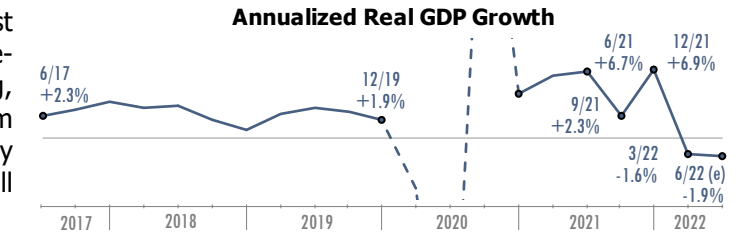


# MARKET Recap

## The US Economy: “That 70s Show”

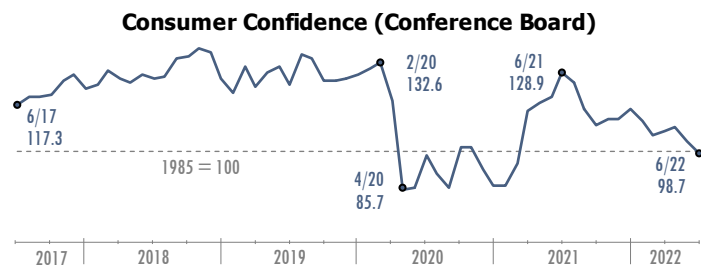
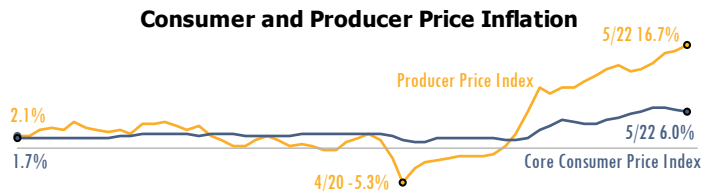
Real economic growth was revised downward for the first quarter, coming in at a -1.6% pace. The negative print reflected continued volatility in private inventory spending, which has caused production to oscillate since recovery from the COVID pandemic began. Exports also declined, driven by hostilities in Europe and a resurgence of COVID in China, all viewed as relatively temporary conditions.

Underlying consumer demand remained strong in Q1, but indicators released late in the second quarter reveal that consumers may be selectively tightening their belts in response to surging prices. Real personal consumption expenditures decreased by 0.4% in May versus April, led by autos and other durable goods that are impacted by higher consumer



financing costs. The ISM’s June Manufacturing Report noted that the new orders index declined 5.9 percentage points in May, suggesting that private inventory investment is continuing to slow. However, non-durable manufactured goods orders surprised to the upside, rising by 2.3% in May, supported by continued wage growth. It is a bit too early to read the tea leaves, but a recession is now a primary risk.

Whether a recession materializes and, more importantly, the length and depth of the recession hinges substantially on a resolution of the non-wage drivers of inflation: energy and other commodity costs. The Federal Reserve is doing its part, hiking rates by 0.50% in May and 0.75% in June, and setting clear expectations of continued hikes into 2023. Current Fed projections target short-term rates in the 3.5% range near-term, declining back to 2.5% in the long run.



The Fed is, of course, ever hesitant to formally forecast a recession; their latest projection table shows anemic but positive growth for 2022, notwithstanding 250 basis points of rate increases and inflation running well above their long-term policy target at year-end. However, the 1970s teach us that it’s difficult for monetary policy alone to deliver a “soft landing” while exogenous factors like commodities fuel inflation. It falls to the Administration, not the Fed, to address commodity supply issues generated by geopolitics and labor supply issues generated by immigration policies. Labor prices are difficult to constrain in the short run but commodity prices are another matter.

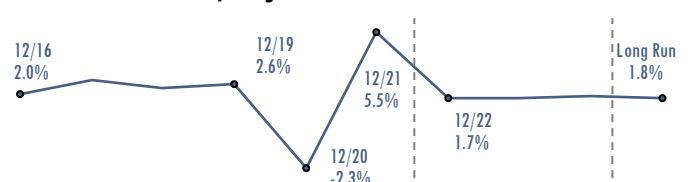
The sharpest contrast between now and the stagflationary environment of the 1970s is that the US is a net producer of oil and gas. Substantial infrastructure is already in place to harvest shale and sand deposits, which is now economically feasible given higher prices, albeit time and investment are required to activate that infrastructure. The possibility of increased North American production has already served to moderate crude prices, which peaked in May.

Adopting short-term policies which encourage domestic production, in our view, would help address global inflation while undercutting the ability of Mr. Putin to finance his war machine. The politics are complex, as support for the energy sector divides Democrats along a labor/environmental fault line, so quiet policy tweaks are more likely than grandstands.

Change in Federal Reserve Projections YTD

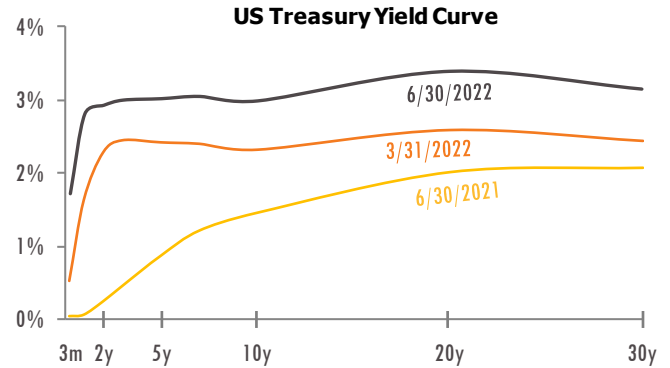
	12/2022 Median			Longer Run Median		
	12/21	6/22	Δ	12/21	6/22	Δ
Change in Real GDP	4.0	1.7	-2.3	1.8	1.8	0.0
Unemployment	3.5	3.7	+0.2	4.0	4.0	0.0
PCE Inflation	2.6	5.2	+2.6	2.0	2.0	0.0
Fed Funds Rate	0.9	3.4	+2.5	2.5	2.5	0.0

Actual/Projected Real GDP Growth



## The US Bond Market

It was easy to excuse the 'ugly' appearance of the yield curve at the end of Q1. Investors were processing the war in Ukraine amid rocketing inflation. At the end of Q2, yields are higher and stricken with palpable uncertainty, expressed through a distinct wobble. The greatest dislocation has localized around the 20-year key rate. In 2020, the forgotten 20-year original maturity Treasury bond was reintroduced to a cold reception. Pension plans were expected to favor this tenor as a useful hedge to liabilities; however, the lack of liquidity relative to the 10-year and 30-year (particularly in futures) has turned into a Catch-22. The overenthusiastic auction pace has been pared back several times but the glut of paper is out there – a slow and swelling wave.



In the past two series of Fed rate hikes (2004-2006 and 2016-2018), market anxiety hinged on how high yields would ultimately climb. This time, the Fed has provided greater clarity on the frequency of rate hikes but has clouded markets with uncertainty around whether the moves will be 25, 50, 75 basis points, or more. Where market yields and Fed rate forecasts agree is that the terminal point of rate hikes is likely to be near 3.5%; and, after a wait-and-see pause, the next policy move will probably be lower. For better inflation control and worse recession risk, the Fed is erring hawkish.

US Bond Index Returns	
Bloomberg Idx	2022
Aggregate	-4.69%
Short Gov't	-0.31%
Interm. Gov't	-1.65%
Long Gov't	-11.89%
TIPS	-6.08%
Municipal	-2.94%
Interm. Credit	-3.63%
Long Credit	-12.59%
High Yield	-9.83%
(CS) Lev. Loan	-6.28%
MBS	-4.01%

The good news is a Fed-engineered soft-landing is still in sight, though conditions are foggy and inclement. The overall slope is at least flat, if not positive sloping. The bad news is there is plenty of bad news. Long duration fixed income fared about as well as in the first quarter, which is to say it fared quite poorly. Credit spreads resisted upward pressure in the first quarter only to bust out in the second quarter. Spreads widened modestly for higher credit quality securities. High yield spreads rose much more, jumping from 343 basis points to 587 basis points QoQ. Leveraged loans, which did well in Q1 due to their floating rates, lagged the Agg.

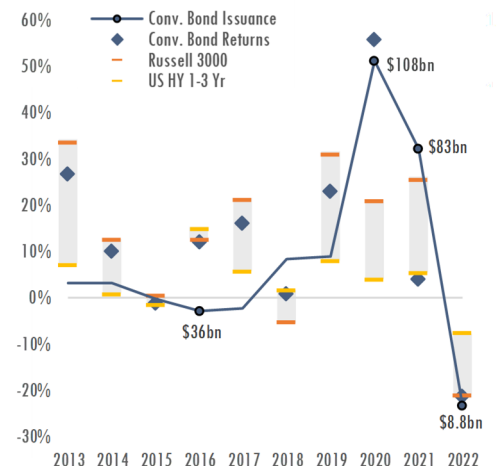
US TIPS likely surprised investors relying on the securities to rise in value with inflation. Instead of a life preserver, these were deadweight year-to-date. While TIPS are protected from inflation realized over the time period until their maturity, they are also subject to duration risk in the interim. The duration risk isn't entirely to blame; the real yield on 10-year TIPS went from -52 bps at the end of March to +65 bps at the end of June. Consequently, breakeven inflation rates have receded to where they were through most of 2021, portending Fed policy success.

During the pandemic, vanilla convertible bonds – where the investor can choose whether to convert the bond to common stock or hold the bond until maturity – spiked in popularity. More recently minted companies found convertibles cost-effective for raising capital. Between 2020 and 2021, Peloton, Snap, Beyond Meat, and others issued \$190 billion of convertibles. Investors flocked to them as low interest rates, high volatility, and upward valuations of growth stocks brewed both caution of a possible pullback in stock prices and reluctance not to participate in the ongoing equity rally.

As a hybrid security, convertible bond returns typically land between the returns for equity and high yield. Yet, there was a huge disconnect in 2020. Tesla's large outstanding convertibles issuance surged over 700% (as Tesla stock did the same). This contributed the lion's share of the category's return that year. In 2021, Tesla's impact was much less as shares gained 47% and much of the convertible debt was redeemed. Weak performance in the tech and healthcare sectors combined with their outsized share of convertibles drove the debt to lag equity and high yield in 2021.

This year, issuance in the sector is on track for a 10-year low in issuance, with only around \$9 billion through June. During this sudden downturn in equity and bond markets, convertibles are failing to protect. Though maturities are often short (18-24 months), spread-duration risk isn't always. Beyond Meat's \$1.2 billion outstanding convertibles are trading at 40 cents on the dollar and Redfin's are 48% and 58% of par [Wall Street Journal]. Convertible bond index returns are lower than both equities and high yield YTD, but are back to being closer in line with equities; both looking to rebound as the year progresses.

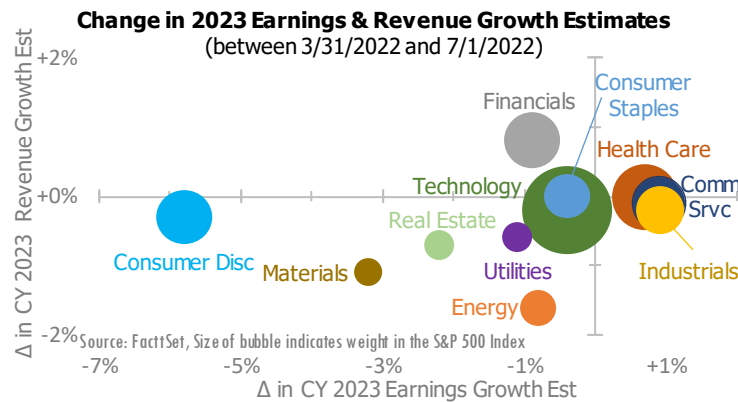
US Convertible Bond Issuance & Returns



# The US Stock Market

The US stock market went from bad to worse in Q2 with all major indices posting not just negative returns as in Q1, but solidly double-digit negative returns. Rising interest rates, decreasing consumer activity, and increasing predictions of an oncoming US recession weighed on the market. The S&P 500 claimed the dubious distinction of posting its longest weekly losing stretch since the dot-com bubble burst in 2001 and its weakest first half since 1970.

Over the last decade of growth and even through the COVID pandemic, US companies could rely on consumer spending to drive record profits even as input costs increased. Now the evidence that some consumers are pulling back on outlays in response to inflation is driving concern that corporate earnings declines are around the corner. In mid-May, Walmart, Target, and Kohl's acknowledged falling profits with reports of slowing sales in discretionary items (e.g., clothing) and substitution for less-expensive items in staples spending (e.g., food).



In other sectors, a late-quarter rotation had a notable influence on returns. Energy went from the top performer in April and May to the worst performer in June. Typically, the sector rises and falls on swings in commodity prices (i.e., oil) and the global economic outlook. Relatively stable oil prices in the first two months began to decline in June as demand finally ebbed in response to record-high prices at the pump. Interestingly, skyrocketing gasoline costs had been more a function of a reduction in refining capacity, both in the US and globally, than the oil commodity price itself. With fuel consumption plateauing in the US prior to the pandemic, older refineries were permanently closed in the wake of the 2020 demand crash. Although still small compared to that decline, 2022 demand is trailing figures for 2021 and the average for 2017 – 2019 as well. Although not as dramatic, anticipation of a global slowdown drove a similar June drop-off in returns in the materials sector.

Health care and consumer staples had the opposite experience. Increasing recession fears and declining consumer spending drove investor interest in defensive plays, moving returns in these sectors from the middle of the pack in April and May to top-performing in June. Companies in both sectors typically offer investors big dividend yields and can be steadier in volatile markets. They are also potentially less impacted by drop-offs in consumer spending, a key factor going forward if inflation is more persistent.

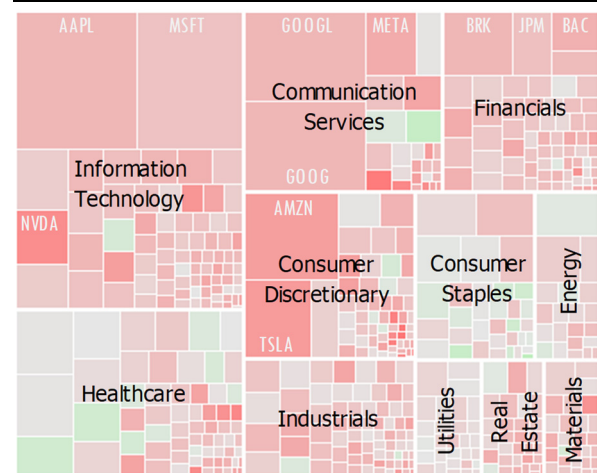
While market returns were worse than in Q1, the Q2 market itself was far more orderly. Rather than presenting an unusual and virtually unpredictable set of external factors with outsized impacts, it was an environment active managers generally could use their skills to navigate. In many cases, this led to a contraction in active returns.

US Stock Indices - Total Returns			
Largecap Stocks		Midcap Stocks	
	2022		2022
S&P 500	-16.10%	S&P Midcap 400	-15.42%
Russell 1000	-16.67%	Russell Midcap	-16.85%
Growth	-20.92%	Growth	-21.07%
Value	-12.21%	Value	-14.68%
Broad Markets		Smallcap Stocks	
S&P 1500	-16.02%	S&P Smallcap 600	-14.11%
Russell 3000	-16.70%	Russell 2000	-17.20%
Growth	-20.83%	Growth	-19.25%
Value	-12.41%	Value	-15.28%

In this environment, it was not surprising to see a sizeable drop in estimates for 2023 earnings growth hit the consumer discretionary sector [FactSet] and, as the stock market is a forward-pricing mechanism, the sector's returns. While some top consumer discretionary names fared better than the market, they could not overcome the abysmal returns by Amazon and Tesla, which together represent over 35% of the sector. Other market dominators, specifically Apple and Alphabet, challenged their sectors as well (i.e., tech and communication services). Together, Apple, Alphabet, Amazon, and Tesla represent about 30% of the Nasdaq, and their Q2 returns helped drive that index to its biggest quarterly drop since 2008.

S&P 500 Sector Components - Total Returns			
Sector	2022	Sector	2022
Consumer Stpls	-4.62%	Materials	-15.90%
Utilities	-5.09%	Financials	-17.50%
Energy	-5.17%	Info Tech.	-20.24%
Health Care	-5.91%	Comm. Services	-20.71%
Real Estate	-14.72%	Consumer Discr.	-26.16%
Industrials	-14.78%		

Source: Morningstar



Source: Refinitiv -20 -10 0 10 20 % Return

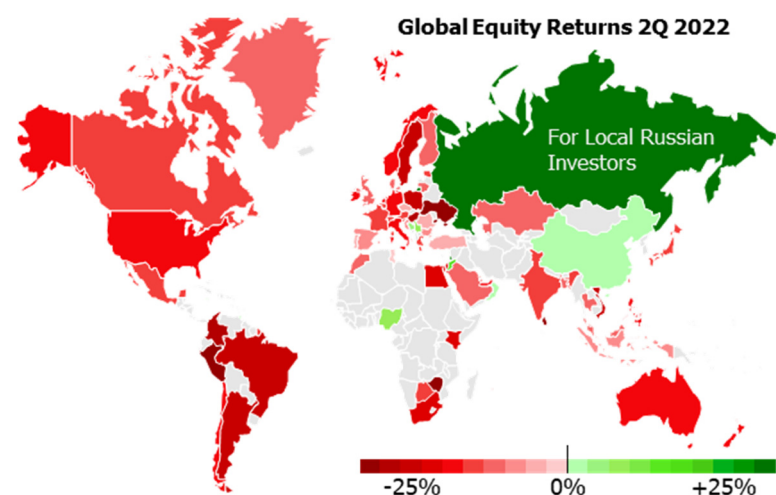
## International Markets

The war in Ukraine continues to boost commodity prices and disrupt supply chains. At the same time, inflation is prompting central bank tightening. As a result, global growth is expected to slow to 2.9% in 2022, down from the 4.1% World Bank projection as of January.

### Europe

Prices for energy and commodities had already been rising off of pandemic lows before Russia's invasion. Energy supplies in Europe struggled to keep up with demand as global economic activity rebounded pushing gas and electricity prices to record levels. Additional uncertainty around post-invasion supplies put renewed pressure on commodity prices. European economies are sensitive to the rising costs of imported oil and are being weighed down by an influx of 5 million Ukrainian war refugees.

Foreign Stock & Bond Indices - Total Returns			
Stocks	2022	Bonds*	2022
MSCI ACWI ex-US	-13.73%	Global Aggregate	-8.26%
EAFE (Developed)	-14.51%	Pan-Euro	-12.96%
Emerging Markets	-11.45%	Asian-Pacific	-9.12%
Europe	-14.49%	Eurodollar	-2.61%
Japan	-14.63%	Euro-Yen	-11.87%
China	3.41%	Other Currencies	-8.41%
Latin America	-21.87%	* Unhedged	



Real GDP growth in both the EU and euro area is now projected to be 2.7% in 2022 and 2.3% in 2023, down from 4% and 2.8%, respectively. Inflation in the EU is expected to average an all-time high of 6.8% this year, before pulling back to 3.2% in 2023. In the euro area, inflation is projected to top out at 6.1% in 2022, before declining to 2.7% in 2023.

The ECB announced it will end its monthly Asset Purchase Programme on July 1 and signaled that it will begin raising interest rates in Q3 to combat inflation. Price growth surged over 8% in May, driving the ECB to roll back stimulus measures it has had in place for nearly a decade. The central bank is expected to raise interest rates by 25 basis points in July and follow with a larger hike in September. The ECB's current deposit rate is -0.50%. ECB head Christine Lagarde has said

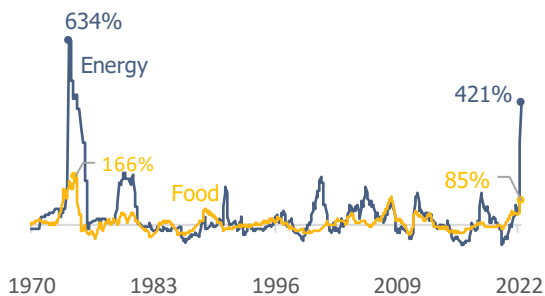
that it could move to 0% or higher by the end of Q3. Markets are anticipating a more aggressive rate hike regime, pricing in 135 basis points by year-end. The yield on the German bund jumped 9 basis points to 1.44% (near 2014 levels), and the Italian 10-year surged 25 basis points to 3.61% (near 2018 levels).

Russia's GDP expanded by 3.5% in Q1. But, consensus estimates predict a 12% contraction in the economy for the year. Strict capital controls and a sharp interest rate hike prompted a 72% plummet in car sales in March. However, the economy proved more resilient than expected with industrial production rising on higher mining output and panic buying buoying retail sales. Near the end of the quarter, Russia missed a bond payment deadline, its first default on international debt since 1918. Sanctions have hindered Russia's efforts to pay foreign investors.

Inflation has risen sharply from its lows in mid-2020 as a rebound in global demand post-COVID, supply chain disruptions, and rising food and energy prices collided. Inflation is expected to peak in the second or third quarters but remain elevated

even after these system shocks subside as global monetary tightening continues. The World Bank projects economic growth to remain low through 2030. The combination of higher inflation and lower growth invites stagflation.

Change In Food and Energy Prices



Source: World Bank

An unanchoring of inflation, as in the 1970s, requiring steep increases in interest rates to arrest its rise has investors worried about global recession. While similarities between now and then exist (supply shocks after accommodative monetary policies and slowing growth), there are differences that may help avert recession. The price shocks have been smaller, global inflation has been less broad, better monetary policy frameworks exist, and economies are more flexible.

## Asia

China's GDP increased 4.8% in the first three months of 2022 compared with a year earlier. While the GDP figure is much better than Q4's 4.0% rate, the numbers don't capture the full impact of COVID restrictions.

Signs of stress appeared in the labor market. The unemployment rate climbed from 5.8% at the end of Q1 to 6.1% in April, a level last seen at the beginning of 2020 when China was just emerging from the initial outbreak of the pandemic. In May, the economy showed signs of a recovery. The overall jobless rate in urban China edged down to 5.9% in. However, youth unemployment hit 18.4%, the highest rate recorded since Chinese officials began releasing the data.

May data also showed an uptick in factory production and a softening decline in retail sales, down 6.7% in May (an improvement from April's 11.1% slump). Consumer spending, dampened since the start of the pandemic, is only expected to worsen as employers cut salaries and lay off workers. Industrial production increased 0.7% in May from a year earlier, reversing an almost 3% contraction in April.

Economic activity expanded in June after three straight months of contraction. The PMI for non-manufacturing sectors posted a sizeable jump. The surge was led by a rebound in construction and the services sector, where the lifting of COVID restrictions unclogged transportation and allowed a return to stores and restaurants. Manufacturing PMI also rose modestly.

The zero-tolerance approach to Omicron and its resulting supply-chain disruptions, however, impacted China's exports. Deepening supply-chain problems that prevent raw materials, inputs, and labor from reaching factories and that keep finished products from reaching customers have slowed down export activity. Chinese exports rose 15.8% in March YoY, and 12.5% in April, the slowest growth rate since November 2020.

While overall production rose, new export orders were weak highlighting fading global demand. Unable to rely on exports to propel a rebound, as it did in early 2020. Beijing is now counting on an infrastructure splurge to power its economy. China's cabinet announced plans to borrow 300 billion yuan, equivalent to \$44.8 bn, to help finance major infrastructure projects. Time will show if such a big investment will be enough to offset slowing export activity and subdued consumer and business confidence. In the meantime, the CSI 300 index realized a 6.2% return, a great improvement after the negative return of 14.5% in the first quarter.

Rising input costs and supply chain disruptions related to the lockdown in China posed a headwind for manufacturers in Japan again. Core consumer prices in Tokyo rose 2.1% from last year, the highest increase in 7 years. The BOJ announced plans to expand bond purchases to keep the yield curve in check. The 10-year bond closed at 0.255% (above the 0.25% upper tolerance). The yen hit a 24-year low against the US dollar as BOJ's dovish stance is keeping yields low as opposed to other developed central banks tightening monetary policies. The yen has lost 20% of its value against the US dollar since March.

## Americas

Inflation is at a four-decade high and is expected to stay there as Canadian companies face tight labor markets and rising input costs. Canada's markets are pricing a 75 bp rate hike at the Central bank's meeting in July, which would bring the policy rate to 2.25%. The bank expects to increase the rate to 3.5% by the end of the year. The rate increases triggered a sharp decline in residential home sales and a slowdown in home-price gains and may lead to the end of Canada's 12-year real-estate boom. Housing accounted for 20% of growth last year, and investment in residential real estate overtook spending on structures, machinery, and equipment starting in mid-2020.

Despite a 4.8% uptick in 2021, the Mexican economy is expected to grow only 1.8% this year. It will take another year to reach pre-pandemic levels. Inflation jumped to 7.65%, the highest level in 21 years. The central bank predicts inflation will peak at 7-8% in Q2 2022. To curb inflation, a series of interest rate hikes have pushed rates from 4% to 7% in less than a year. The bank is expected to raise the interest rate by 75 bps later this year. As countries and companies started reducing their dependence on manufacturing in China, there has been a jump in foreign direct investment inflows into Mexico, mainly in sectors such as metal production, machinery and equipment, computers, electrical appliances, and auto parts.

In Brazil, former president Luiz Inacio Lula da Silva maintains a strong lead against current president Jair Bolsonaro in the upcoming elections. Polls put Lula with 45% voter support in a first-round vote, a 14-point lead over his far-right rival Bolsonaro. Brazil's economy has entered a phase of stagnation that will likely continue to persist for the next year. GDP is expected to grow just 0.5% this year; however, commodity prices have improved the near-term outlook. Consumer prices jumped more than expected despite the central bank hiking rates to 11.75% from 2% last year.



## Focus On: Retirement for a New Age

In our *1Q 2019 Focus On: Retirement Income*, we talked about how retirement is a modern concept. Generally, people didn't stop working just because they reached a certain birthday milestone. As retirement became normal and achievable, the labor participation rate dropped from 58% to 15% for males over 65 between 1930 and 1990. That trend is over.

During the pandemic, the number of retirees spiked. After all, COVID generally posed a greater danger to the elderly. Through mid-2021, it seemed that many older workers were accelerating their retirement plans. Now, many are un-retiring themselves. Since 2000, workplace participation has been rising, and this is projected to continue.

Today's retirees are not following in the green-felt walker trails of their parents. They are not moving to the same places, living the same lifestyles, or spending their money in the same ways. At the same time, financial markets are changing too. Investors should question if their retirement savings strategy is designed for their retirement or an outdated stereotype.

### More Hurricane than Tsunami

As the baby boom generation ages into retirement, the inevitable "silver tsunami" is finally upon the US. By 2060, 23.4% of the US population is projected to be over age 65, doubling from 11.3% in 1980. Japan's aged population already approaches 30%, and most European countries exceed the US as well. This long-awaited economic time bomb was supposed to crash the economy by overwhelming the healthcare system, flooding the housing market with supply, and draining institutional knowledge from companies [Forbes]. Instead, COVID overwhelmed hospitals, the down-sizing to Floridian condos abated, and (full-time) labor participation rates in older age brackets rebounded.

Yet, the 65-plus demographic isn't just growing, it's growing apart. Older workers are almost as likely to be unwilling to retire as unable. Longevity is improving. For some, this means a higher quality of life for longer; but for others, it just means lackluster living with larger and larger medical expenses. The least fortunate are unable to retire and unable to keep working. Homelessness among the elderly is expected to outpace the demographic population growth, doubling by 2050 [NHCHC].

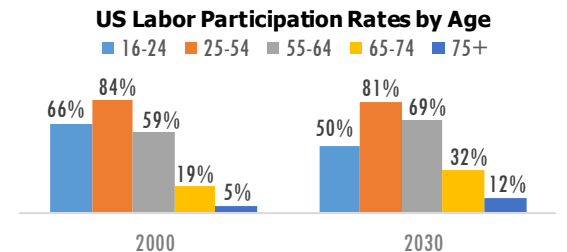
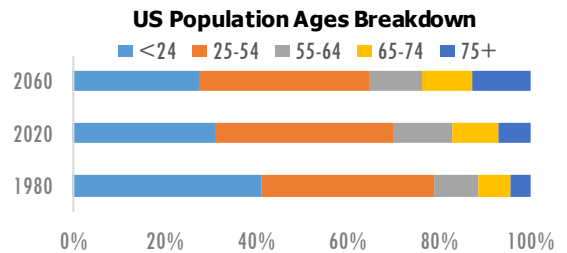
### From the Forever to the Tiny

Housing is an easily observable indicator showing the diffuse behavior of today's retirees and a choice with major financial consequences. In 1990, 1 in 4 retirees relocating to another state moved to Florida. By 2010, only half as many did. Generally, retirees still favor warmer clients; however, priorities also include affordability, convenience, proximity to family and friends, restaurants & entertainment, and even work.

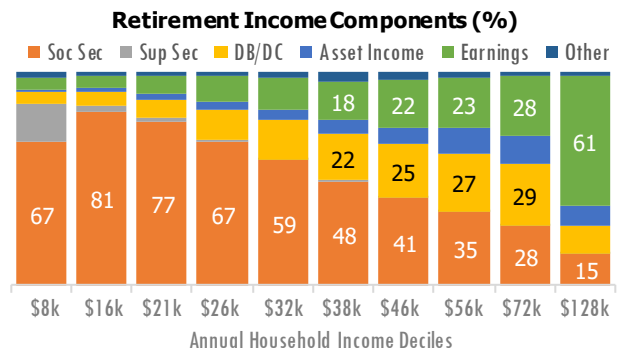
Anecdotally, retirees are finding that the stereotypical lifestyles they imagined for their golden years don't foot to the realities of what they actually want or need. There is no one-size-fits-all solution. Senior housing communities (with units for rent or purchase) are seeing a huge surge in construction and demand, but so are forever homes and even tiny homes. Each of these represents a very different set of financial costs and risks, particularly concerning the risk of inflation.

### Fixating on Fixed Income

Retirees, and those yet to retire, can commiserate over dwindling pension and social security benefits. The percent of private-sector employees covered by a defined benefit plan peaked at 30% for those born in the 1950s. Only about 5% of those entering the corporate workforce now are covered [Urban Institute]. Retirees can start taking Social Security benefits at age 62; however, the age at which full benefits are paid has gradually risen from 65 to 67 years. The age to receive full benefits will keep inching up, and benefits will likely decline in real terms by the time today's workers are eligible. Funding for the program is projected to run out in 2034, at which time benefits will be cut by 22% unless Congress intervenes.



Source: US Census Bureau, Bureau of Labor Statistics



Source: US Census Bureau; data as of 2017

For most Americans, Social Security payments are still likely to be their primary source of retirement income. Other major sources of income in for those over 65 years old include retirement savings plans and other investments. However, the top decile of income earners in the retirement age bracket is largely composed of those who haven't retired yet. The reality is that people just don't save that much for retirement. Frequently, financial services firms recommend amassing 9-11 times your then-current income in savings around age 65 to 67 years. For many Americans that is a purely aspirational goal.

### A Blunt Remedy for Inflation

The biggest variable for most retirees will be inflation's impact on their savings, debt, and purchasing power. Although home ownership is trending down for those over 60 (and up for those under 35, most retirees still own their homes even late into retirement. Inflating home prices relative to fixed-rate mortgages generates home equity. In contrast, rents on leased properties tend to catch up with inflation on a 9-12 month lag.

Even though Social Security payments are adjusted for inflation, it may fail to keep pace in the categories where retirees spend the most. The Social Security cost-of-living adjustment ("COLA") is based on broad inflation measures that generally do not reflect the significantly larger expenditures by retirees in certain categories. For example, as healthcare costs increased 107% from 2007 to 2020, the COLA only generated a 25% rise in payments. If the program pays out more than expected, future benefits are also likely to be cut further.

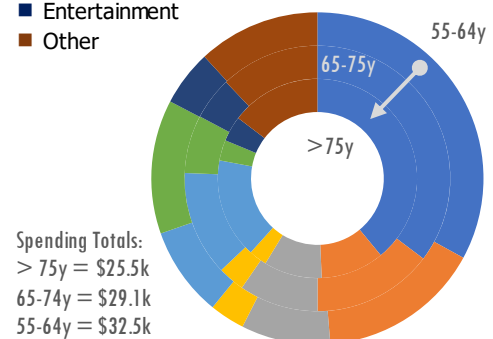
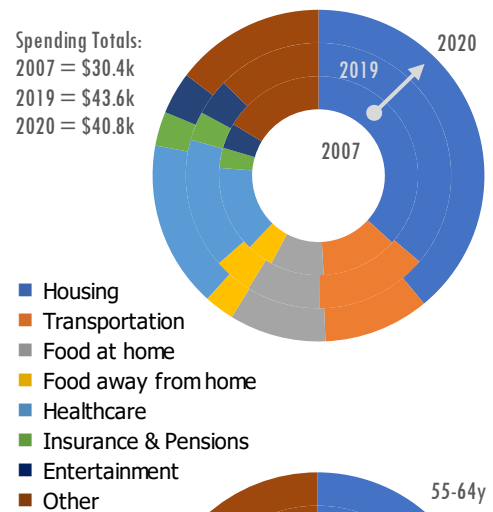
### Retirement Spend-styles

US Bureau of Labor Statistics data shows how retirees' spending habits were evolving before the pandemic and how they shifted in 2020. While some of the spending changes observed in the historical data reflect inflation, retirees clearly have different and more diverse spending needs and desires than their parents did. From 2007 to 2019, those aged 65-74 years increased spending the most (as a percent) on rented living spaces, household operations, alcohol, public transit, insurance, education, and healthcare. Spending decreased the most on reading, vehicle purchases, fuel, home furnishings, and tobacco. Those over 75 experienced similar trends, on average, though their budgets were more stable. Also, they did not spend more on rentals, decreased education spending, and devoted more of their budget to entertainment and savings.

From 2019 to 2020, spending on vehicle purchases, fuel, apparel, eating out, and public transport declined across most age groups due to social distancing and shutdowns. The only age demographic to increase spending in 2020 was 25 to 34 year olds. For those in the oldest age bracket, 75 years and up, spending rebounded in education and reading (from a small base). Though post-COVID statistics are not available yet, people are clearly moving past COVID. Senior citizens were slower out of the gate, naturally. Now that vaccines are widespread and new variants pose less severe health threats, look for pre-COVID trends to resume. According to a McKinsey study prior to the pandemic, spending on experience-oriented services such as spectator events, dining out, and travel was growing more than 1.5 times faster than general expenditures and four times faster than material purchases. This trend was evident across all age groups.

While broad sweeping trends can help current and future retirees predict where their budgets will be allocated, they fail to capture the important narrower trends that can have a more drastic impact on retirement spending. For example, the number of retired US expatriates soared 40% in the decade leading up to 2017 according to the Social Security Administration. Healthcare costs in foreign countries are generally much lower than in the US. That is a big incentive to retire abroad; and, there can be many others, such as lower taxes, milder weather, less crime, and more accessible public transportation. In 2021, a couple in their 50s retired to live permanently on cruise ships after concluding an "all-inclusive" lifestyle would cost just \$43 per day. Using the popular 4% rule for spending down retirement savings, the couple would only need \$400k to retire (ignoring taxes and investment fees). Coincidentally, this is the exact starting price of a spacious 247 square-foot cabin aboard MV Narrative, a cruise ship setting sail in 2024 on its maiden 1,000-day voyage with most rooms being sold as permanent residences – just tack on \$65k to \$200k for the annual fee.

**Per Capita Spending by Year (> 75y)**



**Per Capita Expenses by Age (2020)**

## Revisiting the 4% Rule

The 4% rule has been a helpful basic guideline for estimating income generated from defined contribution savings, but it hardly applies to the majority of retirees. The retirement account savings median peaks at \$15,000 in ages 55-59 years then quickly drops to zero by age 65. Including financial assets broadly raises the median assets for ages 65-69 to \$28,000. Like any rule of thumb, it only works well as a guide for those that fall within some basic simplifying assumptions. As retiree demographics and financial markets change, those assumptions break.

In "Determining Withdrawal Rates Using Historical Data," William Bengen targeted a 50-year window from the date of retirement for assets to last. Lifespans have improved since the paper's 1994 publication but not as to challenge that mark. His allocation assumption of 50% of the portfolio being allocated to equities was less conservative. Today's target-date income vintages tend to allocate closer to 35% or even 25%. Pairing long-term expected returns from asset managers, these funds produce overall expected returns ranging from 2.2% to 4.0%. This is far short of what Bengen's model experienced using actual returns from 1926-1992 or his predicted returns for 1993 onward of 7.75% for a 50/50 blend.

The worst period to retire according to Bengen's model was right before the runaway inflation of the 1970s.

## Meet Your Retirement Income Options

Target-date funds ("TDFs") have become the dominant defined contribution savings solution by offering a simple and effective approach to managing asset class allocations automatically over time. Variations exist in the allocation weights and design. For example, asset managers and investors have yet to settle on to-date or through-date glide slopes, for example. On August 10<sup>th</sup>, PSCA and Bellwether Consulting will be jointly hosting a webinar on evaluating and monitoring TDFs under a fiduciary lens (see [www.psc.org/education/webcasts](http://www.psc.org/education/webcasts)). Hybrid TDFs are now addressing retirement income.

One promising retirement income solution is combining the standard TDF with a qualified longevity annuity contract ("QLAC"). The QLAC is a deferred annuity that directly addresses longevity tail risk. There is no dominant retirement income product because no simple solution has been able to guarantee lifetime income at a relatively low cost while remaining liquid and portable. The TDF + QLAC is a compromise that balances all of these concerns.

Annuities have (somewhat unfairly) earned a reputation for being prohibitively expensive because of low investment grade bond yields since the 2008 financial crisis. Like other annuities, QLACs are not liquid, but only a small portion of assets gets locked into them. The lion's share of assets is free to remain in a low-fee, liquid, equity-rich portfolio.

Other solutions prioritize one concern over another. Rather than guarantee income, managed payout funds generate variable payouts based on market returns. They can be a good fit for less risk-averse investors who value liquidity or want to pass on a bequeathment. On the opposite end of the spectrum, traditional annuity products provide a specific income guarantee but no residual value except (possibly) to a spouse. Guaranteed minimum withdrawal benefit ("GMWB") products are a balanced fund & annuity hybrid that is structurally similar to TDF + QLAC but typically designed to preserve capital.

## Will Today's Investment Solutions Solve Tomorrow's Retirement Needs?

It is hard to imagine a single retirement savings strategy or solution that could address the increasingly disparate retirement spending needs of baby boomers and later generations. Maybe that is why the share of DC plan assets invested in managed accounts doubled from 2012 to 2019. Of course, managed accounts aren't a good fit for plan participants who prioritize low fees or who happen to fit the assumptions of an off-the-shelf product.

The most aptly designed solution is the least likely to be considered. Defined benefit plans are becoming the retirement savings industry's lost city of Atlantis. An archaic yet highly advanced plan design that is practically a panacea for participants is being buried due to calamitous misuse. Due to longevity-risk pooling, optimized investment allocations, and economies of scale, DB plans contributions can outperform DC contributions by almost 2:1 [NIRS].

Assuming pension plans stay out of reach for most Americans, plan sponsors and participants will need to make decisions about retirement income solutions that matter more and more. Despite the success of TDFs as a QDIA and in meeting most participants' needs in the accumulation phase, plan sponsors should consider offering multiple retirement income choices. Plan participants should develop their own personalized retirement strategy rather than rely on demographic averages that are less and less likely to represent their future. DC investment lineups should begin to focus less exclusively on accumulation choices so participants have access to retirement income solutions designed to match their priorities and needs.

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