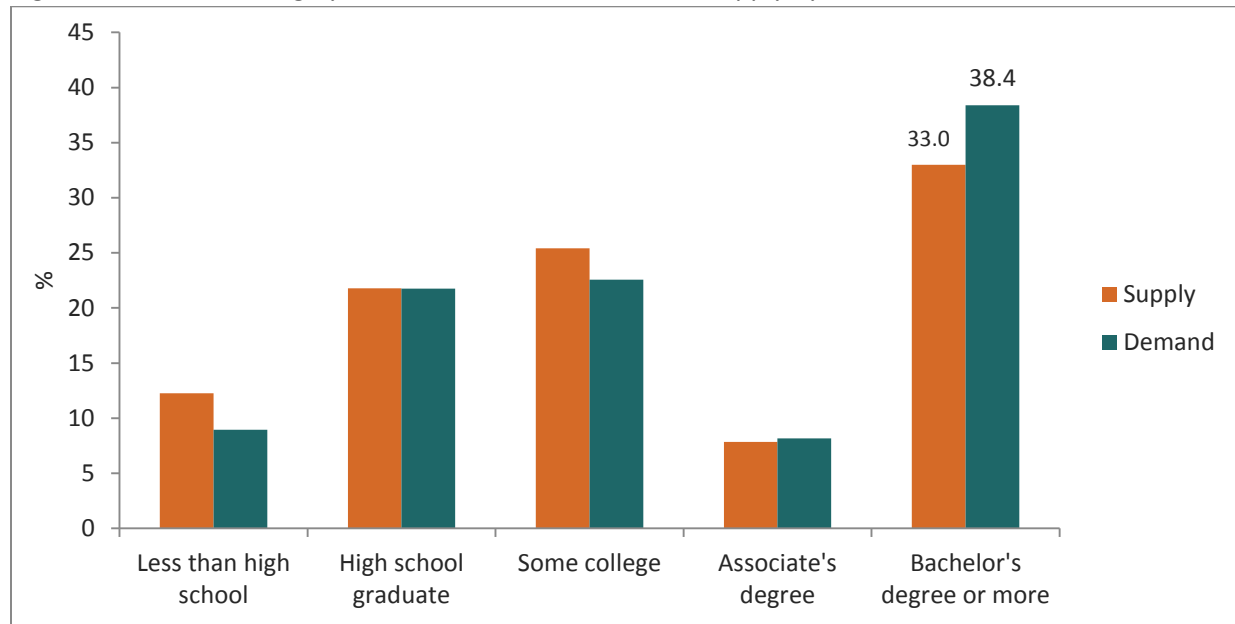


**Testimony to the Assembly Select Committee on the Master Plan for Higher Education in California**  
**Marc Berman, Chair**  
**November 1, 2017**

**The Need for College Graduates in California's Future Economy**  
**Hans Johnson, Public Policy Institute of California**

PPIC has produced a series of reports on California's future population and economy. Our report [Will California Run Out of College Graduates?](#), provides projections of the demand for and supply of workers by educational attainment to 2030. Our primary finding is that California faces a shortage of highly educated workers. Specifically, economic projections to 2030 show that about two in five jobs will require at least a bachelor's degree, while demographic projections suggest only about one in three Californians will have at least a bachelor's degree (Figure 1). This shortfall equates to 1.1 million workers.

Figure 1. Demand for highly educated workers will exceed supply by 2010

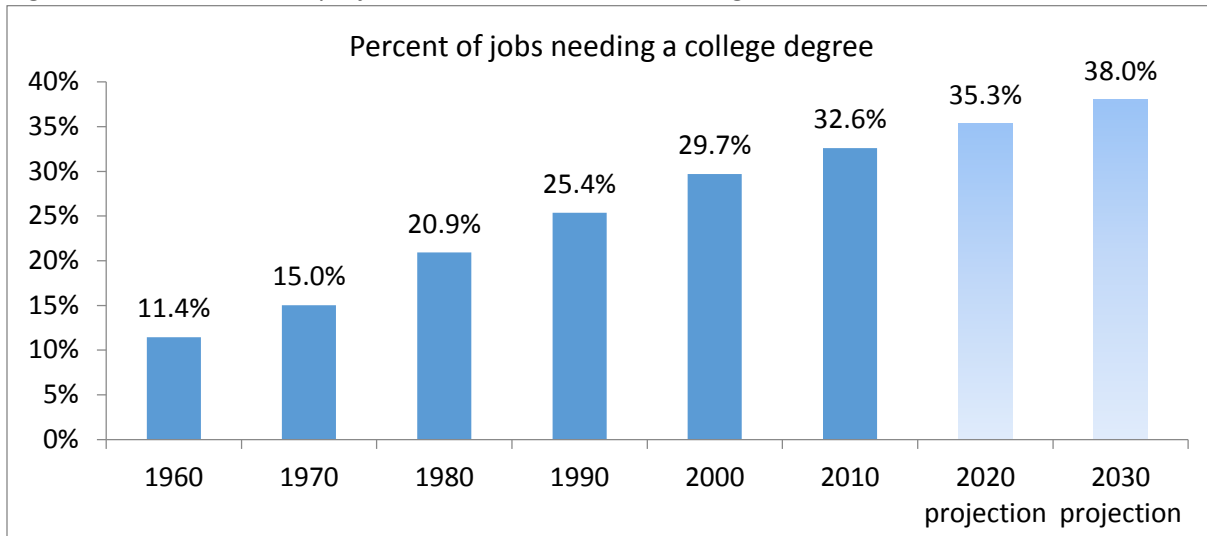


In this testimony, I first describe how California's population and economy are changing, and then identify how the state and its higher education institutions can increase college enrollment and completion to produce more college graduates.

**California's economy is increasingly demanding highly educated workers**

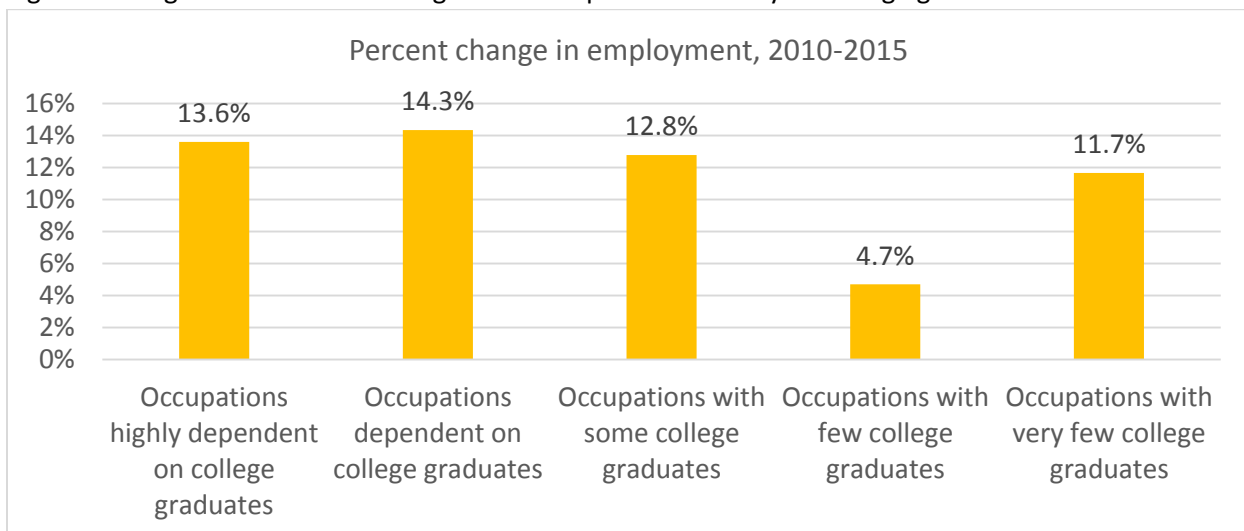
To develop our economic projections, we apply trends in educational attainment levels within occupations to occupational projections developed by the California Employment Development Department. We examine changes in labor market demand that are occurring due to shifts in the distribution of occupations and changes in educational attainment within occupations. Our primary finding is that the state's economy will continue along a well-established trajectory, with a growing share of jobs requiring at least a bachelor's degree (Figure 2).

Figure 2. PPIC’s economic projections are consistent with long-term trends



The two key drivers of increasing demand for college graduates are: 1) faster growth in occupations that commonly require a college degree (e.g., computer technology occupations), and 2) increases in demand for highly educated workers within occupations (e.g., nursing). While both drivers are important, in recent years most of the increased demand (74%) for highly educated workers has occurred because of faster job growth in occupations that commonly require a college degree. Among large occupations (with at least 100,000 full-time year-round workers), those with especially rapid growth rates over the past five years include software developers (56% increase between 2010 and 2015), computer scientists and systems analysts (42% increase), and managers (35% increase). These and other highly skilled occupations have experienced faster growth than most less skilled occupations (Figure 3).

Figure 3. Job growth has been strongest for occupations that rely on college graduates

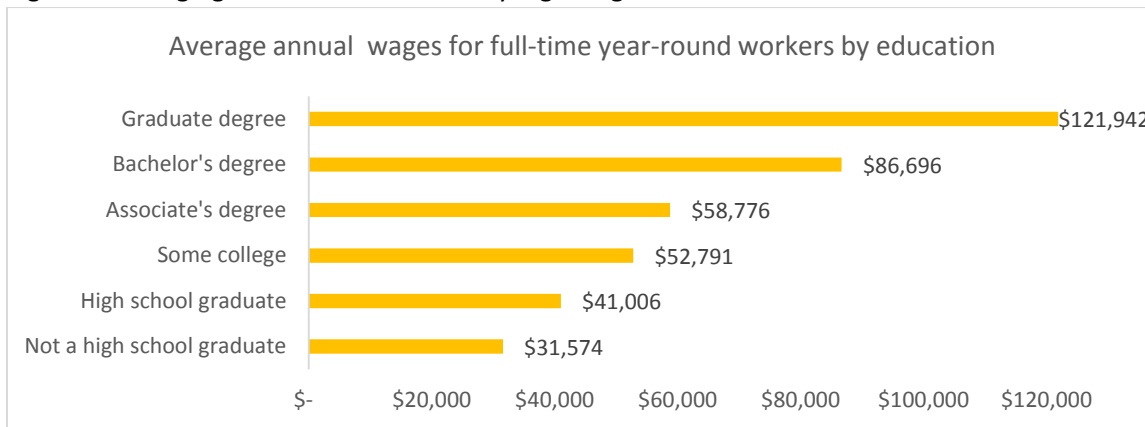


The second key driver of demand has been an increase in educational attainment within occupations. For example, the share of registered nurses with a bachelor’s degree has grown from 57% in 2000 to 68% in 2015. Altogether, over the past five years (from 2010 to 2015) about 26% of the increase in jobs

for college graduates has occurred as demand for highly educated workers has grown within specific occupations.

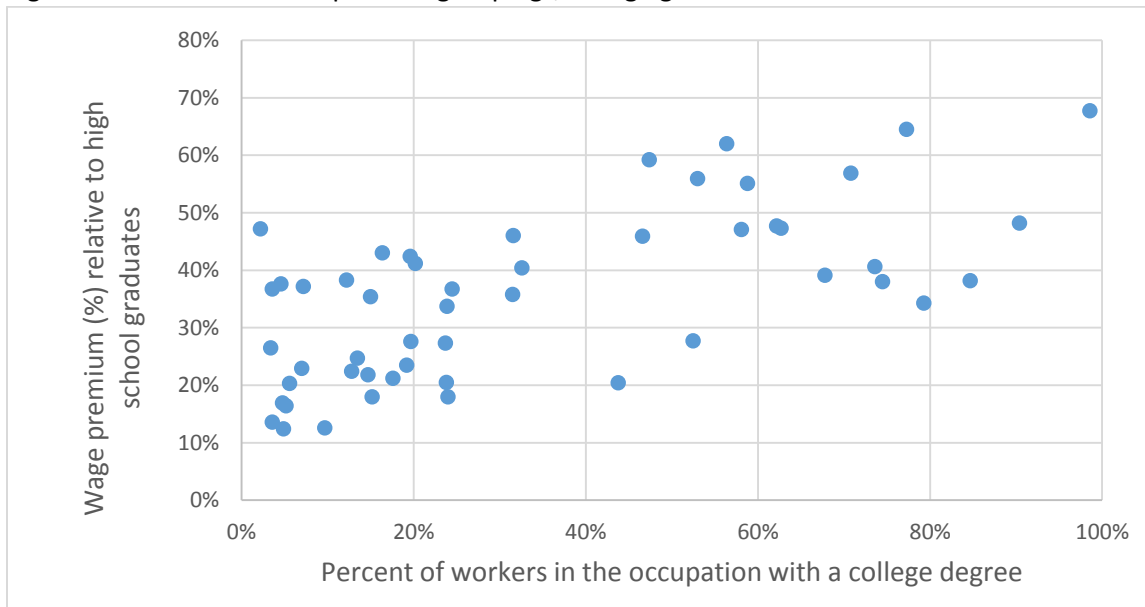
Are college degrees really necessary for these jobs? We examine a number of labor market outcomes to answer this question. Within and across occupations, we find higher labor force participation rates, lower unemployment rates, and higher wages for workers with a bachelor's degree than for those without. And in general, as educational attainment increases, wages also increase. Overall, the wage premium for college graduates relative to less educated workers has grown. By 2015, the average annual wage for full-time year-round workers was more than twice as high for workers with a bachelor's degree than for those with a high school diploma (Figure 4).

Figure 4. College graduates have relatively high wages



Within each of 51 occupational groupings we see higher wages for college graduates than for high school graduates (Figure 5). Among registered nurses, for example, those with a bachelor's degree earned 12% more than those with an associate's degree (Figure 5).

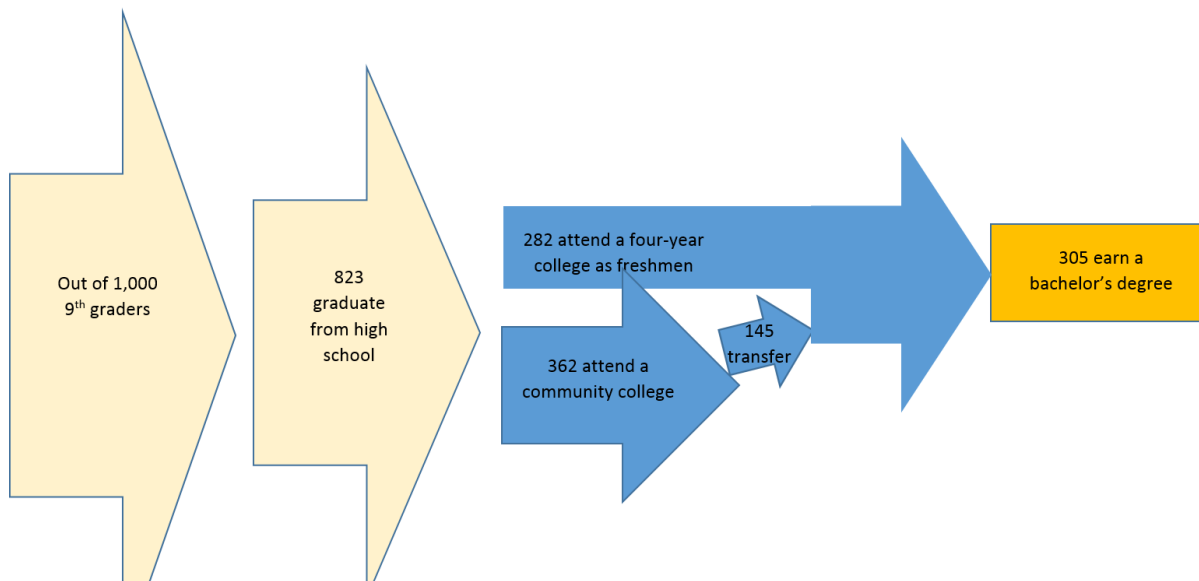
Figure 5. In each of 51 occupational groupings, college graduates earn more



## California’s educational institutions are not keeping up with demand

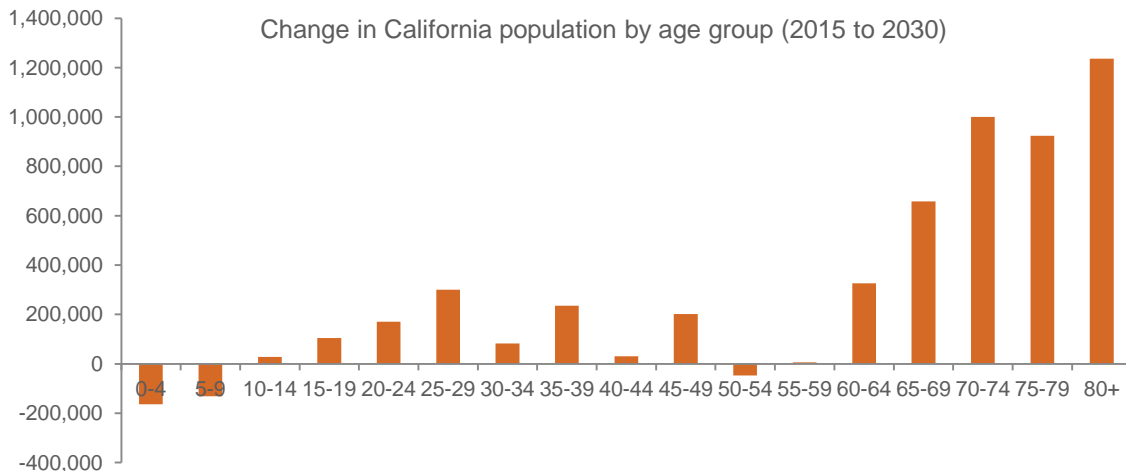
Too few Californians are graduating from college. At current college enrollment and completion rates, only 30.5% of 9th graders in California will eventually earn a bachelor’s degree either in California or elsewhere in the United States (Figure 6). Compared to other states, California ranks 47th in the share of high school graduates that enroll in four-year colleges and 5th in the share that go to community colleges. Low rates of transfer from community colleges to four-year colleges exacerbates the problem.

Figure 6. Too few California high school students complete college  
The education pipeline in California: 9<sup>th</sup> grade to a bachelor’s degree



A critical challenge is the retirement of the large and relatively well-educated baby boom. Called the “silver tsunami” by some, this aging out of the labor force of millions of older adults is the first time in the history of California that such a large and well-educated group is exiting the labor force. In contrast, the number of young adults in California is projected to increase only modestly (Figure 7).

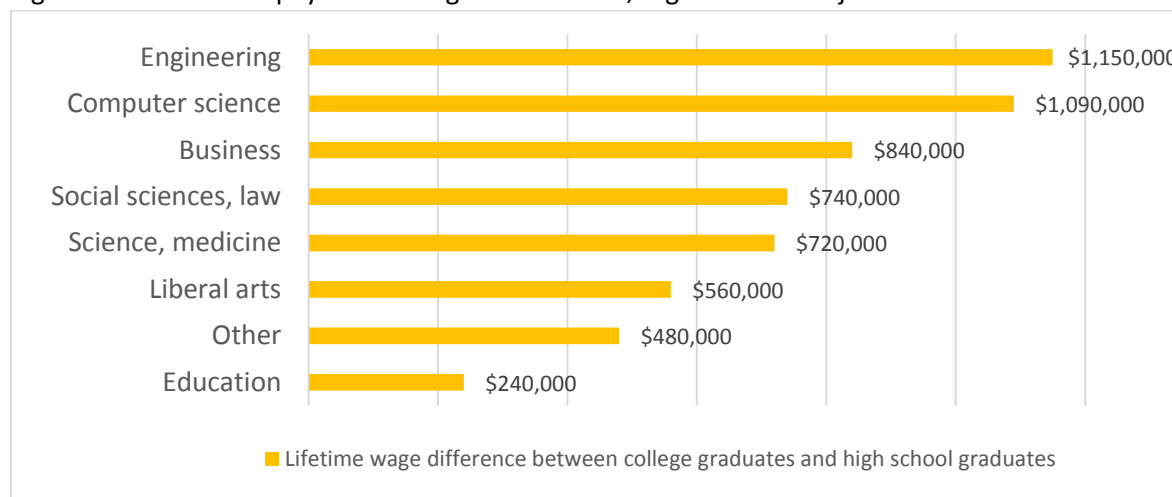
Figure 7. California’s population is aging



## Not all degrees are equal

On average, college graduates have very strong labor market outcomes. While at any point in time, some college graduates are working in jobs that do not necessarily require a college degree, over the course of their careers the vast majority of college graduates will move into occupations that reward their educational training. Our estimates show that students who earn bachelor's degree in engineering and computer science fare very well in the labor market, but even those in less remunerative majors such as education and the liberal arts will still earn far more in wages than less educated workers, even after taking into account all the costs of going to college (Figure 8).

Figure 8. Net lifetime payoff of college is enormous, regardless of major



## How to close the degree gap

To close the gap, California and its higher education institutions will need to establish new policies and practices to enroll more students, especially in our four-year colleges and universities, and ensure greater success of students already in college. In [previous testimony](#), PPIC has identified targets for each of the state's public systems with respect to admission, transfer (from community colleges to four-year colleges), and improved graduation rates. Improving access and success among groups historically underrepresented in higher education, including low-income students, first-generation college students, Latinos, and African Americans is essential if we are to close the degree gap.

The good news is that new goals adopted by the California State University (CSU) system and the California Community College system are entirely consistent with PPIC's identified targets. New initiatives, including remediation reform at the community colleges and at CSU, have the potential to substantially increase student success. CSU's new graduation initiative aims to substantially increase graduation rates and eliminate gaps between groups of students. Strong increases in college preparation among the state's high school graduates are also a positive sign, with the share of students completing the college preparatory requirements of UC and CSU reaching an all-time high.

Finding ways to accommodate all these students remains a central challenge, but one we must meet in order to ensure a better future for all Californians.