30 YEARS

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Policies for Creating and Keeping Jobs in California

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Key Takeaways

California uses a multi-faceted approach to spur or support job creation in the private sector. These efforts include direct tax credits for hiring workers, grants and loans, and training and support for both entrepreneurs and workers. All of these policies have their economic rationales, from the hiring incentives and business advantages provided by tax credits to the enhanced job skills and productivity gained through worker training and assistance programs.

Policies like these can address barriers to creating private sector jobs and should not be casually dismissed as "corporate welfare" or "taxpayer giveaways." Rather, it is critical to ask which policies work and how well they work. To that end, we provide an inventory of job creation policies and programs and evaluate them based on existing research. Our inventory provides a wide range of policies; we count 21 in place.

- Three policies have quite strong evidence of being effective in creating jobs. Among these, the California Competes Tax Credit shows the most compelling evidence for positive job creation effects, while the Employment Training Panel shows positive effects on firm employment and sales, and on worker earnings and employment stability.
- For the remaining programs, four have convincing but mixed evidence around effective job creation; six have some evidence, but it is less convincing; and the final eight programs have no evidence available.

The three programs that appear to create jobs have sizable allocations in the state budget—greater than $272 million in 2022–2023. With these policies, California is putting money behind policies that are working—and the state might consider expanding efforts. However, eight programs with moderate budget allocations do not yet have evidence for their effectiveness. Together, these programs are allocated over $245 million in 2022–2023. It is not yet clear whether the money dedicated to these policies will lead to more jobs for California. More evaluation research should be conducted in order to understand who benefits from these programs, in order to create an effective, equitable, multi-faceted approach in California to support jobs and the economy.

Introduction

Businesses are the engines of job growth. At a fundamental level, in a private enterprise economy like the one in the United States, business owners create jobs because the increase in profit from selling what a worker produces exceeds the cost of hiring and employing that worker. In this way, job creation by businesses and the availability of workers to take on new jobs are the fundamental building blocks of California's economic growth.

Governments do many things that can affect this equation, and hence whether it is profitable for businesses to hire and employ additional workers.[1] In particular, policies affecting the cost of hiring and employing workers can be critical. These costs consist of many elements; the largest is direct labor costs—salaries or wages—which can be influenced by the minimum wage. Policy can impose costs, such as payroll taxes,

1. In this report, we often refer to "hiring" of workers, but that is often a short-hand for "hiring and employing." For example, the costs of a worker include both hiring costs (e.g., recruiting) and ongoing employment costs (e.g., wages). And many programs called or referred to as hiring policies or credits are better thought of as incentivizing net new job creation (i.e., initial hiring plus ongoing employment).

workers' compensation premiums, health insurance mandates, and so on. Other costs can include training, recruitment, and more. Policies can also lower the cost of hiring workers.

Hiring credits may be the most direct policy governments have enacted; such credits effectively lower taxes as a function of how many workers firms add to their payroll, or the net job creation that firms do. The goal of such hiring credits is to induce more hiring by lowering the cost of labor. In addition, government tools such as guaranteeing or making business loans, providing training to entrepreneurs, or subsidizing training for workers can help businesses overcome some of the barriers to getting started or growing, which indirectly supports job creation. These policies are not as mechanically linked to job creation as hiring credits are, but they are intended to help businesses launch and grow—which will typically include hiring more workers.

California has the full gamut of such policies, typically enacted for exactly these reasons. The number of such policies, and their variety, is quite large. By our count, based on this survey and our definitions of such policies, there are currently 21 state policies in place. And we estimate (roughly) that the state allocated well over $800 million in funding for these policies in the 2022–2023 fiscal year, with forgone revenue (from tax credits that lower taxes that would otherwise be paid) substantially higher than allocations.[2]

These policies are intended to create more jobs, and in some cases—such as training subsidies or programs to create more "high-road" jobs that support workers through higher wages and skill-building—to increase the quality of such jobs in terms of pay, earnings growth, and mobility. But what do we know about these policies, and what do we know about which of these policies are effective?

The goal of this report is to provide the answers, when available, to these questions. We organize job creation policies by type, specifically into the following categories:

- Tax credits
- Grants
- Loans
- Entrepreneurship training and assistance, and
- Worker training and assistance.

We first document the results of extensive research to identify the relevant state level policies and to estimate their cost.[3] We include cost estimates to characterize California's efforts to create jobs, but do not attempt to determine the state's return on investment. We present program allocations (total and/or annual), tax credit estimates, or expenditures, depending on what is available. Some programs provide only a total funding number or operate using budget caps, and thus funding numbers included in this report may not be directly comparable across programs.

2. Information on foregone revenue from tax credits is available at: https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf. The $800 million estimate is based only on programs that provide fiscal-year budget values. Some programs, like High Road Training Partnerships, have one total funding number. One might argue that this estimate is an undercount because there are other indirect policies that can help increase employment, such as spending on transportation infrastructure. However, our focus in this report is on more direct policies to help or encourage businesses to create jobs. That said, we recognize that others might classify which policies target "job creation" differently.
3. Technical Appendix A presents our method for identifying job creation policies.

Second, and more importantly, we discuss the evidence—when we have it—on the effectiveness of these policies. By "evidence of effectiveness," we mean: is there evidence that job creation was higher because of the policy than it would have been in its absence? Such effects can arise from creating more new jobs or from retaining existing jobs.

We also assess how convincing (or rigorous) this evidence is (see text box). While legislators and policymakers may choose to consider specific costs and benefits of a program prior to implementation, evaluating a policy after it is in effect allows policymakers to assess the actual effects of the policy to help decide whether to continue the program.[4]

To quickly preview the conclusions, the cup is not empty, but neither is it full. We do have good (i.e., rigorous and convincing) evidence on a small number of policies, and in some cases that evidence says the policy is effective in creating or retaining jobs. But we have many policies with no evidence of effectiveness, and some with mixed evidence that does not establish that the program is effective.

How Convincing Is the Evidence?

We classify evaluations as *convincing*, *somewhat convincing*, or *less convincing*. We use the label *convincing* when the research is compelling—in that it identifies the causal impact of the policy—and thus estimates the actual effect on job creation in California. We use the *somewhat convincing* label when the research is compelling but not specific to job creation effects of a state-level policy. We use the *less convincing* label when the evidence does not support a conclusion about the causal effect of the policy. An example would be a purely descriptive result about firms that "took up" a program's benefits and had both new and existing employees, without establishing that job retention or creation changed because of the program's benefits.[5]

Job Creation Policies and Their Economic Rationales

There is a general motivation for all job creation policies. Most notably, other states may have cost advantages compared to California with regard to factors such as labor, land, and regulation, but California sees the potential for greater gains from retaining businesses than the cost of the programs. The gains can come in many forms, but the largest may be increased job opportunities, which can lower the need for other income support mechanisms for those who otherwise would not work. These greater opportunities can also raise wages for other workers—via higher labor demand—although they can also raise costs (such as for land and housing). And retaining businesses increases tax revenue from both payroll and business income.

Moreover, other benefits can accrue when job creation policies target specific locations. For example, more jobs in disadvantaged areas may reduce crime, blight, and related concerns. And more jobs in areas where there are knowledge spillovers, where firms make innovations based on information and innovation from other local firms, can increase productivity. For example, technology firms in Silicon Valley may become

4. In addition, these kinds of ex post analyses can inform ex ante cost-benefit analyses of similar programs being considered. That said, we found barely any ex ante analyses of the included programs.
5. For a specific example, see the discussion of the California Capital Access Program in the main body of this report and in more detail in Technical Appendix C.

more productive when they are located near and work with firms with related products or workers with similar skills and knowledge.[6]

Economists call the latter types of benefits “positive externalities.” That is, a business might base its decision to create another job on private costs (labor costs) and private benefits (profits). But the business would not take account of the benefits to others, such as the community and workers. When those benefits are present, which more than offset potential negative externalities such as pollution or congestion, a rationale exists for subsidizing job creation.[7] Table 1 concludes this section with a general summary of the economic rationales for each policy type.

Tax Credits

Tax credits that support job creation may come in the form of direct hiring credits, such as the California Competes Tax Credit and New Employment Credit. The potential advantage of hiring credits is that—as they do in some instances in California—they can specifically incentivize net job creation.[8] Additionally, tax credits can incentivize hiring into jobs that meet certain “job quality” criteria. For example, the New Employment Credit legislation specifically stated that the credit was intended to expand the hiring of employees into jobs that will provide a living wage.[9]

Some tax credit programs apply to specific industries, such as film production.[10] It may not always be clear why a particular industry should be targeted. Factors can include the responsiveness of hiring in that industry, or productivity gains from having a large industry cluster, in which case losing some part of the industry in the state may accelerate its decline.[11]

Other tax credits apply to hiring specific individuals, such as incentivizing the hiring of homeless individuals who might otherwise face hiring challenges.[12] Tax credits may apply to a specific kind of business, such as small businesses, which create a significant number of jobs.

Tax credits may also apply to certain business activities, such as research and development. At the national level, research and development tax credits may be motivated by trying to bring research activities closer to

6. For evidence on the latter, see Fallick et al. (2006).
7. The main report covers the job creation policies we identified in California. Later (Technical Appendix D), we include more limited information on local job creation programs in California, job creation programs in other states, and federal job creation programs that are like those implemented statewide in California. We note that federal programs are generally harder to evaluate, and effects may be different at a national level than at the state level. State programs may be more effective than federal ones (at least, from the perspective of the state implementing them) because they work via firms and jobs relocating from other states.
8. That said, it is difficult to design good hiring credit programs. One challenge is that while the credit is paid for hires, what we want to do is incentivize the creation of new jobs that would not have been created otherwise; a policy that fails to do this ends up paying credits for jobs that would have been created anyway. For an extensive discussion of these issues, see Neumark and Simpson (2015), Freedman et al. (2023), and Hyman et al. (2023).
9. See: https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=202120220SB1349&showamends=false.
10. Film production is a large industry in California, with nearly 200,000 jobs in the film and television industry each year. More information is available at: https://cdn.film.ca.gov/wp-content/uploads/2022/11/Progress-Report-2022.pdf.
11. For example, there may be limited options of locations for film production because of weather or other conditions, so with fewer “competitor locations” a credit may be more effective.
12. As evidence that this could be useful, Golabek-Goldman (2017) interviewed homeless individuals, service providers, and employers, and found that homeless individuals face discrimination during the hiring process due to a lack of a stable address and negative stereotypes of the homeless population. More information on the specific legislation is available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB424.

an optimal level, because firms may not account for the positive spillover effects of their private decisions on other firms (a positive externality). This goal may be less relevant at the state level because the benefits of research and development can easily spill over to other states.[13] Rather, the core goal may be to stimulate and retain high-tech job clusters, both because they entail high-wage jobs and because these clusters may generate positive productivity effects on other local firms. The research expenses that qualify for the tax credit can include wages, in which case such a credit may incentivize hiring of research employees in California

Grants

Grant assistance programs provide incentives for businesses to grow and stay in California, creating jobs and providing investments in California communities. By accessing grant funds to lower the cost of hiring or investing in capital, businesses that may wish to relocate to lower-cost states are incentivized to stay in California.

Grants can also target job creation and business development in high-unemployment and high-poverty areas, where businesses may otherwise be less inclined to locate, due to lack of existing local resources or markets. Grants may be particularly useful in cases where there are constraints on borrowing, perhaps because a business is new.

Loan Assistance

Government loan programs offer assistance to new or small businesses that may not have the financial history or collateral that banks require of them to obtain a loan. Without access to loans, such businesses may struggle to grow, a problem that may be particularly severe for small or new businesses without available collateral or a track record of loan repayment.

Some small businesses—most often new ones—create significant numbers of jobs and represent a large share of both businesses and employment in California (although, naturally, they create a larger share of businesses than of employment). Moreover, small business can be an important source of upward economic mobility.[14]

Loan programs support small business growth and job creation by making it less risky for banks to provide loans to small businesses, as the loan program insures against defaults or provides collateral. These programs support small business growth and job creation by allowing access to the financing and assistance small businesses need to develop.

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13. Indeed, evidence in Wilson (2009) indicates that state-level research and development incentives (not focused on California) do not increase national research and development expenditures.
14. For some statistics on small businesses in California, see: https://advocacy.sba.gov/wp-content/uploads/2021/08/Small-Business-Economic-Profile-CA.pdf. For evidence on the role of small businesses in job creation see Neumark et al. (2011) and Haltiwanger et al. (2013). The latter paper, in particular, makes the point that some new small businesses are responsible for large amounts of job creation as they grow—helping to provide a rationale for policies (including loans) that help new business start. For evidence on self-employment and upward mobility for the less advantaged, see Fairlie (2004) and Holtz-Eakin et al. (2000).

Entrepreneur Training and Assistance

For the same reasons outlined above with other programs, providing training and assistance to entrepreneurs intends to support the creation and growth of small businesses.[15] Some of the programs we discuss later centralize access to training and assistance by creating incubators for entrepreneurs to obtain services.

New entrepreneurs may underestimate the importance of the intangible resources incubators provide, such as business knowledge and social capital.[16] Programs that include a cooperative component, such as innovation hubs, can promote information sharing, partnership building, and economic development around particular industry or research clusters.[17] As businesses grow and expand, their demand for employees may be expected to increase.

Some training and assistance programs provide assistance to specific kinds of businesses or entrepreneurs, such as those that support social enterprises, which aim to generate positive outcomes for both the business and their community. The presence of positive externalities (such as job training from employment at a social enterprise that may increase the productivity of workers at other companies to which they might move) means that, without intervention, the number of social enterprises in a community may be below the social optimum (Katz and Page 2010). In addition, these programs intend to support social enterprises with assistance, which the firm may not have been able to access or afford easily. Many of these social enterprises in turn hire individuals with high barriers to employment, who may not otherwise be able to find employment, a stated goal of the legislation creating the Regional Initiative for Social Enterprises program.

Worker Training and Assistance

Worker training and assistance programs seek to offer a range of benefits. First, such training and assistance may provide workers with the skills that businesses need. Second, worker training may boost workers' productivity and hence their earnings and earnings growth. And third, a market failure may happen if business owners are concerned about spending significant time and money on training employees, but then the employees may leave the company and take the investment with them. This concern can motivate the state to provide training—especially for skills that are portable between businesses. With the creation of a group of skilled workers, the cost of hiring and training these workers falls, and businesses' demand for these workers may rise.

There are a variety of these types of training programs. Partnership academies can help promote job opportunities by creating a pipeline of students who are trained in the skills needed for future jobs.

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15. As one example of the potential barriers faced by small businesses, in announcing a federal small business technical assistance program, US Deputy Secretary of the Treasury Wally Adeyemo noted that small business owners often lack a network of technical support. More information is available at: https://www.commerce.gov/news/press-releases/2022/04/treasury-announces-plans-deploy-300-million-technical-assistance.
16. More information is available at: https://kenaninstitute.unc.edu/kenan-insight/business-incubators-if-you-build-it-will-entrepreneurs-succeed/. Allen and Weinberg (1988) review literature on incubation and survey participants in existing incubators and find that the common goal of state governments in developing incubators is to promote local economic activity and technological development.
17. See: https://calosba.ca.gov/wp-content/uploads/2022-iHub2-Network.pdf.

Programs that provide funding to businesses to decide on the skills to provide to employees can better align training and skill needs to meet workforce needs and retain employees than would training provided by other institutions. High Road Training Partnerships develop relationships between employers and other organizations to train workers for and fill high-quality jobs, with the goal of promoting employment equity.

Table 1

Economic rationales for job creation programs by type

Type of Job Creation Incentive	Economic Rationales
Tax credits	Hiring credits incentivize hiring, including into jobs that meet certain criteria and hiring of individuals who face hiring challenges
	Programs may be due to hiring responsiveness in an industry or productivity gains for an industry cluster
	Tax credits may apply to a certain kind of business, such as small businesses
	Tax credits may apply to certain business activities, to increase activity levels
Grant assistance programs	Grants incentivize businesses to grow or stay in an area
	Grants can target job creation and business development in high unemployment/poverty areas
	Programs are useful in cases with constraints on borrowing, such as when a business is new
Loan assistance	Loan assistance can help new or small businesses lacking the financial history or collateral banks require to obtain a loan
	A less-risky way for banks to provide loans to small businesses; defaults are insured or program provides collateral
Entrepreneur training and assistance	Programs that include a cooperative component promote information sharing, partnership building, and economic development around particular industry or research clusters
	Assistance to specific businesses or entrepreneurs, such as social enterprises, generates positive outcomes for business and community
Worker training and assistance	Programs can provide workers with needed business skills, boost productivity, and boost earnings
	Partnership academies create a pipeline of students trained in skills needed for future jobs
	Funding to businesses lets business decide employee skills that align training and skills to meet workforce needs

California Job Creation Policies and Evaluations

How effective are the various job creation policies California has enacted? In this section we discuss policies by looking at those that should—in principle—have the most direct impact on job creation.[18]

We also focus on evaluations of California's programs—when those evaluations exist—and provide our assessment of how convincing the evaluation is. Technical Appendix B provides more detail on how we assess the evidence; it also explains our reasons for classifying evaluations as "convincing," "somewhat convincing," or "less convincing."

We cover a large number of policies, and a large number of evaluations, providing a brief synopsis of these—Technical Appendix C provides full detail and explanation for our conclusions.[19] The tables throughout this section also summarize basic program details, funding, and the evidence on effectiveness—or lack thereof.

We highlight only existing evaluations that are reasonably compelling; if no mention is made, no such evaluation exists—in many, but not all, cases because a program is new.

Certain Tax Credits Appear to Be Effective in Creating Jobs

Tax credits can be direct hiring credits to promote employing certain populations or to develop areas of the state; or they may be credits that incentivize hiring into specific jobs or industries (see Table 2). To encourage direct hiring, the state created the California Competes Tax Credit, the New Employment Credit, and the Homeless Hiring Credit. To support efforts towards hiring into industries such as film or technology, there are the Film Tax Credit and the Research and Development Credit.

California Competes Tax Credit

The California Competes Tax Credit (CCTC) is an income tax credit available to businesses that want to relocate to California or stay and grow in California.[20] The program offers between $150 and $200 million in credits each year and reported estimated expenditures in 2022–2023 of $100 million.[21]

Among the factors considered in evaluating applicants for the credit are the number of full-time jobs being created, amount of investment, and strategic importance to the state or region. The program gives preference to applicants attesting that at least 75 percent of their full-time net employment expansion would occur in a high-poverty or high-unemployment California city or county. The CCTC includes strong provisions to recapture tax credits if jobs were not ultimately created over the period covered by the credits and retained for three years afterward.

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18. Within these categories, however, policies appear alphabetically
19. In this report, we focus on specific evaluations of the California job creation policies we study. We supplement this, however, with examples of evidence from other states, federal policies, or local policies in California. These are discussed in Technical Appendix D.
20. Chapters 69 and 70 of the Statutes of 2013 (AB 93 and SB 90, respectively) created the California Competes Tax Credit (CCTC). The credit is operative for taxable years beginning on or after January 1, 2014, and before January 1, 2025. Chapter 52 of the Statutes of 2018 (SB 855) extended the credit's operative date through 2030.
21. Information on program allocation can be found at: https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf (p. 48).

The CCTC has been evaluated rigorously within the past few years. Freedman et al. (2023) find that each CCTC-incentivized job in a census tract increases the number of individuals working in that tract where the job is awarded by over 2—a significant local multiplier. Hyman et al. (2023) explore the program's impacts on firms. They find that CCTC awards increased employment and payroll growth within California by as much as 30 percent over three years, compared to similar firms that did not receive awards, with some evidence that increases also occur in disadvantaged parts of the state.

New Employment Credit

The New Employment Credit (NEC) is available to a business that hires a qualified full-time employee in a Department of Finance–designated geographical area or economic development area. A business can receive the credit for each taxable year beginning on or after January 1, 2014, and before January 1, 2026.[22] The credit is based on 35 percent of the wages that employers pay, for pay based on hourly wages ranging from 150 percent to 350 percent of the minimum wage.

The California Department of Finance reported approximately $5 million in tax expenditure on the program in fiscal year 2022–2023.[23] Very few businesses are claiming credits under this program, according to evidence from the Franchise Tax Board. This low take-up may be owing to program complexity, including businesses failing to obtain a tentative credit reservation (businesses must "reserve" a credit for qualified employees within 30 days of completing new hire reporting requirements), geographic, wage, and employee requirements, and the exclusion of some industries, such as non-small businesses in retail or food service.

Film Tax Credits

Motion picture or television productions in California may qualify for a production credit. There are two types of motion picture and television production credits currently available.

The Film & Television Tax Credit Program 3.0 provides tax credits based on qualified expenditures for eligible productions that are produced in California—a $1.55 billion program runs for five years, with a sunset date of June 30, 2025.[24] In 2022–2023, estimated tax expenditure was $219 million.[25] The 2023–2024 California budget introduced the Film & Television Tax Credit Program 4.0, which will run for five years beginning in 2025, continue the funding level of Program 3.0, and make the tax credit refundable up to 90 percent of the tax credit amount above the applicant's tax liability in the first taxable year. Refundability allows tax credit awardees to receive some portion of the tax credit back if their liability is less than the credit amount, rather than forgoing the credit or having to transfer it to a future project.

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22. Chapters 69 and 70 of the Statutes of 2013 (AB 93 and SB 90, respectively) created a New Hiring Tax Credit (also known as the New Employment Credit (NEC)) to employers operative for taxable years beginning on or after January 1, 2014, and before January 1, 2021. Chapter 52 of the Statutes of 2018 (SB 855) extended the credit's operative date through 2025.
23. Tax expenditure information is available at: https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf (p. 10).
24. For more information on funding and expenditures, see: https://film.ca.gov/tax-credit/the-basics-3-0/ and https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf (p. 49).
25. See: https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf (p.11–12).

The $150 million Soundstage Filming Tax Credit Program runs from 2022 to 2032; it allows a tax credit equal to 25 percent (for independent productions and newly relocated television series) or 20 percent (for other productions) of qualified expenditures for the production of a motion picture at a certified studio construction project.

A few studies have evaluated California's film credits; only some of these evaluations provide evidence that might reflect that the credits affect job creation. Workman (2021) studies an earlier version (Film & Television Tax Credit Program 1.0) that has a randomization feature allowing rigorous evidence. Workman finds that the *offer* of a tax credit increased the number of cast and filmmakers in California on average 123 percent, and *receiving* a tax credit increased the number of cast and filmmakers in California on average 388 percent. However, there are some issues related to incomplete data (see Technical Appendix C), so the estimates might be unreliable.

Homeless Hiring Credit

The $150 million Homeless Hiring Tax Credit is available for tax years beginning January 1, 2022 through December 31, 2026. Employers can receive $2,500 to $10,000 in tax credit per eligible employee who is homeless or receiving services from a homeless services provider. In fiscal year 2022–2023, estimated tax expenditure on the credit program totaled $4 million.[26]

Research and Development Credit

The Research and Development (R&D) Credit was introduced in 1987 and is for research activities in California.[27] R&D tax credits are perhaps best thought of as hiring credits for scientific workers. In fiscal year 2022–2023, approximately $2.3 billion in R&D credits were allowed, a much larger amount than other hiring credits.

Paff (2005) evaluates this tax credit, estimating effects of California's changes in R&D tax credit rates on biopharmaceutical and software firms' research investment during 1994–1996 and 1997–1999. The study estimates a 33 percent increase in real R&D expenditure per firm after the increase. There was only a small, positive relationship for in-house research and no statistically significant evidence of increased contract research, despite a dramatic increase in the R&D tax credit rate in California. Since this study does not specifically study employment changes, it is not clear what portion of this increase in expenditures reflects job creation.

26. See: https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf (p. 10).
27. See revenue and Taxation Code Sections 17052.12 and 23609.

Table 2

California tax credits, their funding, and evidence on effectiveness for job creation

Name	Years in Effect	Total Funding (2022-2023 Funding/Expenditure)	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
California Competes Tax Credit	2013–present	$2.5 billion+ (Annual: $180 million)	Freedman et al. (2023); Hyman et al. (2023)	Convincing	Yes
New Employment Credit	2014–present	(Expenditure: $5 million)	The Franchise Tax Board	Less convincing	
Film & Television Tax Credit Program 3.0	2009–present	$3.9 billion (Annual: $330 million)	The Los Angeles County Economic Development Corporation (2022); Workman (2021); Thom (2018a); Applebaum (2012)	Convincing (some studies)	Mixed; employment outcomes seem to be positive but may be small or not a causal effect of the program
Homeless Hiring Tax Credit	2022–present	$150 million (Annual: $30 million)	New program		
Research and Development Credit	1987–present	(Expenditure: $2.3 billion)	Moretti and Wilson (2014); Paff (2005); The California Legislative Analyst's Office (2003)	Convincing	Mixed; job creation effects unclear

Grant and Loan Programs Show Less Convincing Results for Creating Jobs

By lowering the cost of hiring or investing, grants such as the CalCompetes grant are meant to help bring businesses to or keep businesses in California. Loan programs encourage banks to provide loans to new or small businesses by insuring against defaults or providing cash collateral. See Table 3 for summaries and evidence for various programs.

California Competes Grant

Building off the CalCompetes Tax Credit, the 2021 Budget Act included $120 million for a CalCompetes grant program, for businesses that want to locate or stay and grow in California.[28] Grants are aimed at

28. The grant was funded for $120M in 2021 and again in 2022 (see: https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf, pp. 52–53). The 2023–24 budget provides additional new funding of $103.2.

businesses that cannot fully benefit from a nonrefundable tax credit—or a credit only against taxes owed, but grants may still offer economic development opportunities that are at risk of taking place outside of California.

California Capital Access Program for Small Business

The California Capital Access Program for Small Business (CalCAP SB) is a loan loss reserve program intended to encourage banks and other financial institutions to make loans to small businesses that have difficulty obtaining financing, by providing up to 100 percent coverage to participating lenders on losses as a result of certain loan defaults.

There is evidence of loans being made under the program, but this evidence does not tell us whether the program led to loans, expansion, or job creation that would not otherwise have occurred. In fiscal year 2022–2023, reported expenditures for the CalCAP SB program totaled $21 million.[29]

California Capital Access Program Collateral Support

The California Capital Access Program Collateral Support (CalCAP CS) is a $20 million credit enhancement program. This program encourages banks and other financial institutions to make loans to small businesses in California by pledging cash to cover the collateral shortfall of loans made by participating lending institutions of $50,000 or more.

Again, there is evidence of loan activity under the program, but this evidence does not tell us whether the program led to loans, expansion, or job creation that would not otherwise have occurred.

California Rebuilding Fund

The California Rebuilding Fund (CARF) is a public-private partnership that aggregates funding from private, philanthropic, and public sector sources to address the capital and advisory needs of California's small businesses as they reopen and recover from the COVID-19 health and economic crisis.

While it appears that the CARF program did increase the volume of loans available to small businesses, evidence is not available on how the additional funding affected employment levels in these businesses.

Small Business Finance Center

The Small Business Finance Center of the Infrastructure and Economic Development Bank (IBank) has a loan guarantee program to help small businesses overcome capital access barriers. The program also offers one-on-one technical assistance to small businesses in identifying and applying for funds.

Bradshaw (2002) provides some evidence on this program (known at the time as the California State Loan Guarantee Program, or alternatively the Small Business Loan Guarantee Program). This study presents some evidence of positive employment effects but suffers from the lack of a comparison group of similar firms that did not receive loans.

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29. Expenditure and budget information is available at: https://ebudget.ca.gov/2023-24/pdf/Enacted/GovernorsBudget/0010/0974.pdf.

Table 3

California grant and loan programs, their funding, and evidence on effectiveness for job creation

Name	Years in Effect	Total Funding (2022–2023 Funding/Expenditure)	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
Grants					
California Competes Grant	2021–present	$240 million (Annual: $120 million)	New program		
Loans					
California Capital Access Program for Small Business	1994–present	(Expenditure: $21 million)	California Capital Access Loan Program (2022)	Less convincing	
California Capital Access Program Collateral Support	2017–present	$20 million	California Capital Access Loan Program (2022)	Less convincing	
California Rebuilding Fund	2020–present	$100 million, including $25 million from IBank	Sanchez-Moyano (2022)	Less convincing	
Small Business Finance Center	1968–present		Bradshaw (2002)	Somewhat convincing	Yes

Entrepreneur Training Programs Often Have Not Yet Been Evaluated

Some programs in California centralize access to training and assistance by creating incubators for entrepreneurs to obtain services. Other training and assistance programs provide assistance to specific kinds of businesses or entrepreneurs, such as those that support social enterprises, which aim to generate positive outcomes for both the business and their community. See Table 4 for summaries and evidence for entrepreneur training and assistance programs.

University of California Innovation and Entrepreneurship Expansion

This $22 million program provides the University of California (UC) with funds to expand its capacity and increase access to its innovation and entrepreneurship centers, which provide incubator space, legal services, entrepreneur training, and more for researchers and other individuals looking to develop innovative solutions.[30]

California Dream Fund

The California Dream Fund is a one-time $35 million grant program to seed entrepreneurship and small business creation in California, entailing training and micro-grants.[31]

Community Economic Resilience Fund

The Community Economic Resilience Fund (CERF) is a large program ($600 million) intended to promote an environmentally sustainable and equitable recovery from the economic distress of COVID-19 by supporting new plans and strategies to diversify local economies and develop sustainable industries that create high-quality, broadly accessible jobs for all Californians. The program consists of two phases: a planning phase, which includes relationship-building and analysis of regional economic conditions, and an implementation phase, during which regions will receive funding to introduce economic recovery programs.

California Inclusive Innovation Hub

The California Inclusive Innovation Hub program (iHub2) designates higher education institutions, economic development corporations, and private nonprofit corporations, awarding funds to provide training, advisory services, and community connections to entrepreneurs, with the goal of accelerating technology and science-based firms, with a focus on diverse founders and on underserved geographies and regions.[32] In 2022 the state allocated $22.5 million in funding to establish the Entrepreneurship Fund to provide grants to businesses incubated at each of the iHubs.

Regional Initiative for Social Enterprises Program

The Regional Initiative for Social Enterprises Program is a $25 million one-time allocation to provide financial and technical assistance to employment social enterprises—businesses that provide jobs, on-the-job training, and specialized supports to people who face high barriers to work.[33]

Social Entrepreneurs for Economic Development

The Social Entrepreneurs for Economic Development (SEED) Initiative—now SEED 2—is intended to support the entrepreneurship of immigrants and Limited English Proficient (LEP) individuals who face significant employment barriers. The initiative includes an entrepreneurship program that provides training and assistance, community outreach, and disbursement of micro-grants for small business development; and a demonstration program that includes micro-grants, training, and technical assistance to help start or maintain worker cooperatives in low-wage industries. The SEED 2 program was allocated $20 million in fiscal year 2022–2023.

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30. This was a one-time expenditure in 2016.
31. This was enacted in 2021 by Senate Bill No. 151.
32. See Gov. Code § 12099.1.
33. This was enacted in 2021 by Senate Bill No. 193 (see Government Code Section 11788).

Table 4

California entrepreneurship and training assistance, their funding, and evidence on effectiveness for job creation

Name	Years in Effect	Total Funding (2022–2023 Funding/Expenditure)	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
University of California Innovation and Entrepreneurship Expansion	2016–present	$22 million			
California Dream Fund	2021–present	$35 million	New program		
Community Economic Resilience Fund	2021–present	$600 million	New program		
California Inclusive Innovation Hub	2022–present	$22.5 million total (Annual: $20 million)	New program		
Regional Initiative for Social Enterprises Program	2022–present	$25 million	Geckeler et al. (2019)	Convincing	Mixed; positive employment evidence exists for participants, but no evidence on job creation specifically
Social Entrepreneurs for Economic Development	2020–present	(Annual: $20 million)	New program		

Worker Training Programs Show Some Positive Results, though Not Always Directly around Job Creation

A variety of training programs exist in California, as shown in Table 5. Partnership academies help promote job opportunities by creating a pipeline of students who are trained in the skills needed for future jobs. Programs that provide funding to businesses that decide job skills intend to better align training and skill needs to meet workforce needs and retain employees who would gain training through other institutions. High Road Training Partnerships develop relationships between employers and other organizations to train workers for and fill high-quality jobs, with the goal of promoting employment equity.

Apprenticeship Innovation Fund

The Apprenticeship Innovation Fund is to spend $175 million over three years, beginning with 2022–23, to invest in and expand non-traditional apprenticeships (outside of construction and fire), with the goal in part to meet employer needs in apprenticeship curricula.

California Apprenticeship Initiative

The California Apprenticeship Initiative (CAI) is a more than $90 million grant opportunity offered by the California Community Colleges Chancellor's Office to support the creation of new apprenticeships and pre-apprenticeship training programs, using grants and technical assistance.

There is interview and survey evidence of program staff, employers, and participants (Hebbar et al. 2018), but it does not provide rigorous evidence of a beneficial effect of the program.

California Partnership Academies

The California Partnership Academies (CPA) are grade 10–12 programs structured as a school-within-a-school. Academies incorporate integrated academic and career technical education, business partnerships, mentoring, and internships, intended to train students in skills in demand among employers.

Dayton et al. (2011) find that CPA participants did better than nonparticipants, but this evidence does not necessarily reflect an actual effect of the program because students could decide whether or not to enroll, so any "effects" could reflect instead prior differences between students.

Employment Training Panel

The Employment Training Panel (ETP) provides funding to employers to assist in upgrading the skills of their workers through training to promote good-paying, long-term jobs. The ETP is a funding agency, not a training agency. Businesses determine their own training needs and how to provide training. For fiscal year 2022–2023, California budgeted more than $92 million for the program.

Negoita and Goger (2020) found that ETP funding had a large and positive impact on company sales and employment, both overall and for some subgroups. Moore et al. (2003) studied the effects of ETP training on incumbent workers; their results indicate effectiveness of the ETP in meeting the goals of stimulating economic activity and reducing burden on unemployment insurance.

High Road Training Partnerships

The High Road Training Partnerships (HRTP) initiative, under the California Workforce Development Board (CWDB), builds industry partnerships that aim to deliver equity, environmental sustainability, and job quality. It uses industry-based, worker-focused training partnerships to build skills for California's "high road" employers. The fiscal year 2022–2023 budget allocated $65 million to invest in health and human services partnerships and a regional training center.[34]

34. See: https://ebudget.ca.gov/2022-23/pdf/Enacted/GovernorsBudget/7000/7120.pdf.

A summary of past California high road training partnerships by the UC Berkeley Labor Center (2020) covered programs formed during the initial demonstration of the HRTPs overseen by the CWDB in 2017 as well as programs established before 2017. While not a formal evaluation of causal effects, and evidence on job creation is not available, the findings point to degree completion, wage increases, and lower turnover, suggesting promise in increasing employment.

Table 5

California worker training and assistance programs for job creation, funding, and evidence on effectiveness

Name	Years in Effect	Total Funding (2022–2023 Funding/Expenditure)	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
Apprenticeship Innovation Fund	2022–present	$175 million (Annual: $55 million)	New program		
California Apprenticeship Initiative (California Community College Chancellor's Office)	2016–present	$90 million	Hebbar et al. (2018)	Less convincing	
California Partnership Academies	1985–present		Dayton et al. (2011)	Somewhat convincing	Mixed; positive employment evidence exists for participants, but no evidence on job creation specifically
Employment Training Panel	1982–present	(Annual: $92 million)	Negoita and Goger (2020); Moore et al. (2003)	Convincing	Yes
High Road Training Partnerships	2017–present	$175 million (Annual: $65 million)	González-Vásquez et al. (2021); The UC Berkely Labor Center (2020)	Less convincing	

California Community Colleges and Job Creation

California community colleges also may play an important role in training and educating workers to obtain jobs that can provide a living wage and social mobility, often through apprenticeship or career technical education programs. For example, the Strong Workforce Program, introduced in 2016, provides career technical education through community colleges to create more middle-skill workers throughout the state.[35] The program includes a local component, which requires collaboration between colleges, local workforce development boards, and industry.

Additionally, California community colleges tailor programs to meet future workforce demands using information provided by the Centers of Excellence for Labor Market Research. The availability of workers with skills to meet future demand may promote business activity and job creation.

The education system plays many other roles, and as such, the role of education in promoting job creation is broad and beyond the scope of this report. We present these examples to acknowledge the potential contributions of the community college system.

Evidence for the Effectiveness of Job Creation Policies

The key evidence we document is what existing research tells us about the effectiveness of these policies. To convey these conclusions most clearly, we provide several summary tables that group the job creation programs into four categories based on the evidence: effective or likely so; mixed; less-convincing evidence; and no evidence/new program.

What our summaries imply is that California is allocating money to effective programs, but also substantial amounts to programs with mixed evidence, unconvincing evidence, or no evidence. Combining the evidence, we can characterize appropriations as:

- Three programs with sizable annual allocations (>$272 million total in 2022–2023) that are effective.
- Four programs with substantial annual allocations (>$330 million in 2022–2023, plus more than $1 billion per year alone on R&D tax credits) with mixed evidence on effectiveness.
- Six programs with considerably smaller annual allocations (>$336 million over the lifetime of the programs) with less-convincing evidence of effectiveness.
- Eight programs with moderate allocations (>$245 million annually, plus $657 million over the lifetime of the programs) with no evidence.

We begin our summaries with the job creation programs that, based on the evidence, are effective or likely so (Table 6). Among these, the most compelling evidence is for positive job creation effects of the California Competes Tax Credit, and for positive effects on firm employment and sales, and worker earnings and employment stability, for the Employment Training Panel (although the evidence for workers is quite dated).

35. More information on the Strong Workforce Program is available at: https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development/Strong-Workforce-Program and on the Centers of Excellence here: https://coeccc.net/.

Table 6

Job creation programs that are effective or likely effective

Name	Total Funding (2022–2023 Funding/Expenditure)	Convincing Evidence?	Effective, Based on Convincing Evidence?
Tax Credits			
California Competes Tax Credit	More than $2.5 billion (Annual: $180 million)	Convincing	Yes
Loans			
Small Business Finance Center		Somewhat convincing	Yes
Worker Training and Assistance			
Employment Training Panel	(Annual: $92 million)	Convincing	Yes

Four programs have convincing studies, but the evidence is mixed, in the sense that it does not establish program effectiveness (Table 7). For these four programs there is not a firm basis for concluding whether the programs work.

Table 7

Job creation programs with mixed evidence on effectiveness

Name	Total Funding (2022–2023 Funding/Expenditure)	Convincing Evidence?	Effective, Based on Convincing Evidence?
Tax Credits			
Research and Development Credit	(Annual: $2.3 billion)	Convincing	Mixed
Film & Television Tax Credit Program 3.0	$3.9 billion (Annual: $330 million)	Convincing (some studies)	Mixed
Entrepreneurship and Training Assistance			
Regional Initiative for Social Enterprises Program	$25 million	Somewhat convincing	Mixed
Worker Training and Assistance			
California Partnership Academies		Somewhat convincing	Mixed

Six programs have some evidence, but it is less convincing and does not establish one way or the other whether the policy is effective (Table 8).

Table 8

Job creation programs with less convincing evidence of effectiveness

Name	Total Funding (2022–2023 Funding/Expenditure)	Convincing Evidence?	Effective, Based on Convincing Evidence?
Tax Credits			
New Employment Credit	(Annual: $5 million)	Less convincing	?
Loans			
California Capital Access Program for Small Business	(Annual: $21 million)	Less convincing	?
California Capital Access Program Collateral Support	$20 million	Less convincing	?
California Rebuilding Fund	$100 million, including $25 million from IBank	Less convincing	?
Worker Training and Assistance			
California Apprenticeship Initiative	$90 million	Less convincing	?
High Road Training Partnerships	$175 million (Annual: $65 million)	Less convincing	?

Finally, Table 9 lists eight programs on which we as yet have no evidence, in some cases because the programs are new, but also including longer-standing programs.

Table 9

Job training programs with no evidence/new programs

Name	Total Funding (2022–2023 Funding/Expenditure)	Convincing Evidence?	Effective, Based on Convincing Evidence?
Tax Credits			
Homeless Hiring Tax Credit	$150 million (Annual: $30 million)	New program	?
Grants			
California Competes Grant	$240 million (Annual: $120 million)	New program	?
Entrepreneurship and Training Assistance			
University of California Innovation and Entrepreneurship Expansion	$22 million		?
California Dream Fund	$35 million	New program	?
Community Economic Resilience Fund	$600 million	New program	?
California Inclusive Innovation Hub	$22.5 million total (Annual: $20 million)	New program	?
Social Entrepreneurs for Economic Development	(Annual: $20 million)	New program	?
Worker Training and Assistance			
Apprenticeship Innovation Fund	$175 million (Annual: $55 million)	New program	?

More Evaluation is Needed

There is an important caveat to the key findings just listed: absence of evidence that a program works does not mean that the program does not work; it just means that we have no evidence. So, while the state allocates a good deal of budgeting to unproven programs, there is little evidence of allocating funds to programs that show no job creation effects.

Building certain features into the state's job creation policies can enable researchers to determine whether the policy is effective—including things as simple as what kind of data to collect from applicants and participants, or extending to more refined program procedures that permit rigorous evaluation, such as randomization or specific program thresholds for eligibility.

In fact, some of the state's job creation programs already require at least some elements of an evaluation, such as collecting data that helps provide convincing evidence. Sometimes the legislation calls for a direct evaluation of the program's effects—the kind of evaluation that could provide convincing evidence. One example is the Film & Television Tax Credit Program 3.0, which mandates an evaluation.[36] Closer to the gold standard, but also a demanding and likely expensive option, is the requirement of the California Partnership Academies program to conduct a randomized control trial.

In other cases, what is required is much more limited, such as data on the amount of credits claimed (e.g., for the Homeless Hiring Tax Credit). As our discussion of evaluations indicates, this type of evidence is typically not useful for providing convincing evidence on a program's effectiveness.

Programs that include options for evaluation

In this section, we provide an overview of programs that offer or require features for evaluation and descriptions of the features; these features may help provide convincing evidence of the program's effectiveness.

Film and Television Tax Credit Program 3.0. At the time of the credit's introduction, legislation required that the Business, Transportation, and Housing Agency report to the LAO the economic impact of the tax incentives, including the number and increase or decrease of qualified motion pictures produced in California, the amount of total qualified wages paid or incurred in California, and the level of employment in the production industry in California. More recently, the Legislative Analyst's Office was required to provide to the Assembly Committee on Revenue and Taxation, the Senate Committee on Governance and Finance, and the public a report evaluating the economic effects and administration of the tax credits.

Homeless Hiring Tax Credit. The Franchise Tax Board is required to report annually the number of employers who applied for credit reservations in the prior calendar year, the aggregate amount of credits reserved in that year, and the aggregate amount of credits claimed on tax returns during the preceding calendar year.

New Employment Credit. The Franchise Tax Board is required to provide to the Joint Legislative Budget Committee the total dollar amount of credits claimed over the fiscal year and the department's estimate for that same fiscal year. If the amount of credits claimed is less than the estimate for that fiscal year, the Franchise Tax Board must identify options for increasing annual claims of the credit.

California Capital Access Program for Small Business. The California Pollution Control Financing Authority must annually report to the governor and the legislature on programmatic results of the Capital Access Loan Program for Small Businesses, including the number of businesses served, jobs created, jobs retained, the geographic distribution of the loans, and the breakdown of businesses served by industry sector for all new loans.

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36. This requires some clarification. Version 1.0 had a randomization component, which permitted rigorous evaluation, but versions 2.0 and 3.0 do not. In our view, the 3.0 evaluation requirements provide information on the state of the film industry, but are not sufficient for a causal/rigorous evaluation; indeed, it is not clear what is required in the evaluation from the LAO.

California Capital Access Program Collateral Support. The California Pollution Control Financing Authority must annually report to the governor and the legislature on programmatic results of the California Capital Access Program Collateral Support, including the number of businesses served, jobs created, jobs retained, the geographic distribution of the loans, and the breakdown of businesses served by industry sector for all new loans.

Community Economic Resilience Fund. The legislation creating the Community Economic Resilience Fund requires third-party evaluation of the program. The evaluation is intended to provide information on whether and how CERF achieved its objectives, if CERF had unintended effects, if CERF was cost-effective, and if the "inclusive planning model" could be applied to other statewide efforts.

California Inclusive Innovation Hub. The California Office of the Small Business Advocate must submit a report to the Director of Finance, the relevant policy committees of the Legislature, and the Joint Legislative Budget Committee on the extent to which each hub achieved the goals and performance standards identified in their applications, the level of accessibility and availability of services to underserved geographic areas, industry sectors, and underserved business owners, the sustainability of each hub, and future steps to improve program outcomes.

Regional Initiative for Social Enterprises Program. The technical assistance grant recipient must provide a performance report that includes the number of employment social enterprises consulted and trained, a description of how funds were used to help employment social enterprises to expand, facilitate investment, and create jobs in California, the number of jobs created, and the number of individuals employed.

Social Entrepreneurs for Economic Development. If available, program participants must report the number of part-time and full-time jobs created.

California Apprenticeship Initiative. The California Community Colleges Chancellor's Office contracted with a third party to conduct a program evaluation.

Conclusions and Recommendations

California uses a multi-faceted approach to try to spur or support private-sector job creation, with a variety of policies that can address barriers to job creation and benefit businesses, workers, and communities. The state has three job creation policies with sizable allocations (> $272 million in 2022–2023) that are effective, but a much larger number of programs, with considerably more spending in total, have mixed evidence that fails to establish program effectiveness, or more commonly, either less-convincing evidence or no evidence at all.

The four sets of job creation programs, characterized by the evidence on their effectiveness, are quite instructive, and offer some good news and some important challenges. The good news is that some policies, including programs on which the state spends a fair amount, appear to be fulfilling their purpose. The challenges are that the state has many programs that appear to have no evidence on effectiveness. Of course, some of these programs are very new and hence cannot yet be evaluated.

A number of policies have been shown to effectively create jobs above and beyond what would have been created in their absence. To target and support job growth, these programs should be maintained. The state should consider expanding effective programs, although large-scale expansions might diminish the impact of additional expenditures.

Many of the job creation policies have strong economic rationale but simply need more evaluation research. Understanding who benefits from these programs, if any, is critical to creating an effective, equitable multi-faceted approach in California to support jobs and the economy.

Policymakers should consider mandating rigorous evaluation and data collection. Research evaluating California's job creation policies can be advanced without expending state money. As demonstrated by the research on the California Competes Tax Credit (Freedman et al. 2023; Hyman et al. 2022), researchers are eager to access data on state policies to study their effectiveness. Cooperation between researchers and the administrators of these policies, along with data protection plans to ensure confidentiality, is needed and is possible.

Furthermore, the state could build features into its job creation policies that enable evaluation—including the kind of data to collect from applicants and participants—as well as program procedures that permit rigorous evaluation, such as randomization between who does or does not receive program benefits, or program thresholds for eligibility (based on, for example, firm size). By incorporating such features, policymakers would acquire an evidence base for making decisions about job creation policies. This, in turn, should make the use of public expenditures to support private-sector job creation more efficient and effective.

References

Allen, David N., and Mark L. Weinberg. 1988. "State Investment in Business Incubators." *Public Administration Quarterly* 12 (2): Summer, 196-215.

Applebaum, Lauren D., Chris Tilly, and Juliet Huang. 2012. *Economic and Production Impacts of the 2009 California Film and Television Tax Credit*. UCLA Institute for Research on Labor and Employment Industry Report.

Barnow, Burt S., and Jeffrey A. Smith. 2009. *What We Know About the Impacts of Workforce Investment Programs. Strategies for Improving Economic Mobility Programs*. WE Upjohn Institute for Employment Research, pp. 165-78.

Bishop, John H., and Mark Montgomery. 1993. Does the Targeted Jobs Tax Credit Create Jobs at Subsidized Firms? *Industrial Relations* 32(3): September, 289-306.

Bradby, Denise, Aaron Malloy, Tracy Hanna, and Charles Dayton. 2007. A Profile of the California Partnership Academies 2004-2005. ConnectEd and the Career Academy Support Network.

Bradshaw, Ted K. 2002. “The Contribution of Small Business Loan Guarantees to Economic Development.” *Economic Development Quarterly* 16 (4): November, 360-9.

Button, Patrick. 2021. “Can Tax Incentives Create a Local Film Industry? Evidence From Louisiana and New Mexico.” *Journal of Urban Affairs* 43 (5): 658-84.

California Capital Access Loan Program (CalCAP). 2022. 2021 Annual Report to the Legislature.

Chirinko, Robert S., and Daniel J. Wilson. 2023. “Fiscal Policies for Job Creation and Innovation.” Federal Reserve Bank of San Francisco Working Paper 2023-01.

Christopherson, Susan, and Ned Rightor. 2010. “The Creative Economy as “Big Business”: Evaluating State Strategies to Lure Filmmakers.” *Journal Of Planning Education and Research* 29 (3): March, 336-52.

Conroy, Tessa, Sarah A. Low, and Stephan Weiler. 2017. “Fueling Job Engines: Impacts of Small Business Loans on Establishment Births in Metropolitan and Nonmetro Counties.” *Contemporary Economic Policy* 35 (3): July, 578-95.

Dayton, Charles, Candace Hamilton Hester, and David Stern. 2011. Profile of the California Partnership Academies 2009–2010. Career Academy Support Network.

Fairlie, Robert. 2020. “The Impact of COVID-19 on Small Business Owners: Evidence from the First Three Months after Widespread Social-Distancing Restrictions.” *Journal of Economics & Management Strategy* 29 (4): August, 727-40.

Fairlie, Robert W. 2004. “Does Business Ownership Provide a Source of Upward Mobility for Blacks and Hispanics.” In *Public Policy and the Economics of Entrepreneurship*. Holtz-Eakin and Rosen, eds., 153-80. Cambridge, MA: MIT Press.

Falkenström, Daniel. 2022. Film Tax Credits and Cross-Industry Employment Spillovers: Evidence from the Georgia Film and TV Tax Credit.

Fallick, Bruce, Charles A. Fleischman, and James B. Rebitzer. 2006. “Job-Hopping in Silicon Valley: Some Evidence Concerning the Microfoundations of a High-Technology Cluster.” *Review of Economics and Statistics* 88 (3): 472-81.

Faulk, Dagney. 2002. “Do State Economic Development Incentives Create Jobs? An Analysis of State Employment Tax Credits.” *National Tax Journal* 55 (2): June, 263-80.

Freedman, Matthew, Shantanu Khanna, and David Neumark. 2023. “Combining Rules and Discretion in Economic Development Policy: Evidence on the Impacts of the California Competes Tax Credit.” *Journal of Public Economics* 217: 104777.

Geckeler, Christian, Lea Folsom, Leela Hebbar, Josh Mallett, Anne Paprocki, and Maureen Sarver. 2019. The Impact of a Social Enterprise and Workforce System Operated Transitional Employment Program in Los Angeles. Social Policy Research Associates.

Golabek-Goldman, Sarah. 2017. “Ban the Address: Combating Employment Discrimination Against the Homeless.” *Yale Law Journal* 126 (6): April, 1788-868.

González-Vásquez, Ana Luz, Magaly N. López, and Javier Garcia-Perez. 2021. *The High Road to Economic Prosperity: An Assessment of the California Workforce Development Board's High Road Partnership Initiative*. UCLA Labor Center Policy Brief, May.

Hall, Bronwyn, and John Van Reenen. 2000. "How Effective are Fiscal Incentives for R&D? A Review of the Evidence." *Research Policy* 29 (4-5): April, 449-69.

Haltiwanger, John, Ron S. Jarmin, and Javier Miranda. 2013. "Who Creates Jobs? Small versus Large versus Young." *Review of Economics and Statistics* 95 (2): 347-61.

Hebbar, Leela, Kristin Wolff, Kate Dunham, Jessie Oettinger, Maureen Sarver, and Ivette Gutierrez. 2018. *Building New Apprenticeship Programs: A Briefing Paper for The California Apprenticeship Initiative Evaluation*. Social Policy Research Associates.

Hollenbeck, Kevin. 2008. "Is There a Role for Public Support of Incumbent Worker On-the-Job Training?" Upjohn Institute Working Paper, No. 08-138. W.E. Upjohn Institute for Employment Research.

Holtz-Eakin, Douglas, Harvey S. Rosen, and Robert Weathers. 2000. "Horatio Alger Meets the Mobility Tables." *Small Business Economics* 14: June, 243-74.

Hyman, Benjamin, Matthew Freedman, Shantanu Khanna, and David Neumark. 2023. "Firm Responsiveness to State Hiring Subsidies: Regression Discontinuity Evidence." NBER Working Paper No. 30664.

Johnson, Janna. 2009. "Rural Economic Development in the United States: An Evaluation of the US Department of Agriculture's Business and Industry Guaranteed Loan Program." *Economic Development Quarterly* 23 (3): August, 229-41.

Katz, Robert A., and Antony Page. 2010. "The Role of Social Enterprise." *Vermont Law Review* 35 (1): Fall, 59-105.

Kemple, James J. 2004. *Career Academies: Impacts on Labor Market Outcomes and Educational Attainment*. MDRC.

Kolko, Jed, and David Neumark. 2010. "Do Some Enterprise Zones Create Jobs?" *Journal of Policy Analysis and Management* 29 (1): December, 5-38.

LaLonde, R. J. 1995. "The Promise of Public Sector-Sponsored Training Programs." *Journal of Economic Perspectives* 9 (2): Spring, 149-68.

Legislative Analyst's Office. 2003. An Overview of California's Research and Development Tax Credit.

Little Hoover Commission. 2022. "Issue Brief: Major State Programs That Can Support Regional Economic Development."

Los Angeles Economic Development Corporation. 2022. California Film and Television Tax Credit Program 2.0.

Meares, Wesley, Aaron Hutton, Savannah Brown, and Rachel Morris. 2020. "Show Me the Money: An Analysis of Georgia's State Film Tax Credit Program." *Questions in Politics* 7: 40-55.

Moore, Richard W., Daniel R. Blake, G. Michael Phillips, and Daniel McConaughy. 2003. *Training that Works: Lessons from California's Employment Training Panel Program*. Upjohn Institute for Employment Research.

Moretti, Enrico, and Daniel J. Wilson. 2014. "State Incentives for Innovation, Star Scientists and Jobs: Evidence from Biotech." *Journal of Urban Economics* 79: 20-38.

Negoita, Marian, and Annelies Goger. 2020. *State-Level Policies to Incentivize Workplace Learning: Impacts of California's Incumbent Worker Training Program*. Brookings Institution.

Neumark, David. 2013. "Spurring Job Creation in Response to Severe Recessions: Reconsidering Hiring Credits." *Journal of Policy Analysis and Management* 32 (1): Winter, 142-71.

Neumark, David, and Diego Grijalva. 2017. "The Employment Effects of State Hiring Credits." *ILR Review* 70 (5): October, 1111-45.

Neumark, David, and Jed Kolko. 2010. "Do Enterprise Zones Create Jobs? Evidence from California's Enterprise Zone Program." *Journal of Urban Economics* 68 (1): July, 1-19.

Neumark, David, and Helen Simpson. 2015. *Place-Based Policies. Handbook of Regional and Urban Economics, Vol. 5*. G. Duranton, J. V. Henderson, and W. C. Strange, eds., pp. 1197-287. Amsterdam: Elsevier.

Neumark, David, Brandon Wall, and Junfu Zhang. 2011. "Do Small Businesses Create More Jobs? New Evidence for the United States from the National Establishment Time Series." *Review of Economics and Statistics* 93 (1): 16-29.

O'Bryan III, William E. 2010. "An Analysis of Small Business Loan Guarantee Funds."

Paff, Lolita A. 2005. "State-Level R&D Tax Credits: A Firm-Level Analysis." *Topics in Economic Analysis and Policy* 5 (1): September, Article 17.

Sanchez-Moyano, Rocio. 2022. "Lessons Learned from Small Business during COVID-19: A Case Study of the California Rebuilding Fund." Research Brief 2022-3. Federal Reserve Bank of San Francisco Community Development.

State of California Franchise Tax Board. 2022. California Competes Tax Credit Report.

Stern, David, Charles Dayton, and Marilyn Raby. 2010. *Career Academies: A Proven Strategy to Prepare High School Students for College and Careers*. Career Academy Support Network.

Thom, Michael. 2018a. Time to Yell "Cut?" An Evaluation of the California Film and Production Tax Credit for the Motion Picture Industry. *California Journal of Politics and Policy* 10 (1).

Thom, Michael. 2018b. "Lights, Camera, But No Action? Tax And Economic Development Lessons from State Motion Picture Incentive Programs." *The American Review of Public Administration* 48 (1): January, 33-51.

UC Berkeley Labor Center. 2020. Taking the High Road—High Road Training Partnerships: A Path to Reimagine and Rebuild Our Economy.

Weiner, Jennifer. 2009. "State Business Tax Incentives: Examining Evidence of their Effectiveness." Discussion Paper No. 09-3. Federal Reserve Bank of Boston.

Wilson, Daniel J. 2009. "Beggar Thy Neighbor? The In-state, Out-of-state, and Aggregate Effects of R&D Tax Credits." *Review of Economics and Statistics* 92 (1): May, 431-36.

Workman, Alec. 2021. "Ready for a Close-Up: The Effect of Tax Incentives on Film Production in California." *Economic Development Quarterly* 35 (2): May, 125-40.

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