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CENTER FOR ECONOMIC FORECASTING & DEVELOPMENT

THE CHANGING ECONOMIC OUTLOOK: WORRYING ABOUT THE WRONG RECESSION

13th Annual Inland Empire Economic Forecast Conference

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The UCR Center for Economic Forecasting and Development is the first world-class university forecasting center in the Inland Empire serving one of the most dynamic regions in the United States. The Center brings the full resources of the University to bear in creating modern, first-rate economic forecasts and economic development products that expand understanding and amplify interest in this vital area. As a hub of collaboration, innovative economic development ideas and strategies emerge from researchers as well as business and government leaders.

Speakers

Bansree Parikh, President
Bank of America Inland Empire
EMCEE

Christopher Thornberg, Director, Center for
Economic Forecasting and Development
U.S. & California Forecast

Taner Osman, Research Manager, Center for
Economic Forecasting and Development
Inland Empire Forecast

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Welcome to the 13th annual Inland Empire Economic Forecast Conference! Bank of America is proud to be the title sponsor for this important annual gathering of the region's business, education and community leaders.

Even with the current economic headwinds, the Inland Empire remains a great place to do business and to call 'home.' Over the last several years, the region has seen incredible progress as its economic sectors continue to diversify. This includes the expansion of Ontario airport playing a key role in helping local and regional businesses meet supply demands through advanced logistics and a strengthened manufacturing hub; the Coachella Valley's agribusiness; the tourism and hospitality boom in the high and low deserts; and the recent opening of The Cheech Marin Center for Chicano Art & Culture in Riverside, which is estimated to generate over $20 million in net positive impact annually for the region. Together, the Inland Empire has become an economic engine for the entire Southland region and the state itself.

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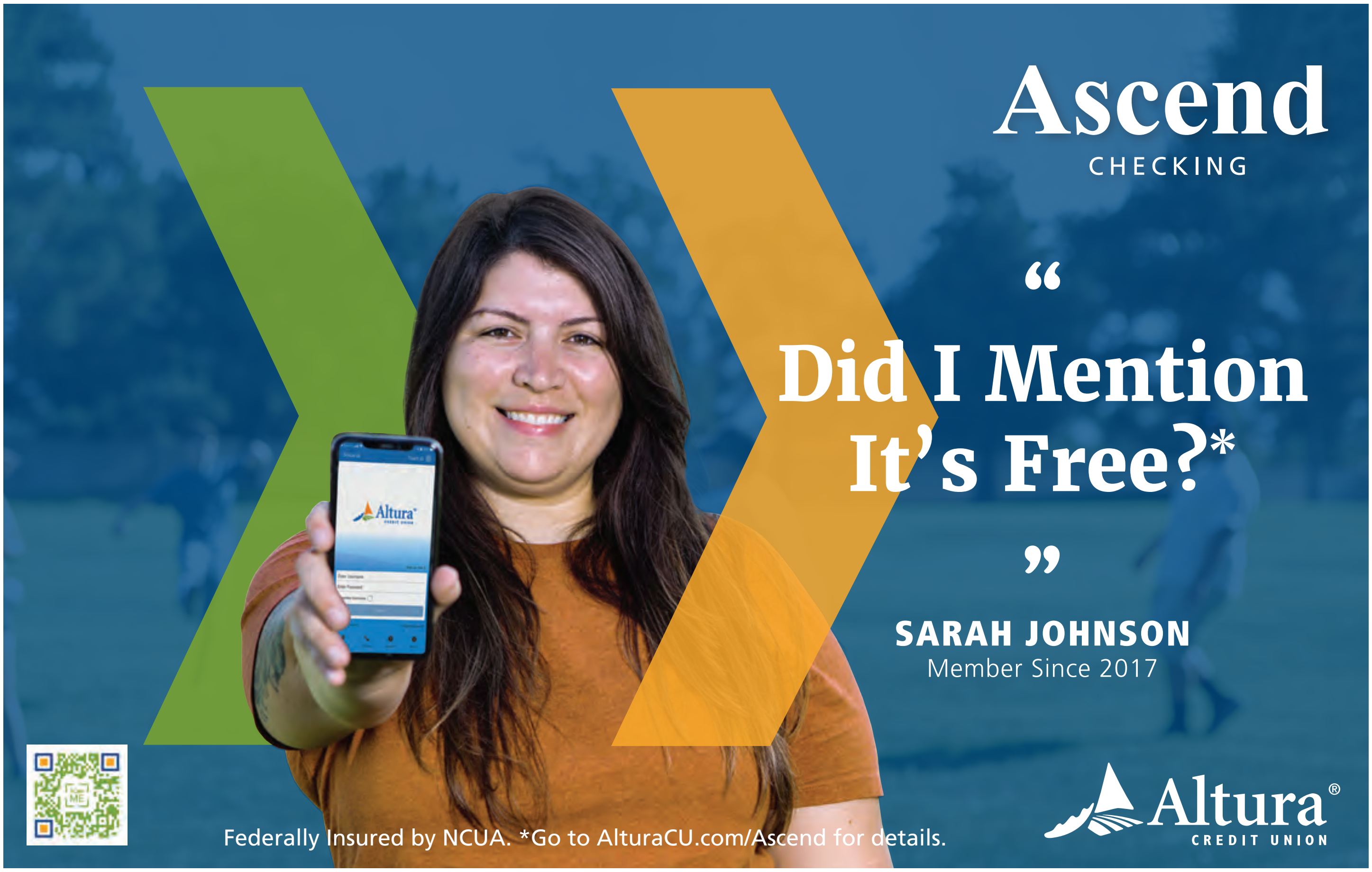
Supporting all of this dynamic growth is the Inland Empire's educational centers of influence, including University of California, Riverside and its Center for Economic Forecasting, which provides today's economic forecast.

Together, we all help advance economic and social progress, enabling our region to succeed.

Bansree

Bansree Parikh
President, Bank of America Inland Empire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UNITED STATES OUTLOOK

Christopher Thornberg, PhD

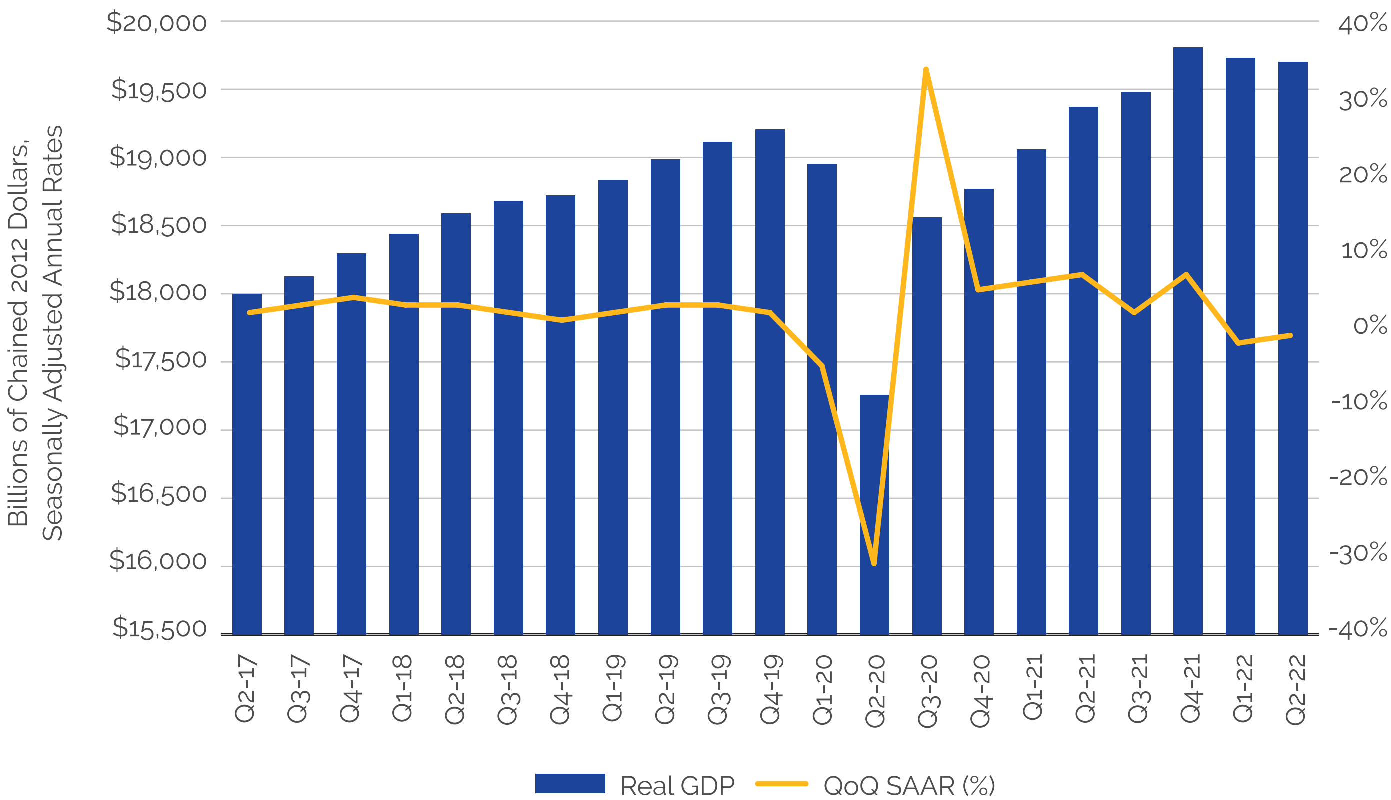
Overview: We Ain't Out of the Woods Yet...

- The first half of 2022 was not a recession in the United States, as the decline in output was not created by increases in slack capacity. Rather it was driven by rapidly shifting patterns of demand, which in turn were driven by frenetic changes in Fed policy.
- While parts of the U.S. economy will remain cool because of rising interest rates, consumer spending will continue to push the overall economy forward for the rest of the year and into 2023.
- Inflation may have peaked, but it will not decelerate rapidly—expect price growth and interest rates to remain elevated in the near term until the Fed gets serious about quantitative tightening.
- The potential for a real recession in the nation will increase as the Fed uses quantitative tightening to control inflation and push up real (rather than nominal) interest rates. The faster the better in order to prevent a truly deep business cycle.
- The economic wildcard comes from the growing Federal deficit and massive debt levels. A lot will depend on how long bond markets tolerate the excessive Federal deficits and growing levels of debt.

If a recession is defined as two quarters of negative growth, then the first half of 2022 was one of the oddest recessions the United States has ever seen. The data suggests that overall output in the nation fell about 0.5% in the first half of the year. Yet over the same period, the U.S. unemployment rate dropped from 3.9% to 3.5%, the nation added 3 million jobs, even as industrial production climbed to a record-high level. Indeed, if that was a recession, then long live the recession! This forecast expects that an upcoming revision to the GDP estimates may well erase the anomaly of the first two quarters of 2022 along with the debate about H1. [1]Regardless, real growth has slowed and there are signs of stress in parts of the economy such as new housing.

Real GDP Growth, U.S. Unemployment Rate

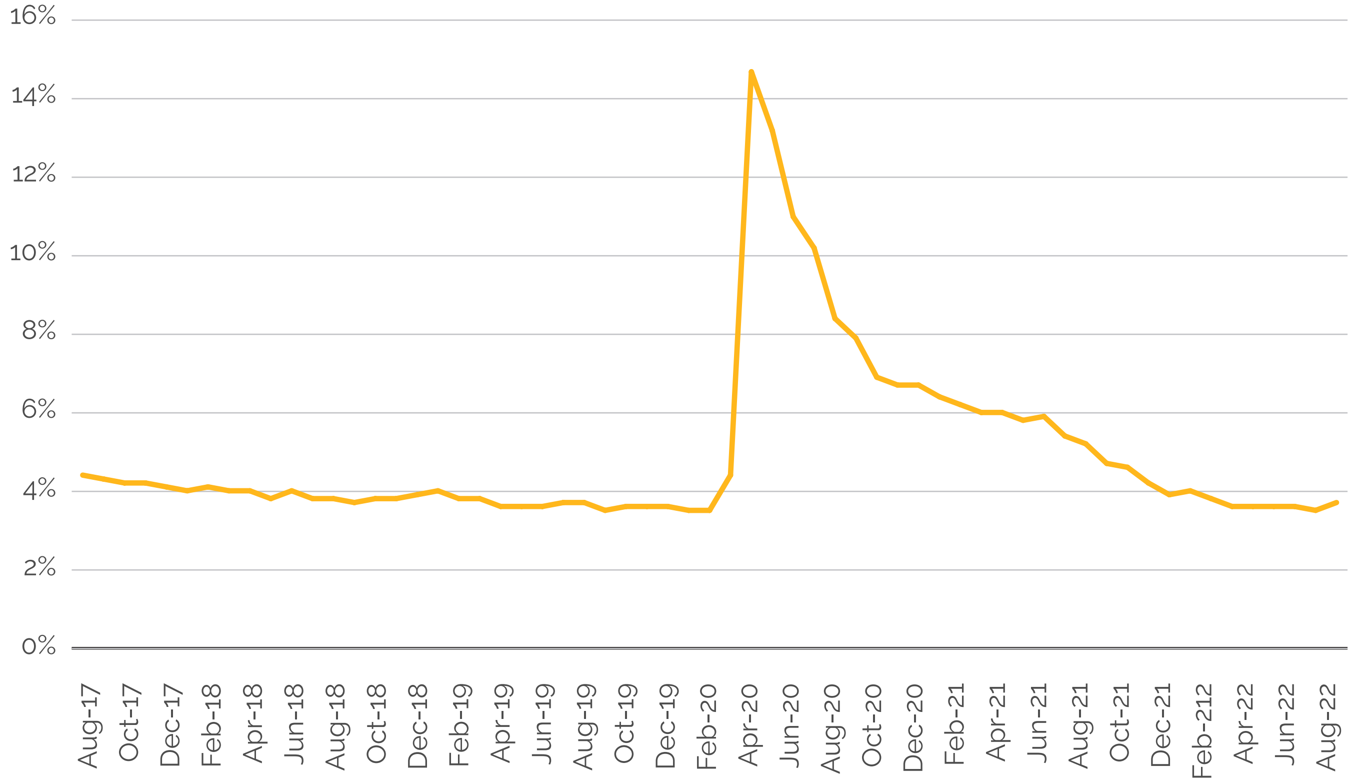
2017-2022



Source: U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

[1] On September 29, along with the U.S. Bureau of Economic Analysis's third GDP release for Q2 economic activity, comes the annual update of the economic accounts. This is when new numbers for the previous one or two years are released based on better refinements of the underlying estimates of price changes and economic flows. That the BEA has been having trouble honing their models amid the current economic chaos is hardly a surprise and helps explain another mystery in the data—the exceptionally large gap between Gross Domestic Income and Gross Domestic Product—two indicators that in theory should be equal, but currently have a 4% gap. Historically this suggests an upward revision to GDP.

U.S. Unemployment Rate



Source: U.S. Bureau of Labor Statistics; Analysis by UCR Center for Economic Forecasting and Development

To understand where the United States economy is now, it is useful to make a distinction between two kinds of stresses that can occur. One form of stress is a decline in aggregate demand, which gives rise to a typical business cycle. Another form of stress comes from rapidly shifting changes in the components of aggregate demand—changes that in the aggregate are still expansionary, but nevertheless cause reduced productivity as suppliers struggle to adapt to the shifting patterns of demand. It is the latter situation that the United States is currently experiencing. This means we can have the seemingly paradoxical condition of an economy experiencing reductions in productivity even as it operates at capacity (i.e. low growth and falling unemployment).

The rapidly changing pattern of demand is being partially driven by the nation's emergence from the historic COVID-19 pandemic. There has been an enormous shift from demand for goods back to demand for services now that the world has finally moved beyond the malady. This is much to the chagrin of Walmart and Target who appeared to be operating under the premise that people were going to continue staying home 23 hours per day judging by the excessive inventories of pajamas and kitchen appliances currently sitting in company warehouses.

But the bigger shifts in the structure of demand have been driven by the excessive stimulus the Federal government and Federal Reserve enacted in response to the pandemic—and now the backlash as they try to withdraw that stimulus to constrain the predictable side effects—namely inflation, excessive consumer demand, and bubbly financial markets. Functionally speaking policymakers went from maximum acceleration to maximum braking over a single year, something that would create turbulence in even the healthiest economy.

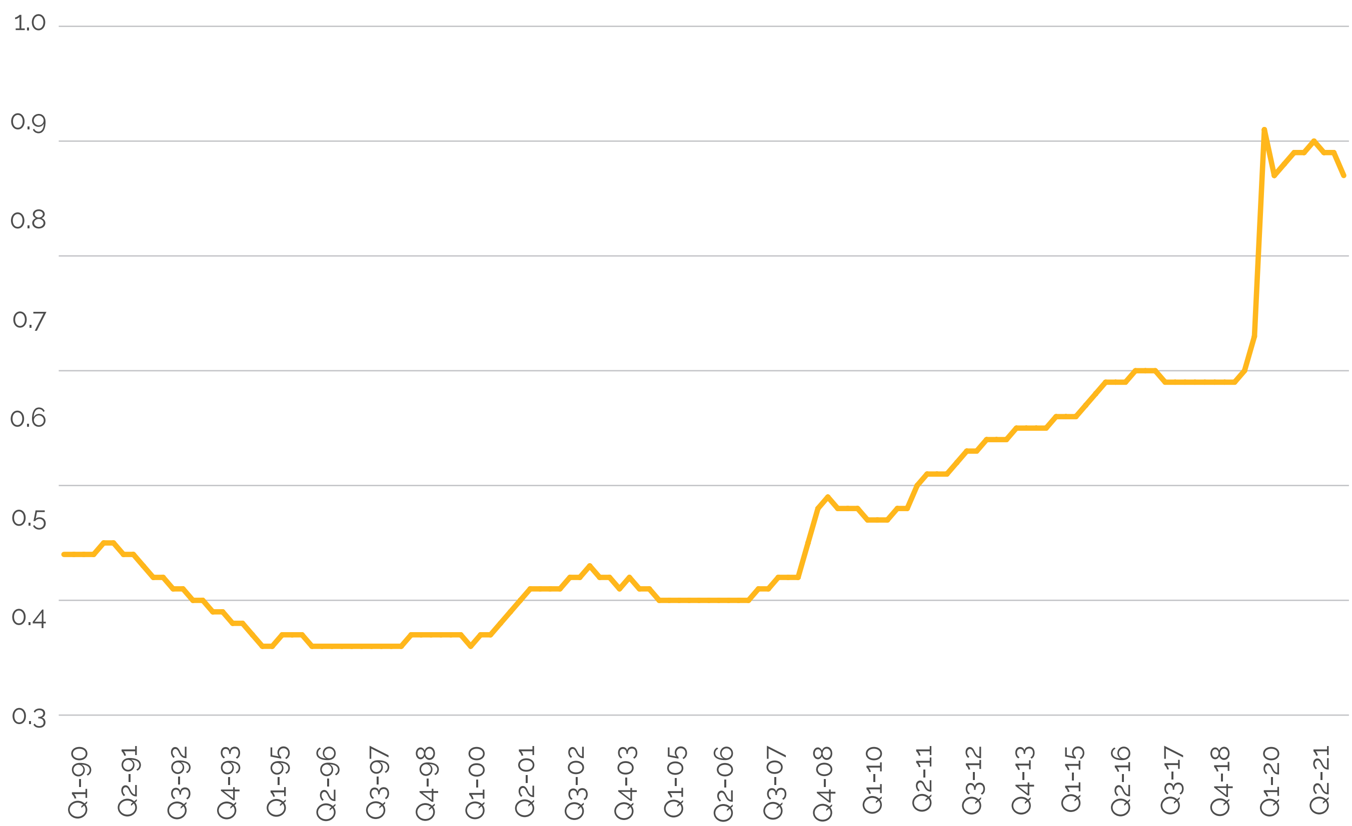
The U.S. Congress approved $6.1 trillion in fiscal deficit spending in 2020 and 2021, significantly more than the actual losses to the economy from the pandemic. Households, for example, received $2.60 of direct support for every $1 of lost income. This level of borrowing should have caused bond markets to swoon and interest rates to rise sharply, but the Federal Reserve swooped in with $5 trillion in quantitative easing. This paid for all the deficit spending by increasing the nation's money supply by 35%, far and away the greatest short-run expansion of money supply ever seen in the United States. [2]

U.S. Household Net Worth/Gross Domestic Product

Sources: Federal Reserve Bank of St. Louis, U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

[2] By functionally monetizing the nation's enormous fiscal deficit, the Fed enacted what might be the first true experiment in Modern Monetary Theory (MMT)—the expansion of the money supply to cover deficit spending. And given the path the U.S. economy is currently on it is safe to assume that the massive drawbacks of using this system to run a government have become apparent. Budgets without accountability will inevitably cause problems.

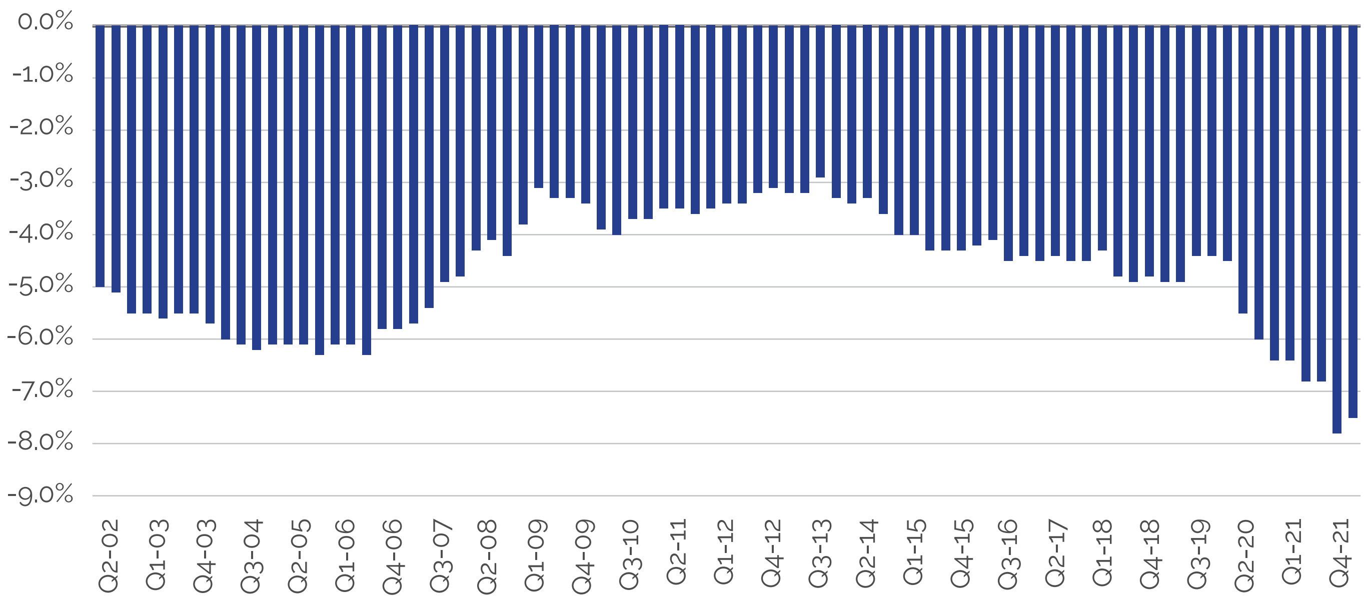
Unit Money Supply (M2/U.S. GDP)



Sources: Federal Reserve Bank of St. Louis, U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

All this cash set off the explosive growth in asset prices that turned into a $30 trillion increase in U.S. household net worth, a surge of 25%. This expansion of wealth supercharged consumer demand and set off a proliferation in related investments such as home building. While tight labor markets and solid growth make good headlines, none of this is sustainable. Consumer spending now accounts for the highest share of U.S. GDP since 2006, a not insignificant comparison. The consumption binge is also apparent in the rapidly growing U.S. trade deficit, which accounts for the largest a share of GDP since the runup to the Great Recession.

Net Exports as Percent of U.S. GDP (Real)



Source: U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

CPI Price Inflation

Source: U.S. Bureau of Labor Statistics; Analysis by UCR Center for Economic Forecasting and Development

Unfortunately, albeit inevitably, all this new demand has also led to price inflation; as the saying goes, it is the necessary consequence of too much money pursuing too few goods. Price growth is now at the highest pace since the 1970's. This has forced Fed policy to pivot sharply from loosening to tightening. Within a year of ending quantitative easing, the Fed has started to sharply raise the federal funds rate. This represents a startling pace of change and one that is uncharacteristic of past Federal Reserve Boards that have typically operated much more cautiously.

Rates on the long end have been pushed by inflation, while on the short end they have been pushed by the Fed. While still low from any long run vantage point (and still negative in real terms) they nevertheless have started to put significant pressure on rate sensitive sectors such as real estate, some consumer durables, and business investment. This is what accounts for the weaker growth numbers in the first half of 2022. But to reiterate, this is not a recession, it is an economy that is modestly cooling from white-hot to red-hot.

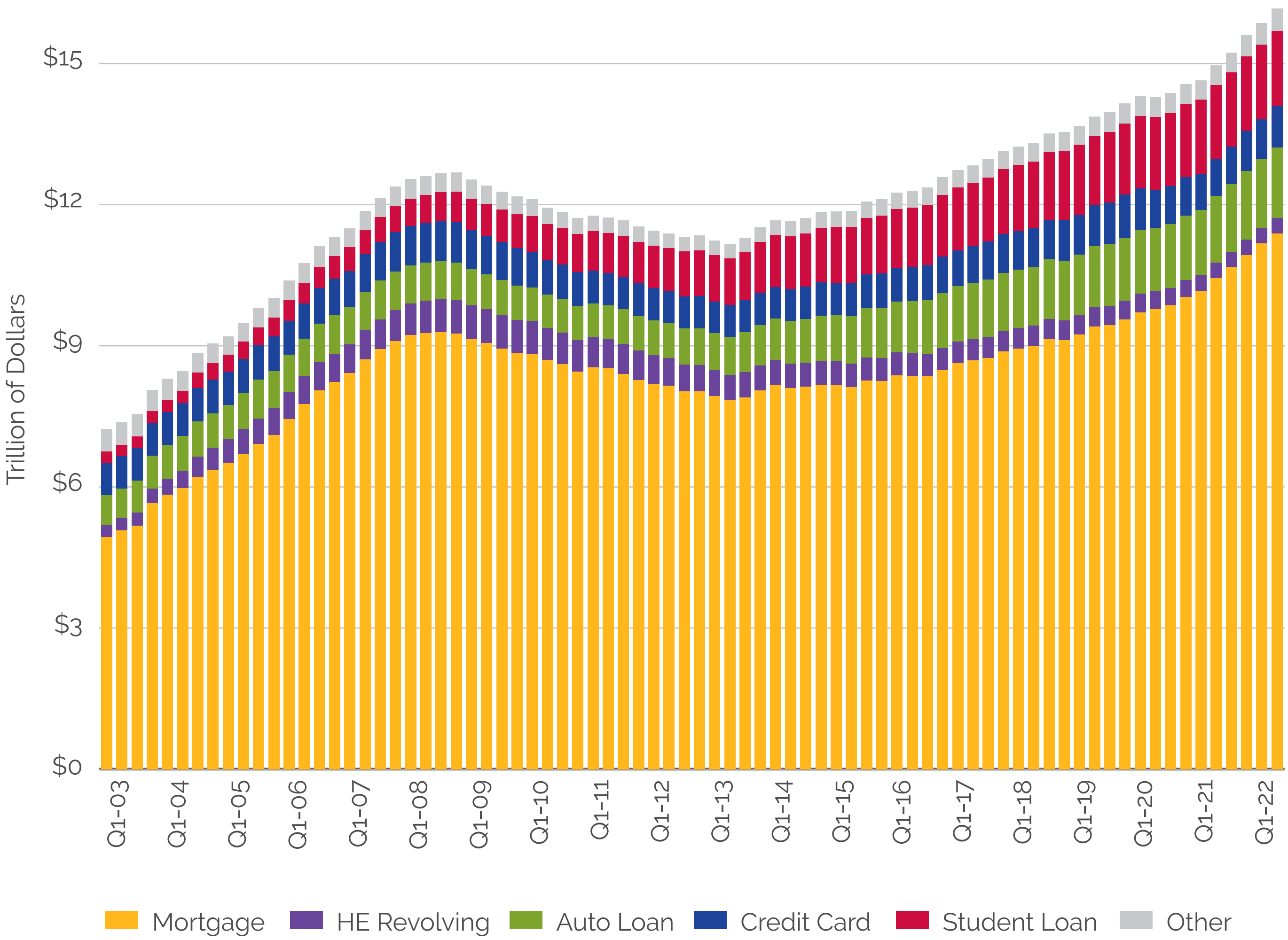
Comsumers and Housing

As mentioned in this forecast, prices in the United States are rising because of intense demand from consumers driven by wealth effects. And this has not been to the detriment of demand as suggested in hyperbolic headlines such as "Consumers Crushed By Inflation." While inflation is higher than earnings growth, consumer spending is still growing in real terms and U.S. savings rates are still at 5% of disposable income, high compared to the runup to the Great Recession. Certainly, a subset of households suffer when prices rise, particularly those on a fixed income. But in the aggregate, inflation will not really cool until real consumer demand does—and we are still far away from that happening.

U.S. Personal Savings Rate

Source: U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

Total U.S. Debt Balance and Its Composition



Source: New York Feb Consumer Credit Panel/Equifax; Analysis by UCR Center for Economic Forecasting and Development

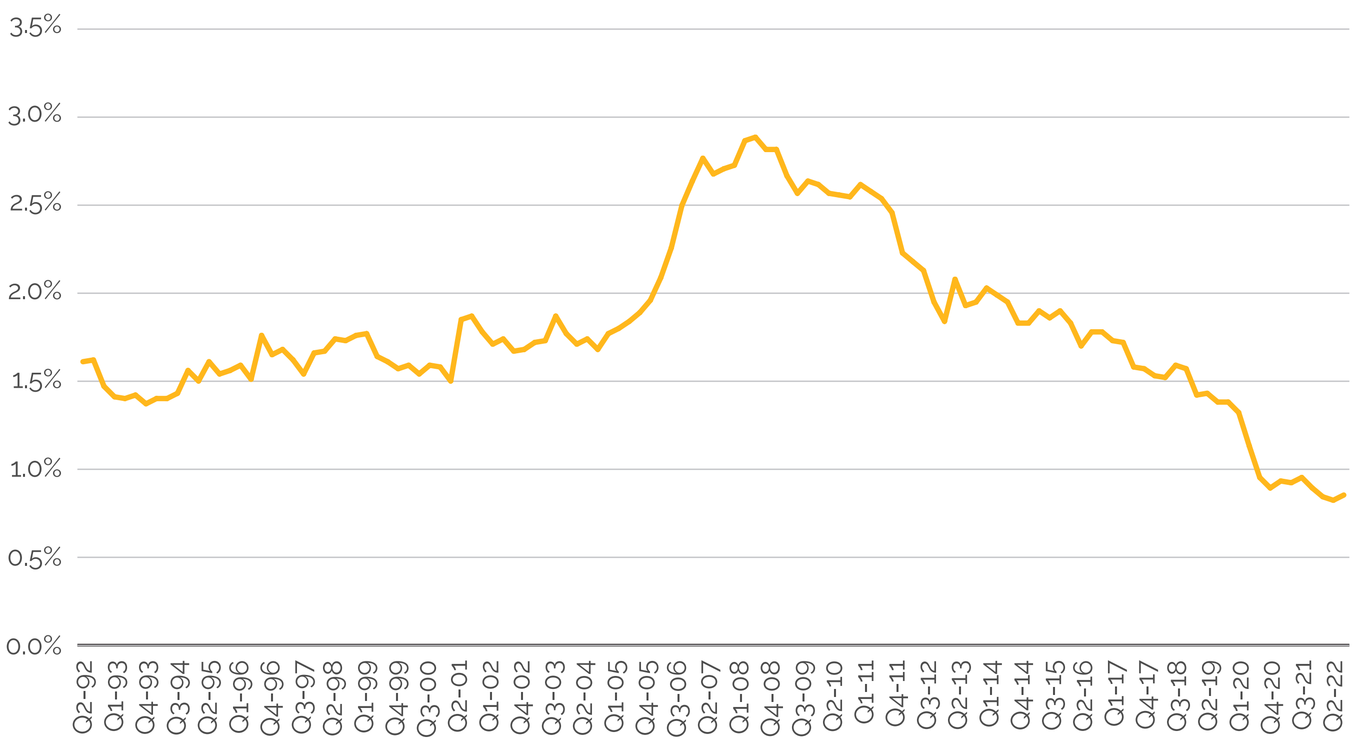
Consumers will carry the U.S. economy forward for now. Firstly, there is still a lot of new wealth kicking around to keep demand strong even with recent declines in the equity markets. Secondly, earnings increases are at record high levels due to labor shortages, particularly among lower skilled workers who typically spend most of their disposable income immediately. Third, rising interest rates are simply not that central of an issue for most households now. Debt servicing levels fell to their lowest levels ever during the pandemic as consumers took advantage of ultra-low interest rates to refinance their homes. Consumers are just now turning to new debt to fund consumption. There is still a long way to go in this consumer cycle, as a look at empty auto-dealer lots demonstrate.

For all the worry about rising interest rates, the main problem is really sticker shock. Nominal rates are up, but not as much as inflation. This means that real interest rates are still negative. For example, if a lender lent you $100 today at a 5% rate, when they received $105 back at the end of the year, it would buy less in real terms since prices went up 6% over the same period. The impact of rising nominal interest rates on housing and consumer spending is really a function of having to reprice deals—real buying power has not been reduced.

One of the more ominous topics in the news lately is the sharp growth in new homes for sale (it is easy to have visions of the housing collapse that led the United States into the Great Recession). The expansion in new homes for sale has caused some economists to predict a housing 'correction', which can be interpreted as falling home prices. Homebuilder sentiment in the nation has collapsed.

But a correction makes little sense. First, there is a massive amount of equity in the current U.S. housing market driven by a decade of low mortgage debt accumulation. The industry is also characterized by incredibly low inventories of existing homes for sale. Inventories have risen to 3.3 months' of supply from 2 months of supply at the end of 2021, but this is still lower than the 4 months' of supply that were available in 2005 in the midst of the subprime bubble, and much lower than the 11 months' of supply that was on the market after that collapse. Overall, housing vacancy rates are still at a record low level, following a decade of weak building trends. This is not a market that is due for a collapse, unlike the market in 2006—at least not yet.

U.S. Homeowner Vacancy Rate



Source: U.S. Census Bureau; Analysis by UCR Center for Economic Forecasting and Development

U.S. Single-Family Homes, Months Supply (SA)

SSource: National Association of Realtors; Analysis by UCR Center for Economic Forecasting and Development

The major problem for new housing is the ultra-low mortgage rates homeowners currently enjoy. Anyone who sells now will have to go from a sub-3 rate to something in the 5+ category. That is not a move most homeowners make—unless they have to. The 'move-up' market has been all but frozen and will continue to be so until rates begin to decline again, something that seems unlikely given the current state of inflation.

But there is ongoing and pent-up demand to enter the housing market by those ready to make the leap to ownership. Unfortunately, most first-time buyers aren't qualified to buy a new home, and instead buy less expensive existing homes, which is difficult today given how many owners are locked to those low rates. The answer for builders is clear—it's time to focus on new entry level housing.

The Inflation Outlook

The conversation about inflation today, even among economists, has been startling off track. Over the past twelve months most of the major inflation forecasts have continued to suggest that we have reached peak inflation—only to be disappointed when an even higher number comes out. These broken forecasts often list the "causes" of inflation by noting which parts of the consumption basket have experienced the greatest price increases—oil, cars, food, etc. This is completely wrong—as any economist who has studied basic monetary theory should know. As Milton Friedman famously noted, inflation is everywhere and is always a monetary phenomenon, meaning that without an increase in the money supply, price levels are functionally limited.

Take gasoline prices. While there is little doubt that the conflict in Ukraine has reduced the available supply of oil in the world, if the money supply hadn't been expanded so dramatically the shortages would have led to just modest increases in the price of gasoline, and a corresponding decline in the consumption of it. That isn't what happened in the United States over the last year. Gasoline prices nearly doubled from the summer of 2021 to the summer of 2022—and yet there was almost no decline in U.S. vehicle miles driven, or gasoline purchased. This clearly shows that gasoline prices went up a little because of supply constraints but went up a lot more because of the increase in demand, which in turn, was driven by the excessive stimulus.

While oil prices are moderating and the pain at the pump is finally diminishing, it does not mean inflation will end. When there is an excess supply of cash in an economy, prices must rise to absorb it. Even now, the ratio of money supply to nominal GDP suggests 20% to 30% more inflation over the next few years—a wide range that depends on the impact of current inflation trends on monetary velocity. But more inflation will have to occur unless the Fed removes the excess money from the system through quantitative tightening.

Strangely, the Fed has chosen to combat current inflation primarily through hikes in the federal funds rate, rather than through quantitative tightening. This has done only a little to help the inflation problem as it has yet to significantly reduce the money supply. Notably, the Fed's strategy is supposed to change this month, as it starts reducing the Fed balance sheet by a moderate $100 billion per month. As this begins, this forecast anticipates that inflation will begin to slow further, but only at the cost of a sharp increase in interest rates—particularly at the longer end of the yield curve. Just how much interest rates will rise is difficult to say. The experience with the so-called 'taper-tantrum' a few years ago when Janet Yellen tried to reduce the Fed's balance sheet suggests it could be severe. We simply don't know yet.

What we do know is that increasing real interest rates will be more painful for the economy than the increases in nominal rates to date. It will cause a more substantial decline in asset prices and a drop in aggregate real demand, which may well cause the economy to contract for real. One big question is whether the Federal Reserve will be willing to stay the course, or whether they will backpedal, driven by the same populist fears that drove the overstimulation of the economy in the first place. Chairman Jerome Powel was clear in his recent speech at Jackson Hole when he said that he was serious about enduring on this course of action, but this forecast continues to have its doubts.

The Fed has managed to put itself between the rock of inflation and the hard place of asset price declines. The one bright spot in the current situation is that if the Fed does little, inflationary pressures will eventually peter out on their own. This is not like the inflation of the 1970's when the root problem was excessive annual increases in the money supply, rather than a one-time massive increase as has happened today. However, the couple of years of high inflation that would result would cause issues for the U.S. economy. Would those issues be recession causing? It's difficult to say. The United States experienced a great deal of inflation during the 1970's but it took the shock of an oil crisis in the mid-70's to create an actual recession.

Where Do We Go From Here?

The UCR Center for Economic Forecasting anticipates that the second half of 2022 will look better from a growth perspective than the first half given how fundamentals still appear strong in the private sector. Inflation will continue to run hot, and interest rates will continue to move up as a result. But this forecast does not see those circumstances as recession causing. Instead, expect a slow pace of overall economic growth, with weaker numbers from the more rate sensitive sectors.

This forecast sees two potential paths for the economy starting in 2023. The first path stems from weak Fed action, where fear of a political backlash keeps the Fed from using quantitative tightening at the necessary level. If this happens inflation will continue eating into real asset values and incomes, and generally pushing interest rates up. Any small shock could cause a recession, or it may look like 3 or more years of very weak growth, with consumers in a relatively poor financial position at the end.

The second scenario is that the Fed stamps out inflation in the near-term by aggressively reducing its balance sheet. While that would drive up interest rates in the short term, cool financial markets sharply, and possibly create a modest recession next year led by retrenching consumers, the nation would come out of it with a strong private sector.

Moreover, both these scenarios miss the elephant in the room: the Federal debt. One part of the equation that has not been dealt with is the nation's huge Federal debt level and the rising burden of carrying such debt given rising interest rates. How long bond markets will give a blank check to the U.S. government is anyone's guess, but at some point, bond buyers will become worried, and that is when politically tough choices about fiscal rebalancing will need to be made.

How that shakes out remains to be seen, particularly given the strained political times we live in. There will be a reckoning, but exactly when is hard to say. But when the nation's debt does come home to roost, all of the above scenarios will be off the table and the situation will look much worse.

CALIFORNIA OUTLOOK

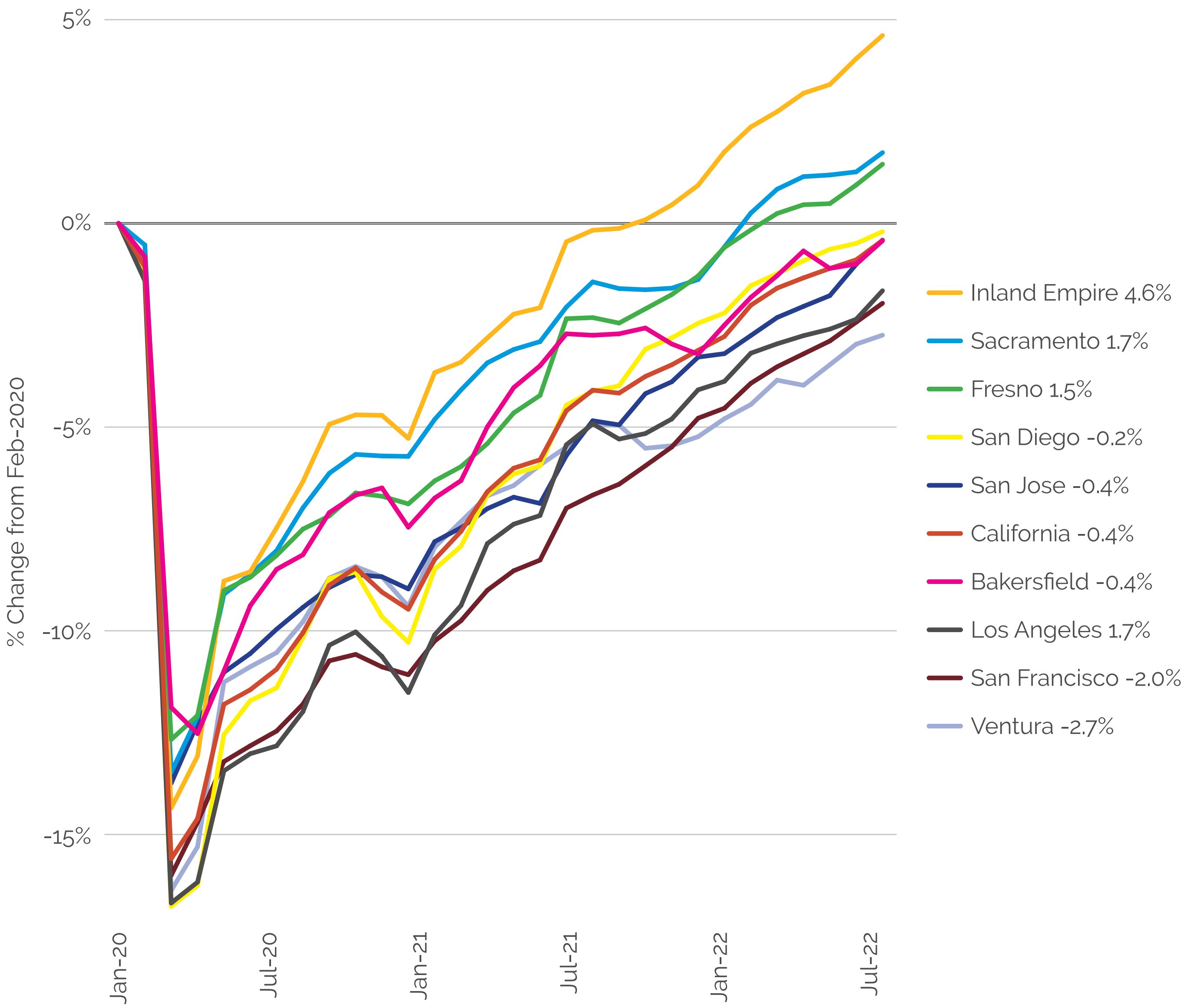
Taner Osman, PhD

California's Jobs Market On The Verge Of A Milestone

California's economy is on the brink of achieving a significant milestone: recovering all the jobs it lost during the pandemic-driven downturn. In March and April 2020, the state's economy shed approximately 2.7 million jobs following the outbreak of the COVID-19 virus. While the jobs lost during the outset of pandemic have recovered nationally, and in many other states, California has yet to reach this threshold, but should in the coming months. With an outstanding deficit of 47,300 jobs, it looks increasingly likely that the state's job count will be above water by the end of the year.

The employment recovery has been uneven across the state, with inland communities faring better than coastal areas. The Inland Empire has 5% more jobs today than it had prior to the pandemic, while at the other end of the spectrum, there are still 3% fewer jobs in Ventura County.

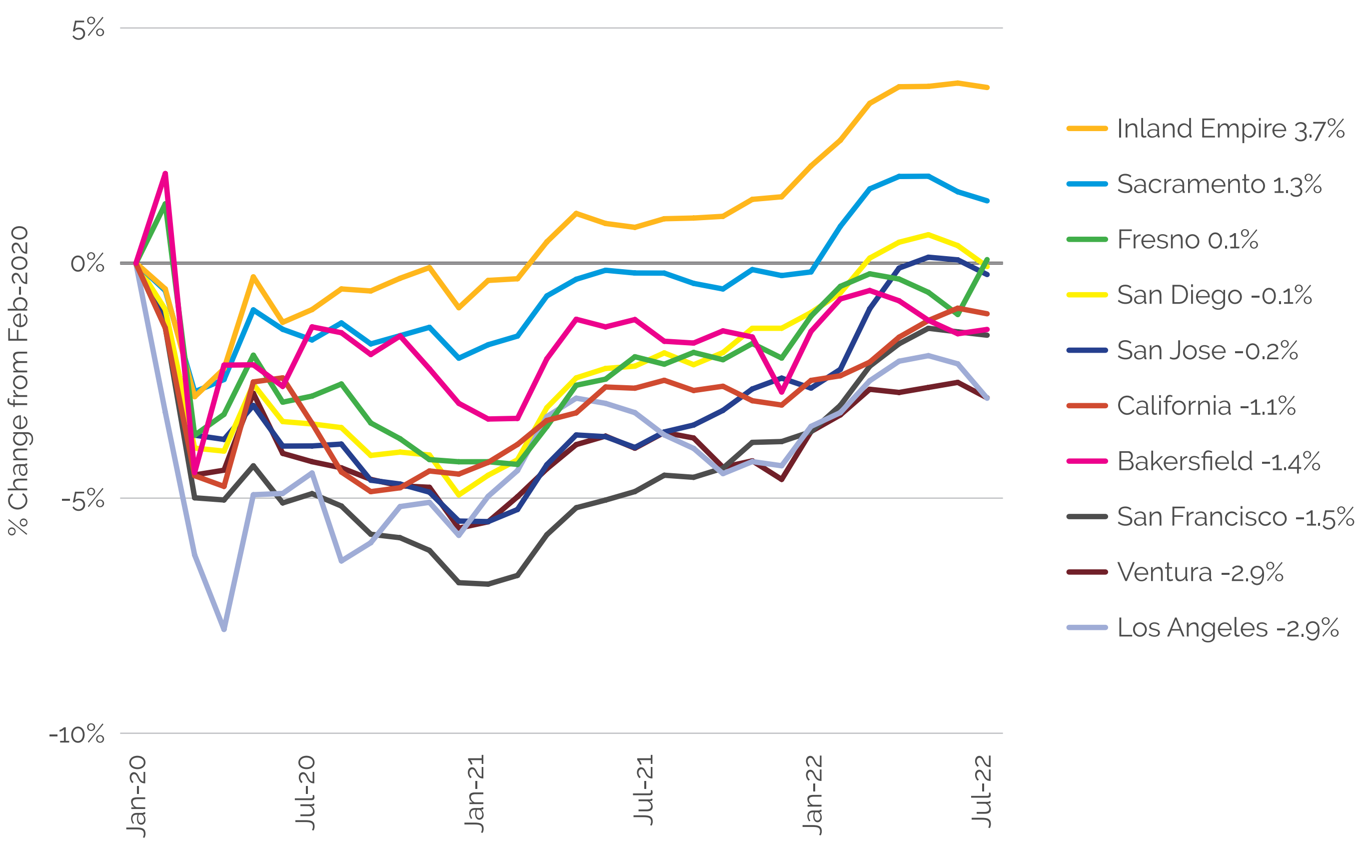
Total Nonfarm Employment, California MSAs



Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

California's struggles are relatively well understood. Its labor force contracted during the pandemic, and employers have struggled to find workers, especially in coastal communities. This point is best illustrated at the regional level. The labor forces in the three regions that have experienced a full jobs recovery – the Inland Empire, Sacramento, and Fresno – are larger than they were prior to the pandemic, while the biggest decline in the labor force has occurred in the three regions with the biggest jobs deficits: Ventura, San Francisco, and Los Angeles.

Indexed Civilian Labor Force, Selected Areas, California

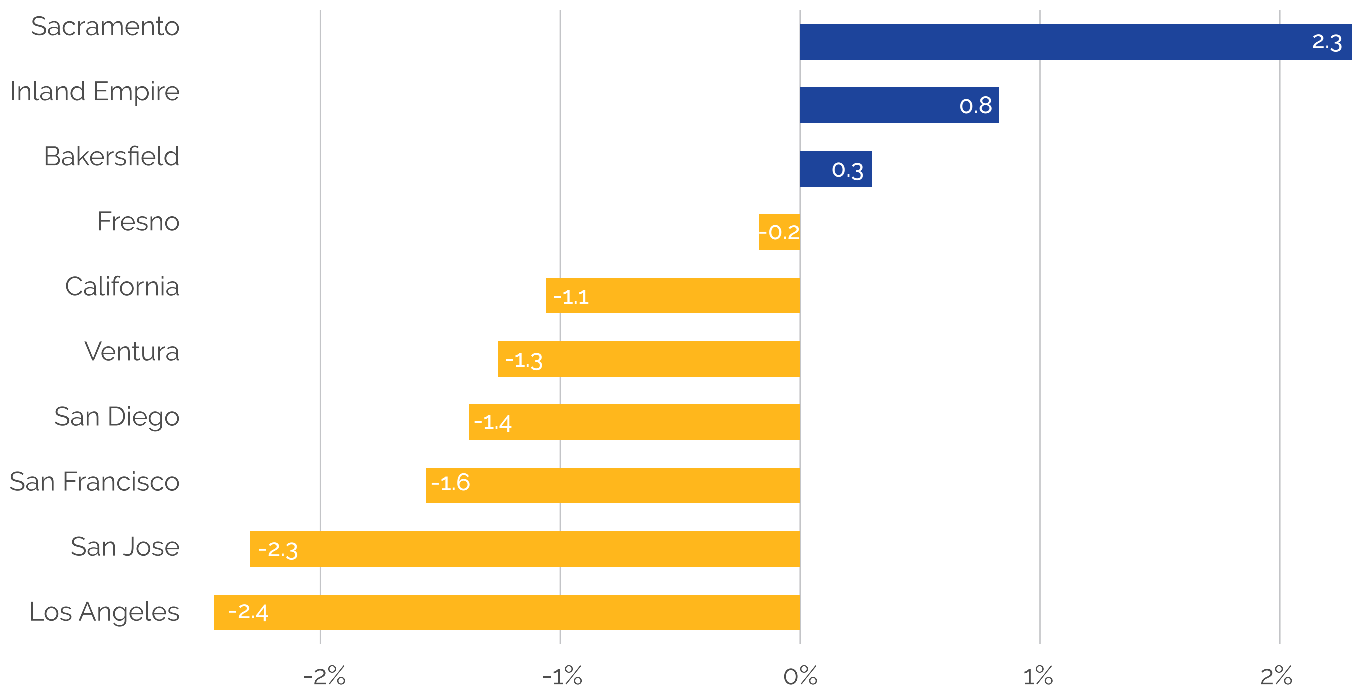


Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

The primary driver of change in local labor forces is population growth. Over the period from 2019 to 2022, population gains have occurred in inland communities while there have been population losses in coastal communities. The changes across these regions are ultimately driven by affordability. California's relatively affordable inland communities have gained, while its relatively expensive coastal communities have lost population. Among the state's coastal communities there has been an exodus of lower earning workers who are unable to support the extremely high costs of housing.

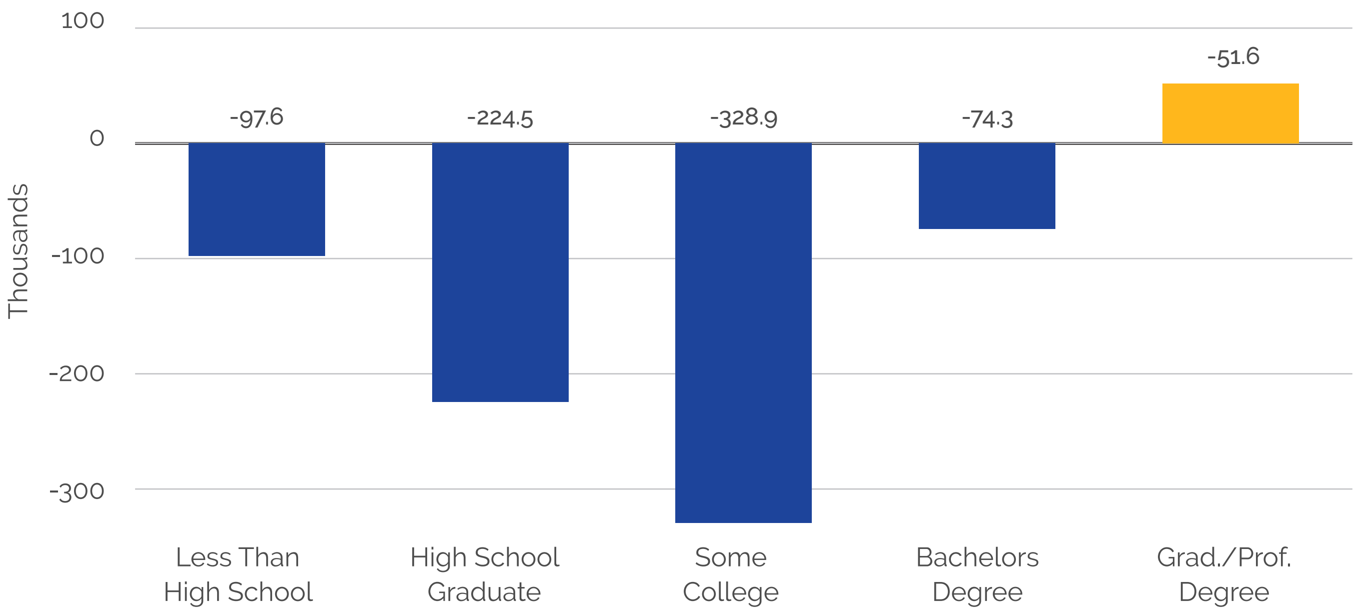
This dynamic has been playing out at the state level for nearly a decade, where there has been an out-migration of lower earning workers and workers with lower levels of formal education, while there has been an in-migration of higher income and higher educated workers. The in-migration of higher income earners has not been enough to offset the loss of lower earners, meaning that in total the state has lost population over this time.

Percent Change in Population by California Metro, 2019-2022



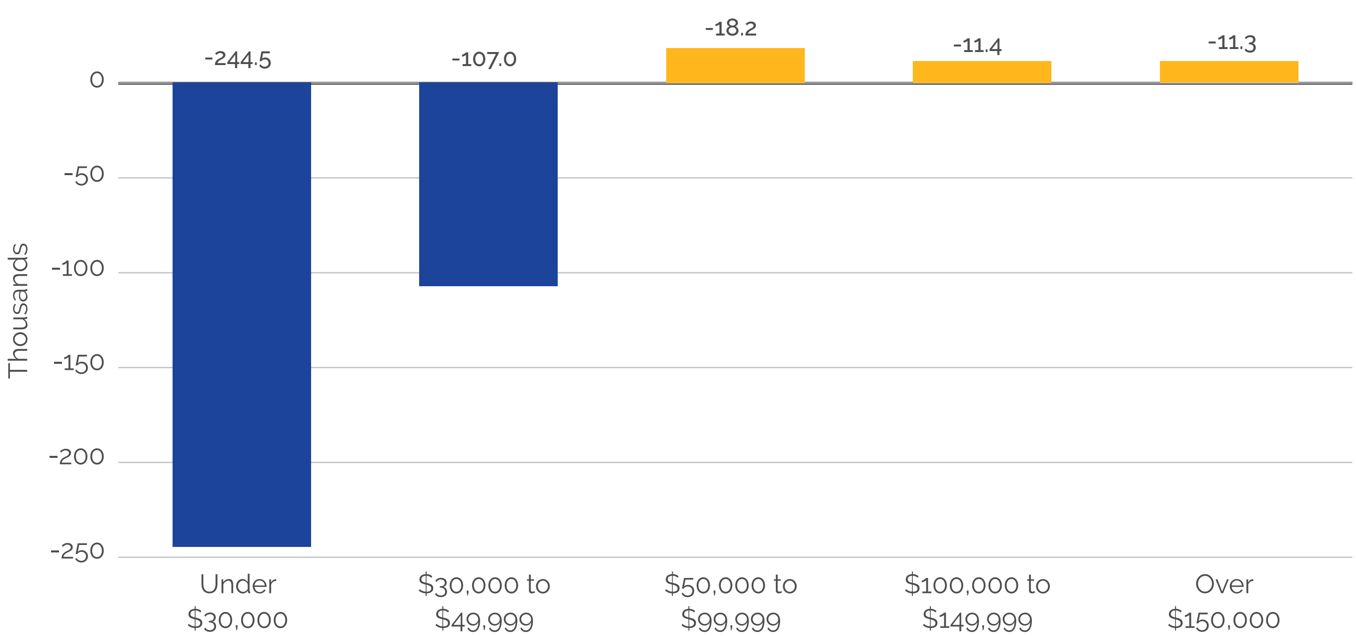
Source: California Department of Finance; Analysis by UCR Center for Economic Forecasting and Development

Net Migration by Educational Attainment, 2012 to 2020



Source: U.S. Census Bureau; Analysis by UCR Center for Economic Forecasting and Development
Note: Population 25 and older. Excludes college students

California Net Migration by Income, 2012 to 2020



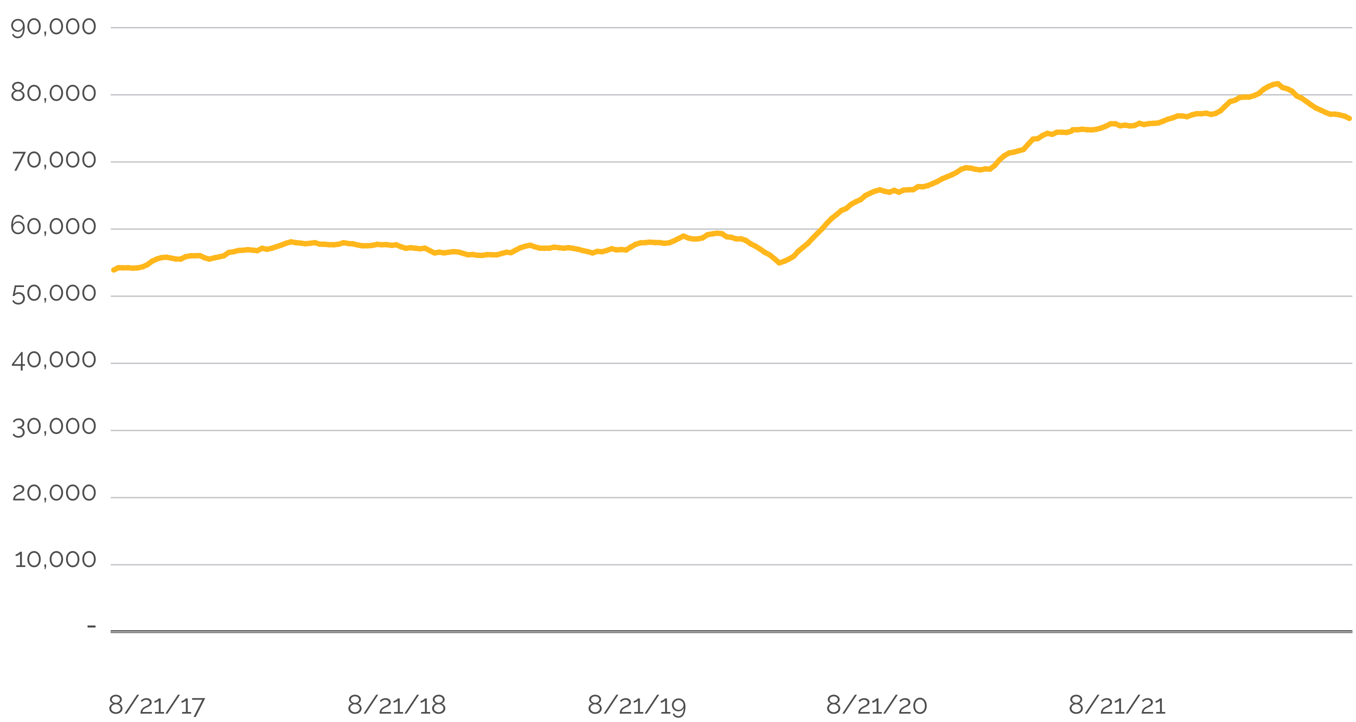
Source: U.S. Census Bureau; Analysis by UCR Center for Economic Forecasting and Development
Note: Population 25 and older. Excludes college students

A Housing Slow Down

After two years in which California's housing market has gone gangbusters, and home prices in the state increased by 43%, on average, the rising interest rate environment, in addition to stretched prices, has led to a major slowdown in 2022. Home sales in the state have dropped by about one-quarter this year, compared to 2021 levels. Over the past five years, sales have only been lower during the outset of the pandemic, when markets temporarily seized up.

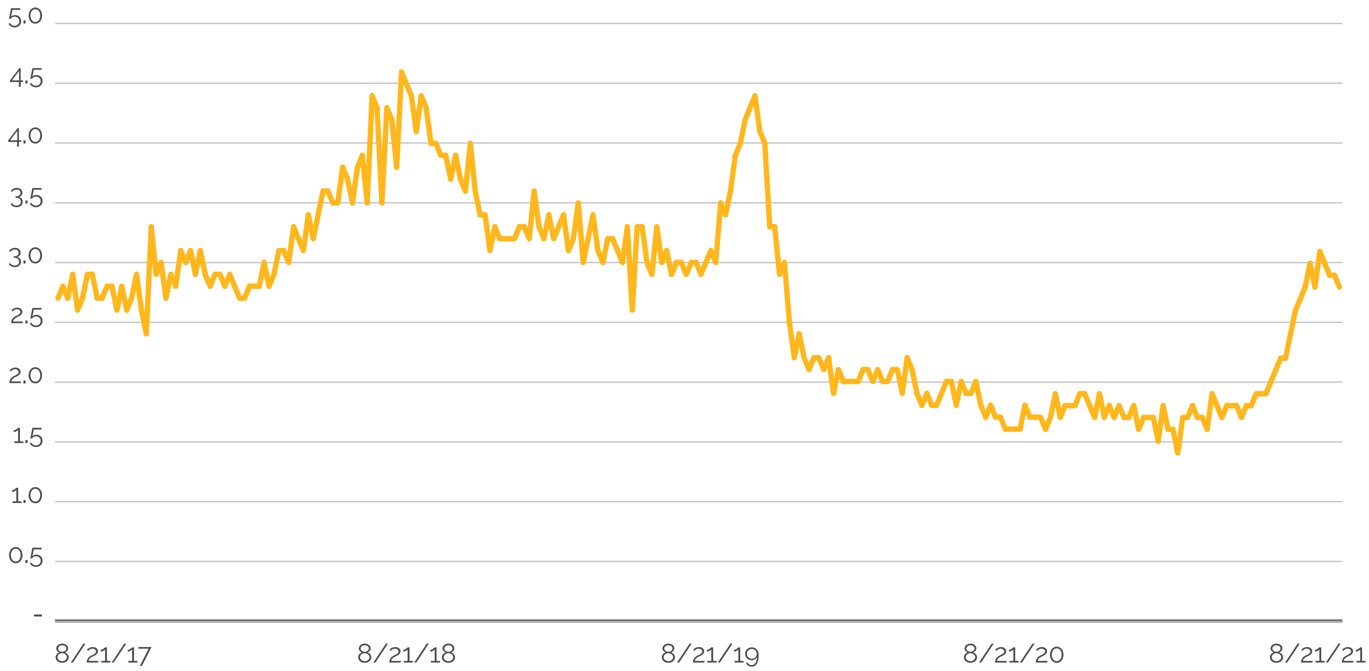
The decline in home sales is not difficult to understand, given the jump in prices over such a short period of time. Throughout the state, the increase in the cost of a monthly mortgage payment has meant that many potential buyers have been pushed to the sidelines. When adjusted for inflation, the cost of owning a home is pushing levels not seen since 2005. However, unlike then, today's lending standards mean that borrowers have an entirely different level of financial security, and a crash of the market is nowhere in sight, although a number of metrics point to a slowdown in price growth in the state.

Median Home Price, California (SA, 4-week moving average)



Source: Redfin; Analysis by UCR Center for Economic Forecasting and Development

Months of Home Supply, California (SA)



Source: Redfin; Analysis by UCR Center for Economic Forecasting and Development

Finally, Californians have not been able to find relief from high housing prices via the rental markets. Over the past year, most major markets in the state have seen double-digit increases in rents, with some communities seeing 20% surges. Overall, the pandemic both accelerated and exacerbated the state's long-term housing supply problem.

Apartment Rent, California, Q2 2022

Market	Value	1 Yr % Chg
Bakersfield	$ 1,241	17.4
Fresno	$ 1,260	21.7
Sacramento	$ 1,627	14.7
Inland Empire	$ 1,853	20.4
San Diego	$ 2,232	17.5
Ventura	$ 2,303	21.8
Los Angeles	$ 2,377	19.2
California	$ 2,389	17.1
San Francisco	$ 2,822	11.7
San Jose	$ 2,844	14.7

Source: Reis, Inc; Analysis by UCR Center for Economic Forecasting and Development

INLAND EMPIRE OUTLOOK

This year's regional outlook chapter focuses on two areas of the local economy that have experienced significant changes since 2020 and are key drivers of the Inland Empire economy: residential real estate and employment.

Housing Forecast

The share of homes purchased by investors in the Inland Empire is at record highs. This parallels the nationwide interest by private equity in purchasing large swaths of residential real estate. As mortgage rates increase, following increases in the Federal Funds Rate (FFR), this forecast expects the share of homes purchased by investors to increase.

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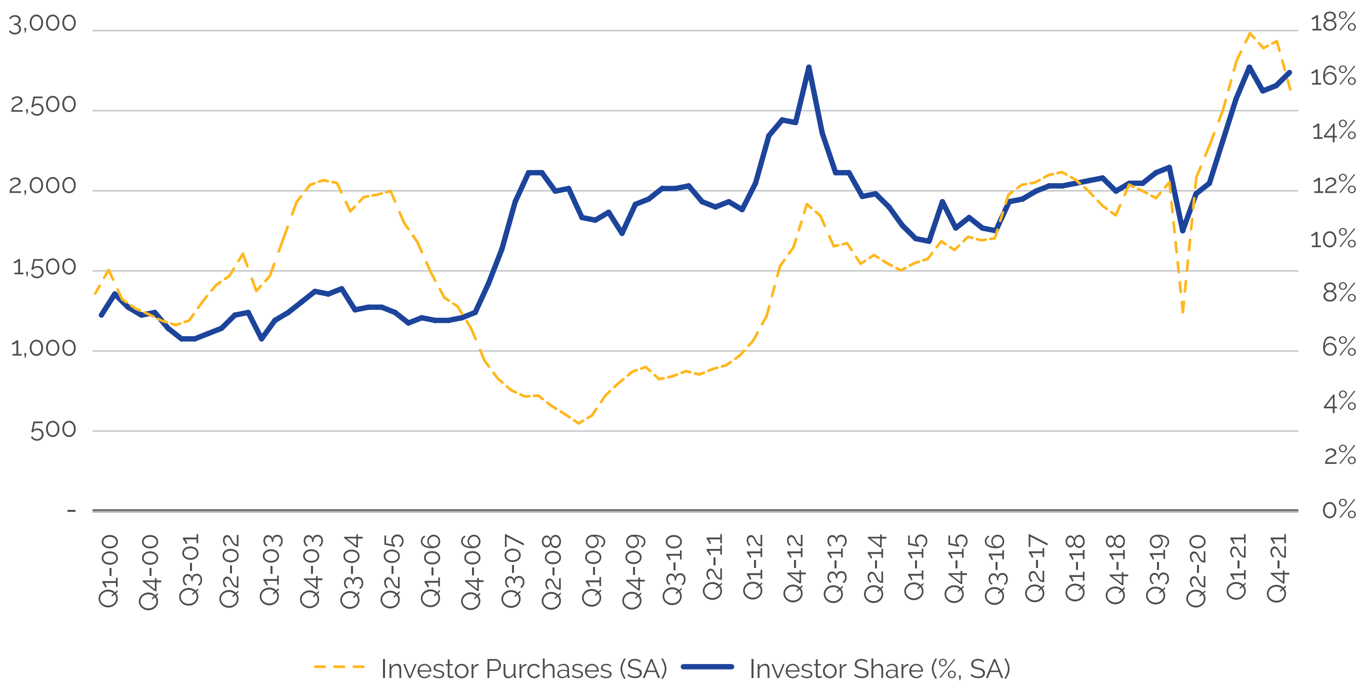
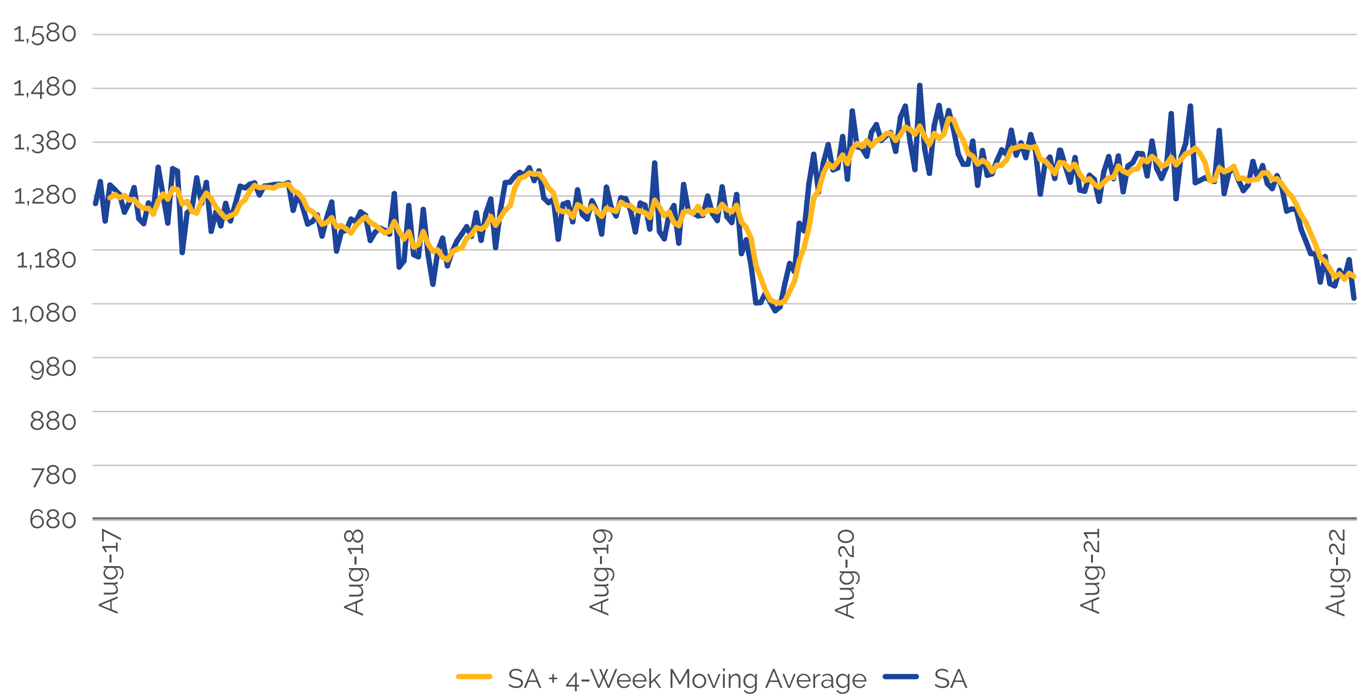
Investor Purchases, Inland Empire



Source: Redfin; Analysis by UCR Center for Economic Forecasting and Development

Weekly Homes Sales, Inland Empire

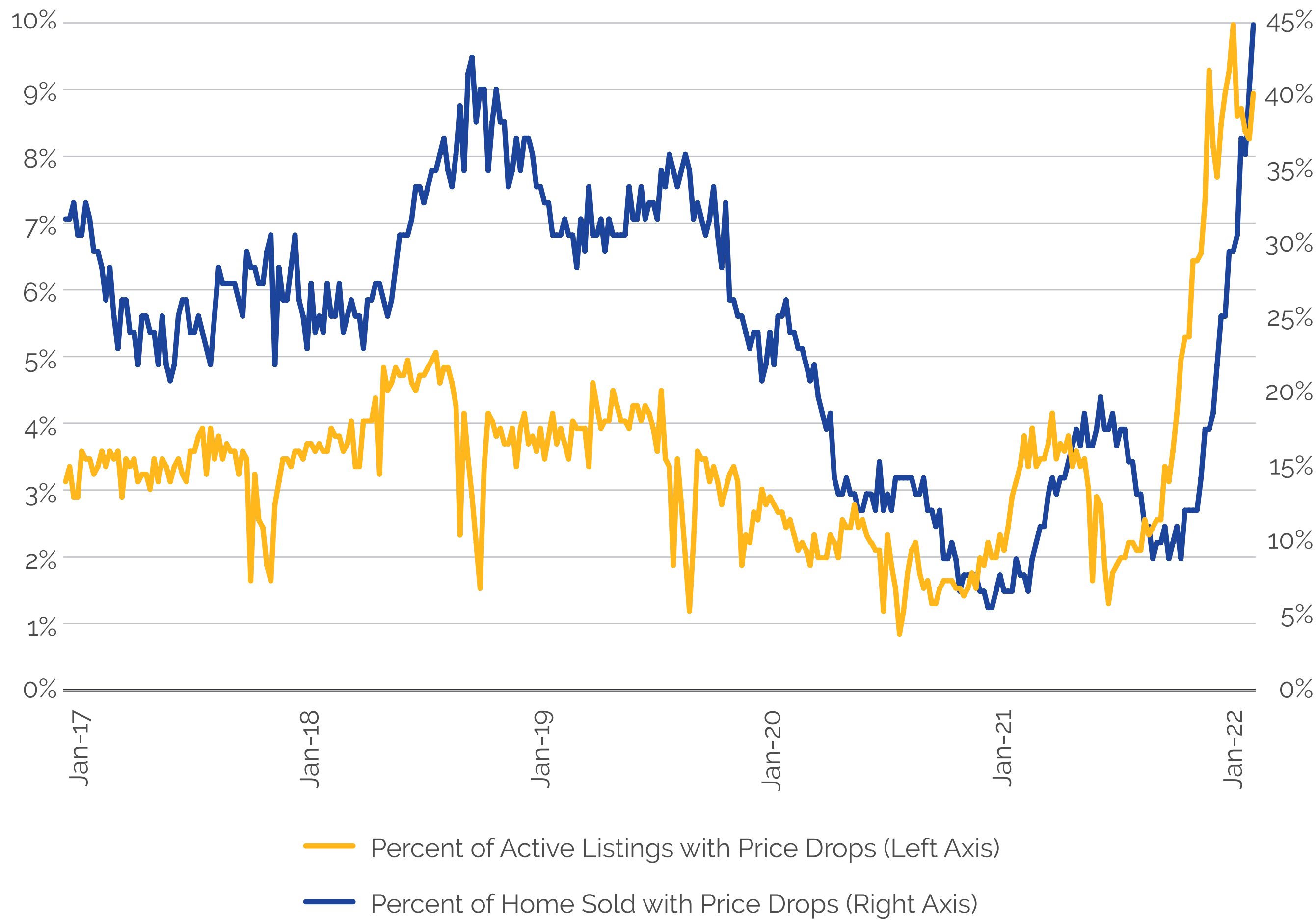


Source: Redfin; Analysis by UCR Center for Economic Forecasting and Development

Since March 2022, the Federal Reserve has been hiking the FFR, it has also stopped purchasing Mortgage Backed Securities (MBSs) which kept the mortgage rate artificially low. As such, a doubling in mortgage rates from 3.0% to 6.0% from the 1st quarter of 2022 to today, has halted new home sales.

Following this year's rise in mortgage rates and the stark decline in buyer activity, it is only natural that sale prices for homes would decline marginally, including in the Inland Empire. Just 12 months earlier, bidding wars prevailed across the nation's housing markets. However, current price cuts are more of a reality check than a price decline warranting concern. The rate of bidding wars has dipped to levels seen in the early part of 2020.

Home Price Cuts, Inland Empire



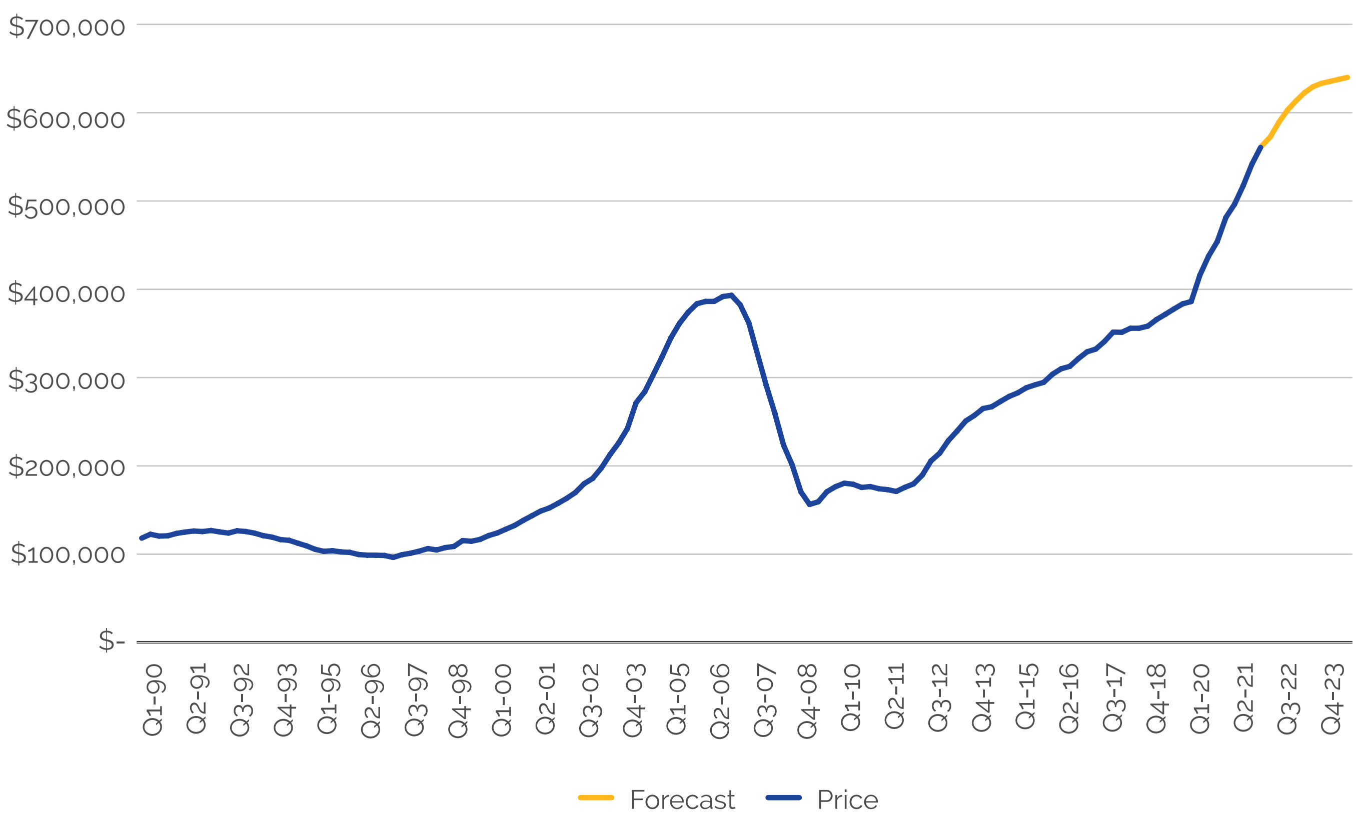
Source: Redfin; Analysis by UCR Center for Economic Forecasting and Development

Given the home buying frenzy over the last 16 months, and the very rapid doubling of mortgage rates, housing markets currently find themselves in a new price discovery phase. Naturally, sellers will list at aspirational prices and wait for offers to roll in (hence the price cut figures displayed in the chart above).

The frantic lending practices that caused the housing bubble burst of 2007 were nearly eradicated by a widespread overhaul to mortgage financing. Further, rates have been at rock bottom levels for over a decade; most homeowners should have had an opportunity to refinance to an ultra-low fixed rate by now. According to Redfin, the percentage of cash buyers (approximately 31%) is higher today than before the pandemic, though slightly off its peak (approximately 37%). The rate in the Inland Empire is slightly lower, at 27%. Cash buyers may be individuals who have executed a cash-out refinancing on homes where their equity had ballooned over the past few years, or the multitude of investment vehicles targeting the residential housing market.

Owing to lean inventories and the equity-rich balance sheets of current homeowners, expect the price of Single-Family Residences (SFR) to continue rising and taper off in the 3rd and 4th quarters of 2022. However, personal income will accelerate growth in 2023 and 2024.

Median Home (Existing SFR) Price Forecast, Inland Empire

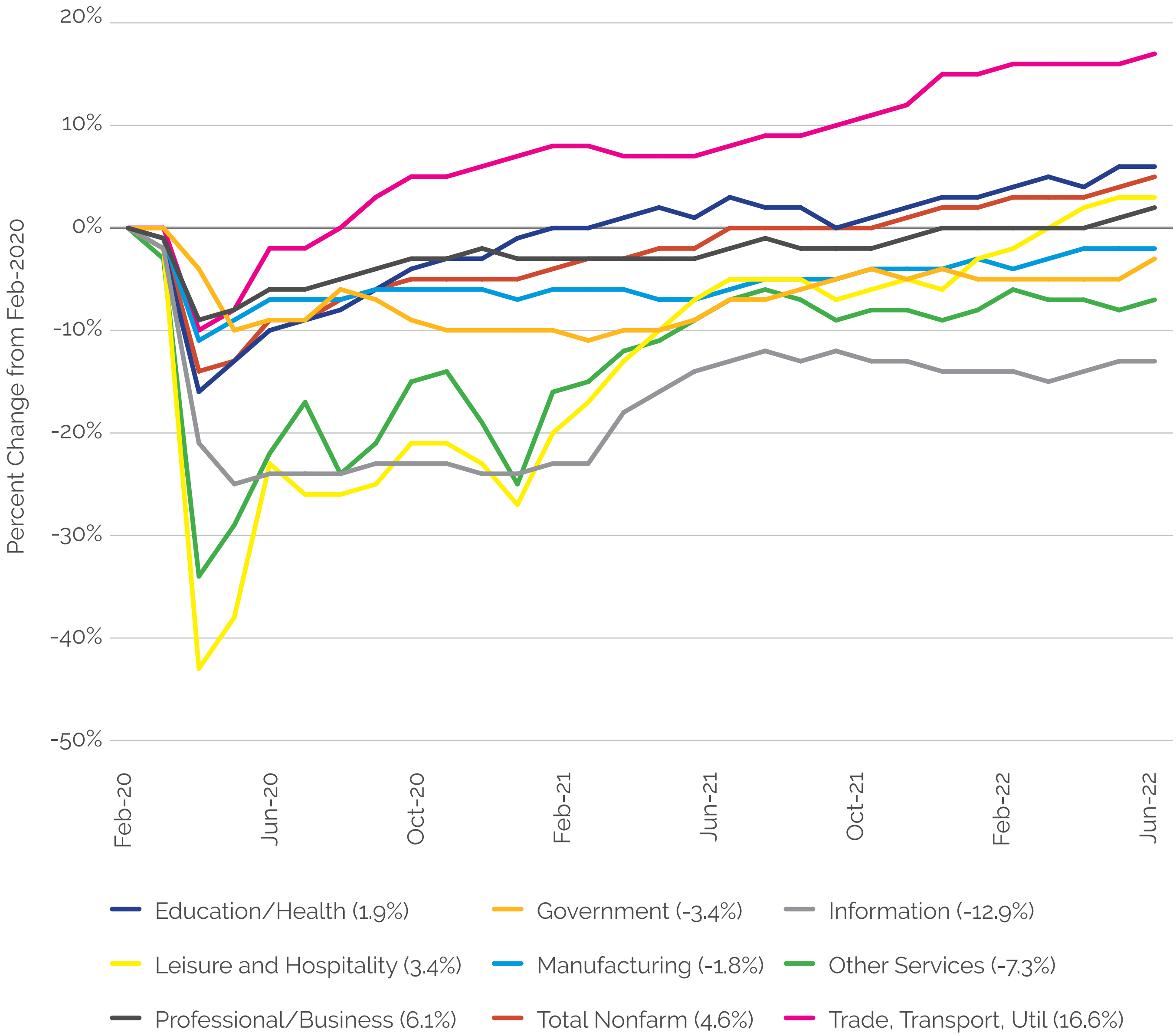


Source: CoreLogic; Analysis by UCR Center for Economic Forecasting and Development

Employment Forecast

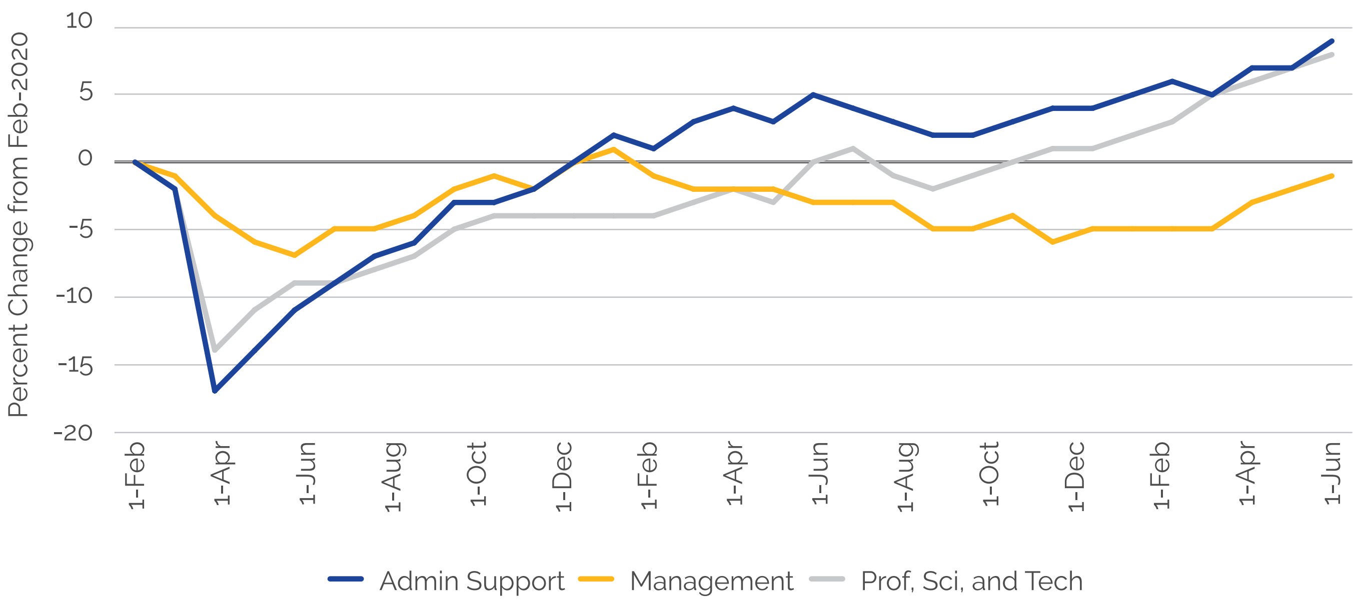
As noted in last year's report, the Inland Empire has experienced a tremendous boom in Transport and Logistics employment. Currently, 16.6% of all jobs in the region are in this sector. The Information sector has also grown, but lags all other employment categories, highlighting the relative underrepresentation in the Inland Empire of knowledge workers. Leisure and Hospitality has almost fully recovered from the pandemic losses. The Professional and Business sector has outperformed as Administrative Support and Management jobs have accompanied the large (and complex) logistics and transport operations in the region.

Major Industry Employment, Inland Empire (Indexed)



Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

Detailed View of (Indexed) Professional and Business Services Jobs, Inland Empire

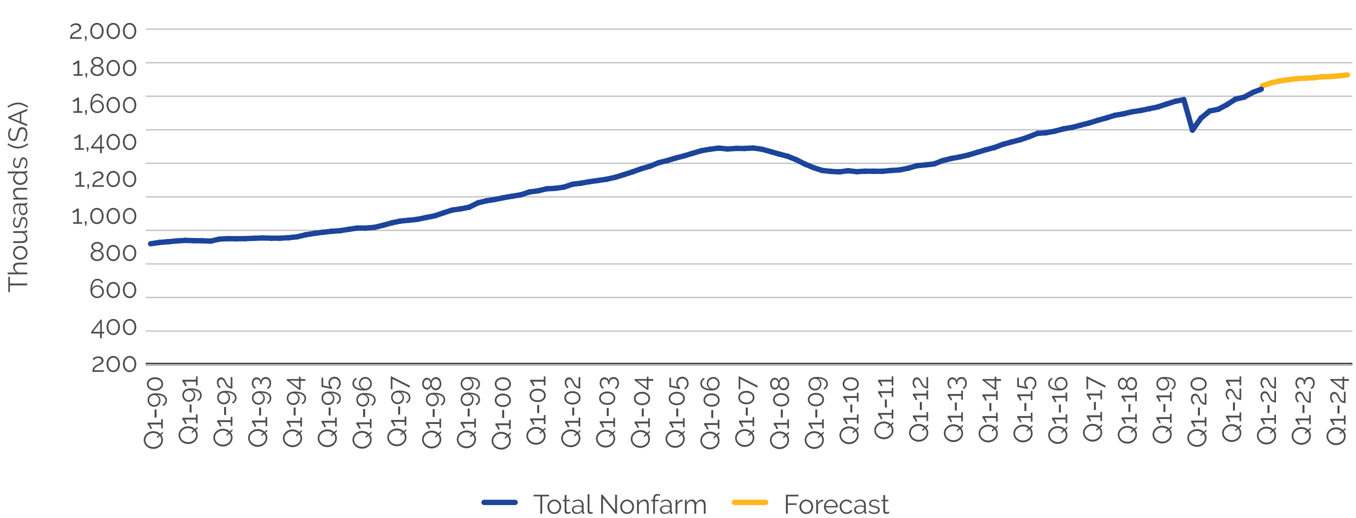


Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

Administrative Support Services has greatly outperformed in terms of job growth. Surprisingly followed by Professional, Scientific, and Tech jobs – a welcomed mix of diversity for the Inland Empire economy.

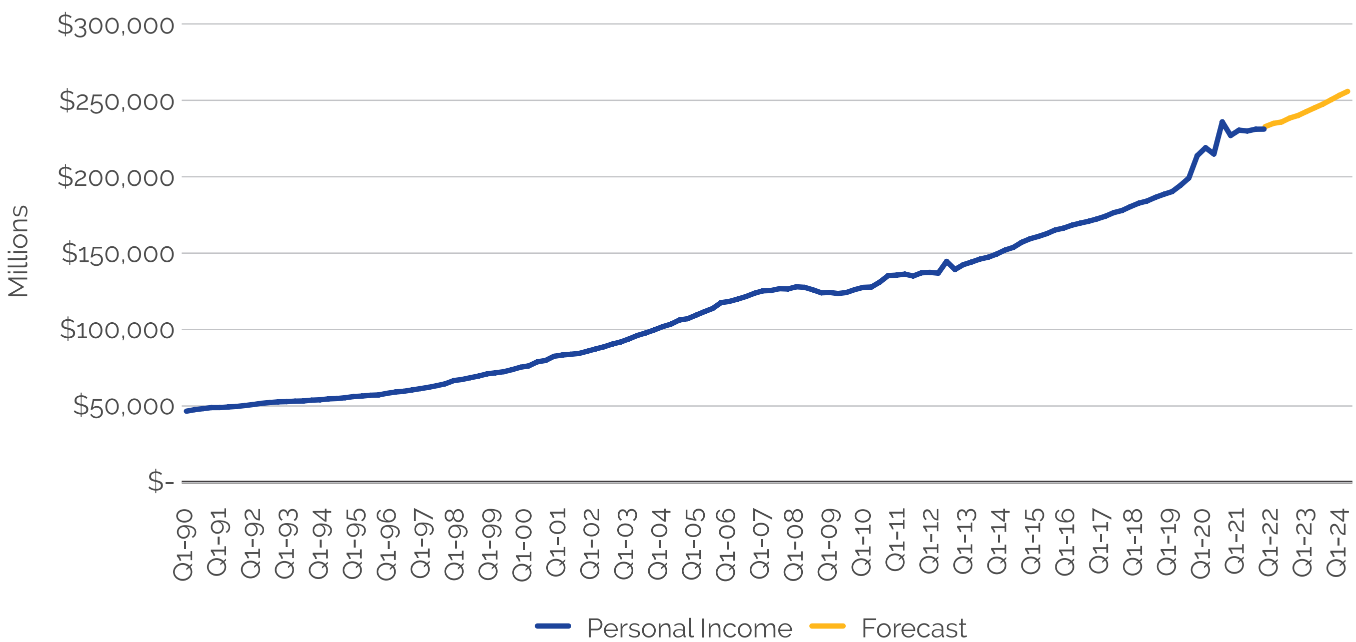
This forecast expects employment in the Inland Empire to continue growing, although at a tapered pace.

Nonfarm Employment Forecast, Inland Empire



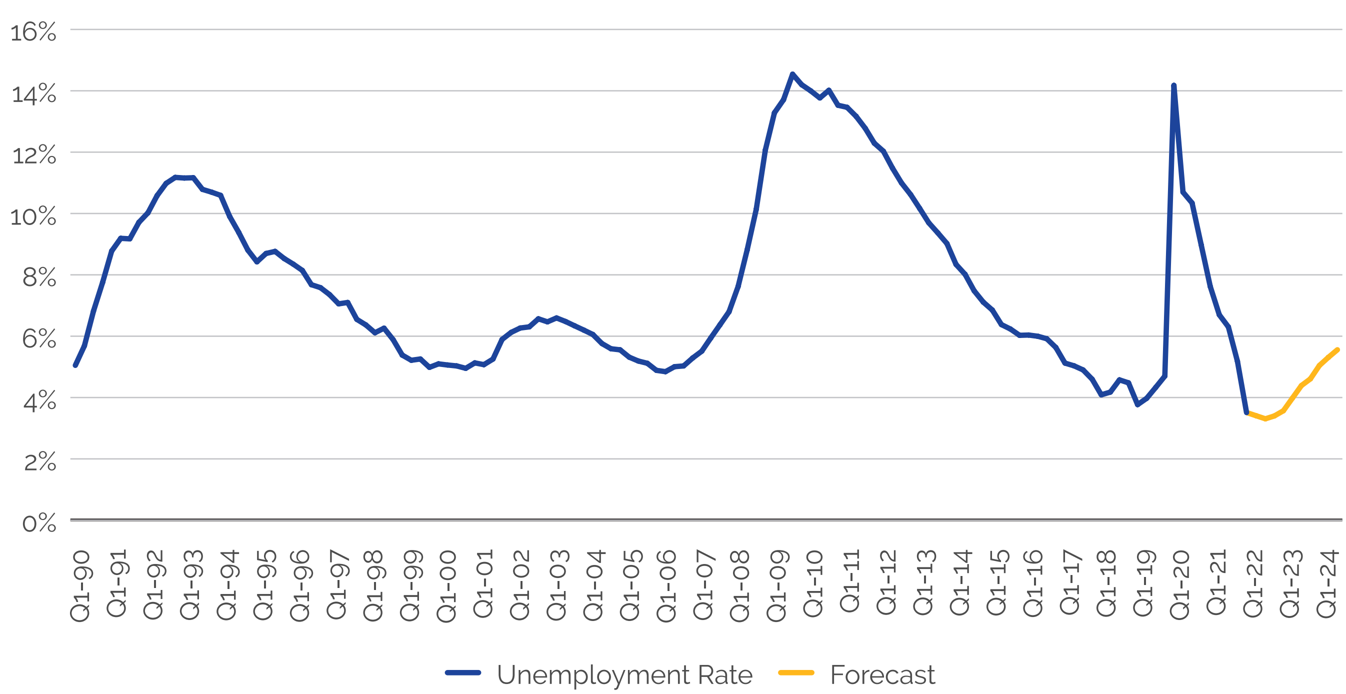
Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

Personal Income Forecast, Inland Empire



Source: U.S. Bureau of Economic Analysis; Analysis by UCR Center for Economic Forecasting and Development

Unemployment Rate Forecast, Inland Empire

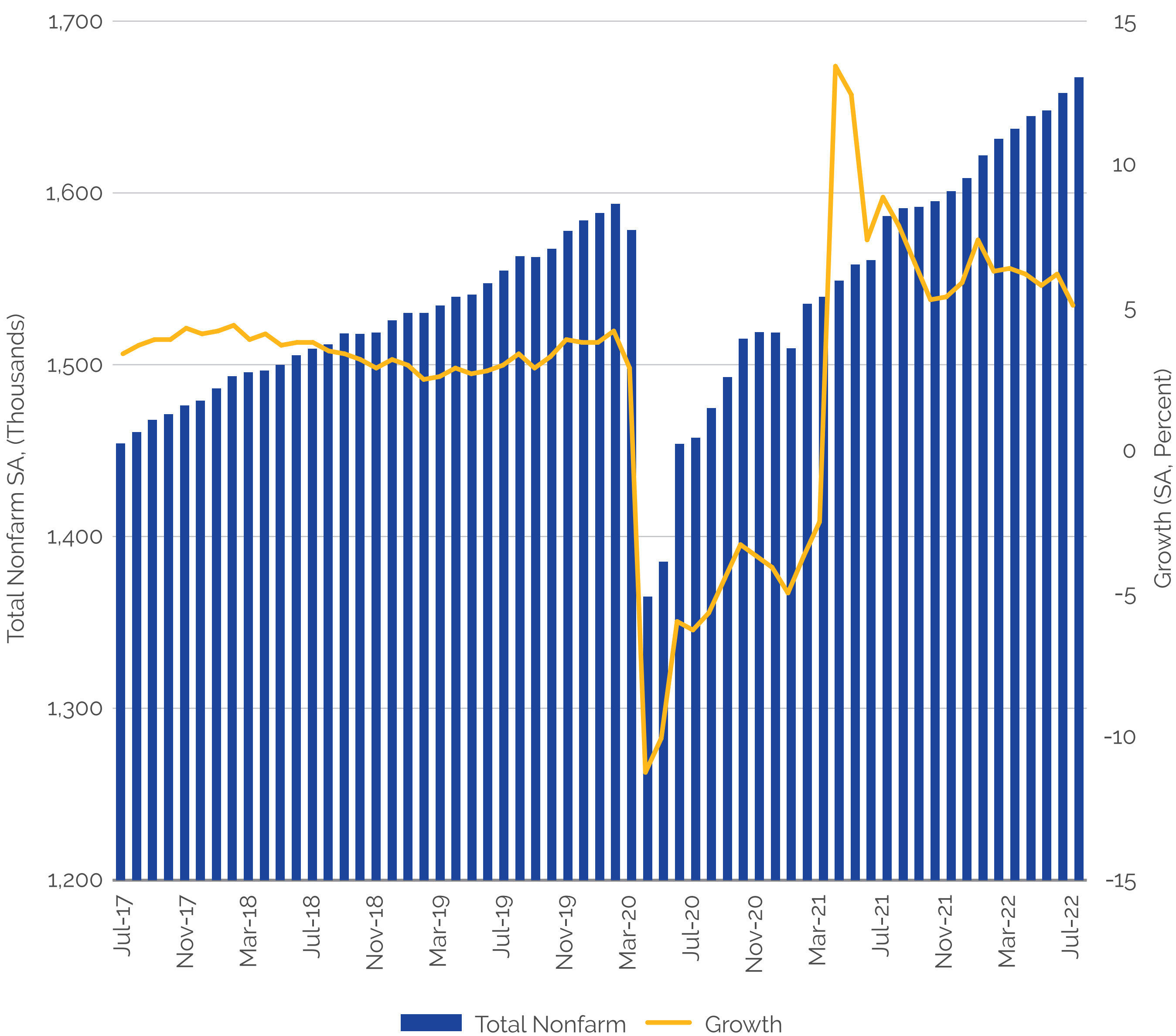


Source: California Employment Development Department; Analysis by UCR Center for Economic Forecasting and Development

Employment and Wages

The Inland Empire's labor market has fully recovered from the COVID-19 pandemic and continues to show strength. At 3.3%, the Inland Empire's unemployment rate is now lower than its pre-pandemic level of 4% in February 2020. More than 300,000 jobs have been added since the national lockdown in April 2020, surpassing the 228,700 jobs that were lost at that time. Employment growth in the Inland Empire outpaced the state and nation during this period. Unlike other parts of California, the labor force (individuals willing and able to work) has grown steadily in the Inland Empire. From February 2020 to July 2022, the region's labor force rose by 78,800, a 3.7% increase. By contrast, California's overall labor force declined -1.1%, or -209,600 workers.

A Full Recovery: Inland Empire Nonfarm Employment



Source: California Employment Development Department (EDD); Analysis by UCR Center for Economic Forecasting and Development

The pandemic's impact on consumers has favored some local industries. For example, the surge in e-commerce has helped boost payrolls in the Inland Empire's Transportation and Warehousing sector. This sector boasts a major presence in the region and has increased 39.5% since February 2020, outpacing sector growth in the state by a wide margin. Moreover, with 60,900 local jobs added since February 2020, Transportation and Warehousing has been the driving force behind the region's economic recovery.

Significant job gains have also occurred in Administrative Support, Professional, Scientific, and Technical Services, Retail Trade, and Financial Activities. In stark contrast to other regions of Southern California, the Leisure and Hospitality sector in the Inland Empire has recovered all jobs lost due to the pandemic.

Industry Employment, Inland Empire

Sector	Jul-22 Employment (000s)	Chg. Since Feb-20 (%)	Chg. Since Feb-20 (000s)
Transport/Warehouse	215.2	39.5	60.9
Admin Support	118.6	6.6	7.3
Prof Sci and Tech	48.4	6.4	2.9
Leisure and Hospitality	183.9	3.4	6.0
Retail Trade	185.2	3.3	5.9
Financial Activities	46.9	1.9	0.9
Education/Health	263.9	1.9	4.8
Wholesale Trade	70.2	1.5	1.0
NR/Construction	112.9	-0.2	-0.2
Manufacturing	98.6	-1.8	-1.9
Utilities	4.9	-2.2	-0.1
Management	8.7	-2.2	-0.2
Government	255.2	-3.4	-9.1
Other Services	44.7	-7.3	-3.5
Information	9.9	-12.9	-1.5
Total Nonfarm	**1,667.3**	**4.6**	**73.5**

Source: California Employment Development Department (EDD); Analysis by UCR Center for Economic Forecasting and Development

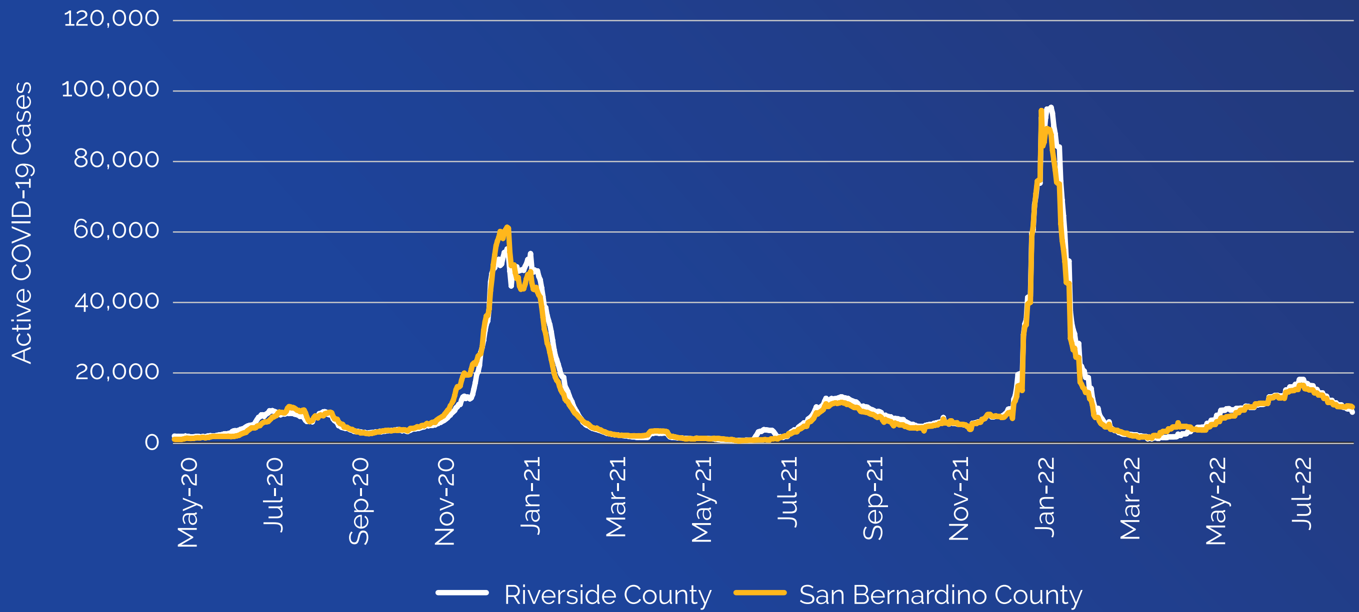
Despite the overall gains in Inland Empire payrolls since February 2020, a handful of sectors still have a ways to go to recover all jobs lost due to the pandemic. Job losses have been most pronounced in Government, which decreased payrolls by -9,100 since February 2022, a -3.4% decline. Other significant job losses have occurred in Other Services (a sector including hair and nail salons and other personal care services), Manufacturing, and Information.

Wages in the Inland Empire have been steadily rising. From fourth-quarter 2020 to fourth-quarter 2021 (latest data available as of this writing), wages grew 5.1%, trailing the 7.8% pace in California overall. Local wage growth was strongest in Riverside County where it increased 5.5%, while wages in San Bernardino County grew 4.8%. However, real wages decreased during the year due to high inflation.

Business Activity

The number of active COVID-19 cases in the Inland Empire remains relatively low. In the absence of a resurgence, the public health mandates put in place to halt the spread of the virus are beginning to disappear quickly.

Low Active COVID-19 Case Numbers, Inland Empire



Source: Los Angeles Times; California Department of Public Health (CDPH); Analysis by UCR Center for Economic Forecasting and Development

Inland Empire Sales: Tax Receipts by Category

Category	Q1-22 ($ Thousands)	1-Year Change (%)	3-Year Change (%)
Fuel and Service Stations	28,335	44.8	50.1
Restaurants and Hotels	27,069	27.5	21.3
Business and Industry	64,381	15.7	86
Building and Construction	29,819	14.7	48.3
Autos and Transportation	47,333	11.9	42
County & State Pool	46,890	9.9	87.9
General Consumer Goods	45,951	8.4	17.3
Food and Drugs	11,905	4.2	30.2
Total	**300,062**	**15.5**	**47.8**

Source: HdL Companies; Analysis by UCR Center for Economic Forecasting and Development

Consumer spending is continuing to increase steadily. From first-quarter 2021 to first-quarter 2022, taxable receipts in the Inland Empire increased 15.5%. This has been driven by more Business and Industry spending, higher fuel prices, and increased spending in categories impacted by government health mandates and consumer reservations related to COVID-19.

With fuel prices near record highs and more people traveling for work and leisure, spending at Fuel and Service Stations was the fastest growing spending category in the Inland Empire over the last year, jumping 44.8%. Spending also grew rapidly at Restaurants and Hotels, with levels up 27.5%. This was one of the hardest hit categories from the pandemic, and spending levels are now exceeding pre-pandemic levels.

Other spending categories posting significant gains over the last year were Business and Industry (15.7%), Building and Construction (14.7%), and Autos and Transportation (11.9%). As more consumers ate more meals away from home, the increase was modest at Food and Drug Stores, which was up just 4.2%.

With more consumers spending money at traditional locations like restaurants and brick-and-mortar retail stores, the County and State Pool (the category for e-commerce sales) has experienced a more modest gain in spending over the last year relative to recent years, growing 9.9%. However, this category is still up 87.9% over the past three years, well above the 47.8% increase across all categories over the same period and also the fastest growing category.

Inland Empire Sales: Taxable Sales by City

City	Q1-22 ($ Millions)	1-Year Change (%)
Chino	777.3	24.6
Ontario	2,586.7	24.2
Rancho Cucamonga	806.6	22.0
Temecula	986.2	17.8
Riverside	1,789.5	16.2
Fontana	1,107.2	15.7
Corona	1,065.9	15.4
San Bernardino	1,120.3	15.3
Moreno Valley	727.8	6.8
Rialto	1,127.6	2.1
Eastvale	927.8	1.1

Source: California Department of Tax and Fee Administration; Analysis by UCR Center for Economic Forecasting and Development

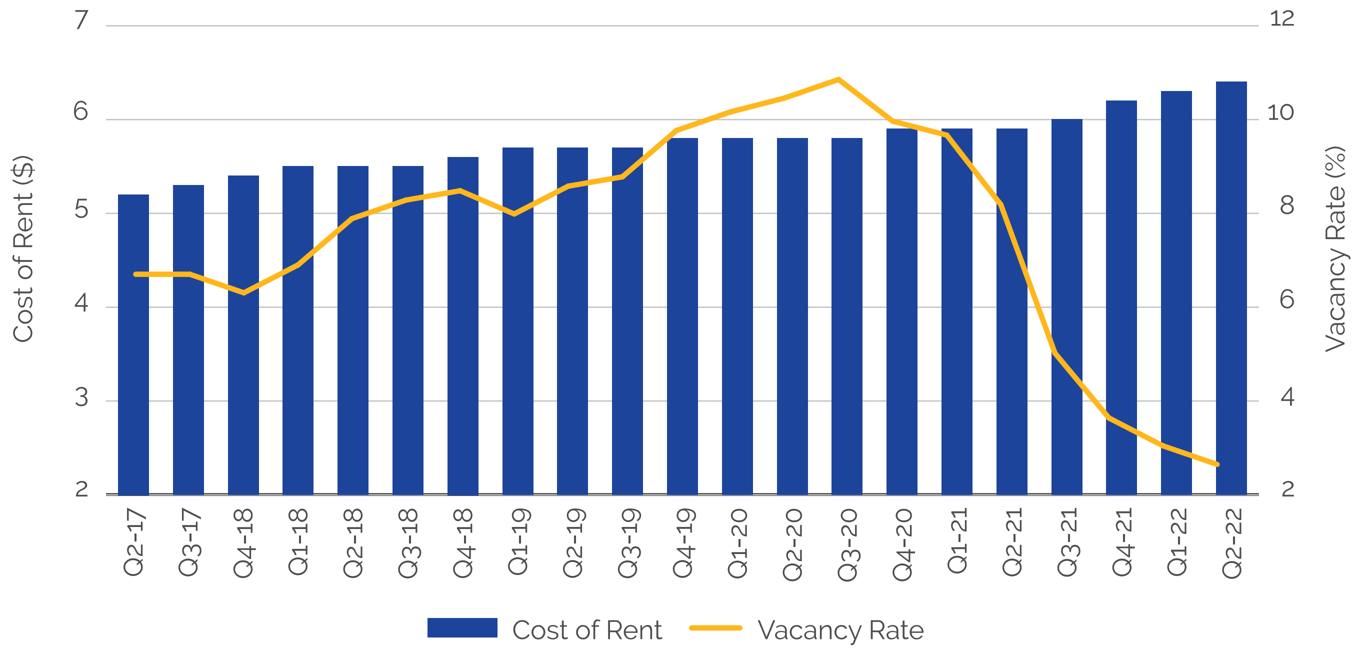
Taxable sales have grown across the Inland Empire in 2022. From first-quarter 2021 to first-quarter 2022, taxable sales in Chino expanded 24.6%, the fastest rate among large cities. This was followed by growth in the cities of Ontario (24.2%), Rancho Cucamonga (22%), Temecula (17.8%), Riverside (16.2%), Fontana (15.7%), Corona (15.4%), and San Bernardino (15.3%).

Passenger traffic at Ontario International Airport is continuing to recover as well. A total of 3.2 million passengers passed through the airport during the first seven months of 2022, a 48.8% increase over 2021. Airport activity is now outpacing pre-pandemic levels, with passenger traffic up 3% over the same period in 2019.

Commercial Real Estate

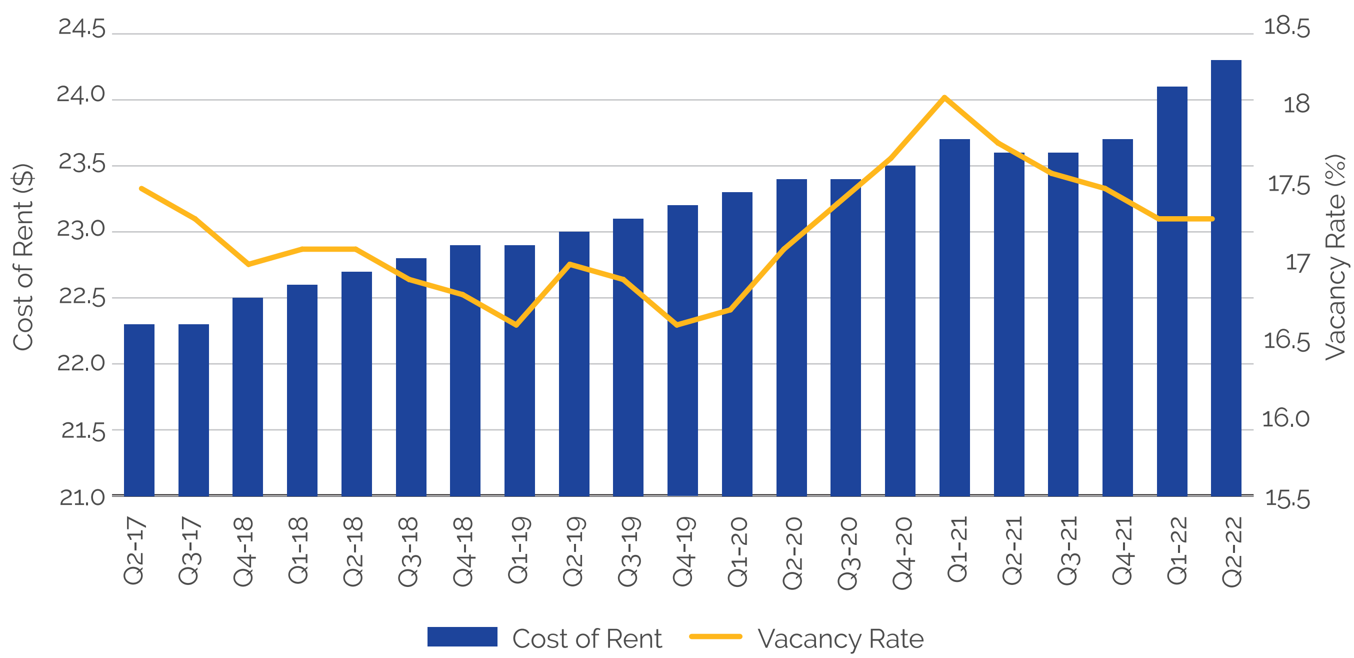
The increase in demand for e-commerce goods has caused a surge in demand for Warehouse and Distribution space in the Inland Empire. The vacancy rate among Warehouse properties fell to 2.6% in the second quarter of 2022, a -5.6 percentage-point decrease from one year earlier. Occupied stock grew by 34.5 million square feet, an 8.6% increase. In addition, asking rents grew 8% to an average annual rate of $6.38 per square-foot. Still, Warehouse and Distribution space remains more affordable than Los Angeles ($8.67), Orange ($8.31), and San Diego ($10.13) counties.

Warehouse Market, Inland Empire



Source: REIS; Analysis by UCR Center for Economic Forecasting and Development

Office Market, Inland Empire



Source: REIS; Analysis by UCR Center for Economic Forecasting and Development

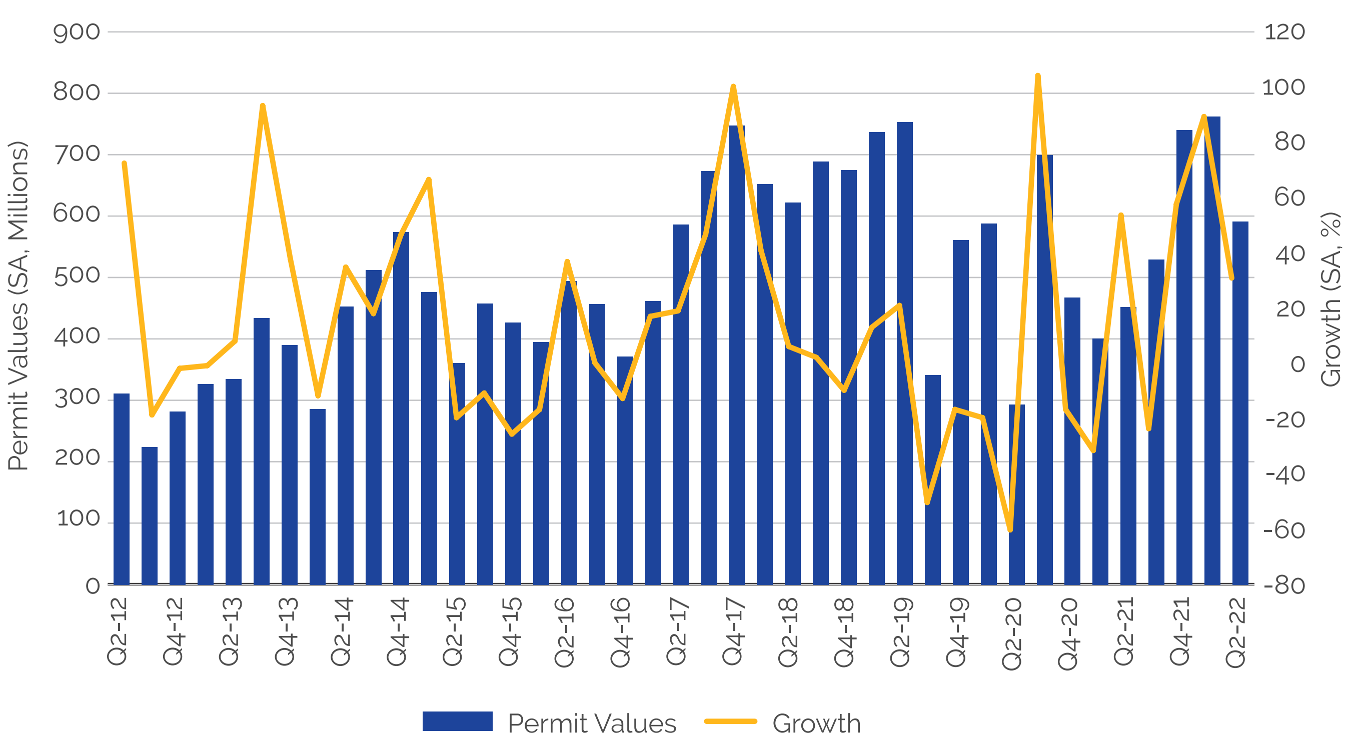
After a decline due to the pandemic, demand for Office properties in the Inland Empire is beginning to increase. The Office vacancy rate hit 17.3% in the second quarter of 2022, down -0.5 percentage points from one year earlier. In addition to the decrease in vacancy rate, occupied stock increased 1.1%. Asking rents grew 2.6% to an annual rate of $24.26 per square-foot, keeping Office space more affordable than Los Angeles ($41.38), Orange ($33.93), and San Diego ($35.15) counties.

The vacancy rate among Flex/Research and Development (R&D) properties in the Inland Empire fell to 2.6% in the second quarter of 2022, a -1.8 percentage-point decrease from one year earlier. Asking rents grew 5% to reach an annual rate of $9.48 per square-foot, keeping Flex/R&D space more affordable than Los Angeles ($14.19), Orange ($13.16), and San Diego ($15.69) counties.

Demand for Retail space in the Inland Empire is beginning to stabilize; however, it remains below pre-pandemic levels. The vacancy rate increased to 10% in the first quarter of 2022 (a 0.1 percentage-point increase from one year earlier), and asking rents fell -0.1% to an annual rate of $22.51 per square-foot. As with other commercial property types, Retail space remains more affordable than Los Angeles ($33.59), Orange ($34.33), and San Diego ($32.38) counties.

Non-residential permitting in the Inland Empire has increased over the last year. Building permit values in the first half of 2022 totaled $1.41 billion, a 60% increase from the first half of 2021. The largest increases were in Retail properties, which totaled just $372 million in the first half of 2022, up 160% from the first half of 2021. Industrial properties, totaling $314 million in building permits, were also up 33.2%. Office permitting continues to be tepid, totaling just $35.7 million in the first half of 2022; however, this is a significant increase from the first half of 2021.

Non-Residential Permits, Inland Empire



Source: Construction Industry Research Board (CIRB); Analysis by UCR Center for Economic Forecasting and Development

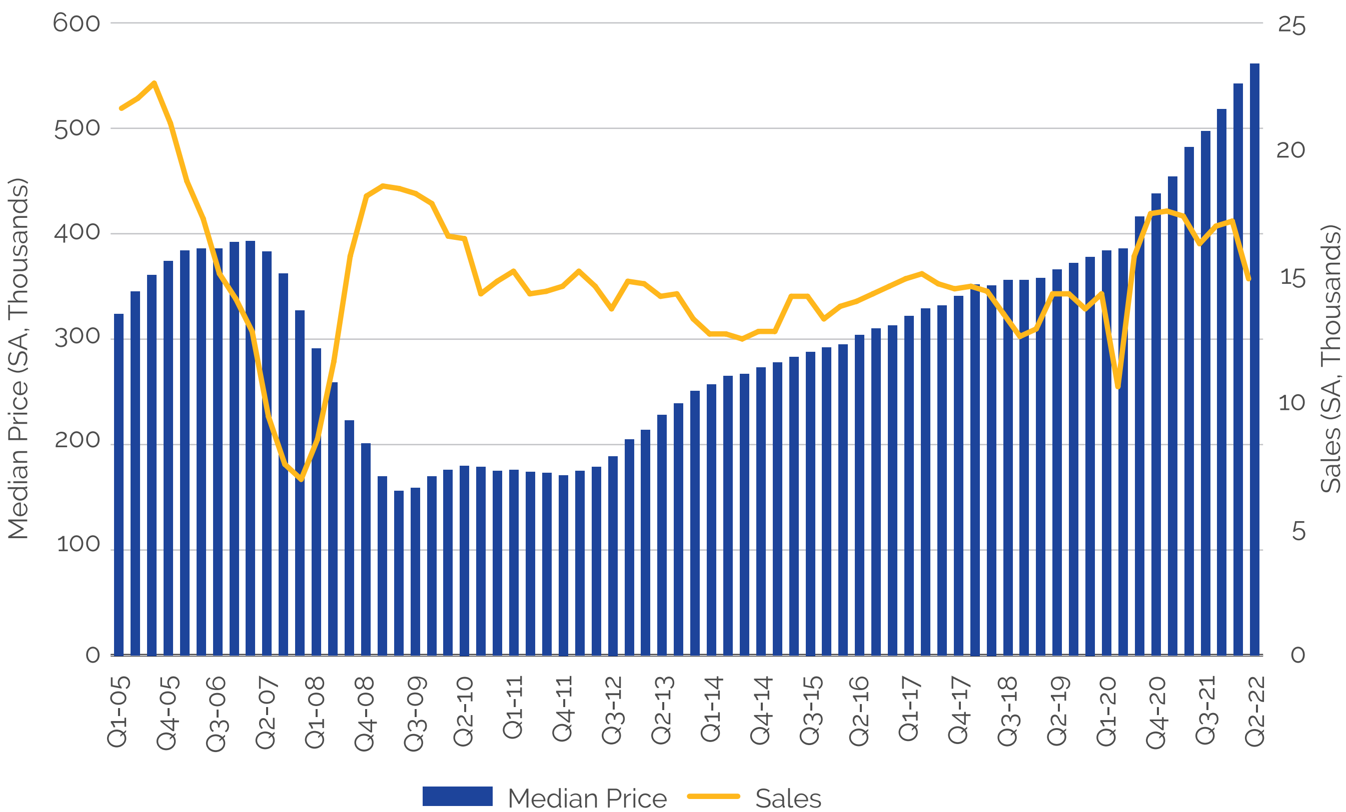
Residential Real Estate

The housing market was by far the brightest spot in the Inland Empire's economy over the last two years. However, today's elevated mortgage rates are constraining demand.

Still, home prices in the Inland Empire continue to increase rapidly. From second-quarter 2021 to second-quarter 2022, the median single-family home price rose 16.5%. This is stronger growth relative to Los Angeles (9.5%) and San Diego (14.7%) counties, yet slightly slower growth relative to Orange County (19.4%).

Part of the reason the Inland Empire is experiencing more rapid growth is because it is one of the last relatively affordable housing markets in Southern California. At a median price of $561,000, the region's existing single-family homes are significantly more affordable than those in Los Angeles ($917,000), Orange ($1.18 million), and San Diego ($920,000) counties.

Single-Family Homes, Inland Empire



Source: CoreLogic; Analysis by UCR Center for Economic Forecasting and Development

While more affordable than neighboring counties, buying a home is becoming more costly. Only 24% of local households can afford to purchase a median-priced home in the Inland Empire, down from 36% in the second quarter of 2021. This also makes the region more affordable than California (16%), but less affordable than the United States overall (38%).

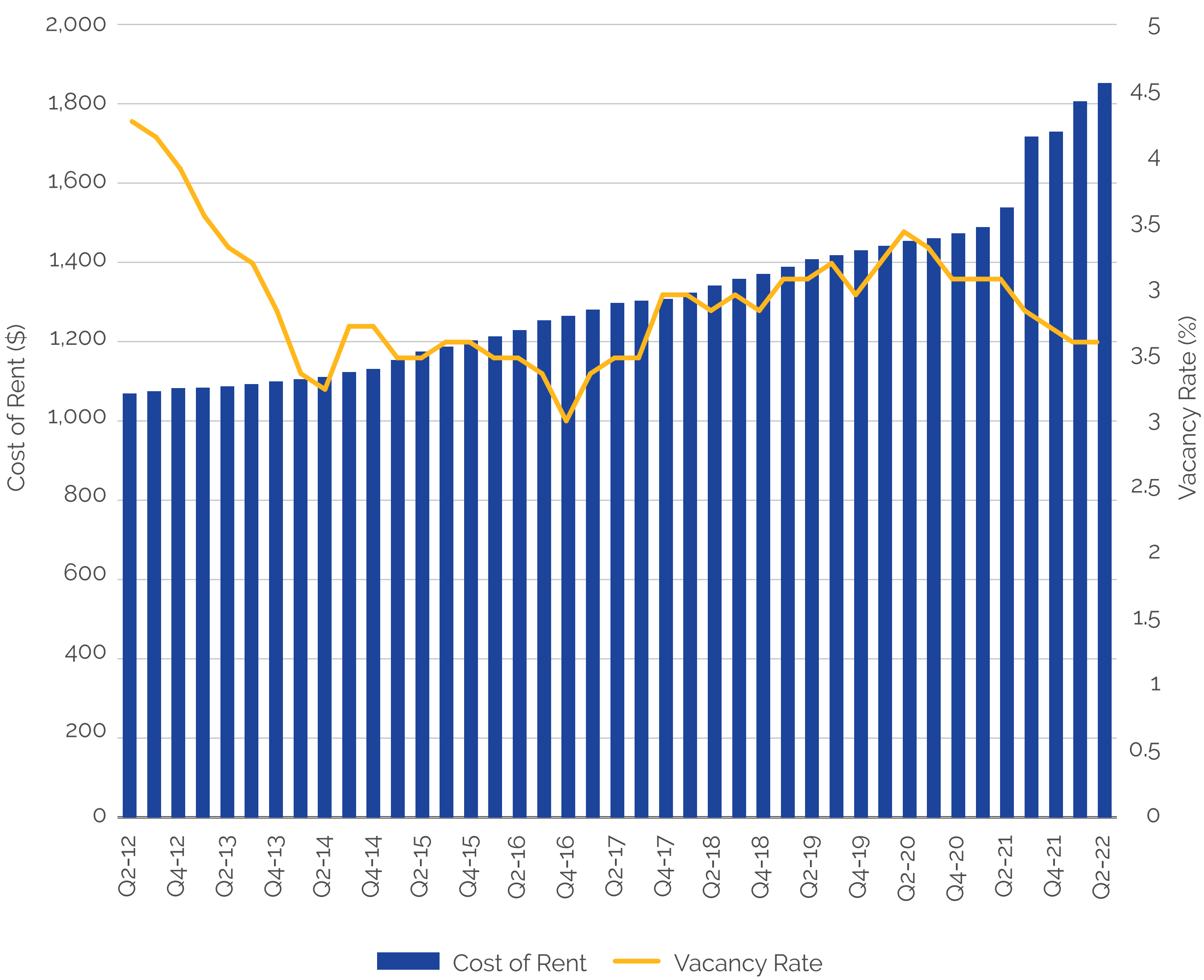
With mortgage rates rising, the number of homes sold has decreased. Existing single-family home sales declined -14.5% in the Inland Empire from second-quarter 2021 to second-quarter 2022, a more modest decline compared to Orange (-28.3%), San Diego (-22.3%), and Los Angeles (-17%) counties.

The pandemic-driven economic stimulus from the federal government increased demand for housing throughout California. However, this stimulus led to higher home prices and rising mortgage rates, which are beginning to constrain demand. In July 2022, there was only 3.4 months of housing supply available for purchase in Riverside County and 4 months in San Bernardino County. While this is more inventory compared to recent months, a balanced market typically equates to 6 – 7 months of supply, with a buyer's market being seven months of supply and above and a seller's market six months of supply and under. [3]

[3] National Association of Realtors (NAR).

Demand for apartments in the Inland Empire has also surged. The apartment vacancy rate fell to 3% in the second quarter of 2022, a -0.4 percentage-point decrease from one year ago. In addition, the number of occupied units grew 0.7%. Asking rents jumped 20.4% to $1,853 per unit, per month. But even with that increase, the Inland Empire remains a more affordable rental market than Los Angeles ($2,252), Orange ($2,467), and San Diego ($2,232) counties.

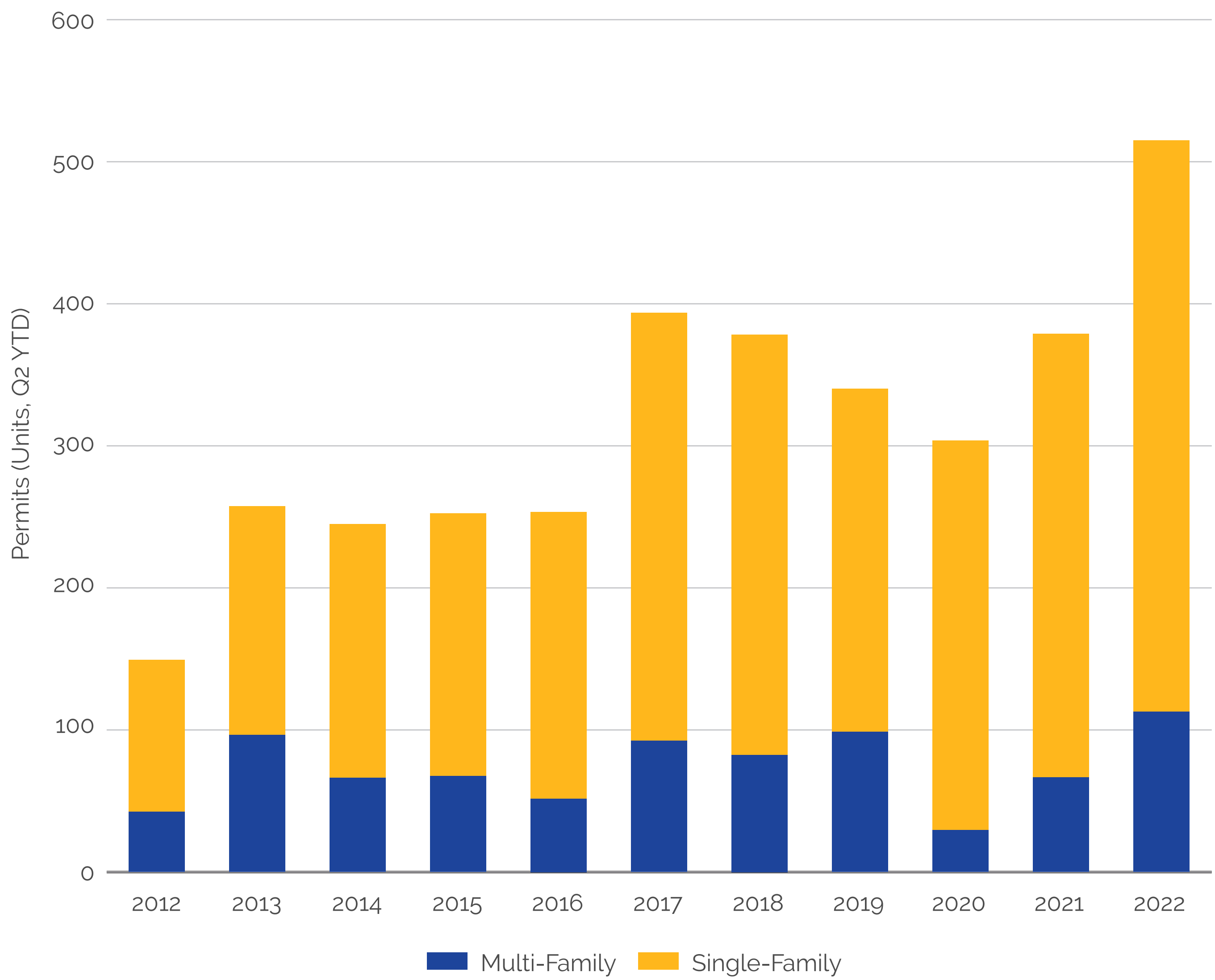
Apartment Market, Inland Empire



Source: REIS; Analysis by UCR Center for Economic Forecasting and Development

In step with the hot housing market, residential construction in the Inland Empire has increased 36% from first-half 2021 to first-half 2022. The region issued 2,256 multi-family building permits and 8,049 single-family building permits in the first half of 2022, an increase of 70% and 29% (respectively) compared to the first half of 2021.

Residential Permit Growth, Inland Empire

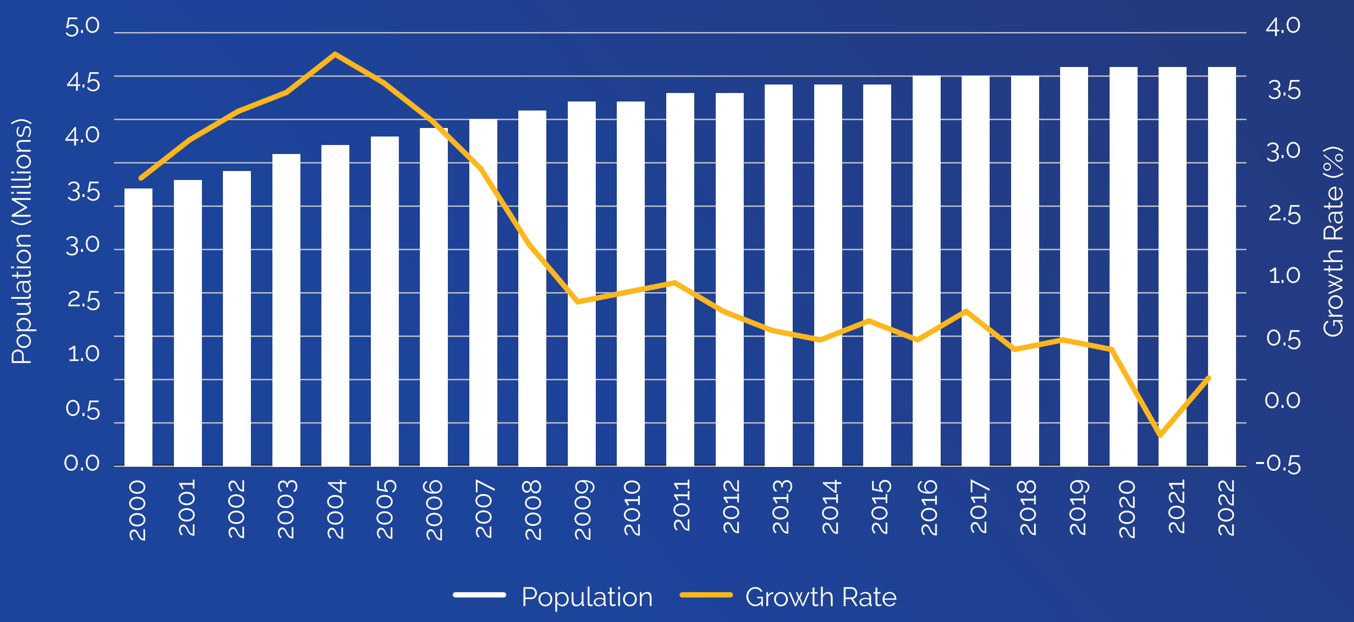


Source: Construction Industry Research Board (CIRB); Analysis by UCR Center for Economic Forecasting and Development

Demographics

The Inland Empire's population grew by 16,260 (0.4%) in 2022, with Riverside County expanding 0.2% and San Bernardino County increasing 0.5%. This surpassed growth in Los Angeles County (-0.7%), Orange County (-0.2%), San Diego County (0%), and the state overall (-0.3%).

Population, Inland Empire



Source: California Department of Finance (DOF); Analysis by UCR Center for Economic Forecasting and Development

Growth was mixed across the Inland Empire, with some cities adding to their populations while others experienced declines. In 2022, the fastest growing city was Calimesa, which increased its population 3.4% over the last year. Other rapidly growing cities were Menifee (2.9%), Chino (2.4%), Riverside (1.6%), and Ontario (1.6%). Not all cities in the region experienced growth, however. Canyon Lake, Wildomar, Barstow, and Needles all experienced population declines of -0.8% over the last year, and a handful of others also noticeably decreased.

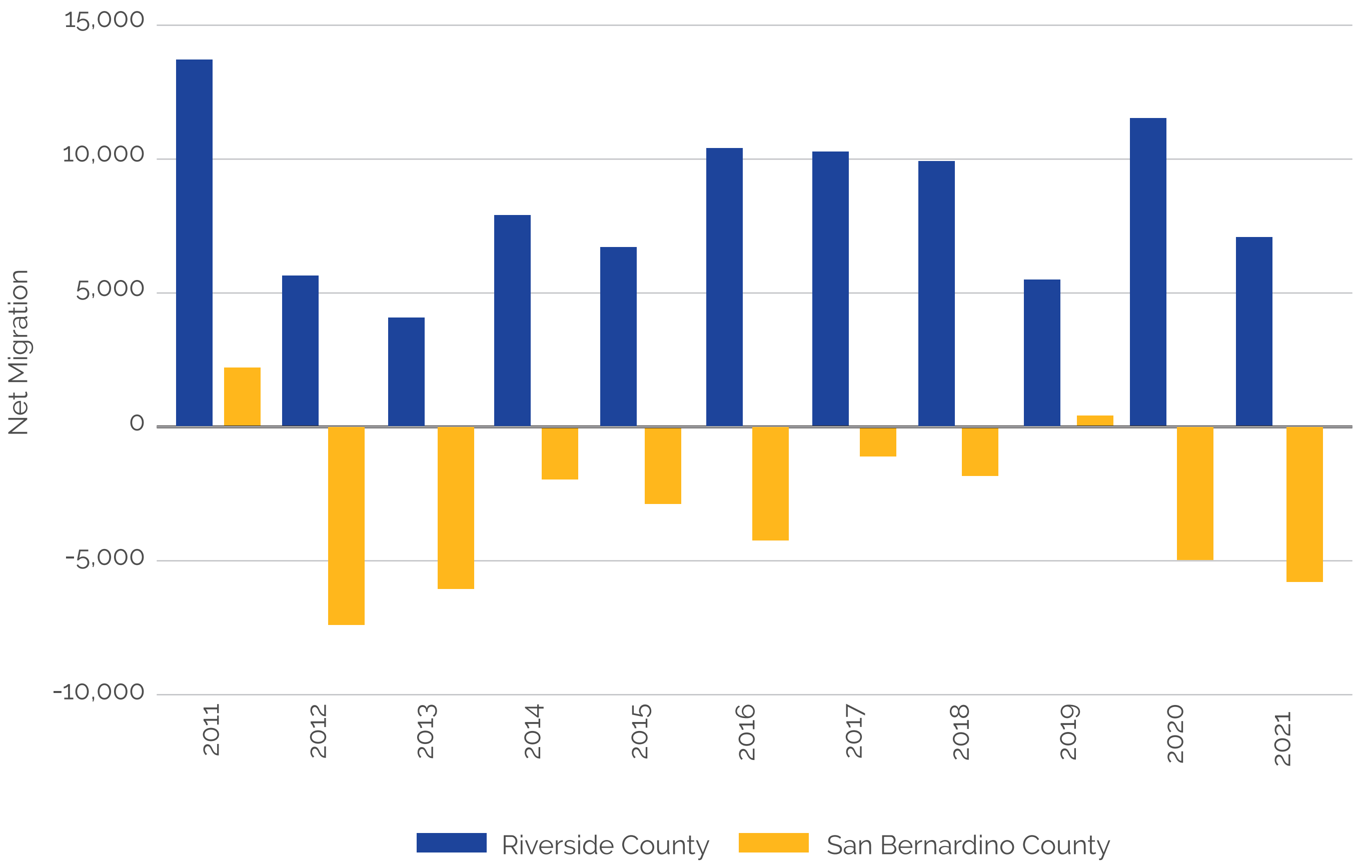
Inland Empire: Fastest/Slowest Population Growth by City (2022)

City	Population	Growth Rate (%)
Calimesa	10,899	3.4
Menifee	106,627	2.9
Chino	91,998	2.4
Riverside	317,847	1.6
Ontario	179,516	1.6
Norco	24,909	1.4
Fontana	212,809	1.4
Victorville	136,561	1.4
Lake Elsinore	71,615	1.0
Rancho Mirage	16,804	0.9
Chino Hills	77,964	-0.6
Yucaipa	54,494	-0.6
Highland	56,546	-0.6
Grand Terrace	13,042	-0.7
Apple Valley	75,628	-0.7
Eastvale	69,929	-0.7
Needles	4,876	-0.8
Barstow	25,202	-0.8
Wildomar	36,632	-0.8
Canyon Lake	11,056	-0.8

Source: California Department of Finance (DOF); Analysis by UCR Center for Economic Forecasting and Development

Riverside County continues to see positive net migration. In 2021 (the latest data available), net migration (includes both foreign and domestic migration) to the County totaled 7,103. San Bernardino County, on the other hand, experienced negative net migration for the second straight year in 2021, with a total of 5,788 people leaving the County. Taken together, net migration remains positive for the Inland Empire as a whole, a sharp contrast to California overall where there was a negative net migration of 250,000 during the same period.

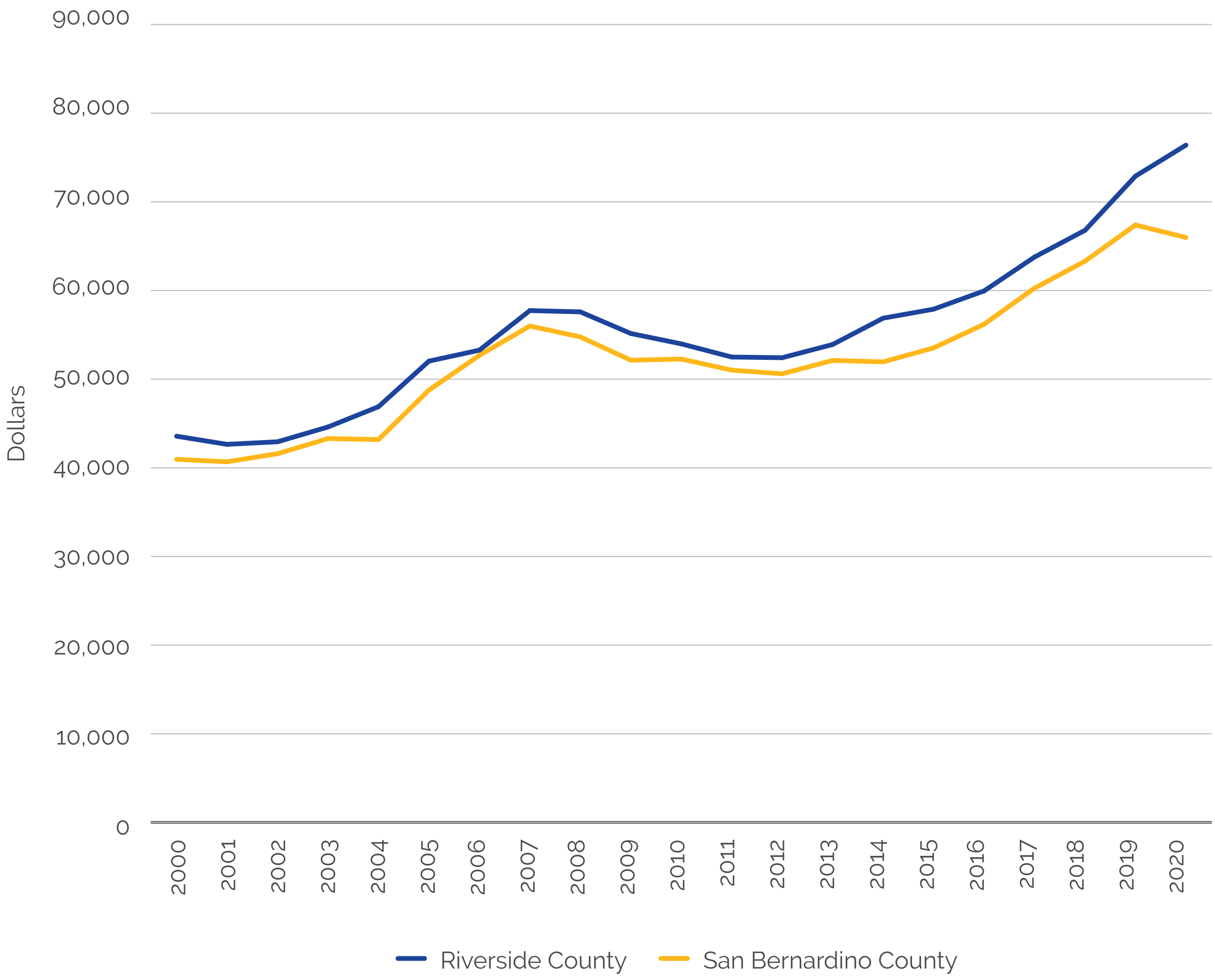
Net Migration, Inland Empire



Source: California Department of Finance (DOF); Analysis by UCR Center for Economic Forecasting and Development

Household income continues to rise in the Inland Empire. In 2020 (the latest data available), the median household income in Riverside County grew to $76,409, a 4.8% increase. However, the median household income in San Bernardino County fell to $65,984, a 2.1% decline from 2019.

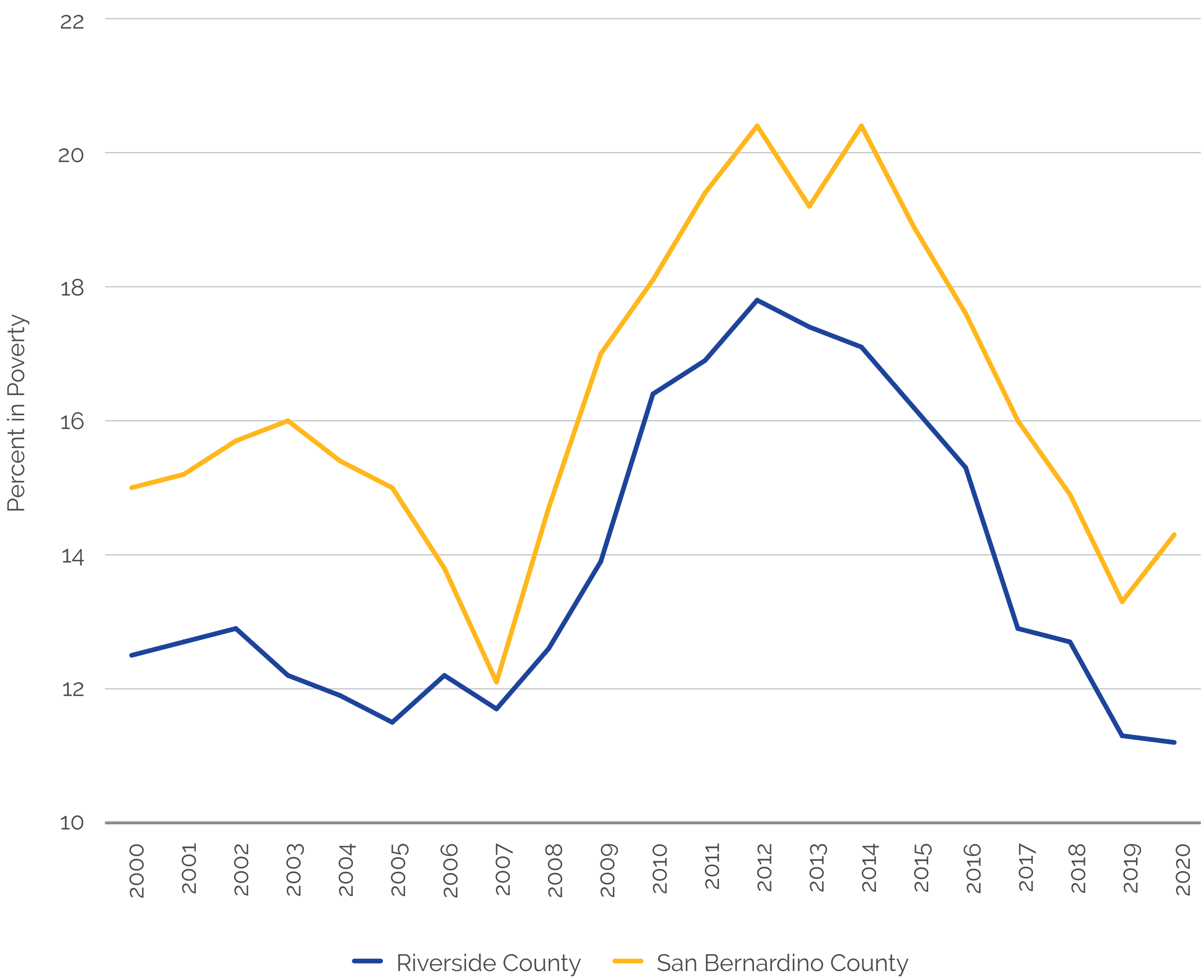
Median Household Income, Inland Empire



Source: U.S. Census Bureau; Analysis by UCR Center for Economic Forecasting and Development

Following the rise household incomes, the poverty rate in the Inland Empire has declined in recent years. In 2020 (the latest data available), the poverty rate was 11.2% in Riverside County and 14.6% in San Bernardino County. From 2015 to 2020, the poverty rate fell by 5.0 percentage points in Riverside County and by 4.6 percentage points in San Bernardino County. However, following the decline in household income at the onset of the pandemic, the poverty rate rose slightly in San Bernardino County between 2019 and 2020.

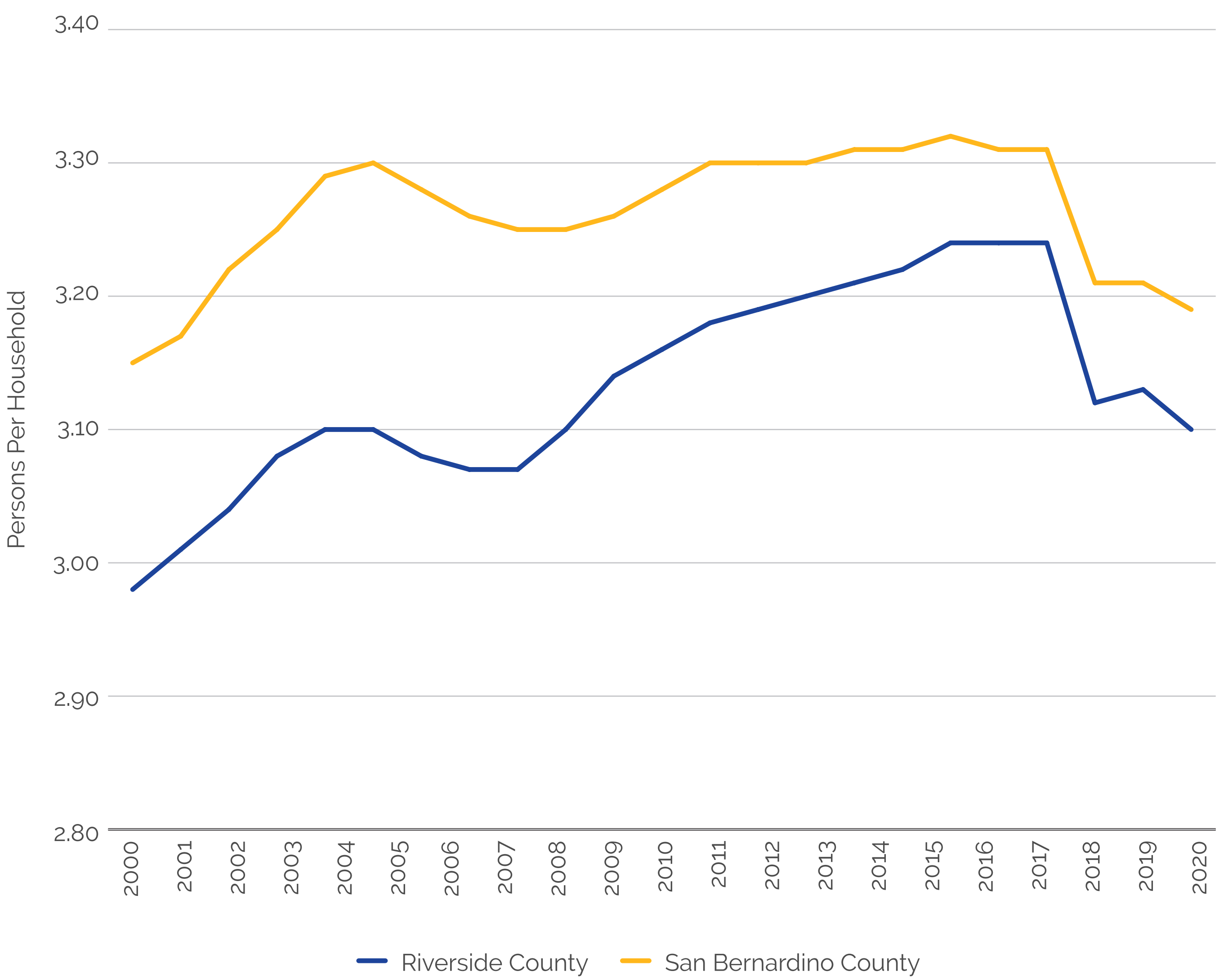
Poverty Rate, Inland Empire



Source: U.S. Census Bureau; Analysis by UCR Center for Economic Forecasting and Development

Household size has declined in the Inland Empire in recent years. In 2022, there were 3.10 persons per household in Riverside County and 3.19 persons per household in San Bernardino County. Between 2017 and 2022, household size fell by 4.3% in Riverside County and by 3.9% in San Bernardino County.

Persons Per Household, Inland Empire



Source: California Department of Finance; Analysis by UCR Center for Economic Forecasting and Development

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