RISING GLOBAL INTEREST RATES AND THE STOCK MARKETPLACE BATTLEFIELD

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In "Life During Wartime", the Talking Heads sing: "This ain't no party, this ain't no disco, this ain't no fooling around."

CONCLUSION

Looking forward, United States Treasury yields probably will continue to rise. So will yields for government debt in Germany and other advanced nations. In general, yields of emerging market sovereign debt securities probably will keep climbing as well. US dollar-denominated corporate debt yields also will ascend. Substantial inflation and massive government debt are important variables for this rising interest rate outlook. Increasing yields for this array of debt securities around the globe probably have created (led to) an important top around early September 2021 for the American stock battlefield (S+P 500 high 9/2/21 at 4546) and related advanced nation and emerging marketplace stock arenas, or will soon do so. There is a significant probability that the S+P 500 and related equity domains have commenced or soon will begin bear trends.

INCREASING GLOBAL INFLATION AND DEBT GROWTH

Central bank easy money policies (particularly gigantic money printing and sustained yield repression) and ongoing government deficit spending have encouraged the global economic recovery from the coronavirus downturn of late first quarter 2020. The resulting economic growth tends to increase interest rates. However, significantly rising inflation rates in key weathervanes such as the consumer price index and massive government debt growth, especially in combination, help to encourage substantially higher government and corporate yields, even if it takes an extended period for such yield jumps to occur.

In the United States and many other leading nations, inflation has grown notably in recent months. Enormous sustained money printing (quantitative easing), particularly since the advent of the coronavirus pandemic, by the Federal Reserve and its central banking allies underpins some of the long run momentum for interest rate yield ascents in the United States and elsewhere. Government debt levels as a percentage of GDP in America and many other key countries were substantial and lofty from the historical perspective prior to the advent of the coronavirus pandemic in early 2020. Massive government deficit spending (fiscal stimulus) by many nations (demand for credit) consequently further assists yield ascents.

Note the notable upward march in recent months of American (and global) inflation measures such as the Consumer Price Index. The OECD's August 2021 CPI (all items, Table 1) for the G20 countries rose 4.5 percent year-on-year (up 4.6 percent year-on-year in July 2021; compare 2.0pc in December 2020 and 3.1pc in March 2021). The recent G20 inflation level exceeds the January 2020's CPI high of 4.1 percent, achieved shortly before the economic downturn and stock marketplace crash later in 1Q20. For the entire OECD, the August 2021 CPI ascended 4.3 percent year-on-year (July 2021's climb was 4.2pc versus July 2020). Compare December 2020's 1.2pc year-on-year increase.

Sustained rises in inflation in yardsticks such as the Consumer Price Index point to higher American yields over the longer run. America's CPI-U (all items; and as noted in the OECD table) increased 5.3 percent in August 2021 year-on-year; both June and July 2021 jumped 5.4pc year-on-year. Compare the 1.4pc year-on-year rise in December 2020 (Bureau of Labor Statistics, 9/14/21). Thus America's CPI inflation recently has significantly exceeded the OECD G20 (and overall OECD) estimates. Significantly, America's August 2021 year-on-year CPI-U substantially surpasses the 2.5pc year-on-year high of January 2020.

The US personal consumption expenditure price index rose 4.3 percent year-on-year in August 2021, a three-decade high (Bureau of Economic Analysis, 10/1/21).

The Eurozone September 2021 inflation ascended 3.4pc year-on-year, a 13 year high (4.1pc in July 2008; European Central Bank). German inflation climbed to a 29 year high in September 2021, rising 4.1pc over the prior year period. Compare -.7pc year-on-year (deflation) in December 2020, as well as the modest year-on-year rise of 1.7pc in February 2020 (January 2020 up 1.6pc), just before the coronavirus disaster.

Admittedly, inflationary climbs as measured by the Consumer Price Index have not been universal. According to the OECD, Japan's August 2021 CPI was negative, at -.4 percent year-on-year. China's CPI edged up only .8pc in August 2021 versus the prior year period. Yet given the role of America and the G20 as a whole in the world economy, their rising inflation helps to pull global yields up elsewhere.

Inflation expectations indicators in America gradually have risen since late March 2020. The St. Louis Fed's five-year, five-year forward inflation expectation rate bottomed at .86 percent on 3/19/20 alongside the S+P 500's major bottom at 2192 on 3/23/20. It made an interim trough at 1.71 percent on 9/24/20; the S+P 500 established a key interim low at 3209 that day. The five-year, five-year forward rate bounced up to 2.38 percent on 5/11/21 and is 2.25pc as of 10/1/21.

Moreover, US unemployment arguably is probably fairly close to what central bankers, politicians, and the general public view as reasonable (see the pre-coronavirus era). However, recent American statistics do not indicate climbs in real wages. For example, in August 2021, real average hourly earnings actually fell -.9 percent year-on-year (Bureau of Labor Statistics, Table A-1; 9/14/21). Yet real wage increases probably lurk on the horizon. Workers do not want to lose income relative to inflation. The Financial Times headlined on 10/2/21 (p2): "Inflation rise spurs German pay strikes."

Due to the Fed's yield repression, nowadays US Treasury yields across the yield curve relative to the current US CPI level offer a negative real return. The UST 10 year yield is about 1.50 percent. This negative return situation (which encourages borrowers and debtors but thereby cheats savers and creditors) of course (all else equal) tends to make UST ownership rather unattractive for many marketplace participants. A significant negative real return in an environment encourages, absent signs of inflationary declines, the raising of interest rates to attract capital. Yields from the German Bund (which are negative in absolute terms) also are negative to the significantly positive CPI rates in Germany and the Euro Area.

What happens to US interest rate yields if the Fed captain starts to taper (reduce) its ravenous securities acquisition scheme?

In Leo Tolstoy's "War and Peace", a very experienced commander, Kutuzov, "knew how apt men are, when they want something, to manipulate all the evidence so that it appears to confirm what they desire, and knew how readily they overlook whatever speaks against it."

Widespread marketplace faith still exists in the power of the Fed and its trusty friends to engineer manage interest rate outcomes. Fed hymns proclaim its devoted quest to ensure inflation averages two percent over time and its intention to keep long term inflation expectations "well anchored" at two percent. Central bankers and finance ministers claim (pray) that recent inflationary signs are merely "transitory", "temporary", or the "result of special factors" (such as high prices for used cars; or, supply bottlenecks). The Federal Reserve in its 9/22/21 Economic Projections (Table 1) raised its estimate of the central tendency for PCE inflation in 2021 to a range of 4.0-4.3pc from June 2021's 3.1-3.5pc. However, its September 2021 estimate for 2022 PCE barely increased to 2.0-2.5pc from June 2021's 1.9-2.3pc. Its "Longer run" forecast remained 2.0pc.

Yet increasing signs of noteworthy and persistent global inflation (as in the United States and Europe), assisted by current and potential credit demand (as in America's long run federal deficit problem and the potential for huge infrastructure spending schemes), probably will push government (and corporate) interest rates higher than the Fed and its comrades and apostles believe.

What happens to interest rates if government deficit spending now (especially in America on the federal front) is, or eventually becomes, "out of control"? Won't many governments have to pay more to borrow (pay higher interest rates)? Many experts believe a sustained public debt level in excess of one hundred percent of GDP is dangerous to economic growth and financial stability.

According to the International Monetary Fund's scoreboard, the world's general government gross debt (which includes not only national debt, but also regional/local obligations) as a percentage of GDP leaped from 83.7 percent in 2019 (and recall the much lower levels prior to the 2007-09 global economic disaster) to 98.7 percent in 2020, with 2021's height forecast at 98.8pc. For advanced economies, 2019's gross debt of 103.7 percent of GDP spiked to 122.8pc in 2020; the IMF predicts 2021's will remain near that, at 122.5pc. See the IMF's recent "World Economic Outlook Update" (7/27/21; Box Table 2.1). For the US alone, as federal stimulus spending ballooned, general government gross debt leaped from 108.2 percent of GDP in 2019 to 133.6pc in 2020, with 2021's forecast at 134.5 pc, up sharply from 2019's elevation.

Thus from 2019 through 2021, global general government debt as a percent of GDP soared 15.1 percentage points, and those of advanced nations in general increased 18.8 points. For the Euro Area, from 2019 through 2021, debt grows 16.1 percent (84.0pc in 2019 to 100.1pc in 2021). China's government debt level in 2019 relative to GDP stood at 57.1pc, and it expands 13.2pc to 70.3pc in 2021. Although many major nations have increased their government debt burdens in recent years, America's public debt situation has worsened significantly more than most others since 2019. Compare America's much greater 26.3 percent spike over the 2019-2021 span.

Combine the headline numbers for America's various rescue (stimulus) spending schemes enacted during the coronavirus pandemic era. The tremendous spending (borrowing) total of \$5.0 trillion represents a massive 22.0 percent of America's calendar 2021 nominal GDP (2Q21 annualized) of about \$22.7 trillion (GDP from the Bureau of Economic Analysis, Table 3; 8/6/21).

Survey the continuing climb in the US federal debt held by the public as a percentage of nominal GDP. According to the Congressional Budget Office, it touches 102.7 percent by end 2021 (compare around 79 percent at end 2019). Though federal debt as a percent of GDP dips slightly in subsequent years (2024 is about 99.1pc of GDP), it then expands. By 2031, debt as a percent of GDP grows to 106.4 percent of GDP, the highest in US history. See "An Update to the Budget and Economic Outlooks 2021 to 2031" (7/1/21, and note Table 1; see also the CBO's 7/21/21 "Additional Information About the Updated Budget and Economic Outlook: 2021 to 2031", Table 1-1). The previous peak, in 1946, followed sizable World War II deficits. The CBO warns in "The 2021 Long-Term Budget Outlook" (Table 1; 3/4/21) that by 2051 federal debt as a percent of GDP will reach a celestial 202 percent.

The CBO's current baseline budget projections do not incorporate the gigantic cost of not yet legislated government infrastructure projects suggested by the Biden Administration.

Also, in many nations, corporate (for example, China) and household debt (for example, America's from the arithmetical perspective) levels are rather high. America's household debt is very substantial in arithmetic terms. Admittedly, US household net worth has increased substantially in recent years. Since notable sustained rises in yields can encourage economic weakness, an economic downturn (or even a slowdown) probably will challenge many consumers.

US STOCK CULTURE: INVESTMENT IS GOOD, PRICE DECLINES ARE BAD

Wall Street leaders, especially those entrenched in the American stock marketplace battleground (and supported by the allied financial media), applaud "investment" and "investors". Assorted investment generals and their loyal troops fight to identify stocks to buy (or keep holding).

The Federal Reserve and other central bank generals, in addition to their quantitative easing programs, and especially since the emergence of the coronavirus pandemic in March 2020 and the related economic and stock marketplace crashes, have enforced a yield repression regime. By keeping yields low (often negative in real terms), central bankers have encouraged avid searches for adequate (sufficient) "yield" ("return") in the S+P 500 (and other international equity realms), emerging marketplace dollar-denominated sovereign debt, corporate debt, and other "asset classes" (such as commodities and homes). Note the meteoric price rallies in the S+P 500 and other worldwide equity benchmarks since their dismal March 2020 bottoms.

Let's survey the glorious rally in the S+P 500 and other major worldwide stock benchmarks from after their early first quarter 2020 peak and March 2020's major low.

In the following table, the FTSE All-World Index is a market-capitalization index concentrating on large and mid-cap stocks. It covers both developed and emerging marketplace equities. The United States share of this index is a monumental 58.2 percent, far surpassing the 21.1 percent share of the six next largest advanced nations. Compare Japan's 7.0 percent, the UK's 4.0pc, France's roughly 2.8pc, Canada's 2.5pc, Switzerland's 2.4pc, and Germany's 2.4pc. Emerging marketplace stocks capture about ten percent of the index, with China representing about 4.0pc. See the "FTSE All-World Index Factsheet" (as of 9/30/21).

"URTH" is an iShares (BlackRock) MSCI stock ETF which includes a "broad range of developed market companies around the world" (See BlackRock's "Fact Sheet" as of 6/30/21). The United States equals about 67.2 percent of this index.

The very substantial share of the United States within the FTSE All-World Index and the URTH underline the importance of American stock price levels and trends ("in general") for "overall" views of investors (and other marketplace warriors) regarding global stock marketplace levels and trends.

Compare the US percentage of these stock indices with America's percent share of worldwide GDP. Estimates of GDP can vary based upon the method chosen. According to the World Bank's GDP measure (based on current US dollars), in 2020 the US held about a 24.7 percent of global GDP.

For the "overall" US stock marketplace (use the S+P 500 as a guideline) to have a noteworthy price correction or bear trend, prices for a significant number of large-capitalization American stocks probably must decline. And given the importance of American stocks in broad global stock benchmarks such as the FTSE All-World or URTH, large-cap US stocks "in general" likely will have to slump fairly substantially in order to propel those international stock signposts significantly lower. US large-capitalization stocks over the long run often "trade together".

In the following table, "DJIA" is the Dow Jones Industrial Average. "W5000" represents the Wilshire 5000 stock index. "NASD Comp" stands for the Nasdaq Composite Index.

Also included in the equity array reviewed are United States "value" lower-(smaller) capitalization stocks. BlackRock's iShares Russell 2000 Value ETF ("IWN"; Fact Sheet, 6/30/21) "seeks to track the investment results of an index composed of small capitalization [publicly held] U.S. equities that exhibit value characteristics." These firms "are thought to be undervalued by the market relative to comparable companies."

"SXXP" is the STOXX Europe 600 Stocks Index. The FTSE is the UK's benchmark stock index, DAX is the German one. Japan's Nikkei is a key equity gauge. "Shan Comp" in the table abbreviates China's Shanghai Composite Index.

"EEM" is the iShares MSCI Emerging Stock Markets ETF. It covers over 800 large and mid-size companies. Despite Mainland China's global economic power, most classify it as an emerging market nation from the economic perspective. It possesses a 37.4 percent portion of the EEM (see BlackRock's iShares website, 6/30/20).

1Q 2020	1Q 2020	Interim	Take-Off	Subsequent
<u>High (date)</u>	Low (date)	<u>High</u>	Low (date)	<u>High (to date)</u>
S+P 500 3394 (2/19/20) 3137 (3/3/20)	2192 (3/23/20)	3588 (9/2/20)	3209 (9/24/20) 3234 (10/30/20)	4546 (9/2/21) 4465 (9/23/21)

	1Q 2020 <u>High (date)</u>	1Q 2020 Low (date)	Interim <u>High</u>	Take-Off Low (date)	Subsequent High (to date)
DJIA	29569 (2/12/20)	18214 (3/23/20)	29199 (9/3/20)	26537 (9/24/20) 26144 (10/30/20)	35631 (8/13/21) 35511 (8/30/21) 35061 (9/27/21)
W5000	34617 (2/19/20)	21956 (3/23/20)	36659 (9/2/20)	32832 (9/24/20) 33399 (10/30/20)	47277 (9/2/21) 46496 (9/23/21)
NASD Comp	9838 (2/19/20)	6631 (3/23/20)	12074 (9/2/20)	10519 (9/21/20)	15403 (9/7/21) 15085 (9/23/21)
FTSE All- World	383.4 (2/12/20)	250.4 (3/23/20)	392.0 (9/3/20)	359.6 (9/24/20) 360.6 (10/30/20)	493.6 (9/7/21)
URTH	102.28 (2/19/20)	66.38 (3/23/20)	105.13 (9/2/20)	95.79 (9/24/20) 95.64 (10/30/20)	133.22 (9/3/21)
SXXP	433.9 (2/19/20)	268.6 (3/16/20)	380.3 (7/21/20) 375.9 (9/3/20)	338.6 (10/29/20)	476.2 (8/13/21) 475.7 (9/6/21)
FTSE (UK)	7690 (1/17/20)	4899 (3/16/20)	6512 (6/8/20)	5526 (10/28/20)	7224 (8/13/21)
DAX (Ger)	13795 (2/17/20)	8256 (3/16/20)	13460 (9/3/20)	11450 (10/30/20)	16030 (8/13/21)
Nikkei (Japan)	24116 (1/17/20)	16378 (3/17/20)	23581 (9/3/20) (23726) (10/9/20)	22948 (10/30/20)	30715 (2/16/21) 30796 (9/14/21)
	1Q 2020 <u>High (date)</u>	1Q 2020 Low (date)	Interim <u>High</u>	Take-Off Low (date)	Subsequent High (to date)
IWN (US "value")	130.16 (1/17/20)	69.27 (3/23/20)	110.56 (8/11/20) ****	94.22 (9/24/20) 100.88 (10/29/20)	174.59 (6/9/21) 166.32 (9/2/21)

	1Q 2020 <u>High (date)</u>	1Q 2020 <u>Low (date)</u>	Interim <u>High</u>	Take-Off Low (date)	Subsequent <u>High (to date)</u>
EEM	46.32 (1/13/20) 44.84 (2/12/20) 40.83 (3/3/20)	30.10 (3/23/20)	45.56 (8/28/20)	42.29 (9/25/20) 44.41 (10/30/20)	58.29 (2/16/21) 56.18 (6/1/21) 55.62 (6/28/21) 53.58 (9/7/21)
Shan Comp (China)	3127 (1/14/20)	2647 (3/19/20)	3459 (7/13/20) 3457 (9/3/20) ****	3202 (9/30/20) 3210 (11/2/20)	3732 (2/18/21) 3724 (9/14/21)

In recent decades, the economic (financial; business; commercial) world increasingly has become interconnected and thus globalized. Note the generally similar calendar timing for highs and lows in the stocks of advanced nations in general from 1Q20 to the present. This price direction and timing convergence (similar trend patterns) underlines the entangled relationships of the interdependent global economy.

Emerging marketplace stocks (use the EEM as the guideline), as they began to decline in mid-January 2020, "led" the decline in the S+P 500 and other advanced nation stock marketplaces. Note, however, the similarity in the EEM's drop-off points in mid-February 2020 and early March 2020 to those in the S+P 500 and elsewhere.

The EEM's peak following its March 2020 major bottom remains 2/16/21's 58.29. Despite the EEM's February 2021 pinnacle, advanced nation stock marketplace continued their bull charge (thus EEM prices to some extent diverged from those in the S+P 500 and other advanced nation benchmarks). The EEM decisively stayed beneath its October 2007 Goldilocks Era peak after its late June 2021 top at 55.62; this EEM withering is a bearish warning signal for advanced nation stock marketplaces such as the S+P 500. In addition, underscore the EEM's move downhill from 9/7/21's 53.58, close in time to 9/2/21's record high to date at 4546 in the S+P 500's 9/2/21 (and around the time of highs in numerous other equity benchmarks).

The S+P 500 and other key global benchmarks have declined "together" since around early September 2021.

The EEM's Goldilocks Era major high occurred 10/31/07 at 55.83. Compare the neighboring timing of the Goldilocks Era's S+P 500 summit, 10/11/07's 1576.

The S+P 500's largest slump since its March 2020 major trough is the 10.6 percent decline from 9/2/20's 3588 to 9/24/20's 3209. In the wide world of stock sports, many define a "correction" as a decline of ten percent or more from a notable high, with a bear move a fall of at least twenty percent from a peak. Since March 2020's major bottom, this has been the single modest (and brief) correction during September 2020. The slide since 9/2/21's 4546 summit to the subsequent low, 10/4/21's 4279 is 5.9 percent.

The DJIA's trough since its mid-August 2021 high is 9/20/21's 33613, a 5.7 percent fall. The Wilshire 5000 eroded 5.8 percent from its early September 2021 top to 10/4/21's 44527 low. The

Nasdaq Composite retreated 7.9 percent to 10/4/21's 14182 low. The IWN's trough since its June high is 7/19/21's 151.25, a 13.3 percent correction. The EEM descended to 49.11 on 8/20/21, a 15.7 percent drop (49.28 low on 10/4/21).

Did the initial falls in Japan and China's stock indices in mid-February 2021 portend or confirm slowdowns (or weakness) in their economies? If so, given the importance of these two countries within the international economy, did they warn of economic weakness in advanced nations such as the United States?

The timing of the Nikkei's high on 1/17/20 at 24116 the neighbored 1/13/20 peak in emerging stock marketplaces in general (EEM); compare the timing of the Shanghai Composite's mid-January 2020 summit. The Nikkei's 2/16/21 high at 30715 occurred around the same time as that in the EEM; the Shanghai Composite's 2/18/21 interim top likewise occurred around then. The Nikkei's recent peak, 9/14/21's 30796, barely mounts over its 2/16/21 crest. The same is true of the Shanghai Composite's recent high, 9/14/21's 3724.

Although "high", "average", "low", "fair value", "rational", in economic districts such as stocks reflect subjective viewpoints (opinions), arguably American stocks "in general" (use the S+P 500 as a signpost) recently have stood at historically "high" valuations. In an era of rising interest rates, will corporate earnings remain as high as many currently predict?

Easy money programs from central banking and related political action in the early stages of the coronavirus pandemic probably renewed willingness to buy the S+P 500 on dips and to doubt the potential for notable "corrections" (declines around ten percent), near-bear moves (declines approaching twenty percent), and (especially for) bear moves (slumps of twenty percent or more). Since 3/23/20's 2192 bottom, the declines have been relatively minor and short-lived. The greatest to date was about a year ago; recall September 2020's 10.6 percent correction, from 9/2/20's 3588 to 9/24/20's 3209.

Suppose US and many other interest rates increase significantly, or if it appears probable they will do so, due to rising inflation and very substantial credit (especially government borrowing) demands. Keep in mind that America's August 2021 year-on-year consumer price inflation (CPI-U) substantially surpasses January 2020's pre-coronavirus pandemic 2.5pc year-on-year high. What will happen to the bullish trend in the S+P 500? What if the Federal Reserve finally "starts to become serious" about tapering its ravenous US Treasury and agency mortgage-backed securities purchasing, or warn of eventual rises in the Federal Funds rate?

Even though the fall in the S+P 500 slide since its September high to the subsequent low is only 5.9 percent, a notable price correction in the S+P 500 and "related" stock marketplace battlefields probably is underway. There is a significant probability that the S+P 500 and related equity domains have started bear trends, or will soon do so.

Will heralds of the "buy the dip" equity strategy remain convinced of its merit? Will the influx of new Main Street money into Wall Street stocks (especially American ones) since the emergence of the coronavirus troubles (over about the past year and a half, bolstered by zero commissions and other reduced barriers to entry) continue, or might that cash retreat?

What will happen to American and other stocks if Congress does not raise the debt ceiling and the US defaults on its debt?

Monitor American (and other) consumer confidence trends. The Conference Board's Consumer Confidence Index has eroded from June 2021's 128.9 to September 2021's 109.3.

In the post-economic crisis era of 2007-09, the Fed generally has aimed to support (and often to rally) not only the United States (and global) economy, but also American stocks and real estate prices. Will the Fed intervene to rescue US stock investment pilgrims via calming bullish wordplay if the S+P 500 falls around ten percent from a peak? In any case, at or around current (or higher) S+P 500 elevations, the Fed probably will not seek to save stocks from a moderate decline (around 10 percent from a top). Suppose a bear marketplace trend develops (a bloody decline of twenty percent or more) or appears probable. Will the heroic Fed via dramatic language and decisive rescue actions battle to halt the retreat and produce a rally?

US INTEREST RATE HISTORY AND STOCKS

"Weapons change, but strategy remains strategy, on the New York Stock Exchange as on the battlefield." Edwin Lefevre, "Reminiscences of a Stock Operator"

Of course not every increase in interest rates is followed by a very significant stock price top. But of course some rises in yields are more important than others.

As "History on Stage: Marketplace Scenes" (8/9/17) and subsequent essays updating it (such as 3/9/21's "Truth and Consequences: Rising American Interest Rates", "Financial Marketplaces: Convergence and Divergence Stories" (4/6/21), and "American Inflation and Interest Rates: Painting Pictures" (5/4/21) emphasized: "Marketplace history need not repeat itself, either entirely or even partly. Yet many times over the past century, significantly increasing United States interest rates have preceded a noteworthy peak in key stock marketplace benchmarks such as the Dow Jones Industrial Average and S+P 500. The yield climb sometimes has occurred over a rather extended time span, and the arithmetical (basis point) change has not always been large."

The US Treasury marketplace has been an important standard for this analysis. The 10 year UST note is a key signpost. In the worldwide global debt securities marketplace, yield climbs and declines in various other high-quality sovereign debt securities such as those of Germany can roughly parallel and thus confirm UST trends.

In first quarter 2020, the coronavirus problem and related economic weakness obviously inspired a major economic slump and a crash in the S+P 500 and other stock marketplaces (as well as price drops in many search for yield territories such corporate bonds. Yet even before the coronavirus problem became increasingly severe during first quarter 2020, the UST 10 year note yield climbed from 1.43 percent on 9/3/19 to 1.97pc on 11/17/19 (1.95pc on 12/19/19; 1.90pc 1/9/20). The German Bund yield advanced from -.74 percent (negative) on 9/3/19 to -.15pc on 1/14/20. The EEM emerging marketplace index peaked on 1/13/20 at 46.32, with the S+P 500's pinnacle not long thereafter, on 2/19/20 at 3394.

A major yield increase trend in the United States Treasury marketplace (use the UST 10 year note as a benchmark) probably started with 3/9/20's .31 percent bottom, which the lows at .54 pc on 4/21/20 at .54 pc and 8/6/20 at .50pc on 8/6/20 confirmed. The UST 10 year note yield high to date is 3/30/21's 1.77 percent. Ongoing yield repression by the Federal Reserve (its huge UST buying assists this) and other countries probably delayed further UST yield increases. However, the UST 10 year note yield has increased since 8/4/21's 1.13pc low (1.57pc high on 9/28/21). The decline in the S+P 500 (and other US stock marketplaces) since around early September 2021 fits the long run historical pattern of a rise in benchmark US government rates leading to a peak in key broad US stock indices.

The German Bund yield pattern broadly has resembled that of the UST 10 year note. German Bund yields established related lows in mid-to-late 2020 (-.59 percent on 5/5/20; -.67pc on 11/4/20) as well as early August 2021 (-.52pc on 8/5/21). The Bund yield has increased to -.17pc from its August 2021 depth to 9/28/21's -.17pc.

	1Q20 Yield	Interim	Spring 2020	Later 2020	1Q21	8/2021
	Bottom	<u>Yield Spike</u>	Yield Low	Yield Low	<u>Yield High</u>	<u>Low</u>
UST 10	.31 pc (3/9/20)	1.27pc	.54pc	.50pc	1.77pc	1.13pc
Year		(3/19/20)	(4/21/20)	(8/6/20)	(3/30/21)	(8/4/21)
Ger	91pc	14	59	67	07	52pc
Bund	(3/9/20)	(3/19/20)	(5/5/20)	(11/4/20)	(5/19/21)	(8/5/21)

Price drops in other key advanced nation stock marketplace indices have accompanied the fall in the S+P 500 (and other United States stock marketplaces) since around early September 2021. Given global economic interrelationships and the US stock marketplace's great size, voyages in a particular direction by the overall American stock marketplace can lead other stock arenas along in that given path. Emerging marketplace equities "in general" (see the EEM) resumed their decline in early September 2021. As German yield increases have joined those in the UST arena, and as those yield increases warn of (confirm) major peaks not only in key broad US stock indices such as the S+P 500, but also in international stock marketplace benchmarks in general.

The Federal Reserve Board and its central banking allies have been very determined to maintain yield repression and quantitative easing (including UST buying) programs. Yet gargantuan credit demand in (particularly when existing US government debt already is towering) probably assists eventual further yield climbs in policy rates as well as in sovereign (and corporate debt) securities, not only in America, but also in other advanced and emerging marketplace realms.

Even if US government debt yields slump from around current still-relatively low levels due to a "flight to quality" (which a large fall in stock prices could inspire), and even if the Federal Reserve and its central banking teammates maintain their quantitative easing and yield repression schemes, inflationary forces (encouraged by money printing; see the huge increase in America's money supply) and heated demand for credit eventually can push government (and corporate) interest rates upward.

Sustained low interest rates can create a low interest rate culture (belief system), and thereby an expectation for continued low yields. However, growing widespread fears of substantial sustained inflation can spark and maintain both inflationary ascents and higher yields in the UST marketplace and elsewhere as players (investors, speculators, traders; hedgers, risk managers; the general public; commercial firms, businesses) scramble (such as by securing supplies now or

sooner rather than later) to "get ahead" of the apparently impending inflation and its consequences. Rising inflation expectations can ignite or further encourage price rises for various goods and services.

RISING GLOBAL INTEREST RATES: LOWER-QUALITY DEBT SECURITIES

In the 1983 movie "Trading Places" (John Landis, director), the actor Eddie Murphy strides onto the commodities trading floor and declares: "Never show any sign of weakness. Always go for the throat...Nothing you have ever experienced can prepare you for the unbridled carnage you're about to witness. The Super Bowl, the World Series, they don't know what pressure is. In this building it's either kill or be killed. You make no friends in the pits, and you take no prisoners."

In recent years, fervent yield repression (note the low UST yields relative to inflation) and artful easy money rhetoric by the Federal Reserve and its central banking teammates often have encouraged epic quests for adequate "yield" (return) and bullish moves not only in American (and many other) stocks, but also in prices for United States dollar-denominated sovereign emerging marketplace debt and US dollar-denominated corporate debt securities. Some yield hunters in this environment seek out other asset classes to purchase such as homes and commodities "in general".

The following two tables display important price highs and lows for emerging marketplace sovereign debt and United States dollar denominated corporate debt ETFs ("exchange-traded funds"; ETFs are marketable securities, and they track an index, sector, or other asset). Thus for a given "search for yield-type" instrument such as the EMB, higher prices indicate lower yields; lower prices reflect higher yields. Also included in the analysis are US corporate Baa rates (in yield terms) and a US municipal bond ETF.

Even if these various listed instruments receive the honored label of investment, and even if many of them are deemed high-grade, they are not of the highest investment quality (as currently incarnated by interest rate realms such as the US Treasury and German government debt marketplaces). Some of the ETFs for emerging marketplace sovereigns are US dollar-denominated, some are in local currency. The instruments vary in their weighted average weighted maturity. Many, although their creators may advertise them to the public as "bonds", are of relatively short duration. For example, the HYG's weighted average maturity is about 3.8 years. And not all ETFs of a given sector (such as dollar-denominated emerging marketplace sovereign debt) necessarily hold the same instruments or amounts of a given security. Also, between the various ETFs, the percentage of holdings within a given credit rating category (such as BB) are not necessarily identical.

The "EMB" ETF, from iShares (BlackRock)/J.P. Morgan, offers exposure to United States dollar-denominated government bonds issued by emerging market countries. The EMB includes over 30 countries. The EMB is quoted in price terms, so falling prices reflect rising yields. "PCY" is the Invesco emerging markets sovereign debt ETF. It tracks emerging marketplace US dollar-denominated sovereign (government) bonds.

"EMHY", the iShares J.P. Morgan emerging markets "high yield bond" ETF, tracks the investment results of an index composed of US dollar-denominated, emerging market high yield sovereign and corporate bonds.

Another iShares ETF product, "LEMB" tracks an index composed of local currency-denominated sovereign bonds issued by emerging market countries. "EMLC" is the VanEck J.P. Morgan emerging market local currency bond ETF; it tracks bonds issued by emerging market governments denominated in the issuer's local currency.

"HYG" designates the iShares iBoxx US dollar-denominated "high yield" corporate bond ETF. "LQD" is the iShares iBoxx US dollar-denominated "investment grade" corporate bond ETF. The Moody's seasoned Baa corporate bond yield is based on bonds with maturities of 20 years and above.

The iShares (BlackRock) national municipal bond ETF "seeks to track the investment results of an index composed of an index composed of investment-grade U.S. municipal bonds."

Refer to the websites on the various ETFs for further details on them. See Moody's (and the Federal Reserve Bank of St. Louis) for more information on the Baa corporate sector.

Although the emerging market sovereign and other bond ETFs traded in relatively narrow price ranges from around mid-summer 2020 to the present, the direction and timing of their price moves are very relevant to analysis of other interest rate marketplaces as well as benchmark global stock marketplaces such as the S+P 500.

Over the long run, all else equal and as a guideline given the interrelationships of the global economy and its financial marketplaces, major trends toward higher yields for very high-grade national government debt benchmarks such as that of America and Germany probably tends to boost yields for lower quality sovereign debt securities and corporate debt around the world.

Similarly, and in many cases involving long term major declines in interest rates of high grade sovereign debt such as the UST, yields for many lower quality sovereign debt instruments as well as that of much corporate debt also will fall to some extent.

However, during times of substantial economic feebleness, history reveals that US Treasury and German Bund interest rates can plummet in a "flight to quality" as safe havens. In such fearful times, prices for corporate debt in general as well as that of lower grade sovereigns can drop, and often dramatically. Thus credit spreads widen. In this scenario, the S+P 500 and other key stock marketplace signposts may retreat sharply alongside the price drops in lower-grade sovereign debt and corporate securities. First quarter 2020 was an example of this.

The next table portrays the price peaks in early 2020 for assorted emerging marketplace sovereign debt securities as well as US dollar-denominated corporate bonds. Baa corporate debt is given in yield terms. Recall the 1Q20 peaks in the S+P 500 and numerous other global stock benchmarks. In the enthusiastic search for yield playground for stocks (both advanced nations and emerging marketplaces) and these debt securities, their bull moves connected with (confirmed) each other. Rising yields in emerging marketplace sovereign debt and US dollar-denominated corporate securities helped lead to (confirm) the downtrends in advanced nation as well as emerging marketplace stock territories. During the vicious price crash stocks and these lower-grade debt instruments travelled together to their March 2020 lows.

This table also gives the price highs (yield lows) to date for these assorted debt securities following their March 2020 price bottoms (yield summits). Note that the price highs for the majority of these instruments in calendar 2021 occurred not long before the high in emerging stock marketplaces in general (EEM's 2/16/21 high at 58.29). The downward price move in these interest rage instruments, especially as these generally involved emerging marketplace sovereign debt, indicates that their higher yields warned of and helped to produce (led to) a top in emerging marketplace stocks in general. HYG, a US corporate bond ETF (which has a relatively short maturity) and MUB, a US municipal bond ETF, were the exceptions. However, the HYG and MUB apparently have made, or are in the process of establishing price tops.

	Early 2020 Price High/ <u>Yield Low (date)</u>		Subsequent Price High/ Yield Low (date)
EMB	117.20 (2/21/20); 117.08 (3/	4/20)	116.09 (1/4/21)
PCY	30.33 (2/21/20)		28.86 (1/4/21)
EMHY	48.12 (1/21/20); 47.99 (2/14	/20)	46.73 (1/4/21)
LEMB	45.42 (12/18/19); 44.07 (1/2	1/20)	45.54 (1/4/21)
EMLC	34.08 (1/10/20); 33.14 (3/4/2	20)	33.52 (12/17/20)
HYG	88.53 (1/15/20); 88.49 (2/14	/20)	88.16 (9/23/21)
LQD	134.53 (3/6/20)		139.38 (8/7/20)
Baa	3.29 percent (3/6/20)		3.11pc (12/31/20)
MUB	118.15 (3/9/20)	****	118.04 (7/20/21)

Let's investigate these emerging marketplace sovereign and corporate debt arenas in greater detail and in the context of subsequent trends for the S+P 500 and "related" stock marketplaces.

	1Q20 Price Low	Price <u>High</u>	Interim Price Low	Price <u>High</u>	Price Low	Recent Price <u>High/Yield Low</u>
EMB	85.00 (3/18/20)	114.65 (8/11/20)	109.20 (9/24/20)	116.09 (1/4/21)	106.70 (3/8/21)	113.64 (8/31/21)
PCY	19.74 (3/18/20)	28.36 (9/2/20)	26.70 (9/24/20)	28.86 (1/4/21)	26.38 (3/8/21)	27.96 (6/11/21) 27.89 (9/2/21)
EMHY	32.81 (3/19/20)	45.27 (9/3/20)	42.93 (9/24/20)	46.73 (1/4/21)	43.99 (3/8/21)	46.13 (6/11/21) 45.87 (8/31/21)
LEMB	34.53 (3/19/20)	42.79 (9/16/20)	41.21 (9/28/20)	45.54 (1/4/21)	42.15 (3/30/21)	44.59 (6/10/21) 43.82 (9/1/21)

	1Q20 Price Low	Price <u>High</u>	Interim Price Low	Price <u>High</u>	Price Low	Recent Price <u>High/Yield Low</u>
EMLC	26.02 (3/20/20)	31.92 (7/27/20) 31.83 (9/16/20)	30.39 (9/28/20)	33.52 (12/17/20) 33.48 (1/4/21)	30.35 (3/30/21)	32.21 (6/9/21) 31.23 (8/31/21)
HYG	67.52 (3/23/20)	85.40 (7/31/20) 85.39 (9/2/20)	82.56 (9/24/20)	87.79 (2/12/21)	85.65 (3/19/21)	88.10 (7/7/21) 88.16 (9/23/21)
LQD	104.95 (3/19/20)	139.38 (8/7/20)	133.72 (10/30/20)	138.52 (11/30/20) 138.22 (12/31/20)	127.91 (3/18/21)	136.78 (8/4/21) 136.26 (9/14/21)
Baa	5.15pc (3/20/20)	3.12 (8/6/20)	3.52 (10/5/20)	3.11 (12/31/20)	3.88 (3/18/21)	3.15 (8/2/21) 3.15 (9/14/21)
MUB	100.03 (3/19/20)	117.26 (8/10/20)	114.91 (10/30/20)	117.95 (2/11/21) ****	115.12 (2/26/21) 115.39 (3/18/21)	118.04 (7/20/21) 117.08 (9/20/21)

As a starting point, recall that the S+P 500 made an important interim top over a year ago, on 9/2/20 at 3588. The 10.6 percent decline (correction) to 9/24/20's 3209 is the greatest to date in the S+P 500 since its major trough in March 2020. In the table above of emerging marketplace sovereign debt and US corporate (and municipal) securities, note how price highs in these instruments generally preceded or occurred alongside the early September 2020 S+P 500 top. For example, the EMB high was 114.65 on 8/11/20. Important interim price lows for (yield highs in) this arsenal of debt securities occurred around (as in the EMB's 9/24/20 trough at 109.20) or not long after the S+P 500's important interim lows on 9/24/20 (at 3209) and 10/30/20 (at 3234)

In regard to the September 2020 highs and subsequent drops in the S+P 500 and other stock battlegrounds, remember the yield trends of the US Treasury 10 year note and the German Bund. The UST 10 year established a major bottom in yield with 3/9/20's .31 percent, which lows at .54 pc on 4/21/20 at .54 pc and 8/6/20 at .50pc on 8/6/20 confirmed. The UST's yield climb from its 8/6/20 low to an interim high around .80pc on 10/9/20, though only 30 basis points, roughly paralleled the yield rise in the assortment of emerging marketplace sovereign and US dollar-denominated corporate debt securities. See also the modest yield increase in the German Bund in after an interim low on 8/5/20 at -.56 percent to -.38pc on 8/28/20. Thus higher yields in the UST and German Bund as well as these other debt securities led to an important price top (and correction in) the S+P 500 and linked stock marketplaces.

Examine the current situation for the emerging marketplace sovereign and US corporate debt arena. In general, the instruments listed established important price highs around late December 2020/early 1Q21. The exception, LQD, though it attained a top on 8/7/20, made tops around that level during 4Q20. In general, these various marketplaces also apparently have made significant price tops "around" late summer 2021 (in some cases, a related price high occurred a couple of

months earlier). For example, see the EMB at 113.64 on 8/31/21. Also, only two of these debt ETFs inched above their 1Q21 highs, the HYG and MUB.

Marketplace history is not marketplace destiny, and marketplace history need not be repeated entirely or event partly.

Nevertheless, signs of falling prices in the emerging marketplace sovereign and US corporate debt group currently seem to be leading to (confirming; intertwining with) price falls in various key global stock marketplaces. Remember also the long run historic pattern whereby rising UST yields have preceded (led) to major highs in the S+P 500 and Dow Jones Industrial Average. Yield ascents in the UST 10 year and German Bund likewise seem to have confirmed highs in the S+P 500 and elsewhere. The UST 10 year made a notable interim yield low on 8/4/21 at 1.13 percent, the Bund at -.52pc on 8/5/21.

Significantly, advanced nation stock marketplaces established their record highs to date "around" mid-August 2021 to early September 2021, close in time to these price highs in emerging marketplace and US corporate debt. For example, the S+P 500's record high is 9/2/21's 4546; note its subsequent lower high, 9/23/21's 4465. In this time and price context, underline the succession of lower highs in emerging marketplace equities in general (EEM). The EEM's 1Q21 peak (which was preceded by the 1Q21 price highs in the EMB, PCY, EMHY, and so forth) remains unbroken; note the interim tops at 56.18 (6/1/21), 55.62 (6/28/21), and 53.58 (9/7/21; close in time to the S+P 500's recent high).

In any case, the yield increases in high quality government debt (such as the UST and German Bund) as well as in emerging marketplace sovereign and dollar-denominated corporate debt are warning signs of a price peak in the S+P 500 and other key worldwide stock benchmarks.

Watch interest rate credit spread trends, such as those between high-quality and low quality sovereigns, or between high-grade sovereign debt and lower-quality corporate debt. The yield spread between Moody's Baa corporate bond and the US Treasury 10 year note peaked at 431 basis points on 3/23/20 (alongside the major bottom in the S+P 500). The spread's subsequent low occurred recently with 9/27/21's 178 basis points. Steadily widening credit spreads probably will indicate significant current or potential economic weakness and warn of (confirm) substantial declines in the S+P 500 and related stock marketplaces.

Suppose the S+P 500 (and related stock marketplaces) falls significantly. Suppose prices fall (interest rate yields increase) for the lower quality emerging marketplace sovereign debt and United States corporate securities. Perhaps alongside such bearish price trends there will be a flight to quality, in which many persons flee to the safety of (buy) high-grade government debt of countries such as the US and Germany. If so, yields might fall for a while in the UST 10 year and similar safe haven instruments.

However, inflation in the United States (and many other places around the globe) currently is significant and well above government yields. Also, the American (and global) government debt situation is substantially worse than it was prior first quarter 2020 (and the appearance of the coronavirus). Consider, for example, the present-day and future US federal debt level as a percentage of GDP. Consequently, even if a flight to quality occurs, there is a strong probability that US Treasury and other government yields will continue to ascend over the long run.

OTHER FINANCIAL THEATERS: THE US DOLLAR AND COMMODITIES

History shows that significant trends for the United States dollar in relationship to those in US stock and interest rate marketplaces (and other important equity and debt realms) are complex and often change. However, let's glance at some US dollar moves in the context of the first quarter 2020 and September 2020 highs and subsequent declines in the S+P 500. These US dollar voyages connect not only to the S+P 500, but also to related price pinnacles and falls in other key equity stock arenas and "search for yield/return" debt marketplaces (such as the EMB).

The Federal Reserve (H.10) releases a real as well as a nominal "Broad Dollar Index" (including both goods and services). The US real "Broad Dollar Index" is a monthly average (January 2006=100; 10/1/21 latest release). The Fed's nominal Broad Dollar Index release provides daily data (10/4/21 latest release, 10/1/21 most recent data point).

The real Broad Dollar Index ("BDI") started a major bull appreciation from July 2011's bottom at 83.9. The rally, though it had various twists and turns, persisted for almost ten years. The real BDI peaked in April 2020 at 113.6.

The United States dollar sometime in early 2020 probably became "too strong" for many emerging marketplace sovereign (and emerging marketplace corporate) issuers of dollar-denominated debt needing to repay their dollar obligations. This probably assisted rate increases in (price falls for) not only for such emerging marketplace sovereign (and corporate) debt instruments, but also yield climbs in "related" relatively low quality sovereign and other corporate debt around the globe.

Note the significant run up in the real BDI in the final stage of its bull trend from February 2020's 107.8 to March 2020's 111.9 and April 2020's 113.6. But the real BDI, as it is a monthly average, does not tell the whole story of the final stage in the dollar's appreciation and its interrelation with trends in international securities battlefields. The nominal BDI on 2/19/20, the day of the S+P 500's peak, was 116.8, close to its 3/3/20 height (it started calendar 2020 with 1/2/20's 115.0). Recall the nominal BDI's sharp appreciation (rally) in March 2020. From 3/3/20's 116.6 (the same day as the critical 3137 drop off point for the S+P 500), it raced up to 126.5 on 3/23/20, an 8.6pc leap in only 20 days. This US dollar spike probably led to (contributed to; confirmed) the S+P 500 and many other marketplace price crashes. The S+P 500 bottomed on 3/23/20 (the same day as the nominal Broad Dollar Index) at 2192. Keep in mind the timing of the price trends in other stock marketplaces as well as in emerging marketplace sovereign debt and US dollar-denominated corporate securities.

Recall the S+P 500's important interim high on 9/2/20 at 3588. See also the associated price highs in other stock combat zones, US dollar-denominated corporate debt, and emerging marketplace sovereign debt. The nominal Broad Dollar Index climbed from 7/15/19's 114.7 to an interim high on 9/3/20 (about the same day as the S+P 500's top) at 118.3; it made a slightly lower high at 118.0 on 10/2/19. This dollar rally, although only about 3.1 percent, arguably (in conjunction with interest rate and other variables) contributed to the modest price decline (roughly a ten percent correction) in the S+P 500 and related price tumbles elsewhere.

What does a more current view on the US dollar reveal? Although the long run trend for the real BDI probably remains bearish, there can be important price rallies for the dollar within that trend.

In any case, the real BDI fell to 103.4 in January 2021 (compare March 2009's pinnacle at 101.5). The high since then is September 2021's 107.4, a modest rally of 3.9 percent. From a long run historical perspective, September 2021's real Broad Dollar Index level is rather strong. Compare the global economic disaster pinnacle in March 2009 at 101.5.

•	First Quarter 2020 Key High (date)	Subsequent Low Level (date)	Percentage Fall from 1Q20 High
Nominal Broad Dollar Index	126.5 (3/23/20)	111.1 (1/6/21); 111.0 (5/28/21) 110.8 (6/7/21)	Nominal Dollar Index depreciation 12.4pc

Since 6/7/21's trough, the nominal BDI's high is 115.1 on 9/29/21, a 3.6 percent advance. This price climb, though not nearly as substantial as that during March 2020, is somewhat greater than the 3.1 percent appreciation from 7/15/19's 114.7 to 9/3/20's 118.3. Thus when interpreted alongside rising yield trends in the UST 10 year note as well as in emerging marketplace sovereign debt and US dollar-denominated corporate securities, this BDI strength (climb) warns of significant price falls in the S+P 500 and various stock marketplaces linked to it.

Yet the recent dollar rally does not preclude its eventual resumed decline. Suppose the real Broad Dollar Index moved close to or underneath its March 2009 international economic disaster peak at 101.5. That weakness probably will help to precipitate a "weak United States dollar equals weak US stocks" scenario.

Sustained commodity price increases can help to propel key benchmark inflation measures such as the CPI upward and keep them relatively high. The broad S&P GSCI's 1/8/20 peak at 453.2 occurred not long before the S+P 500's 2/19/20 summit at 3394. The broad S&P GSCI 500's high since then, 10/5/21's 581.1 blasts 28.2 percent above its 1Q20 summit. The GSCI's major low occurred at 218.0 on 4/21/20 (S+P 500 bottom 3/23/20 at 2192), with a key interim low at 333.1 on 11/2/20 (S+P 500 rally take-off point 3234 on 10/30/20). The GSCI has exploded almost 74.5 percent from its November 2020 trough. The petroleum and natural gas bull moves have excited marketplace insiders, politicians, and much of the general public in recent months. As of 10/5/21, ICE Brent/North Sea crude oil (nearest futures continuation) has vaulted to 8311, about 15.8 percent above 1/8/20's 7175 apex and skyrocketed about 132.5 percent from 11/2/20's 3574 interim low.

Looking forward, it will be interesting to see if price trends for petroleum (and commodities "in general") converge with those in the S+P 500 and other stock marketplaces. At the dawn of the global economic crisis of 2007-09, the S+P 500 peaked on 10/11/07 at 1576. However, the petroleum complex price trend diverged for several months from that in the S+P 500. ICE Brent/North Sea crude oil attained its pinnacle on 7/11/08 at 14750.

For further detailed discussion of stock, interest rate, currency, and commodity marketplaces and the political scene, see essays such as "America Divided and Dollar Depreciation" (9/7/21); "Great Expectations: Convergence and Divergence in Stock Playgrounds" (8/14/21); "Financial Fireworks: Accelerating American Inflation" (7/3/21); "Marketplace Rolling and Tumbling: US Dollar Depreciation" (6/1/21); "American Inflation and Interest Rates: Painting Pictures" (5/4/21); "Financial Marketplaces: Convergence and Divergence Stories" (4/6/21); "Truth and Consequences: Rising American Interest Rates" (3/9/21); "GameStop and Game Spots:

Marketplace and Other Cultural Backgrounds" (2/13/21); "The Fear Factor: Financial Battlefields" (1/5/21); "Games People Play: Financial Arenas" (12/1/20); "Born to Be Wild: American Economic and Political Battlefields" (11/2/20); "Adventures in Marketland: Hunting for Return" (10/6/20).

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