ECONOMIC OUTLOOK

Two years after the end of the COVID-19 Recession—the worst recession since the Great Depression—the U.S. and California economies have continued to steadily recover, surpassing their pre-COVID-19 Pandemic GDP levels in the first half of 2021 and adding back about nine out of every ten jobs lost during the recession as of March 2022. The May Revision economic forecast projects the U.S. and California economies to continue to recover and to grow steadily through 2025. However, real (adjusted for inflation) economic growth has been slightly downgraded compared to Governor's Budget projections due to continuing global supply chain bottlenecks, international economic sanctions in response to the Russian invasion of Ukraine, tighter monetary policy with several planned interest rate hikes, and persistently high inflation.

While both GDP and nonfarm employment grew faster in 2021 than projected at Governor's Budget, inflation has continued to accelerate and reached its fastest rate in four decades during the first quarter of 2022. In response, the Federal Reserve increased interest rates by 0.25 percentage point in March—the first increase in more than three years—and by an additional 0.50 percentage point in early May. The Federal Reserve also signaled that more interest rate hikes are likely through the rest of the year. This is a much more aggressive monetary policy stance than what was incorporated in the Governor's Budget forecast, which had assumed that interest rates would not increase until 2023. The aim of these monetary policy changes is to curtail inflation by marginally slowing demand, putting less strain on supply chains. The May Revision forecast assumes that the tighter monetary policy will lead to slightly slower economic growth as higher interest rates make borrowing, debt-service, and investing more expensive.

Despite the wave of COVID-19 Omicron infections last winter, U.S. and California employment continued to grow as individuals and businesses adjusted to COVID-19. As with the Governor's Budget, the May Revision forecast assumes that the ongoing pandemic will not lead to any further major disruptions to the economy. The expected impacts of the federal Infrastructure Investment and Jobs Act remain in the May Revision forecast, with a gradual and peak effect of raising national and state employment levels by around 0.5 percent in 2025.

The May Revision forecast incorporates an initial assessment of the economic, financial, and political implications of the Ukraine-Russia war, which is estimated to have a moderate drag on economic growth in the near term. The Ukraine-Russia war is assumed to indirectly impact the state's economy through higher global food and energy prices, as well as through additional disruptions to the already strained supply chain systems. These recent events in Ukraine, as well as COVID-19 lockdowns in China, are expected to delay the resumption of normal supply chain operations by several quarters compared to what was assumed in the Governor's Budget. Consequently, the reversion of inflation to pre-pandemic rates of slightly above 2 percent and 3 percent for the U.S. and California, respectively, is now projected for late 2023, or about a year later than expected in the Governor's Budget.

While growth is projected to continue, near-term risks and uncertainties have been heightened. Increased uncertainty has already led the stock market into correction territory and consumer confidence fell by March to its lowest level in a decade. To the extent that key events play out worse than assumed in the May Revision forecast—another disruptive surge in COVID-19 cases in the U.S. or globally, a more severe variant of the virus, persistent labor market frictions, a larger negative impact of tighter monetary policy, escalation of the Ukraine-Russia war, or extended global supply chain disruptions—economic output might be lower than projected, with important consequences for the Administration's revenue forecast. However, a faster-than-expected easing of supply chain constraints could help alleviate inflationary pressures and support even stronger growth in economic activity.

REMARKABLE ECONOMIC GROWTH IN 2021

After contracting by 10 percent in just two quarters in the first half of 2020, the largest contraction in recorded history, California real GDP rebounded quickly and recovered to its pre-pandemic level in the first quarter of 2021—one quarter earlier than for the nation. In 2021, both the state and the U.S. experienced their fastest annual real GDP growth since 1984—7.8 percent and 5.7 percent, respectively. California's share of U.S.

real GDP increased to 14.8 percent in 2021, up from 14.4 percent in 2019. As of the fourth quarter of 2021, California real GDP was 6.1 percent above its pre-pandemic level, compared to 3.1 percent above for the nation.

In line with strong GDP growth, California's nonfarm employment recovery exceeded expectations, increasing by 3.2 percent in 2021, its largest annual growth since 2000, and compared to 2.8 percent projected in the Governor's Budget. In November 2021 when the Governor's Budget economic forecast was finalized, California and the U.S. had recovered 70 percent and 80 percent of jobs lost during the pandemic, respectively. Since then, as of March, the state has recovered about 90 percent of the jobs lost in March and April 2020. (Much of the improvement since Governor's Budget was due to annual data revisions.) California's job gains accounted for 12.1 percent of the 20.4 million jobs recovered by the nation since the height of the pandemic, slightly higher than California's pre-pandemic share of national nonfarm employment (11.6 percent), although the state also accounted for a disproportionately greater share of jobs lost during the recession. As of March 2022, California and the U.S. remained 1.7 percent (300,000 jobs) and 1 percent (1.6 million jobs) below their February 2020 pre-pandemic peaks, respectively.

After averaging 7.4 percent in 2021, California's unemployment rate fell to 4.9 percent in March 2022—0.8 percentage point above its pre-pandemic low of 4.1 percent in February 2020. As of March 2022, the U.S. unemployment rate was only 0.1 percentage point above its pre-pandemic low of 3.5 percent in February 2020. (See figure on California and U.S. Recovery to Date.)

A robust nonfarm job recovery and a tight labor market led to a second consecutive year of strong average wage growth—8.6 percent in 2021 following 10.9 percent in 2020. The substantial growth in total wages and salaries, which is the product of average wages and nonfarm employment, kept personal income growth at a high 8.5 percent in 2021 despite a much lower contribution of transfer payments due to the expiration of pandemic-related assistance programs. Despite the worst recession since the Great Depression, personal income actually increased in 2020 by 8.6 percent—nearly twice as large as its 2019 pre-pandemic rate of 4.6 percent. This was due largely to the extraordinary growth in transfer payments of 47.3 percent. In 2021, the strong performance of personal income was more indicative of a growing economy as most personal income components experienced solid growth.

California and U.S. Recovery to Date

	Pre-pandemic Peak	Peak-to-Trough Decrease	Most Recent Data[1/]	Percent Change from Pre-pandemic Peak
California Real GDP	$2.776 Trillion (2019 Q4)	-10.1% (2020 Q2)	$2.946 Trillion (2021 Q4)	6.1% (2021 Q4)
U.S. Real GDP	$19.202 Trillion (2019 Q4)	-10.1% (2020 Q2)	$19.806 Trillion (2021 Q4)	3.1% (2021 Q4)
California Nonfarm Employment	17.7 Million Jobs (Feb 2020)	-15.6% (Apr 2020)	17.4 Million Jobs (Mar 2022)	-1.7% (Mar 2022)
U.S. Nonfarm Employment	152.5 Million Jobs (Feb 2020)	-14.4% (Apr 2020)	150.9 Million Jobs (Mar 2022)	-1.0% (Mar 2022)
	Pre-pandemic Low	**COVID-19 Recession Peak**	**Most Recent Rate[1/]**	**Percentage Point Difference from Pre-pandemic Low**
California Unemployment Rate	4.1% (Feb 2020)	16.1% (May 2020)	4.9% (Mar 2022)	0.8% (Mar 2022)
U.S. Unemployment Rate	3.5% (Feb 2020)	14.7% (April 2020)	3.6% (Mar 2022)	0.1% (Mar 2022)

[1/] Time period based on most recent state data available.

Source: U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; CA Employment Development Department, Labor Market Information Division.

THE FORECAST: CONTINUED GROWTH

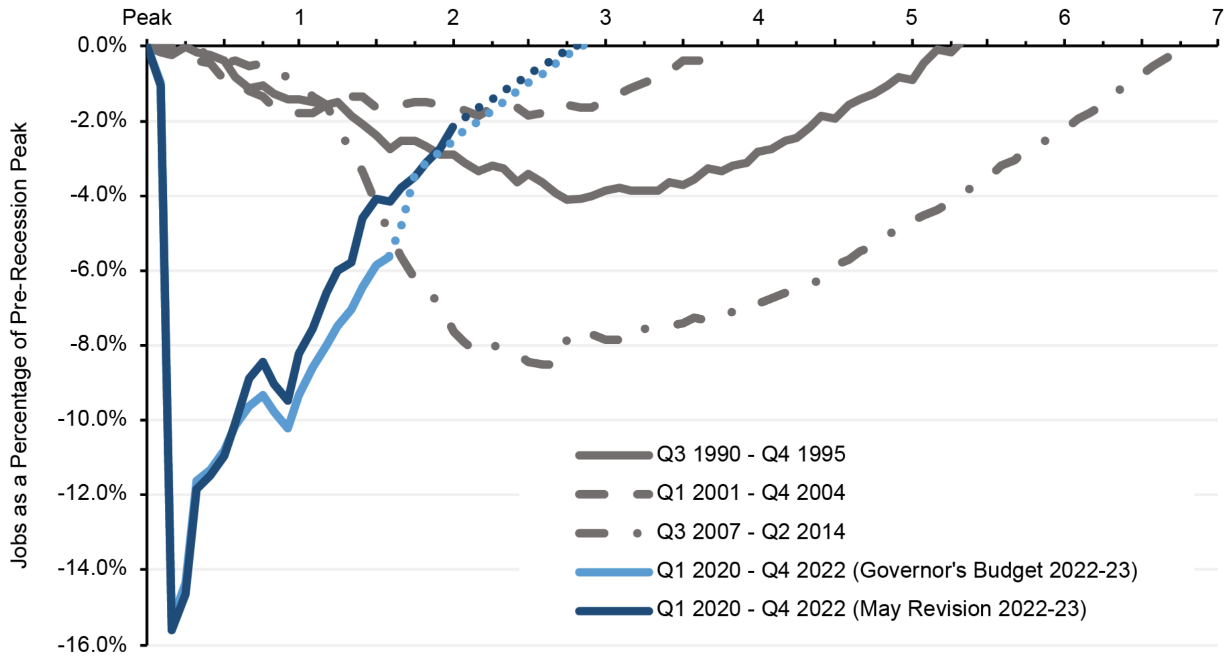
Economic growth is expected to continue, albeit at a slightly slower rate than projected at Governor's Budget due to persistent global supply chain bottlenecks, international economic sanctions in response to the Russian invasion of Ukraine, tighter monetary policy, and persistently high inflation. U.S. real GDP growth in 2022 has been downgraded notably—3 percent compared to 4.3 percent assumed in the Governor's Budget forecast—with steady but somewhat lower real GDP growth projected thereafter. (See Figure on Economic Indicators at the end of this chapter.)

LABOR MARKET NEARING RECOVERY

California's nonfarm employment is also expected to continue its steady growth and is projected to recover to its pre-pandemic level in the fourth quarter of 2022, unchanged from the Governor's Budget projection. (See figure on California Job Losses and Years to Recovery.) This projected nonfarm job recovery for the U.S. is one quarter earlier than for California, also unchanged from the Governor's Budget, and in line with the nation's slightly higher share of jobs recovered to date. Nonfarm employment is projected to grow by 4.4 percent in 2022, before slowing to 0.8 percent by the end of the forecast period, in line with California's projected labor force growth.

The May Revision forecast projects both high- and low-wage sector groups in California to recover in the fourth quarter of 2022. Low-wage sectors—defined as sectors with

California Job Losses and Years to Recovery
(Years After Nonfarm Employment Peak)



Blue dotted lines indicate projected values.
Lines start from the quarter of each nonfarm employment pre-recession peak.
Source: CA Employment Development Department, Labor Market Information Division; CA Department of Finance, May Revision Forecast.

average wages below the 2019 average wage for all industries—consist of leisure and hospitality, other services, education and health services, and trade, transportation and utilities. Low-wage sectors were hit harder by the pandemic than high-wage sectors and accounted for three out of four jobs lost during the recession. Low-wage sectors have also exhibited relatively strong growth in recovery, accounting for nearly three out of every four jobs added back as of March 2022. Low-wage sectors in California were 1.9 percent (160,000 jobs) below their February 2020 pre-pandemic level as of March 2022, compared to 1.5 percent (130,000 jobs) lower for high-wage sectors. In March 2022, construction joined trade, transportation and utilities, professional and business services, and education and health services as the fourth major sector in California to have surpassed February 2020 pre-pandemic levels.

While California's job growth has been remarkably strong in 2021, the state's labor force recovery has been slower, as the number of Californians either working or seeking work decreased for the second consecutive year in 2021. This is likely due to ongoing pandemic-related reasons such as inability to work due to sickness or fear of the virus, child care issues, and low migration inflows.

In spite of recent trends of labor force decline, the May Revision forecast assumes that strong nonfarm job growth in 2022 will attract more people back into the labor force as

Californians continue to adjust to living with COVID-19. The labor force is projected to grow by 1.9 percent in 2022 and recover to its fourth quarter of 2019 level in the first quarter of 2023.

With assumed growth in the labor force and a strong employment recovery, California's unemployment rate is projected to continue decreasing and reach its pre-pandemic fourth quarter of 2019 rate of 4.1 percent in the fourth quarter of 2022. The unemployment rate is then assumed to stay in the low 4-percent range through the end of 2025. As with the nation, California's unemployment rate is projected to slightly increase from record-low levels towards the end of the forecast window, as the number of labor force entrants is expected to be larger than the projected increase in civilian employment. Historically, California's unemployment rate is higher than, but closely correlated with, the U.S. unemployment rate. This gap tends to narrow during economic expansions, and is projected to decrease to less than 0.2 percentage point by the end of the forecast window in 2025, in line with the pre-pandemic gap.

INFLATION PROJECTED TO MODERATE BY LATE 2023

California consumer inflation slowed to its lowest rate in five years in 2020 (1.7 percent) as both demand and supply shut down in response to the unprecedented global public health crisis. As the economy reopened and vaccines became available, and with increased accumulated consumer savings, demand for goods and services rebounded sharply and inflation returned to pre-pandemic rates in early 2021. Inflation has since accelerated to historically high rates. In particular, U.S. headline inflation accelerated from 7.9 percent (year-over-year) in February 2022 to 8.5 percent in March 2022, its fastest rate since December 1981. Similarly, California inflation reached 7.2 percent in February 2022, its highest rate since June 1982 and about 2 percentage points higher than projected at Governor's Budget.

Elevated inflation in 2021 was driven by pandemic-induced factors (the prices of gasoline, flights, and hotels skyrocketed due to strong pent-up demand) and supply chain disruptions (including reduced inventory for new cars and other electronic products, and various other shortages that have driven up the prices of durable goods). As such, higher inflation in 2021 mostly resulted from fuel, transportation, and other goods. Inflation has been more broad-based in 2022 as the Russian invasion of Ukraine added pressures on food and energy prices. The Ukraine-Russia war is also expected to further exacerbate global supply chain issues. Shelter inflation, which had been depressed during 2020 and 2021, is expected to return roughly to pre-pandemic levels in 2022 driven by sharp increases in home prices. (See figure on California Inflation Contributions by Major Categories.)

California Inflation Contributions by Major Categories

	2019	2020	2021	2022	2023	2024	2025
Headline Inflation (Annual % Change)	**3.0**	**1.7**	**4.3**	**6.8**	**3.5**	**3.1**	**3.1**
	Contributions to Headline Inflation (Percentage Points)						
Food	0.4	0.6	0.6	1.2	0.6	0.4	0.4
Shelter	1.8	1.1	0.7	1.9	2.0	1.8	1.7
Transportation excluding Gasoline	0.2	-0.2	0.7	0.9	0.5	0.4	0.5
Energy (Gasoline and Fuel and Utilities)	0.3	-0.4	1.6	1.3	-0.2	0.2	0.2
All Other Categories	0.4	0.6	0.6	1.5	0.7	0.4	0.3

Colors represent percentage point contributions to California headline inflation: -2 -1 0 1 2

Individual categories' contributions add up to the total headline inflation rate. Forecast starts in 2022.
Source: U.S. Bureau of Labor Statistics, CA Department of Finance, May Revision Forecast.

As supply chain challenges are expected to be solved over the next several quarters, the May Revision forecast projects food and energy prices to steadily decelerate. As a result, U.S. and California inflation is projected to slow to around pre-pandemic rates by the end of 2023, about one year later than projected at Governor's Budget.

Supply chain bottlenecks are complex and their assumed resolution depends on several factors, including the Ukraine-Russia war, the path of the pandemic in the U.S. and in various parts of the world, and the alleviation of ongoing labor market frictions. If supply chain disruptions last longer than assumed in the May Revision forecast, economic growth may be slower than projected.

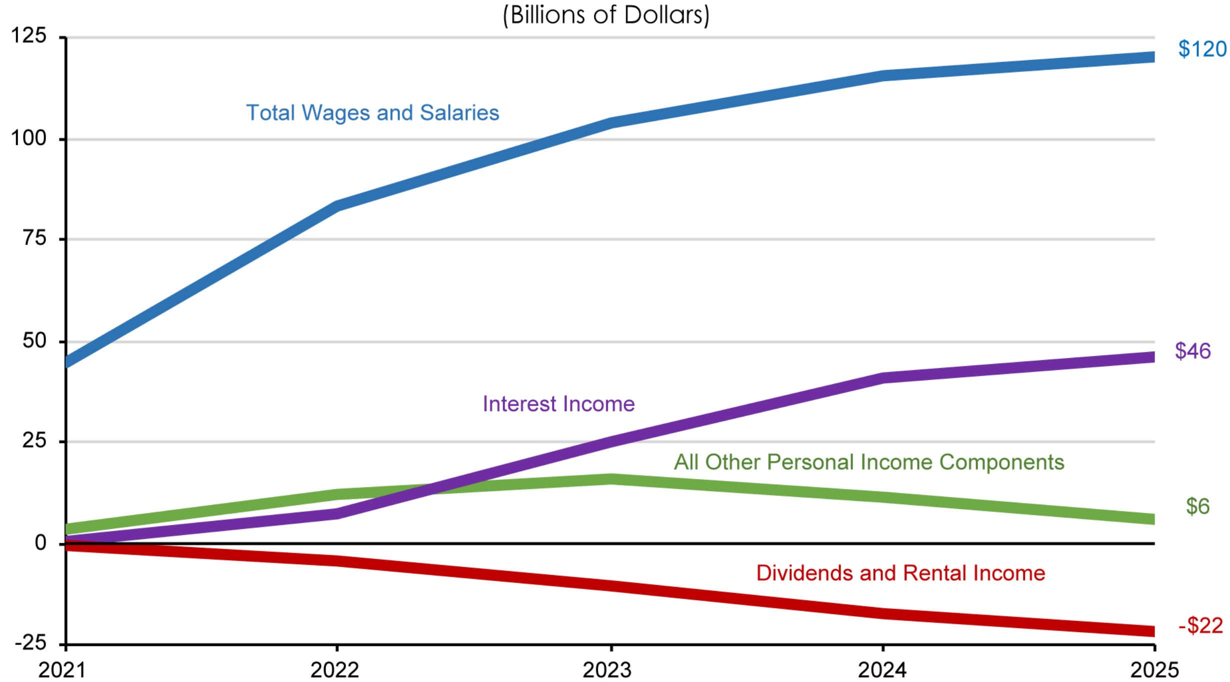
ELEVATED INFLATION AND A TIGHT LABOR MARKET EXPECTED TO KEEP WAGE GROWTH HIGH

California average wages increased by 10.9 percent in 2020, as pandemic job losses concentrated among low-wage sectors brought the average wage higher. In 2021, average wages increased by 8.6 percent, or twice as high as the California inflation rate of 4.3 percent, as wages and salaries increased substantially for both high- and low-wage sectors. Labor market frictions and elevated inflation are expected to continue to put upward pressure on wages. However, projected inflation of 6.8 percent is expected to outpace average wage growth of 5.3 percent in 2022, leading to real wage losses. As inflation is assumed to ease by the end of 2023, the May Revision forecast projects real average wage gains starting in 2023 and through 2025.

WAGE GROWTH DRIVES PERSONAL INCOME GROWTH

Personal income is projected to continue growing through 2025 at an overall faster rate than projected at Governor's Budget, as personal income is not inflation-adjusted and is positively impacted by higher prices and wages. Furthermore, historical data were revised higher and the Federal Reserve's accelerated schedule of interest rate increases is also expected to boost interest income, contributing to a faster personal income growth. (See figure on California Personal Income Components.)

California Personal Income Components
Difference between May Revision and Governor's Budget
(Billions of Dollars)



Total wages and salaries were 51.5 percent of total personal income in 2021, interest income's share was 7.5 percent, dividends and rental income's share was 9.4 percent, and all other components made up the remaining 46.3 percent.
Changes to projections reflect revisions to historical data as well as new developments since November 2021.
Source: U.S. Bureau of Economic Analysis; CA Department of Finance, May Revision Forecast.

Total wages and salaries, which account for about half of California's personal income, grew by 12.5 percent in 2021 and are expected to increase by 9.9 percent in 2022, before slowing to around 5 percent growth by 2025. The May Revision forecast projects total wages and salaries to be higher than projected in the Governor's Budget ($83 billion higher in 2022 growing to $120 billion higher in 2025). Similarly, interest income is projected to be $7 billion higher in 2022 growing to $46 billion by 2025 as the Federal Reserve is expected to continue to increase interest rates. Interest income is projected to reach double-digit growth in 2024, in line with the projected peak of the federal funds rate. In contrast, the rising interest rates are expected to be a drag on rental income as the benefits of higher interest rates shift income from interest payers to interest earners. The outlook for financial conditions has also been downgraded due to geopolitical events. As a result, dividends and rental income have been downgraded and are $22 billion lower than projected at Governor's Budget by 2025. Revisions to all other personal income components were marginal. Overall, personal income is higher than projected in the Governor's Budget—$98 billion (3.3 percent) higher in 2022 growing to $150 billion (4.3 percent) higher in 2025.

HOUSING CONSTRUCTION GROWING BUT STILL SHORT OF DEMAND

Residential permits continued to grow despite the pandemic and the ensuing economic slowdown. In 2021, California permitted 120,000 housing units—the highest level of units authorized in the state since 2006. However, around 180,000 new units are needed every year to make up for the current deficit in the housing stock. Every year with fewer permits increases the deficit and contributes to the critical housing shortage in the state, driving inflation in the state higher than in the nation. Permitting activity is expected to continue growing in the forecast window but at a slightly slower rate than assumed in the Governor's Budget, consistent with slightly downgraded economic growth, expected interest rate increases starting in 2022, higher inflation, and prolonged supply chain disruptions. Long-term structural challenges for California's housing market remain, including the state's housing shortage and high housing costs, slow growth of permits relative to housing needs, and extreme weather conditions that constrain housing growth.

RISKS

Downside risks to the forecast include a prolonged period of elevated inflation, a slower resolution of supply chain bottlenecks, continued or worsening stock market volatility, and a potential escalation of the Ukraine-Russia war. Persistently high inflation, due to continued supply chain disruptions or consumer and business expectations of extended elevated inflation, would cause a further slowdown in real GDP. Tighter monetary policy, aiming to moderately slow economic growth, has sparked fears that the Federal Reserve's actions could overcorrect and cause a recession. The May Revision forecast assumes that the tighter monetary policy will not induce a sharp economic slowdown.

The risk of sustained supply chain bottlenecks could stem from a longer resolution or escalation of the Ukraine-Russia war or increases in COVID-19 cases that would materially affect the U.S. and global economies. For instance, China has continued to implement strict shutdowns in areas where new COVID-19 cases have surged, disrupting trade activity and prolonging supply chain issues.

Economic sanctions on Russia created global uncertainties, especially to large trading partners of Ukraine and Russia including several countries in Europe and Asia. There are still uncertainties around the extent and duration of economic disruption resulting from the war and how countries will interact with Russia afterwards. The S&P 500 and other major stock market indices have experienced notable volatility since late 2021 and this has been exacerbated by the Ukraine-Russia war. Notably, the S&P 500 and the Dow Jones have been oscillating in and out of correction territory (falling at least 10 percent below their most recent high) since late February, while the Nasdaq has recently entered bear territory (falling at least 20 percent below its most recent high).

Conversely, there are various reasons why the economy may perform better than projected in the May Revision forecast. These reasons include a faster easing of inflation than currently projected due to a quicker resolution of supply chain bottlenecks or the Ukraine-Russia war. Swifter recovery of international tourism and travel into the state would also allow for a faster recovery of the leisure and hospitality and other service sector jobs, generating secondary benefits of broader economic growth in the state. Finally, a reversal or reduction of tariffs on imports from China and other U.S. trade partners could help ease price pressures and curtail inflation.

Economic Indicators

Annual Percentage Change unless Otherwise Indicated

	2019	2020	2021	Forecast 2022	2023	2024	2025
United States							
Real GDP							
May Revision, April 2022	**2.3%**	**-3.4%**	**5.7%**	***3.0%***	***2.8%***	***2.7%***	***2.4%***
Governor's Budget, November 2021	2.3%	-3.4%	*5.5%*	*4.3%*	*2.9%*	*2.7%*	*2.6%*
Unemployment Rate (percent)							
May Revision, April 2022	**3.7%**	**8.1%**	**5.4%**	***3.6%***	***3.6%***	***3.8%***	***4.1%***
Governor's Budget, November 2021	3.7%	8.1%	*5.4%*	*3.8%*	*3.5%*	*3.6%*	*3.8%*
Nonfarm Employment							
May Revision, April 2022	**1.3%**	**-5.8%**	**2.8%**	***4.0%***	***1.5%***	***0.6%***	***0.3%***
Governor's Budget, November 2021	1.3%	-5.7%	*2.7%*	*3.9%*	*1.9%*	*0.9%*	*0.6%*
Personal Income							
May Revision, April 2022	**4.1%**	**6.5%**	**7.4%**	***2.3%***	***5.6%***	***5.4%***	***5.1%***
Governor's Budget, November 2021	4.1%	6.6%	*6.5%*	*1.0%*	*5.0%*	*5.3%*	*5.3%*
CPI Inflation Rate (percent)							
May Revision, April 2022	**1.8%**	**1.2%**	**4.7%**	***6.8%***	***2.7%***	***2.1%***	***2.1%***
Governor's Budget, November 2021	1.8%	1.2%	*4.6%*	*3.5%*	*2.1%*	*2.2%*	*2.2%*
California							
Unemployment Rate (percent)							
May Revision, April 2022	**4.1%**	**10.3%**	**7.4%**	***4.7%***	***4.1%***	***4.2%***	***4.3%***
Governor's Budget, November 2021	4.2%	10.2%	*7.7%*	*5.6%*	*4.6%*	*4.2%*	*4.2%*
Civilian Labor Force							
May Revision, April 2022	**0.6%**	**-2.5%**	**-0.1%**	***1.9%***	***1.5%***	***0.8%***	***0.7%***
Governor's Budget, November 2021	0.5%	-2.8%	*0.7%*	*2.5%*	*2.0%*	*1.1%*	*0.7%*
Nonfarm Employment							
May Revision, April 2022	**1.5%**	**-7.1%**	**3.5%**	***4.4%***	***2.2%***	***1.2%***	***0.8%***
Governor's Budget, November 2021	1.5%	-6.8%	*2.8%*	*4.3%*	*2.5%*	*1.8%*	*1.2%*
Residential Permits (thousands of units)							
May Revision, April 2022	**110**	**105**	**120**	***122***	***128***	***136***	***144***
Governor's Budget, November 2021	110	105	*120*	*126*	*132*	*140*	*149*
Average Wages							
May Revision, April 2022	**4.4%**	**10.9%**	**8.6%**	***5.3%***	***4.8%***	***4.5%***	***4.3%***
Governor's Budget, November 2021	4.4%	10.5%	*6.1%*	*3.2%*	*3.6%*	*3.6%*	*3.9%*
Real Average Wages							
May Revision, April 2022	**1.4%**	**9.2%**	**4.3%**	***-1.5%***	***1.3%***	***1.4%***	***1.2%***
Governor's Budget, November 2021	1.4%	8.8%	*1.9%*	*-0.6%*	*0.6%*	*0.5%*	*0.6%*
Personal Income							
May Revision, April 2022	**4.6%**	**8.6%**	**8.5%**	***2.9%***	***6.1%***	***5.7%***	***5.2%***
Governor's Budget, November 2021	4.6%	8.6%	*6.7%*	*1.3%*	*5.1%*	*5.4%*	*5.5%*
CPI Inflation Rate (percent)							
May Revision, April 2022	**3.0%**	**1.7%**	**4.3%**	***6.8%***	***3.5%***	***3.1%***	***3.1%***
Governor's Budget, November 2021	3.0%	1.7%	*4.2%*	*3.8%*	*3.0%*	*3.1%*	*3.3%*

May Revision Forecast based on data available as of April 2022.

Governor's Budget Forecast based on data available as of November 2021. Figures in italics indicate forecasts, including 2021 figures for Governor's Budget Forecast.

Source: U.S. Bureau of Economic Analysis; U.S. Bureau of Labor Statistics; U.S. Census Bureau; CA Employment Development Department, Labor Market Information Division; CA Department of Finance, May Revision Forecast.