

Business Climate Rankings and the California Economy

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Summary

Many national organizations compile and publish state-level business climate rankings or “indexes.” These indexes are based on measures of state policies and other factors that are thought to affect the health of businesses and hence the economic prosperity of a state. These indexes tend to fall into two groups, those that consider the business climate in terms of productivity, including measures of the quality of life and human capital, and those that emphasize taxes, regulation, and other costs of doing business. California ranks poorly on many indexes, particularly those focusing on taxes and costs. At the same time, the state’s employment, wages, and output continue to grow at or above the national average, raising the question of why California’s economic performance is better than its business climate rankings suggest it should be, and also what this implies for the usefulness of these rankings.

We find that business climate indexes that focus on productivity exhibit essentially no relationship to economic growth. In contrast, some of the indexes that focus on taxes and costs demonstrate a clear relationship with employment growth and, to a lesser extent, wage and Gross State Product growth. We find that a few sub-indexes, each capturing a narrower set of policies than the overall business indexes they belong to, exhibit a stronger relationship with economic growth than do the broader indexes. The sub-indexes we examined indicate that economic growth is associated with a smaller share of government spending on welfare and transfer payments and also a more uniform and simple corporate income tax structure. These factors—not the overall tax rate or the overall size of government—demonstrate the strongest relationship with economic growth in our analysis.

But factors beyond the control of policy—for instance, a state’s weather, population density, and industry mix—demonstrate a stronger relationship with economic growth than the measures included even in the tax-and-cost-focused indexes. California’s poor ranking among the business climate indexes focusing on taxes and costs is offset by natural advantages (in particular, good weather), and these favorable factors enable California’s economy to perform reasonably well. In sum, many concerns about the business climate in California are probably overstated, since factors beyond the control of policymakers matter more in determining why some states experience stronger economic gains than others. Still, our findings imply that a better business climate would promote faster economic growth in California.

Contents

Summary	2
Contents	3
Tables	4
Figures	5
Introduction	6
The Debate over California’s Business Climate	7
Business Climate Rankings	8
The Puzzle of California’s Economic Growth	12
Economic Growth: The Influence of Non-Policy Factors	13
Findings: Business Climate Indexes, Policy Factors, and Economic Growth	16
Explaining the California Puzzle: Why Does California Do Better Than Its Policies Predict?	18
Relationship between Business Climate Sub-Indexes and Economic Growth	21
Taxes	23
Welfare and Transfer Payments	23
Other Policy Areas	24
Conclusions	26
References	28
About the Authors	31
Acknowledgments	31

Technical appendices to this paper are available on the PPIC website:
http://www.ppic.org/content/pubs/other/411JKR_appendix.pdf

Tables

Table 1. State rankings vary widely across indexes	9
Table 2. Indexes emphasize different factors in determining their business climate rankings	11
Table 3. Taxes-and-costs indexes predict economic growth but productivity indexes do not	16
Table 4. Sub-indexes focus more narrowly on the specific types of policies that affect economic performance	22

Figures

Figure 1. California’s business climate ranks favorably on measures of productivity but poorly in terms of taxes and costs	12
Figure 2. Taxes-and-cost business climate indexes predict growth, but other non-policy factors are more important	19
Figure 3. California’s natural advantages more than offset unfavorable business climate conditions in the state	20

Introduction

One of the fundamental goals of government policy is to encourage economic growth, and state governments use a variety of strategies to encourage this growth—for example, job training, education, and infrastructure development, as well as trying to lighten the burden of business regulation and taxes. At the same time, policies seeking to protect workers, promote equity, improve the environment, or achieve other social goals are sometimes seen as discouraging economic growth, especially if they require taxes or regulations that impose costs on businesses or reduce people’s incentives to work. However, these same taxes and regulations might improve quality of life and make certain locales more attractive to businesses and workers—ultimately even contributing to economic growth. Thus, the relationship between any particular policy and economic growth is complex.

And the complexity increases when we consider all of the policies that states might use to encourage economic growth and all of the policies designed to achieve other ends but that nonetheless may also affect economic performance. In spite of this difficulty, we must consider these policies together rather than in isolation because they seldom operate in a vacuum. For instance, taxes that increase the cost of doing business may also finance investments—such as transportation infrastructure—that support business growth. Although determining the right balance between economic growth and other goals must be addressed through the political process, a crucial research question underlying the policy debate is the degree to which taxes, regulations, and other policies hinder or promote business development and economic performance.

In this report, we examine the relationships between a large set of business climate indexes, developed and published by a variety of national organizations, and several measures of economic performance. These indexes summarize numerous policies and other factors likely to affect economic growth and have become an important part of the policy debate about growth. We present detailed information on what the indexes capture, analyze their relationship with economic growth, and assess why some business climate indexes are more strongly associated with the economic outcomes we study than others are. We also broaden the analysis to consider other factors—such as climate and geography—that may affect these same economic outcomes and which, if ignored, may obscure the true relationship between business climate indexes and economic performance. We use the results of our analysis to provide a better understanding of California’s business climate, looking closely at why California’s economic achievement is better than some of its business climate rankings would imply.

Because the business climate indexes tend to be broad, encompassing many different types of policies and other measures, we also examine the “sub-indexes” of several indexes, some of which turn out to be more strongly associated with economic growth. These sub-indexes focus on narrower, better-defined sets of policies, such as regulatory measures, corporate income tax structure, and welfare and income-transfer policies. Our objective is to provide insights for state policymakers interested in identifying policy changes that could increase economic growth in the short- or medium-term. We also identify which sets of policies have little relationship with economic growth, and we compare how strongly business climate indexes and non-policy factors beyond states’ immediate control are associated with economic performance.

The Debate over California's Business Climate

The question of how government policies affect economic growth is often couched in terms of the business climate, especially at the state level; and a cottage industry of state business climate rankings or indexes continues to fuel this debate.¹ Numerous organizations publish business climate rankings, including the Progressive Policy Institute; the Information, Technology and Innovation Foundation, in conjunction with the Kauffman Foundation; the Corporation for Enterprise Development; the Tax Foundation; the Milken Institute; the Small Business and Entrepreneurship Council; the Pacific Research Institute; and the Cato Institute.²

These business climate indexes figure prominently in policy debates, perhaps most commonly in arguments for lowering taxes and relaxing regulations in states that do poorly on indexes that emphasize these policies.³ Conversely, states that do well on such indexes—presumably because taxes, for example, are low—often tout these indexes or rankings in trying to attract businesses.⁴ Although debate often focuses on a particular ranking that supports one point of view, actual characterizations of states' business climates are often more nuanced. Some states ranked poorly in terms of taxes are ranked favorably along other dimensions, such as quality of life measures, including crime rates and health, or on education and human capital. Although these latter types of business climate indexes seem to figure less prominently in policy debates, states tout these rankings as well,⁵ sometimes in the context of criticizing indexes that focus only on taxes and regulations or other dimensions on which a state does not fare well.⁶

Politicians and organizations use these business climate indexes—often selectively—to support their point of view. Testifying before Governor Schwarzenegger's Commission on the 21st Century Economy, the California Chamber of Commerce—in arguing that “Any changes to the tax system should be undertaken primarily with the health of the economy in mind”—cited the Tax Foundation's *State Business Tax Climate* index, which ranks California 48 out of 50 states, the Small Business and Entrepreneurship Council's *Small Business Survival* index, which ranks California 48 out of 51 states, and CFO Magazine's *State Tax Survey*, which ranks California the worst in the country.⁷ Yet the Chamber's testimony fails to mention the State New

¹ For simplicity, we refer to “indexes.” To clarify the language we use below, a higher value of the index implies a better rating of the business climate—so that the ranking is closer to 1.

² We use the rankings from these organizations as well as others in our empirical analysis.

³ For recent examples of such arguments, see http://www.cagop.org/index.cfm/capitol-update_785.htm (viewed November 2, 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/research/comments/tax-foundation-nebraskas-business-tax-climate-improving> (viewed March 25, 2011), and <http://www.njprofoundation.org/pdf/ffd4.pdf> (viewed November 2, 2009).

⁴ For recent examples, see <http://www.dad69.state.pa.us/revenue/cwp/view.asp?A=104&Q=258387> (viewed November 2, 2009), <http://www.sreadytowork.com/dbisd/> (viewed November 2, 2009), and <http://www.whywyoing.org/about.aspx> (viewed November 2, 2009).

⁵ See, for example, <http://www.georgia.org/WhyGeorgia/ProBusinessAtmosphere/Pages/Rankings.aspx> (viewed November 2, 2009), <http://www.michigan.gov/gov/0,1607,7-168-46485-168205--,00.html> (viewed November 2, 2009), and http://www.state.ny.us/governor/press/pdf/press_0608091.pdf (viewed November 2, 2009).

⁶ See, for example, <http://www.wslc.org/reports/Outside-EC-1.pdf> (viewed November 2, 2009), <http://www.aradvocates.org/assets/PDFs/Economic-Development-in-Arkansas-8-5-09.pdf> (viewed March 25, 2011), <http://pulse.ncpolicywatch.org/2009/10/02/business-climate-rankings-are-meaningless/> (viewed November 2, 2009), and http://www.minnpost.com/community_voices/2009/05/14/8787/minnesotas_business_climate_and_the_budget (viewed November 2, 2009).

⁷ See <http://www.calchamber.com/headlines/pages/calchambertestimonytotaxcommissioneconomyjobsclimateshouldbepriorityinexaminingcaliforniataxstructure.aspx> (viewed November 3, 2009).

Economy Index, which ranked California eighth in the nation in 2008, or the Corporation for Enterprise Development's *Development Report Card for the States-Business Vitality* index, which ranked the state fourth in 2007.

Such oft-conflicting information and a discussion of state business climate indexes are the jumping off point for this report. We examine numerous business climate indexes and their sub-indexes in order to assess what they say about California's business climate and to better understand which factors contribute to a healthy business climate.

Business Climate Rankings

To explore the different and sometimes conflicting views of a state's business climate, we gathered detailed information on eleven well-known business climate indexes covering a wide variety of policies. We also collected information on the sub-index rankings of as many of the indexes as possible. [Appendix A](#) describes these indexes and sub-indexes in detail.

As the discussion in the preceding section suggests, these eleven indexes rank states quite differently because they weight different factors. Table 1 shows rankings for California and other states often compared to California, whether because of their size (Texas, New York, Florida) or proximity (Arizona, Nevada, Oregon).⁸ California's rank ranges from a high of 4th on two indexes to a low of 47th on two other indexes.⁹ Such differences across states are not uncommon. In fact, across all 50 states, every state but one ranks in the top 20 on at least one index, and every state ranks in the bottom half on at least one index.¹⁰ New York is similar to California in having both favorable and unfavorable rankings among these eleven indexes, and generally by the same indexes; for example, both states are ranked poorly—indeed, among the worst—by SBTC, SBSI, CDBI, EFI, and EFINA, yet are ranked near the top by some of the other indexes. Texas, in contrast, is ranked high by the same indexes that give low ratings to California and New York but is ranked lower by some of the indexes that give California and New York a relatively high rating (for example, DRCS-DC and DRCS-P). And the same is true for other states not shown in the table. Based on these indexes, nearly every state could be praised for having a good business climate or criticized for having a bad one, using evidence from at least one of these indexes. With so many ways to describe the business climate, the right question is not only whether the business climate matters for economic growth, but also which, if any, of the business climate indexes help predict economic growth, and which policies captured by the business climate indexes are the most important predictors of economic growth.

⁸ The business climate rankings are defined in the notes to the table.

⁹ For any given index (except FPRCNG), states tend to rank similarly over time. Thus the average rank for a state on a given index over time is similar to that state's rank on that index in any one year.

¹⁰ For the rankings for all states, see Table A4 in [Appendix A](#).

TABLE 1
State rankings vary widely across indexes

State	SNEI	DRCS-P	DRCS-DC	DRCS-BV	SCI	SBTC	SBSI	CDBI	EFI	EFINA	FPRCNG	Mean	Min	Max
California	4	31	17	4	20	45	46	47	47	43	31	31	4	47
Arizona	17	33	37	33	30	27	23	27	19	7	27	25	7	37
Florida	21	31	33	28	32	5	8	28	27	6	16	21	5	33
Nevada	26	27	42	32	35	4	2	32	13	16	20	23	2	42
New York	12	23	18	21	35	49	45	49	50	48	12	33	12	50
Oregon	15	23	10	28	14	9	40	20	33	37	39	24	9	40
Texas	15	47	32	6	25	7	7	26	19	5	13	18	5	47

NOTES: The table presents state rankings between 1992 and 2009, averaged across years. For any given index (except FPRCNG), states tend to rank similarly over time. Thus the average rank for a state on a given index over time is similar to that state's rank on that index in any one year. See Table A4 in Appendix A for a complete listing of rankings for all states.

SNEI = State New Economy Index.

DRCS-P = Development Report Card for the States-Performance

DRCS-DC = Development Report Card for the States-Development Capacity

DRCS-BV = Development Report Card for the States-Business Vitality

SCI = State Competitiveness Index

SBTC = State Business Tax Climate Index

SBSI = Small Business Survival Index

CDBI = Cost of Doing Business Index

EFI = Economic Freedom Index

EFINA = Economic Freedom Index of North America

FPRCNG = Fiscal Policy Report Card on the Nation's Governors.

The contradictory rankings among these indexes occur because each index emphasizes different variables or components in measuring the quality of the business climate. We examined the emphasis or weight that each of these indexes places on these variables and present our findings in Table 2, grouping the individual variables under three broad categories: taxes and costs; productivity, and other.¹¹ The table shows the percentage of emphasis or weight (out of 100) that each index places on the three broad categories and the 14 types of variables they include.¹² As indicated by the shading in the table, the eleven indexes we examined are clustered into two groups, based on the variables they emphasize. The first five indexes (SNEI, DRCS-P, DRCS-DC, DRCS-BV, and SCI) focus most of their attention on productivity or quality of life, and we refer to this set of indexes as the “productivity” cluster. The next five indexes (SBTC, SBSI, CDBI, EFI, and EFINA) focus on taxes and other cost components, and we refer to this set of indexes as the “taxes and costs” cluster.^{13,14}

¹¹ The “other” category includes resource efficiency, environment measures, and international trade and migration measures.

¹² See [Appendix A](#) for additional details. Percentages shown in the table are calculated as follows: Based on review of the indexes, we created 14 categories to classify each index’s underlying components, with the goals of trying to be as accurate as possible in capturing how each index classifies its underlying variables, and making comparisons across indexes in terms of their components. We used the list of variables in each index and assigned to each variable a weight according to each index’s methods.

¹³ The eleventh index (FPRCNG) places considerable weight on taxes, but also considers size of government important, which makes this index quite independent of the other five in the “taxes and costs” cluster.

¹⁴ Note that we group “welfare and transfer payments” with taxes and costs even though we treat equity *outcomes* as contributing to quality of life. But *net* of the income distribution, higher welfare and transfer payments implies more redistribution via taxes. The latter implies more deadweight loss from taxation, and, perhaps more importantly, greater work disincentives, which can lower the level of economic activity. In addition (and likely reflecting this argument), as Table 2 shows, and as is explained in more detail in [Appendix A](#), the indexes that emphasize taxes and costs are the only ones that put any weight on welfare and transfer payments.

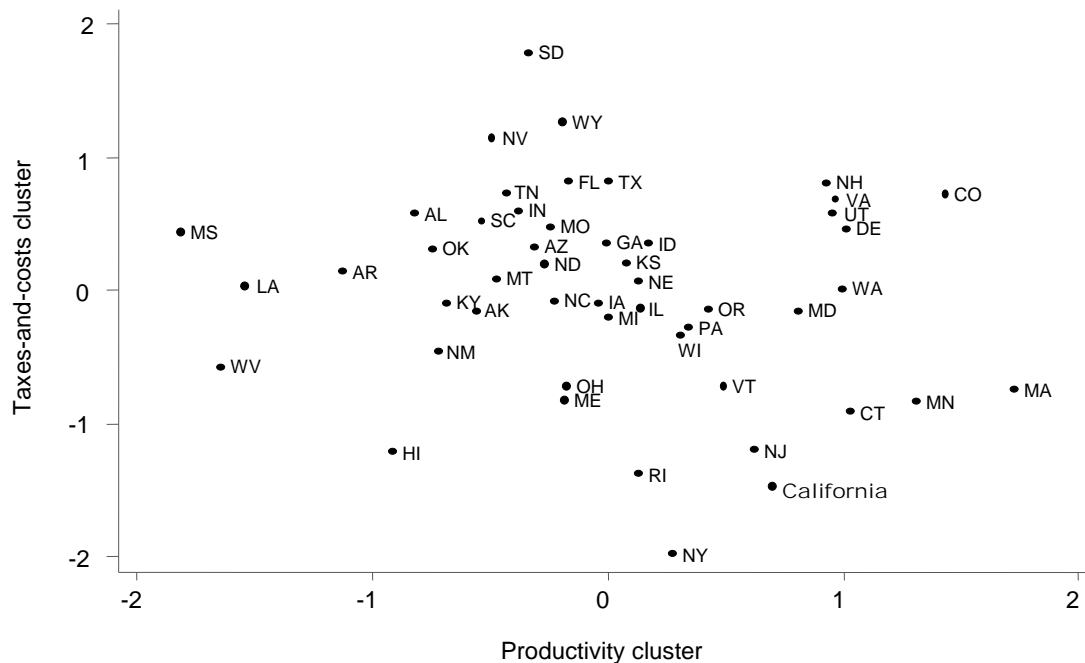
TABLE 2
Indexes emphasize different factors in determining their business climate rankings

	Percent of emphasis on each factor										
	SNEI	DRCS-P	DRCS-DC	DRCS-BV	SCI	SBTC	SBSI	CDBI	EFI	EFINA	FPRCNG
Taxes and costs			4		21	100	94	100	100	100	100
Cost of doing business (excluding taxes)			4		9		9	80	1	22	
Size of government					7		9		15	22	67
Tax rates and tax burden					2	100	47	20	19	33	33
Regulation and litigation							29		41		
Welfare and transfer payments					2				24	22	
Productivity	90	80	92	75	65		6				
Quality of life		20	12		23		3				
Equity		20									
Employment, earnings and job quality		40			5						
Business incubation	25		20	53	9						
Human capital	3		20		7						
Infrastructure			20		2		3				
Technology, knowledge jobs, and digital economy	62		20	23	19						
Other	10	20	4	25	14						
Resource efficiency / environment		20	4		7						
External sector	10			25	7						

Because indexes in a cluster emphasize similar components, states often rank consistently well or poorly on indexes *within* a cluster. For example, referring back to Table 1, we see that all of the indexes in the taxes-and-costs cluster rank California between 43th and 47th. We find more variation in how California is ranked among the indexes in the productivity cluster, which likely reflects the greater variety of variables included in these indexes. But still, California ranks relatively high in four of the five indexes in the cluster, and the worst ranking is only 31st (for DRCS-P), well above all of its rankings in the taxes-and-costs cluster.

Although states often rank consistently well or poorly on indexes *within* a cluster, there is generally no clear pattern of states ranking consistently well or poorly *across* clusters. As shown in Figure 1, California, New York, New Jersey, and Massachusetts rank highly on indexes in the productivity cluster and poorly on indexes in the taxes-and-costs cluster.¹⁵ In contrast, Colorado, Utah, Virginia, New Hampshire, and Delaware, rank favorably in both clusters, whereas Hawaii, New Mexico, and West Virginia rank unfavorably in both.

FIGURE 1
California’s business climate ranks favorably on measures of productivity but poorly in terms of taxes and costs



The Puzzle of California’s Economic Growth

California’s wide-ranging rankings on these business climate indexes yield different and hard-to-reconcile views of the California economy. So how has economic growth in California compared with the nation overall? Over the past 30 years, employment growth in California has averaged 1.1 percent annually, similar

¹⁵ To create this figure, we first standardized the indexes. We then computed the average across years for each index and averaged those scores by cluster.

to the U.S. average of 1.2 percent, and California's growth tracks U.S. growth closely year to year. When California's growth lags U.S. growth, it is due to slowdowns in sectors disproportionately concentrated in California, as happened in the early 1990s (contraction in the aerospace and defense industries), the early 2000s (bursting of the high-tech bubble), and since 2006 (downturn in construction and mortgage finance). Yet in most years, California's economic growth exceeds that of the nation overall (Kolko and Reed, 2008). California's total output growth, as measured by Gross State Product (GSP), has remained above U.S. levels for the past decade: From 1997 to 2008 (the latest year for which data are available), real output grew 3.6 percent annually in California compared to 2.7 percent in the United States.

Some of the recent concern with California's economic growth—despite its close tracking of the nation's economic growth—may arise because of comparisons with the past: California used to outpace the nation by more than it has recently. From 1950 to 1980, California's employment growth averaged 3.6 percent annually—well above the U.S. average of 2.2 percent for the same period, and even further above both California and U.S. average growth since 1980.

Thus a puzzle emerges: Although California's recent economic growth is near the national average, the state ranks poorly on many business climate indexes, particularly those in the taxes-and-costs cluster. It may be tempting, therefore, simply to disregard these indexes as poor predictors of economic performance, at least for California, and therefore discourage researchers, the policy community, and the media from taking them seriously. However, a simple comparison of California's near-national-average economic performance and its poor rankings on business climate indexes focusing on taxes and costs may fail to tell the whole story. As we discussed above, different indexes rank California differently, so some of the business climate rankings may be more predictive of economic performance than others. Each of the indexes also includes numerous policy measures, some of which may contribute to economic growth while others in the same index may not. Furthermore, simplistic comparisons among the various business climate indexes overlook the possibility that California's economic performance may depend on factors beyond the reach of policy, such as weather and geography, which are not captured in the indexes, and that California's poor business climate, if such is the case, is offset by these other favorable factors. Thus, once other, non-policy factors that might contribute to growth are taken into account, some business climate indexes, or their sub-indexes, may shed further light on which policies do contribute to economic growth and what, if anything, California can do to increase its economic growth.

Economic Growth: The Influence of Non-Policy Factors

Factors beyond the immediate control of state and local policymakers must surely affect economic growth as well.¹⁶ As we noted above, California's recent economic downswings—in the early 1990s, the early 2000s, and the current recession—occurred during slumps in specific industries that were disproportionately concentrated in California. Elsewhere, too, local economic fortunes depend on locally dominant industries—for example, automobiles in Michigan, finance in New York, and oil and gas in the Gulf Coast region. In the short-term, policymakers probably can do little to change the industry composition of their region, even if investments in education or infrastructure might, over the long-term, help shift a local economy from one set of industries to another. Natural features, such as climate and proximity to waterways, also influence the location of economic activity and affect the composition and growth of local economies. Historically,

¹⁶ Appendix B describes academic research on how well business climate indexes and the policy components that constitute them predict economic growth.

proximity to waterways has facilitated the trade of manufactured goods, although as the U.S. economy has become a largely service-based economy, the advantage of coastal locations has diminished. The shift to a service-based economy has also meant that fewer jobs are in industries tied to natural resources, such as coal or forests, and that their locations can be based on other factors. Population density can also affect growth, and in principle the effect could be in either direction—enhancing growth through the beneficial effects of proximity to other businesses, workers, and knowledge (what urban economists call “agglomeration economies”), or slowing growth due to congestion, higher land costs, and lack of room for expansion. Finally, all else equal, workers are willing to accept lower wages to live and work in more appealing places, so businesses not tied to specific locations for other reasons can lower their labor costs by locating in places that have amenities such as a milder climate.¹⁷

Of course, the factors affecting economic growth might vary at the local or regional level. Metropolitan areas can have different patterns of industrial composition, workforce characteristics, and local policies—and hence, different patterns of economic growth. Earlier PPIC research has shown that regions within California do not always grow in concert and indeed have different “business climates” (Dardia and Luk, 1999).¹⁸ Despite the economic variation within states—especially large states such as California—we focus on business climate indexes and policy components at the state level. Although state boundaries do not necessarily reflect distinct labor or product markets, or have any other inherent economic meaning, state governments do formulate and establish important economic policies; and the tendency of business climate indexes to rank states rather than metropolitan areas or other regions reflects the expected importance of taxes, regulations, investments, and other policy actions undertaken at the state level.

¹⁷ The relationships between amenities, wages, and growth have been explored in academic work by Roback (1982), Glaeser et al. (2001), and many others.

¹⁸ Much analysis of local and regional economic growth looks at metropolitan areas, which are defined by the U.S. Office of Management and Budget and are intended to represent areas with a “high degree of social and economic integration,” as evidenced by commuting and other patterns. See <http://www.census.gov/population/www/metroareas/metroarea.html> (viewed May 7, 2010).

How should economic growth be measured?

In analyzing the relationship between economic growth and the business climate indexes and non-policy factors discussed above, we considered several measures of growth—specifically, growth in employment, wages, and Gross State Product (GSP).¹ These measures provide a broad view of the economic health of a state and are the principal outcomes considered by researchers and policymakers in their economic policy debates. Employment growth receives particular attention. In the recent recession and its aftermath, the media and policymakers have closely tracked changes in employment (or related measures such as unemployment and underemployment) in assessing the severity of the recession, the extent of the economic recovery, and the success (or lack of success) in federal recovery efforts.² Of course, the private sector also expresses a strong interest in employment growth. The California Chamber of Commerce, for example, issues an annual list of “job killer” bills pending before the state legislature.³

Policymakers also care about the wages that jobs pay—wages reflect residents’ standard of living and generate tax revenue⁴—so we include total wages in our analysis of economic growth.⁵ And we also look at GSP, the state analog of the nation’s Gross Domestic Product (GDP), which measures the overall output of a state’s economy. GSP includes the sum of wages (labor income), capital income (returns to business owners, corporations, and other owners of capital), and business taxes.

¹ We also studied growth in employment at new business establishments, for which some of the results differ in important ways from those for employment, wage, and GSP growth. However, this outcome measure is less closely tied to overall economic growth. Discussion of this outcome measure and results is reported in *Technical Appendices C and D*.

² For a few examples, see <http://abcnews.go.com/Business/wireStory?id=8967119> (viewed November 11, 2009), http://www.businessweek.com/investing/content/sep2009/pi20090924_606185.htm (viewed November 11, 2009), and <http://www.cbsnews.com/stories/2009/10/29/national/main5446350.shtml> (viewed November 11, 2009).

³ The 2009 list included bills regarding such things as energy regulations for new housing, workers’ compensation, sick days, and health care taxes. See <http://www.calchamber.com/governmentrelations/pages/jobkillers2009.aspx> (viewed November 11, 2009).

⁴ Of course, there are different ways that total wages can grow, and a state’s policies might be judged as more successful if they create high-wage jobs rather than low-wage jobs. Reflecting this policy goal, for example, New Mexico offers a tax credit for high-wage jobs; see <http://www.edd.state.nm.us/businessAssistance/incentives/index.html> (viewed November 11, 2009). If evidence pointed to growth in employment but not in total wages, this could reflect substitution of low-wage for high-wage jobs—not a positive outcome. Typically, though, our evidence points to the same types of policies increasing employment growth and wage growth (when they have an effect), suggesting that employment gains are coming from wages that are roughly the same, on average, as the existing stock of jobs.

⁵ See, for example, <http://www.riedc.com/about/mission-and-strategy/strategy-1> (viewed November 11, 2009), <http://www.google.com/webhp?tab=mw#hl=en&source=hp&q=high+wage+jobs&aq=f&aqi=g1&oq=&fp=8bd4816e1661ba1a> (viewed November 11, 2009), and <http://www.treoz.org/About-TREO-Economic-Blueprint-Jobs.aspx> (viewed November 11, 2009).

Findings: Business Climate Indexes, Policy Factors, and Economic Growth

In this section we show which of the various business climate indexes, their sub-indexes, and other factors predict economic growth, and implications for the debate about California’s business climate.¹⁹ We first estimate the strength of the statistical relationships between the business climate indexes and the economic outcomes—growth in employment, wages, and GSP—controlling for other factors that might be associated with the indexes or the outcomes, including climate, population density, industrial mix, and proximity to a coast. This shows how well business climate indexes predict state economic performance and suggests why some states grow faster than others. Next, we turn to the “California puzzle” we posed earlier—i.e., why the state has been able to achieve about-average economic performance in spite of its poor rankings on some of the business climate indexes. Finally, we explore some of the sub-indexes to determine which policy areas are likely to be most helpful in promoting the state’s economic growth.

Employment, Wages, and Gross State Product

The business climate indexes that focus on productivity-related variables have little or no predictive power for employment growth at the state level. In sharp contrast, states ranked favorably on the business climate indexes in the taxes-and-costs cluster—that is, states with lower taxes and costs of doing business—have stronger job growth. These results, and the results for wage and GSP growth, are summarized in Table 3.

TABLE 3
Taxes-and-costs indexes predict economic growth but productivity indexes do not

	NETS employment growth	QCEW employment growth	QCEW wage growth	GSP growth
Productivity cluster	No effect or possibly negative	No effect or possibly negative	No effect or possibly negative	No effect or negative effect
Taxes and costs cluster	Clear positive	Clear positive	Positive	No effect or positive effect

NOTE: The growth measures we use are explained in detail in Appendix C. The NETS and QCEW provide alternative measures of employment growth.

The evidence for wage growth is largely consistent with that for employment. The business climate indexes that emphasize productivity-related variables do not predict wage growth. In contrast, the indexes in the taxes-and-costs cluster *do* predict wage growth, although the evidence in this case is a bit weaker than for employment growth.

And finally, when we look at GSP growth, the evidence is similar although not as strong. Once again, the business climate indexes that emphasize productivity-related variables do not predict GSP growth, but there is some

¹⁹ Our intention here is to provide a brief overview of our analysis and findings for a nonacademic audience. [Appendix C](#) contains a detailed discussion of our data and methods, and [Appendix D](#) provides a lengthier discussion of the results. In addition, although not reported in main text, we also examined the relationships between the business climate indexes and employment change attributable to births of new business establishments. These results are described in [Appendix D](#).

evidence—although it is weaker than the evidence for wage and employment growth—that policies that lead to a higher ranking in the tax- and cost-related business climate indexes may lead to faster growth of GSP.²⁰

In sum, the indexes in the productivity cluster are not associated with growth in jobs, wages, or GSP, but all five indexes in the taxes-and-costs cluster *are* associated with faster economic growth in each of these areas, with some of the indexes predicting economic growth more strongly than others.

The taxes-and-costs indexes are even more strongly predictive of employment and wage growth in the manufacturing sector than they are of growth in the overall economy.²¹ We look specifically at manufacturing for two reasons. First, manufacturing, which traditionally provides reasonably high-paying jobs for middle-class workers, is often singled out in the political debate for having a declining share of employment and thus deserving of specific tax credits and economic development efforts. Second, manufacturing is more “footloose” than other sectors. Unlike retail and personal services (which serve local customer bases) and natural resource industries such as mining (which are tied to limited locations), many manufacturing industries produce for national or international markets and have more flexibility in choosing where to locate. Our analysis indicated that the taxes-and-costs indexes do not, however, have a stronger predictive effect on economic growth in footloose industries *other* than manufacturing—e.g., information, finance, and professional services—than on economic growth in the economy overall.^{22,23}

To summarize, the main conclusions that emerge from the analysis of the business climate indexes are that indexes focusing on taxes and costs of doing business have some predictive power for economic growth, especially for manufacturing, while productivity-focused indexes do not.

Interpretation and Limitations of Our Findings

Our research leading to these conclusions is limited in four ways, each of which dictates caution in drawing strong policy conclusions from the results.

First, because of the relatively short sample period available to us (1992–2008), we are unable to estimate relationships between business climate indexes and economic outcomes over a long period in the past, and then examine how business climate indexes forecast economic outcomes for a more recent period.²⁴

Second, because state rankings on any one index change little over our time period, we cannot study the effects of sharp *changes* in state policies on economic growth for a given state.²⁵ The best we can do is to add a detailed set of control variables—described above—that capture other differences between states that could be correlated with rankings on business climate indexes and also could predict economic growth.

²⁰ Moreover, for the GSP results, the actual estimated effects (without regard to statistical significance) are almost uniformly negative for the business climate indexes in the productivity cluster, and are uniformly positive for those in the taxes-and-costs cluster.

²¹ See [Appendix D](#) and [Table D7](#).

²² Kolko and Neumark (2007) identify some sectors as more “footloose” than others based on gross job creation and destruction due to relocation into and out of California.

²³ We also explored whether the relationship between business climate indexes and economic performance is similar in years when the national economy grew faster and in years when the national economy grew more slowly, and did not find any evidence that a poor business climate harms states more in recessions than in regular times. Rather, a poor business climate appears to slow growth throughout the business cycle.

²⁴ In technical terms, we would like to assess the ability of the business climate indexes to predict economic outcomes “out of sample.”

²⁵ The inter-temporal correlations of business climate indexes within states are quite high and statistically significant, typically in the 0.7–0.9 range for gaps of two or more years and well over 0.9 for consecutive years for most indexes. FPRCNG is the exception: the correlation over time for that index is usually in the 0–0.3 range for pairs of years.

The third limitation is that economic growth might affect policy at the same time that policy affects economic growth. For example, faster economic growth may lead to lowering of tax rates, or to smaller welfare and transfer payments. Given that lower tax rates and smaller welfare and transfer payments will be reflected in a “better” business climate ranking, this feedback (or “reverse causality”) creates a bias towards finding a positive effect of the business climate on economic growth. When we study the sub-indexes, which reflect narrower sets of policy options than the broader indexes, we try to assess how likely it is that our estimates reflect actual policy effects. But we do not claim a definitive causal interpretation of our findings.

Fourth, some policies that may matter for economic growth are hard to quantify and compare across states. Uncertainty about future changes to laws and regulations, for instance, might slow business investment, but measuring the level of this uncertainty would be challenging. Business climate indexes therefore omit factors that might in fact be important for economic growth.

Nonetheless, our evidence that the tax-and-cost related business climate indexes predict economic growth, combined with California’s poor rankings on these indexes, implies that, *at a minimum*, policymakers need to take seriously concerns that high taxes and costs of doing business slow California’s economic growth.

Explaining the California Puzzle: Why Does California Do Better Than Its Policies Predict?

Having found that the business climate indexes that emphasize taxes and costs help predict state economic growth, the California puzzle we raised earlier comes back into question: California ranks near the bottom of the business climate indexes in the taxes-and-costs cluster, yet its economic performance is about average. Why, then, does California’s economic growth substantially outperform its rankings on business climate indexes that predict growth?

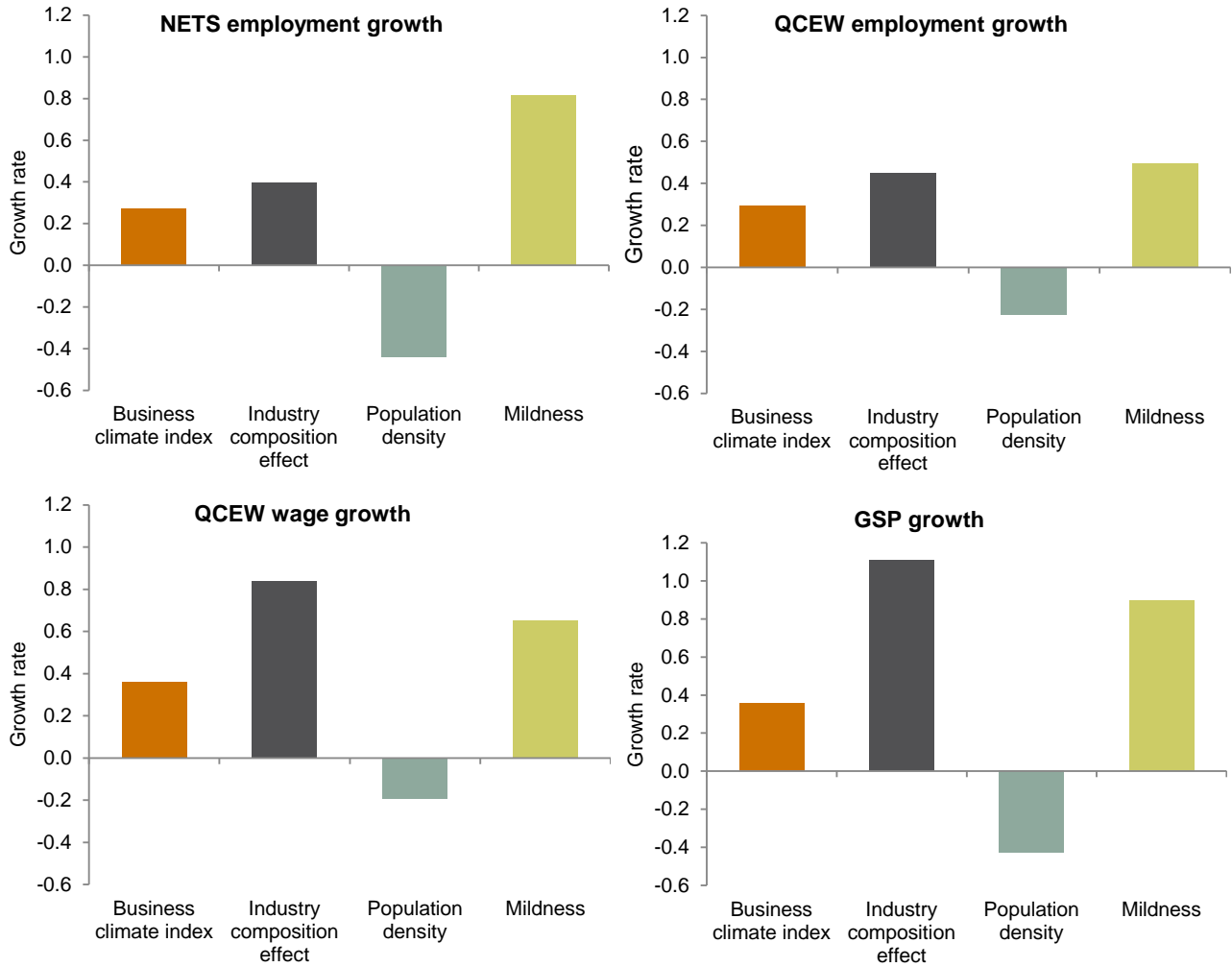
Taking the evidence on business climate indexes at face value, California’s economic growth is held back because of policies that lead to a poor ranking on these indexes. But California is also fortunate to have natural advantages with regard to other factors that boost economic performance. The two forces are offsetting, so despite its relatively poor business climate, California’s economic growth comes in near or above the national average.

We document this in two steps. First, we show the relative importance of the business climate and the other factors. And second, we illustrate what this implies for California.

Figure 2 reports information that provides comparisons of the estimated effects of the business climate indexes in the taxes-and-costs cluster and these natural advantages and other factors on employment, wage, and GSP growth.²⁶ In particular, we report estimates for similar changes in a state’s position in the rankings (from 40th to 10th) in the business climate indexes, and the other factors including industry composition, population density, and climate mildness; these latter three were found to have consistent and significant relationships with employment, wage, and GSP growth.

²⁶ The bars in Figure 2 represent the average standardized coefficients from Appendix Tables D1–D4, 1-year changes, with controls.

FIGURE 2
Taxes-and-cost business climate indexes predict growth, but other non-policy factors are more important



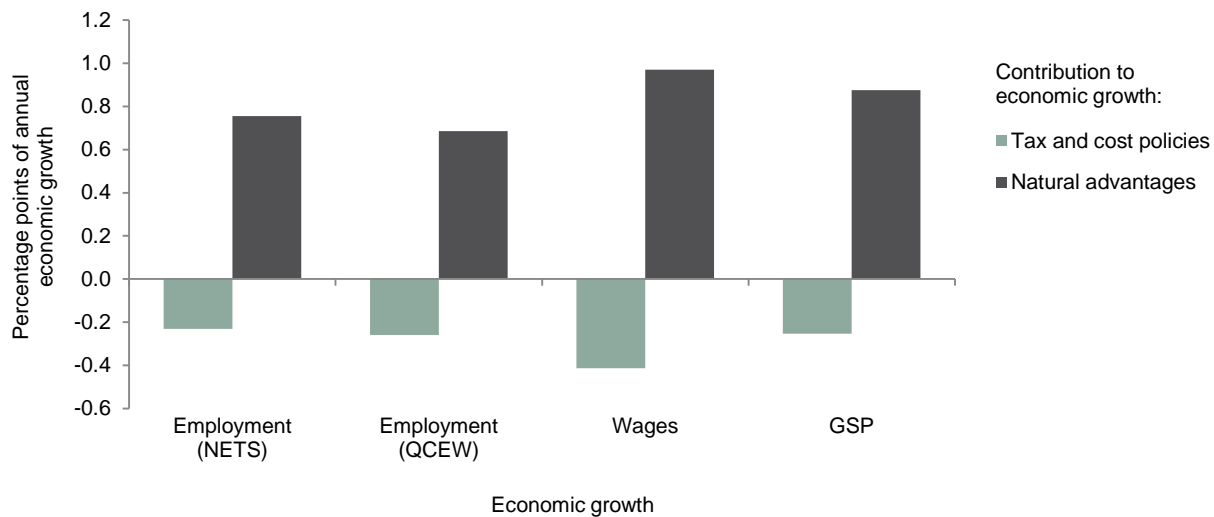
NOTE: Figures show the effects of moving from a rank of 40th to a rank of 10th on each measure.

For all four economic growth outcomes in the figure, the effect of a better business climate index is positive. But the figure shows that the effects of both industry composition and a mild climate are larger—and often *much* larger. Thus, although a more favorable business climate ranking on tax-and-cost indexes increases job growth, other factors fully or largely beyond the control of policymakers are more important.²⁷

²⁷ An additional factor we considered was the presence of research universities, which may have a long-term effect on the development of industries and on economic growth. Like population density and industry composition, the presence of research universities changes only slowly over time: the creation and development of a new university often takes decades. Our measure is doctorate degrees granted per capita, which reflects both the number and size of research universities: Massachusetts and Rhode Island are the highest-ranking states on this measure. Including doctorate degrees granted per capita as a control had little effect on the relationship between the business climate indexes and economic growth, and its own relationship with economic growth was typically negative and sometimes significant. We interpret this result as evidence of robustness of our business climate index findings, not as evidence that higher education does not matter: our industry composition control variable likely already captures some of the effect of universities, and other elements of the higher education system—like community colleges—might also matter for growth.

Moreover, these non-policy factors that are important for economic growth are particularly favorable in California. In Figure 3 the contribution of the business climate index and the combined effect of these non-policy factors to California’s relative economic growth is shown. Each economic growth measure (employment, wages, GSP) is represented by a pair of bars. The first bar in each pair reflects the extent to which the policies captured by California’s business climate indexes contribute to growth.²⁸ In each case, California’s unfavorable ranking results in a negative contribution to economic growth. The second bar in each pair reflects the overall contribution of the five non-policy factors to economic growth: mild weather, dry weather, industry composition, population density, and proximity to a coast. Together, these factors—mild weather especially—boost California’s economic growth rate, and their positive contribution to California’s economic growth rate is about three times as large as the negative contribution of the policies included in the three tax-and-cost business climate indexes that rank California’s business climate 43rd, 45th, and 47th among all states. California’s natural advantages thus favor economic growth in the state, and more than offset its unfavorable business climate ranking.²⁹ Even further, our findings imply that if we could improve the state’s poor business climate, California’s economic growth would outpace most other states.³⁰ It should be noted as well that California is unique among large states for scoring poorly on these business climate indexes but having such favorable natural advantages.³¹

FIGURE 3
California’s natural advantages more than offset unfavorable business climate conditions in the state



²⁸ The figure represents the relationship between the business climate index and control variables and each economic growth outcome (from Appendix Tables D1–D4), multiplied by California’s business climate index score and values for control variables. The business climate estimates are based on the average from models with SBTC, EFI, and EFINA indexes, which were the ones that exhibit a consistent positive relationship with growth. See Appendix D for more details and for related analysis for all states.

²⁹ California of course has both a dry and mild climate. It also ranks highly (9th) in terms of the industrial composition factor that captures how strongly each state’s industries grew nationally. One disadvantage for California is its high ranking (2nd) on population density—a measure that is largely based on the population per square mile in the areas of a state that are more populated—which as it turns out is associated with slower growth. (See Appendix Table C1 for additional descriptive information on these and other variables.)

³⁰ Taking away the estimated negative contribution of the business climate, California’s rank would rise from 28th to 18th for employment (QCEW), 25th to 14th for aggregate wages, and 15th to 11th for GSP. Only for employment measured by the NETS does California’s rank remain below the median, rising from 33rd to 27th.

³¹ See Appendix D and Figure D2 in particular for comparisons of California with other individual states.

Relationship between Business Climate Sub-Indexes and Economic Growth

To this point we have focused on the business climate indexes because they are clearly prominent in the public debate. But these indexes are summaries, often combining a broad range of policies and other factors constituting the tools available to policymakers for improving the business climate and hence economic performance. Although, in our view, the different indexes clearly capture different dimensions of policy and are therefore informative about which broad classes of policies (taxes and costs versus productivity) are more strongly associated with economic growth, the relationships between more specific types of policies and economic growth have the potential to offer more useful policy guidance.

It is not feasible to estimate the effects of individual policies on economic growth, given the scores of individual policies that could be relevant.³² Fortunately, most of the business climate indexes report sub-indexes that focus on specific *types* of policies. We can therefore dig deeper into why some business climate indexes are more predictive of economic growth and say something more specific about the types of policies that appear to be most important for economic growth. Three of the taxes-and-costs indexes (SBTC, EFINA, and EFI) and four of the productivity indexes include sub-indexes.³³ Each of SBTC's five sub-indexes focus on a particular type of taxation, such as the corporate income tax or the sales tax, while EFINA's three sub-indexes and EFI's five sub-indexes cover not only taxes but also the level and composition of government spending, regulatory and judicial factors, and other costs of doing business. The EFINA "size of government" sub-index, despite its name, consists mostly of measures reflecting the extent of spending on welfare, "social security,"³⁴ and transfer payments; the components of this sub-index focus more on the composition of government expenditure than the size of government *per se*. EFINA's "size of government" sub-index is similar to EFI's "welfare-spending" sub-index: Both consist primarily of components that fall into our "welfare and transfer payments" sub-category. The productivity indexes include sub-indexes covering quality-of-life measures, equity and technology factors, and other potential contributors to growth. Among the productivity indexes, many sub-indexes consist partly or largely of components that we consider closer to economic outcomes than components that explain economic outcomes: For instance, the DRCS-P index includes an "employment" sub-index, which includes measures of employment growth.³⁵ Thus each sub-index captures a more narrowly-defined set of policies than the overall indexes. Table 4 shows California's rank among states on each sub-index.

³² See Appendix Table A2 for the list of policies that make up the indexes, keeping in mind that many of the entries in that table cover multiple policies as well. With only 50 states, and with policies that typically change slowly if at all, it is not possible to isolate statistically the effect of every policy. Consistent with these concerns, existing research demonstrates that the effects of individual policy components are sensitive to the other components included in or excluded from a model (see Appendix B).

³³ SCI publishes sub-index rankings, but the sub-indexes change over time and index scores (as opposed to state rankings) are only available in some years. For these reasons, we could not include the SCI sub-indexes in our analysis. Significantly, the three taxes-and-costs indexes that provide sub-indexes include the two with the strongest relationship with economic growth (SBTC and EFINA).

³⁴ This is not the usual meaning of "social security," but instead refers more generally to unemployment insurance, disability insurance, workers compensation, and public pensions, all defined at the state level. We believe the specific data item to which this refers is the state government "Insurance Trust Expenditure" category in the Census Bureau's government finance statistics (<http://www.census.gov/govs/www/06classificationmanual/chapter05.html#p2c534>, viewed July 19, 2010).

³⁵ More details on the sub-indexes are given in Appendix A, and Appendix D discusses how we address the problem of the inclusion of economic outcomes in the productivity-related sub-indexes.

TABLE 4
Sub-indexes focus more narrowly on the specific types of policies that affect economic performance

Taxes-and-costs sub-indexes	California's rank	Productivity sub-indexes	California's rank
SBTC corporate tax	43	SNEI knowledge jobs	12
SBTC individual income tax	44	SNEI globalization	14
SBTC sales tax	39	SNEI economic dynamism	3
SBTC property tax	10	SNEI digital economy	5
SBTC unemployment insurance tax	19	SNEI innovation capacity	2
EFINA size of government	42	DRCS-P employment	37
EFINA labor market freedom	38	DRCS-P earnings and job quality	37
EFINA takings and discriminatory taxation	44	DRCS-P equity	34
EFI fiscal	42	DRCS-P quality of life	39
EFI regulatory	49	DRCS-P resource efficiency	2
EFI welfare spending	43	DRCS-BV competitiveness of existing business	20
EFI government size	25	DRCS-BV entrepreneurial energy	4
EFI judicial	15	DRCS-DC human resources	36
		DRCS-DC innovation assets	2
		DRCS-DC financial resources	4
		DRCS-DC amenities resources & natural capital	49
		DRCS-DC infrastructure resources	21

NOTES: See notes to Table A5 in Appendix A for more details and sources. California's value is the average state rank across years.

California's low ranking on the SBTC corporate, individual income, and sales tax sub-indexes reflect, in part, the higher rates of these taxes in California, as well as how these taxes are structured. Across the taxes-and-costs sub-indexes, California ranks among the top 20 states only on the SBTC property tax and unemployment insurance sub-indexes and the EFI judicial index.³⁶ More generally, it is ranked in the bottom 10 on many of the sub-indexes, including the SBTC corporate and individual income tax sub-indexes, the EFINA size of government and "takings and discriminatory taxation" sub-indexes, and the EFI fiscal, regulatory, and welfare spending sub-indexes.³⁷

California's rating varies on the productivity sub-indexes, with the state ranking among the top five states on multiple sub-indexes yet well below average on some, including DRCS-P's "quality of life" index and DRCS-DC's "human resources" index, which capture a broad range of social, education, and health measures.

Of the thirty sub-indexes we examined (shown in Table 4), three stand out in having a consistent, statistically significant relationship with our economic growth measures (employment, wages, and GSP). These three sub-indexes—the SBTC corporate tax index, the EFINA size-of-government index, and the EFI welfare-

³⁶ California's property tax revenue relative to income is well below the national average. California's ranking on EFI's judicial index is favorable, but other rankings of the cost to business of litigation, like the U.S. Chamber of Commerce Institute of Legal Reform index, scores California quite unfavorably. The EFI's judicial index does not include the Chamber's litigation ranking.

³⁷ California's low ranking on the welfare spending sub-indexes is consistent with its ranking on many welfare-related measures. For example, it is among the more generous states with regard to monthly benefits per participant in the Women, Infants, and Children Special Nutrition Program ([www.fns.usda.gov/pd/25wifyavgfd\\$.htm](http://www.fns.usda.gov/pd/25wifyavgfd$.htm), viewed August 10, 2010), Food Stamp benefits ([www.fns.usda.gov/pd/18SNAPavg\\$PP.htm](http://www.fns.usda.gov/pd/18SNAPavg$PP.htm), viewed March 25, 2010), and average monthly TANF benefit for families and maximum TANF benefit for families (http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_green_book&docid=f:wm006_07.pdf, viewed August 10, 2010).

spending index—all fall within the taxes-and-costs index cluster. (California ranks 43rd, 42nd, and 43rd, respectively, on these sub-indexes.) None of the sub-indexes within the productivity cluster has a consistent, significant relationship with economic growth, just as none of the overall productivity indexes does.³⁸

Taxes

The SBTC's corporate tax sub-index has a positive and statistically significant relationship with growth of both wages and GSP. None of the other tax sub-indexes reported by SBTC demonstrates a consistent relationship with economic growth. The SBTC corporate tax sub-index includes multiple variables that fall into two groups. The first group consists of measures of the corporate tax rate structure, which includes the top marginal tax rate but also the number of tax brackets and their threshold levels: A lower top rate and a flatter rate structure contribute to a better sub-index score. The second group consists of measures of the corporate tax base: More generous net-operating-loss deductions and *fewer* corporate tax credits are two of the measures that contribute to a better sub-index score.³⁹ California ranks poorly because it has a relatively high (though flat) tax rate, fails to conform to federal corporate tax depreciation schedules, and has a corporate Alternative Minimum Tax (AMT).⁴⁰

Even though the top marginal rate is one component of the SBTC corporate tax sub-index, we found that the relationship between this sub-index and economic growth is driven by aspects of the corporate tax other than the top marginal rate itself, including its simplicity, the breadth of the tax base, and whether different firms face similar effective rates after taking both marginal rates and deductions into account. However, neither the SBTC corporate tax sub-index nor any of the other sub-indexes makes it possible to determine which of these other aspects of the corporate tax is most relevant for economic growth. As a consequence, the findings do not lead to specific recommendations on improving tax policy but suggest that complexity of the corporate tax code as a factor inhibiting economic growth merits further attention.

Welfare and Transfer Payments

As noted above, two other sub-indexes, EFINA's "size of government" and EFI's "welfare-spending," exhibit large, positive, and statistically significant relationships with multiple economic growth outcomes. Despite the different names of these two sub-indexes, our investigation into their underlying components reveals that they are both primarily measures of the composition of government expenditures and, more specifically, reflect the extent of government spending on welfare and transfer payments (as opposed to education, transportation, debt service, and other types of government spending).⁴¹

Because EFINA and EFI both include sub-indexes covering many types of taxes and other costs businesses face—including regulation, taxes, and policies affecting labor costs—our finding that the *composition* of government expenditures matters for economic growth is based on an analysis that controls for a wide range of other taxes and costs. In particular, the *overall* level of taxes or government spending (reflected in the tax-focused EFINA "takings and discriminatory taxation" sub-index and the EFI "fiscal" sub-index) does

³⁸ See Appendix D for further details on these results. In our regressions, we include all sub-indexes of a given index in the same model.

³⁹ Net-operating-loss deductions, in effect, tax firms on their average profitability *over time*, which the SBTC index considers desirable; tax credits complicate the tax system and narrow the tax base, which the SBTC index treats as undesirable.

⁴⁰ The 2009 SBTC Background Paper calls out California for these three features of its corporate tax in explaining how individual variables enter into its corporate tax sub-index. Available at <http://www.taxfoundation.org/files/bp58.pdf> (viewed October 21, 2010).

⁴¹ See Appendix Table A5.

not appear to have a consistent relationship with economic growth, even though the *composition* of that spending does.

Although this evidence does not necessarily imply that lower welfare and transfer payments *cause* higher growth, economic theory suggests reasons for such an effect. Any program whose benefits or eligibility depends on low-income or non-employment status provides some disincentive to work or incentive to work less if employed: If benefits are reduced or eliminated when someone becomes employed or receives more income, recipients in effect face a tax on their labor equal to the reduction in benefits. Even with federal welfare policy changes that have reduced these work disincentives,⁴² welfare-type programs and transfer payments—by their nature—still tend to create work disincentives.⁴³ Nonetheless, the finding that the business climate sub-indexes capturing welfare and transfer payments predict that more spending on welfare and transfers slows economic growth suggests the need for continued attention to how California’s income-support and related programs can continue to provide an adequate safety net while still creating strong incentives to work.

Other Policy Areas

Aside from the three sub-indexes discussed above, none of the sub-indexes in the tax-and-cost indexes demonstrates a consistent, significant relationship with our measures of economic growth; nor do *any* of the sub-indexes in the productivity cluster. Why do only three out of nearly thirty sub-indexes demonstrate a positive relationship with economic growth?

One reason may be that business climate indexes and sub-indexes require quantifying factors that potentially affect economic growth, and some types of policies are particularly challenging to quantify. Regulations and legal costs of doing business, captured in EFI’s “regulatory” and “judicial” sub-indexes, are examples of factors that are difficult to measure. The costs of laws and regulations to businesses depend not only on the letter of the law but also on how states or localities with identical regulations on paper implement or enforce them; the subtleties of these implementation or enforcement processes are even more difficult to quantify than the letter of the law. Uncertainty over future regulatory or legal actions could affect economic activity, and how states differ in this uncertainty would also be challenging to quantify.

Furthermore, while some policies, such as the individual income tax or the minimum wage, exist in some form in most states and therefore are easy to include in business climate indexes, other measures may be unique to one or a few states, such as California’s AB 32 greenhouse gas emissions reduction law. These unique policies, taxes, or regulations tend not to be included in indexes because it is challenging to separate the effect of a factor unique to one state from the possibility that the state is unique in some other, unmeasurable way. These are only some of the reasons why business climate indexes omit policies that might in fact be important for economic growth.

Another reason why some of the sub-indexes may not demonstrate a strong relationship with growth is that a number of them include policies designed to achieve social or economic goals other than growth. For instance, the DRCS-P “quality of life” sub-index includes health status, voting participation, and charitable

⁴² For a review of past programs and the subsequent reforms, see Blank (2002).

⁴³ These programs are means-tested, and hence eligibility for them or the amount of support paid is phased out as income rises beyond some level. And, except for the EITC, these programs make some support available to those who are not working, inevitably creating incentives for some people not to work.

contributions, none of which may necessarily lead to or reflect economic growth but which may nonetheless be desirable outcomes. Other sub-indexes might include policies that contribute to growth in sectors of the economy that are too small to result in a statistically significant relationship between the sub-index (or index) and economy-wide economic growth: Several SNEI sub-indexes and the DRCS-DC “innovation assets” index include measures related to science, engineering, and technology.

A further reason may be that our study covers a relatively short time period—less than two decades. While some policies, such as tax changes or hiring credits, may have (or are claimed to have) immediate effects on economic behavior, some of the policies included in the sub-indexes might affect economic growth only over the long-term rather than within the time period available to analysis. Spending on infrastructure, technology, and education are plausible examples of policy areas in which the economic effects take decades to be realized.

In sum, looking at the sub-indexes enables us to go beyond the broad finding that lower taxes and costs are generally associated with faster economic growth, and allows us to draw more specific conclusions about which types of policies are associated with economic growth, even though our analysis is still limited to sets of policies rather than individual policies.

Conclusions

Our findings enable us to arrive at a number of broad conclusions about economic growth, the value of business climate indexes, and the California business climate debate.

The factors that demonstrate the strongest relationship with economic growth are, to a large extent, beyond the reach of policy. These factors include weather and geography, which reflect natural advantages or disadvantages that states and localities are heir to, as well as industry composition and density, which may be the outcome of cumulative long-term policy decisions and cannot be significantly altered within a short time period by policy decisions. Several business climate indexes emphasizing taxes and costs also demonstrate a significant relationship with economic growth, although these relationships are not as strong as the relationship between the non-policy factors (noted above) and growth. None of the business climate indexes emphasizing productivity shows a positive and significant association with employment, wage, or GSP growth.

We find that three of the sub-indexes in the taxes-and-costs cluster have a positive and significant relationship with economic growth. Two are primarily measures of the composition of government spending and imply that lower welfare and transfer payments are associated with higher economic growth. The third is a composite measure of numerous features of the corporate income tax, and our analysis shows that the structure of the corporate tax, not the top marginal rate, is responsible for this sub-index's positive relationship with economic growth.

Because the policies captured in these indexes and sub-indexes may *respond to* (as well as promote) economic growth, it is difficult to draw definitive conclusions about policy changes that would lead to faster economic growth. Nonetheless, the relationships we find are plausible in terms of economics: Welfare and transfer payments are a disincentive to work and could therefore hold back growth, and factors that contribute to a worse ranking on the SBTC's corporate tax sub-index—for example, corporate tax credits and greater complexity of the tax structure—increase costs of compliance and create economic distortions that could impede growth. But without evidence of a causal relationship and greater clarity about exactly which policies within a sub-index are most strongly associated with economic growth, these findings are suggestive rather than definitive prescriptions of policies that are likely to increase economic performance.

Although our findings suggest that the business climate indexes have value in pointing out policy areas that have a relationship with economic growth, the indexes have limitations. First, they are broad in their sweep, combining many factors that have no observed relationship with growth with, at most, a few factors that do. Even sub-indexes can be too broad for definitive policy conclusions. The one sub-index associated with economic growth that we investigated more closely, the SBTC corporate tax sub-index, includes a variable—the top marginal corporate tax rate—that often lies at the center of policy debates but that, in fact, exhibits no relationship with economic growth. And many factors that plausibly affect growth are hard to quantify and incorporate into a business climate index. Thus as useful as some of these indexes and sub-indexes may seem to be for suggesting approaches to increasing economic growth, deeper analysis of the effects of individual policies, as well as attempts to refine the measurement of the most significant sets of policies, are needed.

Our findings do appear to help resolve the puzzle of California's business climate and its economic performance. Our cross-state analysis finds that factors beyond policy, such as a mild climate, demonstrate a stronger relationship with economic growth than any of the business climate indexes do. California's

economy grows at roughly the same rate as the national average because the state's favorable natural advantages and historical conditions more than offset the potentially adverse effects of its business climate, as captured by the taxes-and-costs indexes. At the same time, our estimates imply that a more friendly business climate (as measured by these indexes) would give a boost to California's economic performance.

The clearest policy recommendations resulting from this study would be for California to examine its welfare and transfer policies, with an eye toward reducing work disincentives, and to simplify corporate taxation by better aligning the state tax with the federal corporate tax and by reducing credits and other non-uniform treatment of corporate income. These features—not the overall tax rate or the overall size of government—demonstrate the strongest relationship with economic growth in our analysis.

The larger point, however, is that over the short- and medium-term, state policy goes only part way in explaining why some states grow faster than others. Political debate over the business climate, in California and elsewhere, likely overemphasizes the role of policy and policymakers in determining their states' economic performance.

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