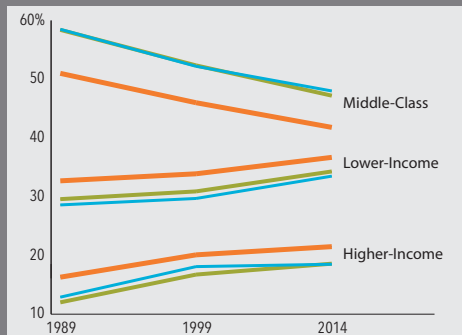




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Inequality and Economic Security in Silicon Valley



MAY 2016

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Executive Summary

Silicon Valley is known for its technological innovation and economic prosperity. Household incomes in San Mateo, Santa Clara, and San Francisco counties are among the highest in the nation, and the region has a well-educated workforce. Since the Great Recession officially ended in 2009, Silicon Valley has seen substantially stronger job growth than other regions in California overall.¹

While Silicon Valley's robust economic growth has led to some economic gains for low- and middle-income families, many residents are still struggling.² Income growth for lower-income households has been comparatively weak, and families toward the lower end of the economic spectrum are further squeezed by a rising cost of living. Silicon Valley's current economic expansion has been "top heavy," with much of the recent income growth going to very wealthy households, therefore doing little to reverse the generation-long trend of widening income inequality. Compared to 25 years ago, the incomes of the wealthiest households and others are now further apart, and the region's middle class is smaller. Much like the greater Bay Area and California as a whole, Silicon Valley is a far more unequal place than it used to be.

This report is intended to take an in-depth look at the dimensions of income inequality (referred to throughout this report as "inequality") in Silicon Valley and key trends over time. The report begins by addressing why income inequality should matter to Silicon Valley, followed by an analysis of trends in widening income inequality over the long term and in the most recent period. An analysis of long-term trends over the past 25 years (1989-2014) shows that widening income inequality is not just a recent phenomenon in Silicon Valley. At the same time focusing on just the most recent period for which data are available (2009-

2014) reveals that trends in widening income inequality have been exacerbated even as the region has recovered from the Great Recession. The combination of long- and short-term trends point to the need for public policy responses that combat these trends, help mitigate the effects of increasing economic insecurity, and create a foundation for sustainable economic growth. This report highlights areas for state and local policy action to help ensure that households across the income distribution benefit more from Silicon Valley's economic growth, while investing in housing options and transportation networks that better help these families live and thrive in the region.

DEFINING SILICON VALLEY

For the purposes of this report, "Silicon Valley" is defined as Santa Clara, San Mateo, and San Francisco counties, recognizing that these three counties are increasingly interconnected in terms of employment, commuting, and housing patterns. All data presented in this report are broken out into comparisons across the three individual counties.

Why Income Inequality Should Matter to Silicon Valley

The economy is stronger when more people prosper, and high levels of inequality can have a detrimental effect on families and the overall health of the economy. A growing body of research, summarized below, looks at the link between inequality and economic outcomes, most notably economic mobility and economic prosperity. This research finds that the compounded effects of widening inequality, declining mobility, and declining prosperity threaten the economic well-being of individual families, the economic prospects of future generations, and longer-term economic growth.

The Link Between Income Inequality and Economic Mobility for Future Generations

Areas with greater income inequality are associated with less ability for low-income families to climb the economic ladder.³ Economic mobility – the ability for someone to move up the income scale – is an important measure of economic progress. However, inequality hinders economic mobility by limiting access to the kinds of investments needed for low-income families to advance. For instance, there is a strong link between inequality and the academic achievement gap of students, with children from high-income families outperforming children from low-income families. Given the importance of education for a child’s future economic success, this achievement gap may only cement the economic differences between low- and high-income households in the future.⁴

There are other indicators that inequality can have an adverse effect on someone’s economic future. For instance, income inequality is associated with negative health outcomes for children, and low-income children are more likely to experience levels of stress that

affect their education and by extension their future earnings potential.⁵

The Link Between Income Inequality and Economic Prosperity

High levels of inequality can also have an adverse impact on the economic well-being of families and overall economic prosperity. Inequality is shown to have a negative impact on the incomes of low- and middle-income households, suggesting that inequality may fuel income growth of high-income households *at the expense* of income growth for lower income households.⁶ This negative impact is documented, but *how* inequality can limit income growth for working families is still being debated. Two possible avenues through which inequality may decrease the incomes of low- and middle-income families are by limiting overall economic growth and by undermining public institutions. For instance, the consumption patterns of high-income households do not boost the overall demand of a region’s economy, thereby limiting the kind of growth that would be needed to lift incomes across the board. Moreover, high levels of inequality lead to unequally strong political influence for the highest-income households, and these households are often less willing to make the investments in public programs and services that are needed for income growth at other household income levels.⁷

Along with the emerging economic research that highlights the dangers of excessively high levels of inequality, other work is highlighting the importance of a strong and vibrant middle class for overall growth. Regions with a strong middle class – where a relatively large share of families have incomes around the middle of the income distribution – are shown to have better long-term economic growth, fueled by a more stable source of consumer demand and more investments in education, programs, and services that allow families to climb the economic ladder.⁸

The relationship discussed above between economic mobility and prosperity, as well as other linkages between inequality and economic outcomes, points to a cycle of compounding trends hindering prosperity for low- and middle-income families. If decision-

makers fail to implement good public policy to counter these patterns, the economic security of individuals, families, and our region will be further compromised and inequality will widen even more.

Silicon Valley's Role in Combatting Inequality

This growing body of research suggests that the path forward to a healthier and more inclusive economy for Silicon Valley means taking steps to ensure that more people prosper from economic growth. Furthermore, the overall wealth and entrepreneurism of the region present a unique opportunity to reshape how growth translates into an improved standard of living for families at all income levels.

Long-Term Trends Show a Generation of Widening Inequality in Silicon Valley

Silicon Valley is a more unequal place than it was a quarter-century ago. Multiple measures of inequality paint a clear picture: Despite years of robust economic growth and innovation, the economic gains have not reached working families at all income levels. Instead, income gaps have widened, the region's middle class has shrunk, and the punctuated prosperity of the region's wealthiest residents masks ground lost by Silicon Valley's most vulnerable individuals and families. As the section on more recent trends reveals, these long-term trends are then exacerbated by periods of economic downturn and recovery.

The Region's Low-Income Households Have Fared Poorly Over the Past Generation

Household incomes in Silicon Valley have grown further apart over the last 25 years as the region's income gains have been enjoyed almost entirely by

high-income households. Meanwhile, low-income households have actually seen income *declines* over the past generation: A low-income household in San Mateo, Santa Clara, and San Francisco counties has a lower income today than a similar household would have had in 1989, after adjusting for inflation (Figure 1).⁹

The erosion of incomes for Silicon Valley's low-income households is not unique to the region. The 20th percentile household income in Santa Clara County declined by 14.4 percent between 1989 and 2014, and it declined by 6.9 percent in San Mateo County.¹⁰ Similarly, the 20th percentile household income in San Francisco County declined by 5.1 percent in this period. Meanwhile, the *statewide* 20th percentile household income declined by 14.5 percent, a similar decline as seen in Santa Clara County.

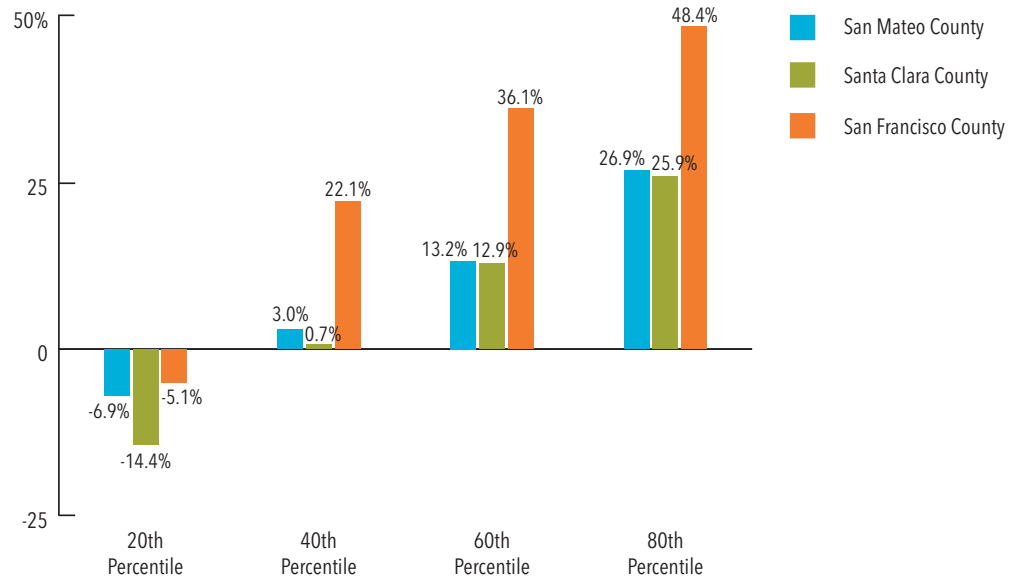
In contrast, Silicon Valley's high-income households have enjoyed significantly stronger income gains over the past generation than low- and middle-income households. Santa Clara County's 80th percentile household income was 25.9 percent higher in 2014 than in 1989, after adjusting for inflation, while San Mateo County's 80th percentile household income was 26.9 percent higher. San Francisco County's 80th percentile household income saw the most significant increase, climbing by *48.4 percent* in this period. Moreover, middle-income households – those with incomes at the 40th and 60th percentiles – have also seen substantial increases in San Francisco, with only low-income households faring poorly in this time period. These increases were much larger than what was seen in California overall: the 80th percentile household income for California rose just 5.1 percent in the same period.

These trends mean that there is now a wider gap between Silicon Valley's higher-income households and the region's lower-income households than 25 years ago. In 1989, households at Santa Clara County's 80th percentile household income level earned 3.5 times the income of households at the 20th percentile household income. By 2014, Santa Clara's 80th percentile household income was 5.1 times the 20th percentile household income. Similarly, San Mateo County's "income gap" between the 80th

FIGURE 1

Distance Between Silicon Valley’s High- and Low-Income Households Has Widened in Last 25 Years

Percent Change in Inflation-Adjusted Household Income, by Percentile, 1989 to 2014



Note: Data for 2014 reflects an average of 2012 to 2014.
Source: Budget Center analysis of US Census Bureau data



percentile household income and 20th percentile household income rose from 3.5 times to 4.9 times the 20th percentile, in the same period. San Francisco County’s income gap increased from 4.6 to 7.2 over the same period (See the technical notes for more information on this analysis.)

The Top One Percent: A League of Their Own

The wealthiest households in Silicon Valley – the top 1 percent – have enjoyed unparalleled prosperity in the last 25 years, pulling apart from the rest of the region’s average household income since at least 1989. The success of the top 1 percent contributes to the region’s overall economic growth, but it also masks the challenges low- and middle-income households experienced over the same period. While incomes generally have grown further apart over the past 25 years, as outlined in the previous section, incomes for the top 1 percent in particular have seen

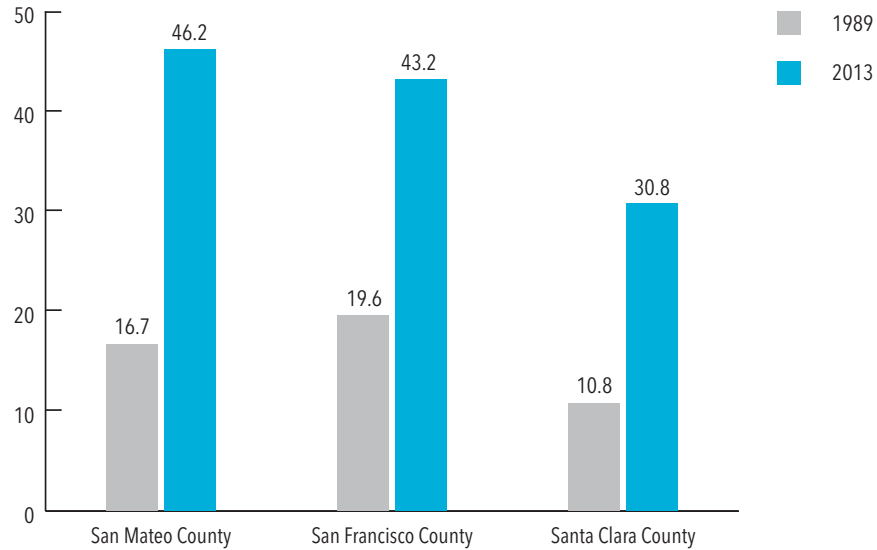
explosive growth, resulting in some of the largest income disparities in California.

The income gaps between Silicon Valley’s top 1 percent of households and the bottom 99 percent are among the widest in California and significantly wider than they were a generation before. The widest gap is in San Mateo County, where the average income of the top 1 percent in 2013 – \$4.2 million – was 46.2 times more than the average income of the bottom 99 percent (Figure 2). This gap is nearly three times what it was in 1989 (16.7). The second widest gap in California is in San Francisco County, where the average income of the top 1 percent – \$2.7 million – was 43.2 times the average income of the bottom 99 percent, up from 19.6 in 1989. Finally, the average income of Santa Clara County’s top 1 percent – \$2.7 million – was 30.8 times the average income of the bottom 99 percent, the sixth widest gap among counties in California and up significantly from 10.8

FIGURE 2

Silicon Valley's Income Gap Has Widened Over the Last 25 Years, Leading California

Ratio of the Average Incomes of Top 1 Percent to the Bottom 99 Percent, 1989 vs 2013



Source: Keystone Research Center analysis of Franchise Tax Board, Internal Revenue Service, Thomas Piketty and Emmanuel Saez (2003), US Bureau of Economic Analysis, and US Census Bureau data



in 1989. (See the technical notes for more information on this analysis.)

This widening of the gap between the top 1 percent and everyone else means that this small share of households now has a considerably larger share of the region's income than a quarter-century ago. Today, the top 1 percent's share of income in each of the three counties is among the highest of any county in California. In 2013, incomes for the top 1 percent of San Mateo County's households represented 31.8 percent of the county's total income, the highest share in California and more than double the 1989 share (14.4 percent). San Francisco County's top incomes also jumped from 16.6 percent in 1989 to 30.4 percent in 2013, the second highest share in California. Finally, Santa Clara County's top 1 percent saw their income share grow from 9.9 percent in 1989 to 23.7 percent in 2013 (Figure 3).

The dramatic growth in the incomes of households in the top 1 percent in Silicon Valley drives aggregate

economic growth that typically results in the region ranking among the highest-performing regions economically in the United States. But, the increasing concentration of wealth in the top 1 percent masks more troubling trends for the other 99 percent. This is evident for low-income households, as outlined above, and includes a hollowing out of Silicon Valley's middle class.

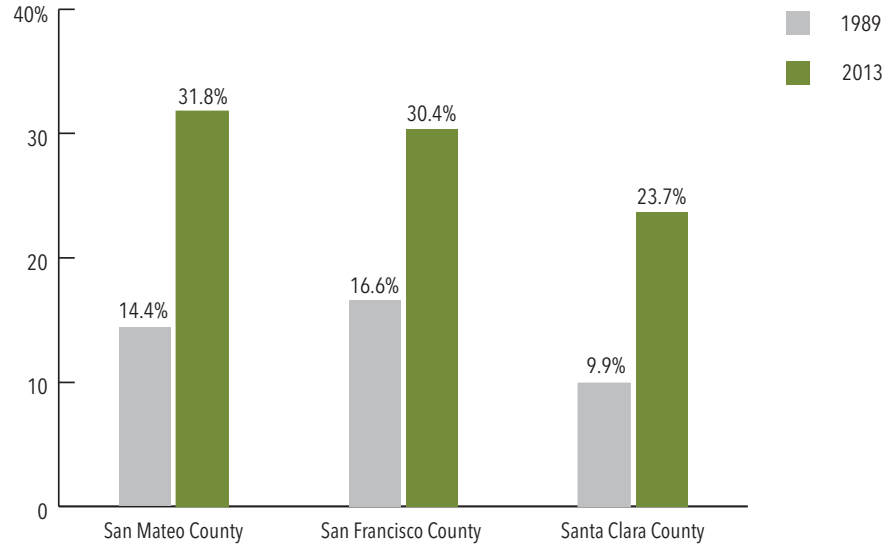
Silicon Valley's Middle Class Has Shrunk

As the incomes of low- and high-income households have moved away from each other, the size of Silicon Valley's middle class has shrunk. While there is no universal definition of a "middle class" household, one widely-used definition is a household income between 67 percent and 200 percent of the median household income, after adjusting for household size. (See technical notes for additional information.) According to this definition, Silicon Valley's middle

FIGURE 3

Silicon Valley's Top 1 Percent Hold a Much Larger Share of the Region's Income Than in 1989

Top 1 Percent's Share of Total County Income, 1989 vs. 2013



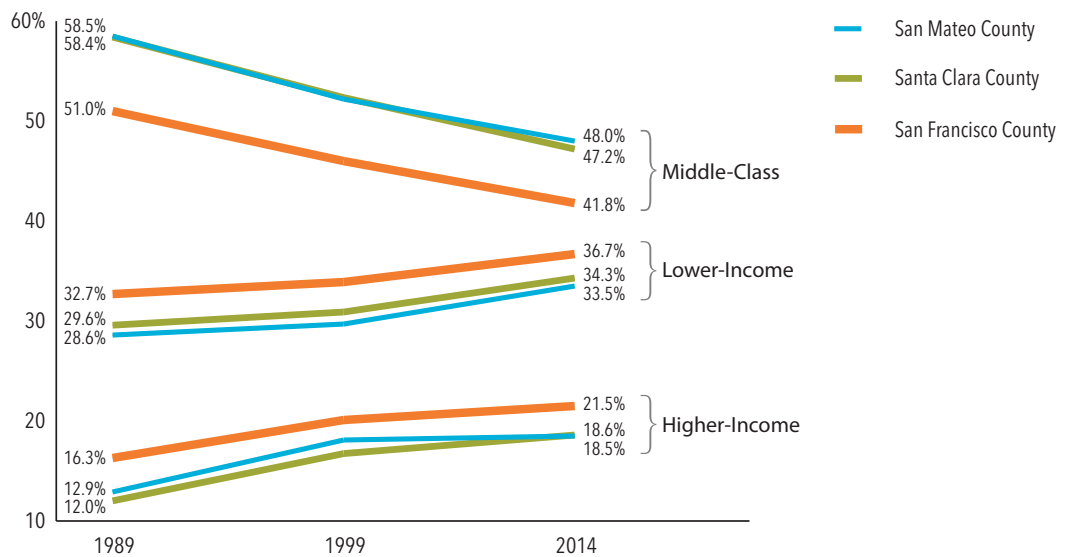
Source: Keystone Research Center analysis of Franchise Tax Board, Internal Revenue Service, Thomas Piketty and Emmanuel Saez (2003), US Bureau of Economic Analysis, and US Census Bureau data



FIGURE 4

Middle-Class Households in Silicon Valley Are Being Replaced With Low- and Upper-Income Households

Share of All County Households, by Income Segment, 1989 to 2014



Note: Data for 2014 reflects an average of 2012 to 2014.
Source: Budget Center analysis of US Census Bureau data



class has shrunk, while the numbers of households that have, over the same period, risen up or fallen down the economic ladder have increased. Specifically:

- **The share of middle-income households has fallen in Santa Clara, San Mateo, and San Francisco Counties.** In 1989, 58.4 percent of Santa Clara County households had middle-class incomes, and that share declined 11.2 percentage points to 47.2 by 2014. Both San Mateo County and San Francisco County have seen a similar trend: Between 1989 and 2014, the share of middle-income households in Santa Mateo County fell from 58.5 percent to 48.0 percent, and the share of middle-income households in San Francisco County fell from 51.0 percent to 41.8 percent (Figure 4).¹¹
- **The region's middle class has shrunk while the numbers of lower-income and higher-income households have grown.** The hollowing out of the middle class is due to the shares of higher-income households *and* lower-income households rising between 1989 and 2014, compared to the share of middle-income households. In all three counties, the share of households that were high-income households increased. At the same time, the share of low-income households has also increased in all three counties. It is likely that multiple forces combine to explain this trend.¹²

Regardless of the forces in play, a shrinking middle class presents serious challenges to the sustainability of Silicon Valley's economic growth. As noted earlier, regions with a strong middle class – that is, with a comparatively large share of middle-income households – demonstrate more capacity for long-term growth driven by more stable consumer demand and economic conditions, and investments in programs and services that support individuals and families climbing the economic ladder.

Recent Trends: New Challenges for Low- and Middle-Income Families

The current economic expansion has brought both opportunities and major challenges for Silicon Valley's low- and middle-income households. On one hand, Silicon Valley and the wider Bay Area have among the most robust job and wage growth in the nation since the Great Recession officially ended in 2009.¹³ On the other hand, rather than helping reverse the trends discussed in the preceding section, such as widening income gaps and a rising share of income held by the wealthiest households, this expansion has led to other challenges for low- and middle-income households. These challenges – stagnating incomes for low-income households, high costs of living, and the persistent problem of poverty – will need to be overcome if the region hopes to rebuild Silicon Valley's middle class and help ensure economic growth leads to more economic gains for households at all income levels.

Income Gains in Current Expansion Have Been Slow to Reach Low-Income Households

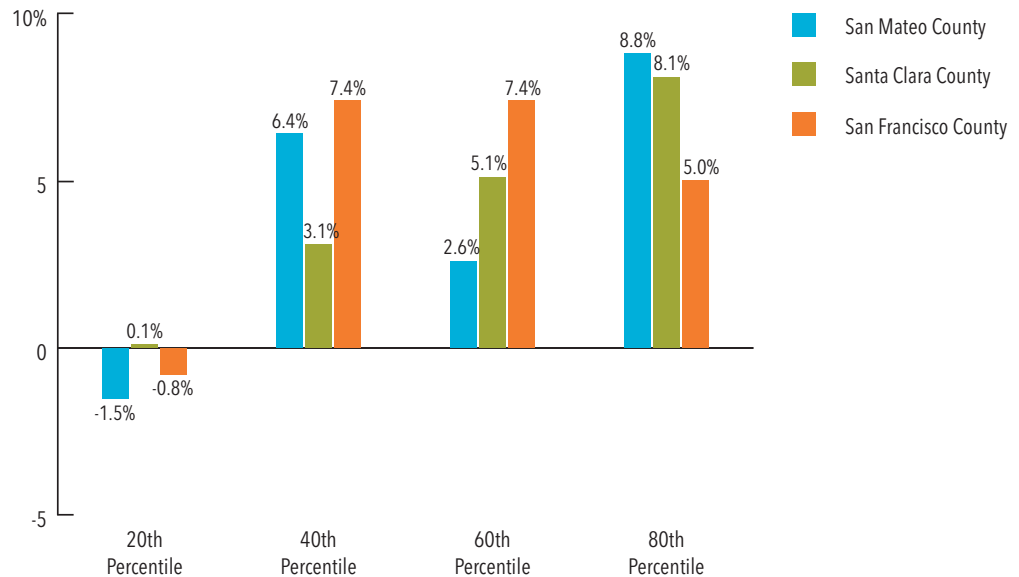
Low-income households have seen the slowest recovery of their incomes from the Great Recession. In 2014, the 20th percentile household incomes in all three counties were virtually unchanged from their 2009 levels, after adjusting for inflation.

The stagnant incomes for Silicon Valley's low-income households are in direct contrast to the growth of incomes higher up the income distribution. In 2014, Santa Clara County's 80th percentile household income was 8.1 percent higher than it was in 2009,

FIGURE 5

Earnings of Silicon Valley’s Low-Income Households Have Stagnated Despite Current Economic Expansion

Percent Change in Inflation-Adjusted Household Income, by Percentile, 2009 to 2014



Source: US Census Bureau



after adjusting for inflation. Similarly, San Mateo County’s 80th percentile household income was 8.8 percent higher and San Francisco County’s 80th percentile household income was up 5.0 percent (Figure 5).¹⁴ Moreover, household incomes at the 40th and 60th percentile are also up in this period, suggesting that middle-income households in the region are seeing income gains as well.

Half of All Income Gains Have Flowed to Just the Top 1 Percent of Households

Much of the region’s robust growth has primarily benefited the wealthiest households. While incomes for middle-income households are rising, this growth pales in comparison to the growth seen among the highest-income households (the top 1 percent of households). In fact, in Santa Clara, San Francisco, and San Mateo counties, around half of all the income gains generated in this recovery have been enjoyed

by only the top 1 percent of households. Between 2009 and 2013, the average income of the top 1 percent of Santa Clara County’s households climbed by 83.2 percent, and these households captured 50.9 percent of total income growth in this period. San Francisco County’s top 1 percent of households saw their average income climb by 51.3 percent and captured 54.2 percent of total income growth in this period. Finally, San Mateo County’s top 1 percent climbed by 36.2 percent, and income growth for these households captured 49.5 percent of all income growth.

Poverty and Economic Insecurity Remain a Persistent Challenge for Silicon Valley Residents

Poverty and economic insecurity remain a challenge for many residents in Silicon Valley. Despite the region’s relative wealth and strong job market, many households are being left behind in the current

economic expansion. The fact that those who are living in poverty today are unable to find their economic footing despite such a strong job market suggests that more must be done to rebuild the economic ladder that allows access to the region's opportunities.

While the region's overall poverty rates are relatively low, many residents in Silicon Valley – in particular, Santa Clara County – still live in high-poverty areas. This is important since families living in areas with relatively high poverty rates face additional barriers to economic opportunity because the issues of poor housing conditions, fewer job opportunities, and higher crime rates are intensified in these areas.¹⁵ Overall, 12 percent of San Francisco County's residents, 8.4 percent of Santa Clara County's residents, and 7.3 percent of San Mateo County's residents lived in poverty in 2014, rates that are considerably lower than the statewide average of 16.4 percent.¹⁶ However, many of these residents live in areas of concentrated poverty. This is particularly true in Santa Clara County and San Francisco County, where roughly *one in three* people living in poverty live in areas with poverty rates above 20 percent.¹⁷ These neighborhoods include parts of Eastside San José, Castlemont, downtown Gilroy, and San Francisco's Bayview-Hunters Point. In contrast, San Mateo County has far less concentrated poverty, with 12.7 percent of the 55,700 people living in poverty residing in similar high-poverty neighborhoods.

High Costs of Living Jeopardize Access to Good Jobs

Silicon Valley's high costs of living put an additional strain on families and further jeopardize their ability to access the region's ample job opportunities. The high costs of living are driven in large part by housing costs – high home prices and high rents. The current economic expansion, which began in 2009, has intensified the gap between incomes and the cost of housing. Incomes for low-income households have been slow to recover from the Great Recession, with the 20th percentile household income around the same level it was in 2009. (This income for the three

counties only changed by between -1.5 percent and 0.1 percent between 2009 and 2014.) At the same time, the costs of rentals – the most likely form of housing for most 20th percentile households – have climbed rapidly. Between 2009 and 2014, the median rent rose by 14.0 percent in Santa Clara County, 12.2 percent in San Mateo County, and 5.5 percent in San Francisco County.¹⁸ These rising rents can place a number of stresses on families. Specifically:

- **High costs of housing make families more financially vulnerable.** Housing is a key budget item that families cannot simply ignore, and rising costs can erode financial stability and make it more difficult to make ends meet. For instance, estimates of poverty that take into account the region's high costs of housing show that economic hardship is much more common than the federal poverty line indicates, with 18 percent of Santa Clara County's households, 17 percent of San Mateo County's households, and 22.6 percent of San Francisco County's households living in poverty in 2012.¹⁹ In other words, once these costs are taken into account, almost one in five residents in Silicon Valley are coping with significant economic hardship.
- **Rising housing costs can drive families out of the region, limiting their access to Silicon Valley's opportunities.** The high costs of housing can lead to families being displaced into other parts of the Bay Area or into different regions altogether. As of 2013, more than half of low-income households were at risk of having to move as a result of housing costs.²⁰ Being forced to move due to increasing housing costs, or "displacement," can result in poorer economic outcomes for these families if it jeopardizes their access to Silicon Valley's job market.²¹ While income growth has been slow to reach low-income families in Silicon Valley, it is still desirable to live in the region because incomes for low-income households still tend to be higher than in other parts of California, and job opportunities still tend to be more ample than in other parts of California.

- **High housing costs are exacerbated by limited transportation options.** The high costs of housing, in combination with limited transportation options for those priced out of living in the region, means that accessing the region's labor market comes with other challenges, including higher transportation costs and lower quality of life due to time spent commuting and away from home.

Local and State Policies Can Promote Inclusive Growth in Silicon Valley

Creating an inclusive regional economy will require a sustained, multifaceted approach to ensuring that working families across the income distribution can reside in Silicon Valley and make a living. The recent and long-term trends described in this report highlight the need for intentional policy action in two key areas.

First, recent economic trends show that economic growth plays a key role in improving income levels, and state and local policy should aim to (a) ensure economic growth benefits workers who are either currently priced out of the region or facing displacement because of high housing costs, and (b) provide additional public assistance to offset the barriers to economic security and opportunity.²² More opportunities for lower-income workers seeking higher pay, in combination with public assistance, would promote broader economic growth.²³

Second, robust overall growth for the region is not enough. Growing prosperity has benefited wealthy households disproportionately more than any other income group, particularly in a region with high costs of housing and limited transportation options. Public policy must play a role in ensuring that this economic growth better reaches lower-income families. This

means investing in the services that help families make ends meet and climb the economic ladder.

Some of the strategies that a multifaceted policy approach might include are:

- **Prioritizing housing and transportation policy in response to widening inequality and economic insecurity.** Ensuring that workers can live in this high-cost region through affordable housing opportunities would be a major driver of financial security and help foster economic growth. This means a mix of efforts to reduce the financial burden of housing costs, increase access to affordable housing options, and expand transportation options for workers priced out of the region and living elsewhere.
- **Boosting income conditions for low-income households.** The decrease in incomes specific to lower-income households over the past generation calls for policies tailored to these households' challenges. Such policies should include efforts to improve and protect working conditions (providing family leave, preventing wage theft, ensuring fair scheduling practices) and promote the usage of – and possibly expand – California's new state Earned Income Tax Credit (EITC), a refundable tax credit that can put hundreds of dollars into the pockets of low-income working households.²⁴
- **Expanding access to programs that help workers find and keep good jobs.** Education, workforce training, and child care programs all allow workers to be more competitive in the workforce. Focusing on lifting the skill sets of workers through education and training will allow them to access better jobs, while access to affordable child care will help parents balance the needs of family and work.

Examining Housing Policies as One Way to Address Economic Insecurity

Each of the above goals requires an ambitious policy response. Looking at the area of housing in greater depth, an effective state and local policy framework

for improving the affordability of housing would combine relief to renters as well as bolster efforts to build additional affordable housing in Silicon Valley.²⁵ This could include efforts to:

- Expand or redesign the state’s renter’s credit.** California currently offers a modest tax credit to eligible renters.²⁶ However, this credit is poorly targeted because it fails to adjust for variations in income by region, which would require a larger credit for high-cost areas such as Silicon Valley. The credit also does little to relieve renters of the financial burdens created by high housing costs. State policymakers could strengthen the renter’s credit so that it is regionally targeted, reaches more households, and provides a higher level of relief. For example, policymakers could expand eligibility or make the credit larger. They could also base the size of the credit on regional rents rather than on a standard statewide amount as is now done. This would give the region’s renters a relatively larger income boost and additional resources to cope with rising costs of living.
- Create or expand programs that help support affordable housing development.** Recent statewide efforts to fund or expand programs that would help fund the construction of affordable housing have stalled, including efforts to fund the California Housing Trust Fund, which would help support the construction of affordable housing. Creating a permanent source of these kinds of funds – statewide or regionally – would help create funding for units that are accessible to low-income families. Like efforts to expand the renter’s credit, recent attempts to expand California’s Low-Income Housing Tax Credit have dead-ended.
- Adopt robust “inclusionary zoning” policies or ensure implementation of current policies.** Inclusionary zoning policies aim to expand the supply of affordable housing by requiring or encouraging developers to make a certain percentage of housing units in new residential developments – usually 10 to 20 percent of the units – affordable to low- and moderate-income households. California does not require communities to adopt inclusionary zoning policies,

though some major cities like San José do have such policies in place that could be used as models for other local and regional policies. These policies are shown to increase affordability for some renters while not slowing the overall rate of housing construction.²⁷

- Implement other policies that give affordable housing an edge in the development process.** A number of existing land use controls and related regulations place a drag on the development of affordable housing by increasing development costs and timelines. To address these delays, local policymakers could streamline processes by building off recent state legislation that eased the requirements for parking at affordable housing units, which lowers the cost of developing affordable housing.²⁸ Moreover, policymakers could streamline or bypass the permitting process for the construction of affordable units, as recently proposed by Governor Brown and leadership in the California Senate.²⁹
- Invest in regional transportation infrastructure that connects workers to good jobs.** While efforts are needed to address the supply of and access to affordable housing, it is unrealistic to expect that policymakers can increase the housing supply to a level that can be truly affordable for all residents. Some workers in the region will continue to be priced out of the available housing.

Silicon Valley leaders must therefore work with state and regional partners to ensure that workers from around the region can access job opportunities located throughout Silicon Valley through a mix of expanded and alternative transportation options. Highways and roads are operating at peak levels, so leaders must look at alternative forms of transportation. These investments should focus on creating more robust and intermodal transportation networks, such as locating transit lines near areas with the highest concentration of employment opportunities.³⁰

The above policy framework – which includes an ambitious mix of housing supply and renter relief efforts – addresses the issue of housing costs from

a number of directions. Similarly, equally robust approaches toward addressing income inequality should be adopted across a range of other policy areas – the Earned Income Tax Credit (EITC), minimum wage levels, and efforts to address emerging trends in contingent work that threaten to further depress wages and income levels. Such policy choices could help ensure that future growth translates into more equitable growth.

In summary, while Silicon Valley still enjoys robust economic growth relative to many regions around the country, the economic gains that accrue from that growth are increasingly concentrated in the hands of high-income households. Meanwhile, more and more low- and middle-income individuals and families are struggling to make ends meet. Income growth for low-income households has been comparatively weak, and families toward the lower end of the economic spectrum are further squeezed by rising costs of living. Compared to 25 years ago, the incomes of the wealthiest households and others are pulling farther apart and the region's middle class is smaller. In short, Silicon Valley is a far more unequal place than it used to be.

Left unchecked, these trends threaten the sustainability of the region's growth. The challenge for regional and state leaders who hope to ensure that Silicon Valley continues to be a source of economic growth in California is developing a multifaceted policy agenda – and the political will to implement that agenda – to reverse the region's widening income inequality.

Technical Notes

Analysis of Income Percentiles

Much of the data used in this report come from the University of Minnesota's Integrated Public Use Microdata Series (IPUMS). Data for 2009 to 2014 are from the US Census Bureau's American Community Survey, and data for 1989 and 1999 are from the 1990 and 2000 decennial census. Because these data

represent a sample of the population, they should be viewed as estimates subject to sampling error.

County-level data reflect combined public-use microdata areas (PUMA) data from the US Census Bureau, which are the smallest geographies available in these public-use datasets. PUMAs are recoded to make consistent comparisons over time. All data are adjusted to 2014 dollars using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS).

Analysis of Silicon Valley's "Middle Class"

There is no single definition of middle class. In addition to economic factors, some include cultural or education identifiers to define the middle class. This report adopts the definition used by a number of researchers and analysts: A household is middle class if their size-adjusted income falls between 67 percent and 200 percent of the typical size-adjusted household income.³¹ In this case, middle class reflects the number of people with incomes, after adjusting for household sizes, around the middle of the distribution.

Household incomes are adjusted for household size to better reflect the share of households at a certain standard of living. Larger households need more income to support themselves, but nationally households are getting smaller. This report uses the methodology used by the US Congressional Budget Office (CBO), which is to divide household income by the square root of the number of people in the household.³² The logic of this adjustment is that the amount of additional income a household needs to support each additional new member gets smaller. For example, if a four-person household has a total income of \$80,000, their size-adjusted household income is \$40,000 (\$80,000 divided by the square root of 4). If a single-adult household has a total income of \$40,000, their size-adjusted household income is \$40,000 (\$40,000 divided by the square root of 1). In this scenario, the single-adult household is considered financially better off because his or her income needs to support only one person.

Analysis of the Top 1 Percent

Most analyses of income inequality trends use survey data from the US Census Bureau. However, such Census data are not appropriate for estimating incomes at the very top of the income distribution because the US Census Bureau “top codes” their data. This means that for privacy and data quality reasons, the Bureau sets certain reported incomes at a maximum value, even if the survey respondent reports an income higher than that value. Income tax records therefore offer a better option for examining income trends at the top.

California’s Franchise Tax Board (FTB) publishes summary statistics on the top 1 percent of earners, but does not publish estimates of the top 1 percent of households at the county level. Instead, the FTB publishes estimates of the number of tax filers by income bracket. The Budget Center worked with Mark Price of the Keystone Research Center to impute estimates of the top 1 percent of households in each county using the properties of the “Pareto Distribution,” which is used to model the general distribution of income in a nation. This methodology uses the Franchise Tax Board data in combination with estimates of overall income and an estimate of the number of *potential* taxpayers to impute top incomes

and the share of overall income going to high-income taxpayers. Overall income for each area is calculated using personal income data from the US Bureau of Economic Analysis, and this income data reflects income before taxes and government transfers. Data for potential taxpayers come from updated national estimates from Thomas Piketty and Emmanuel Saez, “Income Inequality in the United States, 1913 – 1998,” *Quarterly Journal of Economics* 118 (2003), which are then allocated to individual counties based on data from the US Census Bureau. All income data are adjusted for inflation using the Consumer Price Index – Research Series.

The Keystone Research Center’s methodology, developed by Estelle Sommeiller and Mark Price, builds on work done by Thomas Piketty of the Paris School of Economics and Emmanuel Saez of the University of California, Berkeley, in order to impute top incomes at the state and county levels. For a detailed overview of their methodology and the assumptions made in producing the California estimates, see Estelle Sommeiller and Mark Price, *The Increasingly Unequal States of America* (Economic Analysis and Research Network: February 2014), and Mark Price et al., *Divergent Fortunes: Top Incomes and the Middle Class in Pennsylvania* (Keystone Research Center: September 2014).

ENDNOTES

- ¹ See Luke Reidenbach, *A Closer Look at Job Creation in California’s Regions* (California Budget & Policy Center: September 2013) for an analysis of growth in nonfarm employment in California’s metropolitan areas and Luke Reidenbach, Mark Price, Estelle Sommeiller, and Ellis Wazeter, *The Growth of Top Incomes Across California* (California Budget & Policy Center: February 2016) for an analysis of income and wage gains in California’s metropolitan areas.
- ² There is no single definition of low- and middle-income. This report adopts definitions based on the availability of data that are commonly used by researchers and analysts. Low- or lower-income is defined as those households with incomes below 67 percent of the median household income. A second definition looks at the distribution of incomes in quintiles. Low-income is defined as those at or below the 20th percentile – those households with incomes between zero and 20 percent of the distribution of income. Please see the “Technical Notes” section at the end of this report for an explanation of the report’s definition of middle-income/middle class. The charts and figures presented here delineate the definition used in each instance.
- ³ Most recently, Raj Chetty et al., *Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States* (NBER: May 2015) points to key factors in determining economic mobility. One factor strongly correlated with mobility was low levels of income inequality. See also Katherine Bradbury and Robert K. Triest, *Inequality of Opportunity and Aggregate Economic Performance*, (Federal Reserve Bank of Boston: October 2014) for a detailed review of the existing body of literature on the links between inequality and opportunity and mobility. One of their findings is that inequality has a negative relationship with children’s upward mobility.
- ⁴ Sean Reardon, *The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations*, in Greg Duncan and Richard Murnane, eds., *Wither Opportunity: Rising Inequality, Schools, and Children’s Life Chances* (Washington, DC: Russell Sage Foundation, 2011), pp.99-117.

- ⁵ See Karen Rowlingson, *Does Income Inequality Cause Health and Social Problems?* (Joseph Rowntree Foundation: August 2011) for a review of the existing body of literature on the relationship between inequality and health outcomes, and Jack P. Shonkoff, et al., *The Lifelong Effects of Early Childhood Adversity and Toxic Stress*, (*Pediatrics* 129:1: 2012) for a discussion of the impacts of toxic stress on long-term outcomes.
- ⁶ See Roy Van der Weide and Branko Milanovic, *Inequality Is Bad for Growth of the Poor (But Not for That of the Rich)*, World Bank Policy Research Working Paper 6963 (World Bank: July 2014) and Jeffrey Thompson and Elias Leight, *Searching for the Supposed Benefits of Higher Inequality: Impacts of Rising Top Shares on the Standard of Living of Low and Middle Income Families*, (Political Economy Research Institute: 2011) for additional discussion about drivers of long-term economic growth and the adverse impact of high levels of inequality.
- ⁷ See Jeffrey Thompson and Elias Leight (2011) for more discussion of possible ways that inequality can harm growth.
- ⁸ See Heather Boushey and Carter Price, *How Are Economic Inequality and Growth Connected? A Review of Recent Research* (Washington Center for Equitable Growth: October 2014) and Chris Benner and Manuel Pastor, *Equity, Growth, and Community: What the Nation Can Learn From America's Metro Areas*, (University of California Press: Routledge, 2015) for a review of literature on the adverse economic growth impacts of high levels of inequality and the importance of the middle class for growth levels. Moreover, see also Heather Boushey and Adam S. Hersh, *The American Middle Class, Income Inequality, and the Strength of Our Economy*, (Center for American Progress: May 2012) for a review of reasons why the middle class is vital for economic prosperity.
- ⁹ This analysis compares today's analysis with 1989 for a number of reasons. First, some sources of data used in this analysis that rely on tax records cannot be compared prior to the implementation of the federal 1986 tax reform, which changed the definition of taxable income. Second, county-level data prior to 2005 and the implementation of the American Community Survey is only available through the decennial census, which records incomes for the prior year.
- ¹⁰ Data for 2014 reflect an average of 2012 to 2014.
- ¹¹ Data for 2014 reflect an average of 2012 to 2014.
- ¹² The analysis of households at different income levels does not track the same group of residents over time, so we cannot say exactly what is causing these trends. They may be the result of middle-income households moving up or down the income spectrum. The migration of middle-income households out of Silicon Valley and high- and low-income households moving into the region may be other factors. For example, the most recent Silicon Valley Competitiveness and Innovation Project found that for the first time since 2011, net migration in Silicon Valley was negative, meaning that more Silicon Valley residents left the region for other parts of the U.S. than arrived from other parts of the U.S., in *Silicon Valley Competitiveness and Innovation Project – 2016 Update* (Silicon Valley Community Foundation: March 2016).
- ¹³ US Bureau of Labor Statistics.
- ¹⁴ US Census Bureau. Because of the sample size of single-year county data, these data should be viewed as estimates of broad income trends.
- ¹⁵ See Brookings Institution and the Federal Reserve System, *The Enduring Challenge of Concentrated Poverty in America: Case Studies From Communities Across the U.S.A.* (2008).
- ¹⁶ US Census Bureau.
- ¹⁷ US Census Bureau. Estimates reflect the number of individuals in poverty rounded to the nearest 100 and present the average number of people in poverty for years 2010 and 2014. "Neighborhoods" reflect Census Tract geographic boundaries. The "poverty area" threshold is based on Alemayehu Bishaw, *Changes in Areas With Concentrated Poverty: 2000 to 2010*, (US Census Bureau: June 2014).
- ¹⁸ US Census Bureau.
- ¹⁹ Sarah Bohn, Caroline Danielson, and Monica Bandy, *Poverty in California*, (Public Policy Institute of California: December 2015). Data reflect an average of years 2011 to 2013.
- ²⁰ Miriam Zuk et al., *Urban Displacement Project* (University of California, Berkeley: 2015).
- ²¹ See for example *A Growing Problem*, by Heather Boerner in the *Silicon Valley Community Foundation Magazine* (Silicon Valley Community Foundation: Fall 2015).
- ²² Public assistance to help facilitate people's ability to afford market rate housing can take a variety forms including tax credits (such as renter's credits) and government subsidies (such as housing vouchers and programs that provide direct cash assistance).
- ²³ Boosting affordable housing options can also benefit overall economic growth beyond Silicon Valley. A constrained housing supply limits the entire nation's economic growth by preventing many from accessing job opportunities in these economically productive regions. See Chang-Tai Hsieh and Enrico Moretti, *Why Do Cities Matter? Local Growth and Aggregate Growth*, NBER Working Paper No. 21154 (May 2015).
- ²⁴ See Chris Hoene, *Creating a State Earned Income Tax Credit (EITC): Key Budget Center Resources on the Issue*, (California Budget & Policy Center: May 2015) for additional information on this new state credit.
- ²⁵ The gap between the demand for housing and the supply of available units is large enough across California that state and local governments are unlikely to be able to build their way out of the current situation. By one estimate, California would have needed to build 70,000 to 110,000 of housing units each year between 1980 and 2010 to meet demand and maintain home prices at the national average, a substantial gap between demand and supply that helps create the current affordability crisis. See Legislative Analyst's Office, *California's High Housing Costs: Causes and Consequences* (March 2015).

- 26 The renter's credit is available to households with incomes up to \$75,536, depending on one's filing status. The credit is nonrefundable, which means it is only available to those with tax liability and therefore does not reach the lowest-income households.
- 27 Ann Hollingshead, *When and How Should Cities Implement Inclusionary Housing Policies?* (Cornerstone Partnership: 2015).
- 28 AB 744 (Chau, Chapter 699 of 2015).
- 29 See the May Revision to the Governor's Proposed 2016-17 Budget at www.dof.ca.gov.
- 30 Jed Kolko, *Making the Most of Transit: Density, Employment Growth, and Ridership Around New Stations*, (Public Policy Institute of California: 2011).
- 31 See Pew Research Center, *Fewer, Poorer, Gloomier: The Lost Decade of the Middle Class* (August 2012) and Mark Price et al., *Divergent Fortunes: Top Incomes and the Middle Class in Pennsylvania* (Keystone Research Center: September 2015) for examples of use of this definition of "middle class."
- 32 Congressional Budget Office, *Trends in the Distribution of Household Income Between 1979 and 2007* (October 2011).