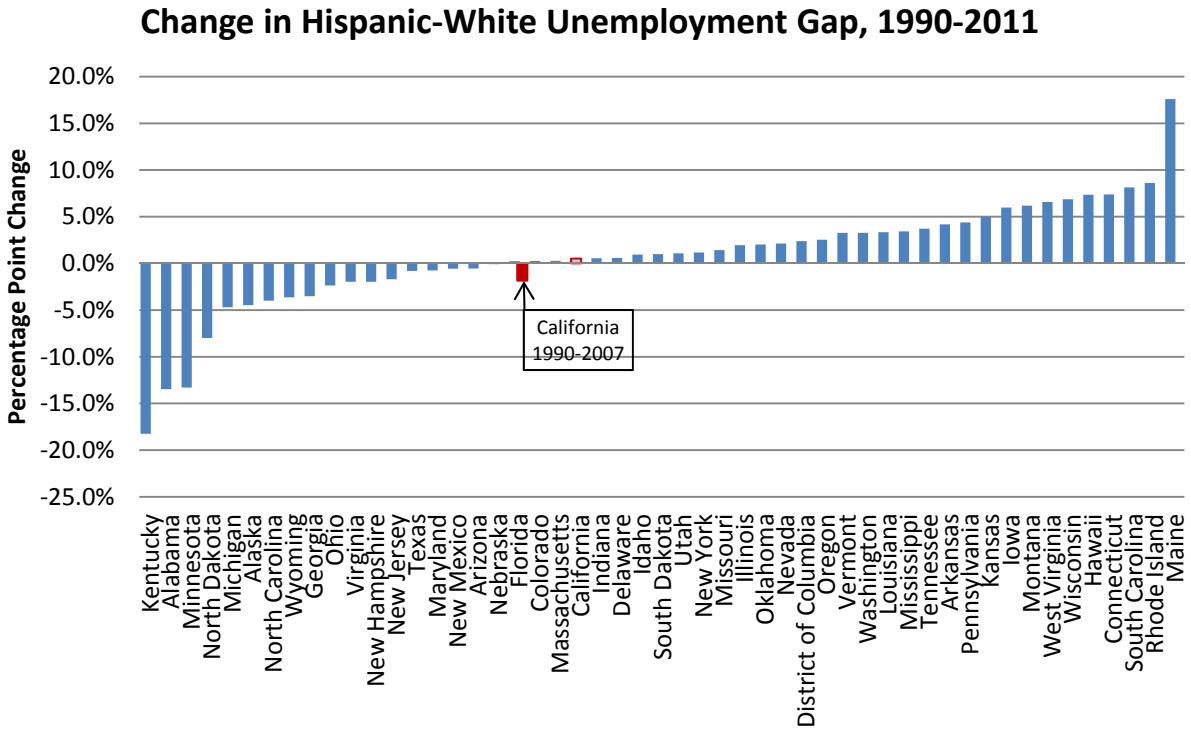




Notes: Data are from Current Population Survey monthly files. The unemployment rate is the number of unemployed persons divided by the number of persons in the labor force. The white category excludes white Hispanics. See Appendix B for technical notes. Unemployment rates for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

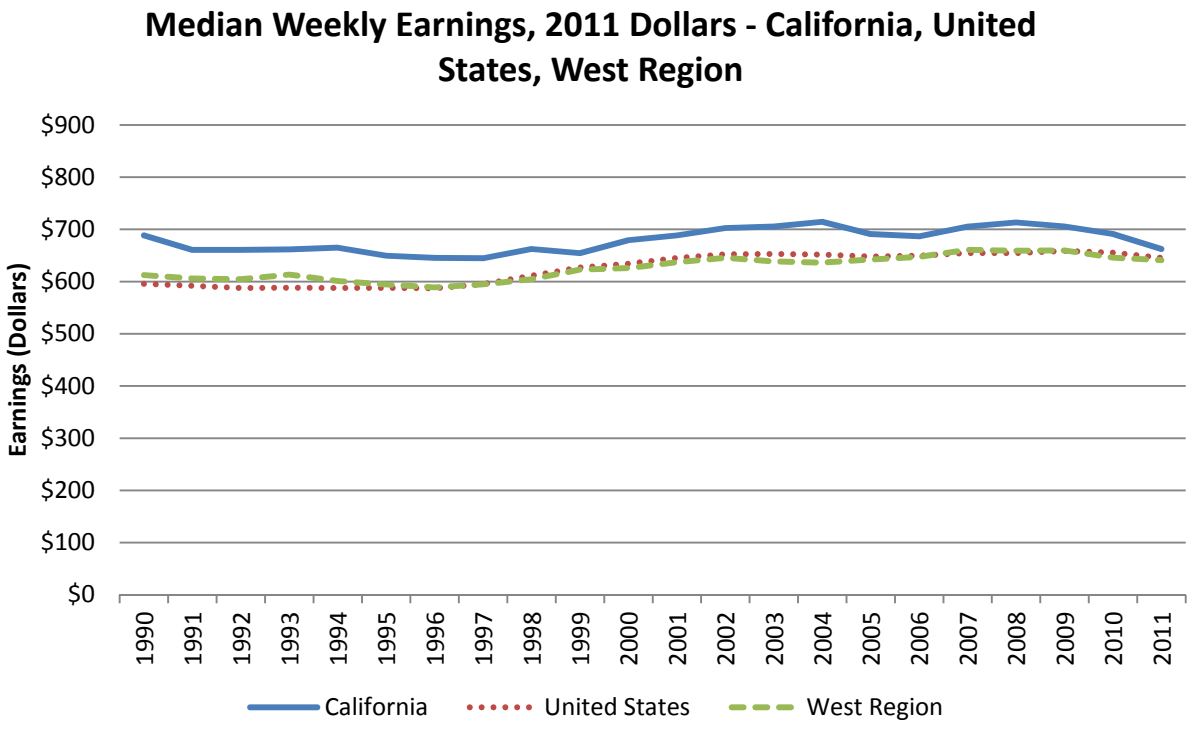
Figure 14: Changes in Black-White and Hispanic-White Differences in Unemployment Rates, Long-Term

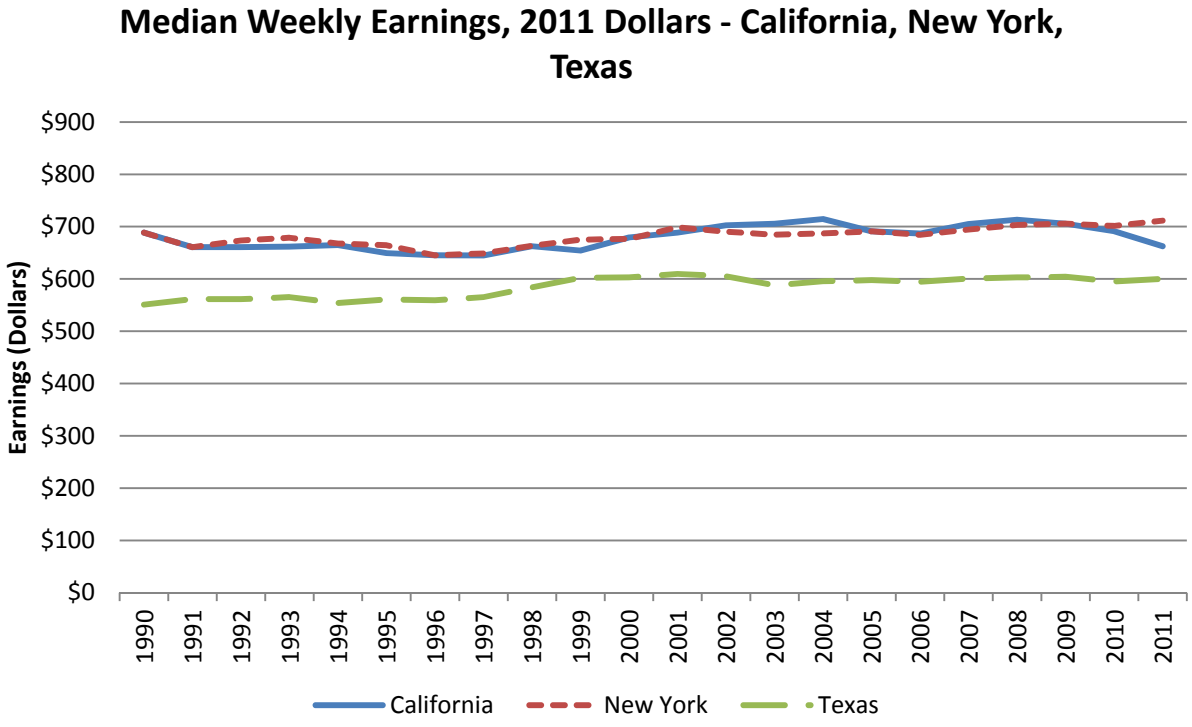




Notes: Data are from Current Population Survey monthly files. The unemployment rate is the number of unemployed persons divided by the number of persons in the labor force. See Appendix B for technical notes. Unemployment rates for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

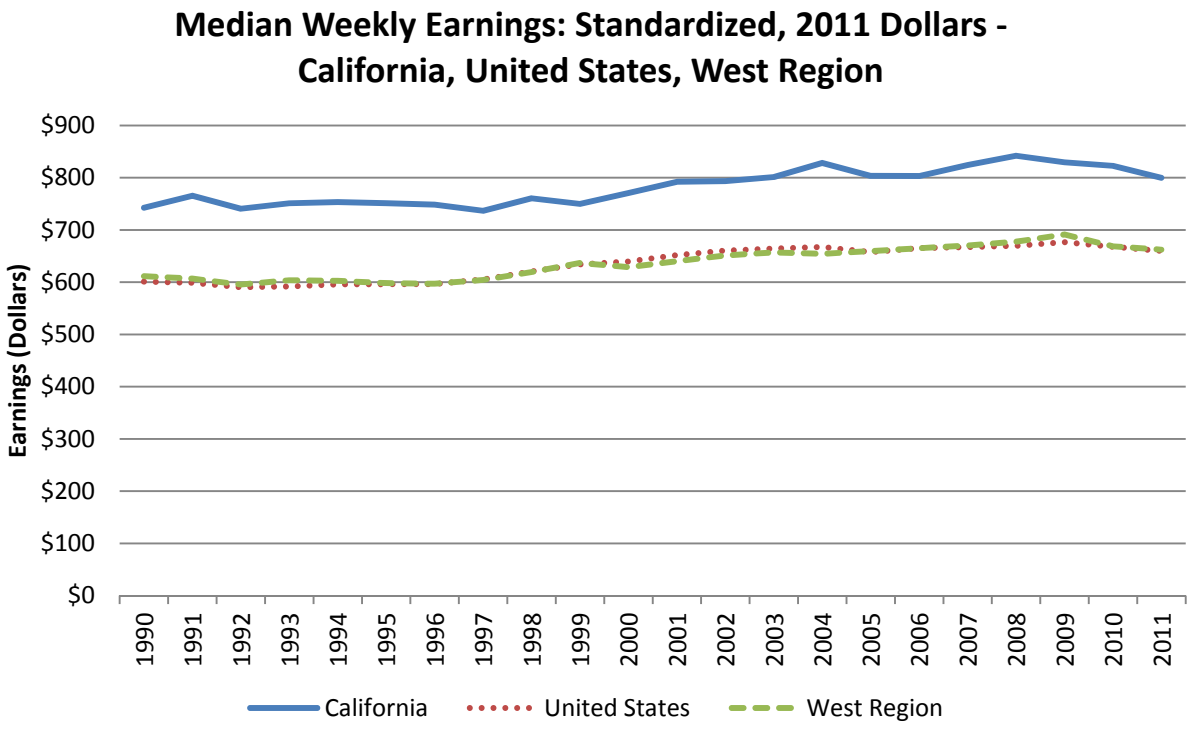
Figure 15: Median Weekly Earnings, by Year

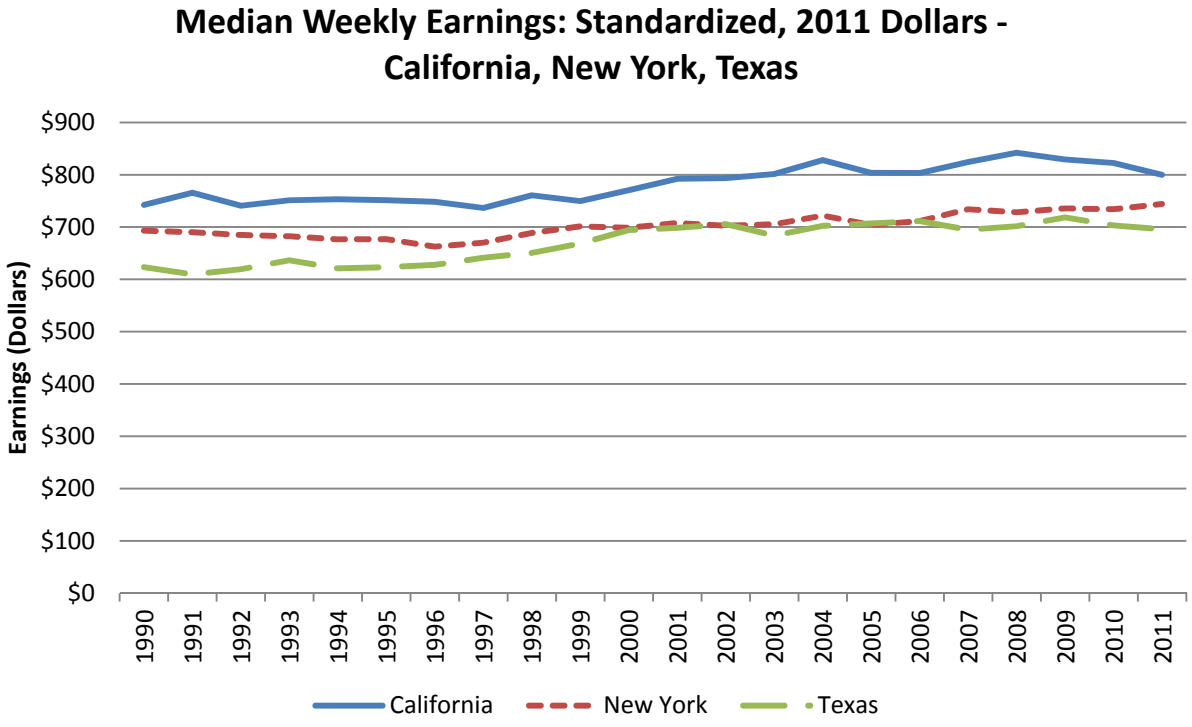




Notes: Data are from CPS monthly files. Earnings are measured in 2011 dollars. See Appendix D for technical notes.

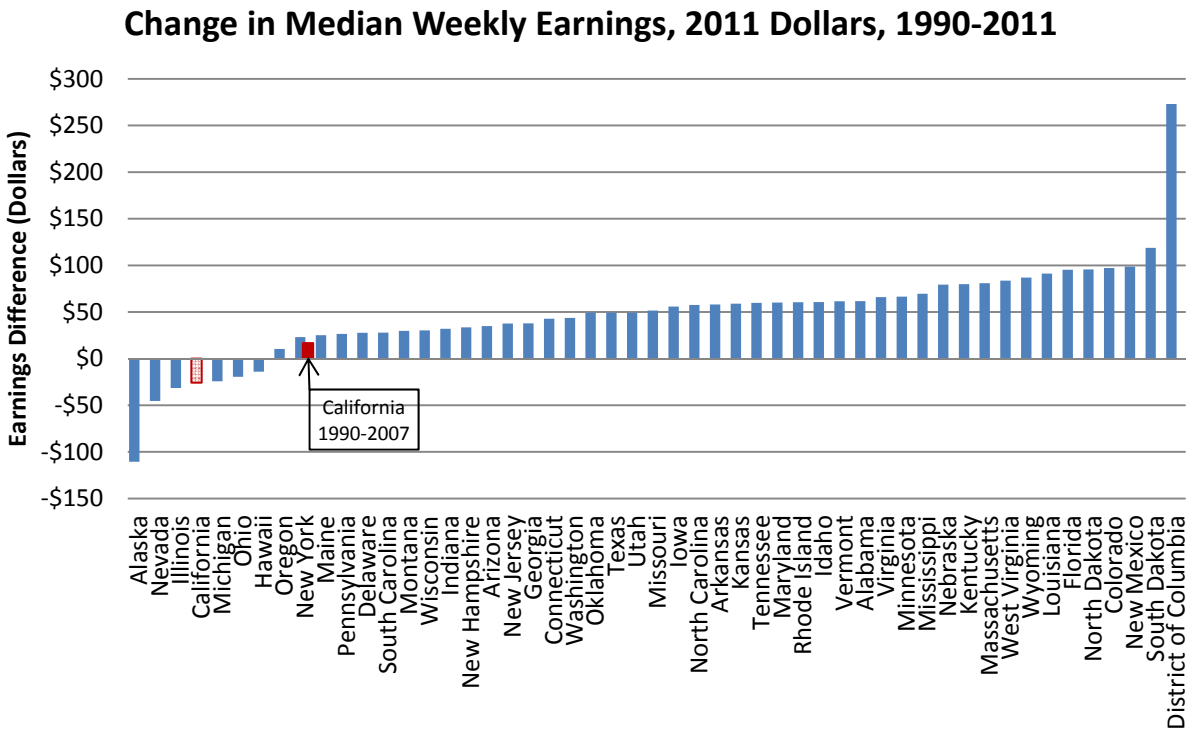
Figure 16: Standardized Median Weekly Earnings, by Year

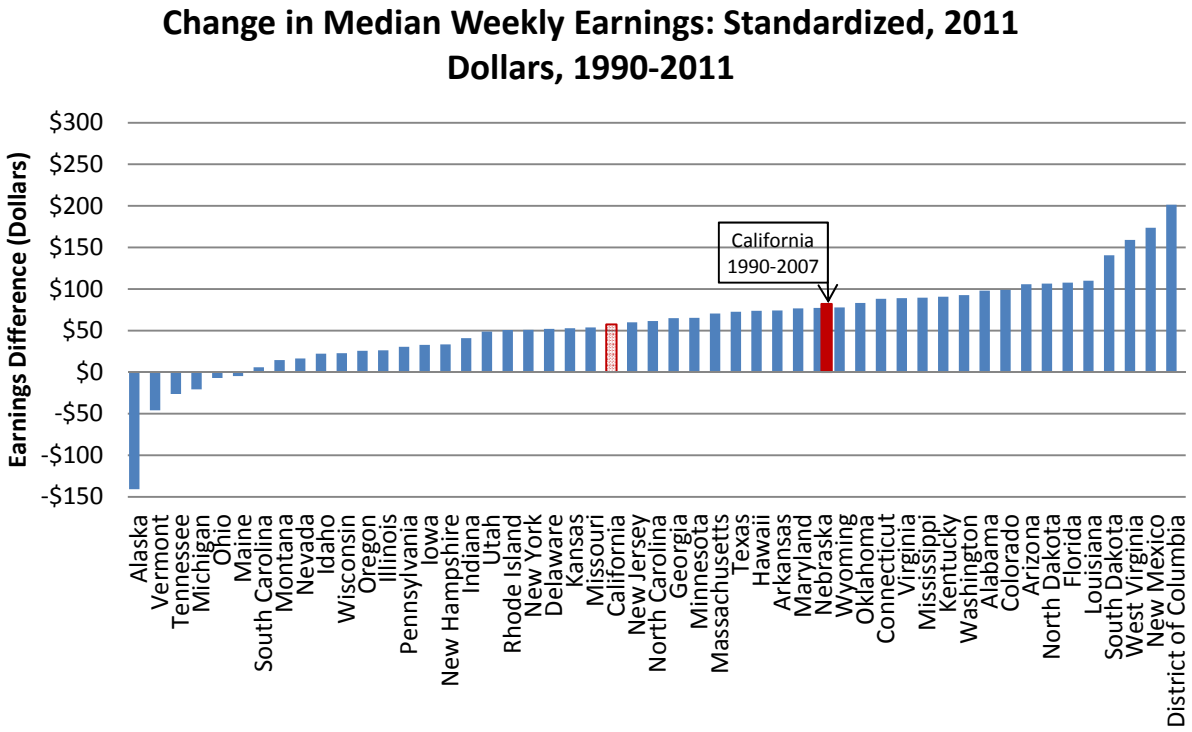




Notes: Data are from CPS monthly files. Earnings are measured in 2011 dollars. See Appendix B for technical notes. Data for minorities in some states – especially small states – can be quite imprecise, and this can affect the standardization; see Appendix D for details

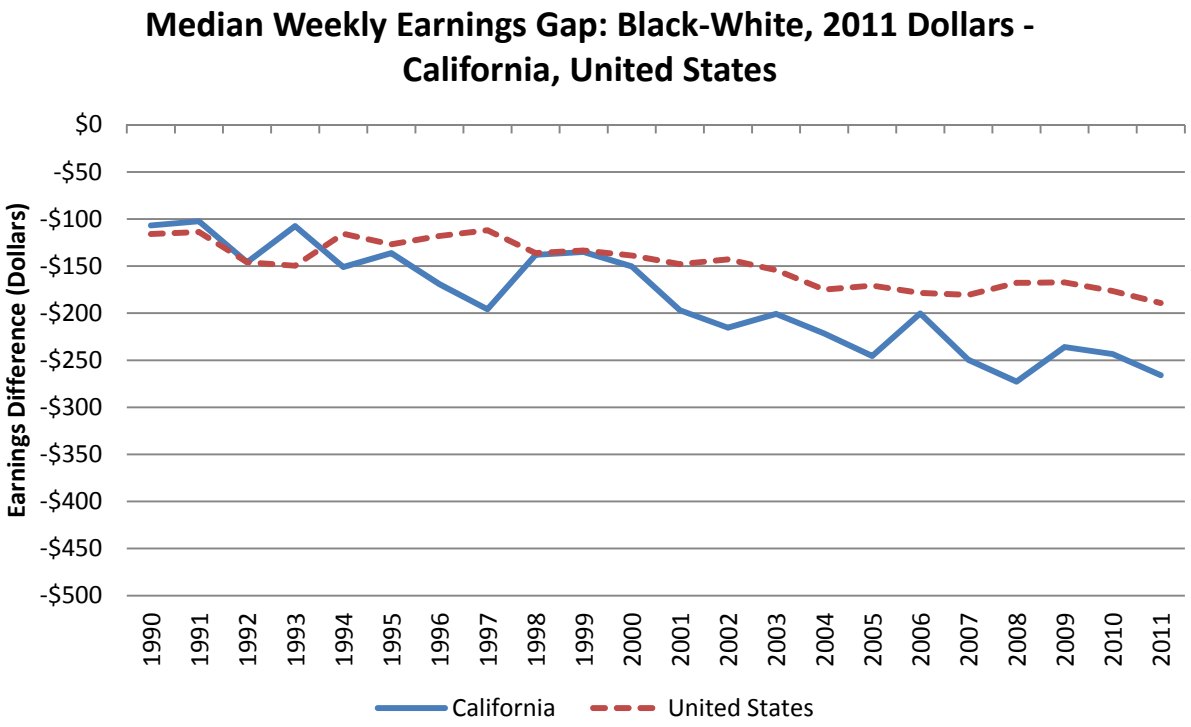
Figure 17: Median Weekly Earnings, Long-Term

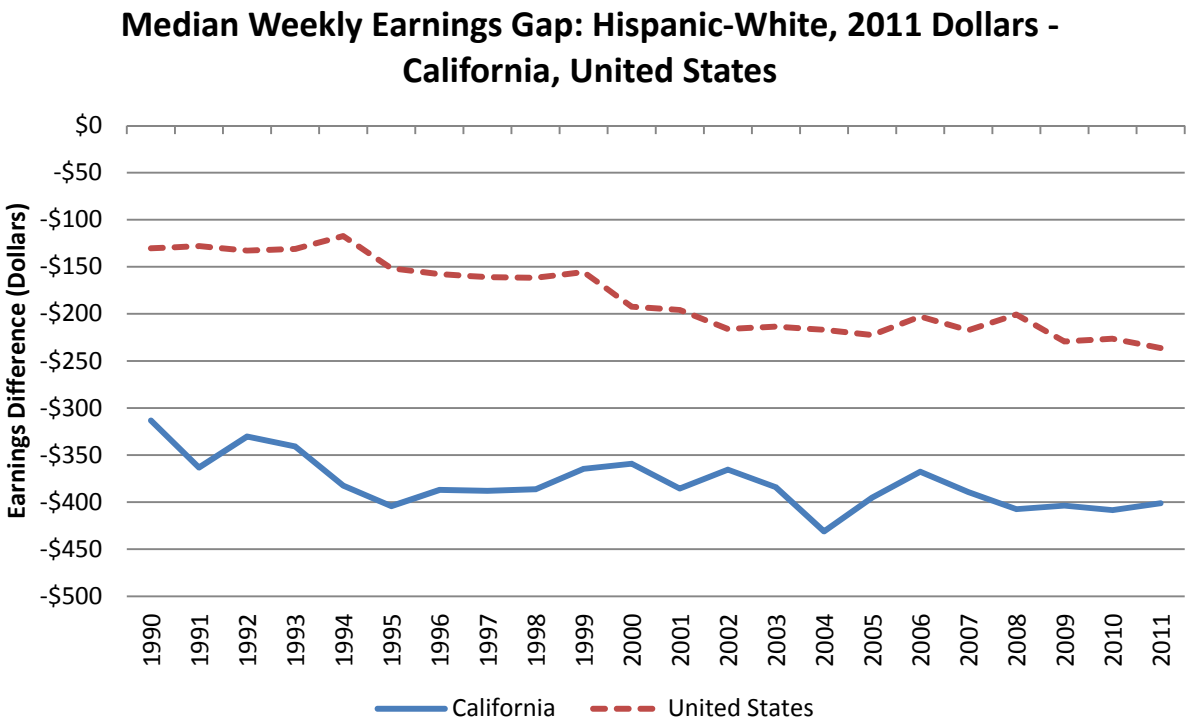




Notes: Data are from CPS monthly files. Earnings are measured in 2011 dollars. See Appendix B for technical notes. Data for minorities in some states – especially small states – can be quite imprecise, and this can affect the standardization; see Appendix D for details.

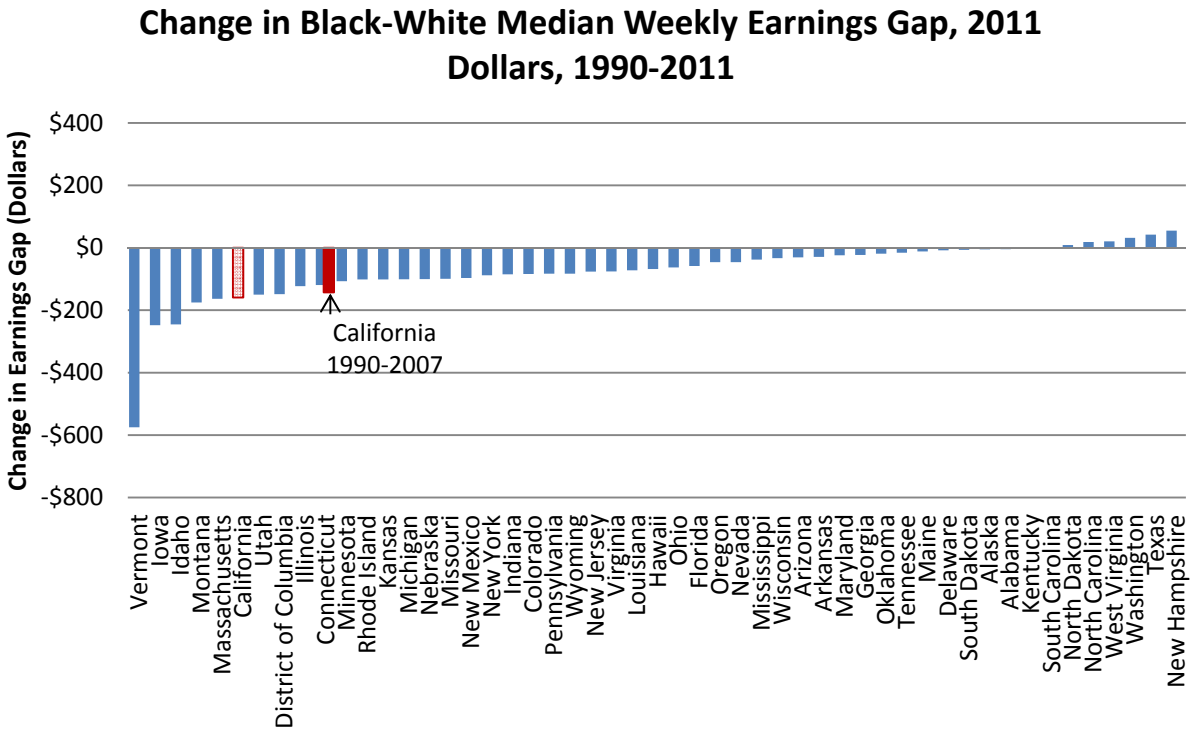
Figure 18: Black-White and Hispanic-White Differences in Median Weekly Earnings, by Year

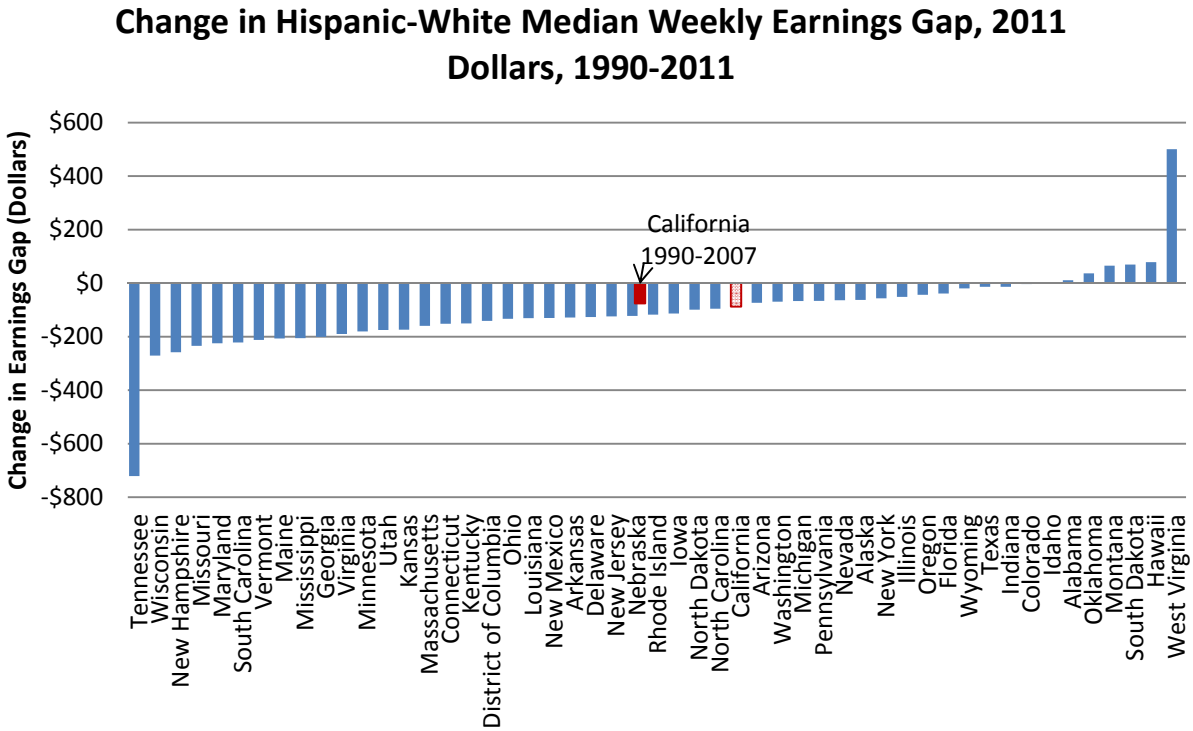




Notes: Data are from CPS monthly files. Earnings are measured in 2011 dollars. The white category excludes white Hispanics. See Appendix B for technical notes. Median weekly earnings for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

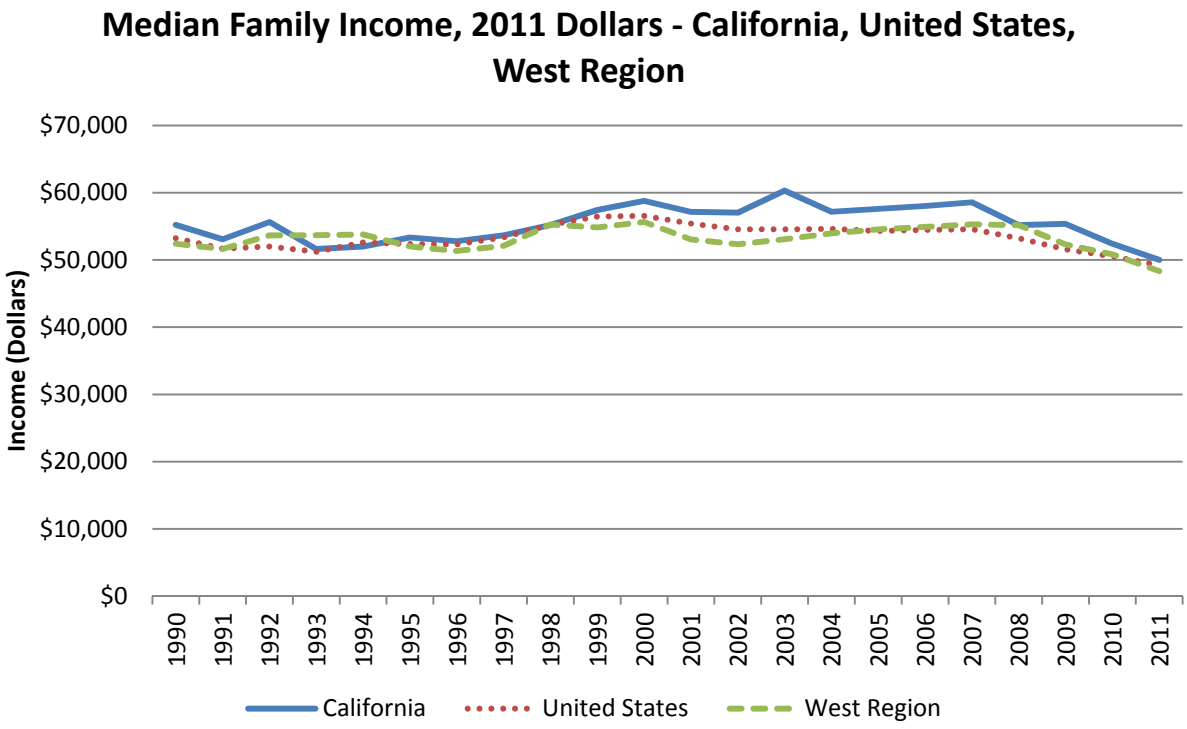
Figure 19: Black-White and Hispanic-White Differences in Median Weekly Earnings, Long-Term

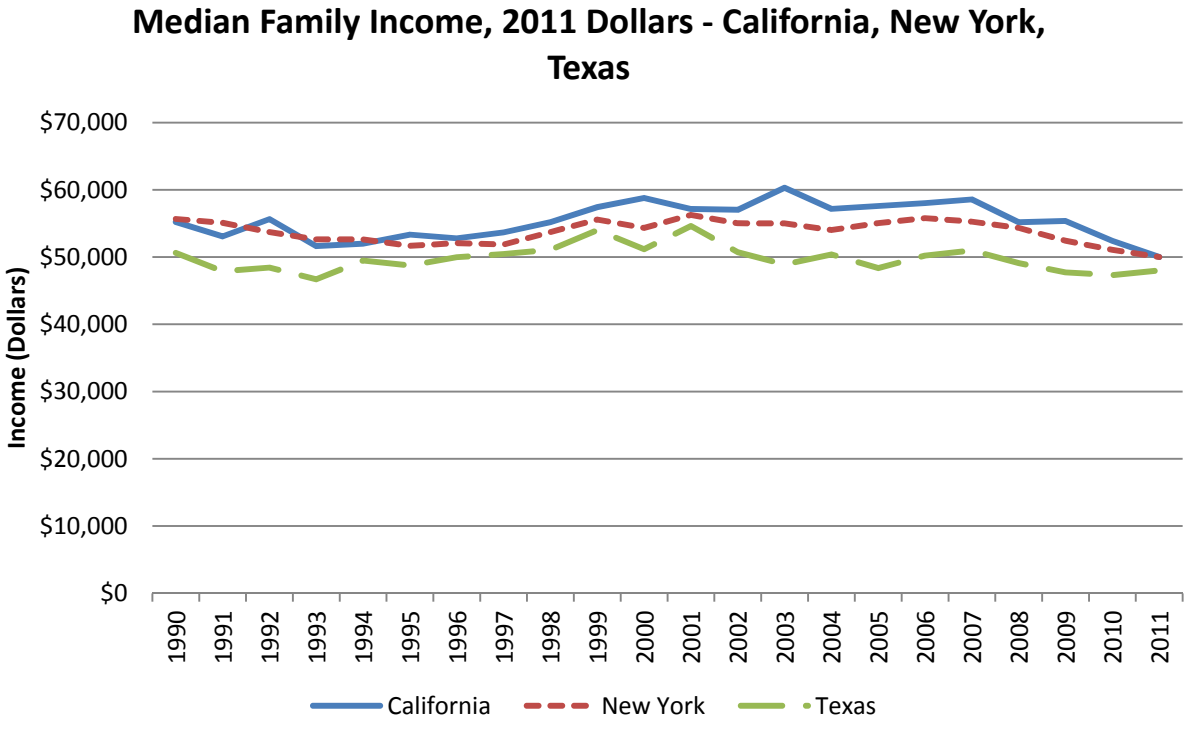




Notes: Data are from CPS monthly files. Earnings are measured in 2011 dollars. The white category excludes white Hispanics. See Appendix B for technical notes. Median weekly earnings for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

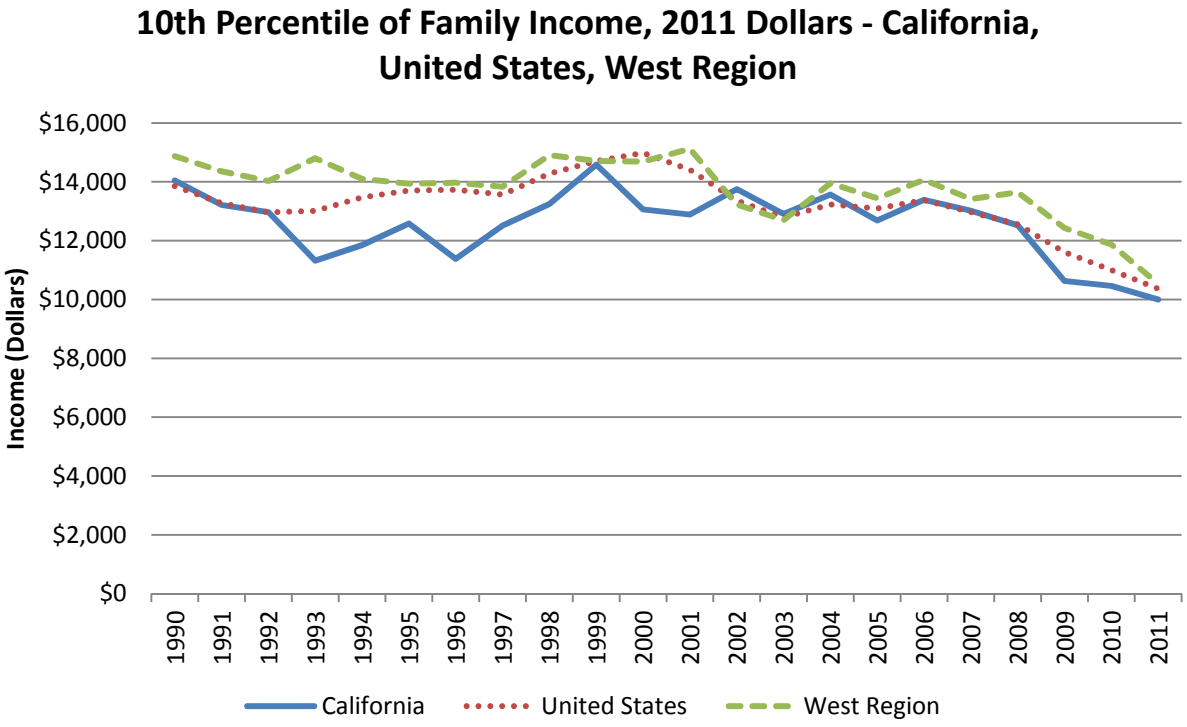
Figure 20: Median Family Income, by Year

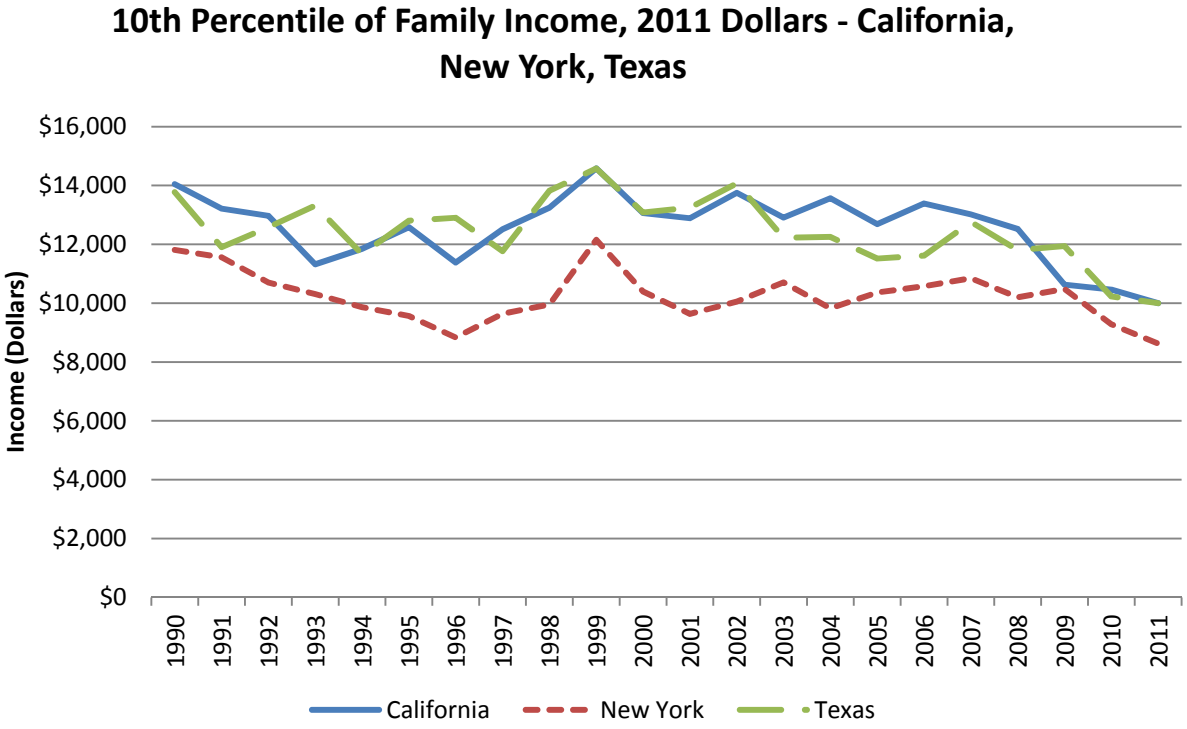




Notes: Data on family income are from the CPS March Annual Demographic Files. Income is measured in 2011 dollars. See Appendix B for technical notes.

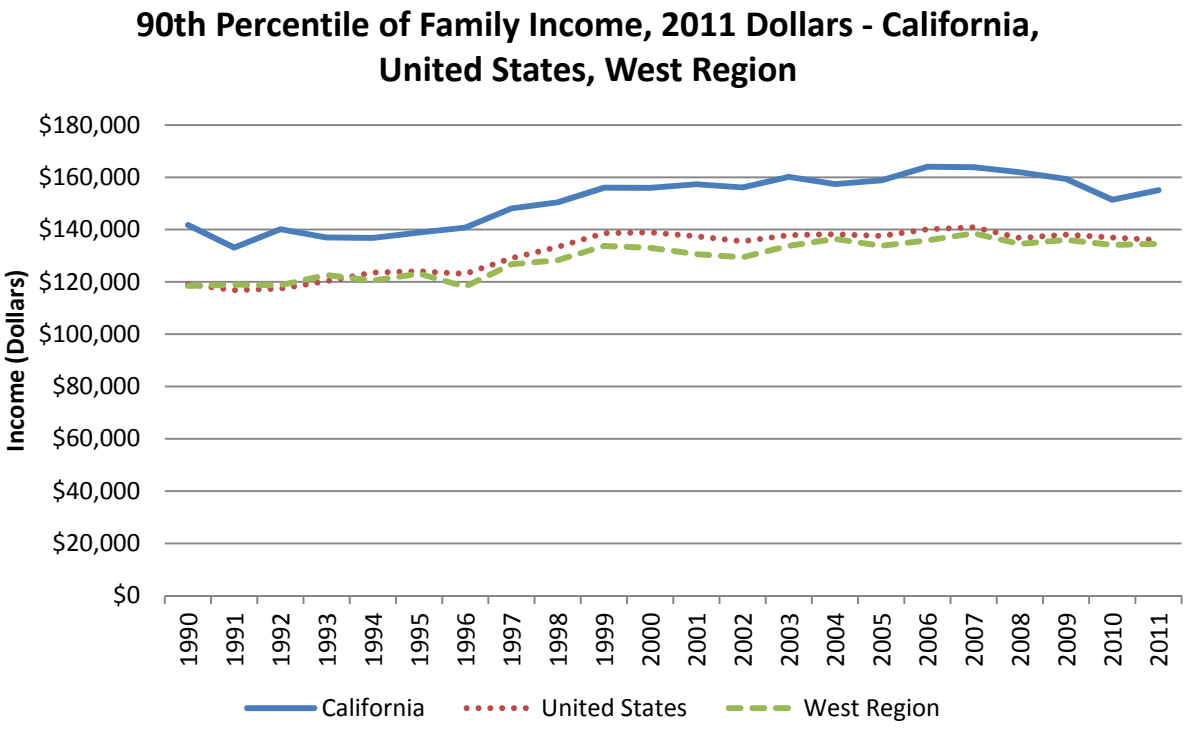
Figure 21: 10th Percentile of Family Income, by Year

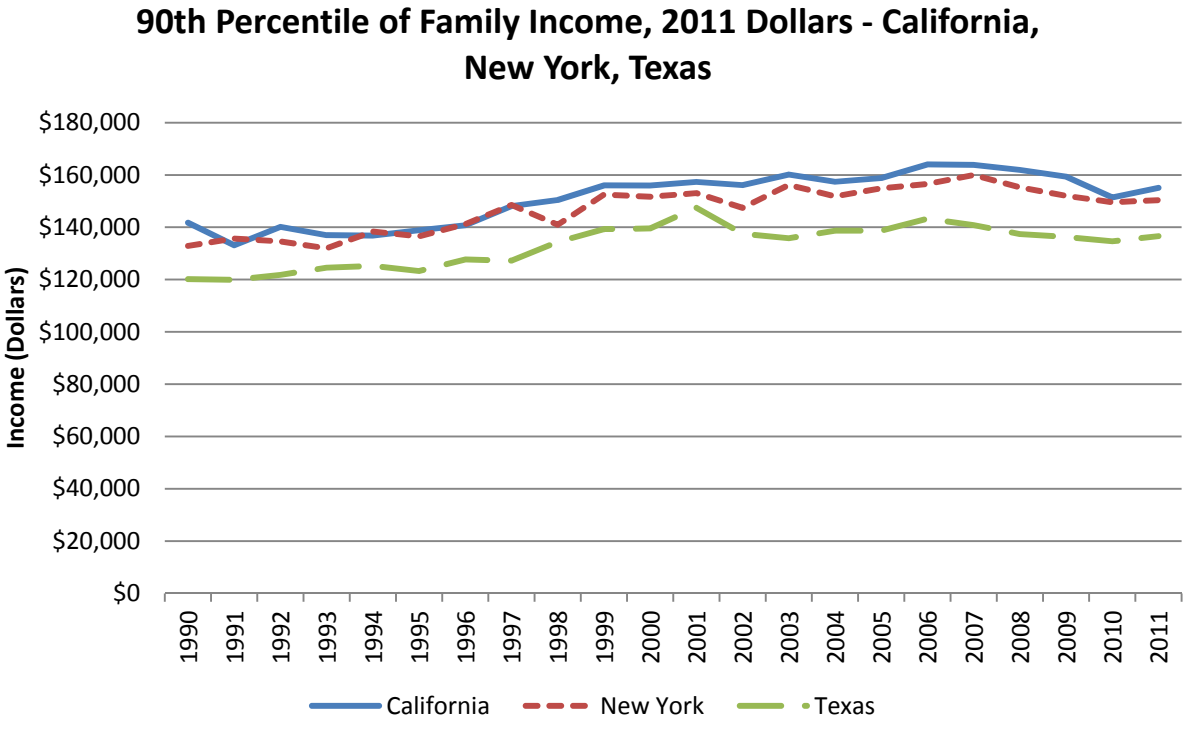




Notes: Data on family income are from the CPS March Annual Demographic Files. Income is measured in 2011 dollars. See Appendix B for technical notes.

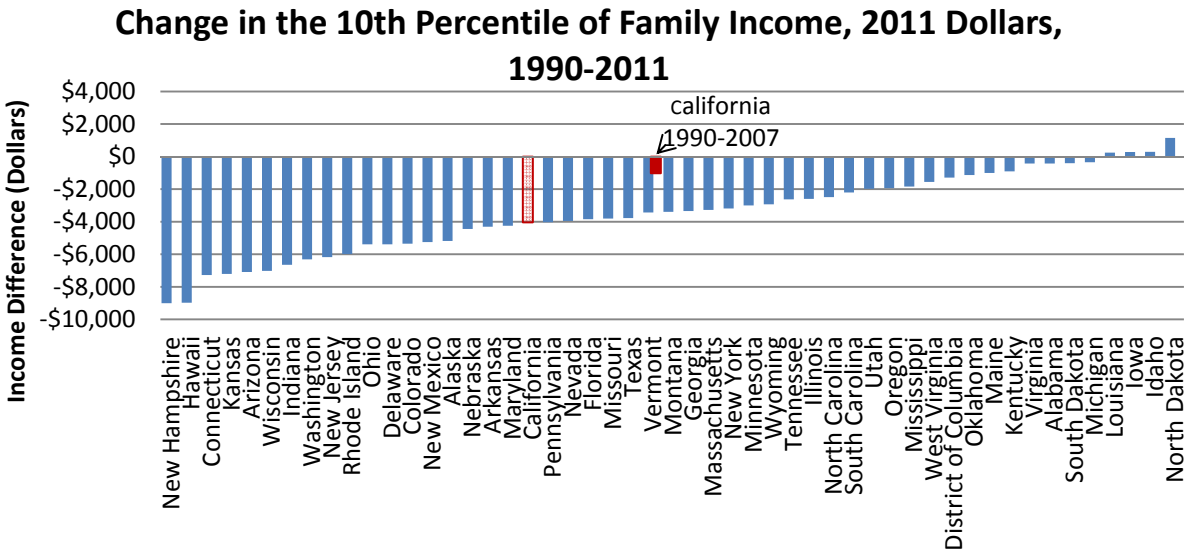
Figure 22: 90th Percentile of Family Income, by Year

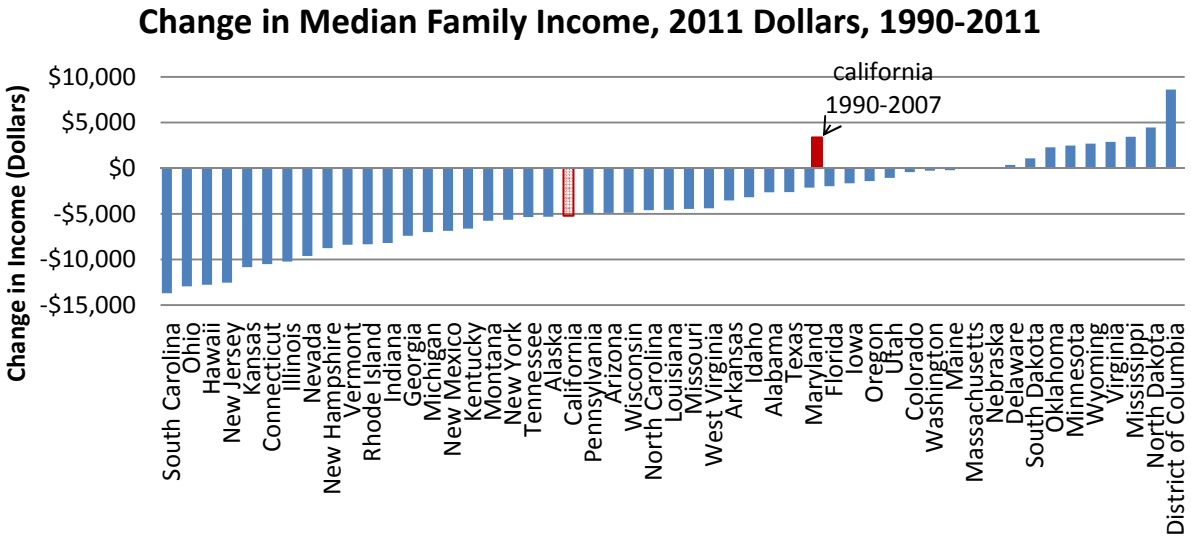


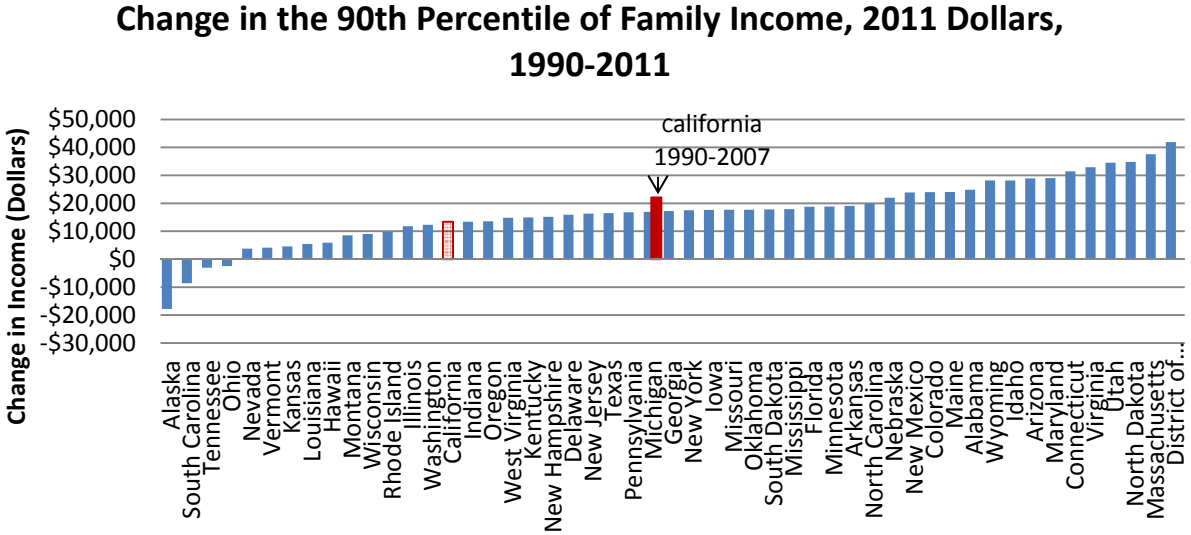


Notes: Data on family income are from the CPS March Annual Demographic Files. Income is measured in 2011 dollars. See Appendix B for technical notes.

Figure 23: Changes in Median, 10th Percentile, and 90th Percentile of Family Income Distribution, Long-Term

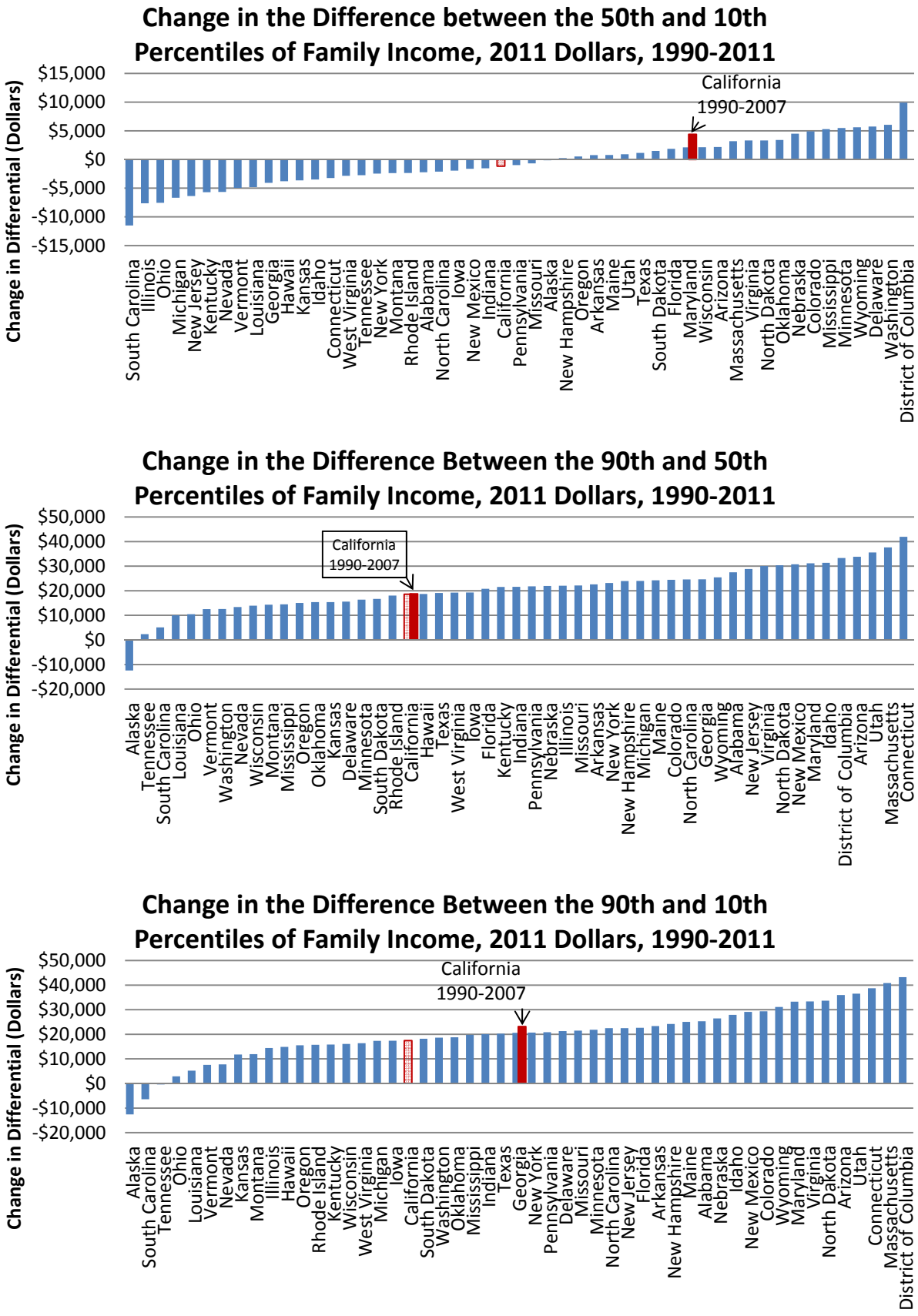






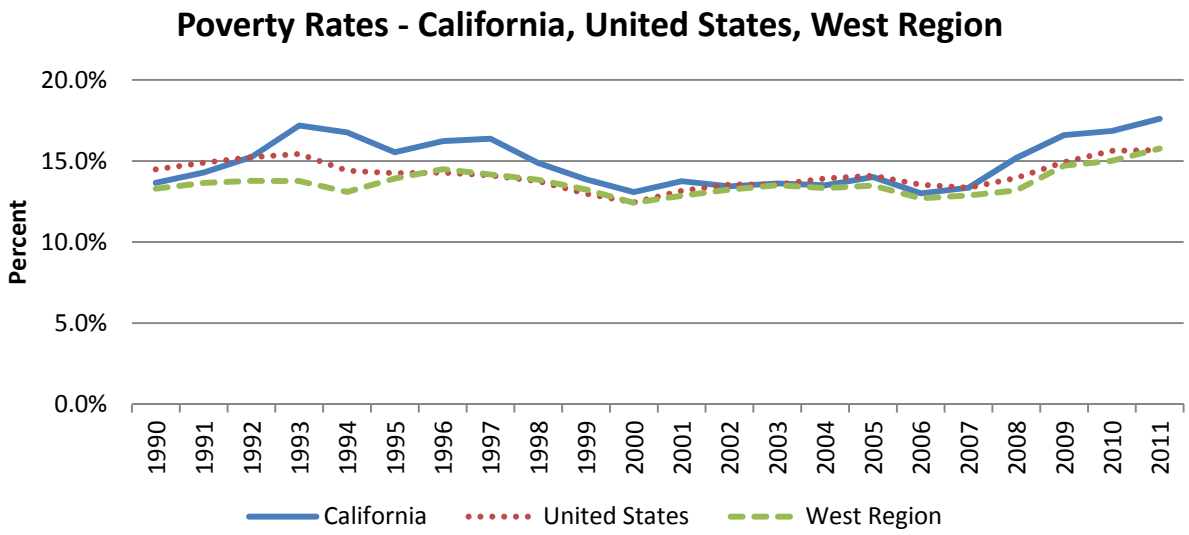
Notes: Data on family income are from the CPS March Annual Demographic Files. Income is measured in 2011 dollars. See Appendix B for technical notes.

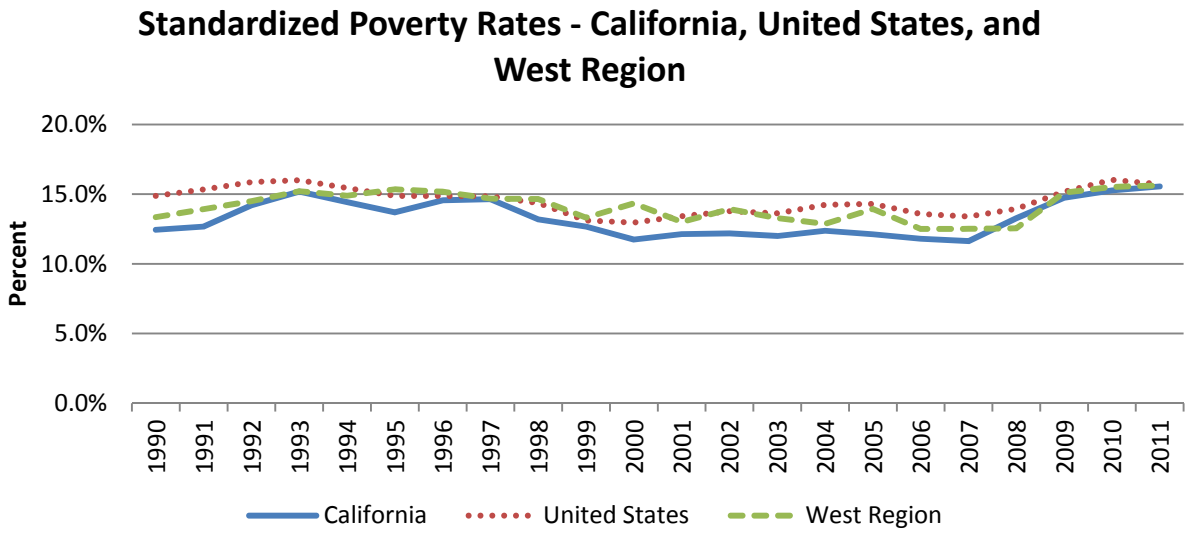
Figure 24: Changes in Family Income Inequality, Long-Term

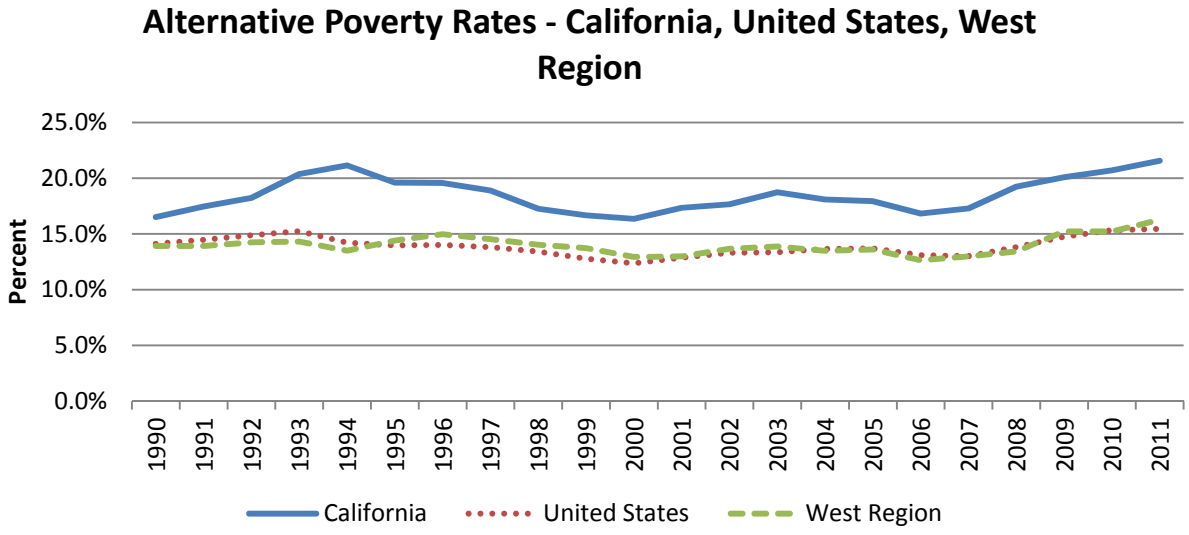


Notes: Data on family income are from the CPS March Annual Demographic Files. Income is measured in 2011 dollars. See Appendix B for technical notes.

Figure 25: Poverty Rates for California, Rest of United States, and West Region, by Year

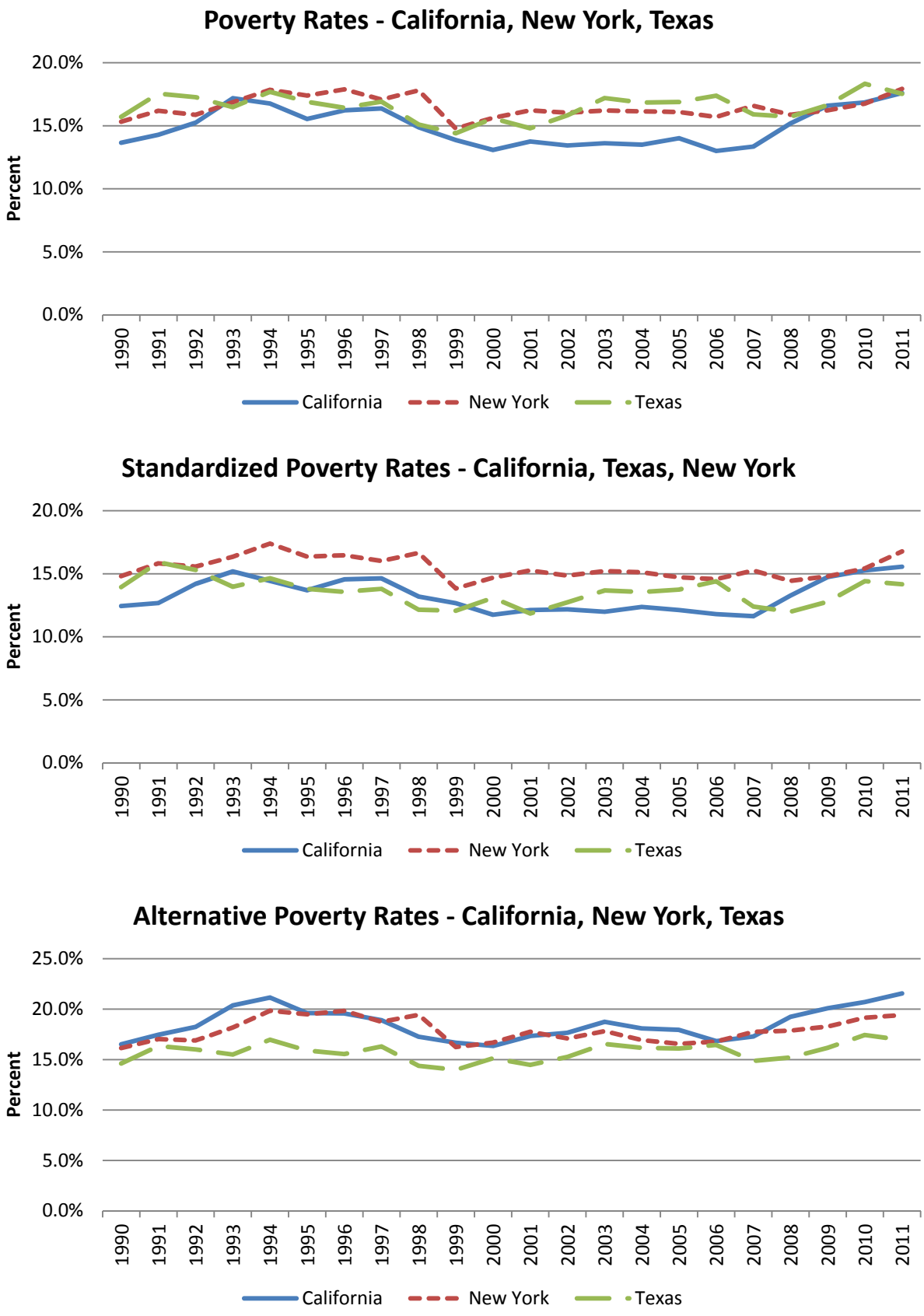






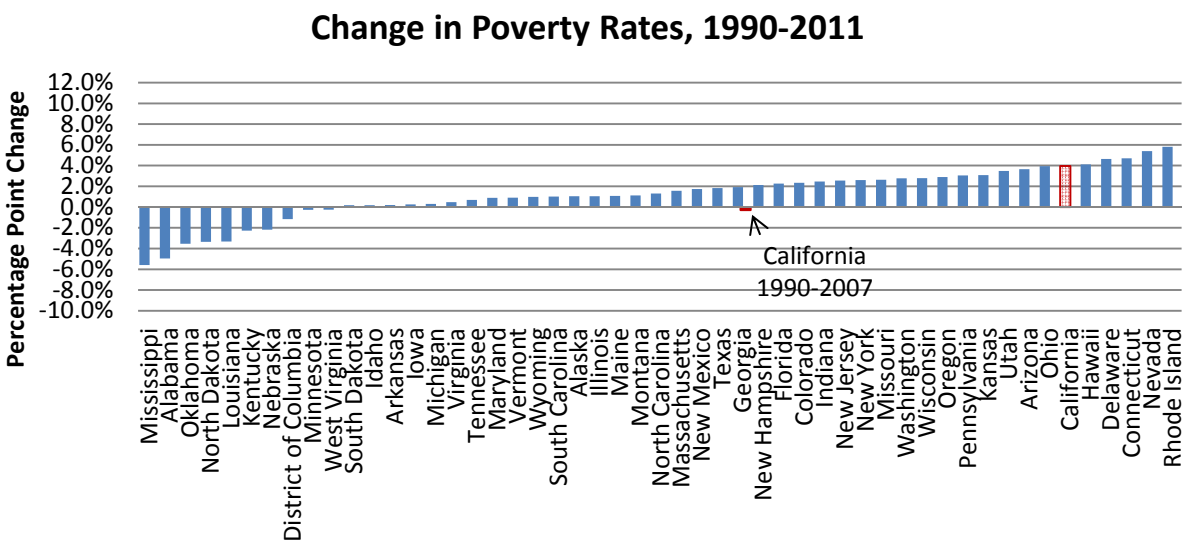
Notes: Constructed from data on family income, size, and structure from the CPS March Annual Demographic Files. See Appendix B for technical notes and information on constructing alternative poverty rates.

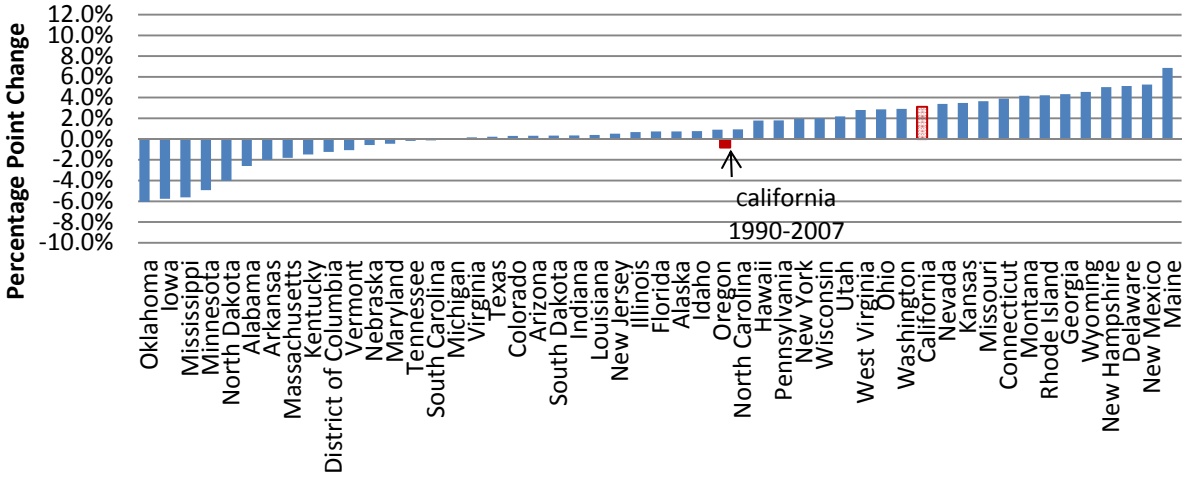
Figure 26: Poverty Rates for California, New York, and Texas, by Year

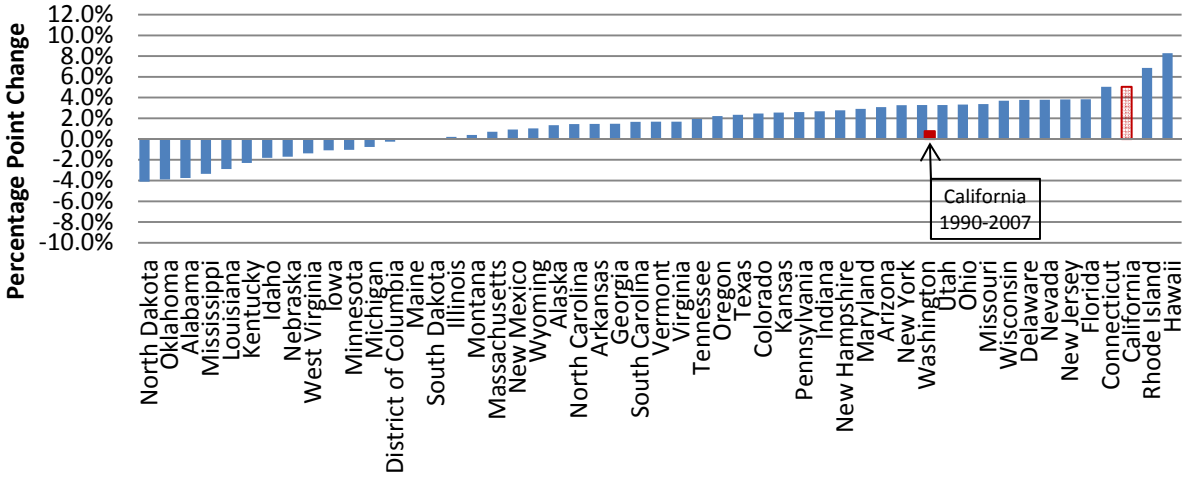


Notes: Constructed from data on family income, size, and structure from the CPS March Annual Demographic Files. See Appendix B for technical notes and information on constructing alternative poverty rates.

Figure 27: Changes in Poverty Rates, Long-Term

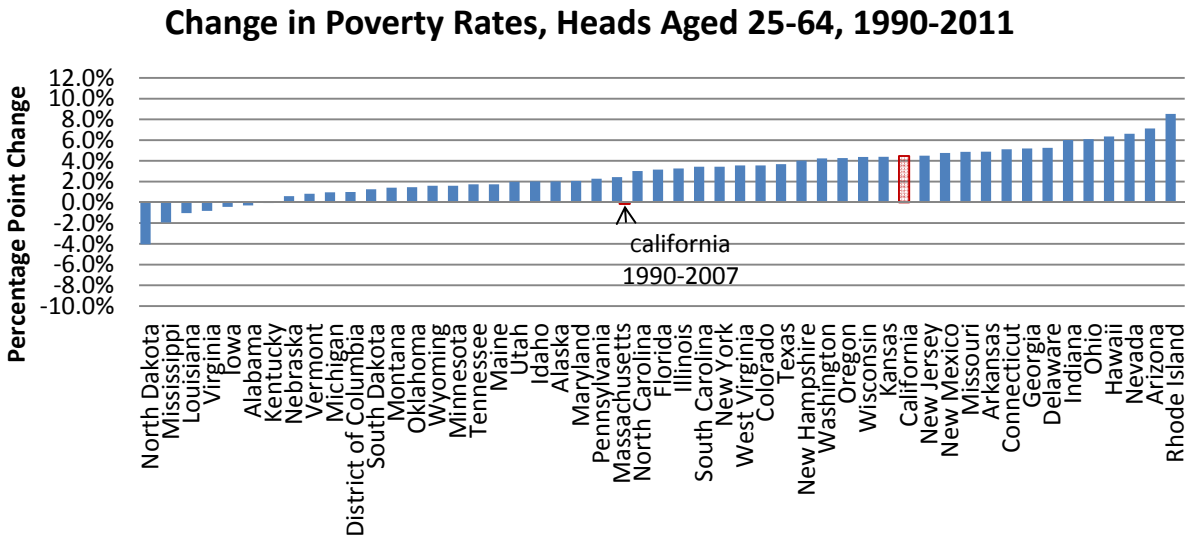


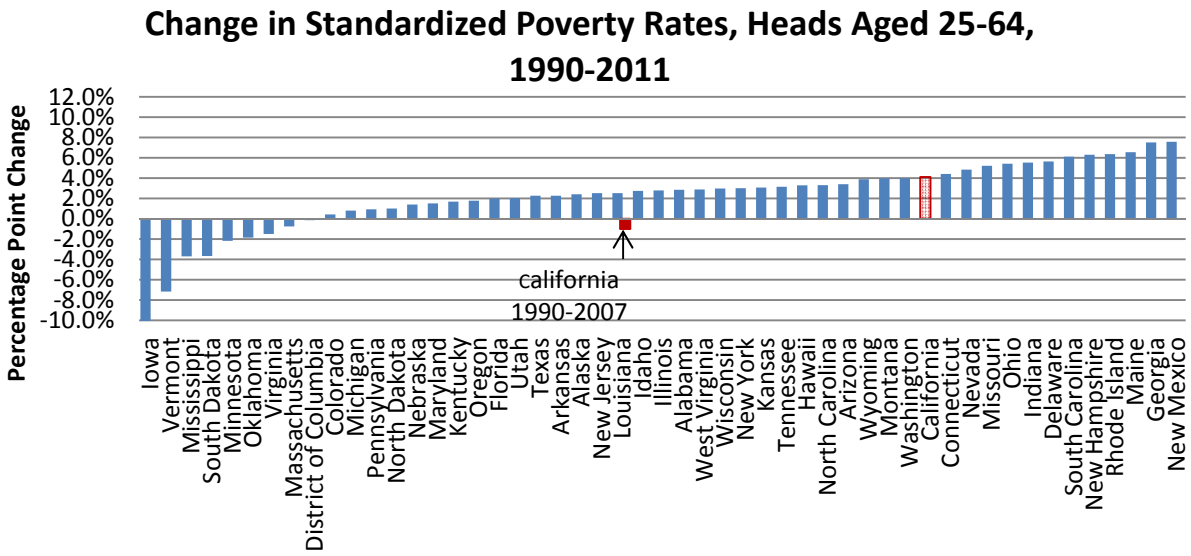


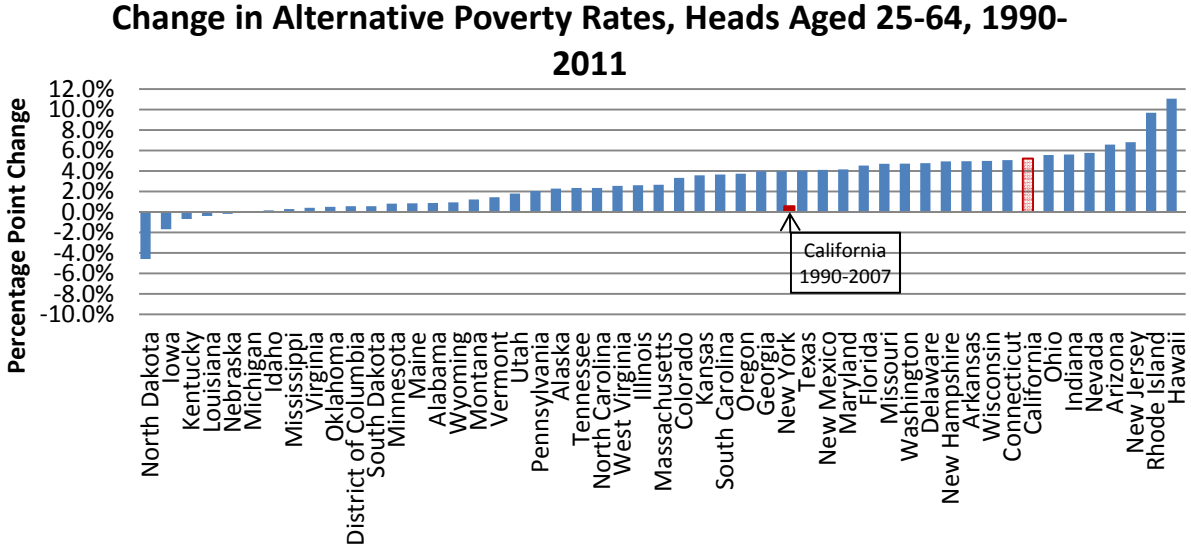


Notes: Constructed from data on family income, size, and structure from the CPS March Annual Demographic Files. See Appendix B for technical notes and information on constructing alternative poverty rates.

Figure 28: Changes in Poverty Rates for Families with Heads Aged 25-64, Long-Term







Notes: Constructed from data on family income, size, and structure from the CPS March Annual Demographic Files. See Appendix B for technical notes and information on constructing alternative poverty rates.

Appendix A: Research on Business Climate Indexes

To see whether business climate indexes are actually a useful way to summarize the conditions for solid economic activity in a state, and to help reconcile conflicting information from state business climate indexes, Kolko, Neumark, and Cuellar Mejia (forthcoming) studied state business climate indexes, with three goals: to better explain what the indexes capture, with an eye to understanding why states can be ranked so differently on the various indexes; to analyze whether the indexes predict economic growth; and, most important, to use this information to identify the types of policies that appear to be more conducive to state economic growth.

The research led to three conclusions. First, business climate indexes largely capture two types of policies: taxes and costs of doing business; and a somewhat broader category labeled "productivity and quality of life," covering things such as human capital, health insurance, crime, and infrastructure investment. Second, the business climate indexes that emphasize taxes and costs predict economic growth, especially for the manufacturing sector, whereas indexes that focus on productivity and quality-of-life measures do not predict growth in employment, wages, or GSP. Additional "drilling down" into the indexes identified two important tax-and-cost-related policies – higher welfare and transfer spending, and complexity of the corporate tax structure. Finally, factors beyond the control of state policy, such as the weather and the baseline industry mix, generally have a stronger relationship with economic growth than do the tax-and-cost policies captured by some business climate indexes.

With regard to California, the research was particularly instructive. The indexes on which California is ranked very poorly – those capturing taxes and costs of doing business – are in fact the ones that predict state economic growth. But California's non-policy factors – especially weather and a beneficial industry mix – are highly favorable, and as a consequence the state's economic growth has been about average relative to the nation.

One limitation of the study of business climate indexes was its exclusive focus on economic growth. Some policies – such as generous welfare and transfer payments – could adversely affect

economic growth but might contribute to equity. Other policies – such as human capital investment – could deliver some economic growth but growth that is weighted towards the lower part of the income distribution – perhaps generating less growth than other policies but growth that increases equity. In contrasting the economic performance of states in this report, therefore, we want a richer picture of this performance than one focused solely on growth.

Appendix B: Technical Notes on Data Construction and Figures

Figure 1: Real GSP Growth, by Year

The conversion from nominal to real GSP is done using a quantity index that measures the change in the level of a quantity from a base year, apart from any changes in relative prices. The BEA uses chain-type annual weighted indexes, also known as Fisher indexes, as its measure of real output and prices. These measures allow for the effects of changes in relative prices and in the composition of output over time, thereby eliminating a major source of bias inherent in fixed-weight indexes (Gutierrez et al., 2006). Per capita RGSP is in chained 1997 dollars from 1990-1997 and in chained 2005 dollars from 1997-2011, as calculated by the BEA. This is because in 1997 GSP calculations were changed from being consistent with National Gross Domestic Income (GDI) to being consistent with National Gross Domestic Product (GDP). Data for the year 1997 are calculated using both methods. The growth rate is calculated as:

$$growth_{s,y} = \left\{\frac{PC\ RGSP_{s,y} - PC\ RGSP_{s,y-1}}{PC\ RGSP_{s,y-1}}\right\} \times 100$$

in state *s* and year *y*, where PC RGSP is per capita Real Gross State Product. Growth from 1996-1997 is calculated using the GDI consistent data; growth from 1997-1998 is calculated using the GDP consistent data. United States and West Region averages are calculated as the unweighted average of growth rates across the states in the region, excluding California from all calculations.

Figure 2: Real GSP Growth, Long-Term

The conversion from nominal to real GSP is done using a quantity index that measures the change in the level of a quantity from a base year, apart from any changes in relative prices. The BEA uses chain-type annual weighted indexes, also known as Fisher indexes, as its measure of real output and prices. These measures allow for the effects of changes in relative prices and in the composition of output over time, thereby eliminated a major source of bias inherent in fixed-weight indexes (BEA, 2012). Per capita RGSP is in chained 1997 dollars from 1990-1997 and in chained 2005 dollars from 1997-2010, as calculated by the BEA. This is because in 1997 GSP calculations were changed from being consistent with National Gross Domestic Income (GDI) to being consistent with National Gross Domestic Product (GDP). Data for the year 1997 are calculated using both methods. However, because the 1997 data are available both ways, the annual growth rate can still be calculated for the entire period, although it should be recognized that the price index changes. The growth rate is calculated as:

$$growth_{s,y} = \left\{\frac{PC\ RGSP_{s,y} - PC\ RGSP_{s,y-1}}{PC\ RGSP_{s,y-1}}\right\} \times 100$$

in state *s* and year *y*, where PC RGSP is per capita real GSP. The implied long-term growth rates were computed by averaging one-year growth rates from the equation above, and then accumulating the implied growth from 1990-2011, as in:

$$\{[\overline{growth_{s,y}}]^{(2011-1990)} - 1\} \times 100.$$

Each bar represents the long-term growth in the specified state. States are ordered from lowest growth rate to highest growth rate, with California highlighted in red.

Figure 3: Labor's Share of Income, by Year

Labor's share of income is calculated as $(employee\ compensation)_{s,y}/(GSP)_{s,y}$ in state s and year y, where both employee compensation and GSP are in nominal terms. All data were obtained from the Bureau of Economic Analysis (BEA). In 1997, GSP calculations were changed from being consistent with National GDI to being consistent with National GDP. Labor's shares from 1990-1997 are calculated using the GDI consistent data and labor's shares from 1998-2010 are calculated using the GDP consistent data. The labor's share of income series can only be calculated from 1990-2010 because the data for the components of GSP for 2011 are not yet publicly available. United States and West Region averages are calculated as the unweighted average of labor's share of income across all states in the region, excluding California from all calculations.

Figure 4: Labor's Share of Income, Long-Term

Labor's share of income is calculated as $(employee\ compensation)_{s,y}/(GSP)_{s,y}$ in state s and year y, where both employee compensation and GSP are in nominal terms. All data were obtained from the Bureau of Economic Analysis (BEA). In 1997, GSP calculations were changed from being consistent with National GDI to being consistent with National GDP. Labor's shares from 1990-1997 are calculated using the GDI consistent data and labor's shares from 1998-2010 are calculated using the GDP consistent data. The labor's share of income series can only be calculated from 1990-2010 because the data for the components of GSP for 2011 are not yet publicly available. Each bar on the above figures represents the long-term growth in the specified state. States are ordered from lowest growth rate to highest growth rate, with California highlighted in red.

Figures 5, 6, and 7: Overall Job Growth, Manufacturing Job Growth, and Professional, Scientific, and Technical Services plus Information Job Growth, by Year

The data are generated from the QCEW quarterly data. The "all industries" data include both private and public employment; the data for specific industries include only private employment. The Professional, Scientific, and Technical Services plus Information combine NAICS industries 51 and 54. There is a data file with aggregated yearly statistics, but due to disclosure issues in states that have only a few firms in a given industry, there are a lot of missing data. The disclosure issue is more problematic at the year level because, even if there is only a disclosure issue in one of the four quarters, the total yearly statistic is not reported. Thus, using the quarterly data allows us to use more information. In the quarterly data, for the private sector of the reported industries and for public administration as a whole, we impute the missing values for the quarterly establishment count, month one, two, and three employment level, and total quarterly wages using the following regression for each industry separately:

$$\ln(variable) = \beta_1 + \beta_2[state\ dummies] + \beta_3[year\ dummies] + \beta_4[quarter\ dummies] + \beta_3[industry\ dummies] + \varepsilon.$$

We then exponentiate the fitted value and fill in the missing observations. The data for the four quarters were then aggregated to the year level. Employment growth is calculated as:

$$employment\ growth_{s,y} = (employment\ level_{s,y} - employment\ level_{s,y-1})/employment\ level_{s,y-1}$$

in state s and year y. United States and West Region growth are calculated as the unweighted average of growth rates across the states in the geographic region, excluding California from the calculation.

Figure 8: Overall Job Growth, Manufacturing Job Growth, and Professional, Scientific, and Technical Services plus Information Job Growth, Long-Term

The data are generated from the QCEW quarterly data. The "all industries" data include both private and public employment; the data for specific industries include only private employment. The Professional, Scientific, and Technical Services plus Information reflected the combined data for NAICS industries 51 and 54. There is a data file with aggregated yearly statistics, but due to disclosure issues in states that have only a few firms in a given industry, there are a lot of missing data. The non-disclosures are more problematic at the year level because, even if there is only a disclosure issue in one of the four quarters, the total yearly statistic is not reported. Thus, using the quarterly data allows us to use more information. In the quarterly data, for the private sector of the reported industries and for public administration as a whole, we impute the missing values for the quarterly establishment count, month 1, 2, and 3 employment level, and total quarterly wages using the following regression for each industry separately:

$$\ln(variable) = \beta_1 + \beta_2[state\ dummies] + \beta_3[year\ dummies] + \beta_4[quarter\ dummies] + \beta_3[industry\ dummies] + \varepsilon.$$

We then exponentiate the fitted value and fill in the missing observations. The data for the four quarters were then aggregated to the year level. Employment growth is calculated as:

$$employment\ growth_{s,y} = (employment\ level_{s,y} - employment\ level_{s,y-1})/employment\ level_{s,y-1}$$

in state *s* and year *y*. Each bar on the above figures represents the long-term growth in the specified state. States are ordered from lowest growth rate to highest growth rate, with California highlighted in red.

Figure 9: Mass Layoffs, by Year

An extended mass layoff occurs when an establishment has at least 50 initial claims for Unemployment Insurance filed against them in a consecutive five-week period, and at least 50 workers were separated for at least 30 days. An initial claimant is a person who files an initial notice of unemployment with the state Unemployment Insurance agency for either determination of eligibility for compensation or for a subsequent period of unemployment within a benefit year or period of eligibility. Due to high occurrence of nondisclosure of individuals involved with extended mass layoff events, data are unavailable for many states. The figure plots the number of separations as recorded by the Mass Layoff Statistics (MLS) program divided by the previous year's annual average employment level as derived from the Quarterly Census of Employment and Wages (QCEW). The number of separations and the total annual employment level are calculated for all industries classified as private, nonfarm. The U.S. figures include California; this differs from previous graphs because here the U.S. figures refer to *total* layoffs, rather than averages.

Figure 10: Mass Layoffs, Long-Term

An extended mass layoff occurs when an establishment has at least 50 initial claims for Unemployment Insurance filed against them in a consecutive five-week period, and at least 50 workers were separated for at least 30 days. An initial claimant is a person who files an initial notice of unemployment with the state Unemployment Insurance agency for either determination of eligibility for compensation or for a subsequent period of unemployment within a benefit year or period of eligibility. Due to high occurrence of nondisclosure of individuals involved with extended mass layoff events, data are unavailable for many states. The figure plots the number of separations as recorded by the Mass Layoff Statistics (MLS) program divided by the previous year's annual average employment level as derived from the Quarterly Census of Employment and Wages (QCEW). The number of separations and the total annual

employment level are calculated for all industries classified as private, nonfarm. The change in relative separations is calculated as:

$$(relative\ separations)_{s,2011} - (relative\ separations)_{s,1996},$$

in state s. Each bar on the above figures represents the long-term percentage point change in the specified state. States are ordered from smallest (or negative) change to largest (or positive) change, with California highlighted in red.

Figure 11: Unemployment Rate, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

Figure 12: Standardized Unemployment Rate, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. The standardized employment statistics were calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Second, the employment statistics were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized employment statistics are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall statistic as *empstat*, and, e.g., the statistic for whites as *white empstat*, the standardized statistics are calculated as:

$$standard\ empstat_{s,y} = \left(white\ empstat_{sy} \times whitewgt\right) + \left(Hispanic\ empstat_{sy} \times hispanwgt\right) + \left(black\ empstat_{sy} \times blackwgt\right) + \left(Asian\ empstat_{sy} \times asianwgt\right) + \left(other\ empstat_{sy} \times otherwgt\right).$$

Figure 13: Black-White and Hispanic-White Differences in Unemployment Rates, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The United States averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. Individuals are white if they classify themselves as white in the CPS questionnaire. Individuals that are white can be Hispanic. Individuals are classified as black if they identify themselves as black prior to 2003; after 2003 individuals are also classified as black if they identify themselves as white-black or white-black-Asian. Individuals that are black can be Hispanic. Individuals are classified as Hispanic if they identify themselves as Mexican, Puerto Rican, Cuban, Other Spanish, or Central/South American. Individuals that identify themselves as Hispanic can also be white, black, Asian, or other. However, in the figure the "white" category refers to non-Hispanic whites. Data for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

Figure 14: Changes in Black-White and Hispanic-White Differences in Unemployment Rates, Long-Term

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The United States averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. Individuals are white if they classify themselves as white in the CPS questionnaire. Individuals that are white can be Hispanic. Individuals are classified as black if they identify themselves as black prior to 2003; after 2003 individuals are also classified as black if they identify themselves as white-black or white-black-Asian. Individuals that are black can be Hispanic. Individuals are classified as Hispanic if they identify themselves as Mexican, Puerto Rican, Cuban, Other Spanish, or Central/ South American. Individuals that identify themselves as Hispanic can also be white, black, Asian, or other. However, in the figure the "white" category refers to non-Hispanic whites.

The change in the unemployment rate gap is calculated as:

$$\Delta gap_{group\ 1-group\ 2,s,1990-2011} = gap_{group\ 1-group\ 2,s,2011} - gap_{group\ 1-group\ 2,s,1990},$$

in state *s* and years 1990 and 2011, where, e.g.,

$$gap_{black-white,s,y} = unemp\ rate_{black,s,y} - unemp\ rate_{white,s,y}\ .$$

Each bar represents the percentage point change in the unemployment rate gap between the indicated groups. The states are ordered from largest decrease to largest increase, with California highlighted in red. Data for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

Figure 15: Median Weekly Earnings, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. Earnings are in 2011 dollars, based on the CPI-U. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

Figure 16: Standardized Median Weekly Earnings, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. Earnings are in 2011 dollars, based on the CPI-U. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

The standardized employment statistics were calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Second, the employment statistics were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized employment statistics are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a

whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall statistic as *empstat*, and, e.g., the statistic for whites as *white empstat*, the standardized statistics are calculated as:

$$standard\ empstat_{s,y} = \left(white\ empstat_{sy} \times whitewgt\right) + \left(Hispanic\ empstat_{sy} \times hispanwgt\right) + \left(black\ empstat_{sy} \times blackwgt\right) + \left(Asian\ empstat_{sy} \times asianwgt\right) + \left(other\ empstat_{sy} \times otherwgt\right).$$

Figure 17: Median Weekly Earnings, Long-Term

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. Earnings are in 2011 dollars, based on the CPI-U. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings.

The standardized employment statistics were calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Second, the employment statistics were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized employment statistics are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall statistic as *empstat*, and, e.g., the statistic for whites as *white empstat*, the standardized statistics are calculated as:

$$standard\ empstat_{s,y} = \left(white\ empstat_{sy} \times whitewgt\right) + \left(Hispanic\ empstat_{sy} \times hispanwgt\right) + \left(black\ empstat_{sy} \times blackwgt\right) + \left(Asian\ empstat_{sy} \times asianwgt\right) + \left(other\ empstat_{sy} \times otherwgt\right).$$

Each bar represents the percentage point change in the real median weekly earnings. The states are ordered from largest decrease to largest increase, with California highlighted in red.

Figure 18: Black-White and Hispanic-White Differences in Median Weekly Earnings, by Year

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings. The United States averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. Individuals are white if they classify themselves as white in the CPS questionnaire. Individuals that are white can be Hispanic. Individuals are classified as black if they identify themselves as black prior to 2003; after 2003 individuals are also classified as black if they identify themselves as white-black or white-black-Asian. Individuals that are black can be Hispanic. Individuals are classified as Hispanic if they identify themselves as Mexican, Puerto Rican, Cuban, Other Spanish, or Central/ South American. Individuals that identify themselves as Hispanic can also be white, black, Asian, or other. However, in the figure the "white" category refers to non-Hispanic whites. Data for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

Figure 19: Black-White and Hispanic-White Differences in Median Weekly Earnings, Long-Term

The data are from monthly Current Population Survey (CPS) files. All individual- or family-level data in the CPS are used with population weights. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings. The United States averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. Individuals are white if they classify themselves as white in the CPS questionnaire. Individuals that are white can be Hispanic. Individuals are classified as black if they identify themselves as black prior to 2003; after 2003 individuals are also classified as black if they identify themselves as white-black or white-black-Asian. Individuals that are black can be Hispanic. Individuals are classified as Hispanic if they identify themselves as Mexican, Puerto Rican, Cuban, Other Spanish, or Central/ South American. Individuals that identify themselves as Hispanic can also be white, black, Asian, or other. However, in the figure the "white" category refers to non-Hispanic whites.

The data are from monthly Current Population Survey (CPS) files. The median is the value such that 50 percent of observations have higher earnings, and 50 percent of observations have lower earnings. The change in the earnings gap is calculated as:

$$\Delta gap_{group\ 1-group\ 2,s,1990-2011} = gap_{group\ 1-group\ 2,s,2011} - gap_{group\ 1-group\ 2,s,1990},$$

in state *s* and years 1990 and 2011, where, e.g.,

$$gap_{black-white,s,y} = unemp\ rate_{black,s,y} - unemp\ rate_{white,s,y}\ .$$

Each bar represents the percentage point change in the earnings gap between the indicated groups. The states are ordered from largest decrease to largest increase, with California highlighted in red. Data for minorities in some states – especially small states – can be quite imprecise; see Appendix D for details.

Figure 20: Median Family Income, by Year

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. Income is in 2011 dollars, based on the CPI. The median is the value such that 50 percent of observations have higher income, and 50 percent of observations have lower income. The sample is restricted to families in which the family head is between the ages of 25-64 and is not self-employed. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

Figure 21: 10th Percentile of Family Income, by Year

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. Income is in 2011 dollars, based on the CPI. The 10th percentile is the value such that 90 percent of observations have higher income, and 10 percent of observations have lower income. The sample is restricted to families in which the family head is between the ages of 25-64 and is not self-employed. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

Figure 22: 90th Percentile of Family Income, by Year

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or

family-level data in the CPS are used with population weights. Income is in 2011 dollars, based on the CPI. The 90th percentile is the value such that 10 percent of observations have higher income, and 90 percent of observations have lower income. The sample is restricted to families in which the family head is between the ages of 25-64 and is not self-employed. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations.

Figure 23: Changes in Median, 10th Percentile, and 90th Percentile of Family Income Distribution, Long-Term

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. Income is in 2011 dollars, based on the CPI. The 10th percentile is the value such that 90 percent of observations have higher income, and 10 percent of observations have lower income. The median is the value such that 50 percent of observations have higher income, and 50 percent of observations have lower income. The 90th percentile is the value such that 10 percent of observations have higher income, and 90 percent of observations have lower income. The sample is restricted to families in which the family head is between the ages of 25-64 and is not self-employed. Family income growth is calculated as:

$$growth_{p,s,1990-2010} = (income_{p,s,2010} - income_{p,s,1990})/income_{p,s,1990}$$

for percentile *p*, state *s* and years 1990 and 2010. Each bar represents the long-term growth in the income percentile for each state. The states are ordered from least growth to most growth, with California highlighted in red.

Figure 24: Changes in Family Income Inequality, Long-Term

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. Income is in 2011 dollars, based on the CPI. The 10th percentile is the value such that 90 percent of observations have higher income, and 10 percent of observations have lower income. The median is the value such that 50 percent of observations have higher income, and 50 percent of observations have lower income. The 90th percentile is the value such that 10 percent of observations have higher income, and 90 percent of observations have lower income. The sample is restricted to families in which the family head is between the ages of 25-64 and is not self-employed. The change in the percentile difference in family incomes is calculated as:

$$\Delta diff_{pH-pL,s,1990-2010} = diff_{pH-pL,s,2010} - diff_{pH-pL,s,1990}$$

where *pH* and *pL* refer to the high and low family income percentiles, respectively, in state *s* for years 1990 and 2010. Each bar represents the dollar change in the differential for each state. The states are ordered from largest decrease to largest increase, with California highlighted in red.

Figure 25: Poverty Rates for California, Rest of United States, and West Region, by Year

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. CPS March data are combined with Housing and Urban Development (HUD) Fair Market Rent (FMR) data to calculate the alternative poverty line. All poverty rates are defined at the family level. (Unlike the Census definition, families can consist of a single individual.) The poverty rate

is calculated as the percentage of families in the CPS that are living below the nationally defined poverty thresholds, as indicated in the CPS March data.

The standardized poverty rate was calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Families are categorized into each of the race/ethnicity groups if the head of the family is of that race or ethnicity. Second, the poverty rates were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized poverty rates are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall poverty rate as *poverty*, and, e.g., the poverty rate for whites as *white poverty*, the standardized poverty rates are calculated as:

$$standard\ poverty_{s,y} = \left(white\ poverty_{s,y} \times whitewgt\right) + \left(Hispanic\ poverty_{sy} \times hispanwgt\right) + \left(black\ poverty_{sy} \times blackwgt\right) + \left(Asian\ poverty_{sy} \times asianwgt\right) + \left(other\ poverty_{sy} \times otherwgt\right).$$

For example, the standardized poverty rate is lower in California than the actual poverty rate because California has a relatively larger Hispanic population than the nation as a whole, and the Hispanic population has a relatively higher poverty level.

The alternative poverty rate is based on a poverty threshold that varies by state according to housing costs (Citro and Michael, 1995). The alternative poverty threshold is created by scaling the national poverty thresholds defined by the Census Bureau by a housing index that is equal to 1 if the housing costs in the state are equal to the national average. The housing index is calculated using the HUD FMR data from 1990-2010. The HUD calculates a separate FMR for each rural and urban entity in the state. For each state, we calculated the mean FMR for rural and urban areas separately using the HUD data. Using the CPS March Data, we calculated rural and urban population shares for each state, such that the percentage of the population living in rural areas plus the percentage of the population living in the urban areas is equal to the total population in the state. We calculate the overall state FMR as

$$FMR_{s,y} = \left(rural\ FMR\right)_{s,y} \times \left(rural\ population\ share\right)_{s,y} + \left(urban\ FMR\right)_{s,y} \times \left(urban\ poplation\ share\right)_{s,y}$$

for each state *s* and year *y*. We then calculate the national average FMR for each year by averaging all the state FMRs. The housing index for each state is equal to

$$\left(FMR_{s,y}\right)/\left(national\ average\ FMR_{y}\right).$$

According to the (Citro and Michael, 1995), about 44 percent of the poverty budget is devoted to housing; we therefore downscale the housing index accordingly:

$$\left(adjusted\ index_{sy}\right) = \left(index_{sy} - 1\right) \times 0.44 + 1.$$

Finally, we multiplied the nationally defined poverty thresholds for each family in the CPS March Sample by the corresponding state index to create the new alternative poverty threshold. The alternative poverty rate is calculated as the percentage of families with family income below the alternative poverty threshold.

Figure 26: Poverty Rates for California, New York, and Texas, by Year

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. CPS March data are combined with Housing and Urban Development (HUD) Fair Market Rent (FMR) data to calculate the alternative poverty line. All poverty rates are defined at the family level. (Unlike the Census definition, families can consist of a single individual.) The poverty rate is calculated as the percentage of families in the CPS that are living below the nationally defined poverty thresholds, as indicated in the CPS March data.

The standardized poverty rate was calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Families are categorized into each of the race/ethnicity groups if the head of the family is of that race or ethnicity. Second, the poverty rates were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized poverty rates are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall poverty rate as *poverty*, and, e.g., the poverty rate for whites as *white poverty*, the standardized poverty rates are calculated as:

$$standard\ poverty_{s,y} = \left(white\ poverty_{s,y} \times whitewgt\right) + \left(Hispanic\ poverty_{sy} \times hispanwgt\right) + \left(black\ poverty_{sy} \times blackwgt\right) + \left(Asian\ poverty_{sy} \times asianwgt\right) + \left(other\ poverty_{sy} \times otherwgt\right).$$

For example, the standardized poverty rate is lower in California than the actual poverty rate because California has a relatively larger Hispanic population than the nation as a whole, and the Hispanic population has a relatively higher poverty level.

The alternative poverty rate is based on a poverty threshold that varies by state according to housing costs (Citro and Michael, 1995). The alternative poverty threshold is created by scaling the national poverty thresholds defined by the Census Bureau by a housing index that is equal to 1 if the housing costs in the state are equal to the national average. The housing index is calculated using the HUD FMR data from 1990-2010. The HUD calculates a separate FMR for each rural and urban entity in the state. For each state, we calculated the mean FMR for rural and urban areas separately using the HUD data. Using the CPS March Data, we calculated rural and urban population shares for each state, such that the percentage of the population living in rural areas plus the percentage of the population living in the urban areas is equal to the total population in the state. We calculate the overall state FMR as

$$FMR_{s,y} = \left(rural\ FMR\right)_{s,y} \times \left(rural\ population\ share\right)_{s,y} + \left(urban\ FMR\right)_{s,y} \times \left(urban\ poplation\ share\right)_{s,y}$$

for each state *s* and year *y*. We then calculate the national average FMR for each year by averaging all the state FMRs. The housing index for each state is equal to

$$\left(FMR_{s,y}\right)/\left(national\ average\ FMR_{y}\right).$$

According to (Citro and Michael, 1995), about 44 percent of the poverty budget is devoted to housing; we therefore downscale the housing index accordingly:

$$\left(adjusted\ index_{sy}\right) = \left(index_{sy} - 1\right) \times 0.44 + 1.$$

Finally, we multiplied the nationally defined poverty thresholds for each family in the CPS March Sample by the corresponding state index to create the new alternative poverty threshold. The alternative poverty rate is calculated as the percentage of families with family income below the alternative poverty threshold.

Figure 27: Changes in Poverty Rates, Long-Term

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. CPS March data are combined with Housing and Urban Development (HUD) Fair Market Rent (FMR) data to calculate the alternative poverty line. All poverty rates are defined at the family level. (Unlike the Census definition, families can consist of a single individual.) The poverty rate is calculated as the percentage of families in the CPS that are living below the nationally defined poverty thresholds, as indicated in the CPS March data.

The standardized poverty rate was calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Families are categorized into each of the race/ethnicity groups if the head of the family is of that race or ethnicity. Second, the poverty rates were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized poverty rates are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall poverty rate as *poverty*, and, e.g., the poverty rate for whites as *white poverty*, the standardized poverty rates are calculated as:

$$standard\ poverty_{s,y} = \left(white\ poverty_{s,y} \times whitewgt\right) + \left(Hispanic\ poverty_{sy} \times hispanwgt\right) + \left(black\ poverty_{sy} \times blackwgt\right) + \left(Asian\ poverty_{sy} \times asianwgt\right) + \left(other\ poverty_{sy} \times otherwgt\right).$$

For example, the standardized poverty rate is lower in California than the actual poverty rate because California has a relatively larger Hispanic population than the nation as a whole, and the Hispanic population has a relatively higher poverty level.

The alternative poverty rate is based on a poverty threshold that varies by state according to housing costs (Citro and Michael, 1995). The alternative poverty threshold is created by scaling the national poverty thresholds defined by the Census Bureau by a housing index that is equal to 1 if the housing costs in the state are equal to the national average. The housing index is calculated using the HUD FMR data from 1990-2010. The HUD calculates a separate FMR for each rural and urban entity in the state. For each state, we calculated the mean FMR for rural and urban areas separately using the HUD data. Using the CPS March Data, we calculated rural and urban population shares for each state, such that the percentage of the population living in rural areas plus the percentage of the population living in the urban areas is equal to the total population in the state. We calculate the overall state FMR as

$$FMR_{s,y} =$$
$$(rural\ FMR)_{s,y} \times (rural\ population\ share)_{s,y} + (urban\ FMR)_{s,y} \times (urban\ poplation\ share)_{s,y}$$

for each state *s* and year y. We then calculate the national average FMR for each year by averaging all the state FMRs. The housing index for each state is equal to

$$(FMR_{s,y})/(national\ average\ FMR_y).$$

According to (Citro and Michael, 1995), about 44 percent of the poverty budget is devoted to housing; we therefore downscale the housing index accordingly:

$$\left(adjusted\ index_{sy}\right) = \left(index_{sy} - 1\right) \times 0.44 + 1.$$

Finally, we multiplied the nationally defined poverty thresholds for each family in the CPS March Sample by the corresponding state index to create the new alternative poverty threshold. The alternative poverty rate is calculated as the percentage of families with family income below the alternative poverty threshold.

Each bar in the figure represents a percentage point change in the poverty rate for each state. The change in poverty is equal to (*Poverty Rate*$_{2011}$ *– Poverty Rate*$_{1990}$*)*. The states are ordered from largest decrease to largest increase in poverty, with California highlighted in red.

Figure 28: Changes in Poverty Rates for Families with Heads Aged 25-64, Long-Term

The data are from March Current Population Survey (CPS) Annual Demographic files. All individual- or family-level data in the CPS are used with population weights. The United States and West Region averages are calculated as unweighted averages over all states in each region, excluding California from all calculations. CPS March data are combined with Housing and Urban Development (HUD) Fair Market Rent (FMR) data to calculate the alternative poverty line. All poverty rates are defined at the family level. (Unlike the Census definition, families can consist of a single individual.) The poverty rate is calculated as the percentage of families in the CPS that are living below the nationally defined poverty thresholds, as indicated in the CPS March data.

The standardized poverty rate was calculated in several steps. First, five mutually exclusive race/ethnic categories were constructed: white (non-Hispanic), black (including Hispanics), Hispanic (white, Asian, other, but non-black), Asian (non-Hispanic), and other race (non-Hispanic). Families are categorized into each of the race/ethnicity groups if the head of the family is of that race or ethnicity. Second, the poverty rates were calculated for each race/ethnic group separately. At the same time, the share of the population made up of each race/ethnic group in each state in each year was calculated, as well as for the United States as whole in each year. The standardized poverty rates are calculated for each state as if all states had the exact same race/ethnic composition. To get the standard race/ethnic composition, we take the average of the proportion in each race/ethnic group in the United States as a whole over all years in the sample period (1990-2011). Defining these proportions as ____*wgt*, the overall poverty rate as *poverty*, and, e.g., the poverty rate for whites as *white poverty*, the standardized poverty rates are calculated as:

$$standard\ poverty_{s,y} = \left(white\ poverty_{s,y} \times whitewgt\right) + \left(Hispanic\ poverty_{sy} \times hispanwgt\right) + \left(black\ poverty_{sy} \times blackwgt\right) + \left(Asian\ poverty_{sy} \times asianwgt\right) + \left(other\ poverty_{sy} \times otherwgt\right).$$

For example, the standardized poverty rate is lower in California than the actual poverty rate because California has a relatively larger Hispanic population than the nation as a whole, and the Hispanic population has a relatively higher poverty level.

The alternative poverty rate is based on a poverty threshold that varies by state according to housing costs (Citro and Michael, 1995). The alternative poverty threshold is created by scaling the national poverty thresholds defined by the Census Bureau by a housing index that is equal to 1 if the housing costs in the state are equal to the national average. The housing index is calculated using the HUD FMR data from 1990-2010. The HUD calculates a separate FMR for each rural and urban entity in the state. For each state, we calculated the mean FMR for rural and urban areas separately using the HUD data. Using the CPS March Data, we calculated rural and urban population shares for each state, such that the percentage of the population living in rural areas plus the percentage of the population living in the urban areas is equal to the total population in the state. We calculate the overall state FMR as

$$FMR_{s,y} = (rural\ FMR)_{s,y} \times (rural\ population\ share)_{s,y} + (urban\ FMR)_{s,y} \times (urban\ poplation\ share)_{s,y}$$

for each state *s* and year *y*. We then calculate the national average FMR for each year by averaging all the state FMRs. The housing index for each state is equal to

$$(FMR_{s,y})/(national\ average\ FMR_y).$$

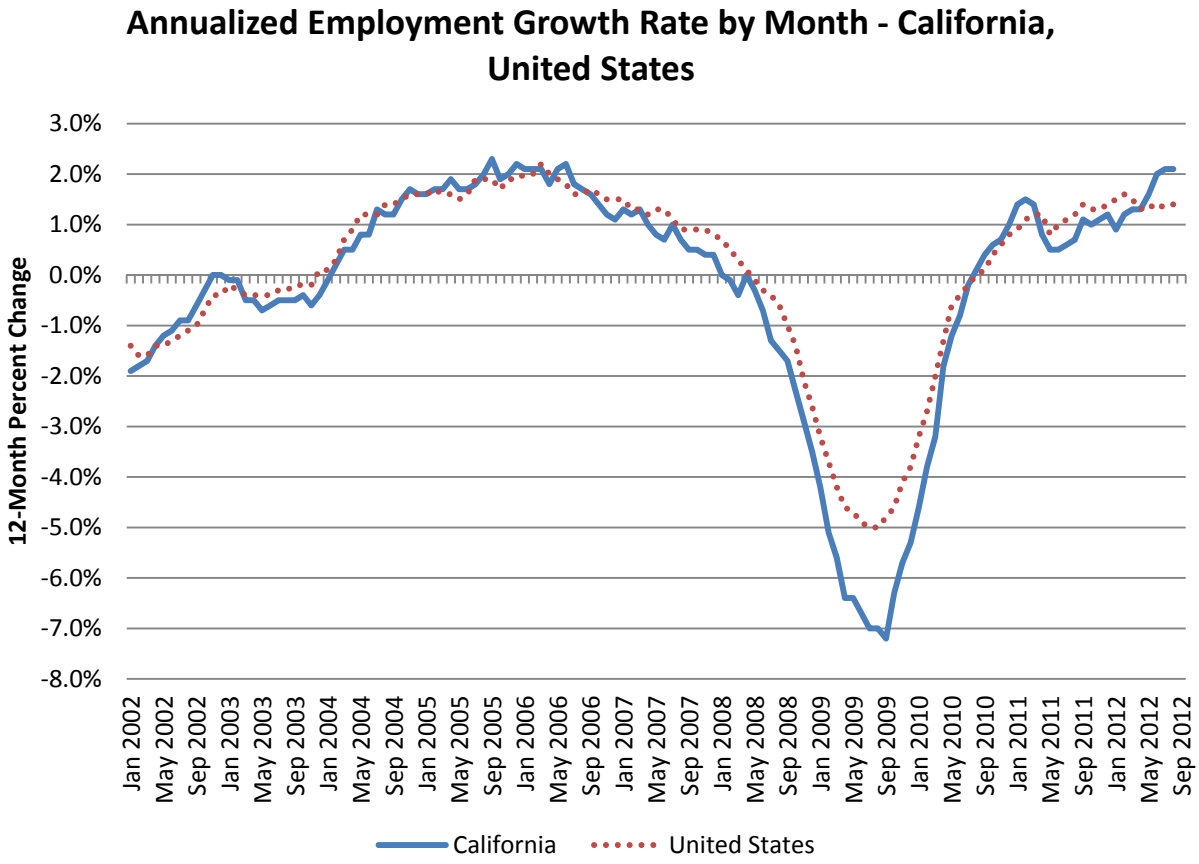
According to (Citro and Michael, 1995), about 44 percent of the poverty budget is devoted to housing; we therefore downscale the housing index accordingly:

$$\left(adjusted\ index_{sy}\right) = \left(index_{sy} - 1\right) \times 0.44 + 1.$$

Finally, we multiplied the nationally defined poverty thresholds for each family in the CPS March Sample by the corresponding state index to create the new alternative poverty threshold. The alternative poverty rate is calculated as the percentage of families with family income below the alternative poverty threshold.

Each bar in the figure represents a percentage point change in the poverty rate for each state. The change in poverty is equal to ($Poverty\ Rate_{2011} - Poverty\ Rate_{1990}$). The states are ordered from largest decrease to largest increase in poverty, with California highlighted in red.

Appendix C: Monthly Employment Growth (Annualized) from the Current Employment Statistics Payroll Survey, United States and California



Notes: Monthly data from Current Employment Statistics (CES) payroll survey are used for California and the United States as a whole. Figure reports growth rates of employment over 12 months, as in:

$$emplgrowth_{s,m} = \{(empl_{s,m} - empl_{s,m-12})/empl_{s,m-12}\} \times 100,$$

where *s* denotes state, *m* denotes month, and *empl* is the monthly employment level.

Appendix D: Data Series with Low Precision,
CPS Monthly and Annual Demographic Data Series Broken down by Race/Ethnic Group
Data Series Highlighted in Report, Including all Race/Ethnic Groups

A. CPS Monthly Data: Employment Statistics

Statistic	State	Employment Series: State-Race Race/Ethnic Group	Standardized Employment Series: State-Race Race/Ethnic Group
Unemployment Rate	--	--	--
Weekly Earnings	Alabama	Asian	Asian
Weekly Earnings	Alabama	Other	Other
Weekly Earnings	Arkansas	Asian	Asian
Weekly Earnings	Arkansas	Other	Other
Weekly Earnings	Connecticut	Other	Other
Weekly Earnings	Delaware	Other	Other
Weekly Earnings	District of Columbia	Other	Other
Weekly Earnings	Georgia	Other	Other
Weekly Earnings	Hawaii	Black	Black
Weekly Earnings	Idaho	Black	Black
Weekly Earnings	Illinois	--	Other
Weekly Earnings	Indiana	Asian	Asian
Weekly Earnings	Indiana	Other	Other
Weekly Earnings	Iowa	Other	Other
Weekly Earnings	Kentucky	Asian	Asian
Weekly Earnings	Kentucky	Other	Other
Weekly Earnings	Louisiana	Asian	Asian
Weekly Earnings	Louisiana	Other	Other
Weekly Earnings	Maine	Black	Black
Weekly Earnings	Maine	Hispanic	Hispanic
Weekly Earnings	Maine	Asian	Asian
Weekly Earnings	Maine	Other	Other
Weekly Earnings	Maryland	Other	Other
Weekly Earnings	Massachusetts	--	Other
Weekly Earnings	Mississippi	Asian	Asian
Weekly Earnings	Mississippi	Other	Other
Weekly Earnings	Missouri	Other	Other
Weekly Earnings	Montana	Black	Black
Weekly Earnings	Montana	Asian	Asian
Weekly Earnings	New Hampshire	Other	Other
Weekly Earnings	New Jersey	--	Other
Weekly Earnings	North Dakota	Black	Black
Weekly Earnings	North Dakota	Hispanic	Hispanic
Weekly Earnings	North Dakota	Asian	Asian

Weekly Earnings	Pennsylvania	--	Other
Weekly Earnings	Rhode Island	Other	Other
Weekly Earnings	South Carolina	Asian	Asian
Weekly Earnings	South Carolina	Other	Other
Weekly Earnings	South Dakota	Black	Black
Weekly Earnings	South Dakota	Asian	Asian
Weekly Earnings	Tennessee	--	Asian
Weekly Earnings	Tennessee	Other	Other
Weekly Earnings	Utah	Black	Black
Weekly Earnings	Utah	Other	Other
Weekly Earnings	Vermont	Black	Black
Weekly Earnings	Vermont	Hispanic	Hispanic
Weekly Earnings	Vermont	Asian	Asian
Weekly Earnings	Vermont	Other	Other
Weekly Earnings	Virginia	Other	Other
Weekly Earnings	West Virginia	Hispanic	Hispanic
Weekly Earnings	West Virginia	Asian	Asian
Weekly Earnings	West Virginia	Other	Other
Weekly Earnings	Wyoming	Black	Black
Weekly Earnings	Wyoming	Asian	Asian

B. CPS Annual Demographic Data: Poverty

State	Census Poverty Race/Ethnic Group	Standardized Poverty Race/Ethnic Group	Census Poverty: 25-64 Race/Ethnic Group	Standardized Poverty: 25-64 Race/Ethnic Group
Alabama	Hispanic	Hispanic	Hispanic	Hispanic
Alabama	Asian	Asian	Asian	Asian
Alabama	Other	Other	Other	Other
Arizona	--	--	Asian	Asian
Arizona	--	--	--	Other
Arkansas	--	--	Hispanic	Hispanic
Arkansas	Asian	Asian	Asian	Asian
Arkansas	Other	Other	Other	Other
Colorado	--	Other	--	Other
Connecticut	Other	Other	Other	Other
Delaware	Asian	Asian	Asian	Asian
Delaware	Other	Other	Other	Other
District of Columbia	--	--	Asian	Asian
District of Columbia	Other	Other	Other	Other
Florida	--	Other	Other	Other
Georgia	--	--	Asian	Asian
Georgia	Other	Other	Other	Other
Hawaii	Black	Black	Black	Black
Idaho	Black	Black	Black	Black
Idaho	Asian	Asian	Asian	Asian
Idaho	Other	Other	Other	Other
Illinois	--	Other	Other	Other
Indiana	Asian	Asian	Asian	Asian
Indiana	Other	Other	Other	Other
Iowa	--	--	Black	Black
Iowa	Asian	Asian	Asian	Asian
Iowa	Other	Other	Other	Other
Kansas	Asian	Asian	Asian	Asian
Kansas	--	Other	Other	Other
Kentucky	Hispanic	Hispanic	Hispanic	Hispanic
Kentucky	Asian	Asian	Asian	Asian
Kentucky	Other	Other	Other	Other
Louisiana	Hispanic	Hispanic	Hispanic	Hispanic
Louisiana	Asian	Asian	Asian	Asian
Louisiana	Other	Other	Other	Other
Maine	Black	Black	Black	Black

Maine	Hispanic	Hispanic	Hispanic	Hispanic
Maine	Asian	Asian	Asian	Asian
Maine	Other	Other	Other	Other
Maryland	Other	Other	Other	Other
Massachusetts	Other	Other	Other	Other
Michigan	--	Other	Other	Other
Minnesota	Other	Other	Other	Other
Mississippi	Hispanic	Hispanic	Hispanic	Hispanic
Mississippi	Asian	Asian	Asian	Asian
Mississippi	Other	Other	Other	Other
Missouri	--	--	Hispanic	Hispanic
Missouri	Asian	Asian	Asian	Asian
Missouri	Other	Other	Other	Other
Montana	Black	Black	Black	Black
Montana	Hispanic	Hispanic	Hispanic	Hispanic
Montana	Asian	Asian	Asian	Asian
Nebraska	Asian	Asian	Asian	Asian
Nebraska	Other	Other	Other	Other
Nevada	--	--	Other	Other
New Hampshire	Black	Black	Black	Black
New Hampshire	Hispanic	Hispanic	Hispanic	Hispanic
New Hampshire	Asian	Asian	Asian	Asian
New Hampshire	Other	Other	Other	Other
New Jersey	Other	Other	Other	Other
New Mexico	Black	Black	Black	Black
New Mexico	Asian	Asian	Asian	Asian
New York	--	--	--	Other
North Carolina	Asian	Asian	Asian	Asian
North Dakota	Black	Black	Black	Black
North Dakota	Hispanic	Hispanic	Hispanic	Hispanic
North Dakota	Asian	Asian	Asian	Asian
Ohio	--	--	Asian	Asian
Ohio	Other	Other	Other	Other
Oklahoma	Asian	Asian	Asian	Asian
Oregon	Black	Black	Black	Black
Oregon	--	Other	Other	Other
Pennsylvania	Other	Other	Other	Other
Rhode Island	Other	Asian	Asian	Asian
Rhode Island	--	Other	Other	Other
South Carolina	Hispanic	Hispanic	Hispanic	Hispanic
South Carolina	Asian	Asian	Asian	Asian
South Carolina	Other	Other	Other	Other
South Dakota	Black	Black	Black	Black

South Dakota	Hispanic	Hispanic	Hispanic	Hispanic
South Dakota	Asian	Asian	Asian	Asian
Tennessee	--	--	Hispanic	Hispanic
Tennessee	Asian	Asian	Asian	Asian
Tennessee	Other	Other	Other	Other
Texas	--	--	--	Other
Utah	Black	Black	Black	Black
Utah	Asian	Asian	Asian	Asian
Utah	Other	Other	Other	Other
Vermont	Black	Black	Black	Black
Vermont	Hispanic	Hispanic	Hispanic	Hispanic
Vermont	Asian	Asian	Asian	Asian
Vermont	Other	Other	Other	Other
Virginia	Other	Other	Other	Other
West Virginia	--	--	Black	Black
West Virginia	Hispanic	Hispanic	Hispanic	Hispanic
West Virginia	Asian	Asian	Asian	Asian
West Virginia	Other	Other	Other	Other
Wisconsin	Asian	Asian	Asian	Asian
Wisconsin	Other	Other	Other	Other
Wyoming	Black	Black	Black	Black
Wyoming	Asian	Asian	Asian	Asian
Wyoming	Other	Other	Other	Other

Notes: Panels A and B identify data series that are calculated with few observations and are imprecise. The statistics in these series may be volatile from one year to the next and should be interpreted with caution. Series are considered to have low precision if the number of observations in the samples used to calculate the statistics average below 25 over the 22 year time frame from 1990-2011.