

A woman wearing a full-face respirator and a safety vest is looking to the side. The background is a blurred construction site with rebar and concrete forms.

2021

STATE OF THE CONSTRUCTION INDUSTRY

Prepared and Narrated By:

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THE VERTEX COMPANIES, INC.

vertexeng.com

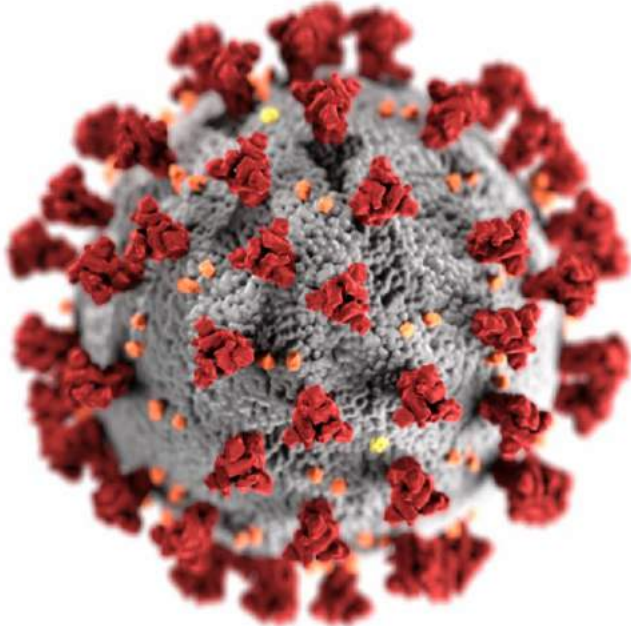
Photographer: Ely Hemnes
ENR Magazine, Jan 4/11, 2021

VERTEX[®]

Introduction

This three-part presentation covers the state of the US economy, US construction industry, and US contract surety industry. Based on my analysis, 2021 will be a difficult year for the US construction industry, which is often the case in the tail end of a recession and the year that follows a recession, when backlogs shrink, and poor decisions are made as contractors fight for survival.

2020, A Year That Will Live in Infamy



RECESSION



Part 1 - State of the US Economy

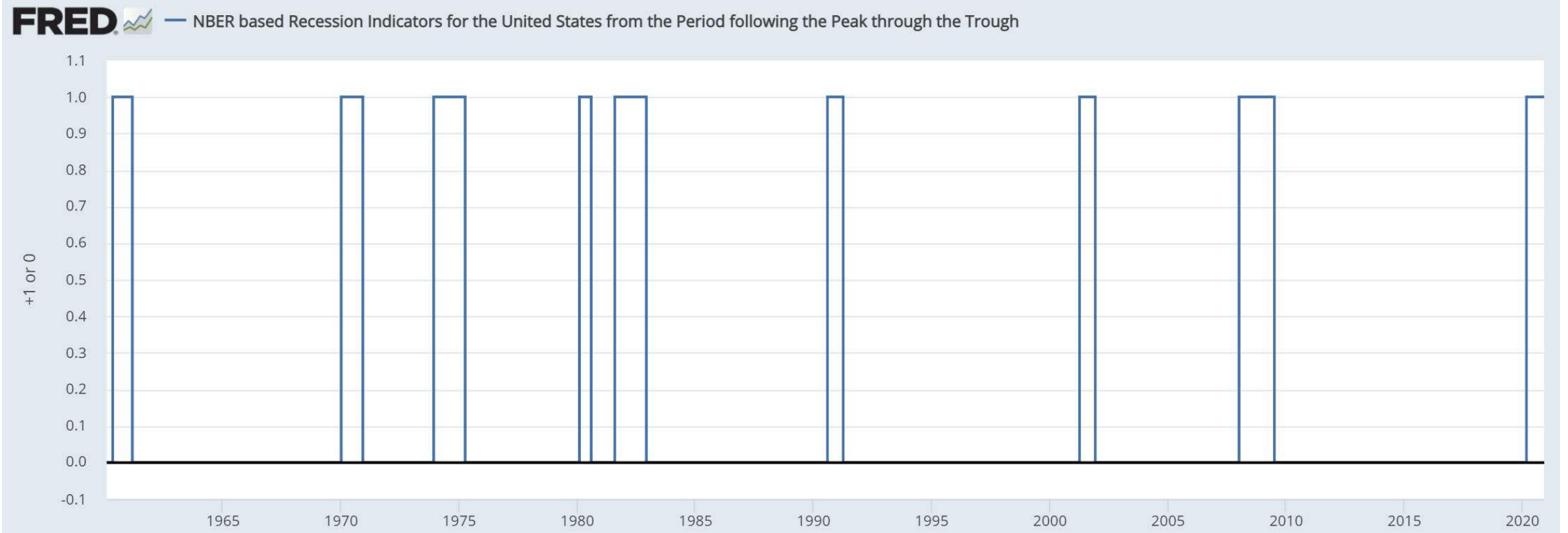
The US economy collapsed in Q1 of 2020, however it was followed by a V-shaped recovery immediately thereafter, but will there be a double-dip recession in 2021?

The End of a Record Expansion Cycle & Start of a Recession



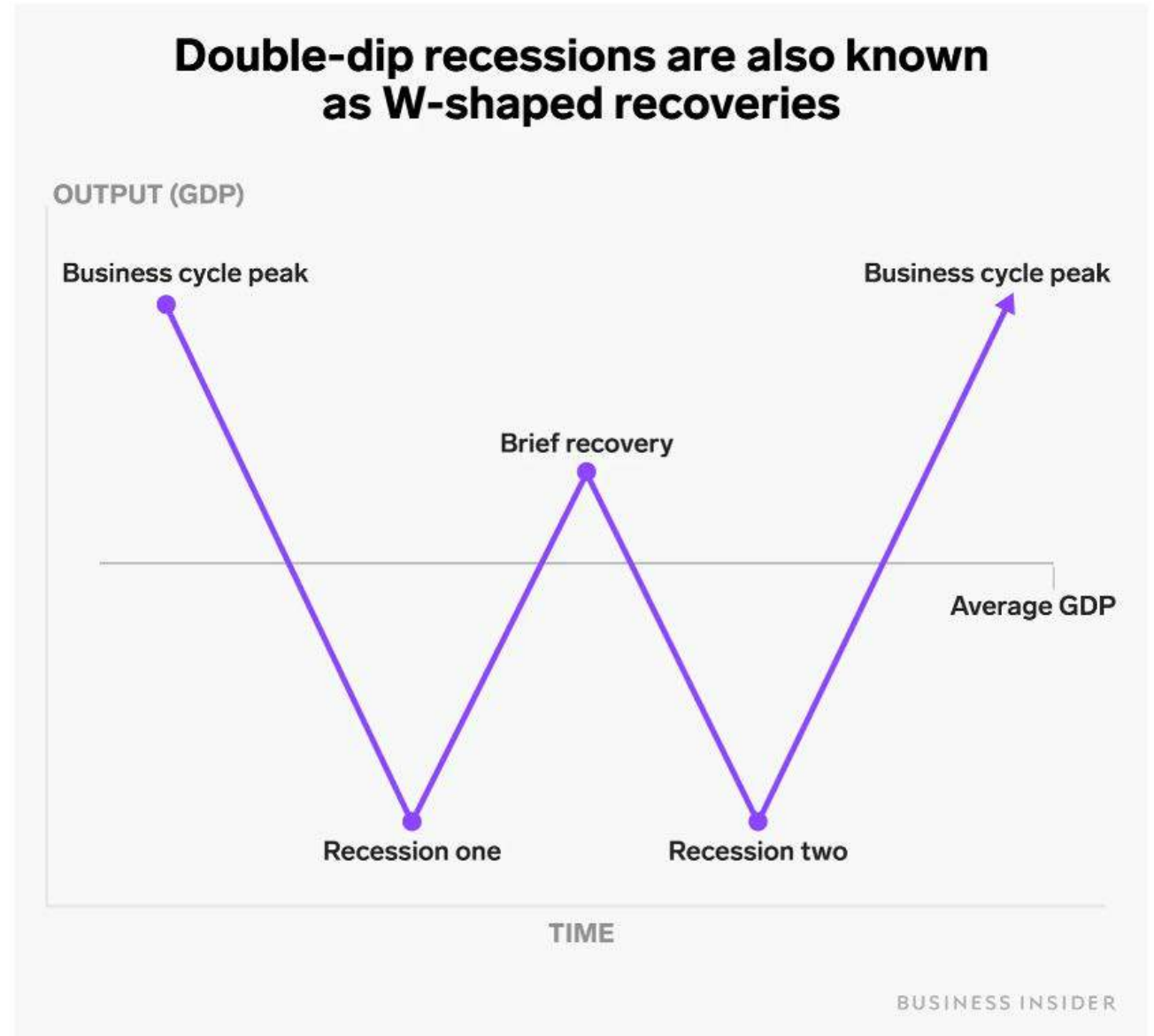
Cambridge, June 8, 2020 - The Business Cycle Dating Committee of the National Bureau of Economic Research maintains a chronology of the peaks and troughs of US business cycles. The committee has determined that a peak in monthly economic activity occurred in the US economy in February 2020. The peak marks the end of the expansion that began in June 2009 and the beginning of a recession. The expansion lasted 128 months, the longest in the history of US business cycles dating back to 1854. The previous record was held by the business expansion that lasted for 120 months from March 1991 to March 2001. (This report is also [available as a pdf.](#))

Are We Still in a Recession?



Fear of a Double-Dip

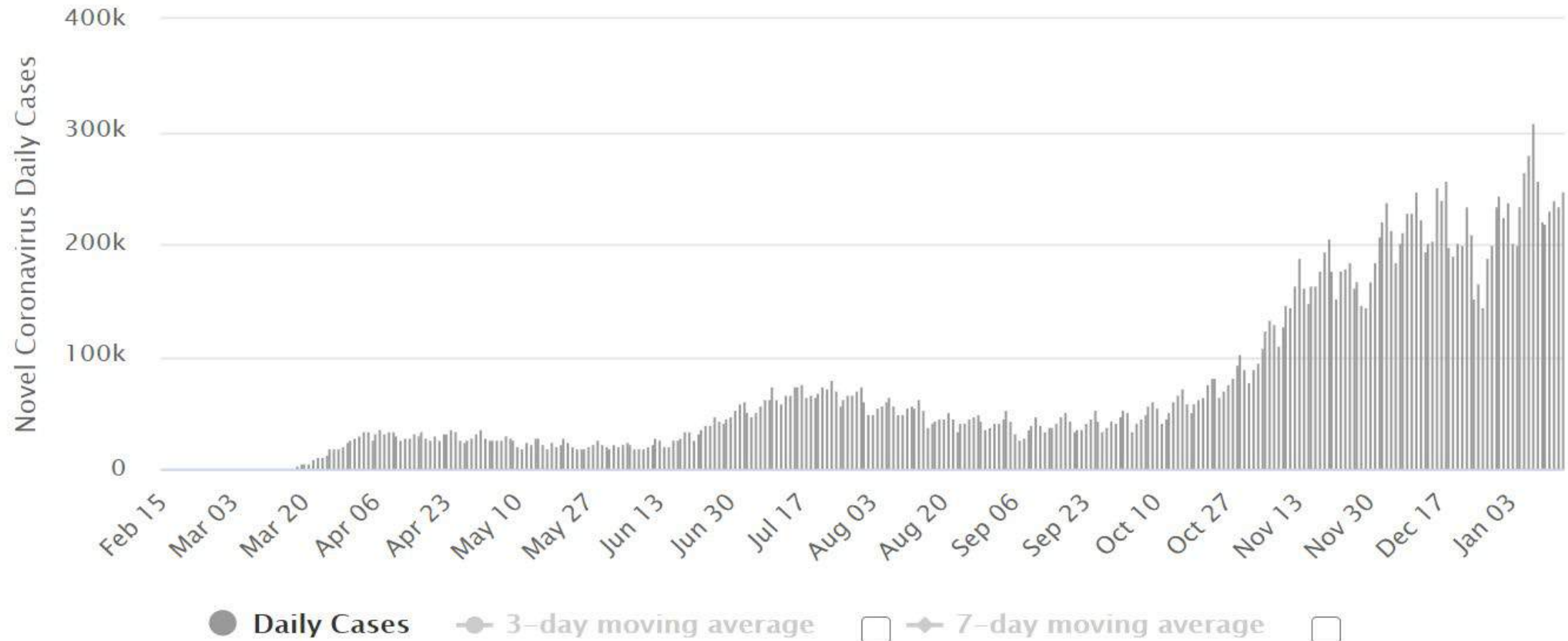
There have only been two Double Dip Recessions (1937 & 1982) in the last 90 years. They occur when there is a shock to the economy, like more lockdowns, during the early stages of a recovery that results in reduced spending, rising unemployment, and reduced credit.



Daily New Cases in the United States

Daily New Cases

Cases per Day
Data as of 0:00 GMT+0





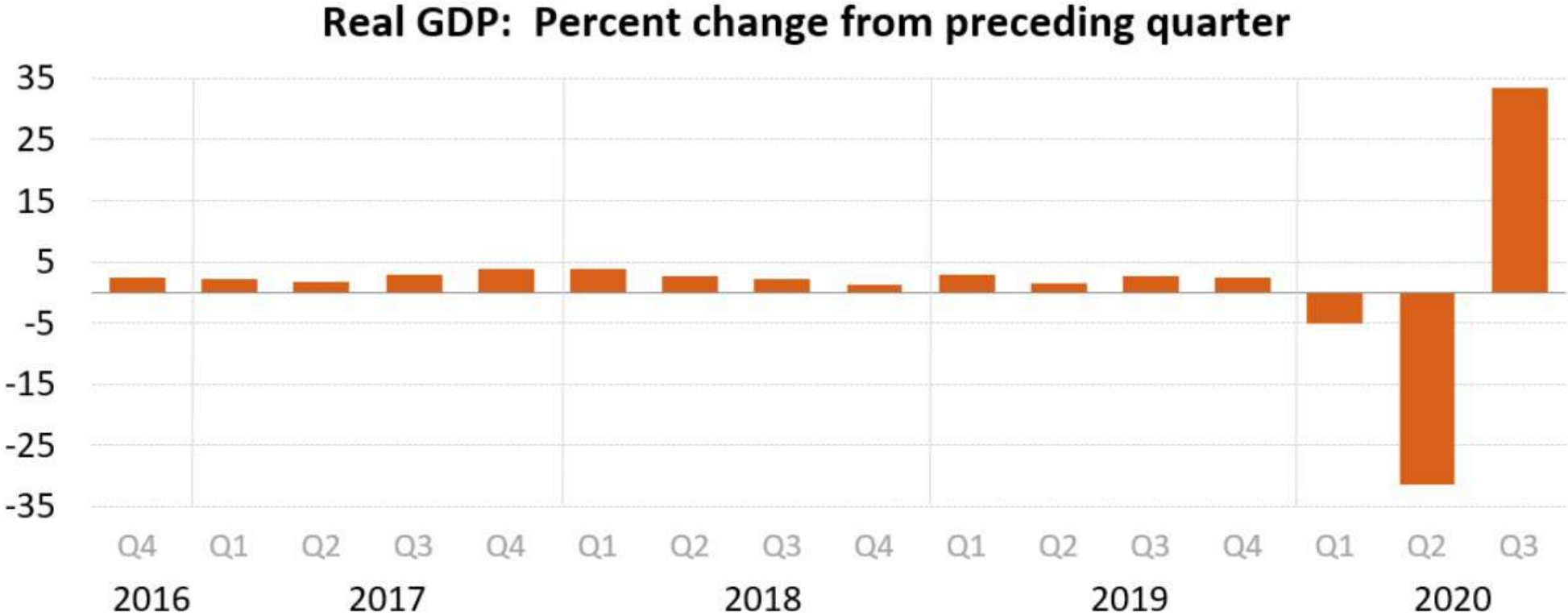
As of 01/17/21

Population of US:	332,060,944
Covid Cases:	24,421,541
Percent of Population:	7.4%
Percent for Herd Immunity:	70%+ (American Lung Association)
Vaccine Doses Distributed:	31,161,075
Vaccine Doses Administered:	12,279,180
No. of People with 2 Doses:	1,610,524

US Unemployment Rate



US Real Gross Domestic Product – Quarter Over Quarter Change

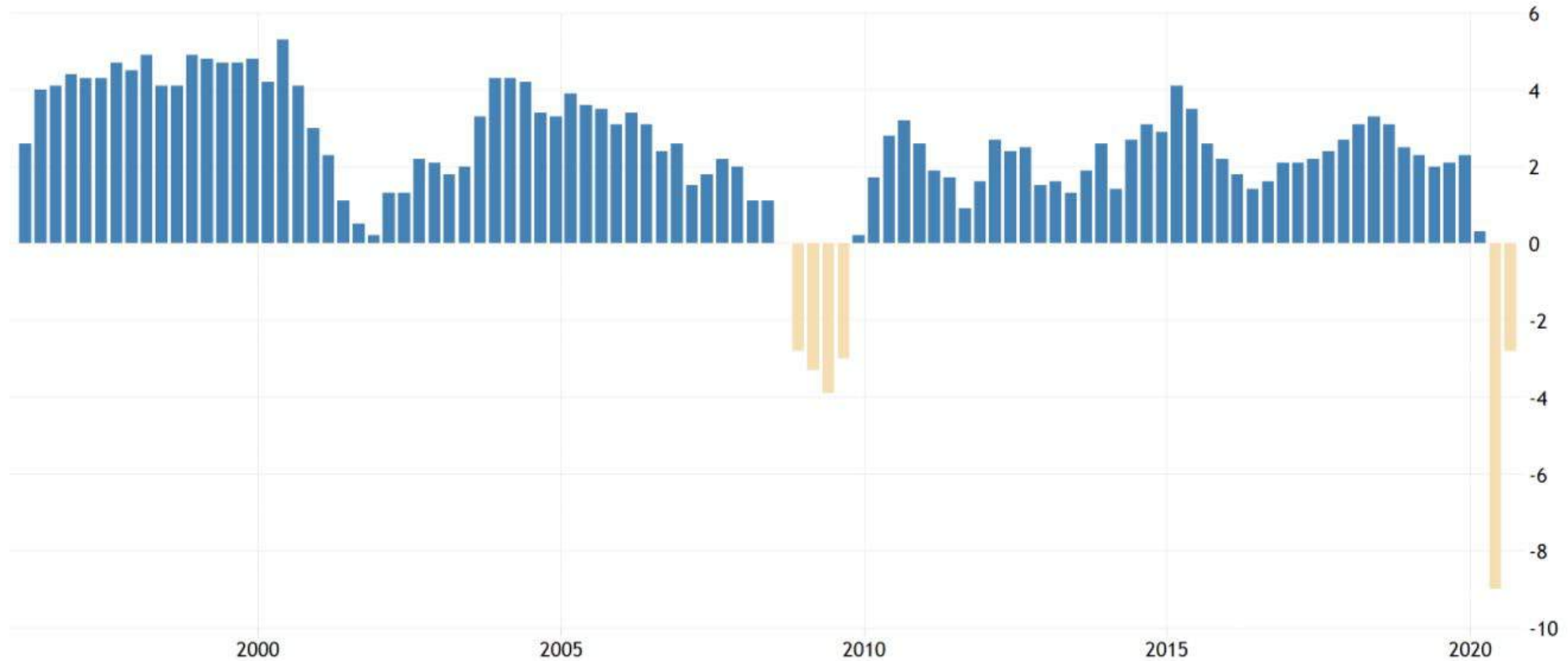


U.S. Bureau of Economic Analysis

Seasonally adjusted at annual rates

US Gross Domestic Product – Annual Growth Rate

United States GDP Annual Growth Rate 1948-2020 Data | 2021-2023 Forecast



SOURCE: TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS

Dow Jones Industrial Average





The U.S. is in a recession but the stock market marches higher. Here's why there's a disconnect

PUBLISHED WED, JUN 3 2020-12:46 PM EDT | UPDATED WED, JUN 10 2020-11:15 AM EDT

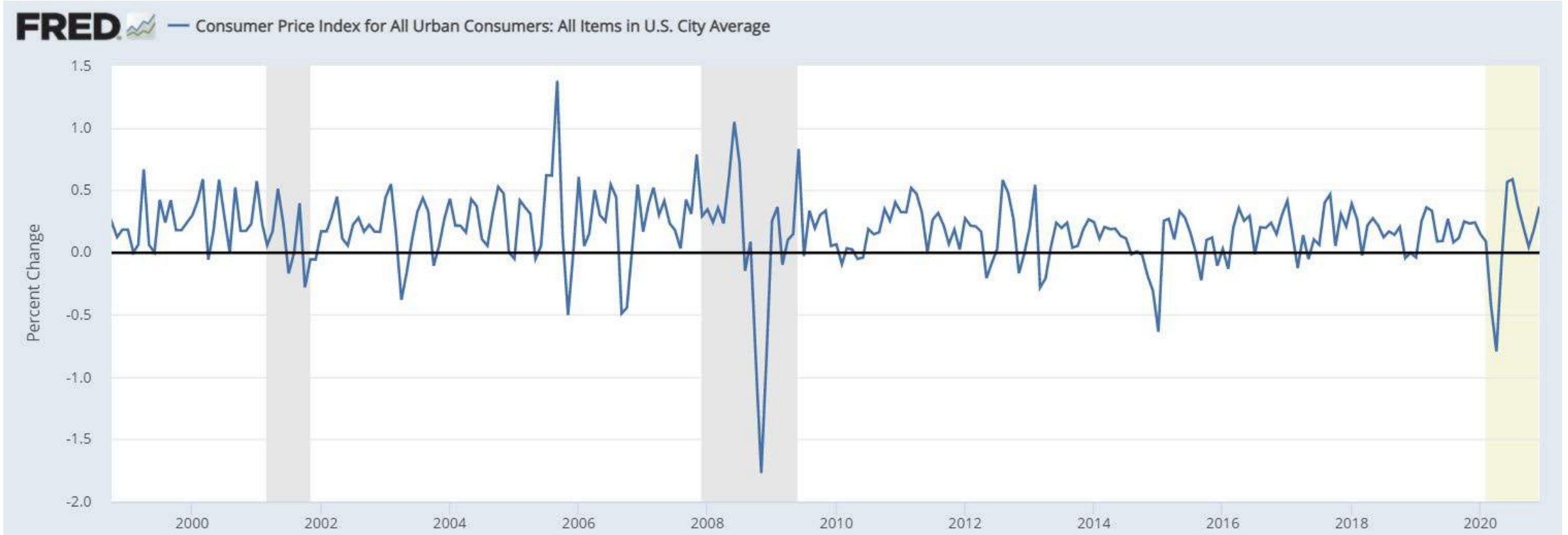
Today vs. tomorrow

However, the divergence makes sense for several reasons, according to market experts.

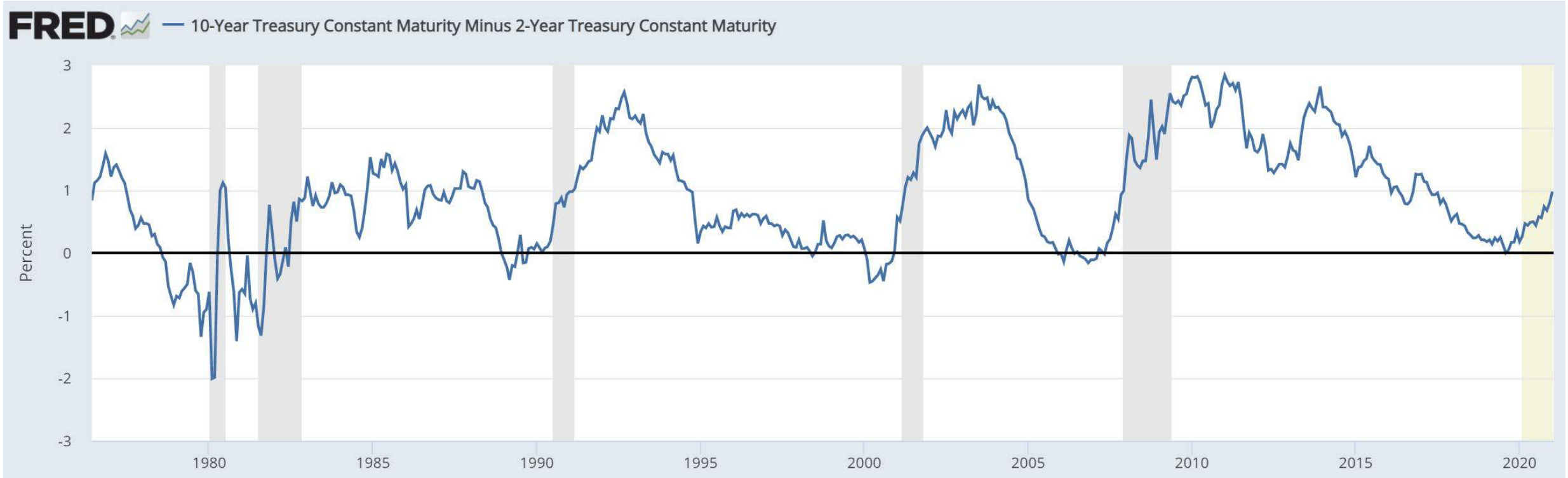
Namely, the stock market is not the economy.

Stock investors are looking beyond present conditions toward what they believe will happen in the future — which they're currently viewing with optimism, experts said.

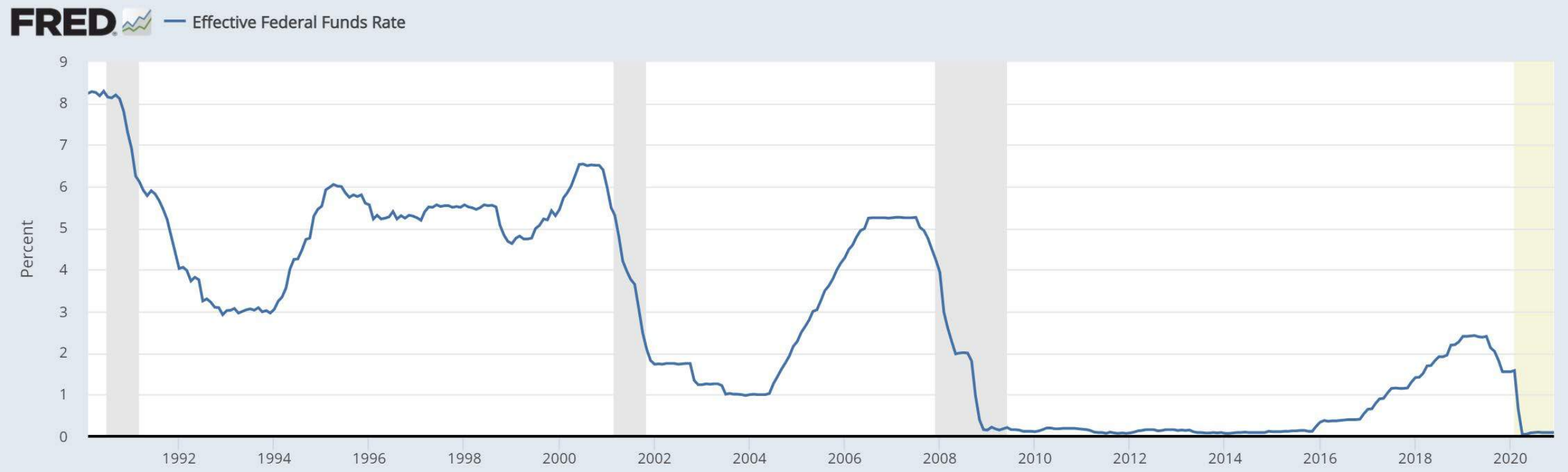
US Consumer Price Index



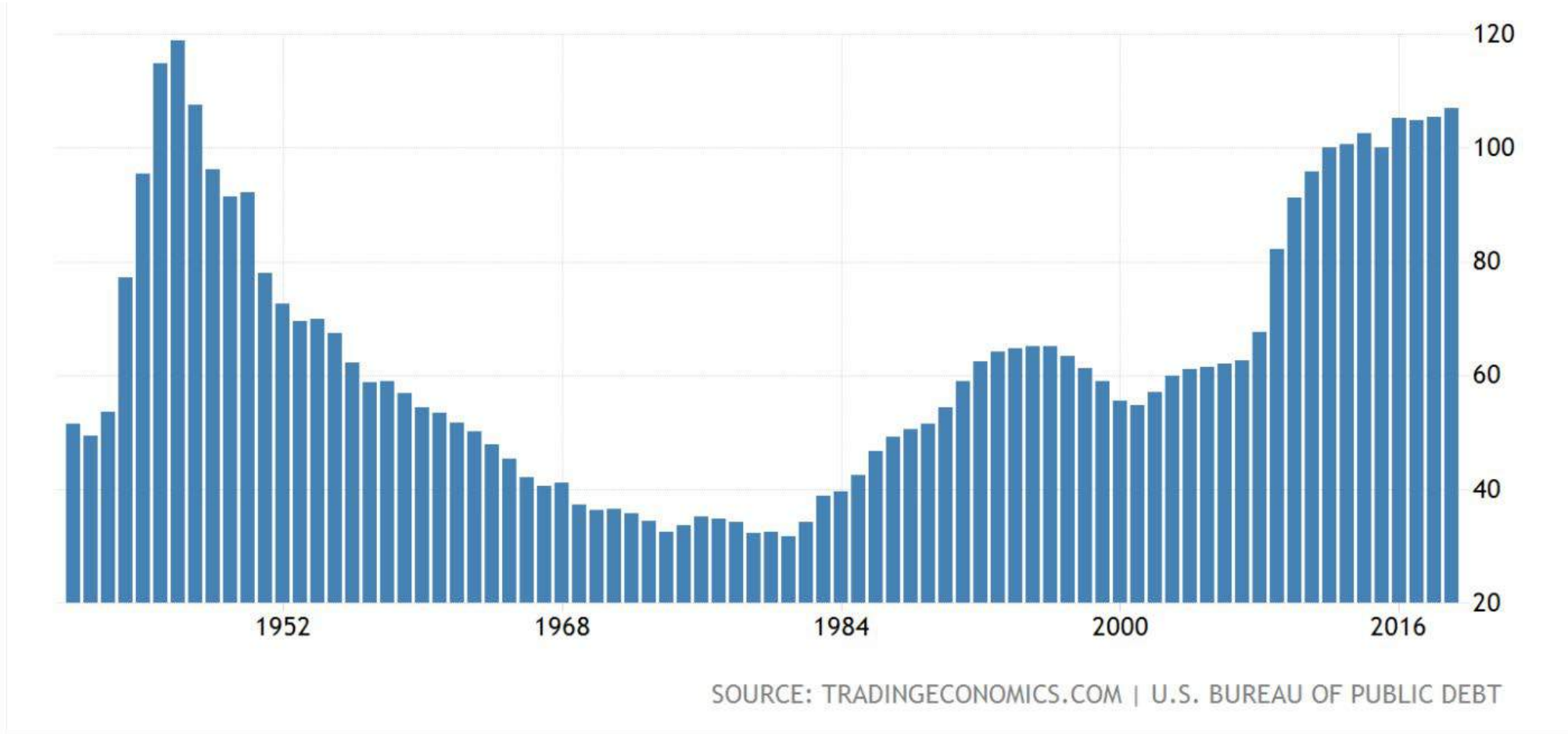
Yield Curve



Fed Funds Rate



Federal Debt as a Percentage of GDP



Part 1 Summary:

- Market collapse in Q1 of 2020 followed by a V-shaped recovery, but will there be a double-dip recession in 2021?
- Unemployment Rate – from 14.7% in Apr-20 to 6.7% at year end.
- Covid cases closing in on 10% of the US population but 30M vaccine doses distributed to date.
- Real GDP in 2020 was down 5% in Q1, down 31% in Q2, and up 33% in Q3; it will likely flatten from there.
- DJIA – 37% drop between Feb-20 and Apr-20, followed by a 66% rebound.
- CPI dipped and then rebounded in '20.
- Fed Funds Rate is back to 0%.
- Fed debt as a percentage of GDP is north of 100.
- Bottom line, looks to be like the start of an expansion cycle if further shutdowns can be avoided.

Part 2 - State of the US Construction Industry

All things considered, the construction industry performed remarkably well in 2020 but 2021 looks to be a very tough year for contractors as backlogs shrink and the industry awaits an infrastructure bill.

By Gary J. Tulacz

Execs Believe the Downturn Will Continue Until Late 2021

By Gary J. Tulacz

Industry Execs Start To Believe Recovery Will Come in 2021

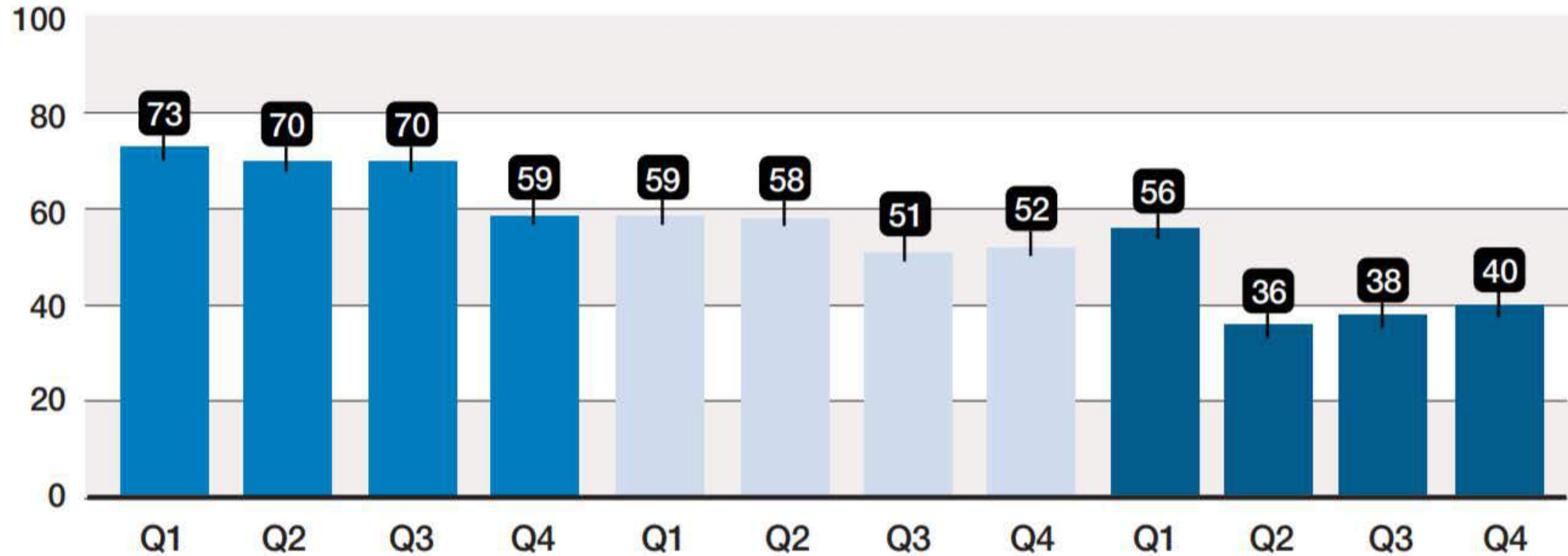
It is too soon to predict what 2021 will bring, but there are signs that the recession will end soon

The COVID-19 crisis clearly has taken its toll on the markets, and no one knows what 2021 will bring. However, there is a growing hope that the market will slowly turn around and be back on positive footing by the end of next year.

“The general feeling is that in a year, the market will be back. It won’t be as good as where we were a year ago, but it won’t be as bad as now,” says Basu. ■

Quarterly Cost Report Confidence Index

'18 '19 '20



SOURCE: ENR/BNP MEDIA

PROSPECTS IN INDIVIDUAL SECTORS BY FIRMS WORKING IN THOSE MARKETS

	NUMBER OF FIRMS	CURRENTLY (%)			3-6 MONTHS (%)			12-18 MONTHS (%)		
		DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY	DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY	DECLINING ACTIVITY	STABLE ACTIVITY	IMPROVING ACTIVITY
COMMERCIAL OFFICES	190	78	20	2	71	24	5	43	39	19
DISTRIBUTION, WAREHOUSE	118	8	46	47	5	32	63	2	34	64
EDUCATION K-12	136	27	64	8	28	60	12	18	51	31
ENTERTAINMENT, THEME PARKS, CULTURAL	76	91	8	1	80	17	3	37	45	18
HOSPITALS, HEALTH CARE	161	31	51	18	16	54	30	6	40	54
HIGHER EDUCATION	166	53	43	4	54	39	7	32	50	19
HOTELS, HOSPITALITY	124	84	15	1	72	23	5	33	47	20
MULTI-UNIT RESIDENTIAL	130	29	57	15	20	55	25	18	43	39
RETAIL	109	86	12	2	79	17	4	49	39	13
INDUSTRIAL, MANUFACTURING	128	29	53	18	21	44	35	4	39	57
TRANSPORTATION	98	37	56	7	31	47	22	18	38	44
WATER, SEWER AND WASTE	86	14	72	14	16	65	19	12	58	31
POWER	61	23	66	11	18	58	23	5	49	46
PETROLEUM, PETROCHEMICAL	42	69	26	5	40	48	12	17	57	26
ENVIRONMENTAL, HAZARDOUS WASTE	31	35	58	6	23	65	13	10	55	35

SOURCE: ENR/BNP MEDIA. FIGURES MAY NOT ADD UP TO 100% DUE TO ROUNDING



What Is CONFINDEX™

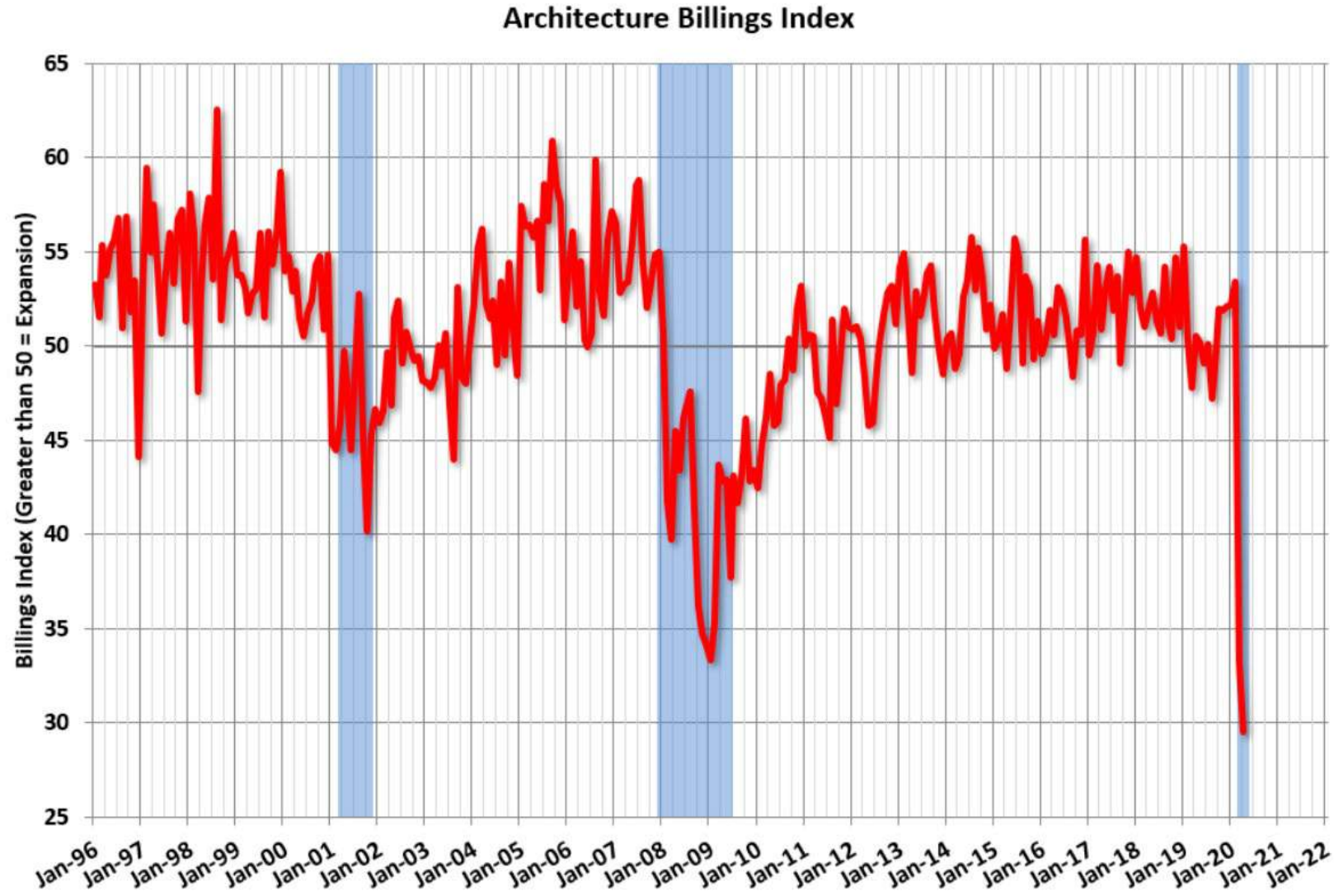
CONFINDEX is CFMA's proprietary confidence index survey of construction financial management professionals. It is the only confidence index survey asking the level of confidence from important decision-makers in a critical industry of the U.S. economy.

What the CONFINDEX Number Indicates

- Built using a "net confidence scoring" approach
- Measures degree to which there is a more positive or negative outlook among survey panel members
 - Neutral point is set at 100
 - Less than a 100 reading indicates pessimism among the survey participants, while a reading more than 100 indicates optimism among the survey participants

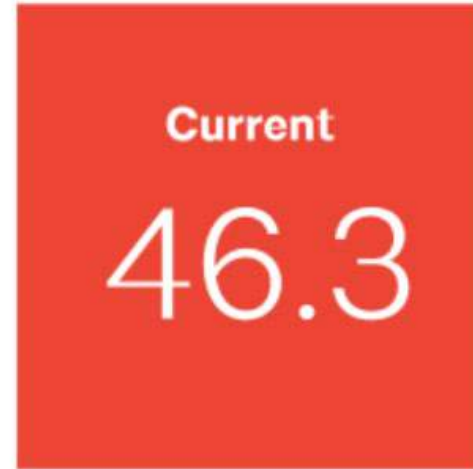


ABI Hits Record Low in 2020

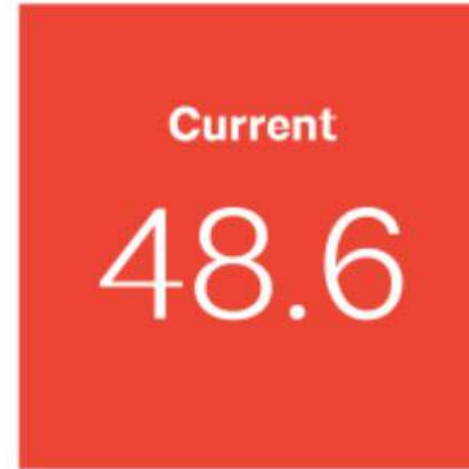


Nov-2020 ABI

Billings



Design Contracts



Above 50

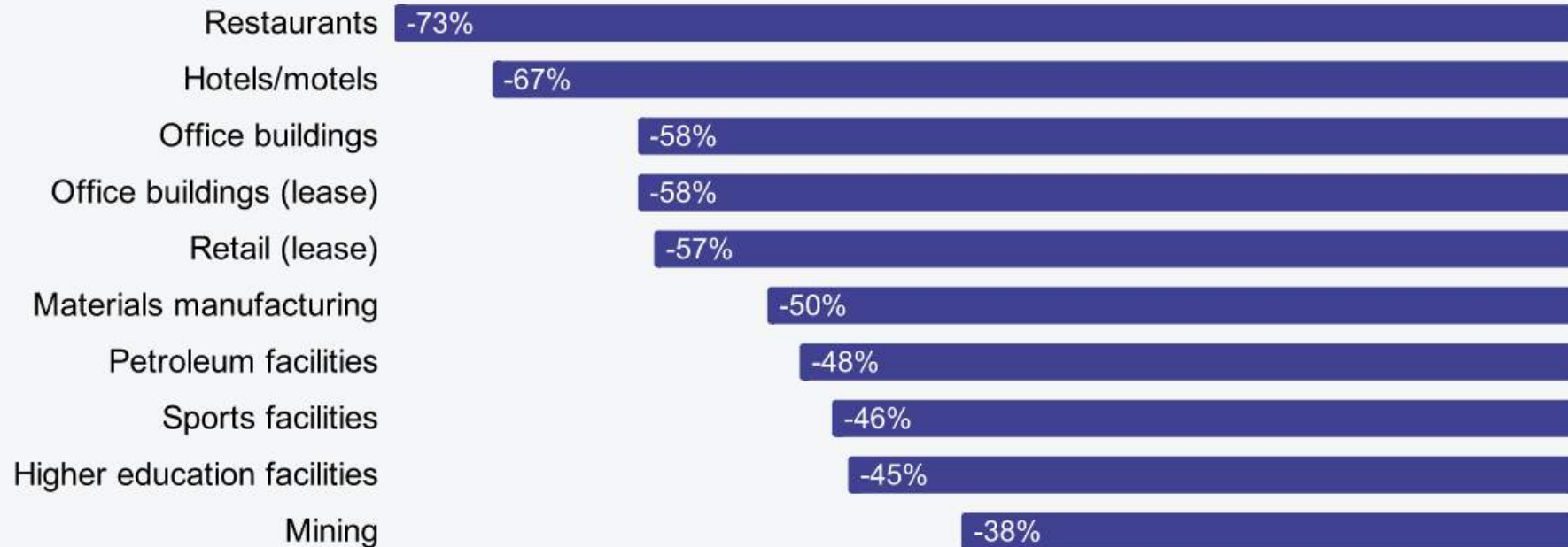


Below 50

Report: AEC proposal activity at lowest level in a decade

Worst-performing submarkets

These construction sectors had the least amount of second-quarter proposal activity.



AUTHOR
[Jenn Goodman](#)

PUBLISHED
July 15, 2020

ENR'S 2021 COST FORECAST

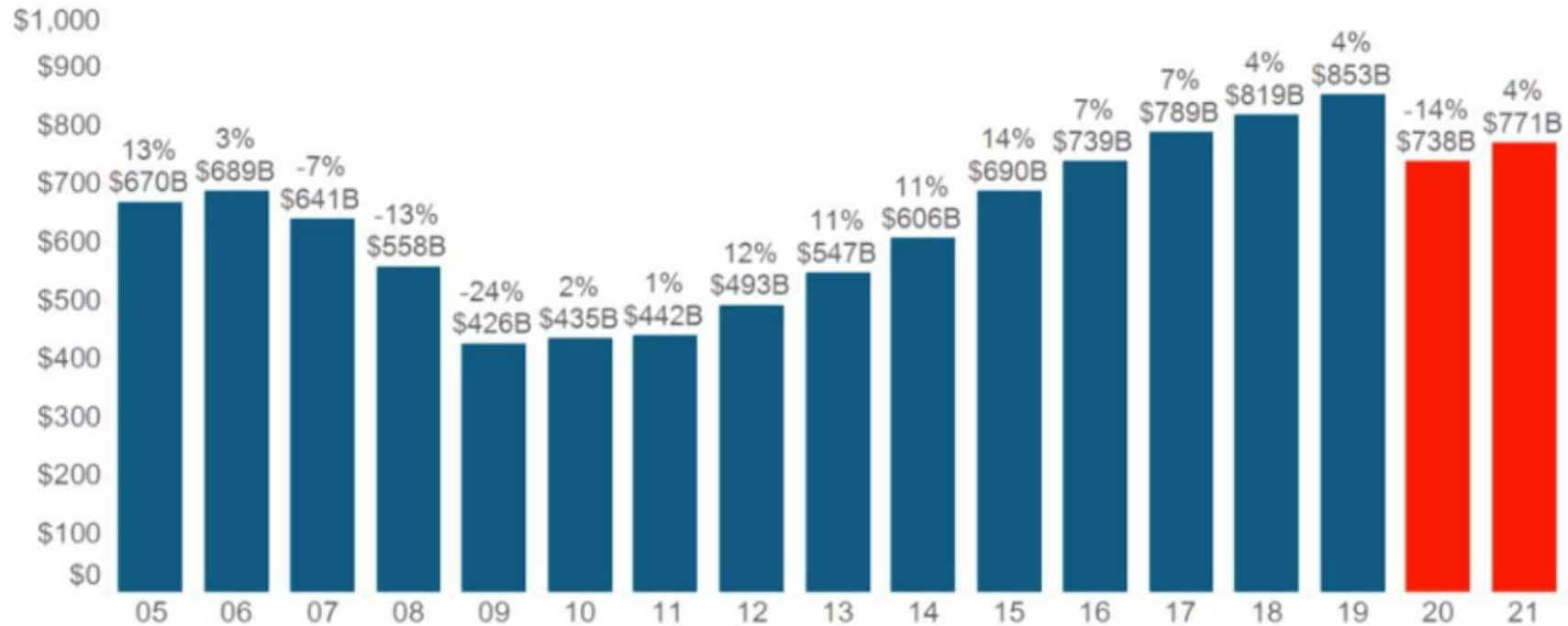
	2020	2021	% CHANGE	
			'19-'20	'20-'21
BUILDING COST INDEX: 1913=100	6445.14	6661.15	+4.0	+3.4
SKILLED-LABOR INDEX: 1913=100	10743.67	10875.43	+1.1	+1.2
WAGES, \$/HR.	59.41	60.11	+1.1	+1.2
CONST. COST INDEX: 1913=100	11625.95	11802.10	+2.1	+1.5
COMMON-LABOR INDEX: 1913=100	24037.06	24100.10	+0.5	+0.3
WAGES, \$/HR.	46.20	46.32	+0.5	+0.3
MATERIALS COST INDEX: 1913=100	3790.89	3975.25	+8.3	+4.9
PORTLAND CEMENT, \$/TON	147.83	153.80	+4.3	+4.0
LUMBER, 2X4, \$/MBF	755.19	827.45	+25.6	+9.6
STRUCTURAL STEEL, \$/CWT	55.87	56.95	+1.5	+1.9

SOURCE: ENR/BNP MEDIA. ENR'S COST INDEXES FORECAST TO DECEMBER 2021;
PERCENT CHANGES ARE DECEMBER VS. DECEMBER.

U.S. Total Construction Starts

Total construction to fall 14% in 2020, rise 4% in 2021

Total U.S. Construction Starts
(Billions of Dollars)

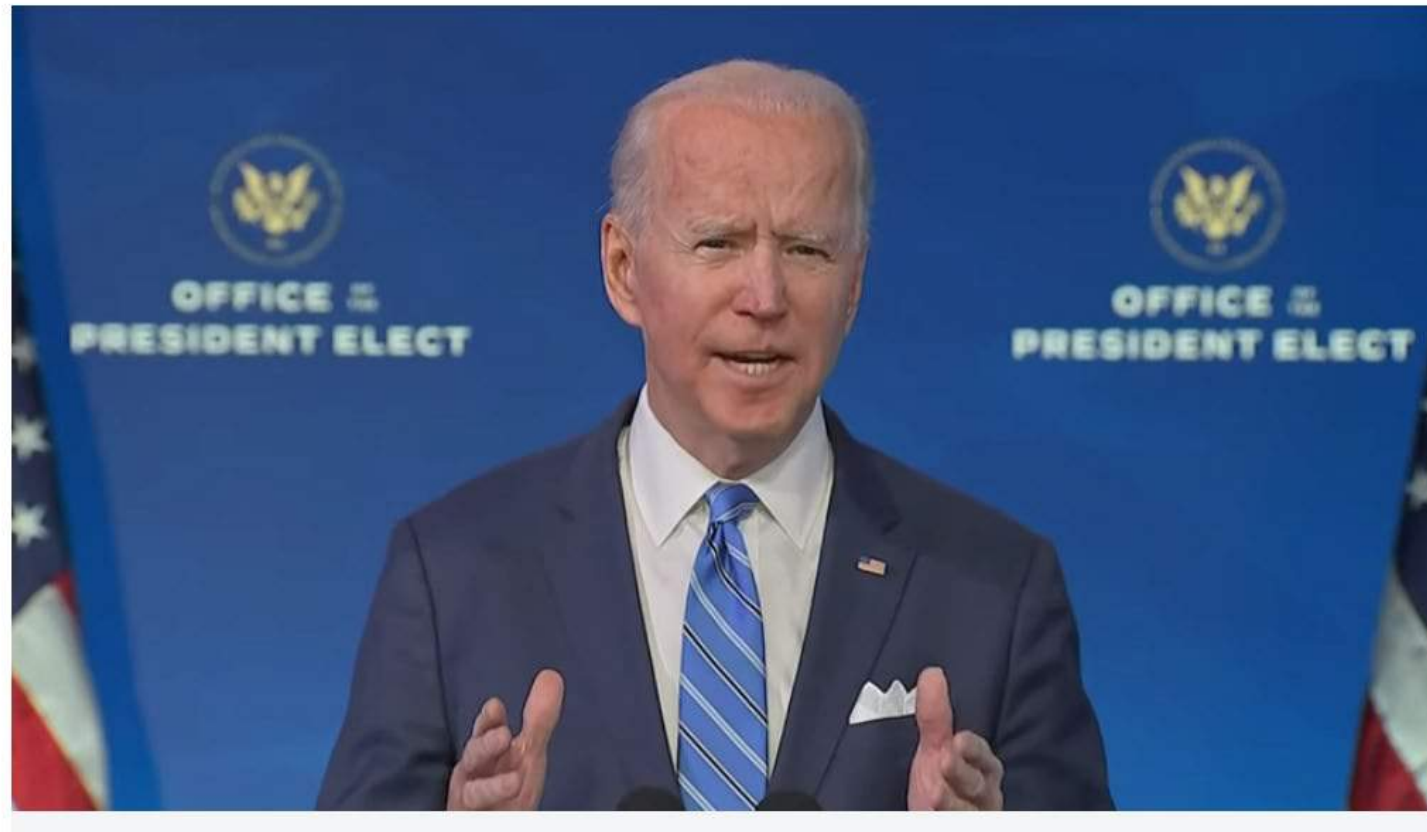


Source: Dodge Data & Analytics
#DodgeOutlook21

Biden Unveils Rescue Plan, Promises Infrastructure Proposal Next Month

January 14, 2021

Tom Ichniowski



January 14, 2021

Tom Ichniowski

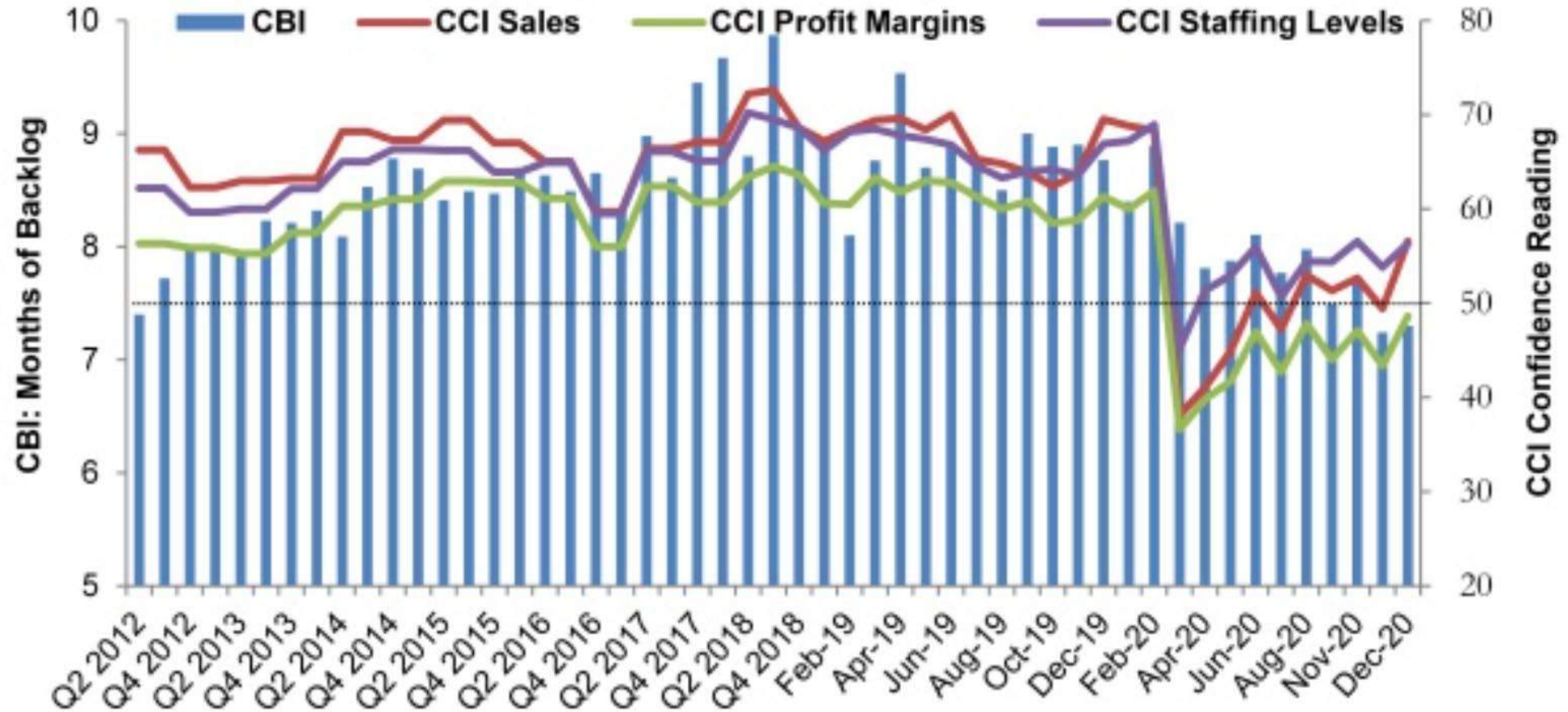
The rescue plan, which Biden unveiled in a Jan. 14 speech in Wilmington, Del., has little or no infrastructure or construction-related funding.

But to construction industry officials, the major news may well have been Biden's statement that the rescue plan would be followed in February by a second key measure, a “Build Back Better recovery plan.”

The president-elect said proposals would “make historic investments in infrastructure, along with manufacturing, research and development and clean energy.”

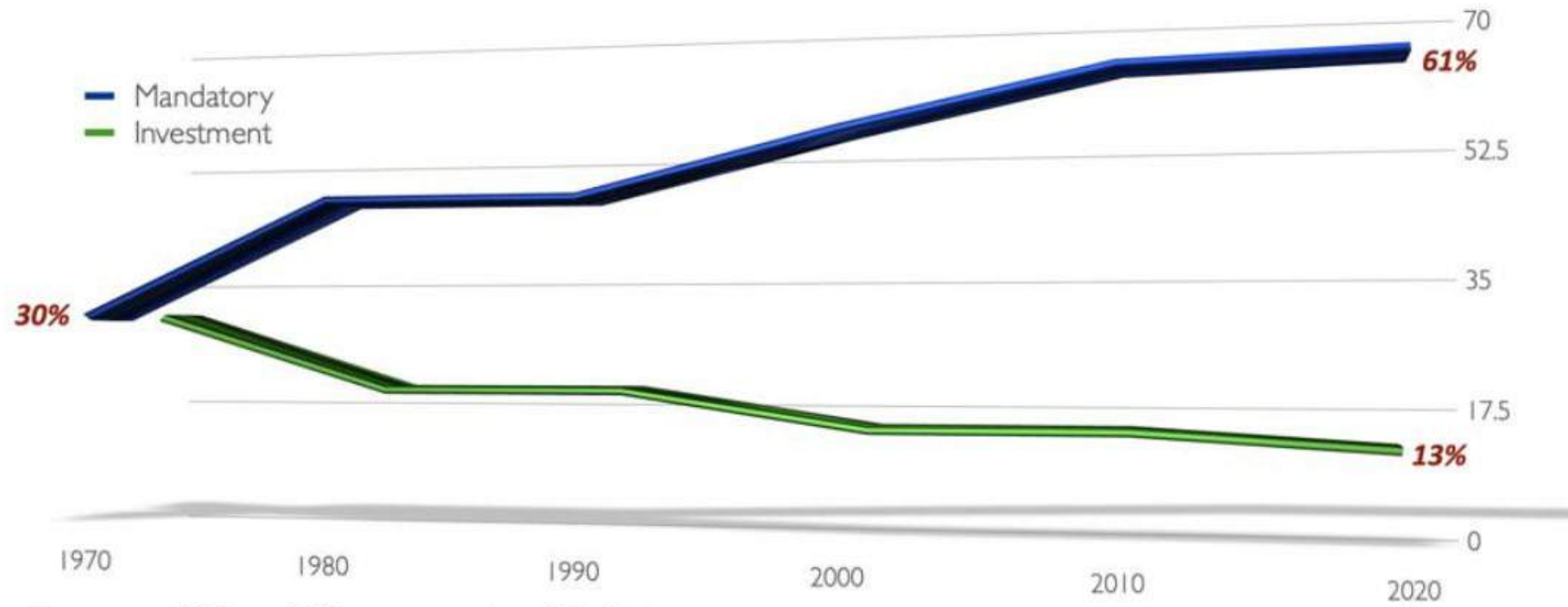


ABC Construction Backlog Indicator & Construction Confidence Index, 2012-Dec. 2020



©Associated Builders and Contractors, Construction Backlog Indicator, Construction Confidence Index

U.S. DEBT V INVESTMENT, 1970-2020



Source: Office of Management and Budget

Divergence of U.S. Investment and Non-discretionary Spending, 1970-2020 OFFICE OF MANAGEMENT AND BUDGET



THE PANDEMIC'S GROWING IMPACTS ON THE
CONSTRUCTION INDUSTRY:
THE 2021 CONSTRUCTION HIRING AND BUSINESS
OUTLOOK

The pandemic is prompting many owners to delay or cancel projects, causing delays in the completion of ongoing projects and increasing the cost of construction. Most contractors expect demand for many categories of construction to shrink in 2021 and few expect the market to recover to pre-pandemic levels for more than six months. As a result, relatively few contractors plan to expand their headcount in 2021.

The fact remains, however, that without some significant change in the construction marketplace, 2021 will be one of the most difficult years for the construction industry since the recession of the late 2000s. New federal investments in infrastructure – something officials from both parties repeatedly claim they support – would provide a much-needed boost for construction demand.

Value of Construction Put in Place - Seasonally Adjusted Annual Rate

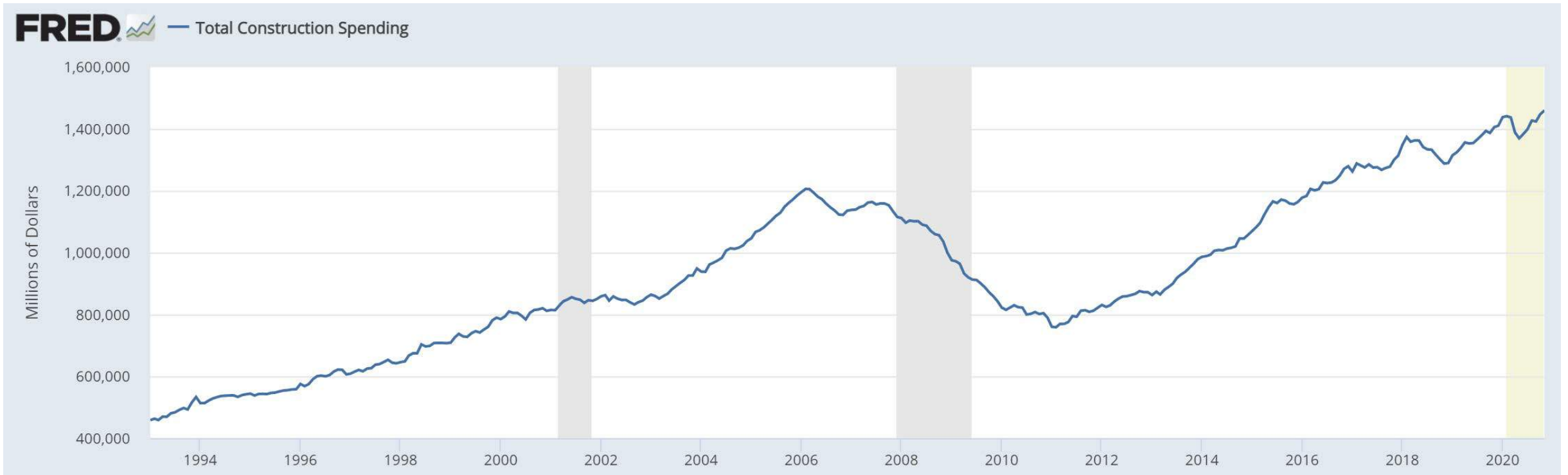
(Millions of dollars. Details may not add to totals due to rounding.)

Type of Construction:	Nov 2020 ^P	Oct 2020 ^F	Sep 2020 ^F	Aug 2020	Jul 2020	Nov 2019	Percent change Nov 2020 from -	
							Oct 2020	Nov 2019
Total Construction	1,459,440	1,446,877	1,423,963	1,426,884	1,398,952	1,405,510	0.9	3.8
Residential	666,990	649,813	629,972	624,410	584,418	574,079	2.6	16.2
Nonresidential	792,450	797,065	793,991	802,475	814,534	831,431	-0.6	-4.7
Lodging	24,050	26,218	26,672	27,550	28,538	32,701	-8.3	-26.5
Office	80,045	79,811	80,422	80,914	81,336	85,399	0.3	-6.3
Commercial	81,989	82,485	82,822	83,566	84,045	83,204	-0.6	-1.5
Health care	46,838	47,553	47,848	48,269	47,655	47,529	-1.5	-1.5
Educational	103,033	102,732	103,304	100,845	101,766	107,623	0.3	-4.3
Religious	3,183	3,143	3,200	3,115	2,899	3,455	1.3	-7.9
Public safety	15,412	16,170	15,129	15,675	16,577	11,920	-4.7	29.3
Amusement and recreation	25,485	26,001	26,231	26,792	26,870	29,931	-2.0	-14.9
Transportation	56,760	56,592	56,030	55,928	57,190	57,242	0.3	-0.8
Communication	21,999	22,479	22,425	22,877	22,935	21,997	-2.1	0.0
Power	114,348	115,411	115,270	117,016	119,681	125,417	-0.9	-8.8
Highway and street	97,769	96,052	91,463	94,161	96,496	90,094	1.8	8.5
Sewage and waste disposal	26,038	26,260	26,957	26,486	27,590	26,117	-0.8	-0.3
Water supply	17,969	18,400	18,688	19,106	19,128	17,725	-2.3	1.4
Conservation and development	7,700	7,976	7,664	8,250	8,646	8,842	-3.5	-12.9
Manufacturing	69,833	69,782	69,866	71,924	73,182	82,236	0.1	-15.1

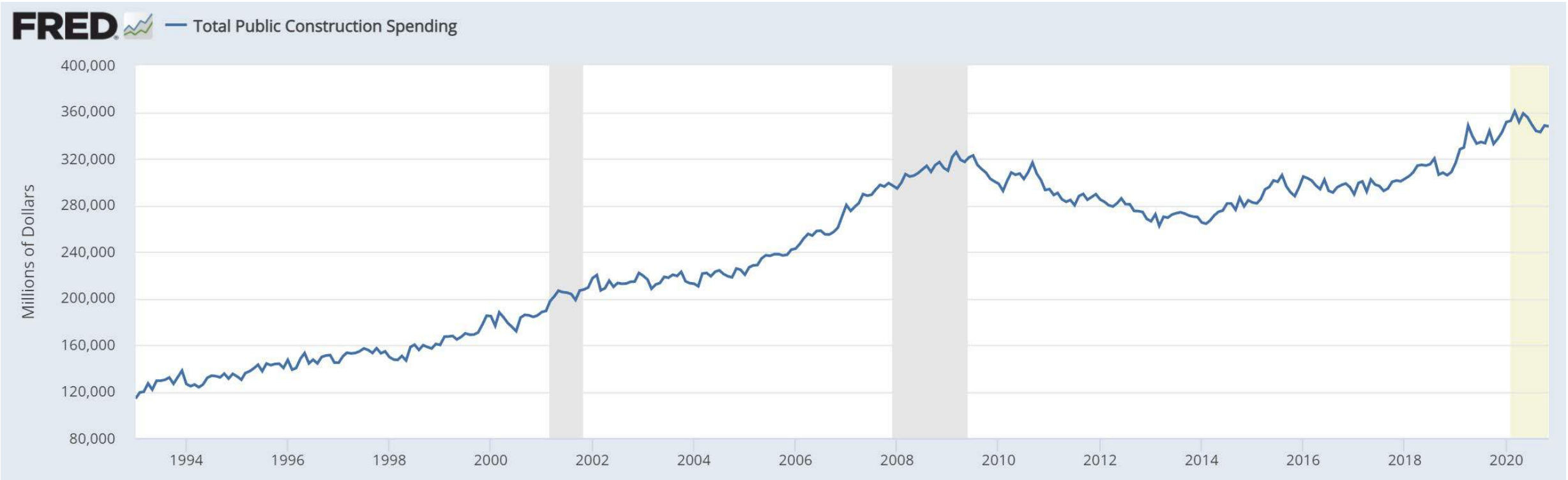
Type of Construction:	Nov 2020 ^P	Oct 2020 ^F	Sep 2020 ^F	Aug 2020	Jul 2020	Nov 2019	Percent change Nov 2020 from -	
							Oct 2020	Nov 2019
Total Private Construction¹	1,111,840	1,098,566	1,081,305	1,083,208	1,049,661	1,068,365	1.2	4.1
Residential	658,086	640,954	620,941	615,396	575,451	566,916	2.7	16.1
Nonresidential	453,754	457,612	460,365	467,812	474,210	501,449	-0.8	-9.5

Type of Construction:	Nov 2020 ^P	Oct 2020 ^F	Sep 2020 ^F	Aug 2020	Jul 2020	Nov 2019	Percent change Nov 2020 from -	
							Oct 2020	Nov 2019
Total Public Construction²	347,600	348,311	342,658	343,677	349,291	337,146	-0.2	3.1
Residential	8,904	8,859	9,032	9,013	8,967	7,164	0.5	24.3
Nonresidential	338,697	339,453	333,626	334,663	340,324	329,982	-0.2	2.6

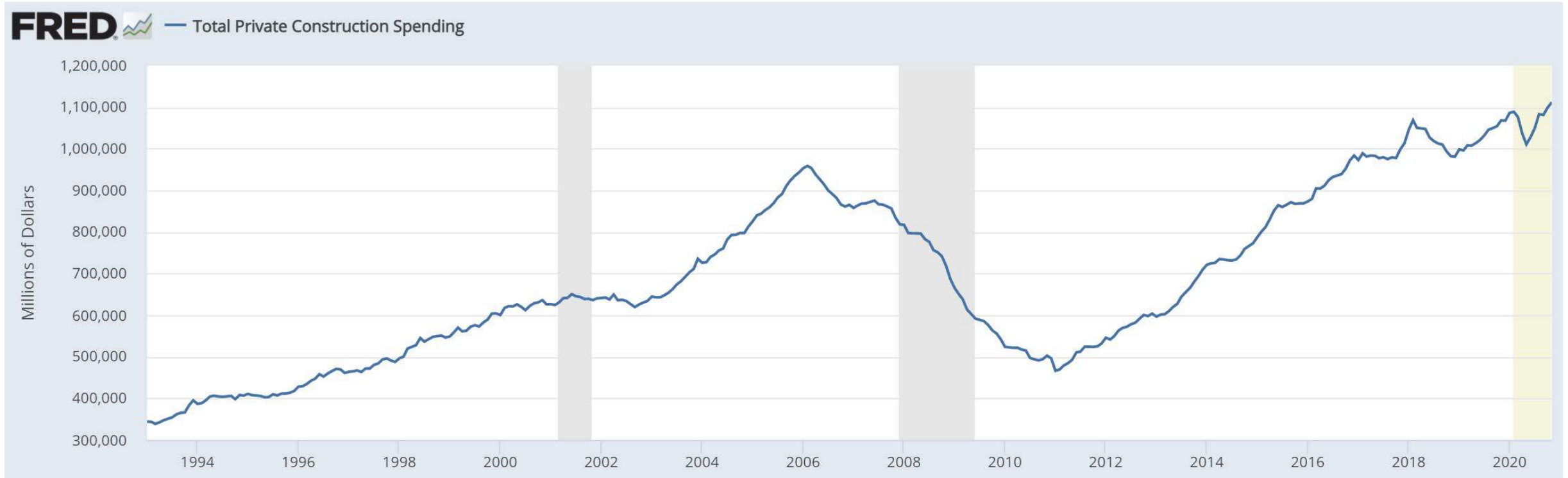
Total Construction Spending



Total Public Construction Spending



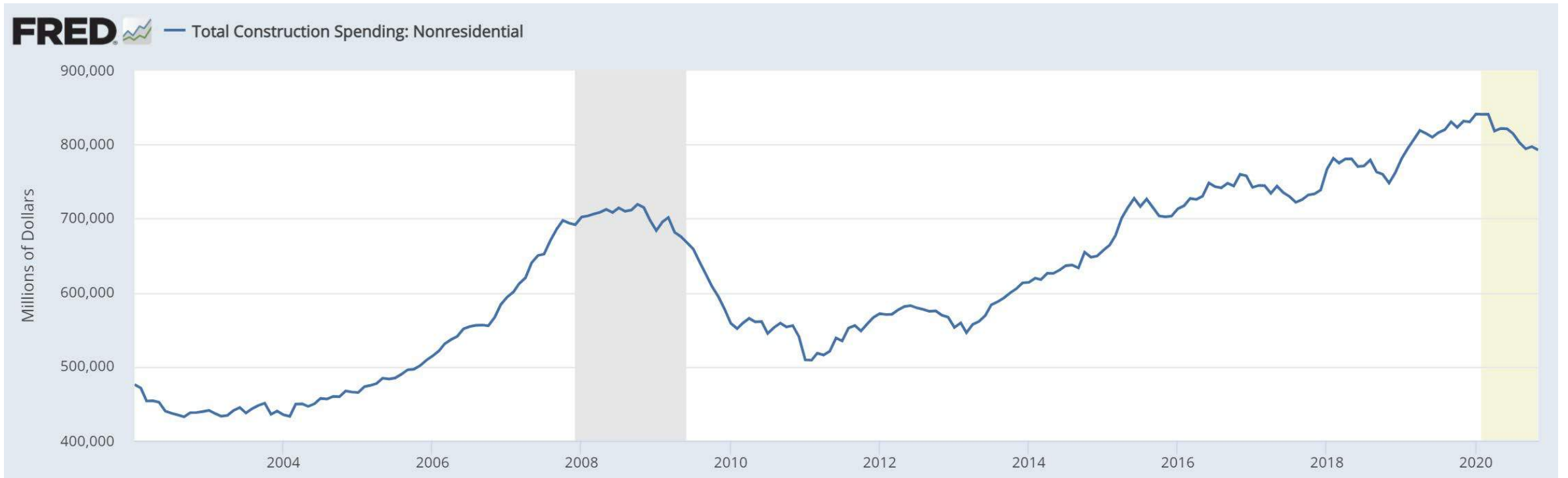
Total Private Construction Spending



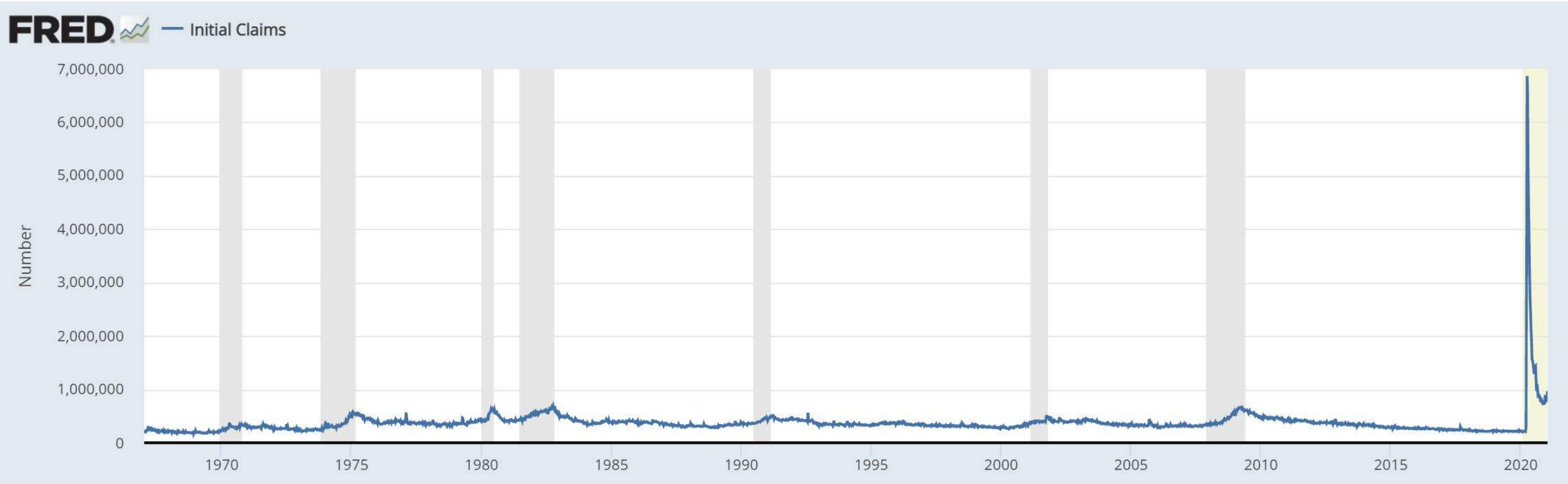
Total Residential Construction Spending



Total Nonresidential Construction Spending



Initial Jobless Claims



Forbes

EDITORS' PICK | 25,647 views | Aug 26, 2020, 07:00am EDT

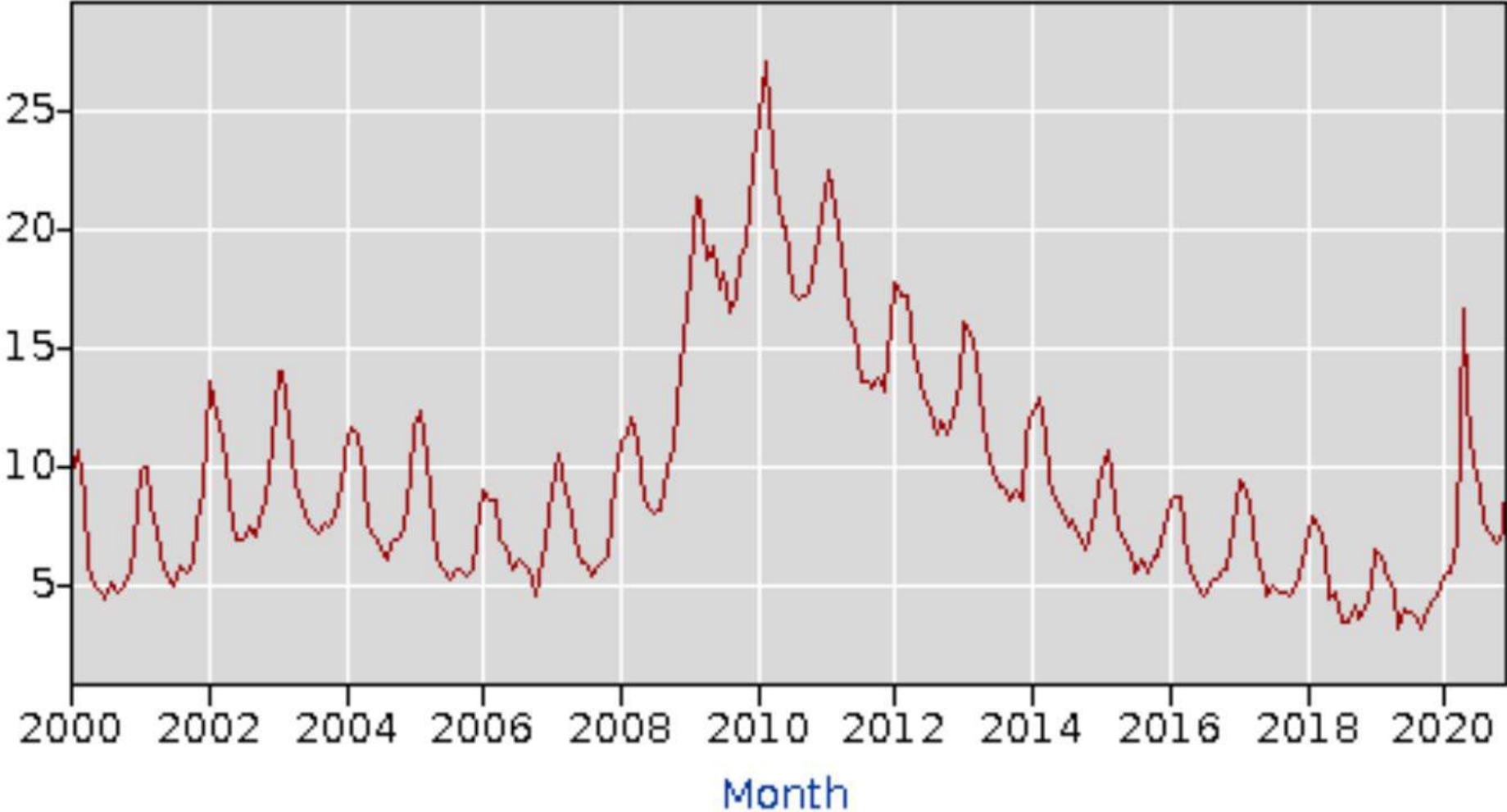
Why The Housing Market Is One Of The Hottest Trends In A Pandemic

VERTEX[®]

Construction Employment



Construction Unemployment



Current Concerns

As for COVID's direct impact on the markets, ENR asked survey respondents whether they have experienced project delays or cancellations. Only 23.2% of those responding to the survey said they had experienced no project cancellations. Further, 34.1% said they had 5% or more of their jobs canceled, including 14.9% saying at least 10% of their work has been canceled. Also, 92.7% said they had experienced project delays or postponements because of COVID-19 concerns.

Clearly, industry executives believe the market currently is declining as a result of COVID-19 and what it has done to the economy and expect recovery from the downturn will take some time. Most firms are relying on large backlogs from the boom years to get them through until the market bounces back, and they are scrambling for new opportunities. "Now is the time for firms to streamline their processes and become more efficient," says Basu. He says COVID-19 has forced firms to rely more heavily on technology to improve productivity.

2019

Labor Shortage + Record Revenue

=

Schedule & Quality Delays

2020

Backlog Reduction + Poor Decisions

=

Shrinking Margins & Bankruptcies

TYPICAL ECONOMIC CYCLE – CONSTRUCTION INDUSTRY

RECESSION (1-2 years) (Shrinking Backlog; Low Margin Work)

then

EARLY EXPANSION (2 years) (Fallout; Shrinking Profits)

then

MID EXPANSION (3 years) (Growth Years; Increasing Profits)

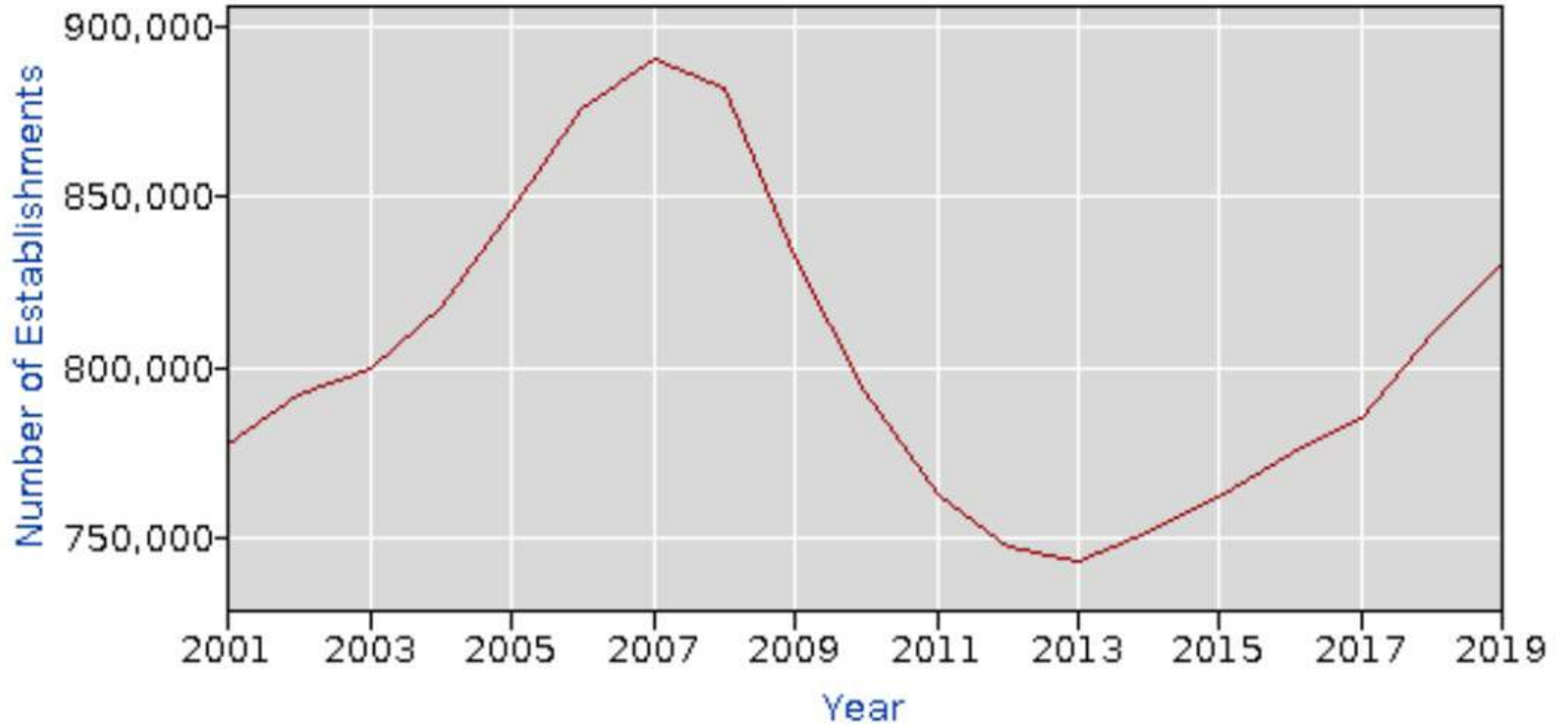
then

LATE EXPANSION (2 years) (Escalation; Project Issues)

then

RECESSION (1-2 years) (Shrinking Backlog; Low Margin Work)

Number of Construction Establishments – 2001 to 2019



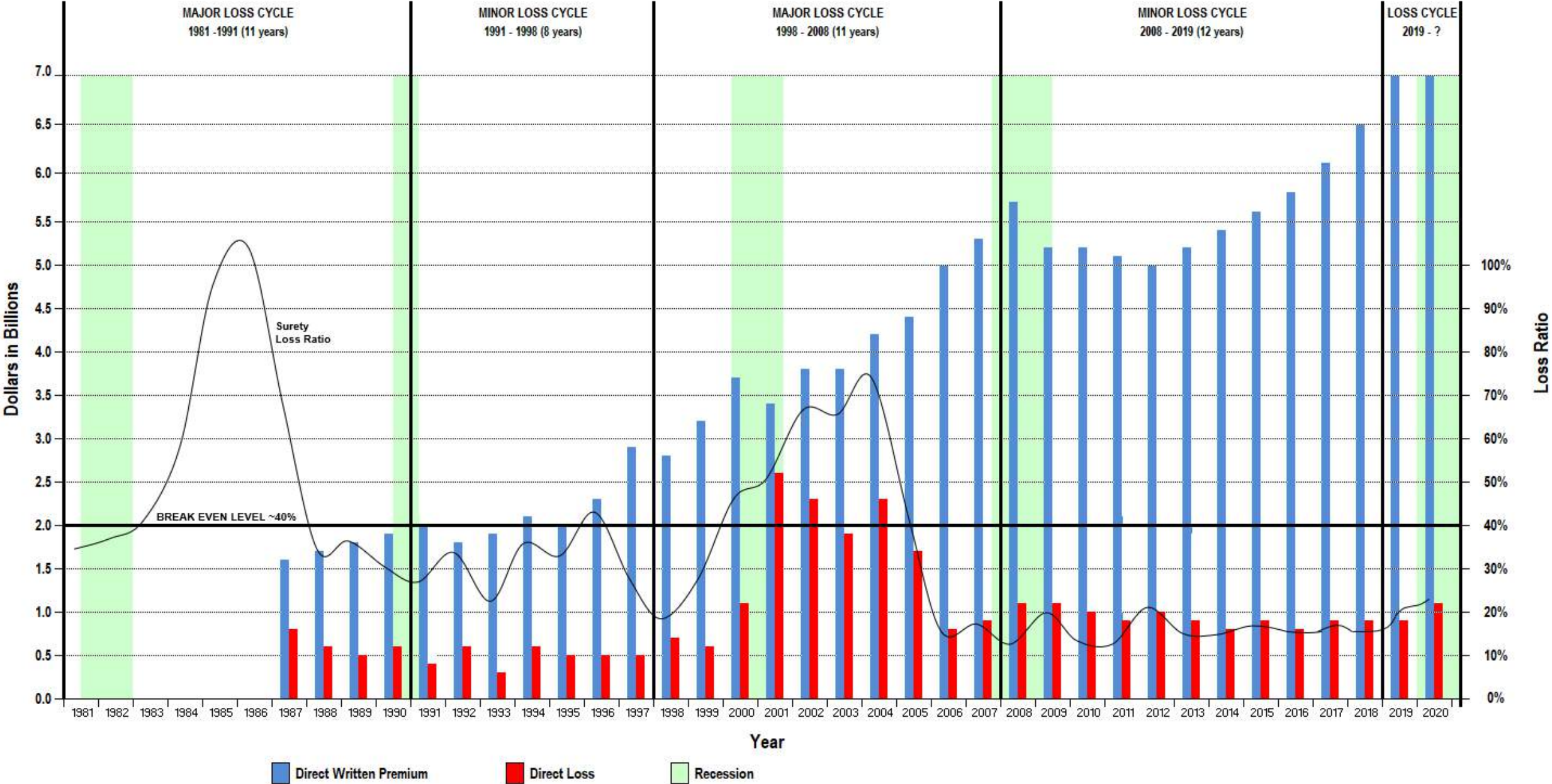
Part 2 Summary:

- The construction industry realized growth in 2020 because it was deemed an essential industry by the federal government and most states.
- However, 2021 is going to be a challenging year as design and construction backlogs shrink, starts are slowing, and confidence levels remain low.
- Construction inflation has eased with the exception of residential materials.
- Biden's infrastructure plans should sail through Congress in March or April, which will help public construction spending.
- Workforce shortages, which plagued the industry for the past four years, is no longer a major issue except in certain residential markets.
- The industry will likely improve as the year goes on.

Part 3 - State of the US Contract Surety Industry

All things considered, the construction industry performed remarkably well in 2020 but 2021 looks to be a very tough year for contractors as backlogs shrink and the industry awaits an infrastructure bill.

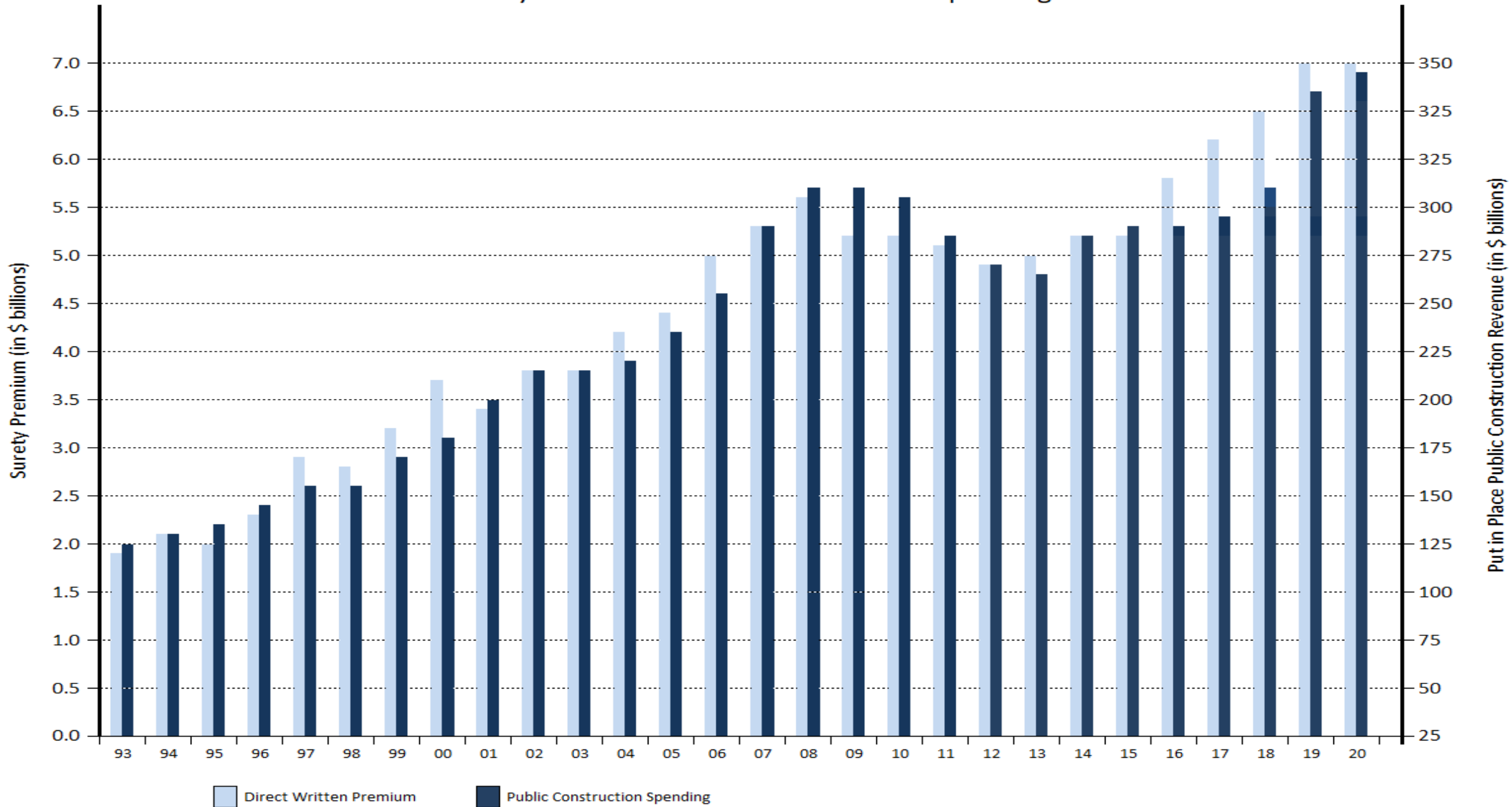
Surety Loss Cycles



CONTRACT BONDS

CALENDAR YEAR	DIRECT PREMIUMS WRITTEN	DIRECT PREMIUMS EARNED	DIRECT LOSSES INCURRED *	LOSS RATIO
2006**	3,223,980,595	2,831,159,171	312,155,253	11.0
2007**	3,477,071,867	3,145,594,236	422,346,066	13.4
2008	3,286,788,842	3,145,407,781	189,249,655	6.0
2009	3,245,353,995	3,189,383,088	441,311,658	13.8
2010	3,181,470,683	3,066,587,859	563,473,047	18.4
2011	3,076,150,729	2,973,692,924	735,152,410	24.7
2012	2,960,101,496	2,919,429,977	1,080,881,076	37.0
2013	3,052,180,345	2,878,413,510	648,704,836	22.5
2014	3,155,672,451	2,923,904,749	854,449,063	29.2
2015	3,201,695,033	3,053,047,521	402,555,934	13.2
2016	3,335,936,244	3,110,282,512	445,775,571	14.3
2017	3,535,981,862	3,229,923,928	523,568,524	16.2
TOTAL	38,732,384,142	36,466,827,256	6,619,623,093	18.2

Surety Premium v. Public Construction Spending



The Surety & Fidelity Association of America
Quarterly Countrywide Surety Top 100 Writers
United States & Territories, Canada & Aggregate Other Alien
Calendar Year 2020
2nd Quarter

(Year-to-Date Totals as of 6/30/2020)

▼	Group Name	▼	Direct Premium Written	▼	Direct Premium Earned	▼	Direct Losses Incurred *	▼	Direct Loss Ratio	▼
	Total Top 100 Writers		3,482,046,994		3,423,358,433		713,820,727		20.9%	
	Total of All Other Writers		5,934,781		13,067,875		2,772,682		21.2%	
	Grand Total of All Writers		3,487,981,775		3,436,426,308		716,593,409		20.9%	

* Losses include IBNR.

United States & Territories, Canada & Aggregate Other Alien
 Calendar Year 2020 - 3rd Quarter (year-to-date totals as of 09/30/2020)

Group Name	Direct Premium Written	Direct Premium Earned	Direct Losses Incurred *	Direct Loss Ratio
Total Top 100 Writers	5,211,154,543	5,176,912,812	1,157,591,394	22.4%
Total of All Other Writers	10,752,149	18,674,942	1,815,301	9.7%
Grand Total of All Writers	5,221,906,692	5,195,587,754	1,159,406,695	22.3%

Market Share of the Top 10 Surety Providers:

1980:	21%
1990:	42%
2004:	67%
2008:	68%
2014:	63%
2016:	62%
2017:	61%
2019:	61%
2020:	60%

The market share of the Top 10 surety providers has not been this low for approximately 20 years.

Part 3 Summary:

- Surety losses ticked up in 2020 but remain low, which is typical for a recession year.
- Contract surety losses will continue to trend upward for the next two to three years based on historical post-recession loss trends.
- The market share of the Top 10 surety providers is leveling off at ~60%.
- Some benefits of shrinking contractor backlogs:
 - Completion contractors will bid relet work.
 - Relet pricing will be more competitive.
 - Material / labor escalation will ease somewhat.

Conclusions:

- The US economy rebounded swiftly from the market crash in March and April of 2020; however, will continued shutdowns cause a decrease in spending and a double dip recession?
- The construction industry performed well in 2020 but 2021 will likely be a tough year for contractors due to shrinking backlogs.
- Biden's infrastructure plan should sail through Congress, which will provide a boost to public construction spending in late 2021.
- Contractor losses will likely trend upwards for the next several years if historical trends hold true.
- The surety market has entered a new loss cycle as the 11-year bull market came to and end in February of 2020.

End



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About the Presenter:

This is Mr. McConnell's 16th State of the Industry presentation. He hopes you will find this information interesting and useful. Mr. McConnell has presented on this topic at many construction and surety conferences over the years, including AGC, ABA, ASCE, and NBCA events. If you are a surety provider, large AEC company, or construction organization, and would like Mr. McConnell to present to your company, please contact Vertex's Brenna Stuhlman at bstuhlman@vertexeng.com.

Bill McConnell is a co-founder and the CEO of The Vertex Companies, Inc. Vertex is an AEC firm that offers Forensic, Engineering, Construction, Environmental, and Digital solutions throughout its 27 offices in North America. Bill has a BS in Civil Engineering from the University of Maine, a JD degree from the University of Denver, a MS degree from Columbia University, and he is working towards his PhD in Civil Engineering from the University of Colorado. Bill also completed a part-time three-year business program at MIT. When Bill is not performing his CEO duties (or going to school), he serves as a top expert witness for construction disputes. He has testified nearly 200 times, most notably for cost, schedule, and/or standard of care opinions.