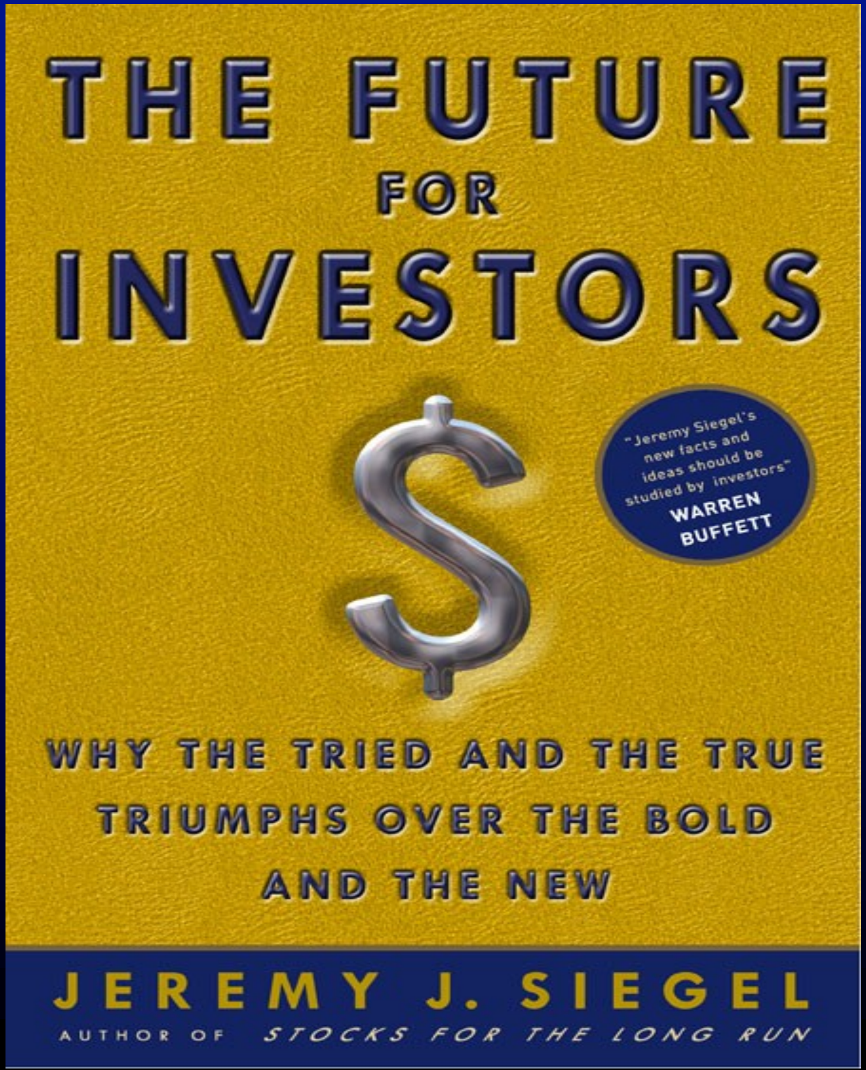
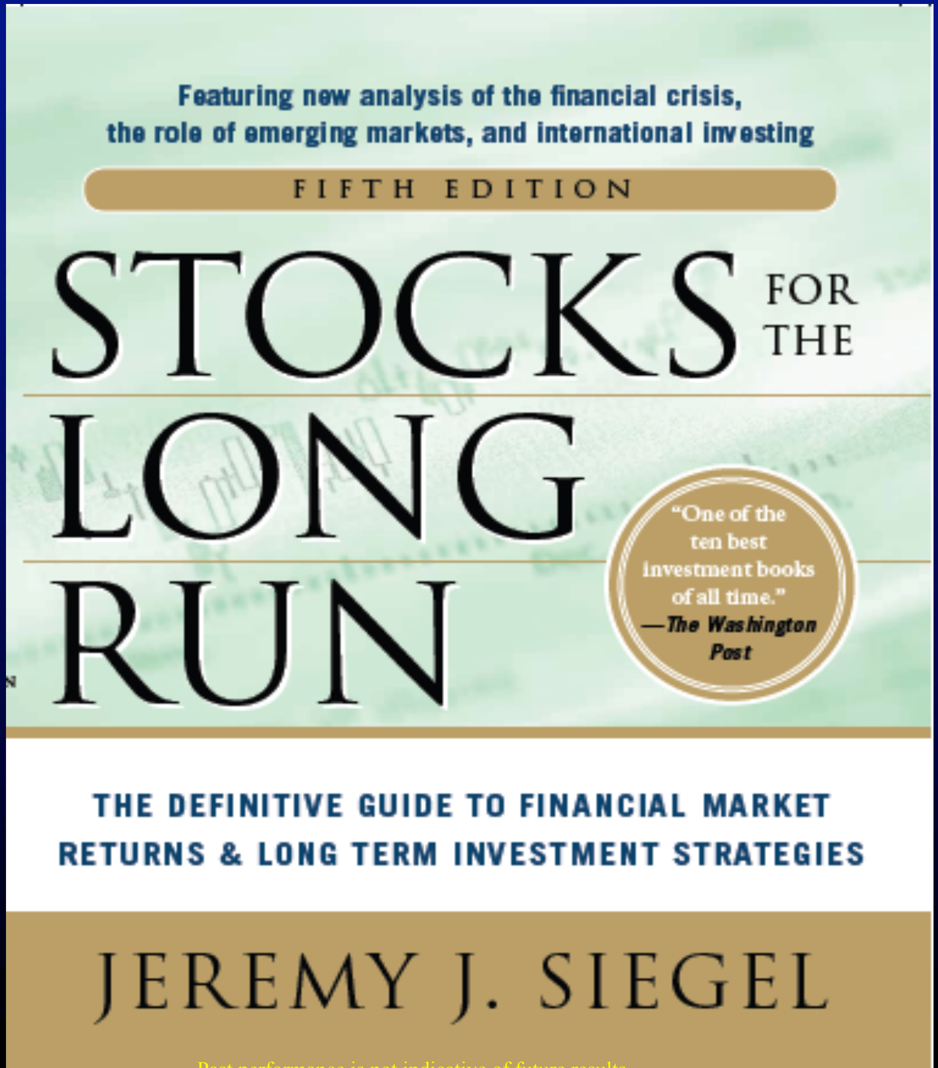
The Economy in the Covid19 Crisis

Prof. Jeremy J. Siegel ~ The Wharton School

Alumni Presentation May 15, 2020

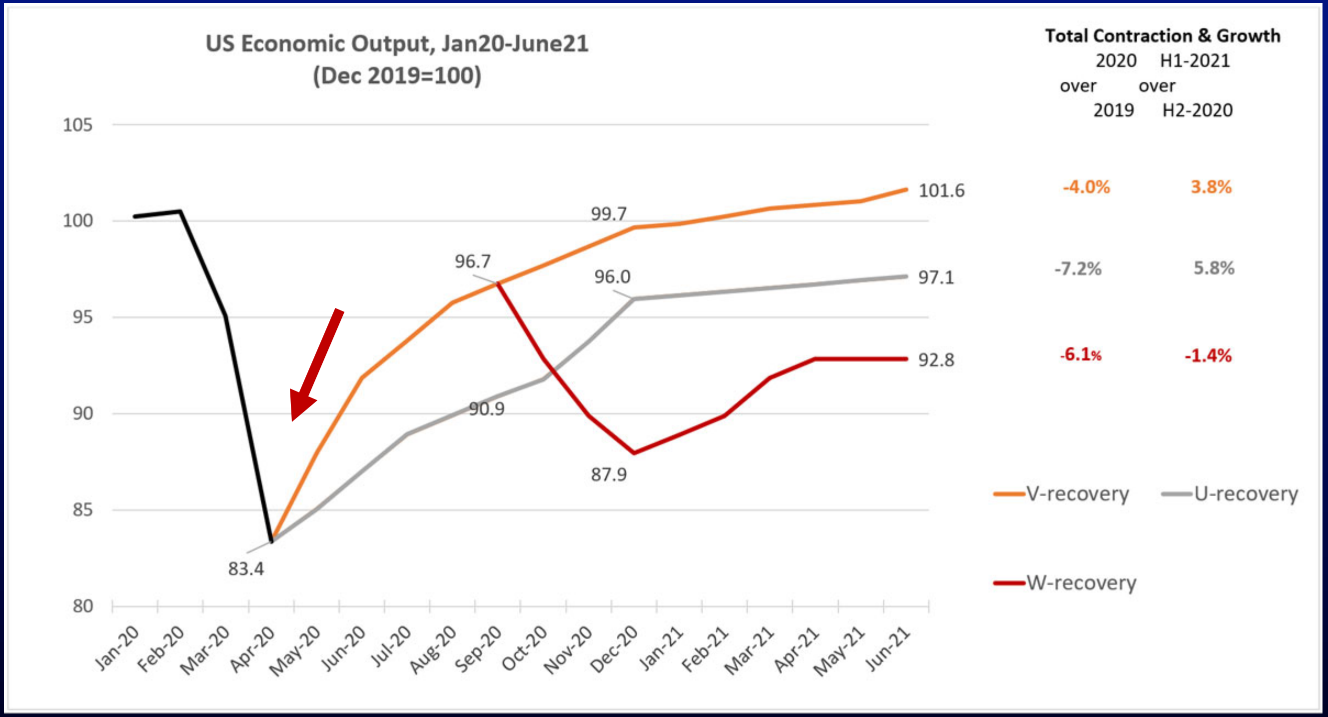




Past performance is not indicative of future results.

Worst Quarterly GDP Decline in US History

Conference Board Estimate

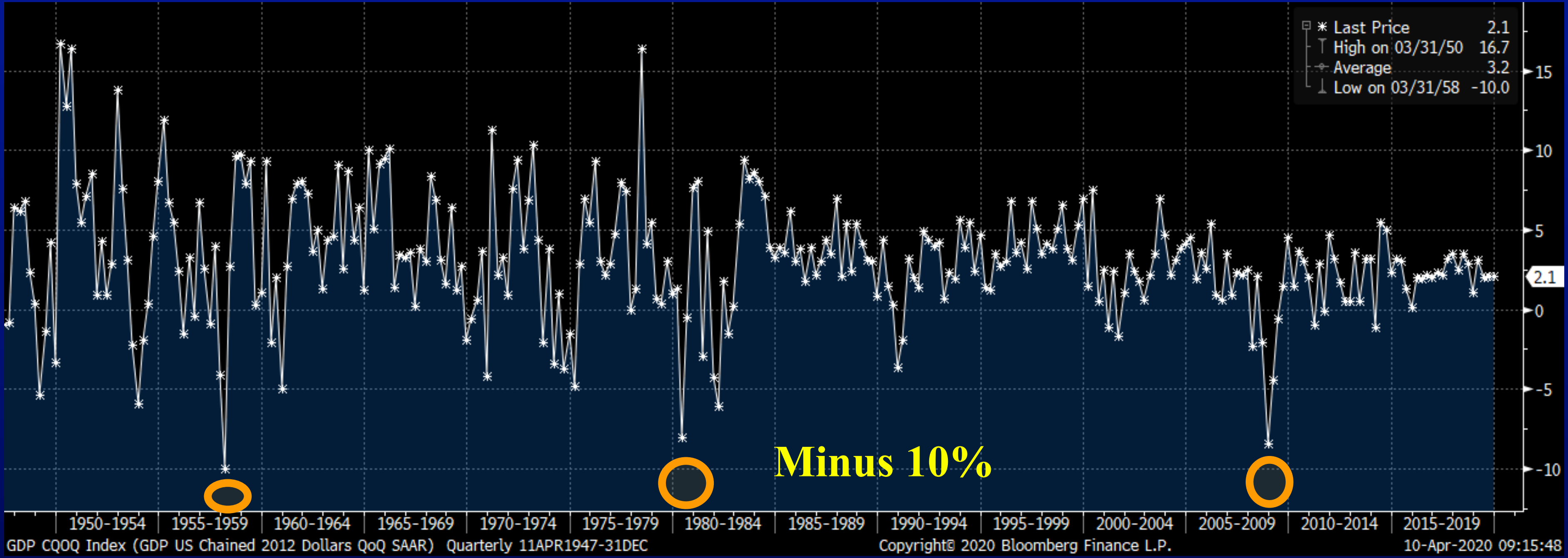


	2019		2020				2018	2019	2020
	1st half	2nd half	I Q	II Q	III Q	IV Q	ANNUAL	ANNUAL	ANNUAL
Real GDP	2.6	2.1	-4.8	-44.5	24.4	18.9	2.9	2.3	-7.2
Real Consumer Spending	2.8	2.5	-7.6	-54.2	36.3	15.5	3.0	2.6	-10.0
Residential Investment	-2.0	5.6	21.0	-25.0	-7.0	11.0	-1.5	-1.5	0.7
Real Capital Spending	1.7	-2.4	-8.6	-20.8	-2.4	8.6	6.4	2.1	-6.9
Exports	-0.7	1.5	-8.7	-35.1	11.1	9.0	3.0	0.0	-8.0

Source: Bloomberg, as of 4/3/2020. The Conference Board, as of April 2020.

Past performance is not indicative of future results.

Change in US real GDP



e 1.1.1. Percent Change From Preceding Period in Real Gross Domestic Product

nt]

ed on: March 26, 2020 - Next Release Date April 29, 2020

MODIFY CHART DOWNLOAD PRINT SHARE

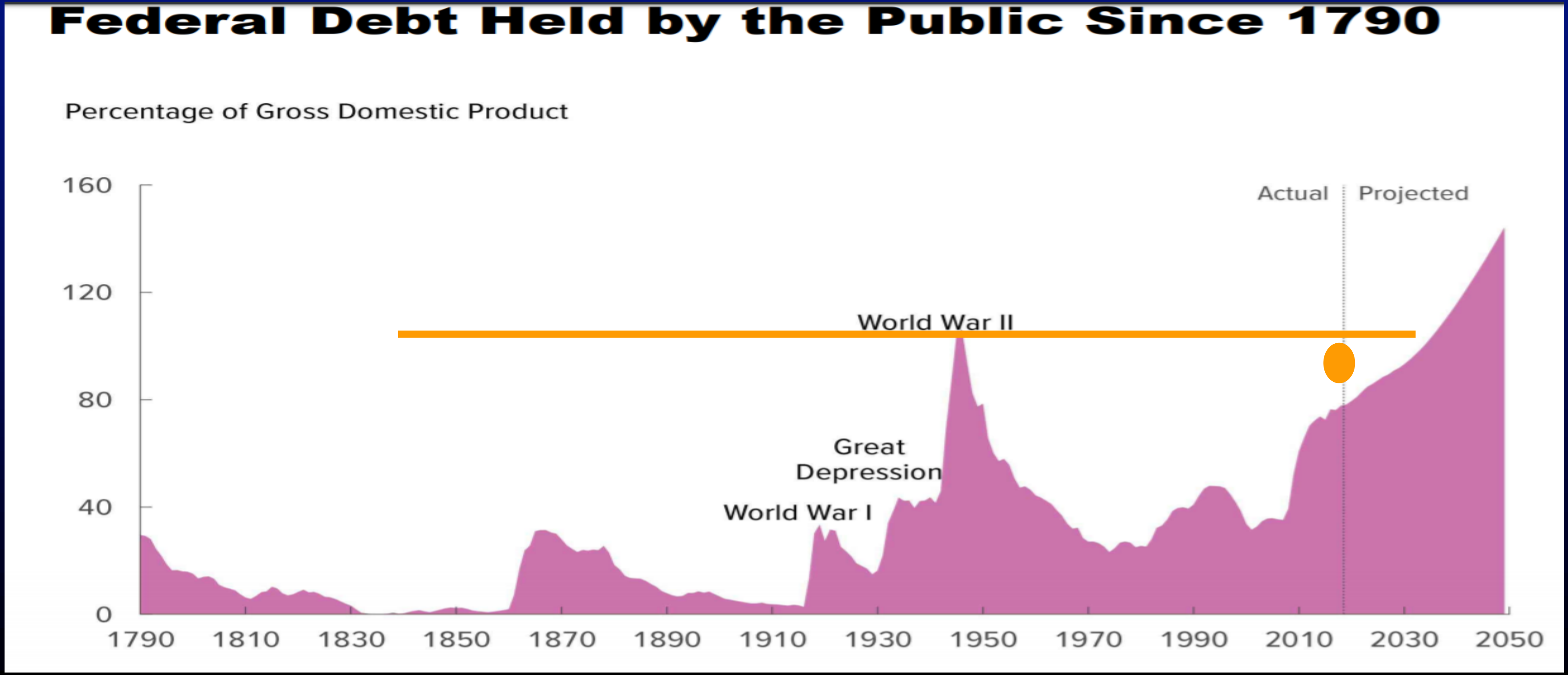
27% Fall in GDP 1929-1934

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
Gross domestic product	-8.5	-6.4	-12.9	-1.2	10.8	8.9	12.9	5.1	-3.3	8.0	8.8	17.7	18.9	17.0	8.0	-1.0	-11.6	-1.1
Personal consumption expenditures	-5.4	-3.1	-9.0	-2.2	7.1	6.1	10.2	3.7	-1.6	5.6	5.2	7.1	-2.4	2.8	2.8	6.2	12.4	1.9

Source: Bloomberg, as of April 10, 2020. Bureau of Economic Analysis (BEA) as of March 2020.

Increase in National Debt

- Will raise budget deficit by $3T to over $4T
- Current Treasury Debt outside of US Trust Funds: $18T. Will go to $22T. Current GDP $22T. So Net Debt will hit World War II peak of 100%.



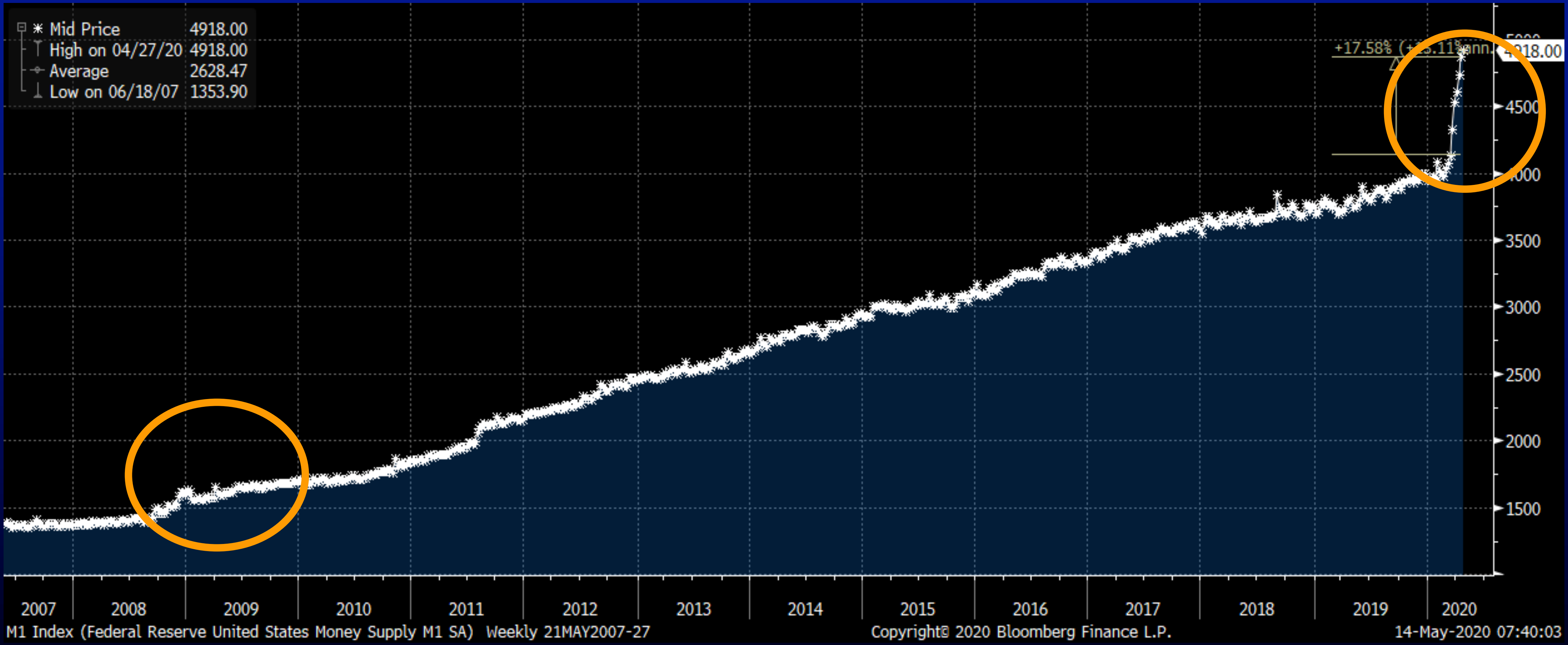
Source: Cato Institute, as of 7/15/2019

Past performance is not indicative of future results.

Who's Paying for This?

- In 1918 Pandemic, Philadelphia suffered worst outbreak because it held a liberty Bond Rally
- Federal Reserve could not buy bonds since bonds had to be backed by gold.
- Today, any amount of dollars can be created by the Fed, at will. The Fed is buying all the government debt issued to fight the crisis.
- This has led to unprecedented monetary stimulus

M1 Money Supply – Unprecedented Stimulus



Source: Bloomberg as of 4/20/2020

Past performance is not indicative of future results.

Government Program Creates Huge Liquidity

- When crisis ends, the Fed will have created huge pools of liquidity.
- In the last financial crisis, most of the money created by the Fed ended up as excess reserves at financial institutions and was not lent to businesses and consumers.
- Today's money is going directly to the bank deposits of firms and individuals (M1 and M2 money supply), which is a far more potent force.
- To prevent overheating when the virus threat ends, the government would either have to raise taxes or the Fed sharply raise interest rates.
- More likely than not, the Fed will let inflation rise much higher than its 2% target, and may not tighten unless it reaches 4% to 5% or above.
- Inflation is one way of lowering debt ratios.

M1: a measurement of the most liquid portions of a country's money supply, including physical currency, checkable deposits, and other accounts that can be quickly converted into cash and used as a medium of exchange.

M2: a measure of a country's money supply that includes all the components aggregated under the M1 definition, plus other assets that are less liquid and should not be considered an immediate medium of exchange. M2 includes savings deposits, money market securities, mutual funds, and other time deposits.

PE Ratio of S&P 500 Since 1954

Source: Bloomberg 12/31/1954—04/07/20209

You cannot invest directly in an index

Past performance is not indicative of future results.

What do PE Ratios Mean for Returns?

- Earning Yield (E/P) predicts long-term real returns.
- Over past 150 years, P-E ratio averaged about 15, which corresponds to 1/15, or 6.7% E/P, or real return on stocks, which is exactly the long run real return on stocks.
- With S&P 500 Index at about 2820 (May 14) stocks are selling for about 18 times 2019 S&P Operating Earnings of $157. (Current 2020 estimate $113, 25 P-E ratio)
- A PE ratio of 18 forecasts a real return of 5.6% for stocks (or 7.6% nominal return with Fed target 2% inflation). This is 7 percentage points over Treasury bonds, a margin economists call the "equity risk premium." This premium is double the historical average of 3% to 3 ½%.
- I have maintained that the "Normal P-E ratio" has srifted upward over time because of near zero cost of indexing the market, allowing investors to receive far superior risk return trade-offs than they have in the past.

Source: S&P 05/05/2020

How much should stocks Fall?

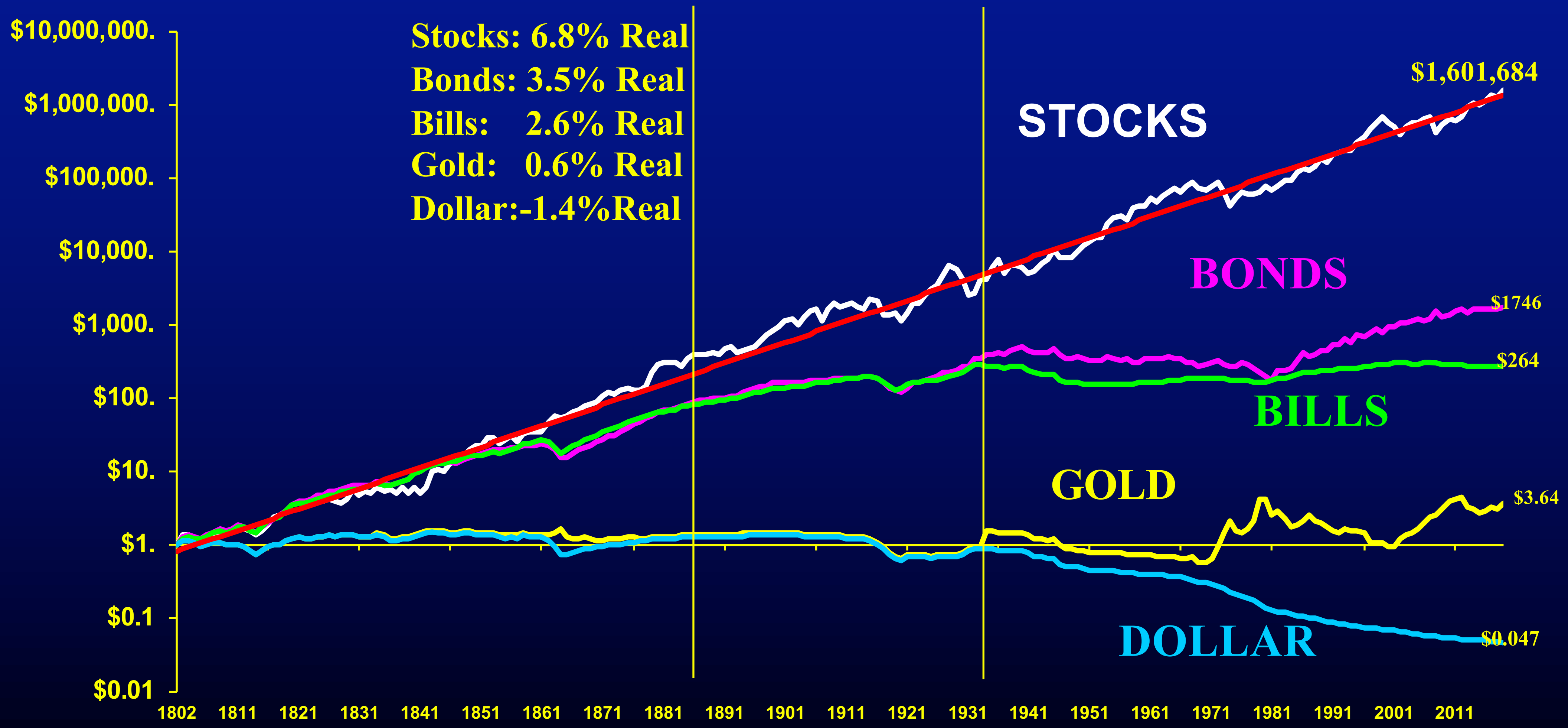
- If stocks sell at 18 times earnings, that means that less than 10% of the value derives from the next 12 months of earnings and hence over 90% of the value depends on earnings after May 2021.
- That implies that if all earnings are wiped out in the next 12 months, and the economy fully recovers after that, stocks should fall by less than 10%.
- Why Stocks Fall More:
  - Solvency of firms;
  - Potential for more than total profit loss, impairment of capital.
  - Increase in Risk Premium.
- Mitigating Factors
  - Financial Institutions weathered this storm vary well. Crisis not caused by "reckless institutions."
  - In Financial Crisis both real estate and stock market wealth were wiped out. Today, the former is intact.

Implications for Investment Strategies

- Development of mitigating therapeutics apt to come well before vaccine . This will lead to effective reopening of the economy.
- Liquidity provided should spark a big boost to the economy in 2021 and produce moderate (3%-4%) inflation for several years.
- Bond yields will rise, ending the 40 year bull market in bonds.
- Stocks do well in moderate inflationary environment. Fed will let inflation run above 2% target.
- Technology, Health Care, and Communication sectors given boost. Decline in retail, and perhaps all commercial real , will accelerate. Housing demand should be boosted.
- Long-term fixed income at biggest risk.

Total Real Return Indexes

January 1802 – December 2019



Source: Siegel, Jeremy, *Stocks for the Long Run (2014), With Updates to 2019*

The indexes recently experiences significant negative short-term performance due to market volatility associated with the COVID-19 pandemic.

Past performance is not indicative of future results.