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PUBLIC POLICY  
INSTITUTE OF CALIFORNIA

# Policies for Creating and Keeping Jobs in California

## Technical Appendices

### CONTENTS

Appendix A. Identifying Job Creation Policies

Appendix B. Assessing the Evidence of Program Effectiveness

Appendix C. Comprehensive Discussion of California Job Creation Policies and Evaluations

Appendix D. Evidence of Job Creation Program Effectiveness from Other Jurisdictions

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## Appendix A. Identifying Job Creation Policies

We first conducted a Google search of California policies that were specifically targeted at or linked to private-sector job creation. These included tax credits, training programs, grants, and loans. The results from these searches included sources of information from state and local government websites, non-profit organizations, and consulting and accounting firms. In most cases, the results from non-profits and firms referenced information on government websites. When possible, we prioritized the information available from state government websites, including the websites of the Employment Development Department, the Franchise Tax Board, the Governor’s Office of Business and Economic Development, the Infrastructure and Economic Development Bank (IBank), the Office of the Small Business Advocate, and the California Grants Portal.

After compiling an initial list in this manner, we also reviewed the California 2022-2023 Enacted Budget Summary for policies intended to incentivize businesses to create jobs. We found evaluation reports and news articles pertaining to such policies through Google, Google Scholar, and LexisNexis searches.

Although the focus of our research was not local policies, we conducted a Google search for these, since local governments sometimes advertise state-level programs to their residents (or resident businesses). We also made note of local job creation policies that are like those at the state level, because evaluations of such programs might provide evidence pertinent to the state-level versions of these programs. (But our intent was not to catalogue and discuss all local programs.)

We also searched for evaluations of these job creation policies, using Google and Google Scholar. We searched for evaluations of all four types of policies: tax credits, grants, loans, and entrepreneur and worker training and assistance. We present critical summaries of these evaluations, which include our assessment of both the conclusions and their credibility.

## Appendix B. Assessing the Evidence of Program Effectiveness

Evaluating whether a policy works requires some basic ingredients. At its most basic level, the evaluation has to compare what happened with the policy in effect to what would have happened absent the policy. Of course, we can never literally observe both of these. We cannot, for example, measure job creation in California in 2020 with policy X in place, and without policy X in place – because policy X either was or was not in place.

Instead, a valid evaluation in one way or another compares what happened with the policy in place to a “counterfactual” of what would have happened without the policy. Sometimes this is done in an experimental way. For example, if a policy makes funds available to firms to pay for training, a policy could in principle randomly assign these funds, or randomly assign who is eligible to apply for funds and who is not, and then compare the two groups. But in many cases, this “randomized controlled trial” (or RCT) design is not feasible. In other cases, an evaluation might compare changes in outcomes in California after enacting a policy to changes in another jurisdiction that is comparable in some way, but where a similar policy was not enacted. This is called a “difference-in-differences” evaluation. Alternatively, some policies by design create a cutoff of some kind that can make some applicants (like firms) eligible for a policy incentive, but other applicants – who are quite similar but on the other side of the cutoff – ineligible, in which these “close comparators” provide the counterfactual. This is called a “regression discontinuity” design.

In contrast, some evaluations just describe how many people or firms participated or describe the implementation of a program. These can provide useful information – like how challenges to implementation were (or were not) overcome. But they do not tell us whether a program was effective – i.e., did it change outcomes. Similarly, if an evaluation only tells us how outcomes changed for participants, without any counterfactual with which to compare these changes, then it cannot tell us about effects of the policy.

Of course, even among evaluations that provide the needed counterfactual, some can be higher quality, and some lower quality. In this report, we do not delve into this more subjective assessment in our classification of evaluations. Rather, we stick to the simple and more objective criterion of whether the basic ingredients of a compelling evaluation are present.

We do, however, also classify evaluations as “convincing,” “somewhat convincing,” or “less convincing.” We use the “less convincing” label when the evidence does not support a conclusion about the causal effect of the policy. An example is 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.<sup>1</sup> In most cases, we use the “somewhat convincing” label when the research is compelling but not specific to job creation or to California. The exception is Bradshaw (2002), where the design itself is, in our view, only somewhat convincing (for reasons explained in the text). Some other, more typical cases where we view the evidence as somewhat convincing are: Moretti and Wilson (2014), who find compelling evidence that R&D credits in general boost biotechnology

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<sup>1</sup> 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 Appendix C.

employment, and Paff (2005), who finds compelling evidence that California’s R&D credit boosts in-house research activity; Geckeler et al. (2019), who find evidence that the Los Angeles RISE program increased employment for participants, but this may not have been due to job creation, and the outcomes may differ for the state; and Dayton et al. (2011), who find positive effects of Partnership Academies on graduation rates and employment for participants relative to non-participants, using a design that is not necessarily causal because of selection into the program, and is not specific to job creation.

# Appendix C. Comprehensive Discussion of California Job Creation Policies and Evaluations

## Tax Credits

### California Competes Tax Credit

The California Competes Tax Credit (CCTC) was introduced in 2013, replacing the enterprise zone program, as an income tax credit available to businesses that want to relocate to California or stay and grow in California.<sup>2</sup> Since fiscal year 2014-2015, and through fiscal year 2027-2028, the program offers between \$150 and \$200 million in credits each year.<sup>3</sup> Estimated tax expenditures in 2022-2023 totaled \$100 million.<sup>4</sup> Businesses of any industry, size, or location compete for credits by applying in one of the three application periods each year. Applicants are analyzed based on twelve different factors of evaluation, including number of full-time jobs being created, amount of investment, and strategic importance to the state or region. Preference is given for 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 combines explicit eligibility thresholds with some discretion on the part of program officials to select tax credit recipients more likely to grow or remain in the state because of CCTC incentives. The CCTC also 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.

Each March, the Franchise Tax Board is required to release a report based on business tax returns of the amount of CCTC credits generated and claimed over the previous year. The most recent report was published in 2022 (State of California Franchise Tax Board, 2022). From 2017 to 2020, the net (after accounting for credit recaptures) annual amount of awarded credits ranged from \$100 million to \$175 million and annual credits claimed ranged from \$27 million to \$68 million. The value of tax credits claimed and tax credits awarded may differ in a given year because businesses may claim credits that were eligible to be claimed on a prior year tax return, may have insufficient tax liability to claim the full credit, or may have failed to meet their annual program milestones.

The CCTC has been evaluated rigorously (Freedman et al., 2023; Hyman et al., 2023). Freedman et al. (2023) exploit data on accepted and rejected applicants to the CCTC, including information on scoring of applicants regarding program goals and funding decisions, together with restricted access American Community Survey (ACS) data on local economic conditions. Using a difference-in-differences approach that considers potential future tract-level employment growth, they 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. The evaluation also considers the effect of CCTC awards on tract residents and finds no evidence of positive effects, which may be because the CCTC does not specifically

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<sup>2</sup> See: <https://www.ftb.ca.gov/file/business/credits/california-competes-tax-credit.html>.

<sup>3</sup> See: <https://business.ca.gov/wp-content/uploads/2022/12/California-Competes-Tax-Credit-FAQ.pdf#%20>, <https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 52-53) and <https://lao.ca.gov/publications/report/3709>.

<sup>4</sup> See: [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue\\_and\\_Taxation/TaxExpenditureReport.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf) (p.11).

prioritize jobs for tract residents. These effects are concentrated in non-manufacturing.<sup>5</sup> Hyman et al. (2023) explore the program’s distributional implications and impacts on firms. They use CCTC program data and the U.S. Census Bureau’s Longitudinal Business Database and develop a regression discontinuity design to compare firms above and below the CCTC eligibility cutoff. They find that CCTC awards increase 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 increases also occurring in disadvantaged parts of the state.<sup>6</sup>

## New Employment Credit

The New Employment Credit (NEC) is available for each taxable year beginning on or after January 1, 2014, and before January 1, 2026, to a business that hires a qualified full-time employee in a Department of Finance-designated geographical area or economic development area, and that receives a tentative credit reservation for that qualified full-time employee. Employers may obtain a tentative credit reservation (“reserving” a credit for a qualified employee within 30 days of completing new hire reporting requirements) for a new employee by providing location, wage, and employment information to the California Franchise Tax Board. In order to be allowed a credit, the qualified taxpayer must have a net increase in the total number of full-time employees in California. The credit is based on 35 percent of qualified wages (wages between 150 percent and 350 percent of minimum wage).<sup>7</sup> The California Department of Finance reported approximately \$5 million in tax expenditure on the New Employment Credit in fiscal year 2022-2023.<sup>8</sup> The New Employment Credit has more parallels with the state’s earlier enterprise zone program than with the CCTC, in part because firms can claim it for hiring based on Designated Geographical Areas (high unemployment or high poverty), without the application and discretionary selection of the CCTC. The policy targets credits towards unemployed, lower-income, and other workers, and requires starting wages above 150% of the state minimum wage at time of hire.

The Franchise Tax Board is required to report on the amount of NEC credits generated and claimed over the previous year.<sup>9</sup> Generated credits include the value of all credits that businesses were eligible for in that year (indicating that they held tentative credit reservations and saw a net increase in employment), though businesses may or may not actually claim them for that tax year. Credit claims in a year can exceed the generated amount when taxpayers claim unused credits carried over from prior years. In March 2022, the FTB reported \$3.5 million of NEC credits were generated, while \$3.6 million in credits

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<sup>5</sup> From an economic development perspective, the usual view is that it is best to incentivize job creation in the tradable sector. It is important to note that many companies outside of manufacturing are in the tradable sector. And Freedman et al. (2023) report that most of the estimated job creation occurs in tradable non-manufacturing industries.

<sup>6</sup> The authors interpret the large positive impacts arising because the CCTC program’s application process and discretionary tools allow program administrators to target firms whose behavior is most likely to be affected by the hiring credits offered, and because the CCTC has strong monitoring and credit recapture provisions to ensure that jobs are created when hiring credits are paid. It also effectively targets firms with proposed expansion plans, which may be more sensitive to tax credits and therefore grow more with a subsidy compared to a firm without such expansion plans. One implication is that the effectiveness of the CCTC might be substantially diminished were the program scaled up to a much higher level. On the other hand, related to this point, we have heard anecdotal evidence that some firms forego applying for the CCTC because they do not think they will get an award. This is potentially a “feature” rather than a “bug,” if this expectation coincides with GO-Biz staff determinations that such applications are less likely to achieve program goals. However, if in fact there are many more potential projects that could be funded by an expanded CCTC and would produce large job gains (even if smaller than those estimated by these studies), then there may be scope for scaling up the CCTC.

<sup>7</sup> See: <https://www.ftb.ca.gov/file/business/credits/new-employment-credit/index.html>.

<sup>8</sup> Tax expenditure information is available at: [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue\\_and\\_Taxation/TaxExpenditureReport.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf) (p. 10).

<sup>9</sup> The 2022 report is available at: <https://www.ftb.ca.gov/about-ftb/data-reports-plans/new-employment-credit-report-march-2022.pdf>. Previous year reports are available at: <https://www.ftb.ca.gov/about-ftb/data-reports-plans/new-employment-credit.pdf> and <https://www.ftb.ca.gov/about-ftb/data-reports-plans/new-employment-credit-report-march-2021.pdf>.

were claimed, for the 2019 tax year; and preliminary estimates indicated that \$500,000 NEC credits were generated and \$3.9 million were claimed for the 2020 tax year. The FTB notes that 2020 credits generated were much lower than other years, possibly due to the pandemic-related recession that led to business closures and difficulty hiring employees. Additionally, actual NEC tax credits fell significantly short of the amounts estimated when the credit was introduced. When the NEC was passed into law, the FTB estimated that \$269 million in credits would be claimed in 2019 and \$290 million would be claimed in 2020. The FTB notes that this difference between estimated and actual credits claimed may be due to program complexity, including businesses failing to obtain a tentative credit reservation,<sup>10</sup> geographic, wage, and employee requirements, and the exclusion of some industries, such as non-small businesses in retail or food service. For example, new employees are qualified for the credit if they were unemployed in the six months preceding employment, are a veteran who has not been employed since separation from service, is a recipient of assistance programs immediately preceding employment, or are an ex-offender immediately preceding employment. Additionally, employers wishing to use the credit must annually certify each qualified employee. While this evidence does not speak to the causal effect of the program in creating jobs, the very low claiming suggests the program has not been very effective (but has not cost that much, either). Moreover, it remains an interesting question why firms have engaged in so little claiming of the credit. Understanding why could potentially lead to changes that make the program more effective (although the lessons from the state's earlier enterprise zone program suggest that this policy may have little impact).<sup>11</sup>

## 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.<sup>12</sup> The California Film Commission administers the Film & Television Tax Credit Program 3.0 which provides tax credits based on qualified expenditures for eligible productions that are produced in California.<sup>13</sup> In 2022-2023, estimated tax expenditure was \$219 million.<sup>14</sup> The \$1.55 billion program runs for 5 years, with a sunset date of June 30, 2025.<sup>15</sup> Program 3.0 is the third version of this tax credit, with Program 1.0 applying to productions with Credit Allocation Letters dated from July 1, 2009 to June 30, 2016 and Program 2.0 applying to productions with Credit Allocation Letters dated from July 1, 2015 to June 30, 2020. Each fiscal year – July 1 to June 30 – the \$330-million funding of Program 3.0 is categorized in: TV Projects, Relocating TV, Indie Features, and Non-Indie Features. The 2023-2024 California Budget introduced the Film and Television Tax Credit Program 4.0, which will run for 5 years beginning in 2025, continue the funding level of Program 3.0, and make the tax credit refundable at a discounted value.<sup>16</sup> The California Film Commission also administers the \$150 million Soundstage Filming Tax Credit Program, which runs from 2022 to 2032 and 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

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<sup>10</sup> The requirements for registering a new employee for the credit could be perceived as onerous by businesses. On the other hand, these requirements appear to be an improvement on the retroactive claiming of credits under the state's enterprise zone program (Kolko and Neumark, 2010).

<sup>11</sup> See Neumark and Kolko (2010).

<sup>12</sup> See: <https://www.ftb.ca.gov/file/business/credits/motion-picture-tv-credit.html>.

<sup>13</sup> See: <https://film.ca.gov/tax-credit/the-basics-3-0/>.

<sup>14</sup> See: [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue\\_and\\_Taxation/TaxExpenditureReport.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf) (p.11-12).

<sup>15</sup> 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](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf) (p. 49).

<sup>16</sup> See: <https://ebudget.ca.gov/2023-24/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 86).



production of a motion picture at a certified studio construction project.<sup>17</sup> The program is designed to incentivize construction and renovation of California soundstages, as well as repurposing of space into soundstages.

There are a few evaluations of California’s film credits. A recent study analyzed data provided by the California Film Commission from 169 productions that qualified for \$915 million in tax credits over the lifetime of the earlier California Film and Television Tax Credit 2.0 (July 2015-June 2020) to estimate the economic impact of the credit; see Los Angeles County Economic Development Corporation (2022). These productions ranged in budget from \$2.7 million to over \$185.9 million in expenditures made within California and the authors estimated them to have supported more than 110,000 total jobs (including direct, indirect, and induced) in the state. In a cost benefit analysis, the authors estimate that for every tax credit dollar approved under California’s Film and Tax Credit program, an estimated \$24.40 in output, \$16.14 in gross domestic product (GDP), \$8.60 in wages, and \$1.07 in initial state and local tax revenue resulted from production in the state of California. The authors use IMPLAN software to estimate these effects, though one should be cautious in interpreting these as causal effects of the tax credit program, because the study’s approach does not have a clear counterfactual for what these economic outcomes would be in the absence of the credit.<sup>18</sup> The authors are also interested in estimating “lost revenue” to the state, or the economic impact of productions that applied for but did not receive a film tax credit and went on to film outside of California. From 2015 to 2020, the California Film Commission tracked 312 productions that applied for but did not receive a California tax credit, of which 157 (50 percent) left California for another state. If these productions had stayed in the state, California would have reaped the estimated economic benefits of 28,000 total jobs, labor income of approximately \$2.6 billion, and state and local tax revenues which would have totaled \$354.4 million. It is important to note again that this report does not estimate the causal economic impact of the tax credit. Rather, this study estimates the economic impact of productions which both filmed in California and received the tax credit. Clearly some productions stayed in California despite not receiving a credit, and some may well have filmed elsewhere even if a credit was offered, so the level of economic activity induced by the credit is unclear.

Workman (2021) conducts a more rigorous study using a randomization feature of the earlier Film & Television Tax Credit Program 1.0 to understand the effect of the credit on film production spending and job creation in California. Due to the budget cap on the credit program, demand for tax credits could have been greater than the amount allowed. In this case, the California Film Commission conducted a lottery to select credit recipients (beginning in Program 2.0, this was replaced with a jobs ratio ranking system). Workman studies films that applied for a production credit in fiscal years 2012-2013, 2013-2014, and 2014-2015. Not all productions that were selected during the lottery ultimately received a credit (due to noncompliance), and some productions not selected during the lottery eventually received a credit. There was a total of 501 productions with applications for the credit at least once over the analysis years; 36 were initially offered a credit, 14 of those received the credit, and 69 productions in total received the credit. The study uses the lottery selection in an intent to treat analysis and as an instrument for receiving a tax credit in an analysis of the effect of treatment on the treated. Data on the numbers of cast and crew were obtained from IMDb, which includes a sizable number of zeros due to not all productions being

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<sup>17</sup> See: <https://film.ca.gov/tax-credit/soundstage-tax-credit/> and <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 22).

<sup>18</sup> This study’s methodology is not the standard approach economists use to estimate the causal effects of tax credits or other programs.



made and incompleteness of available information. Workman estimates the in-California effect of the tax credit by multiplying the production's total number of cast and filmmakers by the proportion of filming activity that was done in California. He 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, the substantial number of zeros present in the dataset may be associated with some features of productions: for example, if small or independent productions are less likely to have their data on IMDb. It is also unclear that the proportion of cast and filmmakers employed in a state is uniform across states (for example, if out-of-California filming was more labor intensive). If these factors varied with features of productions, the estimates of the effects of the tax credit may not be reliable.

An evaluation by Thom (2018a) uses California Employment Development Department's (EDD) Current Employment Statistics 1991-2016 and an interrupted time series model to determine if the Film & Television Tax Credit Program 1.0 and Program 2.0 expansion significantly increased employment in motion picture and video production, motion picture and video industries, and motion picture and sound recording. The author considers the effects of film tax credits at the federal level, in other U.S. states, the United Kingdom, and Canada, as well as comparisons to changes in all U.S. non-farm employment. The results suggest that the tax credit had some statistically significant positive effect on employment in the three occupational categories associated with the motion picture industry. (However, the magnitude of this effect was much smaller than the effect of a change in U.S. non-farm employment in general, indicating that industry employment may be more responsive to overall employment trends than to the tax credits.) Perhaps more problematic is that film employment in California was apparently affected by a similar amount by tax credits in competing states and countries, and in an analysis of employment changes due to lagged tax credit changes, California employment in the motion picture occupation categories appeared to fall with the state film tax credit. Both results suggest that the estimated relationships between the credit and motion picture employment represent spurious correlations rather than causal effects. This study is also constrained by the fact that the actual value of the film tax credits issued and redeemed are not reported by the state of California, so the author uses the maximum budgeted allocation as the explanatory variable. If the response depends on the value of the credit, the mismeasurement in the incentive provided to film makers could make it harder to detect an effect.

A study by Applebaum et al. (2012) conducts a survey of producers to understand the factors considered in deciding film production location. Thirty-eight film producers who had ever applied for (but not necessarily received) the earlier California Film and Television Tax Credit 1.0 completed the survey on factors affecting production location decisions, such as tax credits, existing infrastructure, and available workforce. Respondents reported that tax credits are a significant part of the decision, as 94 percent of producers who produced outside of California filmed in a state that provided them with a tax credit. On the other hand, producers considered more than just credits, as 25 percent of respondents indicated that they made films in California without receiving a tax credit. While producers would certainly benefit from tax credits on their productions, the survey responses suggest that tax credits can be a useful tool in promoting economic activity, and thus job creation or retention, in film production within the state. Of course, responses from a survey such as this do not represent causal evidence, and responses may reflect economic self-interest; clearly film producers would prefer to have these credits even if the credits do not change their behavior.

Applebaum et al. also analyze findings from a 2011 Los Angeles Economic Development Corporation (LAEDC) report on impacts of the film credit. The LAEDC analyzed budget data from nine productions that received tax credit allocations in the first application year (2009-2010) and extrapolated from these productions to estimate the revenues and expenditures of the 77 productions receiving credit allocations during the first two funding years of the program. The LAEDC used IMPLAN to estimate the direct impact, indirect impact, and induced impact of California film and television productions to calculate how many jobs will be created for each \$1 million in expenditures qualifying towards the tax credit. The analysis determined that 21 jobs are created for each \$1 million in qualifying expenditures, or 20,040 jobs would be created by all 77 productions receiving credit allocations during the first two funding years of the program. The authors note that since IMPLAN is proprietary, the particular assumptions of the model are not available. Additionally, the estimates are large, and per the same criticism above, should probably not be viewed as causal because of the absence of a rigorous counterfactual for jobs that would be created in the absence of the credit. For example, the employment estimates rule out the possibility that some productions would choose to remain in California even without a credit.

### **Homeless Hiring Tax 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 based on the actual hours worked in the taxable year. Eligible employees must, in the previous 180 days, be homeless or be receiving services from a homeless services provider and be certified by a Continuum of Care (CoC) program or community-based service provider. Employers may claim up to \$30,000 of credit per taxable year.<sup>19</sup> In fiscal year 2022-2023, estimated tax expenditure on the credit program totaled \$4 million.<sup>20</sup> As a new program, there are not yet any evaluations of this hiring tax credit.

### **Research and Development Credit**

The Research and Development (R&D) Credit was introduced in 1987 and is based on the federal Research and Experimentation Tax Credit, with modifications (Legislative Analyst's Office, 2003). Businesses may qualify for this credit if they engaged in qualified research activities in California. The credit is equal to the sum of the following: (i) 15 percent of qualified expenses<sup>21</sup> that exceed a base amount; and (ii) 24 percent of basic research payments.<sup>22</sup> Because the credit applies specifically to research activities within the business, the greatest employment effect may be on scientific employment, while broader effects may be narrow; in that sense 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.<sup>23</sup> This was a decrease from 2019, when nearly \$3 billion in credits were allowed. Use of the R&D credit was temporarily limited in 2020-2022, due to anticipated budget deficits.<sup>24</sup> The R&D credit was fully restored beginning in fiscal year 2022-2023. It is worth noting how much larger the tax

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<sup>19</sup> See: <https://www.ftb.ca.gov/file/business/credits/homeless-hiring-tax-credit/index.html> and [https://leginfo.ca.gov/faces/billNavClient.xhtml?bill\\_id=202120220AB150](https://leginfo.ca.gov/faces/billNavClient.xhtml?bill_id=202120220AB150).

<sup>20</sup> See: [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue\\_and\\_Taxation/TaxExpenditureReport.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf) (p. 10).

<sup>21</sup> Qualified expenses include in-house and contract research expenses, research services and supervision, supplies, and wages.

<sup>22</sup> See: <https://www.ftb.ca.gov/file/business/credits/california-research.html> and <https://www.ftb.ca.gov/forms/2022/2022-3523-instructions.html>.

<sup>23</sup> Tax expenditure information is available at: [https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue\\_and\\_Taxation/TaxExpenditureReport.pdf](https://dof.ca.gov/wp-content/uploads/sites/352/Forecasting/Revenue_and_Taxation/TaxExpenditureReport.pdf).

<sup>24</sup> More information is available at: <https://ebudget.ca.gov/2022-23/pdf/BudgetSummary/EconomicGrowthJobCreationandExpandedOpportunity.pdf> (p. 71, "Elimination of the Limits on Usage of Net Operating Losses (NOLs) and Tax Credits for the 2022 Tax Year").

expenditure is on the R&D credit vs. other hiring credits. The natural question following from this, which we do not answer here, is whether this relatively higher level of spending is a good policy choice.

Moretti and Wilson (2014) evaluate the effects of state R&D credits on employment of “star scientists” in biotech companies, using data from several U.S. states including California. Star scientists are defined as those patenters whose patent count over the previous 10 years is in the top 5 percent of patenters nationally. The authors propose a cost function for R&D, which is decreasing with respect to the state R&D tax credit. They then regress the outcomes of interest, including quantity of star scientists, employment in closely related industries, and employment in non-traded industries, on R&D cost and any state biotech incentives, including both contemporaneous and lagged effects. They find that an increase in R&D tax credits that reduces the R&D cost 10 percent results in a cumulative effect over 3 years of a 15.3 percent increase in new star scientists in the state. The authors also study employment effects overall in the Pharmaceutical and Medicine Manufacturing sector, Pharmaceutical Preparation Manufacturing sector, and the Scientific R&D sector, and find that an increase in R&D tax credits large enough to lower the R&D cost by 10 percent raises industry employment by between 6 and 18 percent. The authors also consider employment effects in the construction, retail, and real estate sectors, to consider whether increased employment in biotech increases activity in other local sectors and find that an increase in R&D tax credits which reduces the R&D cost 10 percent results in a 7.6 percent increase in employment in the construction sector. The authors note that this indirect effect is large in comparison to other results found in the literature and may reflect other policies enacted at the same time or unobserved common economic shocks. However, this research implies that R&D tax credits do have positive impacts on employment, even outside of R&D sectors.<sup>25</sup>

There is one empirical evaluation specifically of California’s R&D tax credit. Paff (2005) estimated effects of California’s changes in R&D tax credit rates on biopharmaceutical and software firms’ research investment during 1994-1996 and 1997-1999, using a difference-in-differences analysis. At that time, the credit for in-house research increased from 8 percent to 11 percent, and the credit for contract research increased from 12 percent to 24 percent. The author uses Massachusetts as a comparison state, due to its representation in the biopharmaceutical and software industries and the existence of a state R&D credit. At the time, Massachusetts’s credits were 10 percent and 15 percent on in-house and contract R&D, respectively, and had changed very little since implementation. The author uses data from Compustat, limiting the analysis to businesses with R&D expenditures in only one state, since state-by-state R&D expenditure data is not available, and thus effects of state-by-state R&D credits cannot be estimated. This criterion tended to exclude firms that were older and relatively more profitable, which may have an unclear effect on analysis results. The difference-in-differences analysis provides some evidence of increased R&D expenditure in response to the research tax credit rate increase in California.<sup>26</sup> In particular, the author 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.

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<sup>25</sup> In addition, Wilson (2009) finds a large response of R&D spending to state R&D tax credits.

<sup>26</sup> This is consistent with literature on the effects of federal R&D tax credits, summarized in Hall and Van Reenen (2000).

The LAO provides an overview of the California R&D tax credit, based on economic theory and considering a hypothetical California firm (Legislative Analyst's Office, 2003). The LAO considers the effectiveness of state tax credits in inducing research and development, especially in the presence of a federal tax credit. The presence of a federal tax credit incentivizes an increase in research activity, so the addition of a state tax credit may result in no changes to the level of research or too high a level of research as compared to the socially optimal level. The benefits of additional research in California will be shared by other states. The LAO also recognizes the potential positive spillovers on knowledge and productivity (agglomeration). Overall, the study concludes that a state credit is likely to be costly overall relative to the benefits it provides in additional research activity. The report recommended that lawmakers consider reducing the credit or phasing it out over time. However, this report is more speculation than any kind of empirical causal analysis. This report also does not specifically study employment changes as a share of R&D expenditures.

## Grants

### California Competes Grant

Building off the CalCompetes Tax Credit (see Tax Credits above), the 2021 Budget Act included \$120 million for a CalCompetes grant program.<sup>27</sup> The California Competes Grant is available to businesses that want to locate or stay and grow in California. Grants are aimed at businesses that cannot fully benefit from a nonrefundable tax credit, but still offer economic development opportunities that are at risk of taking place outside of California. The CalCompetes Grant is available to businesses of any size that meet at least one of the following criteria: (i) will create at least 500 new full-time jobs in California; (ii) will make capital investments of at least \$10 million in facility construction/renovation; (iii) will take place in an area of high unemployment and/or poverty as defined in the California Competes Tax Credit regulations.<sup>28</sup> The 2022-2023 state budget allocated \$120 million towards a second year of the CalCompetes grant program, and in April 2022, the CalCompetes Committee approved grants to eight companies that committed to create more than 7,600 new, full-time jobs in California and bring over \$3.6 billion in new capital investments to the state. As a new program, there are not yet any evaluations of the CalCompetes grant program.

## Loans

### California Capital Access Program for Small Business

The California Capital Access Program for Small Business (CalCAP SB) was established in 1994 and encourages banks and other financial institutions to make loans to small businesses that have difficulty obtaining financing.<sup>29</sup> If small business owners need a loan for start-up, expansion, or working capital, they may receive more favorable loan terms from a lender if the loan is enrolled in the CalCAP SB. This program may help communities by providing financing to businesses that create jobs and improve the economy. CalCAP SB is a loan loss reserve program which may provide up to 100 percent coverage to

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<sup>27</sup> The budget item is described at <https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 52-53).

<sup>28</sup> More information is available at: <https://www.ftb.ca.gov/about-ftb/newsroom/tax-news/january-2022/california-competes-grant-program.html>.

<sup>29</sup> The program is described at: <https://www.treasurer.ca.gov/cpefa/calcap/sb/index.asp>.

participating lenders on losses as a result of certain loan defaults. With CalCAP SB portfolio support, a lender may be more comfortable underwriting small business loans.

In 2021, participating lenders enrolled 871 small business loans in CalCAP SB for a total of \$26.6 million in enrolled loan dollars (California Capital Access Loan Program (CalCAP), 2022). Of the 871 loans enrolled in CalCAP SB, 291 (33.4 percent) were located in a severely affected community (defined as an area experiencing high levels of unemployment), and 536 were microloans representing \$10.6 million (approximately 40 percent of all enrolled loans). The CalCAP program reported that in 2021, CalCAP SB-enrolled loans helped to create 856 new jobs and retain 2,844 existing jobs. These figures should not be interpreted as causal effects of the program, since the levels of job creation and retention in the absence of the program are not estimated, but are descriptive of job creation and retention at participating businesses. In fiscal year 2022-2023, reported expenditures totaled \$21 million.<sup>30</sup> The numbers indicated above provide indirect 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 Capital Access Program Collateral Support**

The California Capital Access Program Collateral Support (CalCAP CS) is a \$20 million credit enhancement program established in 2017 that pledges cash to cover the collateral shortfall of loans made by participating lending institutions of \$50,000 or more.<sup>31</sup> The goal of the CalCAP CS is to encourage banks and other financial institutions to make loans to small businesses in California. Loan proceeds can be used for a business's start-up costs, working capital, equipment, inventory, and the purchase, construction, renovation, or improvements of an eligible place of business.

In 2021, participating lenders enrolled 30 loans in CalCAP CS for a total of \$24.2 million in enrolled loan dollars (California Capital Access Loan Program (CalCAP), 2022). Of those, 24 (80 percent) were located in a severely affected community. In 2021, CalCAP CS-enrolled loans helped to create 160 new jobs and retain 1,029 existing jobs, though these results should not be interpreted as causal, but rather descriptive of participant outcomes. We have not been able to quantify the cost of this program to the state – a cost that would presumably be incurred in the case of loan defaults.

### **California Rebuilding Fund**

The California Rebuilding Fund (CARF) is a public-private partnership that is aggregating funding from private, philanthropic, and public sector sources – including a \$25 million anchor commitment from the California Infrastructure and Economic Development Bank (IBank) – 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.<sup>32</sup> This program is built to serve the smallest of small businesses and focuses on historically under-resourced communities. The CARF website cites a finding from Fairlie (2020), who found that by April 2020, the United States had 22 percent fewer small business owners compared to two months prior. The goal of CARF is to help businesses retool, rebuild, and reopen through affordable credit access.

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<sup>30</sup> Expenditure and budget information is available at: <https://ebudget.ca.gov/2023-24/pdf/Enacted/GovernorsBudget/0010/0974.pdf>.

<sup>31</sup> The program is described at: <https://www.treasurer.ca.gov/cpcf/calcap/collateral/index.asp>.

<sup>32</sup> The program is described at: <https://ibank.ca.gov/small-business/california-rebuilding-fund/>.



In a case study of CARF, Sanchez-Moyano (2022) reviewed program administrative data and noted that CARF offers below-market terms relative to those typical in the small business lending sector, lowering borrowing costs for small businesses. Coupling public and private funds increased the capacity for the state to offer loans to small businesses and reduced private investment risk. Despite the program decreasing risk to private investors, the author found that raising capital remains challenging. CARF was able to raise more than \$100 million in private and philanthropic capital to provide small business loans. Nevertheless, interviews with members of an associated task force and community development financial institutions found that momentum for funding small businesses faded as the pandemic progressed, and the amount of time and effort needed to raise these funds surprised some interviewees. CARF members also noted that many small business owners experienced challenges in applying, even though the program was targeted to them. To promote loan access, CARF partnered with a variety of technical assistance and small business advocacy organizations to educate small businesses about the program and assist them in applying. While it appears that the 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**

IBank's Small Business Finance Center features a loan guarantee program designed to assist small businesses that experience capital access barriers. Originally known as the Small Business Loan Guarantee Program and established in 1968, the program encourages lenders to provide funds to small businesses by reducing the risk to lenders through the guarantee. The program aims to help businesses create and retain jobs and encourages investment in low- to moderate-income communities.<sup>33</sup> The program also offers one-on-one technical assistance to small businesses in identifying and applying for funds, as well as follow-on assistance and referrals to other nonprofit small business service providers.

In fiscal year 2019-20, there were 470 guarantees made on a total loan package of \$240 million with a loan guarantee amount of \$165 million.<sup>34</sup> This guarantee activity contributed to \$303 million of overall capital injected into the state's small business community. Small business borrowers reported that 15,403 jobs were created or retained during 2019-20.

In addition to the descriptive evidence above, 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), which guaranteed small business bank loans to firms that could not otherwise obtain credit. The study tracked the actual change in employment at 1,166 firms that received 1,515 loan guarantees from 1990 to 1996 during the depths of the California recession. Because a control group was not available, conservative approaches are made in the analysis, including studying employment change only while the loan was active (before repayment). Data for this study were obtained from information provided to the California Trade and Commerce Agency by the eight financial development corporations that administer the loan guarantee program. The study found that employment increased in firms receiving loan guarantees by 40 percent among all firms, an average gain of 6 employees per firm, and 27 percent among nonagricultural firms, while from 1991-1995, California small businesses in general saw

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<sup>33</sup> For program descriptions, see: <https://www.ibank.ca.gov/small-business/loan-guarantees/> and <https://sbfdoc.org/state>.

<sup>34</sup> This is a loan guarantee amount, not an expenditure. We have not found actual expenditures associated with these guarantees. See: <https://ajed.assembly.ca.gov/sites/ajed.assembly.ca.gov/files/AB%201297%20%28Holden%29%20JEDE%20Bill%20Analysis.pdf>.

employment decrease 11 percent. However, the author notes that when restricting to the 70 percent of all small and large businesses in California that survived the recession, these firms saw an increase in employment. Large surviving firms saw large decreases in employment, which were more than made up for by small surviving firms. This study has data for 74.5 percent of firms for which data is expected (loans of less than one year did not require reporting data), which could mean that some firms closed despite receiving a loan guarantee. While the reporting firms experienced an increase in employment, due to limited data, unavailability of a control group, and the existence of outside economic trends, the causal effect of the loan guarantee program is unclear.

## Entrepreneur Training and Assistance

### University of California Innovation and Entrepreneurship Expansion

This \$22 million program was introduced in 2016 and provides resources for California innovators, entrepreneurs, startups, investors, and industry and community partners, by providing 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.<sup>35</sup> We have not identified any evaluations of this program.

### California Dream Fund

The California Dream Fund is a one-time \$35 million grant program created in 2021 to seed entrepreneurship and small business creation in California.<sup>36</sup> New entrepreneurs and small business owners complete an intensive training program through select participating centers of the Technical Assistance Expansion Program (TAEP). Following successful completion of the training and consulting program, new businesses are eligible to apply for a microgrant of up to \$10,000.<sup>37</sup> As a new program, there are not yet any evaluations of this fund.

### Community Economic Resilience Fund

The \$600 million Community Economic Resilience Fund (CERF) was created in September 2021 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.<sup>38</sup> Specifically, the Community Economic Resilience Fund Program (CERF) aims to support communities and regional groups in producing regional roadmaps for economic recovery and transition that prioritize the creation of accessible, high-quality jobs in sustainable industries. The program consists of two phases: an approximately \$65 million planning phase, which includes relationship-building and analysis of regional economic conditions, and a \$500 million implementation phase, during which regions will receive funding to introduce economic recovery programs. In 2022, the program awarded planning funds to

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<sup>35</sup> The program is described at: <https://www.universityofcalifornia.edu/press-room/ab-2664-innovation-funds-supported-hundreds-startups-dozens-product-launches-2017>. A fact sheet is available at: [https://www.ucop.edu/innovation-entrepreneurship/\\_pdfs/ab2664\\_\\_factsheet\\_aug2020.pdf](https://www.ucop.edu/innovation-entrepreneurship/_pdfs/ab2664__factsheet_aug2020.pdf).

<sup>36</sup> See: <https://cadreamfund.com/> and <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 22).

<sup>37</sup> See: <https://calosba.ca.gov/funding-grants-incentives/california-dream-fund-program/>.

<sup>38</sup> The program is described at: <https://opr.ca.gov/economic-development/> and <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 156).



community development organizations and universities across the 13 regions of California to develop region-specific economic partnerships and initiatives.<sup>39</sup> While CERF will not be providing funding directly to entrepreneurs, examples of second-phase regional activities include entrepreneurship programs and programs to connect small- and minority-owned businesses to industrial hubs, which may benefit businesses in the region. The goal of the CERF is to build an equitable and sustainable economy across California’s diverse regions and foster long-term economic resilience in the overall transition to a carbon-neutral economy. As a new program, there are not yet any evaluations of this fund.

### **California Inclusive Innovation Hub**

In 2013, the California Innovation Hub program (iHub) was signed into law, supporting 14 iHubs centered around research clusters.<sup>40</sup> While the program had limited technical assistance support and funding, it achieved some successes in building local partnerships. Building on the strengths of the clustered regional model, the California Office of the Small Business Advocate (CalOSBA) launched the California Inclusive Innovation Hub program (iHub2) in 2022 with a focus on diversity, equity, and inclusion. iHub2 designees are higher education institutions, economic development corporations, and private nonprofit corporations that will provide training, advisory services, and community connections to entrepreneurs. The goal of the iHub2 program is to accelerate technology and science-based firms in key industry areas with a strong outreach focus on diverse founders, including women and people of color, and on underserved geographies and regions.<sup>41</sup> In 2022, 10 organizations, including the CSU Fresno Foundation – WET Center, Larta Institute, and Siskiyou Economic Development Council, were designated iHubs and received \$250,000 to implement a 3-year strategy to stimulate partnerships, economic development, and job creation. The 2022 California State Budget additionally allocated \$20 million to be spent over four years to expand the number of iHubs from 10 to 13 to align with the Community Economic Resilience Fund regions and to establish the Entrepreneurship Fund to provide grants to businesses incubated at each of the iHubs.<sup>42</sup> As a new program, there are not yet any evaluations of this program.

### **Regional Initiative for Social Enterprises Program**

The Regional Initiative for Social Enterprises Program entails a \$25 million one-time General Fund allocation in 2022 to provide financial and technical assistance to employment social enterprises to enable them to build their capacity to create and retain jobs in communities. Employment social enterprises are businesses that provide jobs, on-the-job training, and specialized supports to people who face high barriers to work, including people previously incarcerated or homeless, or who have substance use or mental health issues.<sup>43</sup>

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<sup>39</sup> The list of awardees is available at <https://www.labor.ca.gov/2022/10/20/state-announces-funding-to-support-sustainable-and-resilient-regional-economies-across-california/>.

<sup>40</sup> The original program is described at: <https://calosba.ca.gov/wp-content/uploads/2022-iHub2-Network.pdf>.

<sup>41</sup> See: <https://calosba.ca.gov/funding-grants-incentives/ihub2/> and <https://www.grants.ca.gov/grants/inclusive-innovation-hubs-ihub2/>.

<sup>42</sup> The budget item is described at: <https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 54, “California Innovation Hubs and Entrepreneurship Grants”).

<sup>43</sup> See: <https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 54) and <https://redf.org/latest/governor-newsom-california-lawmakers-approve-25-million-to-launch-carise-2/>.

## Social Entrepreneurs for Economic Development

The Social Entrepreneurs for Economic Development (SEED) Initiative was established in 2020 and is administered by the Employment Training Panel (ETP), California Workforce Development Board, and the Labor and Workforce Development Agency.<sup>44</sup> The purpose of SEED is to support the entrepreneurship of immigrants and Limited English Proficient (LEP) individuals who face significant employment barriers. The initiative consists of 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 program was renewed and expanded to the SEED 2 program, with \$20 million allocated in fiscal year 2022-2023 to support the SEED target populations in starting or maintaining a small business in California aimed at addressing a social problem or meeting a community need. As a new program, there are not yet any evaluations of the SEED Initiative.

## Worker Training and Assistance

### Apprenticeship Innovation Fund

The Apprenticeship Innovation Fund is a new program slated to spend \$175 million (\$55 million in 2022-23, and \$60 million in 2023-24 and 2024-25) to invest in and expand non-traditional apprenticeships (outside of construction and fire) associated with the Interagency Advisory Committee on Apprenticeships (IACA).<sup>45</sup> The funding supports development of new training programs, aggregation of employer demands, and recruiting, supporting, and placing apprentices.<sup>46</sup> The integration of employer needs into the apprenticeship curriculum may promote hiring by reducing the cost of training new employees. As a new program, there is not yet any evaluation of this fund.

### 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. Since 2016, it has provided technical assistance to over 200 CAI funded projects and 20 sectors through capacity building to increase student and employer engagement and foster a shared community of practice for all interested in the planning and implementation of apprenticeship programming. Grant recipients are expected to develop a five-year plan which demonstrates the program's long-term sustainability and offer student support services to promote entry and completion of the program. The CAI has supported more than 1,700 apprentices and 1,900 pre-apprentices.<sup>47</sup>

Hebbar et al. (2018) evaluate the CAI through interviews and surveys of program staff, employer partners, and participants, and program administrative data. The first round of grantees (of three rounds of

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<sup>44</sup> See: <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 157), <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 25), <https://www.grants.ca.gov/grants/social-entrepreneurs-for-economic-development-seed-grant-2-0/> and <https://etp.ca.gov/fundingopportunities/grants/seed/>.

<sup>45</sup> See budget details at: <https://ebudget.ca.gov/2022-23/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 126).

<sup>46</sup> See: <https://www.dir.ca.gov/DAS/Grants/Apprenticeship-Innovation-Funding.html>.

<sup>47</sup> See: <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development/apprenticeship/ca-apprenticeship-initiative>.

grantees at the time) successfully created apprenticeship programs in industries where apprenticeships are uncommon, including advanced manufacturing, transportation and logistics, and hospitality and culinary arts. The authors report that 82 percent of surveyed apprentices found the apprenticeship programs to be helpful in preparing them to work in their occupations because of the opportunity to develop skills in real-world settings. Employers valued the opportunity to assist in designing and conducting trainings and noted that apprentices were more knowledgeable about their occupations and more prepared to learn on the job than interns they had hired in the past. More evaluation is needed to understand the outcomes of subsequent rounds of the CAI, including directly attributable job creation. And these kinds of survey responses are not rigorous evidence of a beneficial effect of the program.

### **California Partnership Academies**

The California Partnership Academies (CPA) model is a three-year program (grades 10-12) structured as a school-within-a-school. Academies incorporate integrated academic and career technical education, business partnerships, mentoring, and internships.<sup>48</sup> The program emphasizes both an integrated and project-based curriculum and workplace learning opportunities. The program intends to train students in skills in demand among employers. Students must apply, be interviewed, and be selected based on need and interest. The CPA model was introduced in California in 1985 and there are currently 340 funded programs throughout the state.

Dayton et al. (2011) find that CPA program participants fare better than non-participants. Using program implementation and student performance data provided by schools and districts to the California Department of Education, the authors compare outcomes for CPA participants and high schoolers throughout the state. 95 percent of CPA seniors graduated, compared to 85 percent of seniors statewide in the 2009-2010 school year. Additionally, 57 percent of CPA seniors had completed the a-g subject requirements necessary to enter the University of California or California State University as freshmen, compared to 36 percent of seniors statewide. These outcomes are descriptive of the program's impacts, though are not causal effects, in particular because of non-random selection of students into the program. These findings are consistent with a previous evaluation by Bradby et al. (2007), who studied the CPA program using data from the 2004-2005 school year. The CPA program seems to be associated with positive economic outcomes for students, although this evidence does not point directly to job creation by firms.

### **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 was created in 1982 by the California State Legislature and is funded by California employers through a special payroll tax. ETP has a tripartite governing structure, with appointed Panel members representing business, unions, and state government. The ETP is a funding agency, not a training agency. Businesses determine their own training needs and how to provide training. ETP staff is available to assist in applying for funds and other aspects of participation.<sup>49</sup> The ETP is a “pay-for-performance” program, where companies are reimbursed for training upon completion of all training and 90-day retention of employees. Ongoing investment in

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<sup>48</sup> See: <https://www.cde.ca.gov/ci/gs/hs/cpagen.asp> and <https://www.cde.ca.gov/ci/gs/hs/cpaoverview.asp>.

<sup>49</sup> The ETP is described at: <https://etp.ca.gov/>, [https://edd.ca.gov/siteassets/files/pdf\\_pub\\_ctr/de8714n.pdf](https://edd.ca.gov/siteassets/files/pdf_pub_ctr/de8714n.pdf), <https://etp.ca.gov/program-overview/funding-limitations/> and <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 157).

employee training is intended to help California businesses stay competitive, productive, and profitable while supporting the creation and retention of high-wage, high-skilled, secure jobs in industries that have the greatest positive impact on California's economy. Since many employers may be limited in their capacity to allocate resources for training, the ETP program can help fill this gap. For fiscal year 2022-2023, California has budgeted more than \$92 million for the program. Businesses of all sizes and from all industries can apply and ETP training contracts can range up to \$600,000.

There are some evaluations of the ETP. Note that these studies find generally positive effects, though evaluations of training programs in general tend to find more moderate results, as discussed in Barnow and Smith (2009) and LaLonde (1995). Negroita and Goger (2020) conduct a mixed-methods study of ETP recipients, using Dun and Bradstreet company-level data and propensity score matching to compare company outcomes of those that received or did not receive ETP funding in the 2017-2018 funding year. The authors focus on incumbent worker training, because the ETP is available to companies to update the skills of their existing employees. In addition to the quasi-experimental impact study, the authors present findings from interviews with staff, intermediaries, employers, and labor organizations, and an employer survey. Small and mid-sized employers reported that the ETP helped them formalize internal training systems, add more employees, and increase revenue. Large firms reported using ETP to supplement existing training, retain workers, and adapt to new technologies. But survey responses like these may not reflect actual impacts.

In the impact evaluation, the authors found that ETP funding had a large and positive impact on company sales and employment, both overall and for some subgroups. The most precise estimate of overall impacts suggests that ETP funding increased jobs at the work site by 22 percent after two years, suggesting that the program benefits both companies and workers through either job creation or preventing job loss. However, Negroita and Goger note that their sample was somewhat limited due to imbalance between the treatment and control companies. ETP-funded companies tended to have more employees and higher sales initially, so the authors removed treated outliers from some analyses to obtain good covariate balance. Additionally, the authors note that the available data did not allow them to analyze employee outcomes or turnover. Most notably, much of the existing employee training literature looks at earnings effects to understand how workers fare, which is not possible in this case. Overall, this research suggests that public investments in incumbent worker training can help address market failures that result from employers underinvesting in employee training, though it is not clear from it what the effect is for employees.

Moore et al. (2003) studied the effects of ETP training on incumbent workers. The authors use program and unemployment insurance data from 1989-1996 to compare earnings, unemployment, and economic stability between ETP trainees and a weighted comparison group of workers in the same industries. The authors compare outcomes for each training cohort separately, studying data from a year prior to two years after the training occurred. Training completers always had higher percentage earnings changes than the comparison groups. When economic conditions were deteriorating, training completers saw increases in unemployment smaller than those of the comparison group, and when economic conditions were improving, training completers saw decreases in unemployment larger than for the comparison group. Training completers also experienced more employment stability than the comparison group, when measured by the average number of employers that workers had in a particular quarter. These 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 (HRTTP) initiative began in 2017 under the California Workforce Development Board (CWDB) as a \$10 million demonstration project designed to model partnership strategies to improve access to better-paying jobs for low-income workers. The 2021-2022 state budget allocated \$100 million for additional partnerships and the 2022-2023 budget allocated \$65 million to invest in health and human services partnerships and a regional training center.<sup>50</sup> Ranging from transportation to health care to hospitality, the HRTTP model builds industry partnerships that aim to deliver equity, environmental sustainability, and job quality.<sup>51</sup> The HRTTP was designed to address income inequality, economic competitiveness, and climate change through regional skills strategies designed to support economically and environmentally resilient communities across the state. The industry-based, worker-focused training partnerships aim to build skills for California’s “high road” employers – firms that compete based on quality of product and service achieved through innovation and investment in human capital and can thus generate family-supporting jobs where workers have agency and voice.<sup>52</sup>

González-Vásquez et al. (2021) assess the initial High Road Training Partnership investment, which built or expanded partnerships in the fields of healthcare, hospitality, transit, freight, water and wastewater, building operations, the public sector, and transportation, distribution, and logistics. The authors studied the implementation of eight HRTTPs during the initial 18-month period. Evaluation data was collected through interviews, focus groups, convenings, HRTTP meetings, and written reports. The authors observed HRTTP members identifying racial inequalities and creating tailored workforce development interventions, with the goal of developing sustainable long-term policies that can address the needs of disadvantaged communities. HRTTP members were continuously experimenting, learning, and refining their interventions, which allows them to respond to external shifts, such as economic downturns and climate change, and try to work toward solutions that meet the needs of firms, workers, and communities. The authors’ view is that the HRTTP approach advances a shift in measuring workforce development success. Traditional workforce development metrics often measure success by the number, rather than the quality, of job placements. HRTTPs associate success with promoting worker voice and power, systems change, culture shifts, and other qualitatively measured indicators of high road success. This kind of descriptive evaluation tells us something about how the program is working but does not provide direct evidence on its causal impact.

A summary of past California high road training partnerships by the UC Berkeley Labor Center (2020) found similarly positive results. They make note of outcomes from programs formed during the initial demonstration of the HRTTPs overseen by the CWDB in 2017 as well as programs established before 2017. In a partnership between the largest health care union in the state and 16 private sector healthcare employers covering over 100,000 workers, there was a 93 percent completion rate for degree program participants, 36 percent average wage increase for those who completed and moved into higher level jobs,

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<sup>50</sup> See budget detail at: <https://ebudget.ca.gov/2021-22/pdf/Enacted/BudgetSummary/FullBudgetSummary.pdf> (p. 157) and <https://ebudget.ca.gov/2022-23/pdf/Enacted/GovernorsBudget/7000/7120.pdf>.

<sup>51</sup> Definitions of what is meant by high road employers/jobs are provided at: <https://etp.ca.gov/wp-content/uploads/sites/70/2020/01/HighRoadTrainingPartnerships-June2018.pdf>.

<sup>52</sup> See: <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>.

and a 30 percent reduction in turnover rates (compared to pre-program outcomes, not a control group). One hospitality union and hotel and airport employers in Southern California developed a program for English language learners to contextualize learning so that the language skills acquired are most relevant for specific jobs. In the first cohort, 100 percent of participants received job offers. While not a formal evaluation of causal effects, and evidence on job creation is not available, these findings suggest that these programs may be promising examples in increasing employment for future HRTPs.



## Appendix D. Evidence of Job Creation Program Effectiveness from other Jurisdictions

In compiling this discussion of evaluations of policies in other jurisdictions, we focused on programs similar to those used at the state-level in California, and not, for example, other “ideas” that California might consider. We generally selected evaluations we identified that presented convincing evidence, and excluded most of the somewhat or less convincing evaluations for program types for which we had a lot of evaluations for California (tax credits, film tax credits, and loans). In contrast, we kept some of the less convincing ones for program types for which we have fewer California evaluations. These evaluations from other jurisdictions are provided only as examples, and should not be viewed as providing a representative (nor comprehensive) discussion of evaluations outside of California. The alternative evaluations are summarized in Appendix Table D.1. Our focus on current California job creation policies is appropriate because program details can affect the impacts of a programs, so conclusions about policies in other jurisdictions may not apply in California.<sup>53</sup> At the same time, we do not mean to suggest that we cannot learn from experience in other jurisdictions. Indeed, future research on a broader set of policies in other states (or other jurisdictions), with the goal of identifying ways to making existing state policies more effective, and perhaps identifying successful policies that have not been tried in California, could prove useful – as long consideration is given to features of California that might make these policies less effective (or perhaps more effective).

### Tax Credits

Faulk (2002) uses firm-level corporate income tax return data to estimate the employment effects of Georgia’s Jobs Tax Credit program. The program offers a tax credit for new full-time jobs that are maintained for at least two years. Firms can take the credit for up to five years, as long as the job is maintained. Credits are transferable and 50 percent of a firm’s income tax liability is the maximum credit a firm can take in any year. Using a switching regression model, the author compares employment changes in recipient firms between 1993 and 1995 and non-recipient eligible firms. The switching regression model is composed of three equations: an employment equation for participants, an employment equation for eligible non-participants, and an equation that predicts participation based on program features that affect the costs or benefits of applying for the credit (like the size of the firm’s tax liability). The author finds that firms taking the tax credit created 23 to 28 percent more jobs between 1993 and 1995 than eligible firms not taking the credit.

Turning to federal policy, Bishop and Montgomery (1993) study whether the federal Targeted Jobs Tax Credit (TJTC) altered the level of a firm’s employment and/or whom the firm hires. The TJTC program offered employers a tax credit of 40 to 50 percent of first-year wages up to \$6,000, and 25 percent of second-year wages up to \$6,000, for hiring a worker who is an ex-offender, disabled, and/or a recipient of Aid for Families with Dependent Children (AFDC). The authors use data from a 1982 National Center for Research in Vocational Education survey of more than 3,400 business establishments, including data on TJTC use. The authors estimate

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<sup>53</sup> The interested reader might look to the following sources for evidence on related programs in other jurisdictions. For a survey of evidence on hiring credit programs and evidence on many states, see Neumark (2013) and Neumark and Grijalva (2017). For a survey of place-based policies for job creation in both the United States and elsewhere, see Neumark and Simpson (2015). For a survey of state research and development tax credits, see Weiner (2009), and more recent papers discussed in Chirinko and Wilson (2023). For a survey of film and television production tax credits, see Christopherson and Rightor (2010). For a survey of small business loan guarantee programs, see O’Bryan III (2010). For a survey on state programs to subsidize training of incumbent workers, see Hollenbeck (2008). For a survey on public workforce training programs, see Barnow and Smith (2009) and LaLonde (1995). For a survey on career academies, see Stern et al. (2010). For a survey on business incubation, see Allen and Weinberg (1988). Finally, for a discussion of policies intended to stimulate regional economies in California in alignment with the goals of the Community Economic Resilience Fund (CERF), see the recent Brief from the Little Hoover Commission (2022).

The Little Hoover Commission Brief covers only policies intended to stimulate regional economies in California in alignment with the goals of the Community Economic Resilience Fund (CERF), and hence focuses on regional recovery and sustainability. Most importantly, we focus wherever possible on evaluations of job creation policies, while the Little Hoover Commission Brief does not.



the effect of a change in TJTC use on the change in employment of a business. The authors estimate that each TJTC-subsidized hire generates between 0.13 and 0.3 new jobs at a participating firm. Although the results suggest that at least 70 percent of the tax credits granted employers are payments for workers who would have been hired even without the subsidy, they also indicate that the TJTC does seem to induce job creation. Since this is a federal program, this evidence may not carry over to the state level.

Thom (2018b) evaluates the impact of motion picture incentive programs in over 40 states on labor and economic conditions from 1998 through 2013. These incentives take the form of sales tax waivers, lodging tax waivers, or tax credits against in-state expenditures. Tax credits are often a percentage of qualified spending.<sup>54</sup> Thom uses Bureau of Economic Analysis and state data in state fixed effect regression models to determine the effect of the presence of state tax credits and waivers on motion picture employment and wages. Results suggest that transferable tax credits, which allow production companies to apply the value of unused credits to other projects, increased annual employment gains by 0.579 percentage points for each year the credit was available. Refundable tax credits and sales and lodging tax waivers had no effect on industry employment. These findings suggest heterogeneous impacts of different types of incentives.

The Georgia Entertainment and Industry Investment Act was introduced in 2005, providing a 9 percent transferable tax credit for a production company that invests at least \$500,000 in Georgia. The Act also provided complementary transferable tax credits, including 3 percent for the employment of Georgia residents, 3 percent for investments in certain counties that met the qualifications of being economically-disadvantaged, and 2 percent for expenditures of at least \$20 million in the state. In 2008, the Act was redesigned and eliminated the complementary credits, but expanded the 9 percent credit to 20 percent. Meares et al. (2020) examine the effect of Georgia's film tax credit program on industry job creation. They use state tax credit data and Quarterly Census Employment and Wages data to compare motion picture employment in Georgia and selected comparison states over time. The authors find that after adopting film tax incentives Georgia saw increases in industry employment, wages, and productions. From 2002 to 2017, Georgia experienced 482 percent growth in the number of jobs in motion picture and video production, larger than the growth in Alabama (59 percent), North Carolina (46 percent), and Vermont (59 percent), and just behind 504 percent employment growth in Louisiana, which had a smaller but more generous program. These gains should not necessarily be attributed to the tax credits, since the study does not control for other changes in state economic conditions. Additionally, it is not clear that the change in employment in Georgia is statistically significant compared to changes in employment in the comparison states.

Falkenström (2022) identifies effects of the Georgia film tax credit program on state movie production jobs, conducting a difference-in-differences regression using a synthetic control method. The author uses Bureau of Economic Analysis data to construct a "synthetic Georgia" consisting of a weighted combination of other states, for comparison of employment changes in Georgia after implementation of the tax credit. The author finds a large and highly significant positive effect of the tax credit on film production jobs, with the creation of 13,000 industry jobs in the state. Little evidence of employment spillovers from the film industry is found, with some affected industries including insurance and interior design.

Button (2021) examines the employment effects of the state film incentive programs in Louisiana and New Mexico. The Louisiana Motion Picture Production Tax Credit was introduced in 2002 at a rate of 10-15 percent, depending on expenditures. It has been updated several times and offers a 25-35 percent credit on qualified in-state spending on goods and services performed in Louisiana and full transferability. New Mexico also introduced

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<sup>54</sup> They are sometimes refundable, meaning the state refunds the difference between the credit and tax liability, or transferable, meaning the state allows the production company to apply the value of unused credits to other projects.

their program in 2002, with a 15 percent refundable tax credit for resident labor and non-labor expenditure. The program has since been updated and offers a 25-35 tax credit for resident labor and non-labor expenditure.<sup>55</sup> Button uses data from the Quarterly Census of Employment and Wages over 2002-2008 and a synthetic control method to analyze the employment effects of these two programs. He finds that, in New Mexico, employment is 289 percent larger on average over the 2002 to 2008 period relative to the “business as usual” case shown by the synthetic control. For Louisiana, employment is 188 percent larger. However, the estimates are not statistically significant.

## Loans

Conroy et al. (2017) examine the effect of federal small business loans under the Community Reinvestment Act (CRA) on subsequent establishment births in U.S. counties in 2005. The CRA reinforced the obligation of banks to allocate funds in their communities, including underserved areas, and requires banks to report loans by recipient location. The authors note that an establishment birth necessarily corresponds to job creation, as a birth is indicative of a start of an employer establishment that is hiring its first employee(s). Conroy et al. use data on employer establishment birth from the U.S. Census Bureau’s Business Information Tracking Series and annual loan data required to be reported under the CRA. They test whether the establishment birth rate is higher in counties where the level and annual increase in lending is greater, controlling for community-level characteristics affecting business and economic dynamics. The results indicate that small business lending has a positive effect on the employer establishment birth rate. If the annual change in small business loan dollars per capita were to increase by one standard deviation, or \$129, the average county with nearly 56,000 workers in 2005 would see approximately two additional establishments.

Johnson (2009) evaluates the effectiveness of the U.S. Department of Agriculture’s (USDA) Business and Industry (B&I) Guaranteed Loan Program in increasing employment. Created in 1972, the B&I Guaranteed Loan Program is administered by the Rural Business-Cooperative Service (RBS), an agency of the USDA’s Rural Development division. The program provides guarantees of up to 80 percent of a loan made by a commercial lender in rural communities. Johnson uses data from the USDA for loans from 1996 to 2003 and propensity score matching models to estimate the change in employment in counties with businesses participating in the loan guarantee program.<sup>56</sup> Counties with participating businesses and counties without are matched based on population and earnings per worker. The author finds that a county that receives a loan amounting to \$1,000 per capita experiences a 3 percent to 6 percent increase in employment growth in the first two years after the loan is awarded; the average loan ranges from \$35-\$80 per capita, so the average employment effect is about 1/20th of this size. The author notes that data limitations exist in her sample, such as missing information on loans which cause a county to be included in the control group when businesses there did receive them, which may understate the treatment effect.

## Entrepreneur Training and Assistance

The statewide Regional Initiatives for Social Enterprises program was modeled after a similar program in Los Angeles, the Los Angeles Regional Initiative for Social Enterprise (LA:RISE).<sup>57</sup> An evaluation of LA:RISE by Geckeler et al. (2019) used administrative data and a randomized control trial design to identify program effects. Participants were assigned to a program group with access to LA:RISE services or a control group. The impact study found that LA:RISE had a short-term positive impact on employment, largely driven by the transitional employment provided by social enterprises partnered with the program. There was no statistically significant

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<sup>55</sup> More information is available here: <https://nmfilm.com/why-new-mexico/incentives-2>

<sup>56</sup> Propensity score matching attempts to match treated and non-treated units on common characteristics to estimate the causal impact of an intervention.

<sup>57</sup> See <https://redf.org/what-we-do/larise/>.

impact on earnings of LA:RISE participants over control group participants. While LA:RISE increased employment for participants, the job creation effect is not clear, and a similar program at the state level could have different effects.

### **Workforce Training and Assistance**

Hollenbeck (2008) evaluates the Massachusetts Workforce Training Fund, which awards funding to private sector agencies for employee training. From 1999 to 2005, at the time of Hollenbeck's analysis, the fund had awarded more than \$107 million to 2,258 companies to train more than 157,000 employees. Hollenbeck studied program application and self-reported evaluation survey data from 781 organizations, which comprise the universe of companies that received training grants, completed the training, and filed evaluation reports since the program began in 1999. Of the responding firms, 28.9 percent indicated that they hired employees as a direct result of the training, and the average number of new hires given that the firm conducted hiring as a result of the training was 11.7. Additionally, 22.6 percent of the respondents indicated that layoffs were prevented as a direct result of the program, and the average number of layoffs prevented among those firms was 12.4. The average size of a participating firm was 309 employees, and the average grant funded training for 100 workers in a firm, so employment changes were small but not negligible. However, it is not clear what portion of these effects were spurred directly by the training. While respondents stated that these effects were attributable to the program, a control group of non-trainee firms is not available, and not all firms reported employment effects.

Kemple (2004) evaluates nine career academies across the country using a randomized controlled trial design. Students who applied to the career academies were randomly assigned into enrollment, and non-selected students constituted the control group. The analysis uses survey data four years after students' scheduled high school graduations to estimate effects on educational attainment and post-secondary labor market outcomes. Kemple finds that participation in career academies led to increases in wages, hours worked, and employment stability for male participants, with no significant effect on female labor market outcomes. The academies had no impact on post-secondary education enrollment and attainment rates. This analysis does not provide direct evidence on job creation, but indicates an increase in employment from participation in the academies.

**APPENDIX TABLE D.1**

Related Job Creation Programs and Evidence on Effectiveness

Name	Description	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
<b>Tax Credits</b>				
Georgia's Job Tax Credit	The Georgia Jobs Tax Credit program offers a tax credit for new full-time jobs which are maintained for at least two years. Firms can take the credit for up to five years, as long as the job is maintained. Credits are transferable and 50% of a firm's income tax liability is the maximum credit a firm can take in any year.	Faulk (2002) finds that firms taking the tax credit created 23 to 28% more jobs between 1993 and 1995 than eligible firms not taking the credit.	Convincing	Yes
Targeted Jobs Tax Credit	The Targeted Jobs Tax Credit program was a federal program which offered employers a tax credit of 40 to 50% of the first-year wages up to \$6,000, and 25% of second-year wages up to \$6,000 for hiring a worker who is an ex-offender, disabled, and/or a recipient of Aid for Families with Dependent Children (AFDC).	Bishop and Montgomery (1993) estimate that each TJTC-subsidized hire generates between .13 and .3 new jobs at a participating firm.	Somewhat convincing	Yes
Film Tax Credits	Motion picture incentive programs exist in more than 40 U.S. states and take several forms. For example, incentives may take the form of sales tax waivers, lodging tax waivers, or tax credits against in-state expenditures. Tax credits are often a percentage of qualified spending, and are sometimes refundable, meaning the state refunds the difference between the credit and tax liability, or transferable, meaning the state allows the production company to apply the value of unused credits to other projects.	Thom (2018b) estimates annual employment gains of 0.579 percentage points for each year the credit was available.	Convincing	Yes
Georgia's Film Tax Credit	The Georgia Entertainment and Industry Investment Act was introduced in 2005, providing a 9% transferable tax credit for a production company that invests at least \$500,000 in Georgia. The Act also provided complementary transferable tax credits, including 3% for the employment of Georgia residents, 3% credit for investments in certain counties that met the qualifications of being economically-disadvantaged, and 2% for expenditures of at least \$20 million in the state. In 2008, the Act was redesigned and eliminated the complementary credits, but expanded the 9% credit to 20%.	Mearns et al. (2020) find that from 2002 to 2017, Georgia experienced a 482% growth in the number of jobs in motion picture and video production, larger than the growth in Alabama, North Carolina, and Vermont, and just behind employment growth in Louisiana. Falkenström (2022) finds a large and highly significant positive effect of the tax credit on film production jobs, with the creation of 13,000 industry jobs in the state.	Convincing (one of two studies)	Yes
Louisiana Film Tax Credit	The Louisiana Motion Picture Production Tax Credit was introduced in 2002 at a rate of 10-15%, depending on expenditures. It has been updated several times and offers a 30% credit on qualified in-state spending on goods and services performed in Louisiana, full transferability, and an additional 5% for the employment of Louisiana resident labor.	Button (2021) concludes that employment is 188 percent larger on average over 2002 to 2008, but the estimate is not statistically significant.	Convincing	Yes

Name	Description	Evidence	Convincing Evidence?	Effective, Based on Convincing Evidence?
New Mexico Film Tax Credit	New Mexico introduced a film incentive program in 2002, with a 15 percent refundable tax credit for resident labor and non-labor expenditure. The program has since been updated and offers a 25-35 tax credit for resident labor and non-labor expenditure.	Button (2021) estimates that employment is 289 percent larger on average over 2002 to 2008, but the estimate is not statistically significant.	Convincing	Yes
<b>Loans</b>				
Small Business Administration Guaranteed Loan Program – Community Reinvestment Act	The Small Business Administration (SBA) has the authority to target small business finance with both the 504I and 7(a) loan programs and the U.S. Department of Agriculture (USDA) has a similar program targeting rural businesses. The Community Reinvestment Act (CRA) reinforced the obligation of banks to allocate funds in their communities, including underserved areas, and requires banks to report loans by recipient location.	Conroy et al. (2017) estimate that if the annual change in small business loan dollars per capita were to increase by one standard deviation, or \$129, the average county with nearly 56,000 workers in 2005 would see approximately two additional establishments.	Convincing	Yes
Business and Industry Loan Guarantee Program	Created in 1972, the B&I Guaranteed Loan Program is administered by the Rural Business-Cooperative Service (RBS), an agency of the USDA's Rural Development division. The program provides guarantees of up to 80% of a loan made by a commercial lender in rural communities.	Johnson (2009) finds that a county that receives a loan amounting to \$1,000 per capita experiences a 3% to 6% increase in employment growth in the first 2 years after the loan is awarded.	Convincing	Yes
<b>Worker Training and Assistance</b>				
Massachusetts Workforce Training Fund	The program awards funding to private sector agencies for employee training. From 1999 to 2005, the fund had awarded more than \$107 million to 2,258 companies to train more than 157,000 employees.	Hollenbeck (2008) surveys participating firms and finds that 28.9% hired employees as a direct result of the training (average 11.7 new hires), and 22.6% avoided layoffs as a direct result of the program (average 12.4 jobs). A control group of non-trainee firms was not available.	Less convincing	
Career Academies	Career academies exist in high schools across the US to keep students engaged in school and prepare them for successful transitions to post-secondary education and employment. Career academies combine academic and technical curricula around a career theme and establish partnerships with local employers to provide work-based learning opportunities.	Kemple (2004) evaluates nine career academies across the country using a randomized controlled trial design and finds that participation in career academies led to increases in wages, hours worked, and employment stability for male participants.	Convincing	Mixed, positive employment evidence exists for participants, but no evidence on job creation specifically.



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