SONOMA COUNTY EDB ECONOMIC DEVELOPMENT BOARD

SUMMER
LOCAL ECONOMIC REPORT

FORECAST REPORT

2021

ECONOMIC DEVELOPMENT BOARD

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SONOMA COUNTY BOARD OF SUPERVISORS

CONTENTS

EXECUTIVE SUMMARY

November 2021

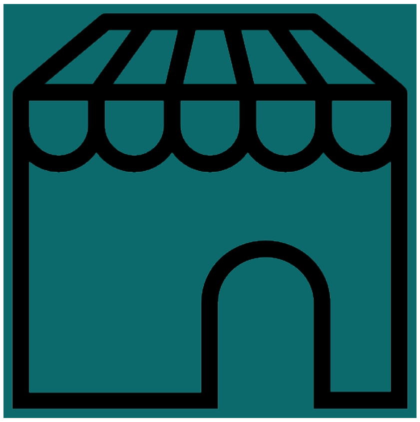
The Sonoma County Economic Development Board is pleased to present the Summer 2021 Local Economic Report. Our research partner, Moody's Analytics, provided the data for this report. For additional information, questions, comments, or suggestions, please contact us at (707) 565-7170 or visit www.sonomaedb.org.

Disclaimer to the Reader: *The forthcoming details in this report reflect trends sourced from data gathered during the novel Coronavirus pandemic. Figures, such as employment rates and COVID-19 case rates, have been susceptible to great variability and are ever-changing.*

HIGHLIGHTS

Sonoma County's economy is steadily recovering. September's unemployment rate was 5.2%, down from 6.1% in April and just 1 percentage point above the pre-crisis low. Labor force participation is at 60.4%, one percent higher than April's level. Gross metro product is expected to finish at $30.1 billion in 2021 and increase to $31.5 billion by 2022 (in 2012 inflation adjusted dollars).

House prices continue to rise, just slightly above the California rate. Permit issuances have also increased tremendously in 2021, particularly for multi-family housing. Sonoma County has long been dealing with housing shortages that were exacerbated by the 2017, 2019, and 2020 fires. The recent surge in housing permits may be due to rebuilding efforts.



Payrolls in the tourism industry are up 60% from January levels, compared to only 30% for California. COVID-19 had a massive impact on the industry, and its recovery will continue to be dependent upon consumers' willingness to travel. Sonoma County has benefitted so far from its proximity to highly populated areas, as consumers report being more comfortable traveling by car than plane.

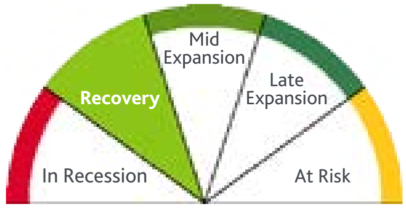

2
3
4
300mV/
3.50mV
H
100.0ms/
-298.0ms
T
S&H
1
375mV
Stop
Summary
Acquisition
High Resolution
1.00MSa/s
Channels
DC 1.00:1
DC 1.00:1
DC 1.00:1
DC 1.00:1
Horizontal
Horiz
Search
Navigate
Run Control
Run
Stop
Default Setup
Trigger
Force Trigger
Zone
Level
Mode Coupling
Measure
Cursors
Meas
Waveform
Analyze
Acquire
Display
File
Save Recall
Print
Tools
Clear Display
Utility
Quick Action
Push to Select
Intensity
Touch
Wave Gen1
Wave Gen2
Vertical
1
Label
2
Help

Moody's ANALYTICS

SONOMA COUNTY CA

METRO COMPARISON	EMPLOYMENT GROWTH RANK 2020-2022 (Best=1, Worst=409)	EMPLOYMENT GROWTH RANK 2020-2025	RELATIVE COSTS LIVING (U.S.=100%)	RELATIVE COSTS BUSINESS	VITALITY RELATIVE (U.S.=0%)	VITALITY RANK (Best=1, Worst=402)
Sonoma County	205 (3rd quintile)	181 (3rd quintile)	134%	124%	-0.21%	263
Santa Barbara County	242 (3rd quintile)	193 (3rd quintile)	133%	132%	-0.09%	210
Santa Cruz County	373 (5th quintile)	177 (3rd quintile)	150%	129%	-0.19%	257
Sacramento MSA	201 (3rd quintile)	149 (2nd quintile)	114%	124%	0.22%	122
Monterey County	47 (1st quintile)	64 (1st quintile)	129%	125%	-0.46%	344

BUSINESS CYCLE STATUS



STRENGTHS & WEAKNESSES

STRENGTHS

- World-class wineries and craft breweries are magnets for tourism.
- Leader in organic food production.
- Climate draws outdoor enthusiasts.
- High quality of life.

WEAKNESSES

- Limited land availability for new wineries and commercial construction.
- High costs relative to emerging tech hubs.
- Unfavorable age structure.

FORECAST RISKS

SHORT TERM	LONG TERM
↓	↑

COVID-19 EXPOSURE OCTOBER 2021 — **362** — 5th quintile — *Highest=1, Lowest=403*

UPSIDE

- Consumers embrace organic foods with even greater enthusiasm.
- Marin County biotech firms expand in Sonoma County.

DOWNSIDE

- COVID-19 does more economic damage.
- Population trends fail to improve.
- More wine enthusiasts flock to the Pacific Northwest.
- Weaker trade with East Asia hurts medical device and wine industries.

MOODY'S RATING

NR — SANTA ROSA AS OF AUG 06, 2020

ANALYSIS

Recent Performance. Sonoma County's economy is on the right track. Job growth has outperformed the state and nearly doubled the national pace on average since the start of the year. The crucial tourism industry is roaring back as the effects from the pandemic wane. Payrolls have jumped 60% since January, compared with just over 30% for California. Outside of tourism, job growth is broad-based, save for some continued weakness in manufacturing. Meanwhile, the unemployment rate is just a percentage point above its precrisis low, and the labor force is beginning to tick higher.

Finally, the housing market is heating up. Permit issuance is surging thanks to a rapid rise in the multifamily segment, and house price appreciation is strong at 15%.

Tourism. The outlook for Sonoma County's tourism industry will depend on the continued abatement of COVID-19 cases nationally and consumers' willingness to travel. Traveler volumes at the nation's airports show a broadly improving trend. TSA traveler throughput numbers have trended higher over the past six months. As of October, average daily volumes are just 18% shy of their 2019 figures, a solid improvement over the summer. Consumers' professed comfort in taking vacations has followed a similar trend. According to Morning Consult, the share of respondents who are willing to travel is holding steady around 60%, after hovering around 30% for much of January and February. Respondents are more comfortable traveling by car than through domestic air travel, and this will likely help Sonoma recover more quickly than other tourism-centric areas given its proximity to large population hubs and a reliance on visitors from neighboring counties within driving distance.

Manufacturing. Consumers' growing preference for organically and locally sourced artisanal food products will play to the advantage of Sonoma-based food and beverage producers, but the widespread damage felt by county producers since the pandemic began will take some time to heal. Producers were stung by a pullback in restaurant spending, but some of this was offset by increased demand at grocery stores. Early indications suggest that Sonoma's organic producers are reaping the benefits. Despite the cost advantage that conventional offerings hold relative to organic products, consumers are demonstrating a willingness to pay a price premium for organic produce, meat, dairy and snack foods. U.S. organic sales soared to new highs in 2020, jumping by a record 12.4% and surpassing $60 billion for the first time.

Wine. The end of business restrictions and easing contagion fears will play a large role in determining the fortunes of Sonoma County vintners and spirit makers. Though they adapted well to the changing landscape, the importance of visitor spending at wineries and restaurants will help ease the pain after months of shuttered nonessential businesses. Average tasting fees have roughly doubled since 2016, and local wineries are benefiting from postponed visits over the past two years. Hotel and wine visitor statistics are rapidly approaching 2019 levels, and with massive excess savings accrued during the pandemic, next year will likely exceed prepandemic levels.

Sonoma County's near-term outlook is one of cautious optimism. The county's core industries are beginning to heal, though this will take some time. In the long run, a high quality of life and highly educated workforce will keep the county in line with the California average in job and income growth.

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October 2021 *help@economy.com*

2015	2016	2017	2018	2019	2020	INDICATORS	2021	2022	2023	2024	2025	2026
27.5	28.0	29.0	29.9	30.2	28.4	Gross metro product (C12$ bil)	30.1	31.5	32.3	33.2	34.1	34.8
6.0	*1.6*	*3.9*	*3.0*	*1.0*	*-6.2*	*% change*	*6.0*	*5.0*	*2.4*	*2.8*	*2.6*	*2.2*
196.9	201.9	205.6	208.7	209.1	190.3	Total employment (ths)	192.1	201.8	205.3	207.5	208.9	209.6
2.9	*2.5*	*1.9*	*1.5*	*0.2*	*-9.0*	*% change*	*1.0*	*5.1*	*1.7*	*1.1*	*0.7*	*0.3*
4.5	4.0	3.4	2.8	2.7	8.0	Unemployment rate (%)	5.2	2.9	2.3	2.5	2.8	3.0
7.8	3.6	4.1	4.1	4.4	8.2	Personal income growth (%)	7.9	1.0	4.9	5.1	4.6	4.3
70.4	74.5	79.2	83.5	87.8	87.0	Median household income ($ ths)	90.8	90.0	92.9	96.1	99.4	102.7
500.9	502.5	502.5	498.6	494.3	493.4	Population (ths)	493.2	492.9	492.8	492.2	491.2	490.2
0.5	*0.3*	*-0.0*	*-0.8*	*-0.9*	*-0.2*	*% change*	*-0.0*	*-0.1*	*-0.0*	*-0.1*	*-0.2*	*-0.2*
1.3	0.8	-0.7	-4.1	-4.4	-0.7	Net migration (ths)	0.5	-0.2	0.1	-0.4	-0.7	-0.6
431	621	840	3,169	2,079	1,171	Single-family permits (#)	1,197	1,718	1,875	1,738	1,573	1,418
190	298	338	110	350	224	Multifamily permits (#)	713	756	857	825	711	579
259.6	281.0	303.1	327.2	329.2	334.1	FHFA house price (1995Q1=100)	360.1	389.6	401.0	412.3	423.1	434.5

ECONOMIC HEALTH CHECK

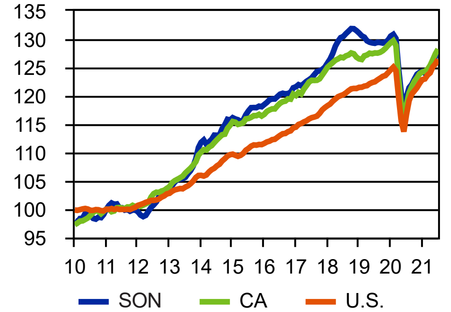
3-MO MA	Apr 21	May 21	Jun 21	Jul 21	Aug 21	Sep 21
Employment, change, ths	1.1	1.6	1.4	1.2	1.2	1.1
Unemployment rate, %	6.1	5.6	5.3	5.1	5.2	5.2
Labor force participation rate, %	59.4	59.4	59.5	59.8	60.1	60.4
Average weekly hours, #	33.0	32.9	32.6	32.0	32.0	32.0
Industrial production, 2012=100	102.5	103.5	104.1	104.7	ND	ND
Residential permits, single-family, #	1,243	1,034	1,053	1,004	1,140	1,203
Residential permits, multifamily, #	440	546	1,037	1,289	2,185	1,715
Dec/Dec	**Dec 15**	**Dec 16**	**Dec 17**	**Dec 18**	**Dec 19**	**Dec 20**
Employment, change, ths	6.1	4.3	3.8	1.9	0.8	-26.4

Better than prior 3-mo MA | Unchanged from prior 3-mo MA | Worse than prior 3-mo MA

Sources: BLS, Census Bureau, Moody's Analytics

BUSINESS CYCLE INDEX

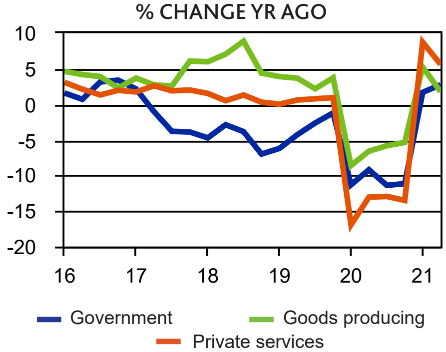
JAN 2011=100



Source: Moody's Analytics

CURRENT EMPLOYMENT TRENDS

% CHANGE YR AGO



Sources: BLS, Moody's Analytics

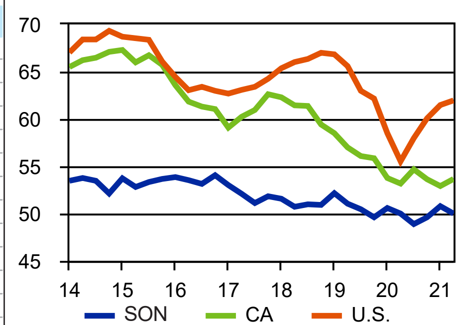
% CHANGE YR AGO, 3-MO MA

	Jul 20	Jan 21	Jul 21
Total	-12.8	-12.1	5.4
Mining	-0.4	0.5	-0.1
Construction	-6.4	-5.0	4.3
Manufacturing	-6.9	-5.1	1.1
Trade	-10.0	-4.0	5.8
Trans/Utilities	-9.8	-2.5	7.6
Information	-15.8	-14.9	1.4
Financial Activities	-16.8	-15.1	2.6
Prof & Business Svcs.	-6.3	-6.1	4.0
Edu & Health Svcs.	-6.3	-10.9	0.5
Leisure & Hospitality	-37.7	-39.1	25.4
Other Services	-21.4	-20.7	8.7
Government	-12.3	-11.2	4.5

Sources: BLS, Moody's Analytics

DIFFUSION INDEX

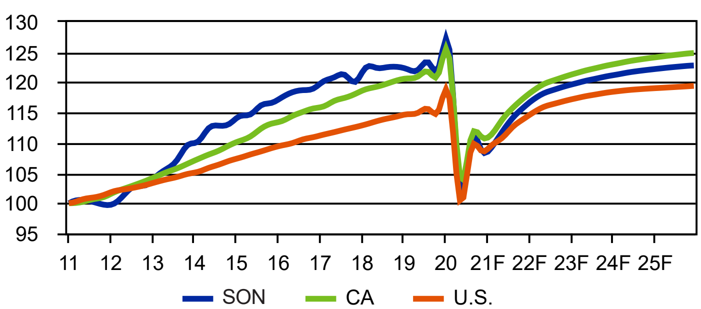
3-DIGIT NAICS LEVEL, 6-MO MA



Sources: BLS, Moody's Analytics

RELATIVE EMPLOYMENT PERFORMANCE

JAN 2011=100



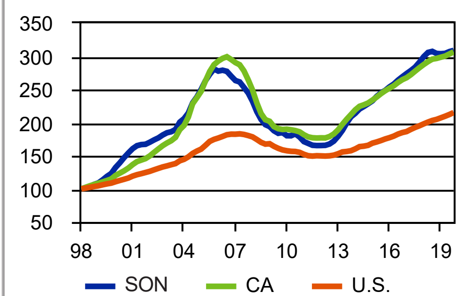
FORECAST VS. 6 MO PRIOR

2-Yr	5-Yr
↑	↑
↑	↑
↑	↔

Sources: BLS, Moody's Analytics

HOUSE PRICE

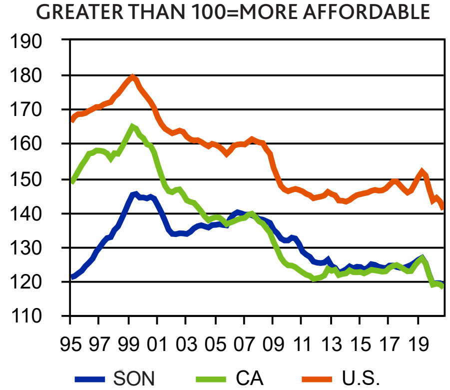
1998Q1=100, NSA



Sources: FHFA, Moody's Analytics

RENTAL AFFORDABILITY

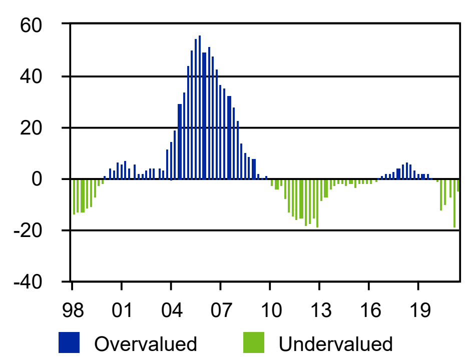
GREATER THAN 100=MORE AFFORDABLE



Sources: Census Bureau, BLS, Moody's Analytics

HOUSE PRICE TRENDS

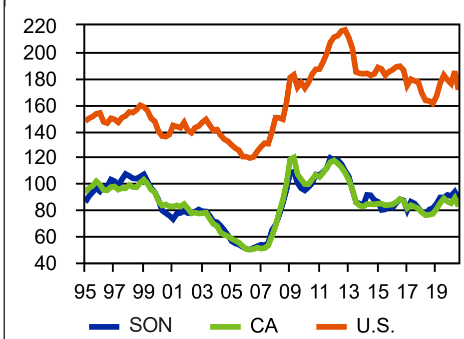
%



Sources: FHFA, Moody's Analytics

HOUSING AFFORDABILITY

GREATER THAN 100=MORE AFFORDABLE



Sources: NAR, Moody's Analytics

EMPLOYMENT AND INDUSTRY

TOP EMPLOYERS

Kaiser Permanente	3,508
Graton Resort & Casino	2,000
St. Joseph Health System	1,640
Keysight Technologies	1,300
Safeway Inc.	1,200
Sutter Santa Rosa Regional Hospital	1,050
Medtronic CardioVascular	1,000
Amy's Kitchen	988
Wells Fargo	916
Lagunitas Brewing Co.	900
Jackson Family Wine	800
Cyan	700
Walmart Inc.	650
Hansel Auto Group	600
AT&T	600
Lucky	550
Santa Rosa Community Health Centers	523
PG&E	500
Petaluma Acquisitions	455
Ghilotti Construction Co.	425

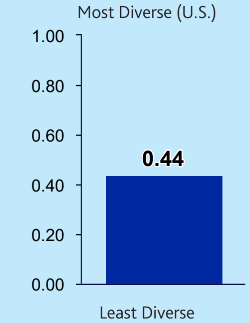
Sources: North Bay Business Journal Book of Lists, 2020, San Francisco Business Journal Book of Lists, 2017

PUBLIC

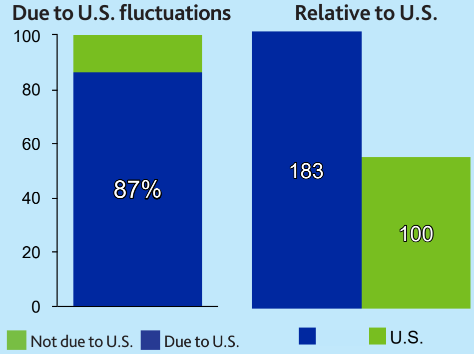
Federal	1,434
State	3,333
Local	22,293

2020

INDUSTRIAL DIVERSITY



EMPLOYMENT VOLATILITY



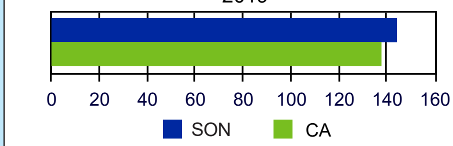
COMPARATIVE EMPLOYMENT AND INCOME

	% OF TOTAL EMPLOYMENT			AVERAGE ANNUAL EARNINGS		
Sector	**SON**	**CA**	**U.S.**	**SON**	**CA**	**U.S.**
Mining	0.1	0.1	0.4	$32,100	$91,376	$149,227
Construction	8.4	5.3	5.1	$91,624	$85,588	$72,704
Manufacturing	11.7	7.8	8.6	$95,048	$114,244	$87,349
Durable	*39.2*	*64.8*	*62.2*	*nd*	*$131,654*	*$90,269*
Nondurable	*60.8*	*35.2*	*37.8*	*nd*	*$84,049*	*$82,480*
Transportation/Utilities	2.1	4.5	4.3	$61,107	$67,667	$64,132
Wholesale Trade	3.9	4.0	4.0	$82,710	$94,038	$93,314
Retail Trade	11.9	9.4	10.4	$44,519	$45,619	$38,497
Information	1.2	3.3	1.9	$139,869	$209,720	$138,543
Financial Activities	4.0	5.1	6.1	$49,565	$75,533	$63,325
Prof. and Bus. Services	11.8	16.1	14.2	$61,582	$90,236	$76,981
Educ. and Health Services	17.9	16.9	16.3	$64,811	$60,561	$59,276
Leisure and Hosp. Services	9.7	9.2	9.4	$33,392	$40,122	$31,583
Other Services	3.1	2.9	3.8	$51,971	$42,369	$39,692
Government	14.2	15.4	15.4	$90,806	$103,172	$82,503

Sources: Percent of total employment — BLS, Moody's Analytics, 2020, Average annual earnings — BEA, Moody's Analytics, 2019

ENTREPRENEURSHIP

BROAD-BASED START-UP RATE
U.S.=100, 4-QTR MA
2019



Sources: Census Bureau, Moody's Analytics

EXPORTS

Product	$ mil
Food and kindred products	ND
Chemicals	102.4
Primary metal manufacturing	ND
Fabricated metal products	71.6
Machinery, except electrical	265.2
Computer and electronic products	438.0
Transportation equipment	ND
Miscellaneous manufacturing	ND
Other products	284.5
Total	1,234.5

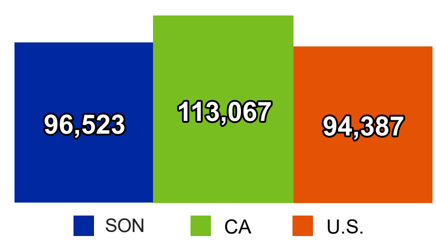
Destination	$ mil
Africa	9.0
Asia	540.0
European Union	283.6
Canada & Mexico	263.1
South America	15.0
Rest of world	123.7
Total	1,234.5

% of GDP	*3.6*
Rank among all metro areas	*222*

Sources: BEA, International Trade Administration, Moody's Analytics, 2019

PRODUCTIVITY

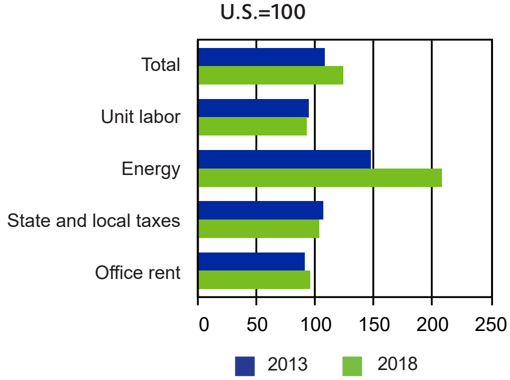
REAL OUTPUT PER WORKER, $



Sources: BEA, Moody's Analytics, 2019

BUSINESS COSTS

U.S.=100



Source: Moody's Analytics

HIGH-TECH EMPLOYMENT

	Ths	% of total
SON	8.6	4.5
U.S.	7,540.4	5.3

HOUSING-RELATED EMPLOYMENT

	Ths	% of total
SON	27.4	14.4
U.S.	14,373.7	10.1

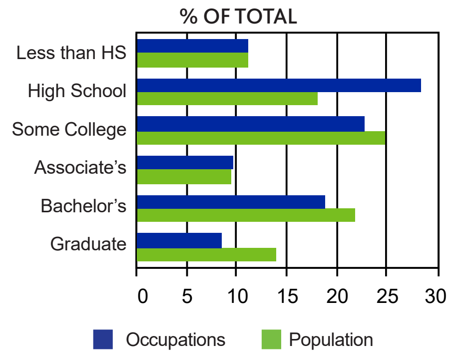
Source: Moody's Analytics, 2020

LEADING INDUSTRIES BY WAGE TIER

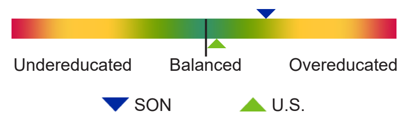
	NAICS	Industry	Location Quotient	Employees (ths)
HIGH	6214	Outpatient care centers	3.9	4.6
HIGH	6221	General medical and surgical hospitals	0.7	4.3
HIGH	6211	Offices of physicians	0.7	2.5
HIGH	5511	Management of companies & enterprises	0.7	2.3
MID	GVL	Local Government	1.3	25.4
MID	3121	Beverage manufacturing	24.6	7.9
MID	GVS	State Government	0.7	5.0
MID	2382	Building equipment contractors	1.1	3.0
LOW	7225	Restaurants and other eating places	1.1	16.4
LOW	6241	Individual and family services	2.5	7.8
LOW	4451	Grocery stores	1.7	6.4
LOW	FR	Farms	1.6	6.1

Source: Moody's Analytics, 2020

SKILLS MISMATCH



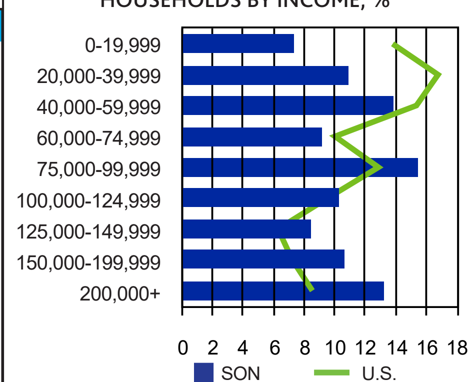
Sources: Census Bureau, ACS, Moody's Analytics, 2018



ECONOMIC DISENFRANCHISEMENT

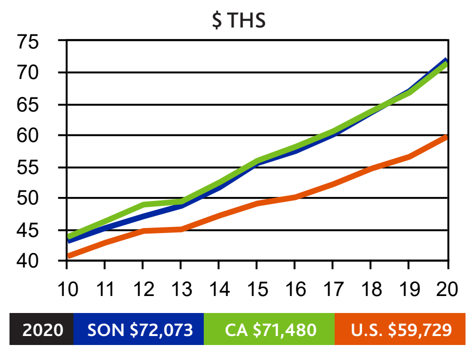
Index	2019	Rank*
Gini coefficient	0.45	270
Palma ratio	2.9	264
Poverty rate	6.8%	393

Most unequal=1; Most equal=403



Sources: Census Bureau, ACS, Moody's Analytics, 2019

PER CAPITA INCOME



Sources: BEA, Moody's Analytics

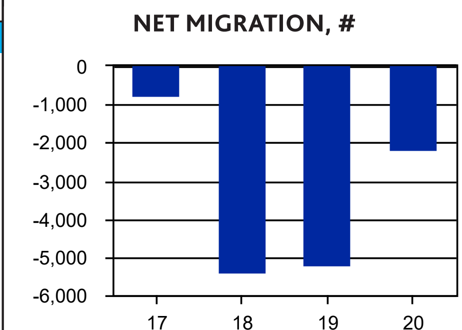
MIGRATION FLOWS

INTO SONOMA COUNTY CA

	Number of Migrants
San Rafael CA	1,811
San Francisco CA	1,413
Oakland CA	1,316
Sacramento CA	661
Los Angeles CA	581
San Jose CA	458
Napa CA	451
Vallejo CA	377
San Diego CA	292
Riverside CA	240
Total in-migration	*13,891*

FROM SONOMA COUNTY CA

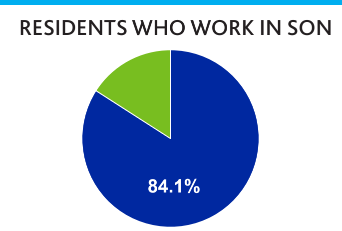
Sacramento CA	1,543
San Rafael CA	1,238
Oakland CA	1,108
San Francisco CA	834
Vallejo CA	705
Napa CA	582
Los Angeles CA	492
San Diego CA	383
Portland OR	365
San Jose CA	364
Total out-migration	*18,756*
Net migration	**-4,865**

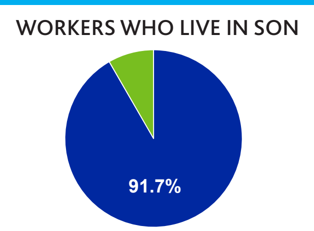


	2017	2018	2019	2020
Domestic	-1,070	-5,398	-5,053	-2,058
Foreign	363	83	-112	-53
Total	-707	-5,315	-5,165	-2,111

Sources: IRS (top), 2018, Census Bureau, Moody's Analytics

COMMUTER FLOWS





Top Outside Sources of Jobs

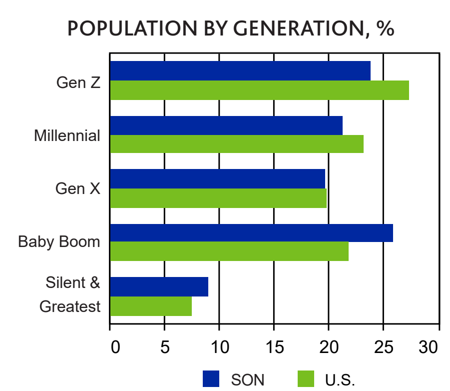
Sonoma County CA	Share
San Rafael CA	6.7
San Francisco CA	3.4
Napa CA	1.9
Oakland CA	1.5
San Jose CA	0.5

Top Outside Sources of Workers

Sonoma County CA	Share
San Rafael CA	2.0
Vallejo CA	1.3
Napa CA	1.1
Oakland CA	0.9
San Francisco CA	0.5

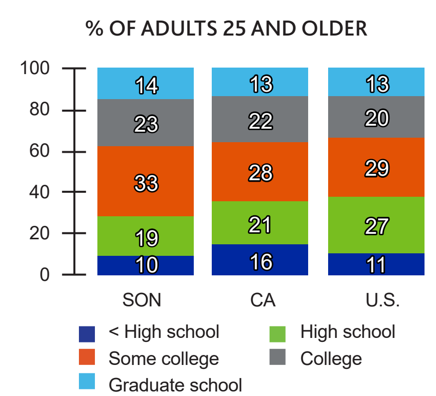
Sources: Census Bureau, Moody's Analytics, avg 2011-2015

GENERATIONAL BREAKDOWN



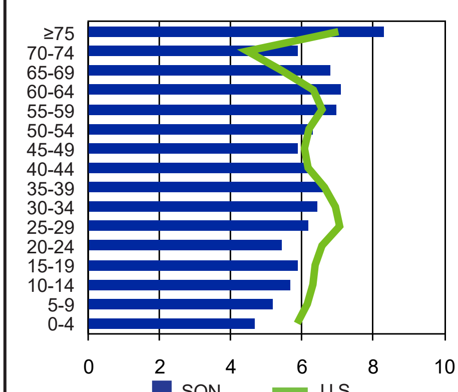
Sources: Census Bureau, Moody's Analytics, 2019

EDUCATIONAL ATTAINMENT



Sources: Census Bureau, ACS, Moody's Analytics, 2019

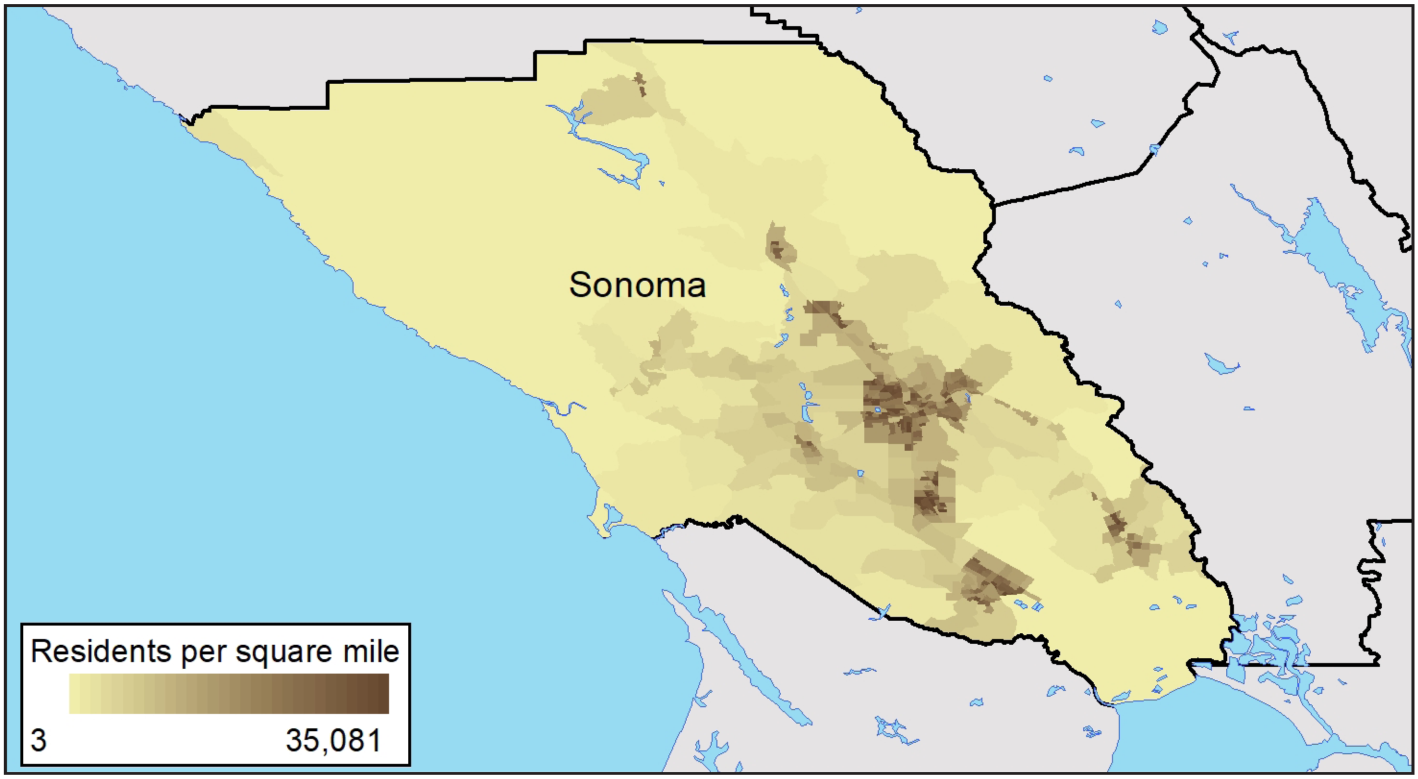
POPULATION BY AGE, %



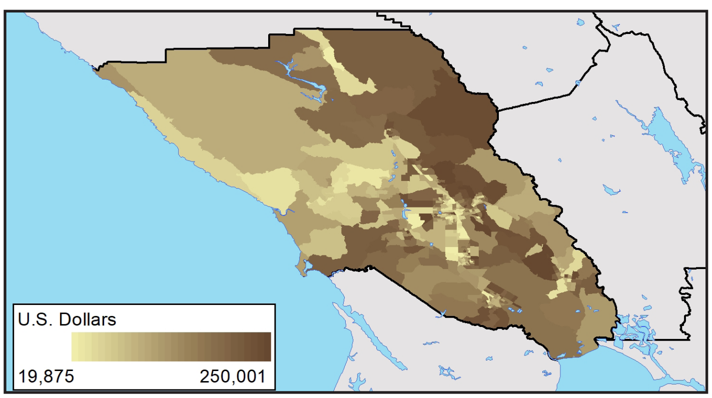
Sources: Census Bureau, Moody's Analytics, 2020

GEOGRAPHIC PROFILE

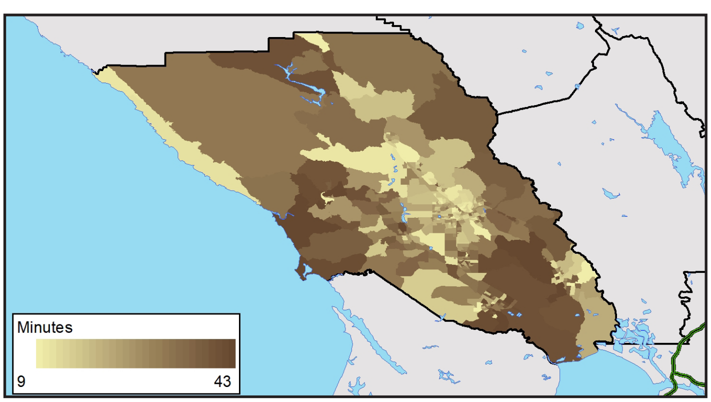
POPULATION DENSITY



MEDIAN HOUSEHOLD INCOME



AVERAGE COMMUTE TIME



Sources: ACS, Moody's Analytics

POPULATION & HOUSING CHARACTERISTICS

	Units	Value	Rank*
Total area	sq mi	1,767.9	202
Total water area	sq mi	192.1	97
Total land area	sq mi	1,575.8	211
Land area - developable	sq mi	878.2	179
Land area - undevelopable	sq mi	697.6	170
Population density	pop. to developable land	561.5	116
Total population	ths	489.8	127
U.S. citizen at birth	% of population	83.4	335
Naturalized U.S. citizen	% of population	7.2	62
Not a U.S. citizen	% of population	7.8	61
Median age		43.1	50
Total housing units	ths	208.3	131
Owner occupied	% of total	56.9	235
Renter occupied	% of total	34.6	86
Vacant	% of total	8.5	278
1-unit; detached	% of total	67.1	190
1-unit; attached	% of total	7.1	66
Multifamily	% of total	21.1	200
Median year built		1979	

** Areas & pop. density, out of 410 metro areas/divisions, including metros in Puerto Rico; all others, out of 403 metros.*

Sources: Census Bureau, Moody's Analytics, 2019 except land area 2010

As Delta Fades, Optimism Appears

BY MARK ZANDI

The Delta wave of the pandemic, which began in late June, has done meaningful damage to the economic recovery. Real GDP growth in the third quarter is set to come in at only 2% annualized, and that is in significant part due to less of an inventory drawdown. At the start of the quarter, before Delta was evident, we expected real GDP growth of near 6%. Monthly job gains that were close to 1 million at the start of the quarter slowed to fewer than 200,000 by September. Scrambled global supply chains were jumbled even more, exacerbating widespread shortages and inflation. And the Alice-in-Wonderland job market characterized by record open job positions but high unemployment, with millions more out of the workforce not looking for work and not counted as unemployed, got even more out of whack.

With the Delta wave definitively winding down—daily infections are averaging about half the 175,000 peak in mid-September—the economy is quickly taking on a brighter hue. Our Back-to-Normal Index, which is a compilation of government data and real-time third-party statistics indexed to 100 just prior to the start of the pandemic, ended last week at 94.5%. That is, the economy is operating at 94.5% of its pre-pandemic normal. This is a new high for the BNI and is up strongly from the nearly 90% that prevailed a month ago at the height of the Delta wave. Mobility at workplaces has definitively picked up as more people go back to offices, restaurants bookings have firmed, and more people are going through Transportation Security Administration checkpoints and to movie theaters. The biggest gains in the BNI are in states that have the farthest to go to get back to normal, including California, Illinois and New York.

Full employment by 2023

Despite the economic detour caused by the Delta wave, we continue to expect the economy to return to full employment by spring 2023. Real GDP growth will rebound strongly to a greater than 6% in the fourth quarter and more than 4% next year. Monthly job gains will average close to 500,000 over this period, and two or three months of job gains close to 1 million are more than likely in the not-too-distant future. Critical to this optimism is the assumption that the pandemic will wind down. Not that there will not be future waves of infections, as that seems likely, but each new wave will be less disruptive to the healthcare system and economy than the previous one as more of the population is vaccinated or has gotten sick and developed some immunity.

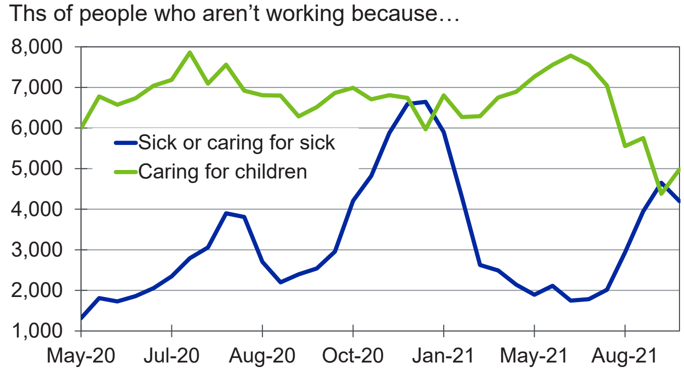
The economy's prospects thus remain tethered to the pandemic, and as the pandemic winds down and the economic recovery revs back up, the job market will steadily get back into sync. Businesses have been frustrated that they have not been able to fill the extraordinary 10.4 million open positions, down from an all-time high of close to 11 million, but that is simply because of the pandemic. According to the Census Bureau's Pulse Survey, a large survey conducted every several weeks since the pandemic hit, there were more than 4 million people in late September who were not working because they were sick with the virus or were taking care of someone who was (see Chart 1). Just prior to the Delta wave, this number was less than 2 million. This explains why labor force participation has not budged in recent months even while millions of parents previously stuck at home taking care of their children got back to work this fall as schools reopened with in-person learning. But with infections now fading, there will be fewer sick workers, participation will resume its recovery, more open positions will be filled, and employment will increase.

COVID-19's continuing impact

As Delta fades, an additional 3 million-plus people who tell the Census Bureau they are not working because of concerns they might contract the virus or spread it will also get back to work. Then there is the more than 4 million who have been laid off or furloughed because of the pandemic, and

Why Aren't People Working?

Ths of people who aren't working because…



Sources: Census Bureau Pulse Survey, Moody's Analytics

Reasons for People Not Working

Household Pulse Survey, before and after Delta wave

	Pre-Delta	Recent
I was caring for children not in school or day care	7,784,636	4,980,736
I was laid off or furloughed due to coronavirus pandemic	6,642,088	4,221,804
My employer closed temporarily due to the coronavirus pandemic	2,818,076	2,165,463
My employer went out of business due to the coronavirus pandemic	1,955,596	1,736,962
I was caring for an elderly person	2,057,361	1,920,727
Other reason	18,103,747	17,971,543
I did not have transportation to work	1,167,026	1,061,389
I was concerned about getting or spreading the coronavirus	3,052,942	3,153,946
I was sick (not coronavirus related) or disabled	6,538,780	6,674,007
I did not want to be employed at this time	5,117,120	5,453,327
I am retired	42,379,700	43,186,726
I was caring for someone or sick myself with coronavirus symptoms	1,748,291	4,198,700

Sources: Census Bureau Household Pulse Survey, Moody's Analytics another approximately 4 million who say they are out of work because their previous employer closed temporarily or have gone out of business because of the pandemic. And there are surely many still stuck at home taking care of children because the pandemic has disrupted the availability of day care and eldercare (see Chart 2). This adds up to big numbers, and even if it overstates the number of people who will get back to work as the pandemic winds down, if only one-third do, the job market will be in full swing.

Saving should be gone by year's end

Massive government support during the pandemic has likely slowed the return to work, but this will not be the case much longer. This support, totaling more than $5 trillion and equal to almost 25% of GDP, includes three rounds of stimulus checks, expanded unemployment insurance, food and rental assistance, and forbearance on mortgage and student loan payments. This support has been vital to help low- and middle-income households navigate the financial blow caused by the pandemic, but some of these funds have not been spent. As of September, households with incomes in the 20% to 60% range of the income distribution have an estimated nearly $500 billion in excess savings—savings greater than would have been expected if there had been no pandemic and if saving rates had remained the same as they were pre-pandemic (see Chart 3). This excess savings amounts to about $10,000 per person in this income group. However, this cash cushion is burning off quickly. Based on the Bureau of Labor Statistics' Consumer Expenditure Survey, expenses for this income group are close to $4,000 per month. Those not working have likely pared back their spending, but even so, this suggests the excess savings will be gone by the end of the year. The financial pressure to return to work is thus quickly intensifying.

Participation will not recover

While the job market will rebound strongly in coming months, the pandemic will leave it somewhat diminished. The large baby boomer generation, which is now in its late 50s, 60s and mid-70s, was already leaving the workforce when the pandemic hit, but the pandemic has accelerated its retirement (see Chart 4). According to the BLS's Current Population Survey, the percent of the population over 55 years old that is not in the labor force and does not want a job, which was stable at 58% prior to the pandemic, has steadily risen during the pandemic to its current 60%. The pandemic has not had an impact on the desire of other age groups to leave the workforce. Of course, retirement was on the minds for those baby boomers still in the job market, but the pandemic made it a reality. The record stock prices and housing values, and the bank accounts swollen by the saving they did while self-quarantining during the height of the pandemic, have further empowered the boomers' exit. With boomers leaving the workforce more quickly, the overall labor force participation rate will not return to its pre-pandemic rate of more than 63%, even when the economy is back to full employment. We expect it to top out closer to 62.5%, about a percentage point higher than it is today.

Immigration will pick up

Foreign immigration, which is essential to the working-age population, and thus labor force growth, has been hammered by the pandemic and will be slow to revive. Immigration was already significantly curtailed by former President Donald Trump's restrictive immigration policies, but legally moving across borders has become highly problematic during the pandemic as governments work to stem the virus. Immigration, legal and illegal, was routinely close to 1 million per year in the quarter-century prior to the Trump administration. Last year, we estimate it was about one-fourth of that. The nation's working-age population grew by less than half a percentage point, the slowest pace since the Korean War, when it fell because of all of the troops overseas. Immigration and working-age population growth should pick up given the Biden administration's more relaxed immigration policies and a post-pandemic normalization of cross-border movement, but this will not happen quickly.

Future of work

Arguably the most compelling reason to be optimistic about the economy's prospects is the extraordinary number of unfilled job positions. As long as the pandemic sticks to script and continues to wind down, workers sickened or scared off

Excess Saving by Income Group

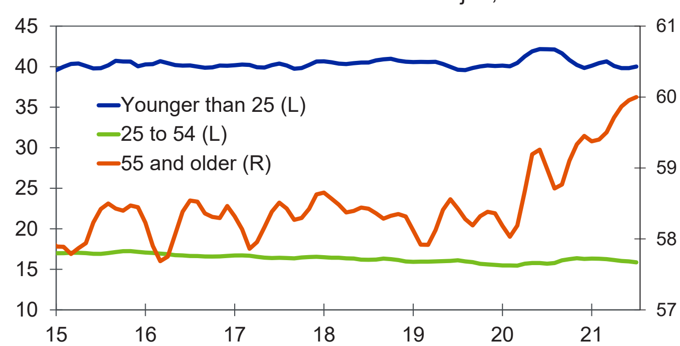
$ mil

	Income group					
	0%-20%	20%-40%	40%-60%	60%-80%	80%-90%	90%-100%
2020Q1	2,503	4,609	8,273	1,626	11,588	72,141
2020Q2	26,815	54,114	74,388	59,257	91,428	584,887
2020Q3	17,000	32,090	44,468	26,091	41,586	241,992
2020Q4	18,828	30,862	42,355	37,989	37,088	117,138
2021Q1	36,615	61,953	80,930	75,861	83,171	354,281
2021Q2	15,859	21,446	27,658	18,835	22,186	55,412
Cumulative total	117,620	205,075	278,073	219,658	287,049	1,425,851
Share of cumulative total, %	4.6	8.1	11.0	8.7	11.3	56.3
Disposable income	16,771	41,085	68,140	108,838	194,291	241,675
Cumulative total % of income	26.7	19.0	15.5	7.7	11.3	45.0

Sources: Federal Reserve Board, BEA, Census Bureau, Moody's Analytics

Boomers Retire Early

% who aren't in labor force and don't want a job, 3-mo MA



Sources: BLS, Moody's Analytics

by the pandemic or who have lost their jobs because of the pandemic will take those positions. This may not happen as fast as anxious employers would like, but they should feel much better in the next few months. Having said this, the number-one problem businesses will face for the foreseeable future is finding workers. The pandemic has hastened demographic trends (boomer retirements) and exacerbated others (less foreign immigration) that make this an even more difficult problem. Businesses will need to pay their workers more, improve productivity so they can continue to deliver their products and services using fewer workers, and better accommodate workers' needs. This includes offering hybrid and remote work, more flexible hours, and greater respect for the balance between work and home life. If there is one good thing that results from the pandemic, this could be it.

Forecast Assumptions

BY MARK ZANDI

Monetary policy

The Federal Reserve continues to maintain a highly accommodative monetary policy. Short-term rates are pinned to the zero lower bound, and the Fed remains engaged in quantitative easing—the monthly purchase of $120 billion in Treasury and agency mortgage-backed securities—to keep long-term interest rates down.

Fed officials have begun to prepare financial markets for a tapering of its quantitative easing policy before the end of the year as it is evident the pandemic is fading, and the recovery continues apace. The actual tapering of QE is expected to begin in December. The Fed's zero-interest-rate policy will remain in place until it is clear the economy is at full employment and core inflation is firmly above the Fed's 2% inflation target, which is expected by early 2023.

Ten-year Treasury yields rebounded to more than 1.5% as the Delta wave of the pandemic fades, the economy appears to be regaining traction, and investors anticipate the Fed's tapering of QE. The passage of additional fiscal legislation in the next few weeks and the increase in the debt limit late this year should also put upward pressure on long-term rates. Ten-year yields are expected to end this year near 1.75%, finish 2022 closer to 2.5%, and to reach their estimated long-run equilibrium of 3.75% by mid-decade.

Fiscal policy

Highly expansionary fiscal policy—deficit-financed discretionary fiscal policy—will provide a large boost to the economy this year. The American Rescue Plan, which became law in mid-March, and the COVID-19 relief fiscal package that lawmakers agreed to in late December 2020, will together add nearly $1.9 trillion in fiscal support to the economy in calendar year 2021, and another $800 billion in 2022.

Total fiscal support to the economy throughout the pandemic, including the massive CARES Act passed into law in March 2020, and several other smaller fiscal packages, will ultimately total well more than $5 trillion. This is equal to an astounding almost 25% of pre-pandemic 2019 GDP—approximately three times that provided during the global financial crisis, and substantially more than provided by any other country in the world.

We expect that President Biden and Congress will pass another fiscal package later this year, fashioned on his campaign's "Build Back Better" economic agenda. This package, which we expect to include approximately $2.5 trillion in new spending on infrastructure and social programs and various tax law changes including higher corporate tax rates and higher taxes on the well-to-do, will add close to $1 trillion to the deficit over the next decade. The traditional infrastructure part of the plan will be passed on a bipartisan basis, and the human infrastructure part of the plan will become law using the arcane budget reconciliation process, given the Democrats' 50-50 margin in the Senate.

The federal government will have a deficit of more than $3 trillion this fiscal year, and more than $2 trillion in fiscal 2022. The publicly traded debt-to-GDP ratio has surged to near 100% and will soon breach the all-time high of 106% reached briefly after World War II. Lawmakers are appropriately not focused on the red ink given the need to respond to the crisis. But, once the pandemic is clearly behind us, addressing the nation's fragile fiscal situation will be critical.

U.S. dollar

The U.S. dollar has come off its early-pandemic highs as the safe-haven demand for the currency abated, but it remains strong.

On a real broad trade-weighted basis, the dollar is still more than half a standard deviation above its long-run average since it began to freely float in the early 1970s. Its value is expected to remain strong while the pandemic is a threat, since the virus will do more damage to the global economy than to the U.S. economy. Emerging market currencies will be especially vulnerable.

The dollar will weaken further on the other side of the pandemic, but geopolitical uncertainties, including the U.S. trade war with China, will ensure that any decline will be modest. The dollar's reserve currency status will remain intact for the foreseeable future.

Energy prices

Global oil prices have pushed to more than $80 per barrel. Global oil demand has firmed as the worst of the pandemic-related global downturn is over, and the supply side of the global energy market has significantly reduced oil production. Further increases in oil prices post-pandemic are likely, as the recovering global economy's stronger demand for oil conflates with rationalized global supplies. The potential for price spikes this year and in 2022 are meaningful. However, given ample global reserves, oil prices are expected to settle near their estimated long-run equilibrium level of close to $60 per barrel by this time next year.

COVID-19 pandemic

The Delta variant notwithstanding, the pandemic is winding down in the U.S. and much of the rest of the developed world, and economic activity is normalizing. However, the pandemic persists in the emerging world and vaccinations are going slowly. The pandemic will thus continue to be disruptive to global supply chains, tourism and business travel, and global investment.

In our baseline outlook, the U.S. is close to herd resistance, but we do not expect the world to achieve this until summer 2022, and in some parts of the world it will take until mid-decade. Moreover, there remains a significant amount of uncertainty around the path of the pandemic given new variants of the virus that could potentially elude current vaccines.

Forecast Risks

BY LINA BAROKAS

⬇ COVID-19

The Delta variant of COVID-19 weighed more on the economy in the third quarter than previously anticipated. However, the good news is that over the past couple of weeks, a number of high-frequency data we track have improved, suggesting Delta's grip on the economy is loosening. The pandemic is winding down in the U.S. and much of the rest of the developed world, and economic activity is normalizing.

However, infection rates, though declining, are still high with 25 cases per 100,000 and vaccine resistance persists. Herd immunity is not expected until the summer 2022 and in some parts of the world it will take until mid-decade. Moreover, there remains a significant amount of uncertainty around the path of the pandemic given new variants of the virus that could potentially elude current vaccines.

⬇ Stimulus

Federal stimulus will provide a near-term boost to the economy, but downside risks remain. The Moody's Analytics assumptions around the Infrastructure Investment and Jobs Act were unchanged in October, but the amount of funding Democrats are expected to seek as part of the budget reconciliation process is approximately $2.5 billion. While this was a positive for the economy, the infrastructure bill may have less of an impact on the economy than anticipated, causing medium-term growth to come in below expectations. Additionally, though the bipartisan bill signals a modest improvement in relations in Congress, Democrats' slim control of the Senate and a still-highly contentious political climate remain downside risks for future negotiations. This will be put to the test soon as Congress moves to budget and debt-ceiling negotiations.

Longer term, the already-immense size of the stimulus carries its own risks. The extraordinary costs of the programs and how they are eventually wound down will be a source of downside risk in the years ahead.

⬆ Consumer spending

Additional fiscal stimulus and a historically high saving rate raise the upside risk for a boom in consumer spending next year.

Last year, a sharp drop in discretionary spending and an increase in fiscal stimulus drove the U.S. saving rate to a record high in the second quarter. Though the saving rate declined sharply in the second half of 2020, it jumped back above 20% in the first quarter this year following the latest round of fiscal stimulus. The Moody's Analytics forecast is for the saving rate to decline gradually in coming years. However, as the effects of the pandemic continue to fade, there is an upside risk that consumers will spend more of their savings than expected, causing economic growth to surpass expectations.

⬇ Financial conditions

Rising long-term U.S. interest rates and lofty equity valuations increase the odds of a costly tightening in financial market conditions. Though long-term interest rates have been suppressed in recent months, strong growth prospects and more fiscal spending will drive long-term yields higher in upcoming quarters. One risk is that the rise in long-term interest rates will precipitate a correction in equity markets. Though a modest price correction can be healthy, a prolonged slump and a tighter financial environment could weaken the near-term recovery. Rising long-term interest rates could also create problems for asset classes, including real estate and corporate debt. Nonfinancial debt and loans sit near record high shares of GDP, and higher rates could significantly increase borrowing costs for highly indebted corporations, many of which are still struggling from the pandemic. A string of corporate defaults or a significant widening of corporate bond spreads could dampen investor sentiment and soften investment.

⬇ Fed policy

Expected changes to U.S. monetary policy also elevate downside risks to financial conditions and the economic recovery. Moody's Analytics expects the Federal Reserve to begin reducing the amount of its monthly asset purchases in December. While the Fed will telegraph its decision well in advance, the action could still cause backlash in financial markets, as in 2013. The tapering of asset purchases is just one of many actions the Fed will need to carefully negotiate in a multiyear process of normalizing monetary policy. If the Fed is too early or late in its response to changing economic conditions, it could unintentionally constrict financial conditions and weaken economic growth.

⬇ Supply constraints

Supply constraints could cause near-term job gains and economic growth to miss expectations. The reopening of businesses is driving demand for workers, job gains have picked up recently, but employers are struggling to find workers to fill open positions. The increasing demand for labor raises concerns that special factors—including health issues, family care obligations, and unemployment benefits—have deterred some individuals from returning to work. Though these factors are likely only a temporary headwind, the supply mismatch could slow the pace of hiring.

Supply constraints outside of the labor market also pose a downside risk. The pandemic continues to disrupt supply chains; when combined with shortages of raw and intermediate goods, these factors could limit production and force producers to raise prices. With the pandemic still devastating many parts of the world, there is a risk that supply-chain troubles will take longer to resolve, resulting in a more extensive period of high inflation.

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