



Point of View

Covid-19 correction

February 28, 2020



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Important Information

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Results shown assume the reinvestment of dividends.

An investment cannot be made directly in an index.

Investments with higher return potential carry greater risk for loss.

Investing in small companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

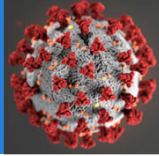
Foreign securities have additional risks, including exchange rate changes, political and economic upheaval, the relative lack of information about these companies, relatively low market liquidity and the potential lack of strict financial and accounting controls and standards.

Investing in emerging markets involves greater risk than investing in more established markets such as risks relating to the relatively smaller size and lesser liquidity of these markets, high inflation rates, adverse political developments and lack of timely information.

Fluctuations in the price of gold and precious metals often dramatically affect the profitability of the companies in the gold and precious metals sector. Changes in political or economic climate for the two largest gold producers, South Africa and the former Soviet Union, may have a direct effect on the price of gold worldwide.

Point of View

Covid-19



If you are in an area where there is an outbreak of COVID-19 you need to take the risk of infection seriously. Follow the advice issued by national and local health authorities. Although for most people COVID-19 causes only mild illness, it can make some people very ill. More rarely, the disease can be fatal. Older people, and those with pre-existing medical conditions (such as high blood pressure, heart problems or diabetes) appear to be more vulnerable.

– World Health Organization 2/28/20

How do I distinguish the new coronavirus from the flu or the common cold?

It is impossible to do based on the symptoms alone. The main symptoms of the new coronavirus are fever, cough, shortness of breath and general fatigue and muscle aches. These overlap with the symptoms of any respiratory virus.

– WSJ, 2/28/20

(6) *Bottom line.* We don't have any virologists on staff at Yardeni Research, but it seems to us that COVID-19 is very similar to the flu but perhaps less threatening. COVID-19 has killed far fewer people up until now than the flu does every year. Through Wednesday, there were 2,768 deaths from COVID-19 around the world, far fewer than the 25,000 to 69,000 Americans who die from the flu each year. Moreover, its demographic profile differs: COVID-19's fatalities have been mostly older people with preexisting medical conditions, who tend not to be as vulnerable to the flu as children, and COVID-19 has spared children 10 years and younger, a population that is more vulnerable to flu.

– Yardeni Research Inc. 2/27/20

Q: Will warm weather stop the outbreak of COVID-19?

A: It is not yet known whether weather and temperature impact the spread of COVID-19. Some other viruses, like the common cold and flu, spread more during cold weather months but that does not mean it is impossible to become sick with these viruses during other months. At this time, it is not known whether the spread of COVID-19 will decrease when weather becomes warmer. There is much more to learn about the transmissibility, severity, and other features associated with COVID-19 and investigations are ongoing.

– Centers for Disease Control 2/28/20

Yet how big an impact the virus ultimately has depends partly on how transmissible and deadly it turns out to be – factors that aren't yet fully understood. In some ways, as the stock market tumble suggests, that uncertainty is driving concern.

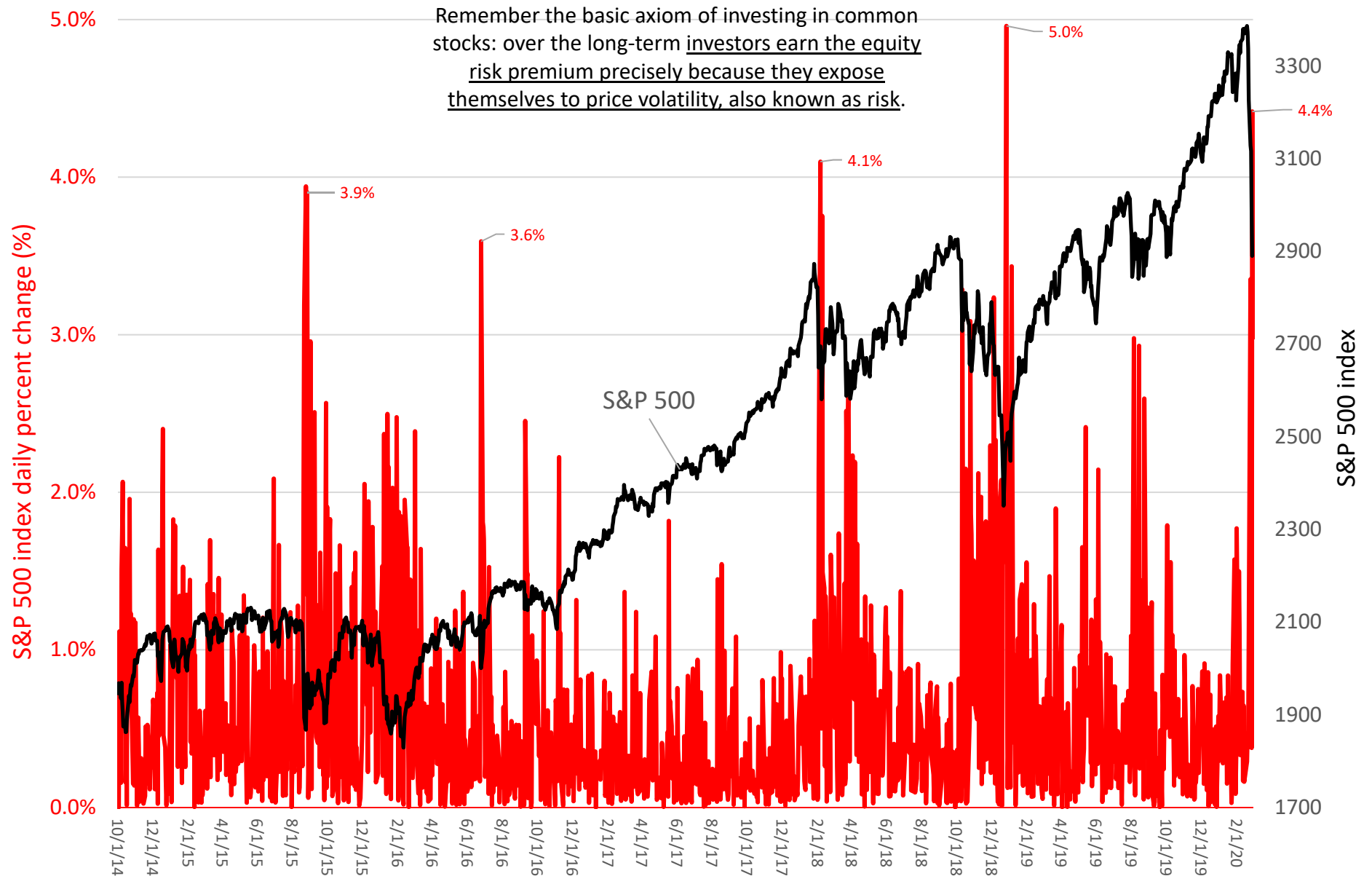
– WSJ, 2/28/20

Bank of America said it expects the disruption from the coronavirus epidemic to cause the global economy to grow at its slowest pace since 2009. The bank has cut its estimate for global GDP growth to 2.8% from 3.1% previously. It also now sees China's economy growing 5.2% this year, down from previous estimates of 5.6%. If that pans out, that would mark the slowest rate of growth for China in three decades.

– WSJ website, 2/28/20

Stock market

S&P 500 volatility



Source: Standard & Poor's. data through February 28, 2020.

Invisible Forces Add to Market Swings

By GUNJAN BANERJI

The rapid spread of the coronavirus outside China spurred turmoil in financial markets this week. Investors say hedging activity by options traders might have made it even worse.

Market volatility has roared back, smashing a streak of tranquility that helped pull major U.S. stock indexes to records just days earlier. Waves of selling dominated the week and the S&P 500 closed down Thursday more than 10% from its recent high, a decline known as a correction. The selloff sent listed options activity to the second-highest level ever earlier this week.

There were technical factors at play, too. Derivatives activity and heavy selling from funds that tend to make knee-jerk buying and selling decisions based on the level of market volatility created a perfect storm for the Wall Street selloff, analysts said. The S&P 500 fell for the sixth consecutive session Thursday, logging its biggest percentage

decline since August 2011.

Marko Kolanovic, global head of quantitative and derivatives strategy at JPMorgan Chase & Co., estimated that more than \$100 billion in selling Monday and Tuesday was fueled by options hedging and trading strategies based on market volatility. Meanwhile, liquidity—or the ability to get in and out of positions—also worsened, Mr. Kolanovic said, further stressing the broader market.

To some investors, this highlights the increased influence that options activity and different trading tactics can have on markets, as new strategies to juice returns have surged in popularity in recent years.

“It has been a big contributor to the increase in volatility,” said Vincent Cassot, head of equity derivatives strategy at Société Générale SA, of options positioning. “We can switch quickly from a very low volatility world.”

Options trading has swelled, particularly as investors have gotten more creative in their search for higher re-

turns during a period of ultralow bond yields. The activity can help suppress market swings, keeping stocks calm for extended periods.

The Cboe Volatility Index jumped to the highest level since 2015 this week.

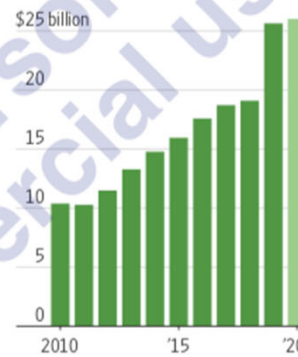


*Through January
Sources: FactSet (VIX); Morningstar Direct (assets)

turns during a period of ultralow bond yields. The activity can help suppress market swings, keeping stocks calm for extended periods.

It can also have the opposite effect, magnifying volatility when it appears. That scenario may have been on display this week because of what is called

Assets in mutual and exchange-traded funds using options-based strategies



short gamma positioning, in which traders buy shares when prices are rising and sell when prices are falling.

Gamma measures how much the price of an option accelerates when the price of the underlying security shifts. Tracking this exposure has become more popular on Wall Street,

with some strategists saying that it can fuel big moves—higher or lower—in stocks.

“You just had the right place, right time for a shock down” this week, said Charlie McElligott, a cross-asset macro strategist at Nomura. “The conditions were ripe because of gamma.”

Mr. McElligott wrote in a note to clients Tuesday that this dynamic added to the stock swoon that day, as traders sold more stocks the lower prices fell.

Data provider SqueezeMetrics estimates that tens of billions of dollars of S&P 500 futures had to be sold for every percentage point the S&P 500 went down earlier week.

Here’s how it works: Investors often turn to the options market to buy and sell contracts tied to the S&P 500. They can buy S&P 500 put options from options dealers, who take the other side of the trade. Such contracts tend to profit as the stock gauge falls, and can serve as a portfolio hedge.

As the S&P 500 declines, those put options become more

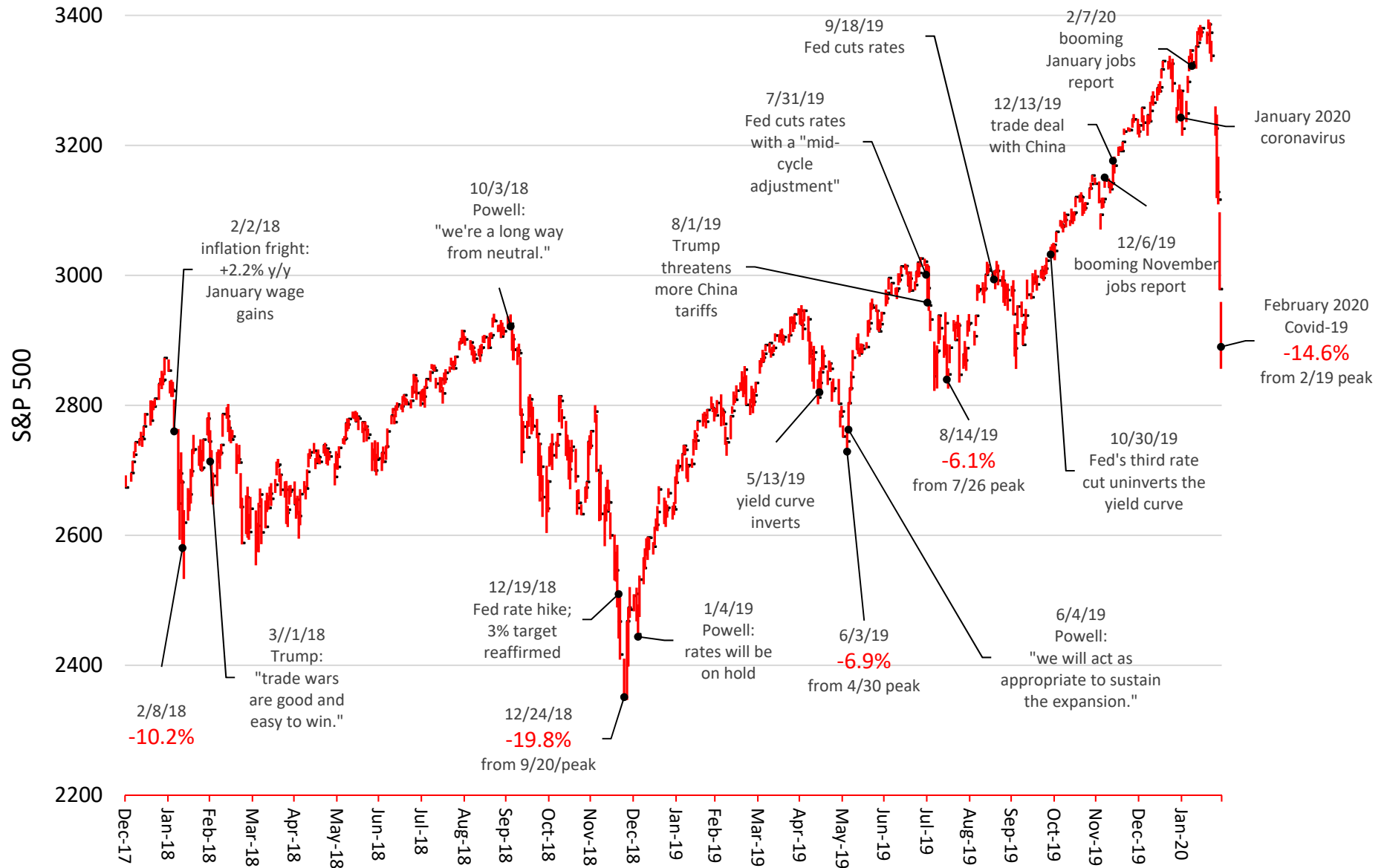
profitable for the investor who purchased them. Meanwhile, the trade sours for the seller. Professional options dealers try to maintain neutral positions in the market and remain constantly hedged. **As markets fall, options dealers sell stocks or stock futures to offset those positions. The selling can intensify the more stocks fall.**

“You’re going to be a seller when the market is down,” said Mr. Cassot. “Hence they are going to increase the volatility of the market.”

An accelerating selloff and rising stock volatility can trigger other investors to make similar decisions, creating a ripple effect. A whole camp of funds on Wall Street makes trading decisions based on the level of swings in markets. They tend to sell when volatility rises and buy when volatility falls. One measure of stock swings, the Cboe Volatility Index, or VIX, on Monday jumped to its highest level since January 2019 and continued to rise the next day. It closed Thursday at its highest level since August 2015.

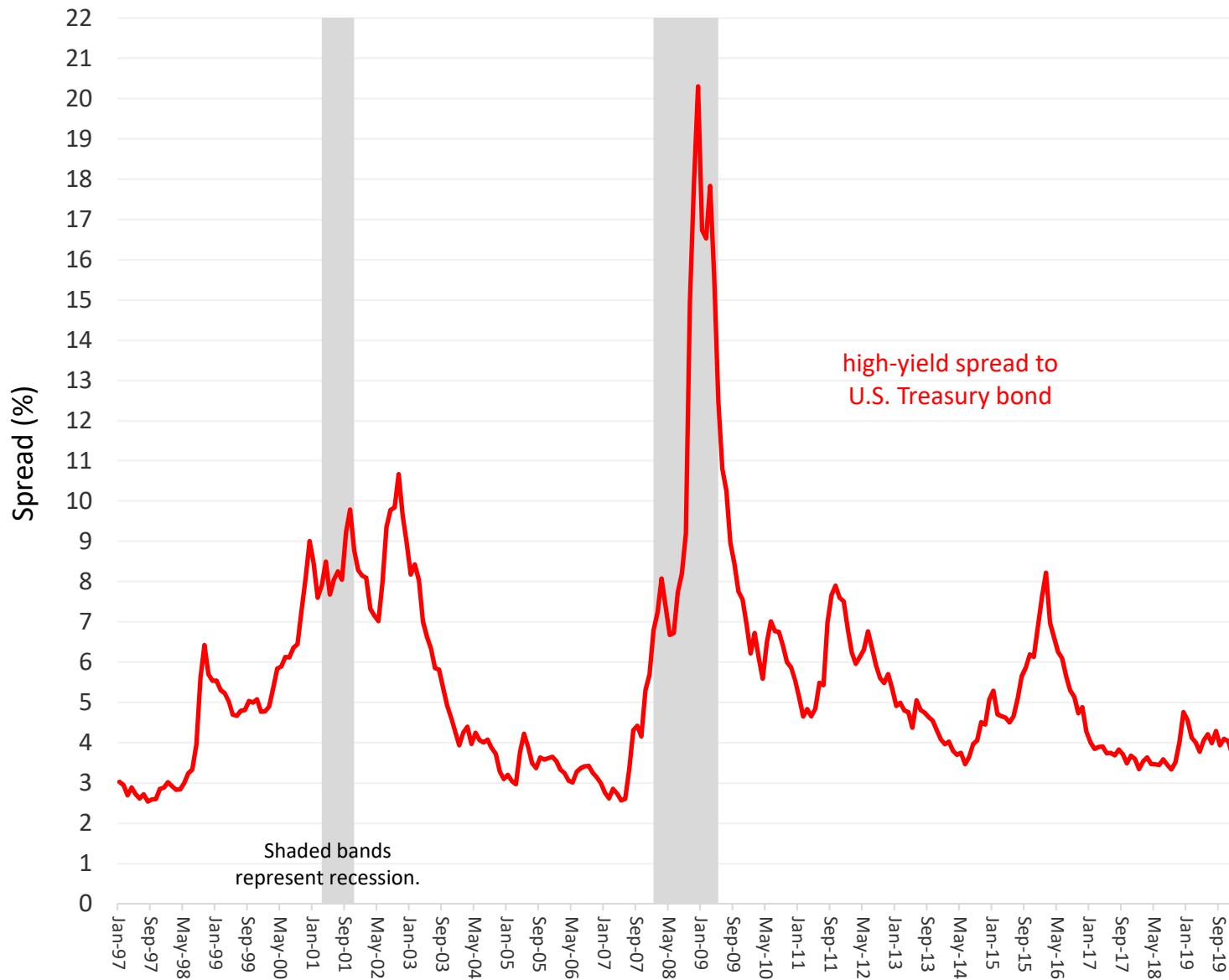
Stock market

S&P 500 – coronavirus correction



Stock market

Muted worries in the bond market



No recession fears reflected here.

This market-based measure of risks has spiked spuriously many times in the past.

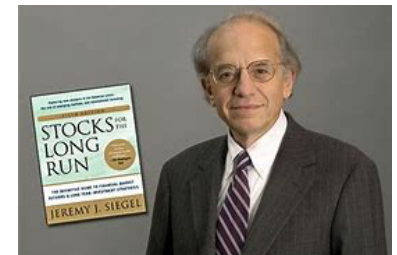
Source: ICE Benchmark Administration Limited (IBA), ICE BofAML US High Yield Master II Option-Adjusted Spread [BAMLH0A0HYM2], retrieved from FRED, Federal Reserve Bank of St. Louis. Data through February 26, 2020.

Stock market arithmetic

Total return = 7.4% earnings-driven price + 2.2% dividends reinvested



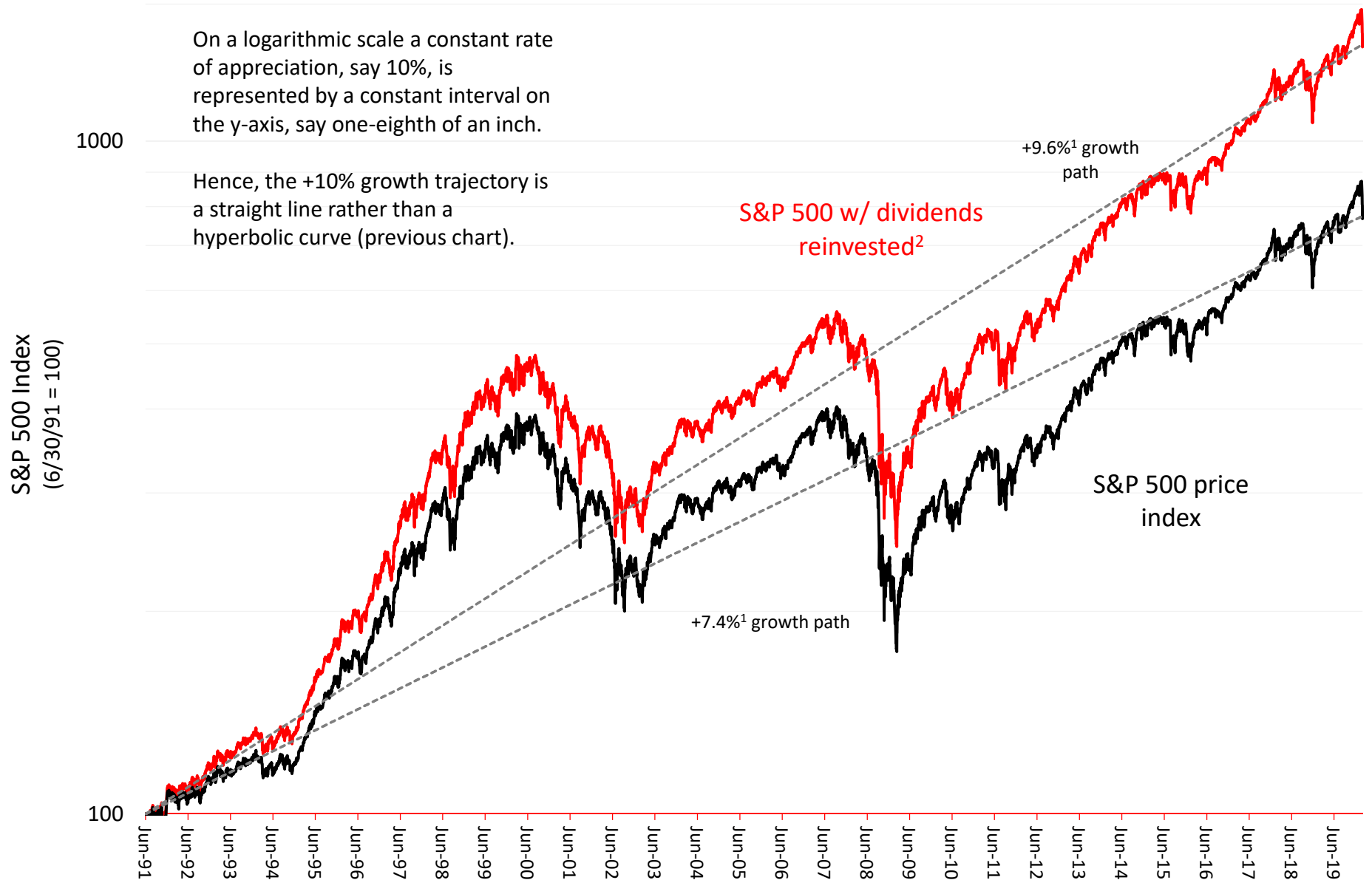
+10% per year S&P 500 total return over the last 29 years is in line with the stock market's long-term returns going back to 1926, or back even further to 1871.³



Source: Standard and Poor's. Data through February 27, 2020.¹ Compound annual growth rate. ² S&P 500 total return index. ³ per Professor Jeremy Siegel's seminal *Stocks for the Long Run*, first published in 1994.

Stock market arithmetic

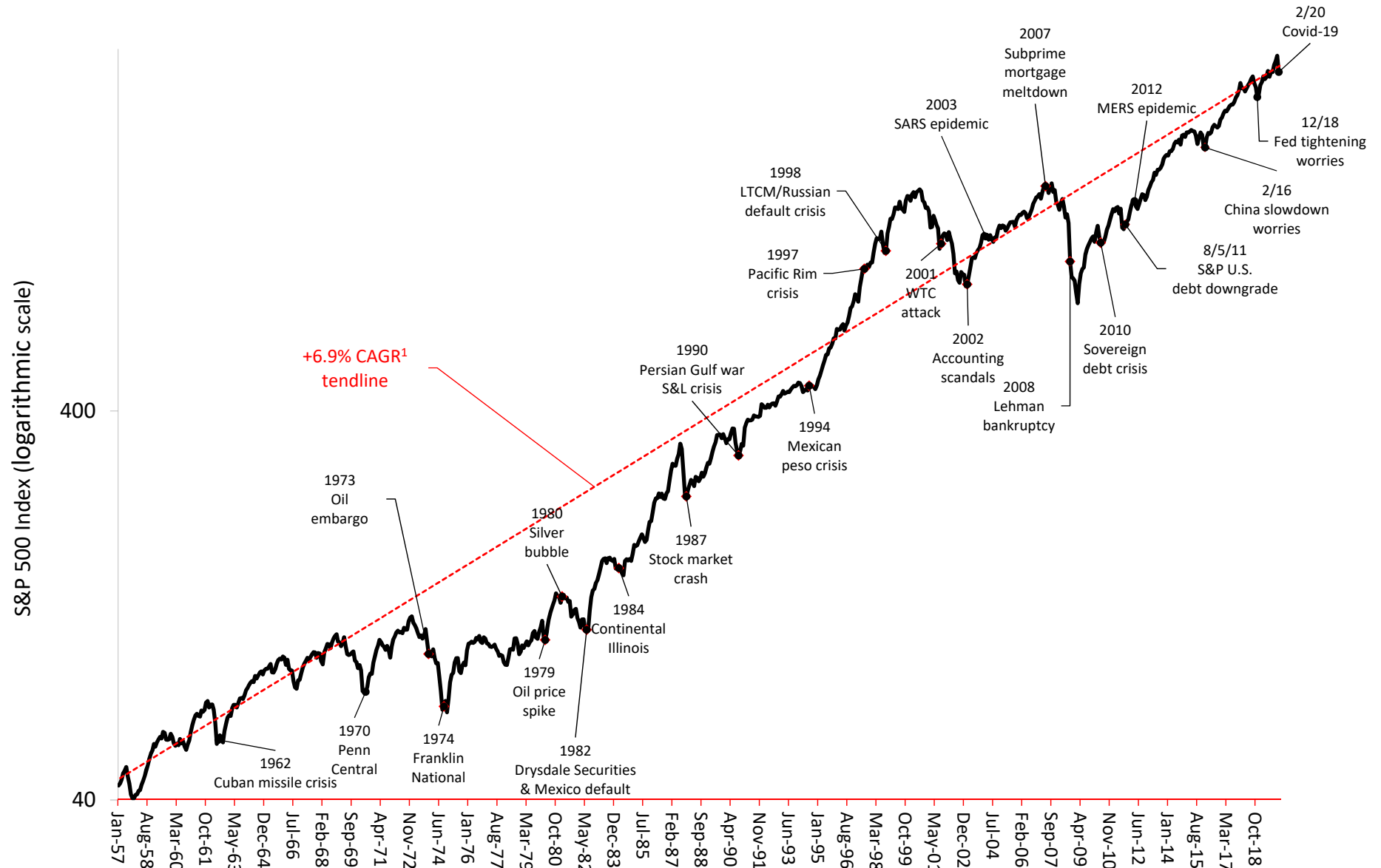
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Stock market

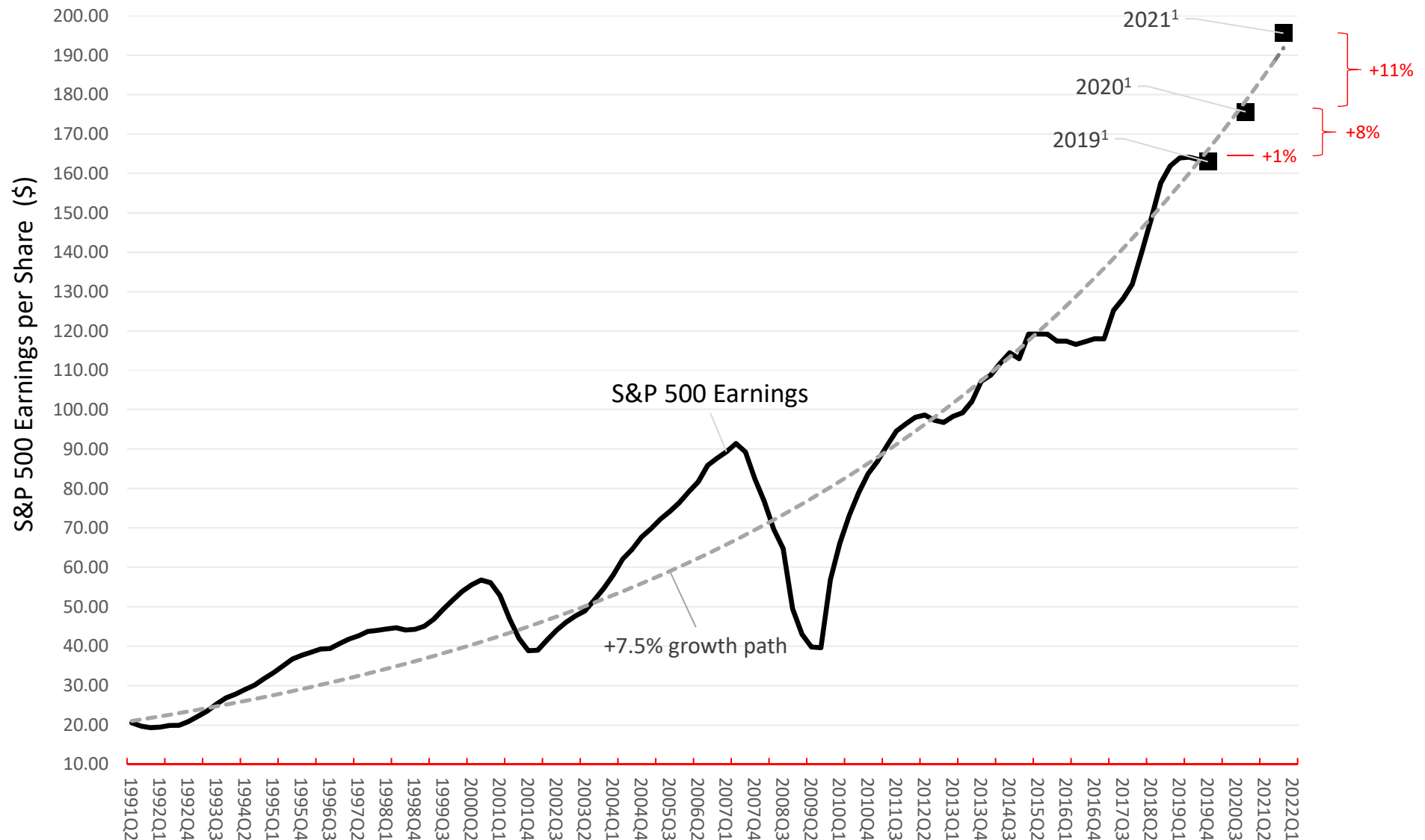
S&P 500 and crises



Source: Standard and Poor's. Data through February 27, 2020. ¹ Compound annual growth rate.

Stock market arithmetic

+7.5% earnings growth has driven +7.9% stock price gains



¹ 2019 (actual), 2020 (estimated) and 2021 (estimated) bottom-up S&P 500 operating earnings per share as of February 24, 2020: for 2019(a), \$163.03; for 2020(e), \$175.68; for 2021(e), \$195.65. Sources: Yardeni Research, Inc. and Thomson Reuters I/B/E/S for actual and estimated operating earnings from 2015. Standard and Poor's for actual operating earnings data through 2014.

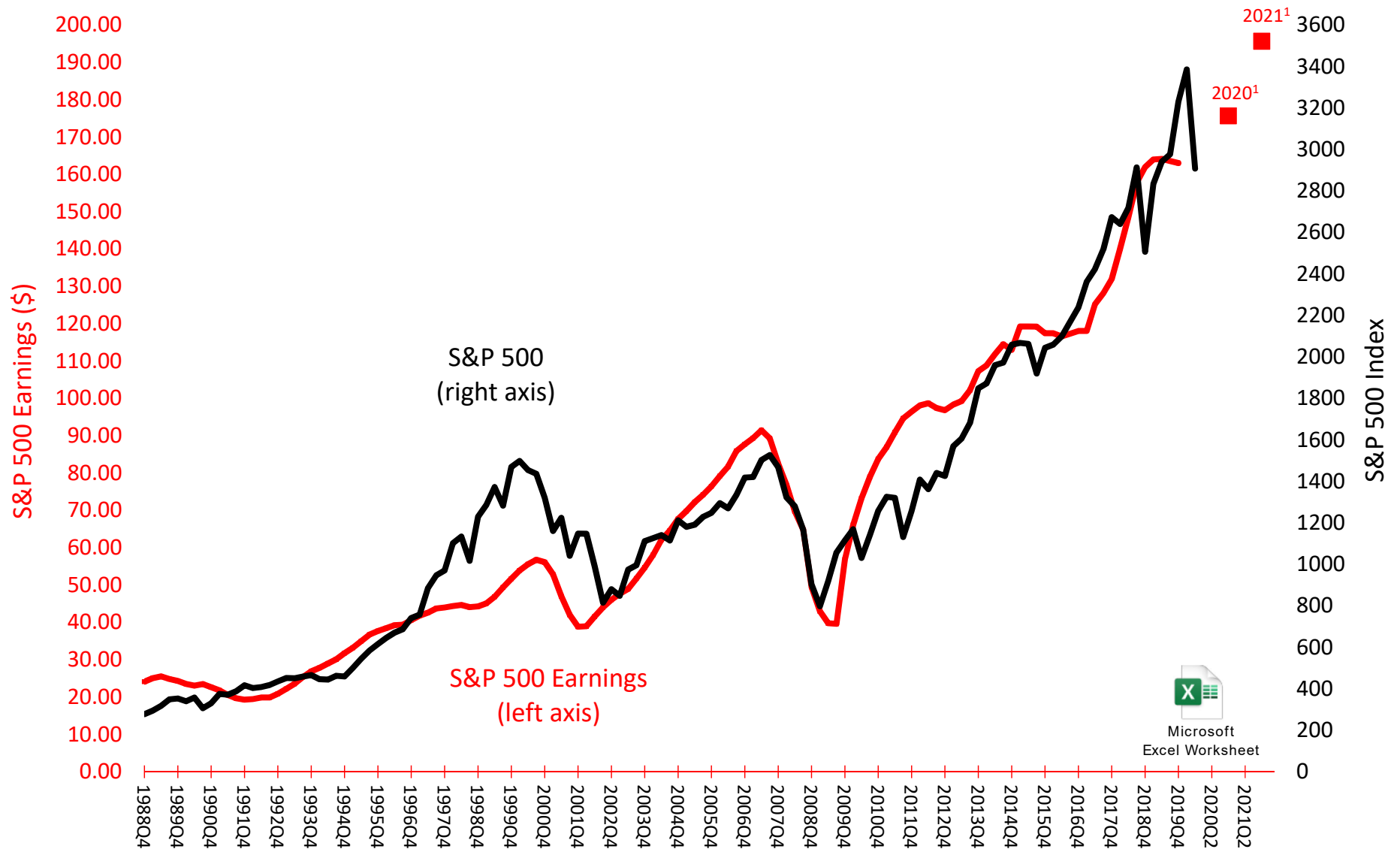
Coronavirus

S&P 500 revenues and earnings revisions

		Since Covid-19 hit the news	
		Revenues % change	Earnings % change
		<u>1/23/20 to 2/20/20</u>	<u>1/23/20 to 2/20/20</u>
	Technology	1.7	3.4
	Utilities	0.3	1.7
	Communication Services	1.1	0.6
	Health Care	0.4	-0.2
	Consumer Staples	0.2	-0.4
	Financials	0.2	-0.4
	Consumer Discretionary	-0.3	-1.2
	Real Estate	-1.2	-1.5
	Materials	-1.8	-5.6
	Industrials	-2.6	-6.4
	Energy	-1.6	-6.9
	S&P 500	0.0	-0.6

Valuation

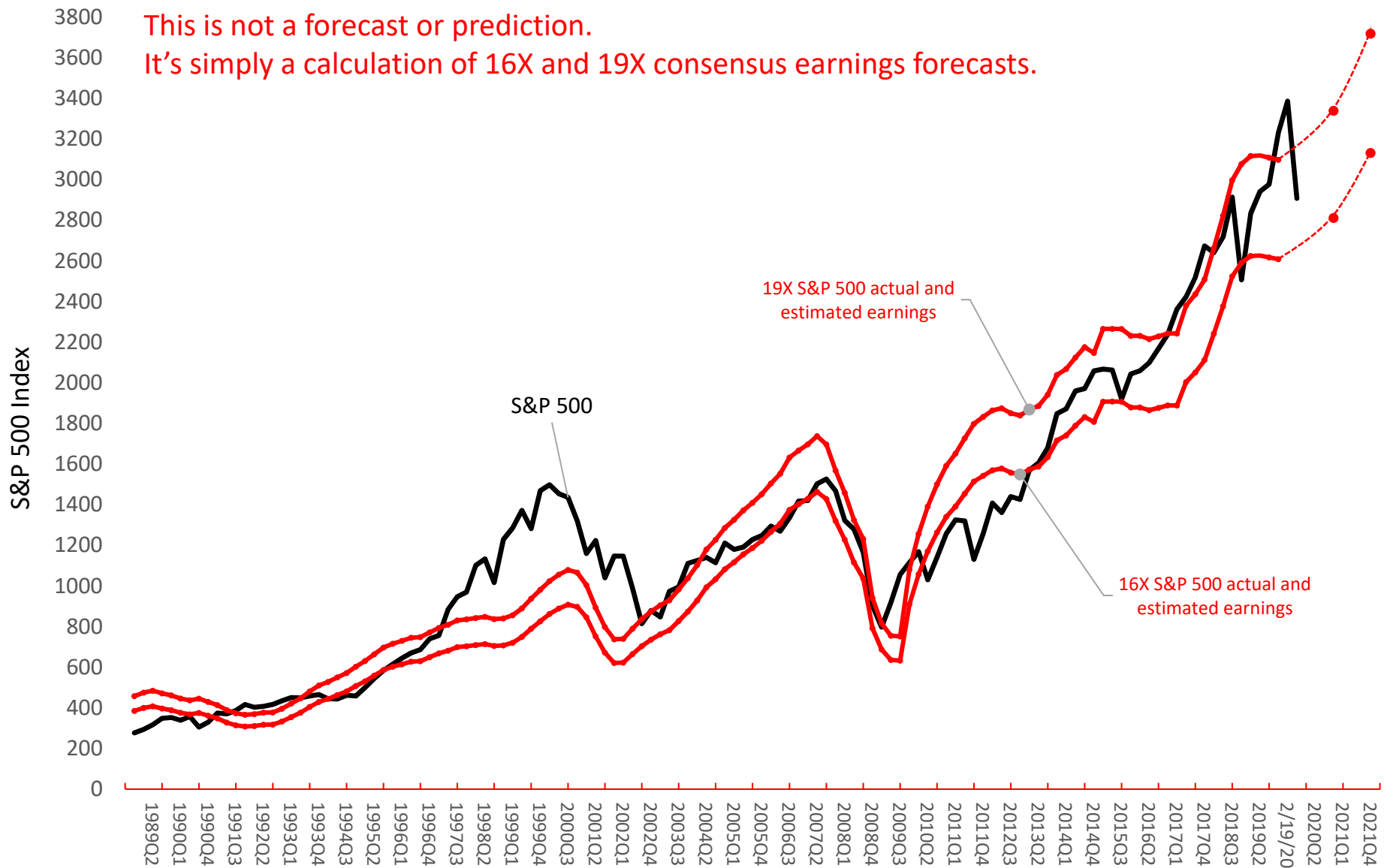
S&P 500 vs. actual and estimated earnings



2019 (actual), 2020 (estimated) and 2021 (estimated) bottom-up S&P 500 operating earnings per share as of February 24, 2020: for 2019(a), \$163.03; for 2020(e), \$175.68 for 2021(e), \$195.65. Sources: Yardeni Research, Inc. and Thomson Reuters I/B/E/S for actual and estimated operating earnings from 2015. Standard and Poor's for actual operating earnings data through 2014; and index stock price data through mid-day February 28, 2020.

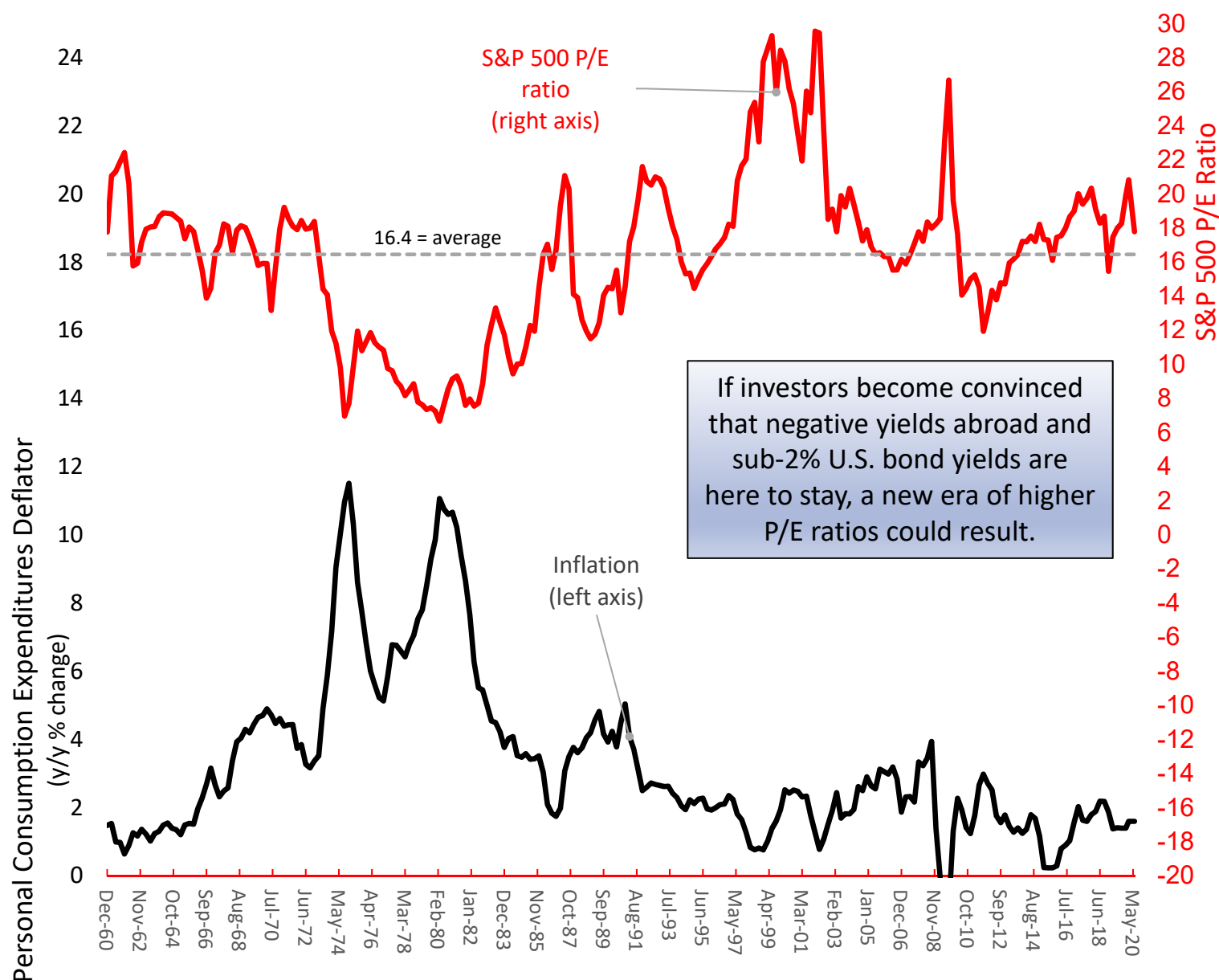
Valuation

S&P 500 vs. 16X and 19X actual and estimated earnings



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S&P 500 P/E ratio vs. inflation

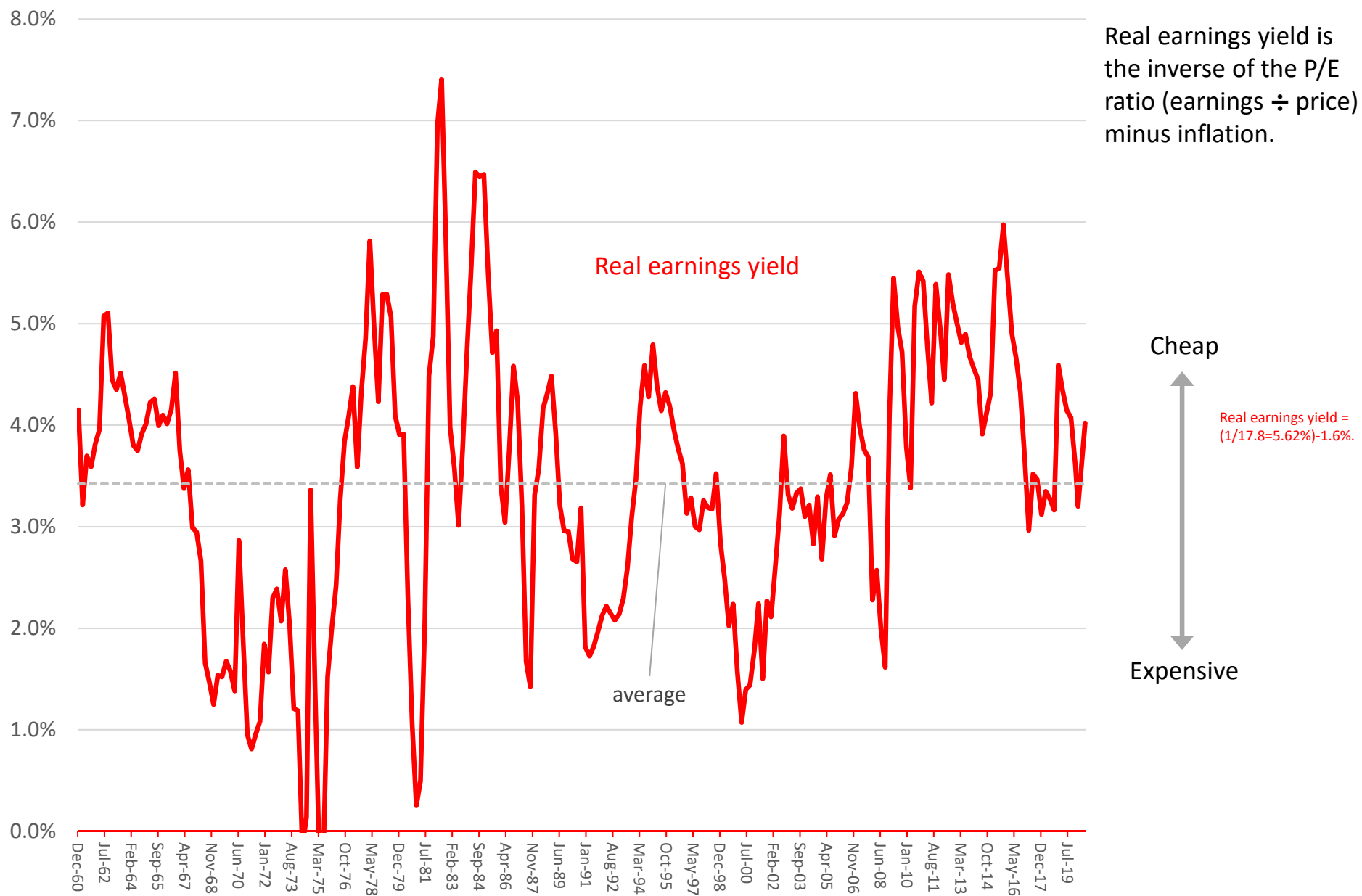


The S&P 500's latest P/E ratio (2/28/20) on trailing 12-months operating earnings is 17.8X, down from a high of 20.8X.

It is 16.5X on consensus bottom-up 2020 estimated operating earnings.

Sources: Standard & Poor's Corporation and Thomson Reuters I/B/E/S earnings estimates, BEA. Stock price data through mid-day February 28, 2020; inflation data through December 2019. Top panel, latest data point: $2979 \div \text{estimated trailing operating earnings of } \$163.03 \text{ through } 12/31/19 = 18.3X$.

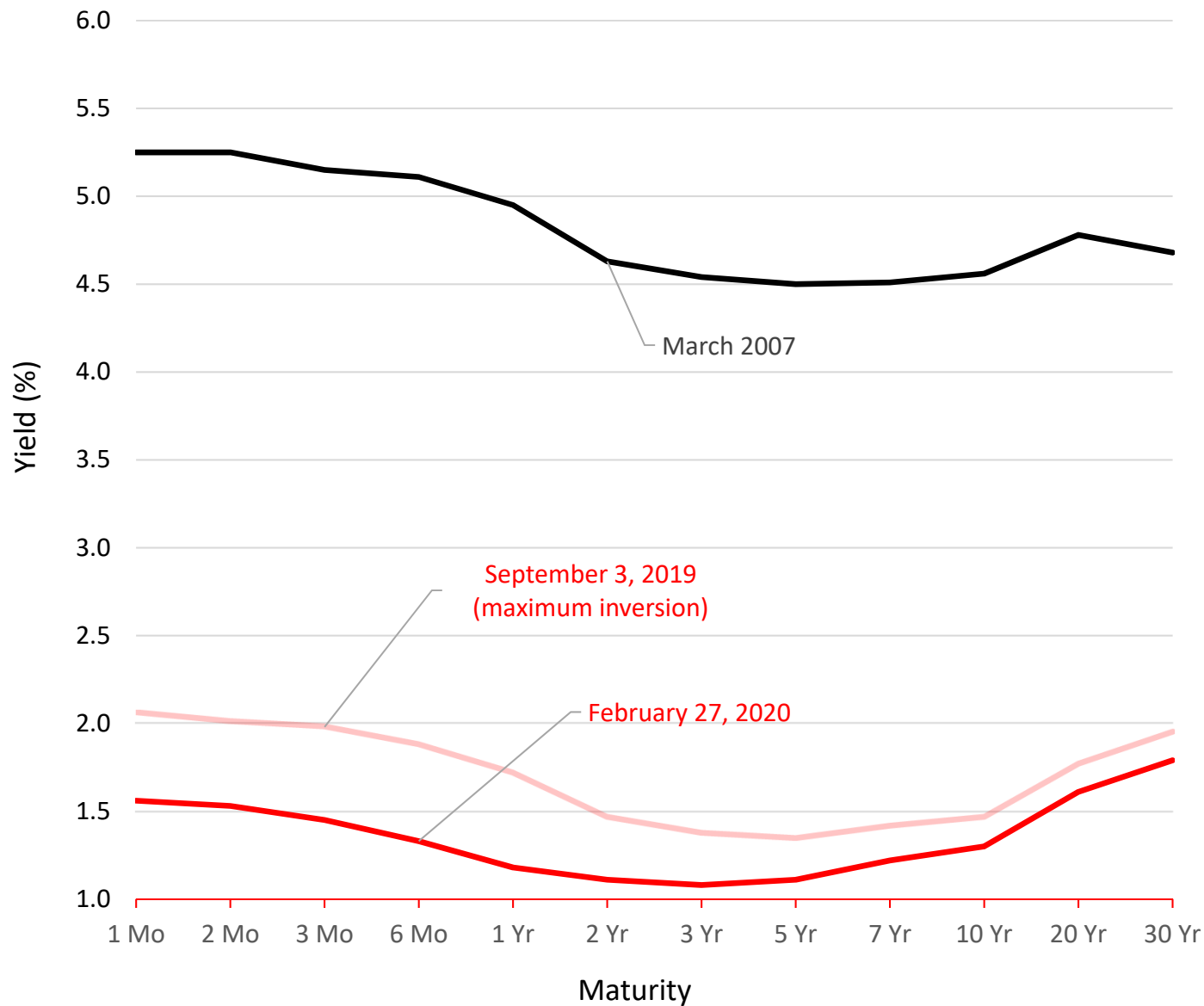
S&P 500 inflation-adjusted earnings yield



Sources: Standard & Poor's Corporation, Thomson Reuters I/B/E/S earnings estimates, BEA. Stock price data through mid-day February 28, 2020; inflation data through December 2019.

Federal Reserve policy

Re-inverted yield curve

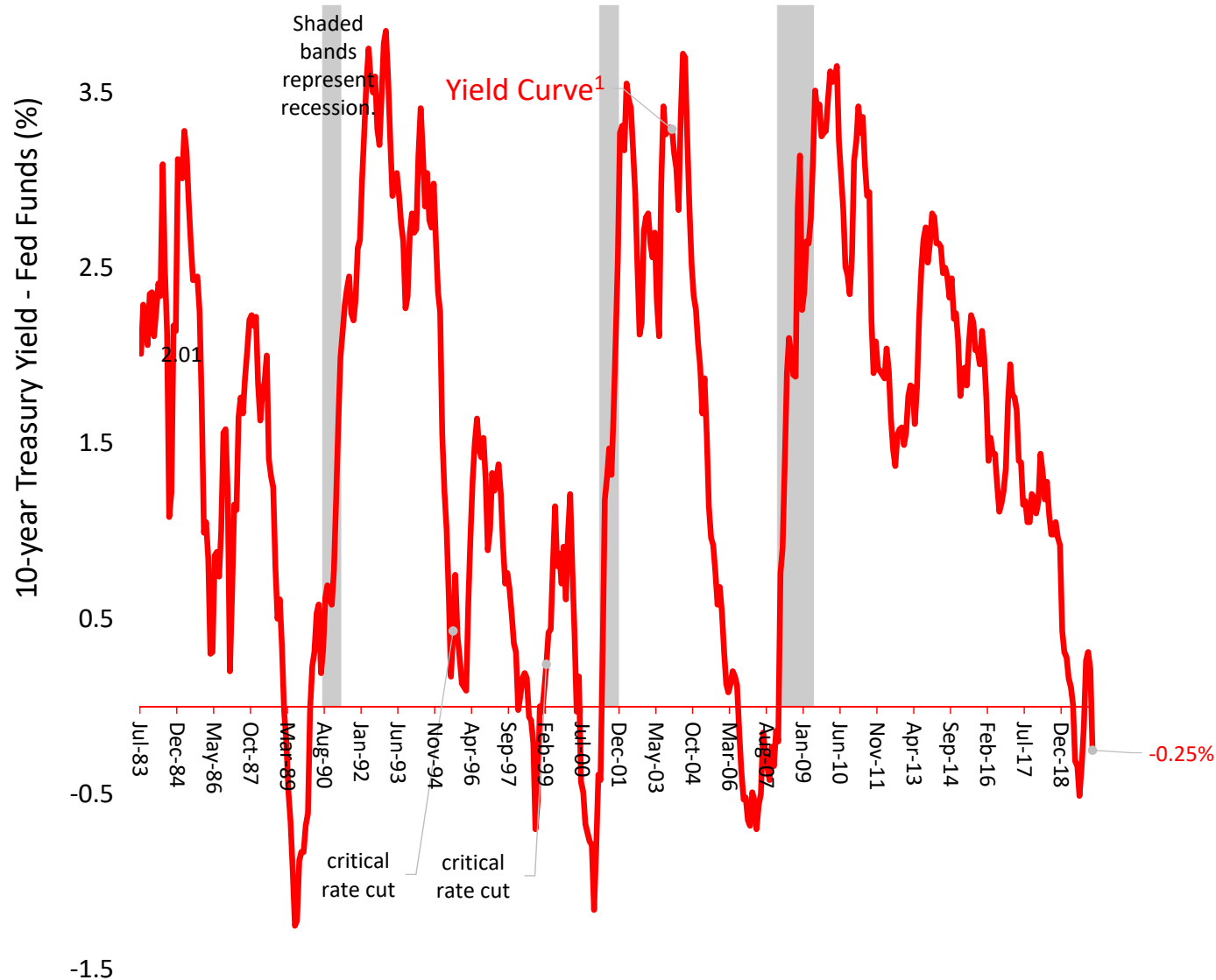


Flat or negative yield curves have preceded recessions.

Sources: Federal Reserve.

Federal Reserve policy

Fed's key policy lever is the yield curve



The yield curve has re-inverted.

Flat or negative yield curves have preceded recessions.

In 1995 and 1998 the Fed changed course, cutting the fed funds rate and averting recession.

Sources: NBER, Federal Reserve. Data through February 27, 2020.

¹The interest rate on the 10-year Treasury bond (long term) minus the fed funds rate (short term).

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