Economic Analysis of the Likely Impact of Proposition 24 on Employment and Taxes in California

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Executive Summary

Proposition 24 is a statewide November ballot measure that would repeal tax changes in California that were enacted as part of the September 2008 and February 2009 budget agreements.

The tax changes were made to more closely mirror federal tax laws and the growing trend in the states with which California competes. To encourage job growth and stimulate the economy, California's tax system was changed to allow businesses to offset Net Operating Losses (NOL) against Net Income over time (2 year carry back/20 year carry forward), share tax credits with affiliated businesses within their own unitary tax group, and in the case of multi-state businesses, use a sales-based income calculation (SSF), rather than a combination property, payroll, and sales based income calculation. Proposition 24 would repeal those tax policies and take California out of step with both federal tax laws and state tax laws in the largest states and the Western states.

The Rose Institute at Claremont McKenna College reviewed data across seven of those states (Georgia, Illinois, Louisiana, New York, Oregon, Utah and Wisconsin) to examine the economic impact these policies have had there and then applied those impacts to California to understand the full impact of Proposition 24's repeal of these policies. (Data sources include: National Establishment Time Series (NETS) database, COMPUSTAT, Commerce Clearinghouse database, and information from individual State tax authorities.)

Key Findings

-Proposition 24's increase in California's tax rate will impact businesses of all sizes and will be strong enough that the resulting decline in economic activity will lead to a significant net reduction in both state tax revenue and employment in California.

-Collectively Proposition 24 would remove tax provisions that increase tax fairness across all California businesses. The Net Operating Loss (NOL) provisions in particular are available to all businesses, and there is broad evidence that Net Operating Losses if anything are disproportionately experienced by smaller businesses. Among all public firms reporting earnings to the Securities and Exchange Commission, over the period from 1990 – 2008, fully 37% of all annual reports showed yearly losses. Among these, the likelihood of a loss was five times as great as in the smallest decile of firms (measured using employment) as in the largest decile. Hence if Proposition 24 passes and the tax provisions are removed, it should be expected that the smallest businesses will be disproportionately negatively affected by the NOL provisions.

-By repealing California's recently-enacted tax changes, Proposition 24 would result in the loss of 146,000 to 322,000 jobs in California beginning in the first full fiscal year when the currently existing laws are to take effect, with this same rate of job losses continuing over several subsequent years.

Proposition 24 Estimated Annual Change in Employment
-146,000 to -322,000

-Proposition 24 would result in a revenue loss to the state of between $731 million and $1.8 billion beginning in 2011-2012, and that annual revenue loss would also persist for several years.

Proposition 24 Estimated Annual Revenue Change to State	(in millions)
Sales Tax Revenues	$ -200 to -437
Personal Income Tax Revenues	$ -460 to -1,000
Business Tax Revenues	$ -71 to -342
TOTAL TAX REVENUE CHANGE	-731 million to -1.8 billion

The number range in the two tables above are based on the statutory state tax rate (lower bound number) of 8.84% and the effective tax rate of 19.45% (upper bound number) which takes into account numerous other tax provisions (i.e., fees, minimums, bank and other financial institution surcharges) that drive up the effective tax rate in California.

As the NOL carry forward and credit sharing provision are currently in place, and NOL carry back and SSF provisions go into effect for fiscal years beginning after January 1, 2011, these job and tax effects will fully take effect during 2011, and this rate of job and revenue loss is expected to continue each year for several years before the impact begins to subside. For example, in the second year the provisions are fully in force, the minimum tax revenue change would double to -$1.462 billion. While there may be some increase in state revenues in the first year after

Proposition 24 passes, we expect that by fiscal year 2012 any short term gain to be eliminated as the negative jobs and revenue impacts compound.[1]

-The impact of these changes will alter California's standing among the 10 largest states, and the Western states with which it directly competes for economic activity, distinguishing it (with the exception of New Mexico) as the only state among them without at least one of the specific tax provisions that Proposition 24 would repeal.

	Has one or more of the tax policies Prop. 24 would repeal in California:	
FEDERAL GOVERNMENT	Y	NOL, Credit Sharing, (SSF n/a)
TEN LARGEST STATES		
California – if Prop. 24 passes	**N**	
California – if Prop. 24 is defeated	Y	NOL, Credit Sharing, SSF
Texas	Y	NOL, SSF
New York	Y	NOL, Credit Sharing, SSF
Florida	Y	NOL
Illinois	Y	NOL, Credit Sharing, SSF
Pennsylvania	Y	NOL, Credit Sharing
Ohio	Y	NOL, Credit Sharing, SSF
Michigan	Y	Credit Sharing, SSF
Georgia	Y	NOL, Credit Sharing, SSF
North Carolina	Y	NOL, Credit Sharing
WESTERN STATES		
Washington	no tax	State has no income tax
Nevada	no tax	State has no income tax
Oregon	Y	NOL, Credit Sharing, SSF
Arizona	Y	Credit Sharing
Utah	Y	NOL, Credit Sharing
Colorado	Y	NOL, Credit Sharing, SSF
New Mexico	N	

[1] Based on figures supplied by the LAO of $1.3 billion in tax increases as the direct effect if Proposition 24 passes, we estimate the following; In fiscal year 2011, using our lower bound estimate, if Proposition 24 passes, the net effect on the state budget and jobs is a net gain of $1.3 billion - $731 million = $569 million in tax revenues, and a loss of jobs of 146,200. In fiscal year 2012, using our lower bound estimate, if Proposition 24 passes, the net effect on the state budget and jobs is a net loss of $1.3 billion - $1.46 billion = $160 million loss, and a loss of jobs of 292,400 jobs relative to 2010. Using our upper bound estimates, in both years there would be a negative net effect on the state budget if Proposition 24 passes ($500 million loss in 2011 and $3.3 billion loss in 2012), and jobs lost would be 322,000 in 2011 and 644,000 (relative to 2010) in 2012. The $1.3 billion direct gain if Proposition 24 passes is based on the Legislative Analyst's Office estimate dated 7/14/2010 3:03PM.

Many empirical studies confirm that changes in tax rates affect taxpayer behavior and can exert a powerful influence on business and employment growth. State tax rates influence where companies locate their production or distribution facilities, where they expand or contract their activities, make investments, and where they expand or contract their work force. The economic and fiscal impact of tax provisions are best studied using econometric models of the economy that take into account the behavioral changes brought about by those provisions. This study follows standard econometric practice and concludes that Proposition 24 would increase the cost of doing business in California and consequently lower employment and tax revenues generated by such employment.

1. Introduction

Proposition 24 is a November ballot measure that would repeal state tax changes that were enacted as part of the September 2008 and February 2009 budget agreements to encourage job growth and stimulate the economy, and under current law would all be in effect by tax year 2011. If passed, Prop 24 would eliminate an elective Single Sales Factor (SSF) in favor of a weighted average of sales, payroll, and property for firms with multi-state operations or sales; repeal a provision allowing R&D tax credit sharing (CS) between units of a multidivisional firm filing as a unitary group, where, for example, one division has an R&D expense that can be offset against revenues generated by another division in calculating taxable income; and repeal two changes regarding net operating loss treatment, eliminating a two-year carryback (NOLCB) against previous taxes paid in profitable years and shortening the carryforward (NOLCF) period from 20 to 10 years.

In principle, the impact of eliminating these tax provisions (if Prop 24 passes) on the desirability of locating business in California is to raise the relative cost of operating in California compared to other states, and hence encourage net capital flight. Appendix A, the State Tax Appendix at the end of this document shows that, if Prop 24 passes, California would be an outlier relative to the Federal tax code and the tax codes of the ten largest states and the other western states that compete with California for jobs and taxes. All other states in this group except New Mexico provide some or several of the provisions that would be eliminated in California. Hence businesses will be more likely to leave or die, and those that might have been started in or moved to California are less likely to do so. This net reduction in businesses is likely to reduce employment in California.

Much of the public discussion of Prop 24 has centered on whether the tax provisions that would be repealed are “loopholes” and “giveaways”, especially to larger corporations. In principle, these provisions have the opposite impact, ensuring that over the lifetime of a business, it does not pay an effective rate substantially above the rate mandated in the tax code. Ironically, it is firms that are struggling that are most likely to be taxed at a rate substantially above the normal rate. In addition, there is overwhelming evidence that smaller firms are much more likely than larger firms to have losses that would put them at risk (absent tax loss provisions now going into effect in California) of paying higher than mandated rates. Table 1 shows the distribution of firm losses for all public firms reporting to the SEC from 1990 to 2008. Over one-third of all annual reports show pre-tax operating losses, and the incidence of losses is five times as high in the smallest size decile (ranked by number of employees) as in the highest. Hence the operating loss provisions in particular are greatly valuable to small businesses. These results are consistent with information given in Hayn (1995). Using the same data set used to tabulate our Table 1, her paper reports that the incidence of losses among publicly traded firms grew from about 3% in the early 1960s to over 30% by the late 1980s. This trend appears to have continued over the past two decades.

As an example of why elimination of the tax provisions that would be repealed under Prop 24 raises the relative cost of doing business in California, consider the following example that illustrates why failure to have the tax provision that Prop 24 would repeal leads to higher than normal tax rates over the life of the firm: Suppose a firm that exists for five years, making $100 in the first year, losing $20 for each of the four succeeding years, and then closing its doors. Assume the statutory tax rate is 20%. The firm pays $20 in tax on its $100 income in its first year. If the firm can fully carry back losses against previous income, the firm receives a refund of $4 in each of the following four years. Hence over its lifetime, it pays $4 in tax on $20 of total earnings, achieving a lifetime tax rate equal to the statutory rate of 20%. Now suppose the firm is not allowed to carry back its losses. In this case, over the life of the firm, it earns $20 and pays $20 in taxes, an effective tax rate of 100%. Hence the carryback provision is not a "loophole", but rather ensures that firms pay the statutory rate rather than higher effective rates over longer time horizons. This appears to be an extreme example, but in fact the data in Table 1 show that it could be a relatively common occurrence, especially among smaller firms. This leads us to predict that states that have the tax provisions currently going into effect in California are more attractive to businesses and likely to experience higher job growth.

The impact on tax revenues to the state of California is less obvious at first blush. The direct effect—at least in the short term before firms have the opportunity to exit—may be to increase tax revenues as California firms will not be able to use tax credits across units for R&D, less able to use operating losses credits, and for firms with operations in California but sales in lower tax states, a larger portion of their income will be taxed in California. However, the consequent capital flight and other causes of firm exit or shrinkage will reduce the tax base among California businesses, offsetting the increase in effective tax rates. Hence the impact on tax revenues effectively depends on the elasticity of capital investment in California with respect to the relative effective tax rate in California compared to other states.

This study uses establishment level data for seven states (not including California) which, during the past twenty years, experienced changes in the tax provisions addressed by Prop 24. These changes in tax code provisions provide a set of natural experiments allowing us to estimate the impacts of those changes on employment at the establishment level, and we then use the parameters from our estimating equations applied to California establishment level data to provide forecasts of the impacts of Prop 24 on employment and the consequent effects on tax revenues in California for sales taxes, personal income taxes, and business taxes.

Overall, the findings are that if the tax provisions currently going into effect are eliminated, California will lose between roughly 146,000 to 322,000 jobs, sales tax revenues will decline between roughly $200 million and $437 million, personal income taxes to California will decline between $460 million and $1 billion, and business taxes paid to California will decline between $71 million and $342 million. Hence in addition to employment losses of about 0.86% to about 1.89% of employment, total tax revenues taken in by California are projected to decline between

$731 million and almost $1.8 billion. In addition, our estimation methods are based on average effects of these provisions on employment growth, so that these losses will repeat in subsequent years to some extent.

2. Literature Review.

A large body of existing literature addresses several of the issues addressed in this study. Broadly speaking, the relations between state tax provisions and economic outcomes have been examined from many perspectives. In this section, we briefly review the several key studies that bear on this paper and where appropriate comment on the relation between those studies and this one.

Hofmann (2002) provides an excellent summary of a broad set of studies that examine the impacts of state level taxes. Her study also includes an extensive summary of provisions in place at the time of her study, and explanations of apportionment rules, unitary reporting issues and other key issues that play a role in this research. Though her paper summarizes many studies not directly on point for this paper, several of the empirical papers summarized in Table 2 of her study are relevant. She summarizes Petroni and Shackelford (1995) as showing that "firms are more likely to establish subsidiaries in states with lower taxes." (p. 94) This finding is generally consistent with our findings, but they use firm level rather than establishment level data. She summarizes Hines (1996) as showing that "High state tax rates have significantly negative effect[s] on foreign direct investment." (p. 95) Hines uses state level data rather than establishment level data. She summarizes Moore, Steece and Swenson (1987) as showing that "Unitary tax structure influences foreign direct investment: tax rate less so." (p. 95) Again, the study uses state level data on foreign direct investment rather than individual establishment level data. Several other studies summarized by Hofmann deal with subtle aspects of apportionment rule impacts. Broadly speaking, these studies collectively demonstrate that firms are sensitive to tax rates and shift sales, income, investment in new capital, and employment to states with lower relative tax rates. (Klassen and Shackelford, 1998; Gupta and Mills, 2001; Lightner, 1999; Goolsbee and Maydew, 2000; Weiner, 1996; Gupta and Hofmann, 2002). Again, these studies all reflect state level rather than establishment level data. Hence, broadly speaking, the results summarized in Hofmann are strongly consistent with the predictions in this paper that businesses are sensitive to the impact of state tax provisions on the cost of doing business in the state, and consistent with the findings that provisions that raise the relative cost of doing business in a state decrease employment growth in the state. Again, an important distinction between the previous studies and this study is that we are able to examine the impacts of alternative state tax provisions at the individual establishment level rather than aggregate effects at the state level.

There is also considerable evidence that state officials are aware that they are essentially competing with other states and therefore respond to adjustments in the tax code made by competing states. Goolsbee and Maydew (2000) show evidence that this is the case and that when one state makes a tax change that creates a more favorable business climate, other states that do not respond in kind suffer negative externalities from the changes. We note further with respect to the study by Goolsbee and Maydew that our study, like theirs, includes state and year dummies in specifications, but since our study is at the establishment level, we are also able to distinguish between establishment sizes and industries, and we include controls for these factors in our regression specifications. Omer and Shelley (2004) also focus on interstate competition for business capital investment and jobs in the context of apportionment rules. Their study also finds that states shifting apportionment weights away from property and payroll and toward sales lowers the cost of these factors and increases capital investment and employment in those states. As is typical for most of these studies, they rely on state level aggregate data. Similarly, in a study based on Georgia data at the firm level for 1992-2002, Edmiston and del Granado (2006) find that changing apportionment factors towards sales and away from property and payroll resulted in decreased local sales, but increased payroll and property.

A more recent study addressing some of the same issues raised in Goolsbee and Maydew is Wilson (2009). He points out that the use of R&D tax credits grew from just one state (Minnesota) in 1982 and had reached 32 states by 2006. He then estimates that the impact of allowing R&D tax credit sharing shifts R&D away from states that do not allow them and into states that do, in nearly equal value. Hence there is clear competition between states in the existence of this provision of the state tax code.

Similarly, Wu (2008) estimates the effects of allowing R&D credit sharing on the number of high-technology establishments per capita across states, finding that the effect is strongly positive, though he notes concerns regarding causality. Wu's paper, like ours, is able to make use of establishment level data (his collected from the U.S. Census Bureau's *County Business Patterns,* 1994-2002 reports).[2] In order to cull out a set of establishments likely to be in a position to take advantage of R&D tax credits, Wu examines detailed NAICS codes and compiles a list of the relevant codes. We adopt his list in this study. We note that the characteristic that defines these is not High- or Green- or Bio- Tech, but rather the likelihood that the industry segment is heavily reliant on investment in research and development. Hence in this study we tend to use the term "R&D Intensive" rather than High Tech or similar. Wu's identified industries are shown in his Table 2.

Other work on R&D tax credits shows that they are effective at increasing local investment, even in other settings. Bloom, Griffith, and Van Reenen (2002) show that OECD countries allowing tax credits reaped benefits of 1% short-run and 10% long-run increase in the level of R&D.

[2] Available on the web at http://www.census.gov/epcd/cbp/view/cbpview.html.

Berger (1993) shows that the federal R&D tax credit encourages R&D investment at the firm level. This is noteworthy as this study does not rely on competition between states, but rather the impact on R&D spending to changes that affect all domestic firms. Another study by Mansfield and Switzer (1985) examines the impact of the R&D tax credits in Canada, finding that the research allowance increase R&D expenditures by about 1% and the tax credit increase it by about another 2%. They note, however, that the R&D increases appear to be less than the revenue loss experienced by the government, and hence question the overall policy effectiveness of the tax provisions.

A key paper relating to this one is by Swenson (2010). He uses the same data source (NETS) to examine the impacts of the SSF apportionment rule relative to typical weighted average (of sales, property and payroll) for five of the seven states (other than California) used in this study. His estimation strategy is somewhat different from the method used here. He uses within state differences between establishments likely to be able to take advantage of the SSF vs. other establishements, contrasting the employment growth between those firms before vs. after the SSF is put in place in each state. Our strategy compares across states in addition to within. Despite this difference, our results are comparable to his with respect to the SSF component of our study, though we also study the NOL and CS provisions as other tax provisions in addition to the SSF. Table 4 column 1 is included specifically as a direct comparison between our findings and Swenson's.

A paper by Anand and Sansing (2000) addresses the differential impact of tax rules on different industries, noting that what is optimal depends in part on factors such as the location of natural resources, as states that have natural resources are more likely to benefit from apportionment rules that tax production factors (employment and property) since industries such as mining must produce at the location of the natural resource, while states that import natural resources benefit more from taxing sales. Hence it is important to allow differences in the impacts of tax provisions across industries. The establishment data used in this study allows us to examine highly disaggregated data across industry segments.

In contrast to the studies of apportionment and R&D tax credit sharing, very few papers over the past two decades examine the impact of net operating loss (NOL) treatment. The likely reason for this is that the NOL carry backs and carry forwards have existed in most state tax codes for this entire period, and the changes represented during this period are limited primarily to the number of years of carry back or forward. A common pattern is that the states mimic the federal tax code, which has allowed these carry backs and carry forwards since considerably before the beginning of the period studied here, but which changed in length (from 15 to 20 for forward, and 3 to 2 for back) in the 1997/1998 time period. Most states that changed followed this pattern. In addition, the federal tax code has allowed a longer carry back period of 5 years in special circumstances. In particular, following 9/11, the federal Job Creation and Worker Assistance Act of 2002 allowed for a 5-year carryback period for 2001 taxes, and for tax years beginning after

Dec. 31, 2007 and before Jan. 1, 2010, the Worker, Homeownership, and Business Assistance Act of 2009 (WHBAA) allows a 5 year carry back provision.[3] Hence these long standing provisions have been less studied, perhaps because they appear to be a stable aspect of the tax code.

As noted, though the existence of NOL provisions has not changed much over the past 20 years, the number of years of carry back or forward vary. One paper uses the NOL carryforward values to identify the impact on corporate investment of the internal resources available to the firm. Although the tax provision itself is not the focus of this paper (Cohn, 2007), it does serve to show that investment increases with cash flow available to the firm, which in turn is positively affected by the NOL provision.

Nearly all the papers discussed above deal exclusively with either the apportionment rules, R&D tax credit sharing, or NOL treatment separately, and nearly all use firm of state level data rather than establishment level data. One recent paper by Gupta, Moore, Gramlich and Hofmann (2009) provides a broader examination of multiple tax code provisions, explicitly including NOL treatment, apportionment rules, and credit sharing rules. Hence this study is closest to ours in approach as it allows interaction between the provisions to occur within the estimation methods. However, the purpose of the paper is to examine these interactions rather than their effects on the economic conditions across states. The results show that there are interrelations between the provisions themselves and between them and other economic factors. Hence their results support our regression approach that, to the extent possible, combines the effects of the tax provisions into a common regression specification, and controls for a number of other state, industry and economy level factors.

3. Data Description.

The information used in this study combines data from several sources. Our primary source is the National Establishment Time Series (NETS) database derived from Dunn & Bradstreet records. This database is particularly useful for our purposes as it provides nearly comprehensive information on establishment level employment, sales, and key descriptors including industry, location, affiliation with other establishments (parents, subsidiaries, number of other establishments within the same legal entity) from 1990 to 2008. However, as it does not contain information on net income or taxes paid, we derive this information from COMPUSTAT, which includes extensive information reported in Form 10-K and other documents reported to the SEC for all publicly traded firms listed on exchanges in the United States. We supplement these sources with information on state tax provisions for Georgia, Illinois, Louisiana, New York, Oregon, Utah, and Wisconsin. The primary source of this information is the Commerce Clearing

[3] Tax provisions history primarily obtained from the Commerce Clearing House online tax databases.

House database on taxes, supplemented with information collected from state tax authorities, and information on overall tax rates from the Tax Foundation. Appendix A summarizes the information on tax provisions and rates used as the basis for tax-related independent variables in the regression analysis provided below for these states, as well as for other states in the top ten by size, and a group of western states that compete relatively directly with California for businesses and jobs.

In addition to California, we use NETS data covering Georgia, Illinois, Louisiana, New York, Oregon, Utah, and Wisconsin. These states were chosen as they experienced a mixture of changes in tax provisions included in Prop 24, and they therefore present natural experiments useful for evaluating the effects of these tax changes on employment and sales. This database is superior to other publicly available databases in that they provide information at the establishment rather than firm level, and it provides data on both publicly traded and privately held firms. In all, the seven states used in this study (excluding California) provide over 40 million annual observations at the establishment level.[4] Table 2 provides an overview of the sample composition across states, years and industries.[5] Table 3 summarizes employment within the NETS sample across states and industries for 2008, the last year of the data sample.

The NETS database is particularly useful in estimating the relations between tax provision changes, employment, sales, and business conditions as reflected in business starts and closures, as well as moves into or out of the state. In addition, NETS includes several other variables useful as controls in regression analysis aimed at determining employment, sales, and establishment creation and destruction. These variables include the Dunn & Bradstreet (D&B) PayDex score (a measure constructed by D&B that captures how the firm handles accounts payable, and therefore is useful as a measure of liquidity risk). We note that some data in NETS are actually estimates. Though employment data are primarily as-reported at the establishment level, for multi-establishment firms sales are often imputed to the establishment based on firm level sales and establishment level employment, as often multi-establishment firms include establishments that do not make external sales. However, we use the sales as reported in these

[4] Differencing the data to find employment growth rates results in the loss of the first year of data. The main regressions include about 38.5 million observations.

[5] Industry definitions are based on two-digit North American Industry Classification System (NAICS) 2007 version codes. R&D intensive establishments are based on NAICS codes identified as high technology in Wu (May 2008), and include NAICS codes 32411, 3251, 3252, 3253, 3264, 3255, 3256, 3259, 332992, 332993, 332994, 332995, 3331, 3332, 3333, 3336, 3339, 3341, 3342, 3343, 3344, 3345, 3346, 3353, 33599, 3361, 3362, 3363, 3364, 3391, 5112, 514191, 5142, 5413, 5415, 5416, 5417, 6117, and 811212. In brief, these include petroleum, a variety of chemicals and chemical processing based products, pharmaceuticals, certain machinery, certain electronic equipment (including a variety of instruments and computer components and support services) certain motor vehicle components, medical equipment, software, online services, data processing, engineering, certain consulting services, R&D services, and educational support services. A key characteristic tying these together is a basis in R&D, which makes establishments in these industries good candidates for R&D credit sharing tax provisions for firms with multiple establishments filing as a unified entity.

situations by NETS as proxies for the value of economic activity at the firm. To avoid over counting the effects of Prop 24 provisions on sales taxes in California, we restrict the sample of establishments used in that section of the report to be only those industries most likely to provide consumer goods and services. Similarly, for multi-establishment firms, the D&B PayDex scores are carried down from the parent firm level. However, in multi-establishment firms it is reasonable that risk is systemic, so that these scores provide information about the establishment.

Though the NETS database is generally superior to other public databases for our primary estimation of the impacts of tax changes on employment and sales, the database does not include direct information on corporate income or taxes paid.[6] Hence we derive information on profit ratios from S&Ps COMPUSTAT database including virtually all firms that report to the SEC. To fit best with our estimation methods, we use pre-tax income per employee as a measure of margin. Hence we gathered data on all available public firms in the same time period as the NETS data (1990–2008), and compiled statistics on profit margins (based on net income per employee) for these firms at the industry (two digit NAICS), and size deciles based on number of employees.

4. Methods.

Our analysis proceeds in two main steps. In the first step, we use the seven state sample (Georgia, Illinois, Louisiana, New York, Oregon, Utah, and Wisconsin) to estimate the relations between tax provisions in Prop 24 and outcomes including employment, sales, births and deaths of establishments, and moves into and out of States. We use both establishment level and industry level analyses. In all cases, we use a set of controls including the state level tax rate, industry dummies (in establishment level analyses), time period dummies, the corporate structure position of the establishment (standalone vs. parent or subsidiary, the number of other related business segments, whether the parent is in a different state for subsidiaries), establishment size, and state dummies. In addition, since we include all seven states in our analyses, differences in timing of the tax changes across states provide natural controls for the impact of trends that affect all states and could be confounded with the impacts of tax provision changes were they all to occur simultaneously.

In the second step, we apply the estimated impacts of changes in tax provisions included in Prop 24 to the data for California. This results in a set of predictions regarding the effects on jobs, establishments creation and destruction, and ultimately tax effects consequent to the changes proposed in Prop 24.

[6] Data on establishment level income and taxes paid for privately held firms not reporting to the SEC is generally not available in the public domain.

As a brief example of how our method works in practice, consider the following:

Step 1: Using regression analysis, we could measure two contrasts (holding as much else constant as possible) that would help us understand the role of the tax change in employment levels. First, as an example, suppose State A changes its treatment of losses in 2002, and we observe that in 2001, before the tax change, a firm with an operating loss on average reduced its number of employees by 10%. However, after the tax change (say in 2004) the response rose to 25%. Hence we might conclude that the firms experiencing losses increased layoffs by 150% (from 10% to 25%). Typically this conclusion could be incorrect as there may have been a general trend across all states at the time of the tax change in State A that was the true cause of the observed shift in State A. Now suppose we also observe that State B that did not change its tax treatment of operating losses. In both 2001 and 2004, an operating loss in a State B corporation on average was associated with an 8% reduction in employment. In this case it is more reasonable to conclude that the 150% increase in the layoff rate in State A is attributable to the tax change in that state rather than to other factors. In effect, the difference from before to after in State A, compared to the difference from before in State B, isolates the impact. Even if a change does occur in the State B data, the proportional difference in differences between the two states can be attributed to the tax change. For example, suppose in State B that 8% layoffs in 2001 become 12% layoffs in 2004, an increase of 50% in the layoff rate. Then the 150% increase in the layoff rate in State A could be decomposed into a 50% increase due to some general trend and 100% due to the tax change. Regression analysis using data from both states allows us to capture the set of contrasts necessary to ferret out the impact of the tax change in State A. Let's assume this doubling of the layoff rate is the final result.

Step 2: Having estimated a doubling of the layoff rate associated with the elimination of the operating loss tax provision, we would then apply the findings in California to predict the results of eliminating such a provision from the California tax code. Though we do not know which firms will have operating losses next year, we can use the most recent year of actual employment data and project forward the estimated impact on job growth of the changes in tax provisions.

This same method could be applied to the effects of credit sharing changes and factor apportionment changes (Single Sales Factor vs. weighted average of Sales, Payroll and Property), and the results combined to find the overall impact on employment. Similarly, the effects of the tax rule changes on business tax revenues, sales tax revenues, and California personal income tax revenues can be built from the estimated impacts of employment at the establishment level via the employment impact on sales, business income, and individual income.

Finally, it is worth noting that with establishment level data, including the industry the establishment participates in and its location in California, it is possible to break the results down to predict differential impact across industries, locations, and establishment sizes. This allows us

to show the local impacts on employment and sales tax revenues. However, the disaggregation may lead to less statistically significant or insignificant results in individual cells, so that projections on a cell by cell basis are not as accurate as the overall results. However, we note that in virtually all tables below, the cell by cell results are very broadly consistent with the overall results when all data are pooled in one regression. Hence even if there is some variation in the quality of projections from cell to cell, the bottom line results are clearly supported by the data.

5. Results.

5.a. Employment effects estimated from seven state NETS sample.

We estimate the impact of the tax provisions on employment effects using the seven state sample and regression specifications of the following form:

$$Employment_{ijt} = \alpha + \beta_1 \text{ x } SSF_{jt} + \beta_2 \text{ x } NOLCF_{jt} \text{ x } \beta_3 \text{ x } NOLCB_{jt} + \beta_4 \text{ x } CS_{jt} + \Gamma X + \varepsilon_{ijt}$$

where:

Employment is measured as a year-to-year percent change at establishment level, or as $(Emp_{ijt} - Emp_{ijt-1})/Emp_{ijt-1}$ where i denotes firm, j is state and t year. Note that if an establishment leaves the sample (either via death of the establishment or due to a move to another state) the percent change is recorded as -100%. Analogously, appearance of a new establishment is recorded as +100%. This is intuitively less appealing, as the denominator in the year to year percent change is 0, but in practice this seems reasonable as it treats exits and entrances symmetrically.

SSF (Single Sales Factor) is measured as a dummy for presence of SSF in state j in year t, multiplied by the business tax rate for state j in year t. Hence we capture both the existence of the provision and variation across states due to differences in tax rates.

NOLCF (Net Operating Loss Carry Forward) is measured as a dummy for presence of NOLCF in state j in year t, multiplied by the number of years of carry forward multiplied by the business tax rate for state j in year t. In this case, in addition to capturing between state tax rate variation, we also capture the variation in value associated with a longer period over which to realize value. We assume this is directly proportional to length of the recapture period.

NOLCB (Net Operating Loss Carry Back) is measured as a dummy for presence of NOLCB in state j in year t, multiplied by the number of years of carry back multiplied by the tax rate for state j in year t.

CS (Credit Sharing) is measured as a dummy for presence of CS in state j in year t, multiplied by the tax rate for state j in year t.

X is a vector of other controls, including a. controls at the ijt level: lagged employment, size and size squared (using sales as the measure of size), Dunn & Bradstreet PayDexMax year to year change, and dummies capturing whether the establishment is a standalone business, a branch, a headquarters, or has an out of state headquarters; b. controls at the industry-year level, including pre-tax profit margin (estimated from COMPUSTAT) at the two-digit NAICS x year x size (using employees) decile level; c. two-digit NAICS dummies, state dummies, and time dummies from 1992–2008 (one year of data is lost due to taking differences).

Size and size squared are included as larger, more complex organizations typically behave differently from smaller firms. We include the PayDexMax changes to capture changes in liquidity that could affect growth. In effect, this captures short term risk. We also include profit margin (at industry/year/firm size) as a standard measures of return. Hence we have available both risk and return measures as controls. Lagged employment is included to capture correlation between current job growth and past level within the establishment. Out of state headquarters and standalone dummies provides control for differences between types of firms, where for example decisions regarding location of subsidiaries reflect broader concerns than just relative tax rates. Finally, the full complement of industry, state and year dummies are included to help capture the effects of unobserved factors that vary in these dimensions.

The regression results are summarized in Table 4. The main findings can be briefly summarized as showing that the effects of all four tax provisions are consistent with our predictions. Each is positively associated with employment growth, and all are statistically significant at the 0.01 level or better.

Since states may well decide on tax provisions jointly rather than individually, we believe it is appropriate to estimate the impacts of the provisions jointly, to avoid double-counting and therefore potentially overstating the impacts of the provisions. If estimated separately, each provision may load some of the impact of other provisions enacted at the same time. Hence we estimate the effects of SSF, NOLCF and NOLCB jointly in columns 2 and 3. In column 2, we include the PayDex variable as a control. In this specification, all three provisions have positive effects for employment growth. However, we make two exceptions.

First, we separate the analysis of the credit sharing provisions from the other provisions, as these are mostly likely to affect firms in R&D intensive and these only within firms that have more than one division. Hence we extract that group from the full sample when estimating the impact of the credit sharing provision. We further limit the sample to multiestablishment firms, which can be determined from information included in the NETS database.

Second, the first column of results is provided as a qualitative comparison to the results in Swenson (2010), who finds a positive relation between SSF and employment. We also observe a statistically significant positive relation between SSF and employment, though we use a different

estimation method and additional control variables. Hence we confirm that Swenson's result is robust to certain specification issues.

In columns 2 and 3, we show results when including the SSF, NOLCF and NOLCB provisions jointly. In both cases, all three provisions take the expected sign and are highly statistically significant, even when all controls are included. The difference between the two columns is that we include the PayDex measure in the second column as a measure of liquidity risk at the firm level. However, this variable is only available for a relatively small subset of the full sample, reducing the sample size from 38.5 million establishments to 8.8 million. Hence, to utilize the entire sample, we exclude this variable in column 3. Note that in the next step of our estimation strategy, we use the relatively more conservative base regression represented in column 3 so that our results are likely to understate rather than overstate the impacts of tax provisions.

The CS tax provision is excluded in columns 1–3, as noted above. We examine CS by itself in column 4. In this specification, we restrict the sample to those in HighTech (using the definition in the Data section of this report, based on Wu (2008)—see footnote 5) and to establishments that are part of a multi-establishment group. These restrictions results in a much smaller sample of 2.7 million establishments. This is still a relatively large sample compared to other studies of the impacts of CS (see the summaries in the Literature section, above.) The results show that the effects of CS are positive and statistically significant at the 0.001 level.

The control variables included in all specifications often provide statistically significant explanatory power. This suggests that these variables should be included in the next step in the analysis. That is, we find that it is useful to estimate effects within industry/establishment type/size groupings and include the establishment level continuous valued control variables.

Other untabulated results are consistent with the specifications shown in Table 4. Overall, we believe based on these findings that there are clearly positive employment effects associated with all four tax provisions.

In the sections that follow, we use these results as the basis for projections of the impacts of the tax provisions considered in Table 4 on employment, sales tax revenues, personal income tax revenues, and business tax revenues in California. In each case, we provide two sets of results, based on the business tax rate. Note that we included the state tax rate in the estimations in Table 4 as these influence the relative value of the tax provisions. As our two possible rates in California, we use both the main statutory rate of 8.84% to provide lower bound estimates. However, numerous additional tax provisions such as various fees, minimums, and surcharges (such as the 2% bank and other financial institutions surcharge) drive the effective rate up substantially. Hence for our upper bound estimate, we use the effective overall rate suggested by Swenson (2010) of 19.45%. This higher rate makes the provisions more valuable to businesses, and generates larger employment and secondary tax effects.

5.b. Projected employment effects for California.

Based on the findings above, in order to use the results in Table 4 to provide the basis for predictions in California, we estimate the specification in column 3 within groupings of two digit NAICS (with R&D intensive subgroups separated into their own category), state, establishment type (headquarters, stand alone, or branch), and headquarter location (in vs. out of state). In addition, we define size categories for employment as an additional cell grouping, as the continuous size measure used in the specifications in Table 4 suggest this is an important factor. Based on the distribution of employment at the establishment level, we grouped employment cells based on cutoff points at 2, 5, 25, 100, and 500.[7] It is worth noting that the distribution of establishment sizes is heavily skewed towards smaller establishment, with nearly 1.5 million employing only 1 to 2 individuals in 2008, while 1,564 establishments employ over 500 individuals. Yet these two groups employ, in total, nearly equal numbers. (See Table 5.)

We note that the specification in column 3 is a relatively conservative specification with regard to the overall positive employment effects of the tax provisions examined. In this specification, the impacts of SSF and NOLCF and NOLCB are all smaller than estimates shown in column 2. Again, we project effects of CS separately within the same groupings using the specification represent in column 4 of Table 4, and using the smaller sample suited to the CS situation, including only multi-establishment R&D intensive firms.

This procedure results in 848 sets of regression parameters for the specification based on column 3 of Table 4 and 211 parameters for the CS regression in column 4. Given the level of disaggregation we used to drill down to more detailed effects, sample sizes in certain cells are small, and some results may reflect statistical artifacts. We have not examined each cell in detail, as the broad conclusions across industries, establishment sizes and locations are strongly consistent with the finding of the overall regression, even if some anomalies appear in the detailed tables. These estimates are then applied within the same cells definitions of California NETS data for 2008 (the latest year available) in order to predict the establishment level impacts of the tax provisions. We then aggregate these impacts up by NAICS sector, establishment size groupings, and location within California. That is, we project the employment effect for establishment i within its cell as $\beta_1 \times SSF_{CA} + \beta_2 \times NOLCF_{CA} \times \beta_3 \times NOLCB_{CA} + \beta_4 \times CS_{CA}$ where the CA specific provisions are defined based on the tax provisions that would be repealed in California under Prop 24. Hence the impacts of the provisions are allowed to vary across the cell groupings, and are therefore appropriate for the individual establishment's characteristics at a substantially disaggregated level. Note that these results do not accurately represent the actual

[7] The number of establishments falling between each pair of cutoff points is 23,399,717 between 1 and 2 employees; 14,162,238 between 3 and 5; 9,965,323 between 6 and 25; 2,804,764 between 26 and 100; 691,327 between 101 and 500; and 117,694 over 501.

changes that would occur at each establishment, as they generally project non-integer changes in employment. However, once the establishment level projections are aggregated back up to industrial sectors, locations, and establishment size groups, the overall effects should be representative.

Overall, our estimates for the collective employment impacts of the four tax provisions based on the method described above and using the 8.84% tax rate is that these provisions lead to the creation of 146,200 jobs, and 321,674 jobs using the effective tax rate of 19.45%. These figures represent a lower bound of about 0.86% job growth, and an upper bound of about 1.88% job growth. It is also worth noting that, as our estimates are based on relative tax provision regimes across states, these represent ongoing yearly gains. Our methods do not provide a time frame for dampening of these effects.

These figures are consistent with those reported in Swenson (2010) for just the SSF effect, which he estimates at roughly 144,000. Hence the other provisions (NOLCF, NOLCB, CS) provide a substantial number of additional jobs when using the effective tax rate consistent with Swenson's research.

Since we estimated the effects at the industry/firm size level, we are able to provide disaggregated numbers within each such segment. Table 5 shows the projections broken down by industry, along with the percentage gain or in a few cases, loss in each industry. Table 6 reports these same figures tabulated by firm size based on employment in 2008. It is worth noting that the largest firms produce relatively more job growth in response to the tax provisions. About 30% of the new jobs are created by the 1,564 establishments with 2008 employment of over 500.

Table 7 provides a breakdown of the jobs created by county. The county level data also vary in proportion of new job creation due to the mix of industries and establishment levels represented in the county.

Table 8 shows a separate analysis for the impact of the CS provision. This component of the overall job impacts was compiled separately for firms identified as R&D intensive by their more detailed NAICS codes (see footnote 5), and restricting the sample to only multi-establishment firms, where credit sharing would be possible. Hence the potential pool for this group is 15,410 establishments. Overall, the impact of just the credit sharing provision for these firms is about half as large as the combined impact of the other three provisions. That is, for this group, the average increase in the rate of job growth due to the CS provision is 1.12% per year, while the overall rate is for these firms is 3.2% (not tabulated). Hence for R&D intensive firms, about a third of their job growth coming from the four tax provisions studied here is attributable to the CS provision.

It is worth noting that, though this study focuses on overall employment effects rather than impacts on the numbers of establishments likely to be created or destroyed in this process, the

jobs effects are to some extent informative regarding establishments. For example, the data underlying Table 6 show that the mean number of employees in the smallest category of employment size is 1.49. Hence the lower bound measure of 7,322 jobs corresponds to creation of over 4900 small establishments due to the tax provisions studied here, and over 10,800 small establishments at the upper bound estimate.

5.c. Projected sales tax effects.

The NETS database provides a measure of sales at the establishment level. As explained in the documentation for NETS, in a substantial fraction of cases, these sales are as-reported by the establishment, but in many cases it is not, either because the establishment in fact does not make sales or because they are not reported to D&B, the source of NETS data. In these cases, either D&B or NETS impute sales based on either parent-level sales carried down to subsidiaries or methods based on the employment share of the firm represented at a subsidiary. As no other source of establishment level sales is available to us, we use the NETS reported sales as a proxy for true sales. NETS indicates that in cases where an establishment does not make external sales (as could be the case in a vertically integrated firm producing its own intermediate products, for example), the sales reported by NETS are interpreted as a measure of economic activity at the firm.

In part, this problem is mitigated by our objective in this section of providing an estimate of sales tax effects. Hence we are primarily concerned with establishments that provide end user goods and services. By restricting attention to establishments in the retail sector (NAICS codes 44 and 45) and others sectors that provide goods and services to end users (NAICS codes 71 – Arts, Entertainment and Recreation, and 72 – Accommodation and Food Services) we can largely avoid areas where NETS is reporting imputed values. We also report estimates for sales tax effects for all sectors (including those not engaged only in retail sales) for two reasons. First, there are considerable sub-segments of other 2-digit NAICS codes where end use sales are likely to take place. Second, a substantial portion of these sales revenues will be paid out to employees and subsequently spent and taxed. Hence there is likely a considerable multiplier effect. Hence w provide both a conservative estimate of sales tax effects based only on sectors that are clearly retail, and a more aggressive figure that includes all sectors.

However, our methods provide no basis for quantifying the magnitude of this multiplier. As a result in the second column we limit the estimates to include only those establishments in industry segments that primarily engage in retail activity.

In order to make the projections, we collected county and local level tax rates from the California State Board of Equalization and merged these with the location data (available down to exact

longitude and latitude) for each establishment.[8] Hence we are able to apply the exact local rate in each case.

Twenty-one locations appearing in the NETS California database had no exact location name match in the BOE sales tax data. Since in the vast majority of cases the local rate follows its county rate, we assumed that this was also true for the 21 localities with no match. We note that, to the extent this assumption is incorrect for a few of these locations, the error introduced is very small. The differences between the county and city sales tax rate in all cases is at most 1%, and the cities in question are small, containing a few small establishments. In total, in the locations in question, there are 616 establishments and 5,174 employees.

In order to make the link from the estimated employment effects to sales growth, we used the ratio of sales to employees in the California 2008 slice of the NETS database to estimate these ratios within cells of a 2-digit NAICS/establishment size breakdown, using the same employment size groups noted above. Table 9 shows the median value of sales per employee for California establishments in 2008 by industry. We then apply the employment growth rates estimated for those same cells to find sales growth, and finally apply these growth rates to reported sales (from NETS) at the establishment level in 2008. The resulting figures are tabulated in SR2 at the county level, as the data reflect variation due to local differences in sales tax rates..

The first results column in Table 10 assumes that sales taxes apply to all sales reported by NETS for all establishments. As noted above, this impact of over $1.6 billion (at the statutory rate) to $3.6 billion (at the effective rate) is likely a substantial overestimate of the actual sales tax effect as many establishments do not engage in retail sales of goods or services. However, we believe it is a useful number to note. In contrast, the columns labeled “Selected Industries” include only the retail sector described above. Hence this provides a lower bound estimate. These generate increased sales tax revenue of nearly $200 million (statutory rate) to $437 million (effective rate), even allowing for the projected reductions in Accommodations and Food Services.

Table 10 reflects both the base California sales tax rate of 8.25% and any local additional amounts. In order to see the impact of the tax provisions on only the local sales tax surcharges, Table 11 reports at the county level based on only local surcharges within that county. Note that the data both Tables 10 and 11 reflect county and locality variation in tax rates.

[8] These rates are available in *California City and County Sales and Use Tax Rates*, available from the Board of Equalization on the web at http://www.boe.ca.gov/pdf/pub71.pdf.

5.d. Personal income tax effects.

We collected annual average income statistics for California in 2009 at the two-digit NAICS code level from the Bureau of Labor Statistics. These averages are shown in Table 12. Note that no figure was available for NAICS 22 (Utilities). We therefore exclude 3042 establishments in this industry group from this analysis.

We calculate the tax based on Schedule X in the 2010 California Tax Rate Schedules.[9] This results in industry grouping based taxes per employee ranging from $382.74 (in NAICS 72: Accommodation and Food Services) to $8,556.50 (in NAICS 21: Mining, Quarrying and Oil and Gas Extraction).

We then apply these average personal taxes to projected change in employment at the establishment level. The result is a projected reduction in California personal income tax revenues of over $460 million at the statutory tax rate and over $1 billion at the effective rate.

5.e. Business taxes effects.

Since the NETS data do not include any income measures for establishments, to estimate the impact of the tax provisions on business tax revenues to the state of California we use median pre-tax income per employee based on data for all publicly traded firms during the period from 2003 –2008. Across all active firms in that time period, this median is $5468. We note that this figure is in line with estimates for California's state budget. In particular, the 2010–11 Governor's Budget Estimate reports that the Fiscal 2009-10 Corporation Tax was approximately $8.8 billion.[10] Multiplying the total number of California establishment level employees in NETS (17,020,623) by $5468 yields approximately $93 billion in pre-tax business income. Applying the 8.84% California business tax rate therefore produces about $8.2 billion in tax revenue. Hence even our relatively crude approach comes within approximately 7% of the actual figure.

Since we are concerned only with the average impact of employment changes to the state general revenue fund in this case, applying the median value to all establishments in California should provide reasonable estimates as individual variation will be averaged. Applying the total job loss increases due to the tax provisions reported above to the median pre-tax income per employee and California tax rate, we obtain an estimated increase in business taxes due to the four tax provisions of about $71 million using the statutory rate and $342 using the higher effective rate. The relatively large disparity between these values is due to the fact that both the employment effects are larger when using the higher rate, and the tax rate applied to our estimate of business income is higher.

[9] Rate schedule available on the web at http://www.ftb.ca.gov/forms/2010_California_Tax_Rates_and_Exemptions.shtml.

[10] This California state budget document is available on the web at http://www.ebudget.ca.gov/pdf/BudgetSummary/RevenueEstimates.pdf.

6. Conclusion.

This study uses establishment level from seven states that have experienced changes in one or more tax policies to establish the relations between those tax policies and employment growth at the state level. The tax policies examined are single sales factor (vs. apportionment rules based on weighted averages of sales, property and payroll), R&D tax credit sharing between divisions an entity filing on a unified basis, and net operating loss carrybacks and carryforwards. The finding from regressions using over 38 million observation points across these seven states from 1990 to 2008 show that all four policies are associated with higher employment growth rates. These are the tax policies that Proposition 24 would repeal. The regression results are applied to California data at the establishment level to predict employment growth in California if these policies remain in place in California.

Two business tax rates are used in the forecasts, one the statutory rate of 8.84%, and another an estimate of the effective rate including other tax code provisions. These yield a lower and upper bound for employment effects based on single year growth beginning in 2011 of between 146,200 and 321,674 jobs gained if the currently enacted provisions remain in effect. These increases would occur again yearly for up to several years. Alternatively, if the tax provisions are repealed, these jobs would be lost.

The employment growth figures are then used as the basis for projections of these tax provisions on California sales tax revenue, personal income tax revenue, and business tax revenue. Collectively these yield a lower bound estimate of increased tax revenues totaling $731 million at the lower bound estimate, and an increase of up to $1.8 billion at the upper bound estimate if the currently enacted tax provisions remain in effects. As with the jobs effects, these increases would be expected to occur again yearly for up to several years. Alternatively, if the tax provisions are repealed, the tax revenue increases would be lost.

Since the regression estimates reflect average employment growth response to the tax provisions, it is likely that these increases would also continue to grow at the rates suggested here for several years. Consequently, the potential impact of allowing the provisions studied to take effect could yield substantial benefits in terms of both employment and tax revenues in California. Conversely, the passage of Proposition 24, which would repeal these provisions, will have just the opposite effect, resulting in significant job losses and the corresponding revenue losses to the state.

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APPENDIX A

Comparison of tax provisions across the Federal tax code, the ten largest states and seven additional western states.

	Has one or more of the tax policies Prop. 24 would repeal in California:	
FEDERAL GOVERNMENT	Y	NOL, Credit Sharing, (SSF n/a)
TEN LARGEST STATES		
California – if Prop. 24 passes	**N**	
California – if Prop. 24 is defeated	Y	NOL, Credit Sharing, SSF
Texas	Y	NOL, SSF
New York	Y	NOL, Credit Sharing, SSF
Florida	Y	NOL
Illinois	Y	NOL, Credit Sharing, SSF
Pennsylvania	Y	NOL, Credit Sharing
Ohio	Y	NOL, Credit Sharing, SSF
Michigan	Y	Credit Sharing, SSF
Georgia	Y	NOL, Credit Sharing, SSF
North Carolina	Y	NOL, Credit Sharing
WESTERN STATES		
Washington	no tax	State has no income tax
Nevada	no tax	State has no income tax
Oregon	Y	NOL, Credit Sharing, SSF
Arizona	Y	Credit Sharing
Utah	Y	NOL, Credit Sharing
Colorado	Y	NOL, Credit Sharing, SSF
New Mexico	Y	NOL

NOTE: Proposition 24 would roll back the number of years of NOL carryforward from 20 to 10. Only New Mexico would have as few as this and none of the other provisions among the comparison states.

Sources: Materials assembled by the Rose Institute at Claremont McKenna College, drawn primarily from Commerce Clearing House Tax database and individual state tax authorities.

Table 1. Distribution of Pre-Tax Income Losses By Year and Employee Size Decile Rank.

	Size Deciles (Median Number of Employees in Size Decile Reported Below Decile Value)										
Decile Rank:	1	2	3	4	5	6	7	8	9	10	Total
Median Employees:	8	44	102	180	312	580	1,146	2,406	6,000	28,100	498
Year											
1990	63.16%	54.44%	44.24%	38.49%	31.03%	30.41%	25.00%	22.03%	21.08%	13.68%	35.33%
	828	766	660	621	622	605	684	699	650	658	6,793
1991	64.12%	54.10%	45.05%	36.92%	30.96%	24.51%	26.63%	26.51%	26.68%	18.77%	36.42%
	797	830	666	650	675	657	646	747	656	634	6,958
1992	62.18%	53.98%	42.20%	34.41%	29.13%	23.57%	24.29%	22.74%	20.65%	17.57%	33.85%
	772	880	673	712	738	717	708	774	678	643	7,295
1993	61.83%	50.97%	46.04%	36.68%	32.27%	22.49%	20.21%	18.58%	21.11%	13.78%	33.03%
	765	926	808	796	784	827	757	791	758	653	7,865
1994	64.76%	53.49%	43.76%	37.50%	28.45%	24.82%	15.23%	14.96%	11.71%	8.89%	30.73%
	735	916	850	816	819	842	801	849	794	675	8,097
1995	61.57%	53.25%	47.82%	37.38%	31.90%	25.77%	19.50%	19.66%	15.03%	8.45%	32.37%
	739	892	941	840	881	881	846	824	845	698	8,387
1996	60.47%	56.06%	48.90%	38.11%	35.52%	24.41%	22.78%	18.93%	14.11%	6.54%	32.77%
	726	940	953	921	960	938	869	877	893	749	8,826
1997	62.28%	58.43%	51.66%	45.12%	37.75%	28.26%	22.25%	19.06%	16.79%	7.87%	34.66%
	684	907	935	933	914	906	935	876	917	801	8,808
1998	68.40%	58.25%	57.58%	49.72%	39.58%	32.66%	29.39%	25.03%	20.26%	12.75%	38.69%
	674	891	891	903	902	891	912	887	928	847	8,726
1999	70.91%	57.71%	53.71%	50.19%	42.65%	36.25%	31.27%	24.45%	20.45%	10.44%	39.83%
	801	1,024	970	1,046	987	993	1,017	912	934	881	9,565
2000	75.26%	58.29%	56.49%	48.77%	45.83%	41.52%	35.28%	30.05%	21.36%	13.42%	42.55%
	877	947	917	972	1,032	961	992	882	927	924	9,431
2001	79.92%	61.18%	57.78%	54.81%	48.78%	41.47%	40.74%	36.68%	31.12%	23.54%	48.02%
	981	953	893	894	898	897	896	856	842	939	9,049
2002	77.22%	58.68%	51.21%	47.04%	44.60%	38.66%	33.79%	27.99%	24.91%	21.48%	42.87%
	948	881	828	795	843	838	879	804	839	917	8,572
2003	76.56%	57.37%	45.21%	42.95%	36.25%	32.92%	29.29%	25.62%	21.40%	15.69%	38.58%
	913	889	772	801	822	799	850	804	827	918	8,395
2004	75.71%	55.85%	44.30%	43.28%	32.57%	27.85%	25.71%	20.05%	13.43%	11.33%	35.00%
	885	838	763	841	783	797	848	808	856	909	8,328
2005	74.19%	57.60%	45.32%	41.71%	32.60%	29.35%	22.02%	19.59%	16.67%	9.00%	34.40%
	833	809	790	844	813	804	840	786	870	933	8,322
2006	70.98%	59.95%	47.34%	42.62%	35.01%	26.66%	21.96%	17.00%	14.64%	7.16%	33.74%
	803	794	771	833	794	799	806	800	847	936	8,183
2007	71.79%	61.43%	48.76%	47.97%	40.71%	30.45%	26.82%	22.32%	18.26%	8.93%	36.91%
	748	770	765	813	759	798	742	811	827	929	7,962
2008	74.70%	67.53%	57.86%	55.46%	47.68%	42.37%	38.29%	34.24%	31.38%	22.64%	45.98%
	676	699	674	705	734	734	747	771	784	923	7,447
2009	72.23%	66.19%	59.47%	59.13%	50.08%	42.48%	40.48%	32.05%	28.62%	20.16%	45.53%
	569	556	533	553	627	652	625	674	636	769	6,194
Total	69.81%	57.46%	49.84%	44.47%	37.86%	31.42%	27.60%	23.81%	20.24%	13.65%	37.58%
	15,754	17,108	16,053	16,289	16,387	16,336	16,400	16,232	16,308	16,336	163,203

Source: Standard and Poor's COMPUTSTAT.

Note: Data in this table represent all publicly traded firms (from all states and ADRs) reporting to the Securities and Exchange Commission during the period from 1990 - 2009.

Table 2. Distribution of Establishments Across States and Years in the NETS Sample Used for Regression Analysis.

Year	GA	IL	LA	NY	OR	UT	WI	Total
1990	230,013	454,367	143,115	673,801	142,100	63,215	197,030	1,903,641
1991	231,759	450,584	143,877	676,187	147,275	64,969	202,101	1,916,752
1992	233,333	455,180	142,525	692,684	147,524	65,682	205,312	1,942,240
1993	246,565	486,153	147,635	771,099	155,002	69,891	216,590	2,092,935
1994	252,557	496,982	150,840	789,189	162,144	73,950	222,427	2,148,089
1995	304,746	525,506	175,697	851,546	172,418	79,854	240,140	2,349,907
1996	317,130	521,713	178,661	847,386	177,164	83,064	242,303	2,367,421
1997	337,045	544,682	185,345	873,891	187,586	93,626	248,888	2,471,063
1998	359,249	551,088	197,649	892,971	194,347	99,634	254,683	2,549,621
1999	367,849	545,775	196,950	876,178	199,614	102,457	256,649	2,545,472
2000	374,332	537,704	194,482	860,389	199,490	103,211	255,737	2,525,345
2001	398,866	550,373	203,323	889,047	205,847	108,094	263,434	2,618,984
2002	453,252	577,610	224,109	982,358	228,171	140,378	276,859	2,882,737
2003	506,583	595,926	240,106	1,079,201	250,301	170,343	282,046	3,124,506
2004	517,054	602,087	244,417	1,085,256	250,834	171,380	286,817	3,157,845
2005	537,562	614,080	244,211	1,079,912	249,367	164,317	292,899	3,182,348
2006	603,105	641,299	256,550	1,111,040	256,341	164,768	304,743	3,337,846
2007	632,455	666,221	268,666	1,152,067	265,048	172,165	315,161	3,471,783
2008	678,965	705,264	284,399	1,217,653	279,640	183,764	334,378	3,684,063
Total	7,582,420	10,522,594	3,822,557	17,401,855	3,870,213	2,174,762	4,898,197	50,272,598

Table 3. Employment by Industry and State in 2008 from NETS Data.

NAICS Industry Title (2007)	NAICS* Two-Digit Indutry Segment (2007)	GA	IL	LA	NY	OR	UT	WI	Total
11	Agriculture, Forestry, Fishing and Hunting	42,972	53,184	19,233	40,110	51,996	9,090	54,655	271,240
21	Mining, Quarrying, and Oil and Gas Extraction	9,896	12,010	43,746	6,599	2,098	14,064	2,613	91,026
22	Utilities	28,241	25,854	15,912	55,786	11,470	6,325	19,698	163,286
23	Construction	328,771	342,136	151,600	455,842	121,608	96,319	162,754	1,659,030
31	Manufacturing	177,550	122,148	29,738	199,359	43,047	21,147	72,378	665,367
32	Manufacturing	174,534	262,909	71,140	247,732	69,967	36,206	176,267	1,038,755
33	Manufacturing	224,518	494,339	84,119	450,712	118,957	80,333	340,021	1,792,999
42	Wholesale Trade	244,039	354,293	103,357	506,988	99,842	69,207	138,795	1,516,521
44	Retail Trade	387,352	450,787	177,053	723,229	147,744	103,288	225,617	2,215,070
45	Retail Trade	167,414	230,040	90,288	271,886	71,262	55,659	123,285	1,009,834
48	Transportation and Warehousing	152,884	198,411	68,607	234,053	45,851	39,895	85,599	825,300
49	Transportation and Warehousing	53,293	85,315	22,304	94,575	15,530	14,389	31,527	316,933
51	Information	170,449	171,610	42,946	357,651	51,321	38,688	68,415	901,080
52	Finance and Insurance	228,611	411,677	85,022	635,816	82,308	69,648	141,706	1,654,788
53	Real Estate and Rental and Leasing	152,762	178,580	69,094	346,883	60,661	40,677	66,964	915,621
54	Professional, Scientific, and Technical Services	388,673	540,451	134,033	918,893	127,878	102,910	147,338	2,360,176
56	Administrative and Support and Waste Management and Remediation Services	351,743	343,960	141,450	547,475	99,850	77,070	131,250	1,692,798
61	Educational Services	295,586	452,059	172,901	729,052	134,019	80,535	196,775	2,060,927
62	Health Care and Social Assistance	495,312	745,959	299,375	1,304,893	202,941	111,236	392,008	3,551,724
71	Arts, Entertainment, and Recreation	66,040	128,524	44,703	183,523	35,202	20,210	57,024	535,226
72	Accommodation and Food Services	341,744	418,095	179,587	585,979	133,577	82,233	222,968	1,964,183
81	Other Services (except Public Administration)	290,073	374,726	136,171	510,404	101,570	70,865	162,464	1,646,273
99	Other Unclassified	4,058	2,048	819	4,315	701	890	441	13,272
	Total	4,776,515	6,399,115	2,183,198	9,411,755	1,829,400	1,240,884	3,020,562	28,861,429

*NAICS codes are available from the U.S. Census Bureau on the web at http://www.census.gov/eos/www/naics/.

Table 4. Impact of Tax Provisions on Employment.

Robust (White) standard errors reported in parentheses. Significance level denoted by stars (*<.05, **<.01, ***<.001).

	Dependent Variable			
Independent Variables	Employment Growth (%)	Employment Growth (%)	Employment Growth (%)	Employment Growth (%)
Single Sales Factor Value	0.0015 (2.18)**	0.0090 (3.83)***	0.0020 (2.87)**	
NOL Carry Forward Value		0.0015 (4.19)***	0.0003 (2.47)**	
NOL Carry Back Value		0.0038 (2.91)**	0.0011 (2.76)**	
Credit Sharing Value				0.0230 (5.84)***
Lagged Employment	-0.0003 (-10.70)***	-0.0004 (-1.48)***	-0.0003 (-10.69)***	-0.0001 (-10.65)
Size[i]	0.00 (1.86)	0.00 (3.44)***	0.00 (1.86)	0.00 (3.24)***
Sales Squared	-0.00 (-0.86)	-0.00 (-2.68)**	-0.00 (-0.86)	-0.00 (-2.28)*
Industry Profit Margin	0.0073 (33.26)***	0.0076 (21.03)***	0.0073 (33.27)***	0.0159 (38.72)
PayDexMax Change		0.0145 (1.87)		
Out of State Headquarters	0.0205 (3.02)**	0.0463 (3.48)***	0.0206 (3.02)**	0.0225 (1.11)
Standalone	-0.0986 (-21.17)***	-0.0952 (-9.72)***	-0.0986 (-21.18)***	-0.1245 (6.68)
Constant	0.1775 (15.23)***	0.0493 (1.00)	0.1195 (5.85)***	0.0405 (0.90)
NAICS2 Dummies	Yes	Yes	Yes	Yes
State Dummies	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes
Adjusted R^2 (%)	0.03	0.03	0.03	0.08
Observations	38.5 million	8.8 million	38.5 million	2.7 million

[i] Size is measured using one year lagged sales (and its square) at the establishment level.

Table 5. Effects of California's Recent Tax Changes on Jobs By Industry.

The results in this table should be interpreted as job gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these jobs will be lost.

		At Statutory Tax Rate		At Effective Tax Rate			
NAICS* Two-Digit Indutry Segment (2007)	NAICS Industry Title (2007)	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Total Jobs	Establishments
11	Agriculture, Forestry, Fishing and Hunting	-4,498	-1.88%	-9,898	-4.14%	238,851	30,838
21	Mining, Quarrying, and Oil and Gas Extraction	-52	-0.20%	-114	-0.43%	26,579	2,001
22	Utilities	1,105	1.40%	2,430	3.08%	78,872	3,042
23	Construction	9,474	0.94%	20,844	2.07%	1,006,271	188,540
31	Manufacturing	3,435	0.98%	7,559	2.15%	351,498	25,128
32	Manufacturing	4,181	0.91%	9,200	2.00%	459,135	30,751
33	Manufacturing	14,467	1.18%	31,832	2.59%	1,228,672	69,082
42	Wholesale Trade	4,235	0.43%	9,318	0.94%	991,405	132,022
44	Retail Trade	6,444	0.49%	14,179	1.09%	1,303,366	197,994
45	Retail Trade	9,239	1.57%	20,329	3.44%	590,164	103,154
48	Transportation and Warehousing	5,658	1.52%	12,450	3.34%	372,243	49,977
49	Transportation and Warehousing	3,023	1.81%	6,651	3.99%	166,693	10,007
51	Information	9,289	1.42%	20,438	3.12%	655,266	72,427
52	Finance and Insurance	5,060	0.55%	11,134	1.21%	917,670	138,911
53	Real Estate and Rental and Leasing	2,051	0.35%	4,513	0.76%	593,307	126,678
54	Professional, Scientific, and Technical Services	18,599	1.12%	40,921	2.47%	1,656,560	320,145
56	Administrative and Support and Waste Management and Remediation Services	17,335	1.63%	38,141	3.58%	1,066,524	248,153
61	Educational Services	10,224	0.93%	22,495	2.04%	1,100,640	37,249
62	Health Care and Social Assistance	14,648	0.86%	32,228	1.88%	1,710,069	184,679
71	Arts, Entertainment, and Recreation	1,223	0.35%	2,692	0.78%	346,056	51,231
72	Accommodation and Food Services	-4,884	-0.41%	-10,746	-0.91%	1,184,205	88,198
81	Other Services (except Public Administration)	15,835	1.64%	34,841	3.61%	965,803	250,085
99	Other Unclassified	108	1.00%	237	2.20%	10,774	2,847
	Total	146,200	0.86%	321,674	1.89%	17,020,623	2,363,139

*NAICS codes are available from the U.S. Census Bureau on the web at http://www.census.gov/eos/www/naics/.

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the overall regression findings based on the pooled data and reported in Table R1. However, the individual category results should be interpreted with greater caution as smaller sample sizes in some cells are likely to result in less accurate predictions. The "Total" findings have a greater degree of accuracy than individual cell results. This note applies to all disaggregated tables.

Table 6. Effects of California's Recent Tax Changes on Jobs By Establishment Size.

The results in this table should be interpreted as job gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these jobs will be lost.

	At Statutory Tax Rate		At Effective Tax Rate			
Establishment Size Measured Using Employment	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Total Jobs	Establishments
1 to 2 employees	7,322	0.33%	16,109	0.73%	2,203,149	1,480,739
3 to 5 employees	25,679	1.52%	56,500	3.35%	1,689,017	456,316
6 to 25 employees	39,496	1.05%	86,899	2.32%	3,745,386	324,456
26 to 100 employees	-203	0.00%	-446	-0.01%	4,233,941	84,685
101 to 500 employees	28,914	0.93%	63,617	2.05%	3,108,049	15,379
over 500 employees	44,993	2.20%	98,994	4.85%	2,041,081	1,564
Total	146,200	0.86%	321,674	1.89%	17,020,623	2,363,139

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the overall regression findings based on the pooled data and reported in Table R1. However, the individual category results should be interpreted with greater caution as smaller sample sizes in some cells are likely to result in less accurate predictions. The "Total" findings have a greater degree of accuracy than individual cell results. This note applies to all disaggregated tables.

Table 7. Effects of California's Recent Tax Changes on Jobs By County.

The results in this table should be interpreted as job gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these jobs will be lost.

		At Statutory Tax Rate		At Effective Tax Rate			
FIPS County Code*	County	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Job Increase (+) or Loss (-) from Current Tax Provisions	% increase (+) or loss (-) from Current Tax Provisions	Total Jobs	Establishments
1	Alameda	6,776	0.85%	14,909	1.87%	797,040	97,793
3	Alpine	3	0.64%	7	1.48%	472	85
5	Amador	182	1.35%	400	2.98%	13,435	2,618
7	Butte	784	0.92%	1,725	2.03%	84,950	13,727
9	Calaveras	90	0.74%	197	1.61%	12,240	2,971
11	Colusa	24	0.33%	53	0.74%	7,182	1,345
13	Contra Costa	3,027	0.74%	6,661	1.63%	409,752	62,528
15	Del Norte	33	0.48%	72	1.04%	6,939	1,258
17	El Dorado	553	0.91%	1,216	2.00%	60,758	12,627
19	Fresno	3,050	0.97%	6,712	2.13%	315,201	42,768
21	Glenn	62	0.71%	136	1.56%	8,695	1,747
23	Humboldt	502	1.03%	1,104	2.28%	48,507	7,703
25	Imperial	222	0.47%	488	1.04%	47,031	6,212
27	Inyo	37	0.44%	82	0.96%	8,499	1,337
29	Kern	1,912	0.76%	4,207	1.67%	251,310	35,706
31	Kings	319	1.03%	702	2.26%	31,117	4,231
33	Lake	71	0.39%	155	0.85%	18,331	3,634
35	Lassen	37	0.48%	82	1.06%	7,758	1,508
37	Los Angeles	42,287	0.87%	93,042	1.91%	4,870,956	690,143
39	Madera	307	0.78%	676	1.73%	39,165	5,924
41	Marin	1,287	0.88%	2,831	1.94%	145,577	28,466
43	Mariposa	38	0.67%	84	1.49%	5,630	1,100
45	Mendocino	302	0.80%	665	1.77%	37,670	6,403
47	Merced	445	0.62%	979	1.36%	71,936	8,522
49	Modoc	-2	-0.06%	-5	-0.15%	3,383	650
51	Mono	9	0.13%	19	0.28%	6,671	1,115
53	Monterey	1,494	0.84%	3,287	1.85%	177,207	22,731
55	Napa	443	0.61%	975	1.34%	72,705	10,163
57	Nevada	476	1.19%	1,048	2.61%	40,138	8,871
59	Orange	17,232	0.92%	37,915	2.03%	1,868,755	244,393
61	Placer	1,306	0.89%	2,874	1.96%	146,264	23,260
63	Plumas	67	0.81%	148	1.78%	8,296	1,656
65	Riverside	5,290	0.83%	11,640	1.82%	641,065	97,781
67	Sacramento	5,923	1.03%	13,032	2.26%	576,224	76,350
69	San Benito	79	0.44%	173	0.96%	18,012	2,786
71	San Bernardino	6,036	0.90%	13,281	1.98%	671,904	95,483
73	San Diego	13,359	0.90%	29,394	1.98%	1,485,241	206,326
75	San Francisco	4,557	0.75%	10,027	1.65%	607,485	72,015
77	San Joaquin	1,884	0.85%	4,145	1.86%	222,727	28,920
79	San Luis Obispo	636	0.57%	1,400	1.25%	111,663	20,563
81	San Mateo	3,382	0.83%	7,441	1.82%	408,971	51,453
83	Santa Barbara	1,443	0.68%	3,175	1.50%	211,231	28,464
85	Santa Clara	9,254	0.90%	20,361	1.98%	1,030,549	116,623
87	Santa Cruz	886	0.75%	1,950	1.64%	118,734	20,538
89	Shasta	427	0.56%	939	1.23%	76,222	12,826
91	Sierra	-5	-0.63%	-10	-1.27%	790	197
93	Siskiyou	86	0.48%	190	1.06%	17,894	3,624
95	Solano	1,095	0.81%	2,409	1.79%	134,579	20,870
97	Sonoma	1,794	0.83%	3,946	1.82%	216,474	35,110
99	Stanislaus	1,470	0.86%	3,234	1.89%	171,383	24,350
101	Sutter	93	0.32%	205	0.71%	28,853	4,928
103	Tehama	195	1.05%	428	2.30%	18,615	3,089
105	Trinity	20	0.56%	43	1.21%	3,565	765
107	Tulare	480	0.39%	1,057	0.86%	123,408	17,055
109	Tuolumne	187	0.89%	412	1.96%	20,982	3,876
111	Ventura	2,912	0.77%	6,407	1.70%	377,801	53,612
113	Yolo	708	0.84%	1,558	1.86%	83,966	9,694
115	Yuba	117	0.63%	258	1.38%	18,715	2,646
	Total	145,685	0.86%	320,540	1.88%	17,020,623	2,363,139

*FIPS location codes are available form the U.S. Census Bureau on the web at http://www.census.gov/datamap/fipslist/AllSt.txt.

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the overall regression findings based on the pooled data and reported in Table R1. However, the individual category results should be interpreted with greater caution as smaller sample sizes in some cells are likely to result in less accurate predictions. The "Total" findings have a greater degree of accuracy than individual cell results. This note applies to all disaggregated tables.

Table 8. Effects of California's Recent Tax Changes on Jobs By Industry For R&D Intensive Firms.

The results in this table should be interpreted as job gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these jobs will be lost.

		High Tech Establshments in Multi-Establishment Firms Only					
		At Statutory Tax Rate		At Effective Tax Rate			
NAICS* Two-Digit Indutry Segment (2007)	NAICS Industry Title (2007)	Job Increase (+) or Loss (-) Due to R&D Credit Sharing	% Increase (+) or Loss (-) Due to R&D Credit Sharing	Job Increase (+) or Loss (-) Due to R&D Credit Sharing	% Increase (+) or Loss (-) Due to R&D Credit Sharing	Total Jobs	Establishments
32	Manufacturing	845	1.02%	1,859	2.24%	82,975	1,217
33	Manufacturing	2,723	0.52%	5,990	1.15%	519,070	4,337
51	Information	268	0.40%	590	0.88%	67,211	613
54	Professional, Scientific, and Technical Services	1,280	0.36%	2,817	0.80%	351,060	8,618
61	Educational Services	175	0.61%	385	1.34%	28,724	476
81	Other Services (except Public Administration)	66	1.17%	144	2.56%	5,633	149
	Total	5,357	0.51%	11,786	1.12%	1,054,673	15,410

Note: Only certain subsections of the industries shown are included in High Tech. These are based on Wu (May, 2008), and include include NAICS codes 32411, 3251, 3252, 3253, 3264, 3255, 3256, 3259, 332992, 332993, 332994, 332995, 3331, 3332, 3333, 3336, 3339, 3341, 3342, 3343, 3344, 3345, 3346, 3353, 33599, 3361, 3362, 3363, 3364, 3391, 5112, 514191, 5142, 5413, 5415, 5416, 5417, 6117, 811212. In brief, these include petroleum, a variety of chemicals and chemical processing based products, pharmaceuticals, certain machinery, certain electronic equipment, including a variety of instruments and computer components and support services, certain motor vehicle components, medical equipment, software, online services, data processing, engineering, certain consulting services, R&D services, educational support services. A key characteristic tying these together is a basis in R&D, which makes establishments in these industries good candidates for R&D credit sharing tax provisions for firms with multiple establishments filing as a unified entity.

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the overall regression findings based on the pooled data and reported in Table R1. However, the individual category results should be interpreted with greater caution as smaller sample sizes in some cells are likely to result in less accurate predictions. The "Total" findings have a greater degree of accuracy than individual cell results. This note applies to all disaggregated tables.

Table 9: Sales to Employment Ratios for California in 2008.

NAICS* Two-Digit Indutry Segment (2007)	NAICS Industry Title (2007)	Median Sales per Employee
11	Agriculture, Forestry, Fishing and Hunting	$71,606
21	Mining, Quarrying, and Oil and Gas Extraction	$158,781
22	Utilities	$226,382
23	Construction	$123,456
31	Manufacturing	$87,324
32	Manufacturing	$102,508
33	Manufacturing	$112,104
42	Wholesale Trade	$201,809
44	Retail Trade	$113,172
45	Retail Trade	$69,984
48	Transportation and Warehousing	$91,023
49	Transportation and Warehousing	$65,462
51	Information	$82,939
52	Finance and Insurance	$128,759
53	Real Estate and Rental and Leasing	$87,885
54	Professional, Scientific, and Technical Services	$84,337
56	Administrative and Support and Waste Management and Remediation Services	$73,459
61	Educational Services	$50,253
62	Health Care and Social Assistance	$59,917
71	Arts, Entertainment, and Recreation	$54,358
72	Accommodation and Food Services	$39,651
81	Other Services (except Public Administration)	$49,371
99	Other Unclassified	$4,127

*NAICS codes are available from the U.S. Census Bureau on the web at http://www.census.gov/eos/www/naics/.

Table 10. Effects of California's Recent Tax Changes on Sales Tax Revenues By County.

The results in this table should be interpreted as tax revenue gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these tax revenues will be lost.

		At Statutory Tax Rate		At Effective Tax Rate	
FIPS County Code*	County	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions - Selected Industires	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions - Selected Industires
1	Alameda	$69,984,029	$7,803,647	$153,980,696	$17,169,790
3	Alpine	-$4,464	$863	-$9,822	$1,899
5	Amador	$1,434,365	$594,100	$3,155,929	$1,307,155
7	Butte	$7,135,621	$980,371	$15,699,981	$2,157,039
9	Calaveras	$840,112	$77,877	$1,848,436	$171,347
11	Colusa	$129,391	$12,475	$284,690	$27,447
13	Contra Costa	$30,606,432	$2,486,569	$67,341,076	$5,471,015
15	Del Norte	$277,388	$114,431	$610,316	$251,774
17	El Dorado	$5,109,303	$488,672	$11,241,622	$1,075,190
19	Fresno	$31,008,719	$4,507,641	$68,226,199	$9,917,831
21	Glenn	$605,887	$92,044	$1,333,089	$202,517
23	Humboldt	$5,335,431	$956,141	$11,739,155	$2,103,726
25	Imperial	$3,024,179	$649,003	$6,653,877	$1,427,953
27	Inyo	$88,547	$108,886	$194,824	$239,575
29	Kern	$23,040,723	$3,037,230	$50,694,804	$6,682,592
31	Kings	$3,475,281	$1,087,881	$7,646,405	$2,393,585
33	Lake	$227,365	$260,696	$500,254	$573,590
35	Lassen	$535,400	$92,792	$1,178,001	$204,164
37	Los Angeles	$528,733,946	$57,943,618	$1,163,334,304	$127,489,071
39	Madera	$3,152,269	$371,853	$6,935,705	$818,162
41	Marin	$12,898,663	$1,639,098	$28,379,976	$3,606,387
43	Mariposa	$279,910	$70,653	$615,865	$155,452
45	Mendocino	$4,999,309	$356,552	$10,999,610	$784,494
47	Merced	$4,855,473	$896,264	$10,683,139	$1,971,983
49	Modoc	-$310,974	$17,941	-$684,213	$39,474
51	Mono	$121,363	$6,566	$267,025	$14,447
53	Monterey	$15,932,545	$1,650,423	$35,055,203	$3,631,305
55	Napa	$4,158,482	$1,169,762	$9,149,601	$2,573,741
57	Nevada	$5,196,346	$385,678	$11,433,137	$848,580
59	Orange	$195,011,448	$17,996,994	$429,069,305	$39,597,459
61	Placer	$11,284,655	$1,376,358	$24,828,794	$3,028,300
63	Plumas	$595,082	$95,063	$1,309,316	$209,160
65	Riverside	$49,239,332	$10,657,007	$108,337,672	$23,447,826
67	Sacramento	$69,569,425	$7,209,500	$153,068,476	$15,862,530
69	San Benito	$783,659	$209,276	$1,724,228	$460,454
71	San Bernardino	$60,716,063	$7,903,601	$133,589,074	$17,389,711
73	San Diego	$146,385,306	$18,219,179	$322,080,795	$40,086,316
75	San Francisco	$64,260,168	$2,980,691	$141,386,906	$6,558,194
77	San Joaquin	$17,540,725	$3,142,680	$38,593,565	$6,914,608
79	San Luis Obispo	$6,919,422	$1,992,587	$15,224,294	$4,384,141
81	San Mateo	$39,965,237	$5,863,777	$87,932,562	$12,901,636
83	Santa Barbara	$14,772,444	$2,939,492	$32,502,719	$6,467,548
85	Santa Clara	$109,442,311	$10,921,711	$240,797,841	$24,030,235
87	Santa Cruz	$9,558,514	$1,935,944	$21,030,893	$4,259,514
89	Shasta	$1,791,290	$1,222,737	$3,941,242	$2,690,298
91	Sierra	-$35,718	$7,031	-$78,588	$15,470
93	Siskiyou	$581,365	$225,959	$1,279,135	$497,160
95	Solano	$8,392,449	$1,603,831	$18,465,287	$3,528,792
97	Sonoma	$17,893,332	$4,117,588	$39,369,380	$9,059,625
99	Stanislaus	$17,149,949	$2,284,722	$37,733,768	$5,026,905
101	Sutter	$806,213	$379,979	$1,773,851	$836,040
103	Tehama	$1,598,903	$282,359	$3,517,948	$621,254
105	Trinity	$125,770	$18,480	$276,722	$40,660
107	Tulare	$5,621,197	$1,801,217	$12,367,906	$3,963,084
109	Tuolumne	$1,790,680	$259,805	$3,939,901	$571,630
111	Ventura	$28,067,135	$4,118,233	$61,754,045	$9,061,045
113	Yolo	$5,797,872	$1,030,252	$12,756,632	$2,266,788
115	Yuba	$1,707,061	-$63,006	$3,755,921	-$138,627
	Total	$1,650,202,330	$198,592,773	$3,630,818,473	$436,949,039

*FIPS location codes are available form the U.S. Census Bureau on the web at http://www.census.gov/datamap/fipslist/AllSt.txt.

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the overall regression findings based on the pooled data and reported in Table R1. However, the individual category results should be interpreted with greater caution as smaller sample sizes in some cells are likely to result in less accurate predictions. The "Total" findings have a greater degree of accuracy than individual cell results. This note applies to all disaggregated tables.

Table 11. Local Sales Tax Effects Only of California's Recent Tax Changes on Sales Tax Revenues By County.

The results in this table should be interpreted as tax revenue gains assuming the currently existing tax provisions take effect. If the tax provisions are repealed, the interpretation is that these tax revenues will be lost.

		At Statutory Tax Rate		At Effective Tax Rate	
FIPS County Code*	County	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions - Selected Industires	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions	Increased (+) or Decreased (-) Sales Tax Revenue from Current Tax Provisions - Selected Industires
1	Alameda	$10,766,771	$1,200,561	$23,689,333	$2,641,506
3	Alpine	$0	$0	$0	$0
5	Amador	$81,964	$33,949	$180,339	$74,695
7	Butte	$0	$0	$1	$0
9	Calaveras	$0	$0	$0	$0
11	Colusa	$7,545	$99	$16,601	$217
13	Contra Costa	$3,373,276	$279,708	$7,421,970	$615,422
15	Del Norte	$0	$0	$0	$0
17	El Dorado	$161,634	$13,595	$355,631	$29,912
19	Fresno	$2,559,932	$378,751	$5,632,429	$833,337
21	Glenn	$0	$0	$0	$0
23	Humboldt	$174,471	$50,529	$383,876	$111,176
25	Imperial	$295,178	$46,705	$649,458	$102,762
27	Inyo	$5,060	$6,222	$11,133	$13,690
29	Kern	-$3,729	$14,553	-$8,204	$32,020
31	Kings	$0	$0	$0	$0
33	Lake	$35,930	$8,896	$79,055	$19,574
35	Lassen	$0	$0	$0	$0
37	Los Angeles	$82,146,195	$8,991,975	$180,740,213	$19,784,379
39	Madera	$180,130	$21,249	$396,326	$46,752
41	Marin	$1,329,933	$168,829	$2,926,154	$371,463
43	Mariposa	$15,995	$4,037	$35,192	$8,883
45	Mendocino	$236,255	$17,415	$519,814	$38,318
47	Merced	$226,664	$45,911	$498,712	$101,015
49	Modoc	$0	$0	$0	$0
51	Mono	$25,989	-$346	$57,181	-$761
53	Monterey	$533,914	$27,654	$1,174,731	$60,845
55	Napa	$237,627	$66,844	$522,834	$147,071
57	Nevada	$230,762	$12,456	$507,730	$27,406
59	Orange	$11,227,135	$1,051,234	$24,702,237	$2,312,954
61	Placer	$0	$0	$1	$0
63	Plumas	$0	$0	$0	$0
65	Riverside	$2,954,758	$663,768	$6,501,137	$1,460,441
67	Sacramento	$3,985,783	$413,131	$8,769,624	$908,981
69	San Benito	$79,287	$22,634	$174,450	$49,799
71	San Bernardino	$3,659,163	$479,718	$8,050,987	$1,055,488
73	San Diego	$9,529,204	$1,345,952	$20,966,404	$2,961,399
75	San Francisco	$8,455,285	$392,196	$18,603,539	$862,920
77	San Joaquin	$1,329,939	$237,157	$2,926,168	$521,798
79	San Luis Obispo	$230,677	$79,678	$507,542	$175,309
81	San Mateo	$4,451,714	$657,227	$9,794,779	$1,446,049
83	Santa Barbara	$844,139	$167,971	$1,857,298	$369,574
85	Santa Clara	$11,932,155	$1,198,300	$26,253,441	$2,636,531
87	Santa Cruz	$1,056,050	$217,803	$2,323,548	$479,216
89	Shasta	$0	$0	$0	$0
91	Sierra	$0	$0	$0	$0
93	Siskiyou	$0	$0	$0	$0
95	Solano	$125,261	$23,938	$275,602	$52,669
97	Sonoma	$1,740,416	$410,239	$3,829,308	$902,618
99	Stanislaus	$291,266	$40,434	$640,852	$88,964
101	Sutter	$0	$0	$0	$0
103	Tehama	$0	$0	$0	$0
105	Trinity	$0	$0	$0	$0
107	Tulare	$574,861	$168,900	$1,264,825	$371,618
109	Tuolumne	$74,432	$7,555	$163,767	$16,622
111	Ventura	-$43,936	$66,916	-$96,670	$147,231
113	Yolo	$369,391	$62,236	$812,744	$136,934
115	Yuba	$0	$0	$0	$0
	Total	$165,488,477	$19,096,579	$364,112,090	$42,016,795

*FIPS location codes are available form the U.S. Census Bureau on the web at http://www.census.gov/datamap/fipslist/AllSt.txt.

Note: Results reflect aggregation of 1,059 sets of regressions parameters applied to California establishment level data. The results across industries, establishment sizes and California counties are broadly consistent with the

Table 12. Average Annual Pay by Industry in California, 2009.

NAICS* Two-Digit Indutry Segment (2007)	NAICS Industry Title (2007)	Average Annual Pay, California 2009
11	Agriculture, Forestry, Fishing and Hunting	$24,354
21	Mining, Quarrying, and Oil and Gas Extraction	$113,588
23	Construction	$55,061
31	Manufacturing	$68,205
32	Manufacturing	$68,205
33	Manufacturing	$68,205
42	Wholesale Trade	$62,519
44	Retail Trade	$30,165
45	Retail Trade	$30,165
48	Transportation and Warehousing	$44,846
49	Transportation and Warehousing	$44,846
51	Information	$92,795
52	Finance and Insurance*	$86,938
53	Real Estate and Rental and Leasing	$47,391
54	Professional, Scientific, and Technical Services	$85,007
56	Administrative and Support and Waste Management and Remediation Services	$35,421
61	Educational Services	$42,090
62	Health Care and Social Assistance	$51,888
71	Arts, Entertainment, and Recreation	$48,505
72	Accommodation and Food Services	$18,630
81	Other Services (except Public Administration)	$24,980
99	Other Unclassified	$51,916

Source: Bureau of Labor Statistics Quarterly Census of Employment and Wages, available on the web at http://data.bls.gov:8080/PDQ/outside.jsp?survey=en.

*NAICS codes are available from the U.S. Census Bureau on the web at http://www.census.gov/eos/www/naics/.

Project Team

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Dr. Ralph A. Rossum (B.A., Concordia College; M.A., Ph.D., University of Chicago) is Director of the Rose Institute and Salvatori Professor of American Constitutionalism; he served as Dean of the Faculty of Claremont McKenna College and is a nationally recognized political scientist and author. He has extensive experience working in government having served as Deputy Director of the Bureau of Justice Statistics in the U.S. Department of Justice, and has consulted with both the public and nonprofit sectors in strategic planning.

Ralph A. Rossum is the Director of the Rose Institute of State and Local Government and the Henry Salvatori Professor of American Constitutionalism at Claremont McKenna College; he is also a member of the faculty of Claremont Graduate University. He earned his M.A. and Ph.D. from the University of Chicago and is the author or co-author of nine books including ***American Constitutional Law***, a two-volume work now in the eighth edition (Westview, 2010) and ***Antonin Scalia's Jurisprudence: "Text and Tradition"*** (University Press of Kansas, 2006) and over 65 book chapters or articles in law reviews and professional journals. He has recently completed ***The Supreme Court and Tribal Gaming: California v. Cabazon Band of Mission Indians*** for the Landmark Law Cases series of the University Press of Kansas.

Listed in ***Who's Who in America***, Mr. Rossum has served as Associate Dean of the Graduate School at Loyola University of Chicago, as Vice President and Dean of the Faculty at Claremont McKenna College, as a member of the Board of Trustees of The Episcopal Theological Seminary of Claremont, and as President of Hampden-Sydney College. He is currently chairman of the Board of Trustees of the American Academy of Liberal Education, a national accrediting agency for liberal arts colleges and universities.

Mr. Rossum has an extensive record of public service. He was a member of the Police Reserve in Memphis, Tennessee. He served as Deputy Director for Data Analysis of the Bureau of Justice Statistics in the U.S. Department of Justice. He has also served as a member of the Advisory Board of the National Institute of Corrections in the U.S. Department of Justice and as a member of the National Board of the Fund for the Improvement of Post-Secondary Education (FIPSE) in the U.S.

Dr. Joshua G. Rosett, **Senior Fellow and Lead Investigator**, is the Curb Family Associate Professor of Economics and Accounting at Claremont McKenna College's Robert Day School of Economics and Finance. Professor Rosett received his B.A. in Economics from the University of Chicago, where he was awarded general honors, honors in his major, and is a member of Phi Beta Kappa. He received his M.A. and Ph.D. in economics from Princeton University, with field specialties in Labor Economics, Public Finance, and Development Economics. Before joining CMC, Professor Rosett was a Post-Doctoral Fellow at the National Bureau of Economic Research, and has taught at the University of Illinois, University of Chicago Business School, Tulane University, Southern Methodist University, and the U.S. Business School in Prague (Czech Republic). His research covers a broad area including labor economics, corporate performance and valuation, financial accounting, and other areas in applied economic research. He teaches courses in financial accounting and financial statement analysis.

G. David Huntoon, Fellow, Marketing and Outreach Coordinator (B.A., Claremont Men's College; M.B.A., University of Southern California) has been associated with the Rose Institute since 1998. A CPA by profession, he is experienced as CEO in medium and small sized businesses. Mr. Huntoon currently serves on the executive committee of the Los Angeles County Economic Development Corporation, a director of the San Gabriel Valley Economic Partnership and the Economic Alliance of the San Fernando Valley, as well as a member of the Coachella Valley Economic Partnership. He is a strategic thinker in fundraising, project development, and conference development projects. Mr. Huntoon has had extensive experience with survey research, economic impact studies, financial management, economic development, and public-private partnerships. He oversaw the Coachella Valley Annual Quality of Life Surveys 1997-2004.