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# NURTURING CALIFORNIA INDUSTRIES

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# NURTURING CALIFORNIA INDUSTRIES

“California Has the Opportunity to Maintain and Grow Industries That Can Provide Future Jobs to Middle Class Citizens and Make the State More Competitive

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## Executive Summary

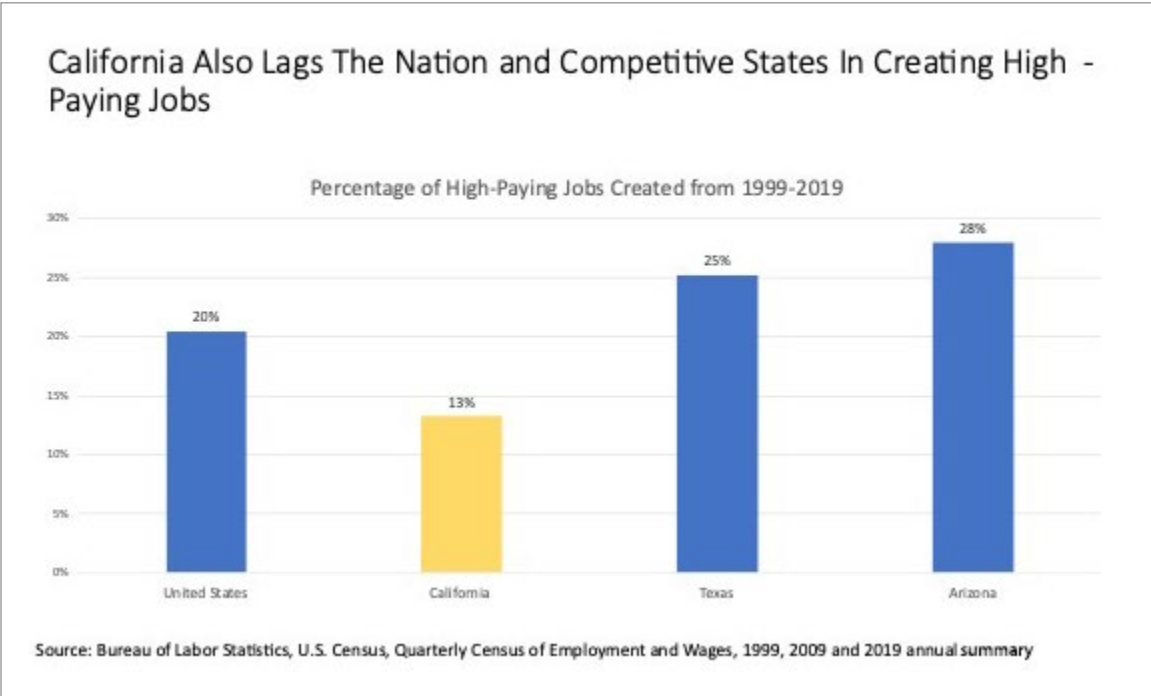
The focus of this joint project between The Chapman Center for Demographics and Policy and the New California Coalition lies in trying to create better employment opportunities for Californians. We look at which industries our states still maintain strategic advantages that we can build on. This will require some major changes in how the state operates, particularly on the regulatory side. It will also require a ratcheting up of state economic development and skills training programs.

Our focus is not primarily a typical “pro-business” agenda in that our primary interest lies in creating conditions that benefit the bulk of Californians. If the majority thrives, so too will most business. An economy that enriches only a few and offers little to others is, in the most fundamental way, unsustainable for the long-term future.

Heather Gonzalez, Sougata Poddar, Marshall Toplansky  
May 2023

## California's current crisis.

California is in the midst of an unprecedented exodus of people and companies. As the cost of living increases the state has seen its people move to other states with lower costs of living and more fulsome job opportunities. Middle class Californians have been hit particularly hard, as the state has produced jobs largely at the low end of the wage scale.



The question we are asked most often is, "What can be done to reverse the tide"?

While there are many answers to this thorny, multi-pronged question, California must pursue a triple bottom-line strategy that gives equal weight to environmental sustainability, social equity, and economic growth. The State does not do that today. Unlike most other states, California has no integrated economic development strategy, and it has no single independent agency to help develop the policies and suite of services required to implement such a strategy. It also does not have a parallel public/private economic development corporation to provide guidance to companies and the government. As the Brookings Institute states, "you can have growth without inclusion, but you cannot have inclusion without economic growth." California is an example of an economy that offers growth without inclusion, because the growth is concentrated in a few coastal pockets and, even in those coastal pockets, economic benefits flow to a few in the upper rungs of the economic ladder while disadvantaging everyone else.

One of the important steps would be to develop programs that bolster what remain our strongest high-wage industry sectors. We recommend looking at our currently strong sectors and focusing policy on keeping them and growing particularly as many other more traditional industries, like commodity-level manufacturing have diminished although this may not be inevitable

with the reasonable policy changes.

But some industries are especially “strategic” to the state, as we look to the future. Such industries meet one or more of the following five criteria. (For more detail see appendix)

- They tend to produce a large number of firms and middle wage jobs.
- They enhance the “network effect” (through horizontal and vertical linkages), enabling other sectors to grow.
- They play a vital role in the global, national, state, or sector supply chain.
- They enhance our state “brand” or otherwise enhance pull factors that attract labor to our state.
- They can be important potential contributors to the economy of the future.

Given the rapid pace of economic and technological change, it makes sense to focus on our “winners” first, taking advantage of existing momentum and energy in the market. Addressing the challenges these industries face - e.g., an onerous regulatory environment and a contentious relationship with state government — along with the concerns of their employees relating to the high cost of living, is not a simple, “one and done” task.

To identify the industries we should support, we examined industry sectors (at the 4-digit level) within the [2021 Census of Employment and Wages data](#) set from the Bureau of Labor Statistics division of the Census Bureau. We found 43 industries where California had at least double the national level of employment on a per-capita basis. Among those industries, we saw 15 which also have more than double the national average density of workplace sites.

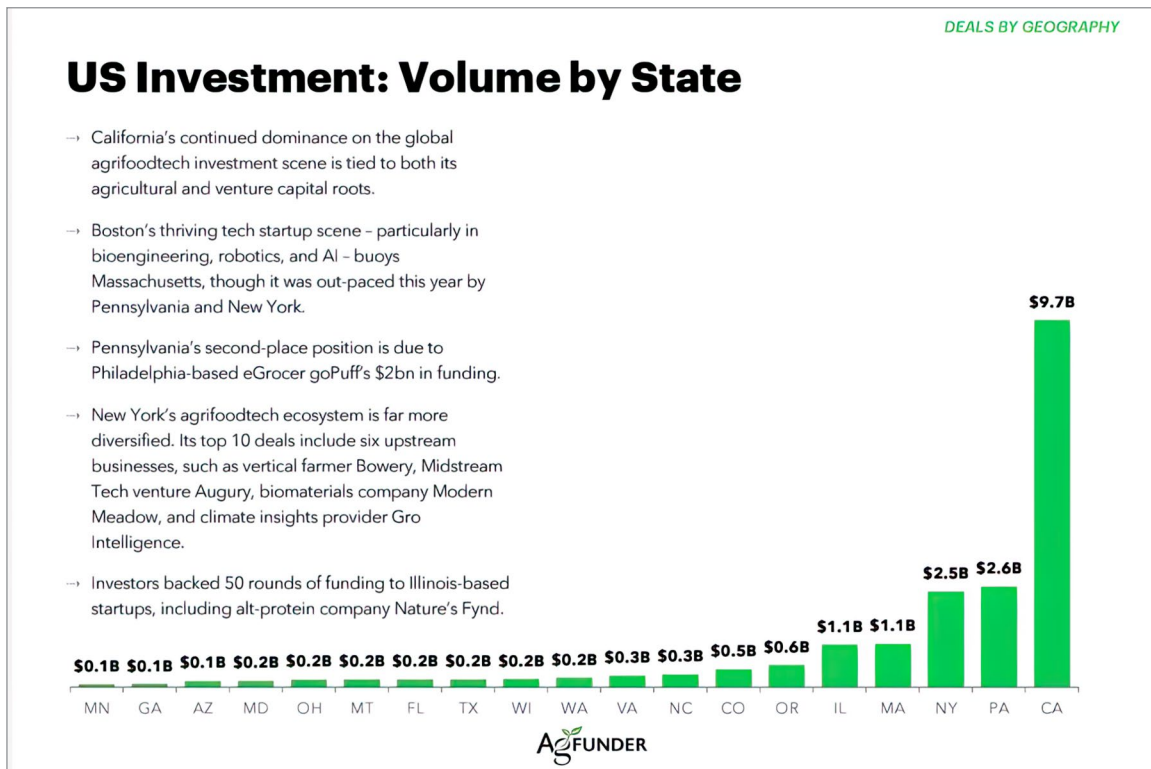
We have identified the industries we believe to be strategic to California in the future into six broad categories:

- Agricultural technology
- Creative industries, including movies and other content creation.
- Managed health care
- Individual, Senior, and Family Services
- Manufacturing:
  - Aerospace, space, and missile technology
  - Computer Manufacturing and services (including semiconductor design and manufacturing)
  - Machining and fabrication
- Logistics and distribution
- Professional & Technical Services

Here is a quick look at each of the focused industries in terms of their size and importance to the state's economy today.

## Agricultural Technology

California is home to a large number of agricultural workers. As one of the country's premier growing states, California has a lot at stake in the agricultural industry. Labor has historically been paid poorly in this sector, although most recently, the industry has found it hard to find agricultural laborers and has turned to agricultural technology to improve productivity. California is not among the leaders in the manufacturing of farm equipment, but it is one of the leaders in developing and applying agricultural technologies in the field and barn. Agri-Food Tech startups in this state saw \$5.6B in venture capital in 2020, more than the next four states combined, 20% of worldwide total. Accordingly, we think it is strategically important for California to foster this industry as a whole, to preserve our competitive leadership meeting the world's food demand.

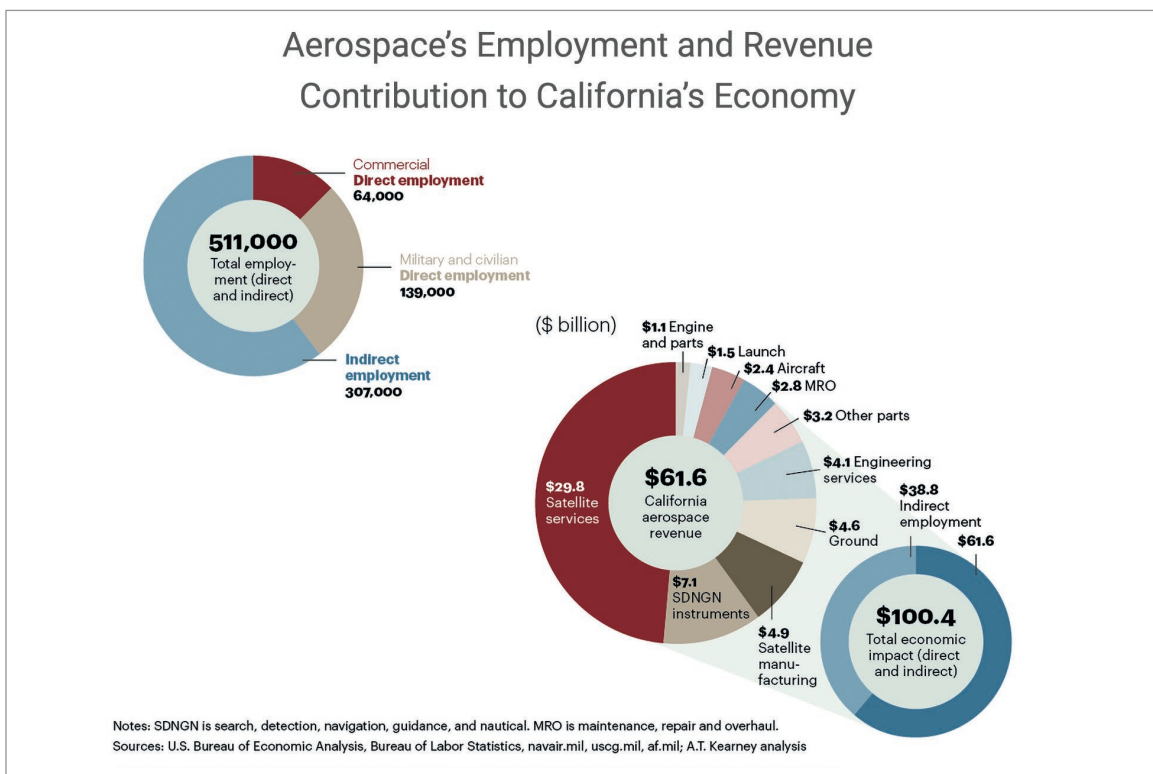
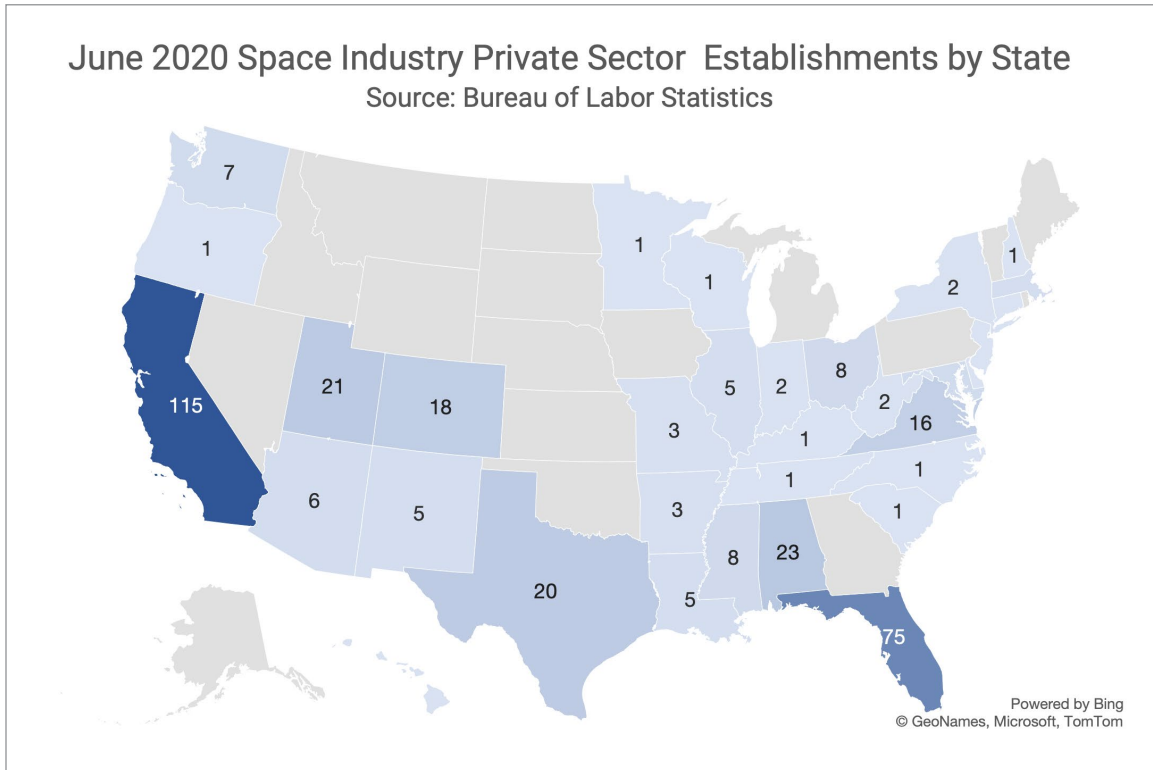


AgTech Venture Capital Investments in the United States in 2021

## Aerospace, Space, and Missile Technology

We added aerospace, space, and missile technology to the list of strategic industries even though it did not show up in the aggregate data on a statewide basis. Several areas of the state, including San Diego, Los Angeles, and Orange Counties have well over double the national

average of workers and companies in this industry. In addition, the intellectual capital created by these firms often spills over into other technology sectors.





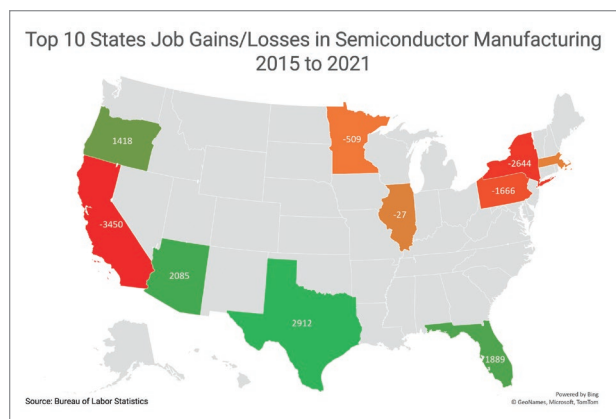
## Creative Industries

Creative industries are not only an important contributor to the economy of California, but they also define our brand. The Otis College 2023 Report on the Creative Economy estimates that this sector provides 14.9% of California's gross regional product and 7.6% of the state's jobs. From video games, movies, internet publishing to advertising, these industries are being transformed by innovative technologies. The coming growth of the metaverse and artificial intelligence will continue to grow the content creation industry, and California is at the epicenter of this trend. As creative people become more mobile, with the growth of remote work, California is vulnerable to having its position in this industry challenged. Therefore, it is imperative that the state focuses on keeping creative people and industries in the state. Great weather and lovely beaches and mountains may not be enough to overcome the high cost of living creative people (along with the rest of us) are experiencing.



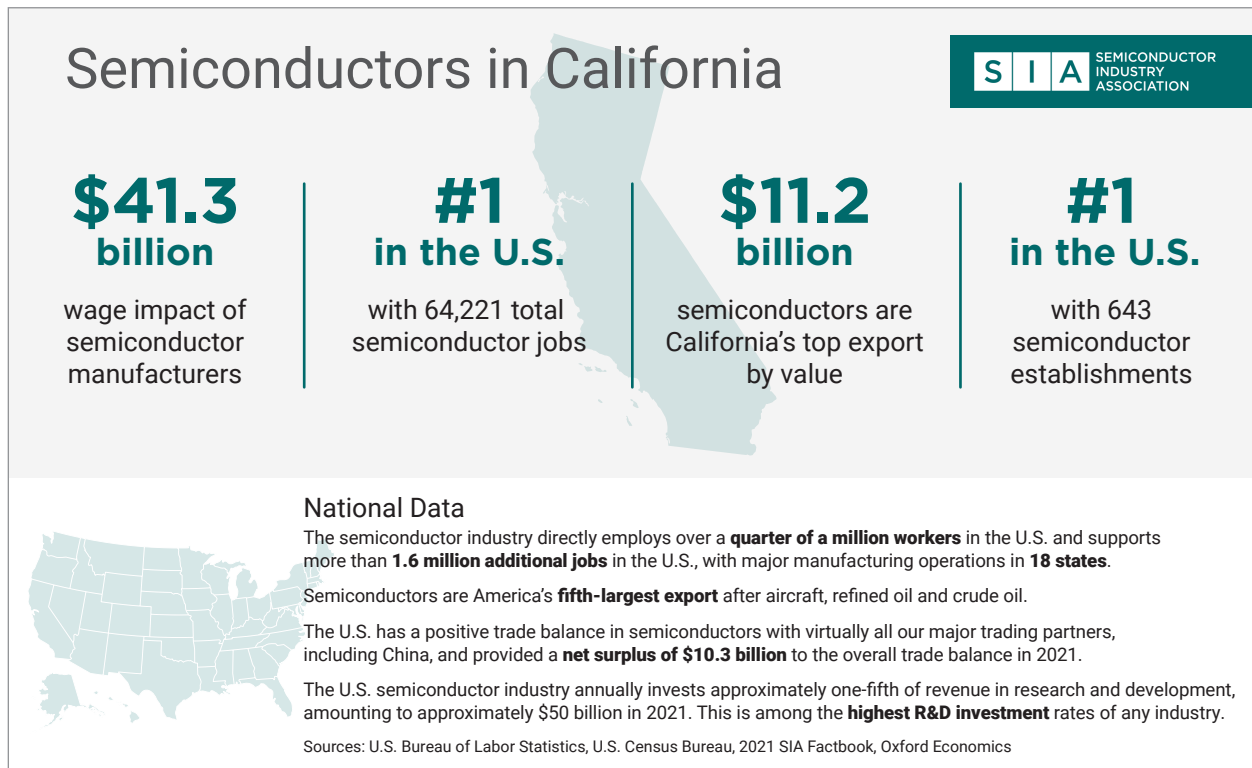
## Computer Manufacturing and Services

The broader computing industry, which includes both the core technologies that come from semi-conductor design AND the applications and services that stem from them have their roots in California. However, companies in these areas are finding it increasingly challenging to stay in the state. Intel's recent move to build its next generation chip labs in Ohio is a tremendous loss for California. The growth of Austin, Salt Lake City, and other high-tech hubs in attracting computer industry talent is challenging California's historically dominant position.<sup>1</sup> Indeed, virtually all the new semiconductor plants under construction or planned are taking place outside the state that nurtured the industry.



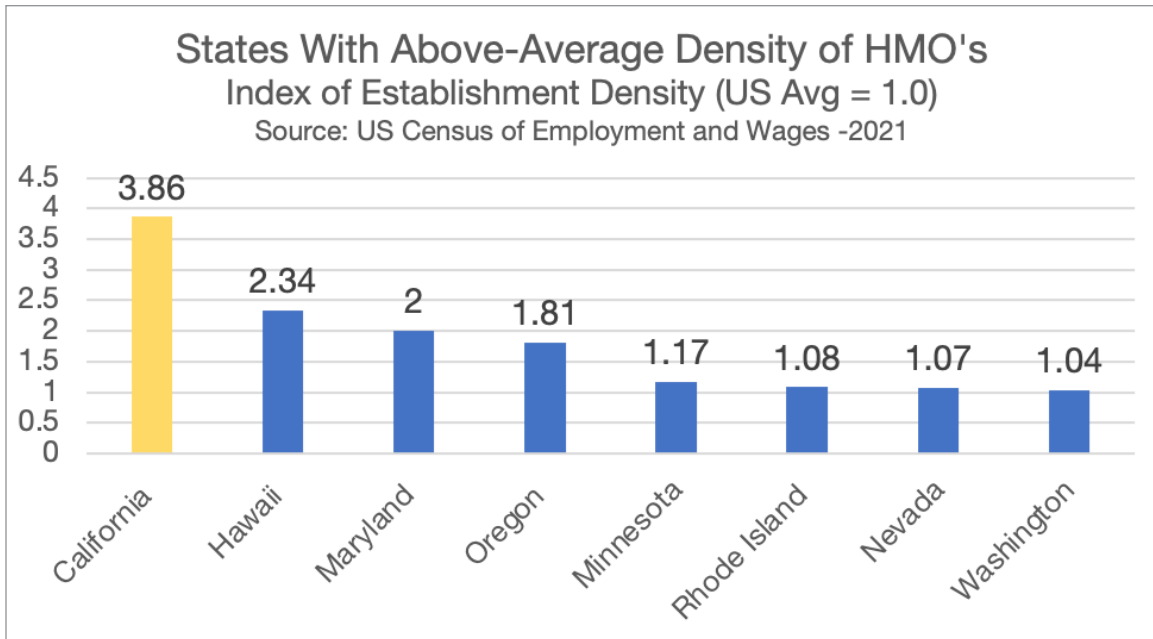
With major tech companies like Oracle moving their headquarters operations out of the state, we may have hit a tipping point in California's dominance. These industries have a tremendous

multiplier effect on the California and global economies. Deloitte estimates that even though direct chip revenue is in the tens of billions, they impact trillions of dollars in sales of products that use them.<sup>2</sup> The innovations they produce are adopted far beyond the computing industry itself and affect the growth of the planet's economy. Even within the semiconductor industry, the Economic Policy institute estimates that every direct job in the industry impacts an additional 1.92 jobs indirectly, through suppliers and other industries dependent on this sector. To lose that dominance would be a great blow to California and thus the state should make it a priority to preserve.<sup>3</sup>



## Managed Health Care

Finally, two aspects of the healthcare industry are major strengths in California. The first is the managed care industry. The reality of the state's demographic profile is that California is an aging state. An aging population has a larger than average need for healthcare. The state has adapted to that aging profile by creating an impressive network of innovative healthcare businesses, as measured by the Census of Employment and Wages. Managed care companies and integrated providers like Kaiser Permanente are employing more people than the other states on a per-capita basis. And small-scale providers of mental and physical health services are also well developed in the state. As the state continues to age faster than the rest of the nation, the demand for these services will continue to grow. While wages in this sector are generally low, we deem it strategic in the future because of the need to serve the aging, who are growing as a percentage of the state's overall population.



## Individual, Senior, and Family Services

This segment provides the trained manpower that enables the Managed Care Industry to thrive. They are the small providers of health services with whom managed care companies' contract in order to deliver services. They are also people who provide ancillary care that the HMO's do not cover. With our aging profile and the high degree of economics-driven stress on households, it is important to foster the availability and training of this sector.

What are the best ways of nurturing these industries?

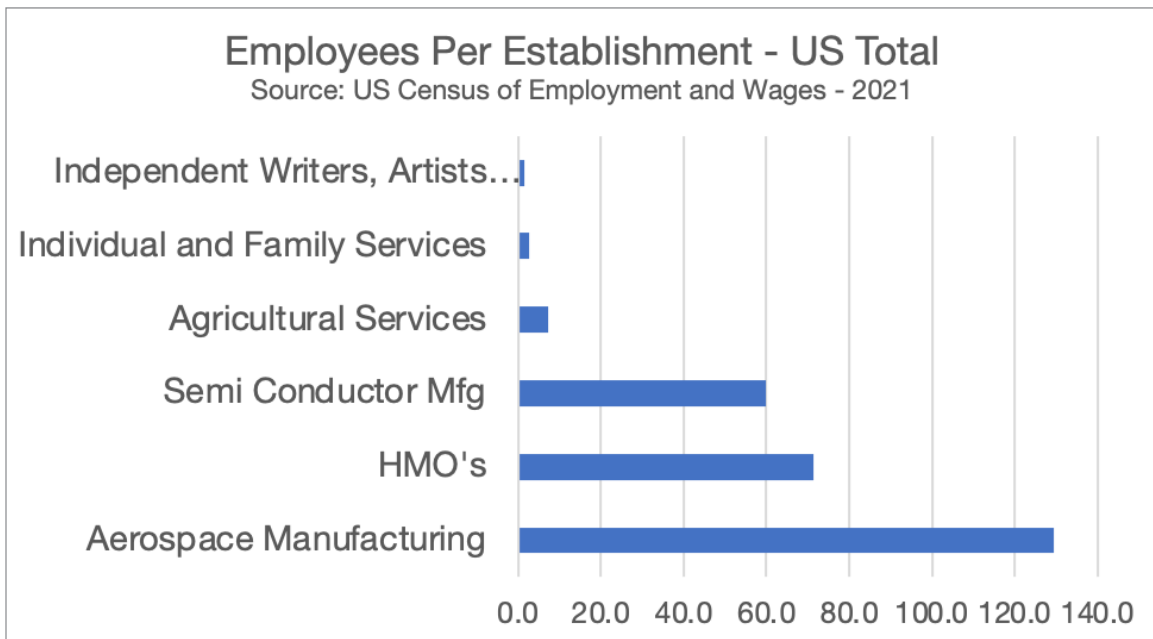
California is not the only place in the world that would benefit from fostering growth in key industries. Other states, cities, and countries have developed programs to accomplish this task - many of which are quite sophisticated and offer huge advantages to firms and sectors.

Generally, the most successful regions look at this task holistically. They develop programs that favor the creation of companies and then help provide training to enable people to do the jobs that those companies create. They also consciously develop a culture that welcomes companies and tries to minimize the administrative costs and time burden of regulation affecting business.

- California currently has both workforce development and economic development programs in place. However, it is not clear that these programs are all equally effective in addressing the needs of workers in today's technology-driven environment or in launching, growing, attracting, and retaining companies.
- The State of California (as distinct from municipalities) is often cited by businesses as NOT fostering a cooperative culture that welcomes companies. In particular, California's regulatory environment - which at times can appear to be almost purposefully designed to inhibit business and job creation - was a primary reason companies

considered leaving the state in our 2022 survey of business executives.<sup>4</sup>

- Many geographic areas that are successful in launching, growing, attracting, and retaining businesses find that understanding their local industries - e.g., understanding, unique characteristics, and key operating economics of home-grown companies and local industry - helps to create a positive environment for economic development and job creation. For instance, the State of Utah develops custom plans for inbound companies to directly connect them with universities to develop industry-specific training programs.<sup>5</sup>
- “One-size fits all” economic development programs and policies are not likely to be effective across all industries. In California, 99% of all businesses are classified as small businesses, employing under 50 people. Larger companies, however, employ 50% of the workers in California. Further, the industries we recommend for focused attention by the state have different business size profiles. The Aerospace, Computer and Semiconductor Manufacturing, and Managed Care industries are generally comprised of larger companies. While the AgTech, Creative; and Individual, Senior and Family Services industries are generally comprised of smaller businesses. As such, the business needs of the companies and workers within these industries differ; and so, should the policies and programs designed to support them.



- The cost structures of these industries are different. Some of them require a high degree of fixed assets, such as land and specialized buildings. Some are more attuned to remote work forces than others. And the skill level of people who work in the operations of these companies varies. Each industry has one or two pivotal “levers” that need to be managed cost-effectively. If the state of California can understand these businesses through this operational lens, it can create programs that have the most appeal. California needs to hire experts who understand these industries at a granular level so that the right programs can be created.







# Three Places California Can Learn From

Other countries and states have successfully built both industrial and labor development programs which enabled significant prosperity. Here are three outstanding examples from which we, in California, can draw.

## Singapore

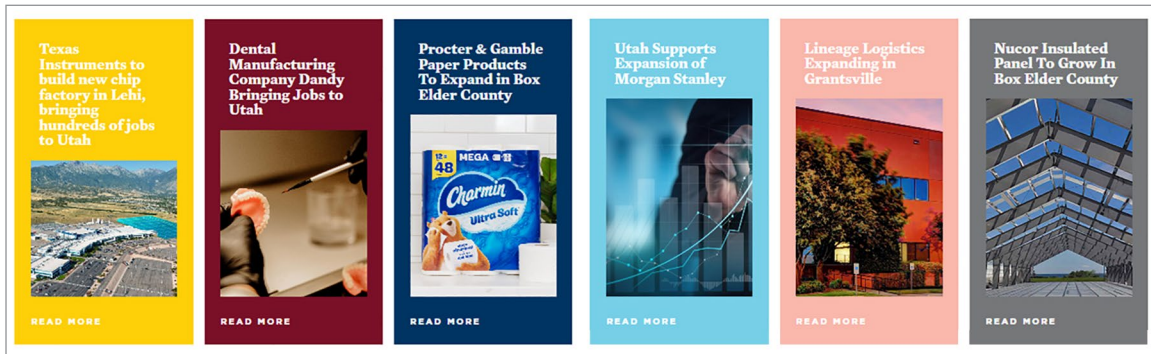
Early on, this country recognized that its future depended on developing a strong pool of mid-skilled people, focusing on finance, logistics and professional services. It provided free education to both men and women and focused on improving English language fluency among its mix of ethnic groups. In addition, it subsidized housing costs for citizens in order to retain population in the country. It also has a well-functioning immigration policy and government agencies that attract semi-skilled workers from neighboring countries to provide support to the whole economy through various sectors (health care, domestic service, elder-care, transportation, utility service and others). Immigration policy is part of the Federal Government’s purview in the United States, but it is hard to imagine a comprehensive solution to workforce growth and training that does not include some form of immigration reform.

**Resources to help you set up and do business in Singapore**

 <p><b>How to set up</b> Key steps to set up an office in Singapore <a href="#">Learn more</a></p>	 <p><b>Incentives &amp; schemes</b> Curated list of government support schemes for businesses <a href="#">View list</a></p>	 <p><b>Business Guides</b> Detailed guides on how to set up, hire, and navigate the business landscape in Singapore <a href="#">View guides</a></p>
 <p><b>Connections Concierge</b> Directory of business partners in areas such as banking, incorporation, real estate, recruitment and taxation <a href="#">Explore the network</a></p>	 <p><b>Singapore Investment Clinic</b> Curated video guides from industry experts on how to invest in Singapore and Southeast Asia <a href="#">Explore the collection</a></p>	 <p><b>Global Investor Programme</b> For individual investors keen to move to Singapore <a href="#">Learn about the programme</a></p>

## Utah

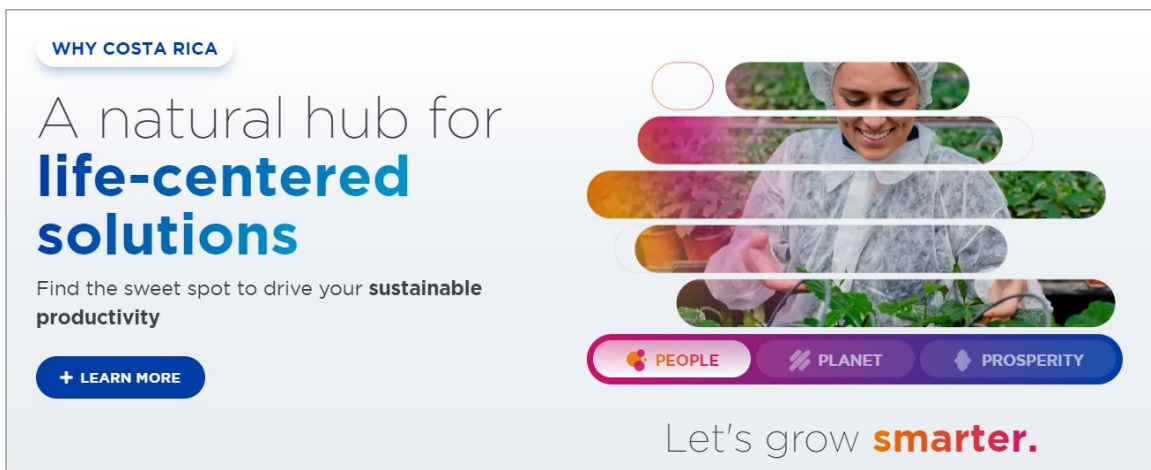
This state takes a very personalized approach to helping businesses grow and promotes higher skill education in the technical and bio-sciences area. Its Economic Development office seeks to understand the individual needs of businesses and helps to connect companies with university talent and training programs.



By way of comparison, it is interesting to note that Singapore, with a population of 5.5 million people is roughly on par with Utah, with a population of 3.4 million people in creating higher-paying technical and professional services jobs consistently over the past 5 years. California, with 12 times the population of Utah and 8 times the population of Singapore, typically does NOT create these jobs in the proportions one would expect given the size difference. In fact, during the pandemic year of 2020, Utah actually gained technical and professional services jobs while California saw a loss of 29,274 of them. Perhaps Utah’s approach to nurturing these industries provided them with some additional stability during the COVID crisis.

## Costa Rica

The focus in Costa Rica has been on building English fluency and in providing free technical education to all citizens. The country has a system where providing jobs for 1,000 people will enable a foreign company to forgo all taxes for a period of 8 years. The program is renewable if the company hires an additional 1,000. To date, more than 450 companies have taken advantage of this program and Costa Rican now enjoys the highest per capita GDP in Central America.



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## California's Current Approach to Business and Workforce Development

As can be seen from the examples above, building a thriving business climate involves not only nurturing companies, but developing the workforce to meet the needs of those businesses. At the statewide level, California's economic and workforce development effort is wide-ranging. The Governor's Office of Business and Economic Development (GO-Biz)<sup>6</sup>, and to some degree, the offices of Finance and Planning and Research, help lead executive branch economic development efforts from within the Governor's Office; but there are programs and policies across various state, federal, and local agencies. California's Workforce Development Board (CWDB)<sup>7</sup> provides statewide workforce development leadership and strategic planning across state agencies and in partnership with regional and local workforce boards and agencies – among other functions. As with economic development programs, state workforce development programs may be found across various state, federal, and local agencies.

Although the state does not publish a comprehensive list of all state economic and workforce development programs and policies, one estimate of the effort – a 2022 Little Hoover Commission issue brief on major state programs that can support economic development in inland and rural California – found.

“...the state has invested around \$8.2 billion in one-time funding and about \$1.2 billion in annual continuing funding in 2021-22 and 2022-23 towards various programs and investments that could help advance regional development strategies in inland and rural regions. This funding supports 61 programs and investments across 21 departments and agencies.”<sup>8</sup>

In general, examples of the types of support state economic development programs provide to California businesses include financial support through grants, loan guarantees, and tax credits and incentives; as well as entrepreneurial training; assistance navigating permitting, site selection, and regulatory hurdles; and related technical support. Examples of state-funded workforce and job training programs include those designed to provide grant funding to educational institutions (such as schools or colleges) to provide education and training; as well as programs intended to support regional collaboration and public-private partnerships, and those that provide human capital development opportunities to individuals, often from targeted groups (e.g., veterans, youth, farmworkers, or persons facing certain labor market barriers, such as an incarceration history).

In addition, broadly speaking, state support for health care, housing, schools, roads, energy, and the environment, and even the legal system all contribute to California's economy, as do direct investments from federal and local sources.

## Summary of Recommendations

California needs a more focused strategy, more resolute resources, and a more positive attitude if the current business climate is to be improved. The following eight recommendations are specifically designed to accomplish that and to improve the lives of the state's middle class.

### 1. Grow Small Business from Zero to One

Through a combination of regulatory streamlining and other means (perhaps tax incentives), encourage small businesses (which comprise 99% of all businesses in the state) to grow by adding one more employee . . . or by going from zero employees to one. Policymakers should carefully study the question of why the state's sole proprietorships cannot, do not, or will not add that first employee, and then work to reduce barriers for sole proprietors who want to become employers. In many cases the barriers will be regulatory, not financial. However, small businesses have a range of options to enable them to mature and add employees.<sup>9</sup> Historically, state policymakers have provided regulatory relief when budgets are tight. As public budgets contract in the wake of the COVID-related plus-ups, now is the time for state and local policymakers to enact regulatory relief for our small businesses. But more importantly, state government can better attune its programs to support small business strategies for growth, by lowering the "costs of entry" for small business and streamlining the compliance policies.

### 2. Adopt A Sector Strategy

The CWDA and GO-Biz have the right idea. The CWDA's "Unified Strategic Workforce Plan" adopts a "sector strategy" that targets and prioritizes investments in industries that tend to produce good jobs.<sup>10</sup> Go-Biz, similarly, highlights the industries in which California maintains a strong strategic position. The state should support and build on this approach. State and local economic and workforce development programs and policies should focus on industries that provide the best jobs, and they should be evaluated based on how well they align to the sector strategy and, where possible, how many middle-class jobs they help produce and into which supported workers are placed. Helping a first-time worker gain employment in an e-commerce warehouse is good. Helping a budding entrepreneur fund and launch an e-commerce business is better, but the two are not mutually exclusive.

Another way to look at nurturing sectors is through the lens of "advanced industries." Defined by Brookings Institution, "advanced industries" are those which have a higher proportion of spending in research and development. These industries, according to the Bureau of Labor Statistics, have a median wage that is double the national average. It should be a goal of California to target companies in those industries to insure they domicile here and, once here, stay here.


However, research conducted by the team at the Chapman University A. Gary Anderson Center for Economic Forecasting has shown that quite the opposite is happening.<sup>11</sup> Looking at metro areas around the country, no California area is in the top 10 markets for percentage growth in



establishments in advanced industries. The fastest growing market in California is San Diego, which is #33 nationally, followed by Orange County at #39. Nashville, the fastest growing area for advanced industries, grew more than 5 times faster than San Diego between the fourth quarter of 2019 and the fourth quarter of 2021.

**% Growth In Advanced Industry Establishments**

Rank	MSA or County	% Change from 19:4 to 21:4
1	Nashville-Davidson-Murfreesboro-Franklin, TN MSA	47.7
2	Louisville-Jefferson County, KY-IN MSA	39.2
3	Salt Lake City, UT MSA	35.1
4	Providence-Warwick, RI-MA MSA	33.1
5	Austin-Round Rock, TX MSA	30.4
6	Raleigh, NC MSA	30.1
7	Memphis, TN-MS-AR MSA	29.6
8	Seattle-Tacoma-Bellevue, WA MSA	28.5
9	Denver-Aurora-Lakewood, CO MSA	28.4
10	New Orleans-Metairie, LA MSA	25.2
↓	↓	↓
33	San Diego-Carlsbad, CA MSA	8.5
39	Orange County, California	7.4

  
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### 3. Make GO-Biz Permanent

Give Go-Biz agency status. In addition to the general fund, GO-Biz relies on at least eight other sources of funding.<sup>12</sup> As noted in GO-Biz’s 2021 Leadership Accountability Report, one risk to GO-Biz is its funding sources and levels. For example, GO-Biz depends (at least in part) on the state Cannabis Tax Fund. If state cannabis sales go down, GO-Biz grant program funding may drop.<sup>13</sup> Moreover, most GO-Biz dollars come from the general fund, which tends to tighten during recessions --- precisely when business development is most crucial.<sup>14</sup> A permanent, dedicated funding source, preferably one that is either countercyclical or that is unlikely to drop during poor economic conditions, is critical for this agency. Policymakers should look for ways to ensure GO-Biz gets more, not less, when the state budget tightens.

To remain competitive on the national and global stage, the State of California should continue and expand its investment into building a more robust Governor’s Office of Business and Economic Development. Other states have utilized their respective business development agencies very effectively in attracting companies from California and around the world to relocate to their respective region. With sufficient resources, the California GOBiz could help regions throughout the state to fend off aggressive efforts to poach our companies to other states and retain employers. Furthermore, in partnership with local economic development and business

organizations, GOBiz could be a powerful force to attract new investment and businesses to help build and support a thriving and inclusive economy.

As the State of California is preparing for potential federal funding from IRA and IIJA, it is vital that GOBiz coordinate its efforts with private sector and industry leaders. Much of the coming federal funds will require private sector support or matching funds in order to leverage and unlock the full potential of these precious resources. Therefore, GOBiz must have a good understanding of the ongoing projects by the private sector that could be utilized to leveraged to unlock the competitive grant funding available through IIJA and IRA. It will not be an easy task to coordinate the projects throughout the state. That is why it is more important now than ever to invest in building a robust GOBiz team to ensure that California and all the local regions can receive our fair share of this historic funding opportunity. California could also benefit from the creation of a parallel Economic Development Corporation, as other states have done, to foster better cooperation between the public and private sectors at the state level. This model currently exists at the regional level within the state, but there is no similar structure at the state level.

#### **4. And Double It**

Despite overall budget tightening in the near-term, state policymakers should prioritize GO-Biz's budget and plan to double it by 2028.<sup>15</sup> GO-Biz needs to be sized to our state. Michigan, with a GDP that doesn't even make the top ten in the U.S., has a billion-dollar business attraction fund.<sup>16</sup> On a per-capita basis, California spends less than most of its competitors. Many states also farm out their development efforts to non-political bodies with strong private sector involvement.

Right now, California is falling behind, and it won't help that, the January 2023-24 proposed Governor's budget provides not half that amount to GO-Biz.<sup>17</sup> And while GO-Biz certainly is not our state's only economic development program or initiative, it is the centerpiece of our state-wide effort. California has a world class economy. GO-Biz's budget should reflect that. Further, tying in with our recommendation to follow a sector strategy, new GO-Biz funds should be used, at least in part, to hire industry sector experts who can partner with existing regional teams, and to create industry sector-specific economic development programs.

The need is urgent. A 2021 study by the Hoover Institution showed that California companies are increasingly opting to invest in growth elsewhere. Capital projects are important because they not only bring direct employment by the sponsoring company, but they enable other companies that support the projects indirectly, from food trucks that have a new site to serve to law firms that handle an increase in contracts that are required to gear up work.

## California Ranks #16 in Overall New Corporate Capital Projects in 2020

New Project Rankings by Total Projects for 2020								
Rank	State	Projects	Rank	State	Projects	Rank	State	Projects
1	Texas	781	17	Missouri	96	34	Washington	17
2	Ohio	419	18	Michigan	85	35	Nevada	16
3	Georgia	360	18	Tennessee	85	36	Connecticut	14
4	Illinois	329	20	Kansas	70	37	Oregon	13
5	North Carolina	194	21	Nebraska	59	38	Delaware	11
6	Indiana	189	22	Wisconsin	58	39	Idaho	10
7	Kentucky	152	23	Iowa	48	40	West Virginia	8
8	Virginia	136	23	Minnesota	48	41	Maine	7
9	Florida	125	25	Massachusetts	47	42	Wyoming	6
10	Pennsylvania	123	26	Mississippi	46	43	South Dakota	5
11	Alabama	121	27	Maryland	45	43	Montana	5
12	Louisiana	116	28	New Jersey	39	45	New Hampshire	4
13	New York	111	29	Colorado	29	46	Hawaii	3
14	South Carolina	110	30	Oklahoma	24	47	Rhode Island	2
15	Arizona	108	31	Arkansas	21	47	Vermont	2
16	California	103	31	Utah	21	47	North Dakota	2
Source: <i>Site Selection Magazine</i>			33	New Mexico	20	47	Alaska	2

Source: Why Company Headquarters are Leaving California in Unprecedented Numbers, Vranich and Ohanian, Hoover Institution, Stanford University, August 2021

### 5. Create “Get to Yes” Culture in State Government

Based on our extensive conversations with California business executives over the past five years, too often, our state’s entrepreneurs and businesses face a wall of “no” when they seek out and interact with state and local government agencies and policymakers. Understandingly, state, and local agencies must hew closely to their purposes and legal authorities. They protect the public health and welfare and have a fiduciary responsibility in the stewardship of public funds. However, at times, this protective function can come across as a stop sign to Californians who want to start and grow their businesses. When in actuality, many hurdles can be overcome – while meeting both the public and business’s needs – with a “get to yes” approach to problem solving.

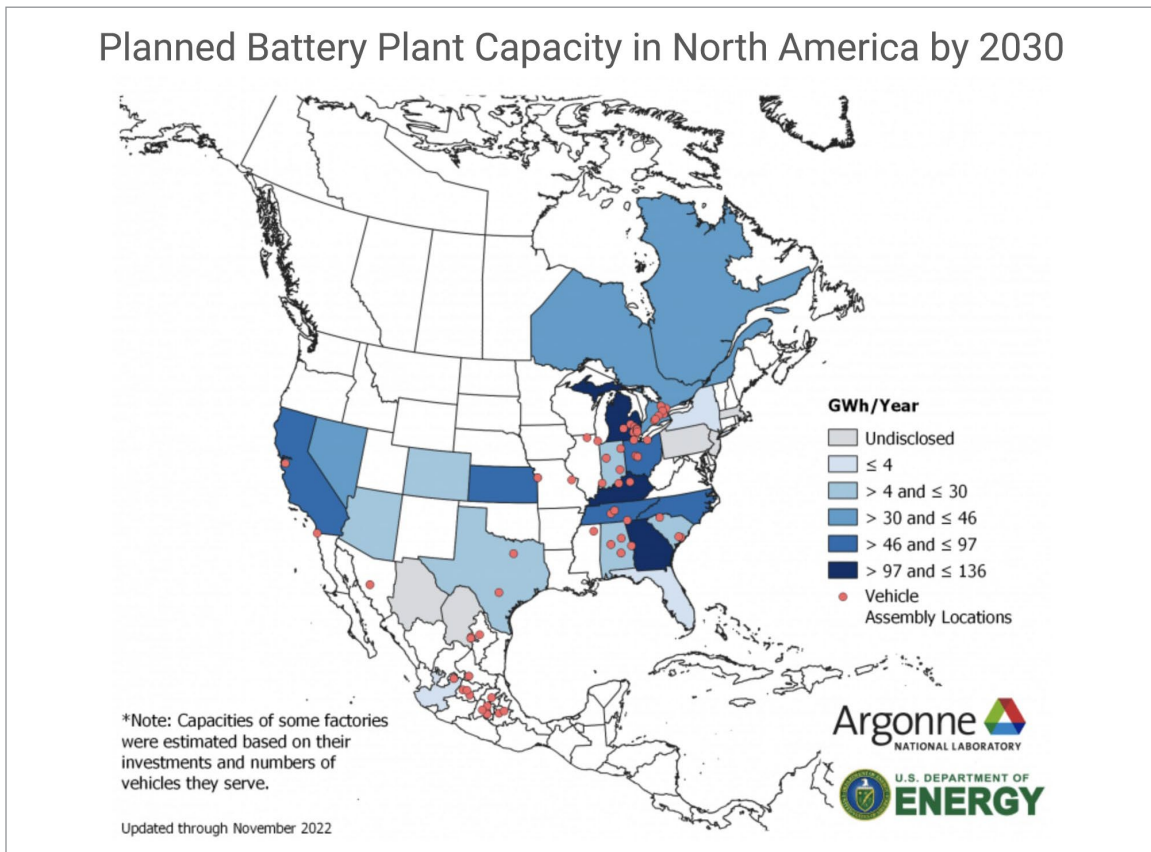
At the most fundamental level, state policymakers should authorize funding to state agencies for customer service training, in the hopes of defusing the contentious environment that characterizes today’s relationship with our business community at large.

At the leadership level, state policymakers can lead-by-example by undertaking a public campaign to work with the state’s businesses and industries. In the 1990s, now-deceased Senator John Vasconcellos undertook a similar type of campaign with the ADEPT project (Assembly Democratic Economic Prosperity Team), which engaged state legislators with targeted sectors of the business community in over 55 dialogues and resulted in legislation that helped set the stage for economic recovery.<sup>18</sup> As we recover from the shock to our economy that was the COVID pandemic, and have a better sense of how our economy may now have permanently changed, the time is ripe for an ADEPT-like effort in our state legislature.

Some states — Ohio, Kentucky and Tennessee — have started putting greater emphasis on skills education. Even as some California schools and universities are “dumbing down” on skills, merit and scrapping such things as exit exams while suffering among the lowest test scores in the nation. Our schools clearly need more, and perhaps better targeted investment. Almost three of every five California high schoolers are not prepared for either college or a career; the percentages are far higher for Latinos, African Americans, and the poor.<sup>19</sup>

Providing a skilled workforce is increasingly a prerequisite for new investment and emerging industries. Take for example the 13 new battery plants either existing or on the drawing board. Virtually all are located either in the Inter-mountain West (Nevada), the South (Georgia, North Carolina, and Tennessee), the Midwest (Kentucky and Ohio), or Texas. California may have developed much of the electric car tech, but it’s places like Tennessee that are wooing multi-billion investment from major US and foreign companies.

California needs to compete more directly for the funds now being made available from the IRA (Inflation Reduction Act) - The Inflation Reduction Act | US EPA – I think our state can benefit greatly from the IRA, specifically the Clean Energy Production and Clean Energy Investment Tax Credit. The state’s relatively weak performance can be overcome, as we can see in the recent decision by the German conglomerate Bosch to buy a semiconductor plant in Roseville to generate new chips for electric vehicles.<sup>20</sup>



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## Needed: A New Focus on Broad Based Growth

From the Beginning, California promised much,” noted the late California historian Kevin Starr, “While yet barely a name on the map, it entered American awareness as a symbol of renewal. It was a final frontier: of geography and of expectation.”

Kevin Starr, “Americans and the California Dream, 1850-1915” (1973)

In recent years this promise has been greatly diminished, as other countries and states have leapfrogged California, and begun to assert their claim as the capital of “the final frontier.”

Yet California’s game is not over. We have recovered in the past --- from the ending of the gold rush to the decline of the defense industry and, today, a wrenching transition in our key tech sectors. There is nothing that guarantees California’s continuing decline that smart policies, including those learned from elsewhere, could not reverse. We still can astound the world; we just have to do the work to get there.

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## Appendices

### Appendix A: 4 Digit NAICS – California Industries With Per Capita Employment More Than 25% Above the National Average – Q3 2022

Industry Sector - 4 Digit NAICS	LQ of Employment - Q3 2022
NAICS 1151 Support activities for crop production	5.78
NAICS 3341 Computer and peripheral equipment manufacturing	4.44
NAICS 1113 Fruit and tree nut farming	4.34
NAICS 7114 Agents and managers for artists, athletes, entertainers, and other public figures	4.26
NAICS 5121 Motion picture and video industries	3.38
NAICS 5192 Web search portals, libraries, archives, and other information services	3.26
NAICS 3152 Cut and sew apparel manufacturing	3.08
NAICS 3346 Manufacturing and reproducing magnetic and optical media	3.07
NAICS 1112 Vegetable and melon farming	2.81
NAICS 7115 Independent artists, writers, and performers	2.78
NAICS 3343 Audio and video equipment manufacturing	2.74
NAICS 5162 Media streaming distribution services, social networks, and other media networks and content providers	2.7
NAICS 6241 Individual and family services	2.25
NAICS 5122 Sound recording industries	2.16
NAICS 3345 Navigational, measuring, electromedical, and control instruments manufacturing	2.02
NAICS 6214 Outpatient care centers	1.96
NAICS 4243 Apparel, piece goods, and notions merchant wholesalers	1.94
NAICS 3344 Semiconductor and other electronic component manufacturing	1.85
NAICS 3121 Beverage manufacturing	1.82
NAICS 5417 Scientific research and development services	1.8
NAICS 4853 Taxi and limousine service	1.78
NAICS 7131 Amusement parks and arcades	1.78
NAICS 1124 Sheep and goat farming	1.76
NAICS 3342 Communications equipment manufacturing	1.64
NAICS 4883 Support activities for water transportation	1.61
NAICS 8132 Grantmaking and giving services	1.56
NAICS 3114 Fruit and vegetable preserving and specialty food manufacturing	1.54
NAICS 5132 Software publishers	1.52
NAICS 5414 Specialized design services	1.5
NAICS 3391 Medical equipment and supplies manufacturing	1.48
NAICS 3332 Industrial machinery manufacturing	1.48
NAICS 4922 Local messengers and local delivery	1.47
NAICS 1132 Forest nurseries and gathering of forest products	1.46
NAICS 4232 Furniture and home furnishing merchant wholesalers	1.44
NAICS 2383 Building finishing contractors	1.43
NAICS 5616 Investigation and security services	1.42
NAICS 6116 Other schools and instruction	1.4
NAICS 4859 Other transit and ground passenger transportation	1.39
NAICS 3159 Apparel accessories and other apparel manufacturing	1.38
NAICS 3169 Other leather and allied product manufacturing	1.38
NAICS 1114 Greenhouse, nursery, and floriculture production	1.36
NAICS 4884 Support activities for road transportation	1.34
NAICS 3351 Electric lighting equipment manufacturing	1.32
NAICS 5312 Offices of real estate agents and brokers	1.32
NAICS 8141 Private households	1.32
NAICS 3364 Aerospace product and parts manufacturing	1.3
NAICS 5174 Satellite telecommunications	1.29
NAICS 3119 Other food manufacturing	1.28
NAICS 4851 Urban transit systems	1.28
NAICS 5259 Other investment pools and funds	1.28
NAICS 5182 Computing infrastructure providers, data processing, web hosting, and related services	1.28
NAICS 3133 Textile and fabric finishing and fabric coating mills	1.27
NAICS 4592 Book retailers and news dealers	1.27
NAICS 5251 Insurance and employee benefit funds	1.26



**Appendix B:** Top Manufacturing Industries With Per Capita Employment More Than 25% Above National Average – 6 Digit NAICS – Q3 2022

	LQ of Employment Q3 2022
Top Manufacturing Industries - 6 Digit NAICS	
NAICS 334111 Electronic computer manufacturing	5.5
NAICS 333242 Semiconductor machinery manufacturing	4.13
NAICS 334610 Manufacturing and reproducing magnetic and optical media	3.07
NAICS 334112 Computer storage device manufacturing	2.97
NAICS 334310 Audio and video equipment manufacturing	2.74
NAICS 334516 Analytical laboratory instrument manufacturing	2.7
NAICS 334515 Instrument manufacturing for measuring and testing electricity and electrical signals	2.69
NAICS 339992 Musical instrument manufacturing	2.67
NAICS 334519 Other measuring and controlling device manufacturing	2.65
NAICS 336414 Guided missile and space vehicle manufacturing	2.52
NAICS 334510 Electromedical and electrotherapeutic apparatus manufacturing	2.5
NAICS 334412 Bare printed circuit board manufacturing	2.42
NAICS 334417 Electronic connector manufacturing	2.14
NAICS 334220 Radio and television broadcasting and wireless communications equipment manufacturing	2.12
NAICS 332112 Nonferrous forging	2.06
NAICS 339930 Doll, toy, and game manufacturing	2.04
NAICS 336413 Other aircraft parts and auxiliary equipment manufacturing	1.96
NAICS 334413 Semiconductor and related device manufacturing	1.9
NAICS 334419 Other electronic component manufacturing	1.83
NAICS 339116 Dental laboratories	1.83
NAICS 332114 Custom roll forming	1.81
NAICS 334511 Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	1.76
NAICS 339112 Surgical and medical instrument manufacturing	1.74
NAICS 334517 Irradiation apparatus manufacturing	1.68
NAICS 339114 Dental equipment and supplies manufacturing	1.67
NAICS 336991 Motorcycle, bicycle, and parts manufacturing	1.64
NAICS 335999 All other miscellaneous electrical equipment and component manufacturing	1.63
NAICS 339115 Ophthalmic goods manufacturing	1.63
NAICS 332722 Bolt, nut, screw, rivet, and washer manufacturing	1.57
NAICS 334418 Printed circuit assembly (electronic assembly) manufacturing	1.5
NAICS 333611 Turbine and turbine generator set units manufacturing	1.44
NAICS 334118 Computer terminal and other computer peripheral equipment manufacturing	1.4
NAICS 335132 Commercial, industrial, and institutional electric lighting fixture manufacturing	1.37
NAICS 332813 Electroplating, plating, polishing, anodizing, and coloring	1.29
NAICS 335139 Electric lamp bulb and other lighting equipment manufacturing	1.29
NAICS 334416 Capacitor, resistor, coil, transformer, and other inductor manufacturing	1.26

**Appendix C:** Top California Business and Professional Services Industries With Per Capita Employment More than 25% Above the National Average – 6 Digit NAICS – Q3 2022

	LQ of Employment Q3 2022
Top Professional and Business Services - 6 Digit NAICS	
NAICS 541714 Research and development in biotechnology (except nanobiotechnology)	2.07
NAICS 541490 Other specialized design services	1.85
NAICS 541715 Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	1.78
NAICS 541690 Other scientific and technical consulting services	1.73
NAICS 541320 Landscape architectural services	1.71
NAICS 541213 Tax preparation services	1.56
NAICS 541620 Environmental consulting services	1.55
NAICS 541430 Graphic design services	1.52
NAICS 541511 Custom computer programming services	1.52
NAICS 541214 Payroll services	1.47
NAICS 541410 Interior design services	1.44
NAICS 541830 Media buying agencies	1.44
NAICS 541713 Research and development in nanotechnology	1.42
NAICS 541922 Commercial photography	1.4
NAICS 541519 Other computer related services	1.35
NAICS 541310 Architectural services	1.25
NAICS 541350 Building inspection services	1.25
NAICS 541820 Public relations agencies	1.25

## Endnotes

- 1 <https://www.hoover.org/research/why-company-headquarters-are-leaving-california-unprecedented-numbers>
- 2 <https://www2.deloitte.com/th/en/pages/about-deloitte/articles/semiconductor-eng.html>
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- 4 California Business Migration Survey – unpublished – UC System, UC San Diego, UC Irvine and Chapman University joint research, October 2021
- 5 Interview with researchers and State of Utah Economic Development agency personnel - 2021 <https://lhc.ca.gov/sites/lhc.ca.gov/files/Reports/269/Report269.pdf>
- 6 See GO-Biz website at <https://business.ca.gov/>
- 7 See CWDB at <https://cwdb.ca.gov/>
- 8 Little Hoover Commission, “Issue Brief: Major State Programs That Can Support Regional Economic Development,” executive summary, pg.1, August 202
- 9 <https://www.uschamber.com/co/start/strategy/best-small-business-growth-strategies>
- 10 See California Workforce Development Board, “Unified Strategic Workforce Development Plan: Strategic Planning Elements: 2020-2023,” pg. 29 at [https://cwdb.ca.gov/wp-content/uploads/sites/43/2020/09/Strategic-Planning-Elements.Final\\_ACCESSIBLE.pdf?emrc=370e49](https://cwdb.ca.gov/wp-content/uploads/sites/43/2020/09/Strategic-Planning-Elements.Final_ACCESSIBLE.pdf?emrc=370e49)
- 11 <https://news.chapman.edu/2022/12/16/doti-gives-45th-economic-forecast-foresees-recession/>
- 12 For example, see State of California, 2023-24 Governor’s Budget, “Legislative, Judicial and Executive: 0509 Governor’s Office of Business and Economic Development (GO-Biz),” budget detail, released January 10, 2023, at <https://ebudget.ca.gov/2023-24/pdf/GovernorsBudget/0010/0509.pdf>.
- 13 Governor’s Office of Business and Economic Development (GO-Biz), 2021 Leadership Accountability Report, January 4, 2022, pg. 6, at <https://business.ca.gov/wp-content/uploads/2021-Leadership-Accountability-Report.pdf>.
- 14 See State of California, Department of Finance, California Budget Frequently Asked Questions (FAQ), “How Much Have General Fund revenues and expenditures increased over the years? Chart A: Historical Data: General Fund Budget Summary,” February 2023, at <https://dof.ca.gov/wp-content/uploads/sites/352/2023/03/CHART-A.pdf>.
- 15 This proposal is patterned after a similar federal policy that authorized steep funding increases - the so-called “doubling path” policy - for certain federal research agencies deemed central to long-term U.S. economic competitiveness. First enacted under President Ronald Reagan, doubling policies were continued by respective congresses and by Presidents Bush and Obama through the 2007 America COMPETES Act (P.L. 110-69) and 2010 reauthorization. This proposal differs from the federal doubling path policy in that it targets funding increases for economic development programs, not long-term research, and development, to improve California’s economic competitiveness. For more information about the federal doubling path policy see “Appendix” in Congressional Research Service, The National Science Foundation: An Overview (R4673), Apr. 9, 2021, at <https://crsreports.congress.gov/product/pdf/R/R46753>.

- 16 Michigan Economic Development Corporation, “This Just In: Governor Whitmer Approves Additional Investment in SOAR Fund to Attract Transformational Projects to the State,” press release, Oct. 4, 2022, at <https://www.michiganbusiness.org/press-releases/2022/10/tji-whitmer-approves-additional-investment-in-soar-fund-attract-transformational-projects-to-state/>
- 17 See State of California, 2023-24 Governor’s Budget, “Legislative, Judicial, and Executive: 0509 Governors Office of Business and Economic Development (GO-Biz),” budget detail, released January 10, 2023, at <https://ebudget.ca.gov/2023-24/pdf/GovernorsBudget/0010/0509.pdf>.
- 18 More information about the ADEPT project may be found in the John Vasconcellos Papers (Special Research Collections), University of California, Santa Barbara Library, at [special@library.ucsb.edu](mailto:special@library.ucsb.edu) or by phone at (805) 893-3062.
- 19 “National Assessment for Educational Progress (NAEP),” National Center for Educational Statistics, 2020, <https://nces.ed.gov/nationsreportcard/data/>; “College/Career,” California School Dashboard, 2018, <https://www.caschooldashboard.org/reports/ca/2018/academic-performance#college-career>; “California Overview,” The Nation’s Report Card, 2019, <https://www.nationsreportcard.gov/profiles/stateprofile/overview/CA>.
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