Capital Markets Strategy
Essential inCights for the C-Suite

MUFG

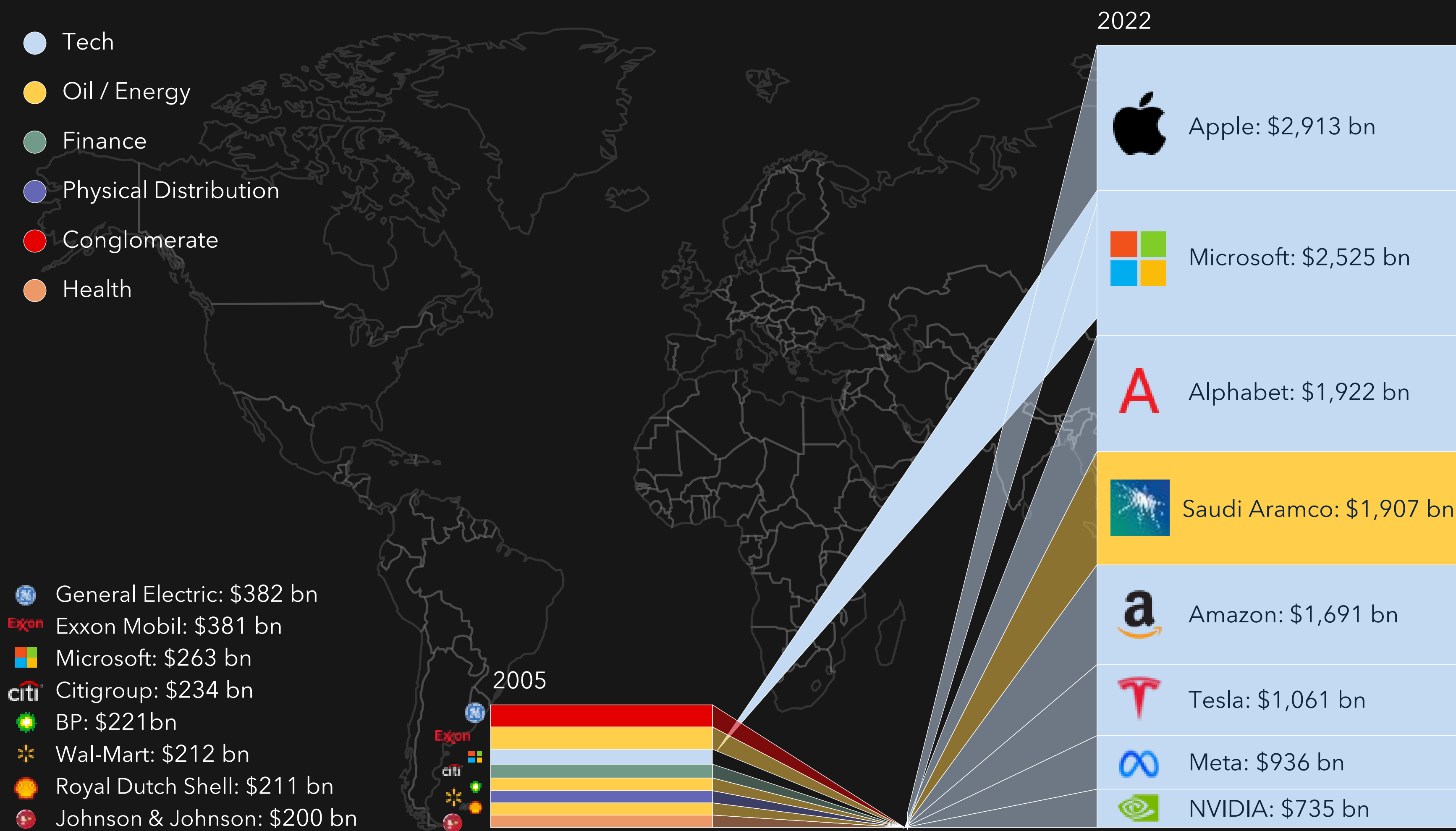
2022 Global Markets & Economic Outlook

Transitioning Corporate Strategy for a Post-Pandemic World

FEB 2022

Technology's Outsized Presence

Companies with the world's largest market capitalizations in 2005 and 2022 (in billion US dollars)



Source: Statista. Financial Times. Bloomberg. 2005 data as of March 31, 2005 and 2022 data as of January 1, 2022.

Global Corporate & Investment Banking Capital Markets StrategyTeam

Tom Joyce

Managing Director
Capital Markets Strategist
New York, NY

Tom.Joyce@mufgsecurities.com
(212) 405-7472

Hailey Orr

Director
Capital Markets Strategist
New York, NY

Hailey.Orr@mufgsecurities.com
(212) 405-7429

Stephanie Kendal

Associate
Capital Markets Strategist
New York, NY

Stephanie.Kendal@mufgsecurities.com
(212) 405-7443

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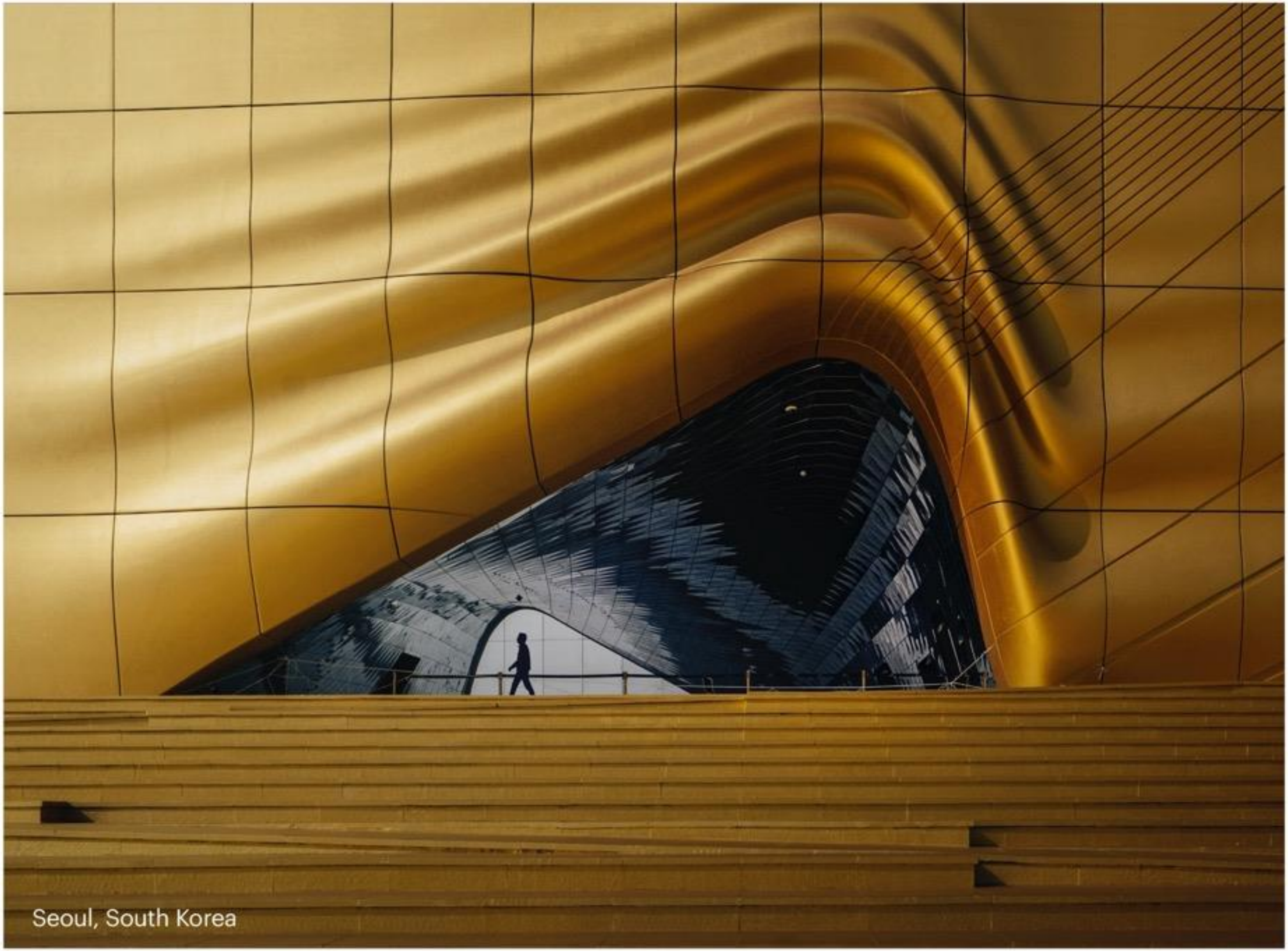
> **If you want to go fast, go alone. If you want to go far, go together.**
> – African Proverb



Seoul, South Korea

Introduction

> "As a professor, I tended to think of history as run by impersonal forces. But when you see it in practice, you see the difference personalities make."
>
> Henry Kissinger, US National Security Advisor & Secretary of State (1969 - 1977)

Historic 2021 Recovery Sets Backdrop for 2022

Despite formidable headwinds, 2021 was nonetheless a remarkable year for the global economy and markets

Health:	9.5 billion vaccines globally (184 countries)
Economy:	GDP growth 2-3x normal LT rates
Policy:	> $30 trillion monetary and fiscal globally over 18 months
Consumer:	$5 trillion "excess" savings during COVID globally
Profitability:	Revenue, earnings and margins well above historic averages
Global M&A:	Strongest year on record ($5.5 tn); US volumes up 75% to $2.6 tn
HY & IG Issuance:	1st and 2nd strongest years on record ($465 bn and $1.5 tn)
HY & IG Spreads:	Near multi-decade tights (301 bps & 98 bps)
Interest Rates:	Near multi-century lows
US Equities:	29% S&P 500 total return; 70 new closing records
US IPOs:	1,032 IPOs, 59% SPACs (5x 10 year average)

Key Risks to Watch in 2022

At this stage of the recovery, risk is both structural and cyclical. With public health, economic and geopolitical risk so high, the ability to accurately forecast markets and economies in 2022 is reasonably low. A review of major risk areas is as follows:

ECONOMIC RISK

1. More persistent inflation & wage pressures
2. Resurgent supply chain disruption (China's zero-COVID policy)
3. Growth deceleration (Fed tightening feedback loop)
4. China "hard landing" (i.e., 3-4% growth)
5. Virus mutation & restrictions

MARKET RISK

6. Structurally higher volatility, risk asset price corrections
7. Rapidly rising oil & commodity prices
8. "Gap risk" for HY credit spreads (as volatility spikes)
9. EMFX depreciation, outflows or crisis (Fed, virus, China)
10. Keeping pace with ESG's acceleration

Key Risks to Watch in 2022

POLICY & POLITICAL RISK

11. Casualties of Fed tightening, Fed "behind the curve"
12. Looming fiscal cliffs, rising tax rates
13. Regulatory risk rising (big tech, M&A, China, climate)
14. Geopolitical risk rising (Russia-Ukraine, US-China, Taiwan)
15. Elections (Brazil, France, Italy India, Australia, US mid-terms)

CORPORATE & STRATEGY RISK

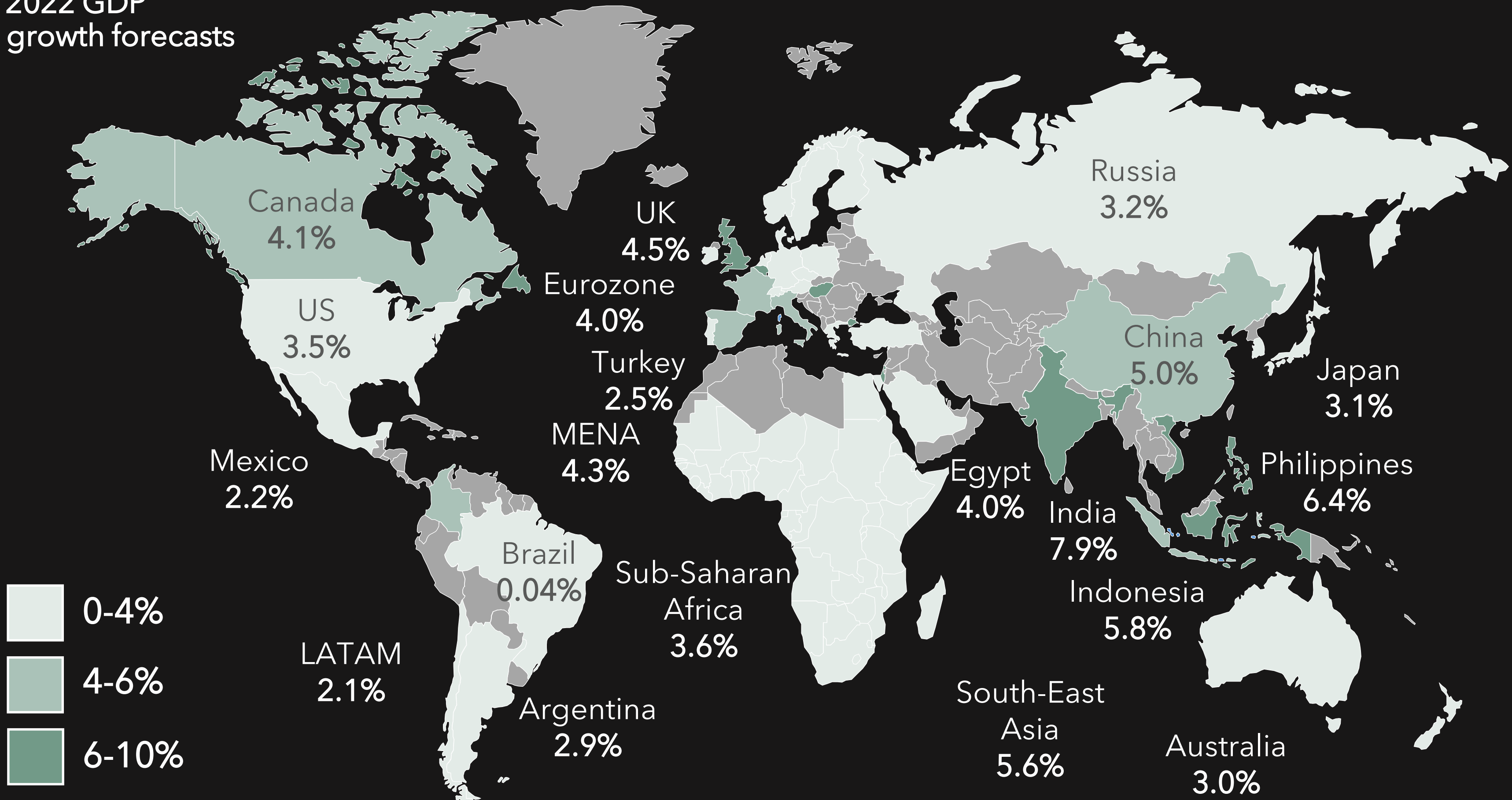
16. Labor market pressures (shortages, wages, health)
17. Supply chain bottlenecks; rapidly rising input costs
18. Managing regulatory and government policy shifts
19. IT governance and cyber-security
20. Disintermediation, tech innovation, rapidly evolving competitive landscape


Dubai, United Arab Emirates

Desynchronized Global Recovery in 2022

The omicron variant will likely exert modest downward pressure on 2022 global GDP growth, with differentiated outcomes by region. Emerging markets and Europe, in particular, look more vulnerable going into the year ahead. Growth deceleration will likely be stronger in the 2H of the year.

2022 GDP growth forecasts

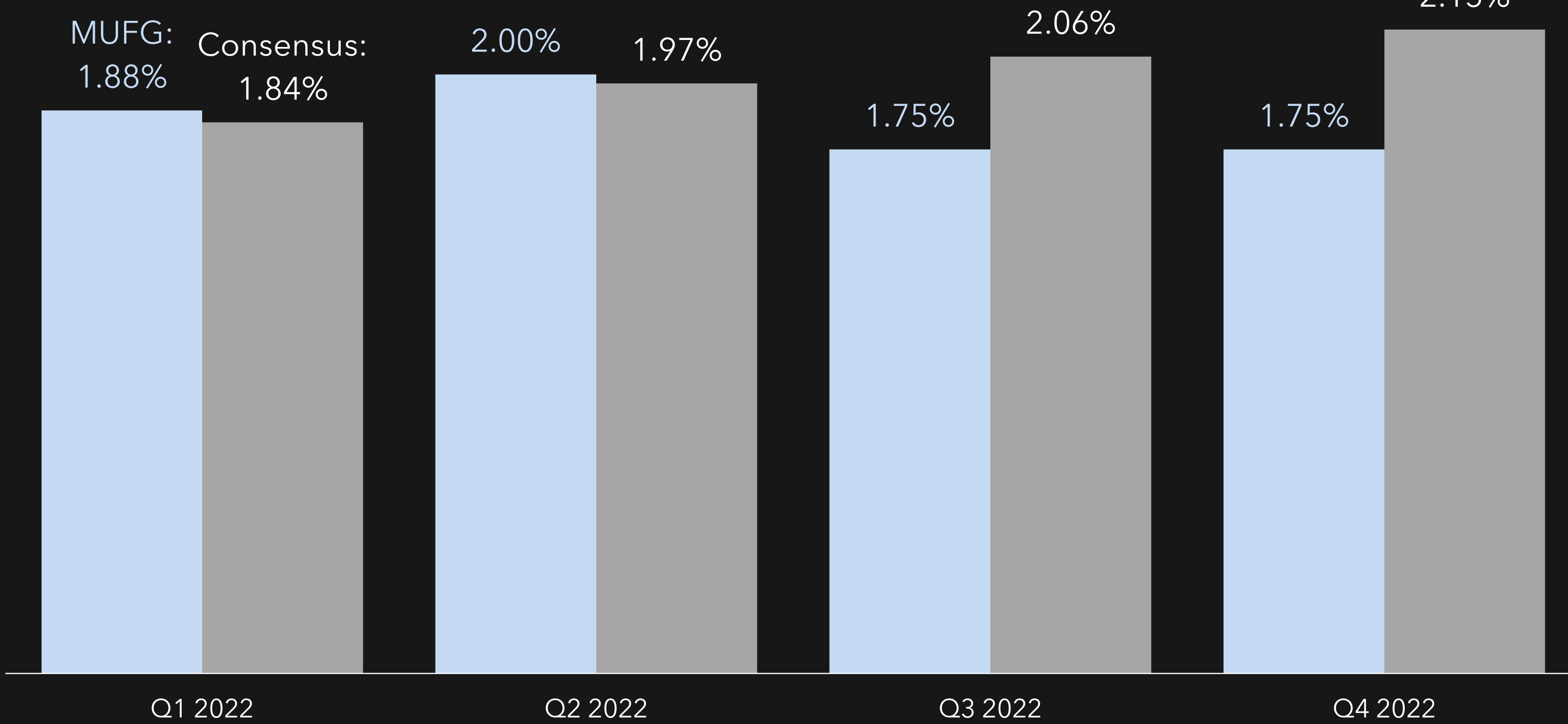


Source: Oxford Economics. Data as of February 7, 2022.

US Rates Forecast for 2022

MUFG's Head of US Macro Strategy, George Goncalves, expects the 2 Year UST to absorb the majority of the Fed's rate tightening in 2022. Importantly, George's 2022 forecasts are based on an approach that triangulates three variables given the feedback loops from financial markets in today's economy: (1) growth; (2) inflation; and (3) financial conditions. With asset prices and inflation high, it will be difficult for the Fed to execute a "soft landing" for the economy.

10 year UST forecasts



Source: (1) MUFG Fixed Income Desk Strategy "2022 Macro2Markets Outlook" (George Goncalves). Consensus data as of January 31, 2022.

Global Currency Forecast for 2022

MUFG's Head of Global Market Research, Derek Halpenny, views 2022 as a story of two halves for the dollar. Near term, the dollar should strengthen further given upside risks to inflation and the Fed's rapid pivot toward tightening. Looking out over the full year, however, MUFG remains skeptical that the Fed will complete taper by March, deliver four rate hikes by year end, and commence quantitative tightening.

FX Forecasts

Currency pair	Spot (2/1)	Q1 2022	Q2 2022	Q3 2022	Q4 2022
EUR / USD	1.12	1.10	1.12	1.14	1.16
GBP / USD	1.35	1.32	1.36	1.37	1.39
USD / JPY	115	117	116	114	112
USD / CNY	6.36	6.40	6.45	6.50	6.55
AUD / USD	0.71	0.70	0.71	0.73	0.74
NZD / USD	0.66	0.66	0.67	0.68	0.69
USD / CAD	1.27	1.26	1.23	1.21	1.18
USD / NOK	8.86	9.00	8.71	8.60	8.36
USD / SEK	9.28	9.54	9.29	9.08	8.88
USD /CHF	0.91	0.94	0.93	0.92	0.91
USD / MXN	20.58	21.10	21.20	21.30	21.40
USD / BRL	5.28	5.64	5.69	5.75	5.80

Source: (1) MUFG Foreign Exchange Outlook. February 2022 (Derek Halpenny).

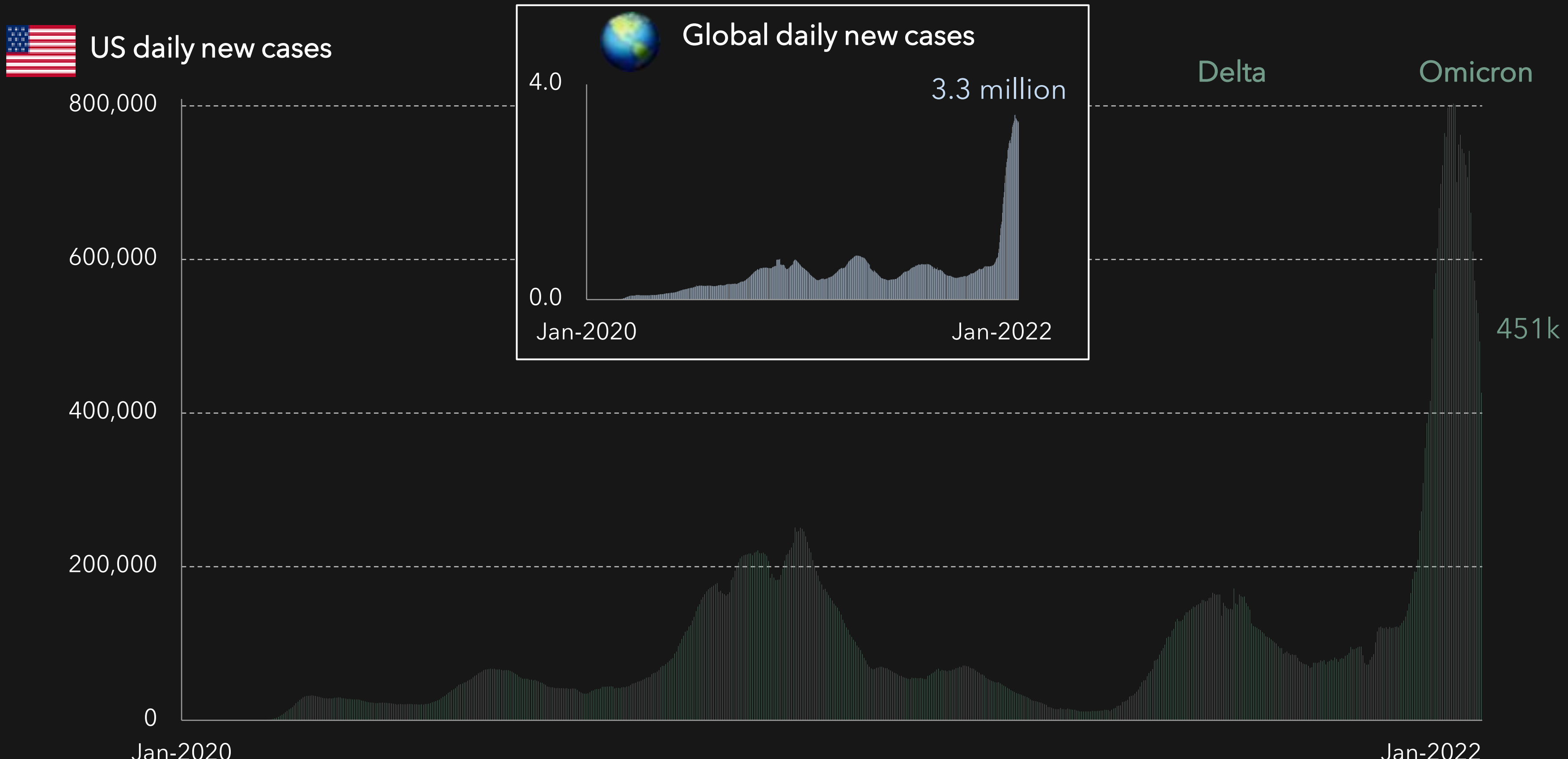
1 Global Economy Rebalancing

"It will be challenging to reduce inflation without giving rise to a recession."

Larry Summers, Former US Treasury Secretary, NEC Director & Harvard President

1. Prioritizing Public Health

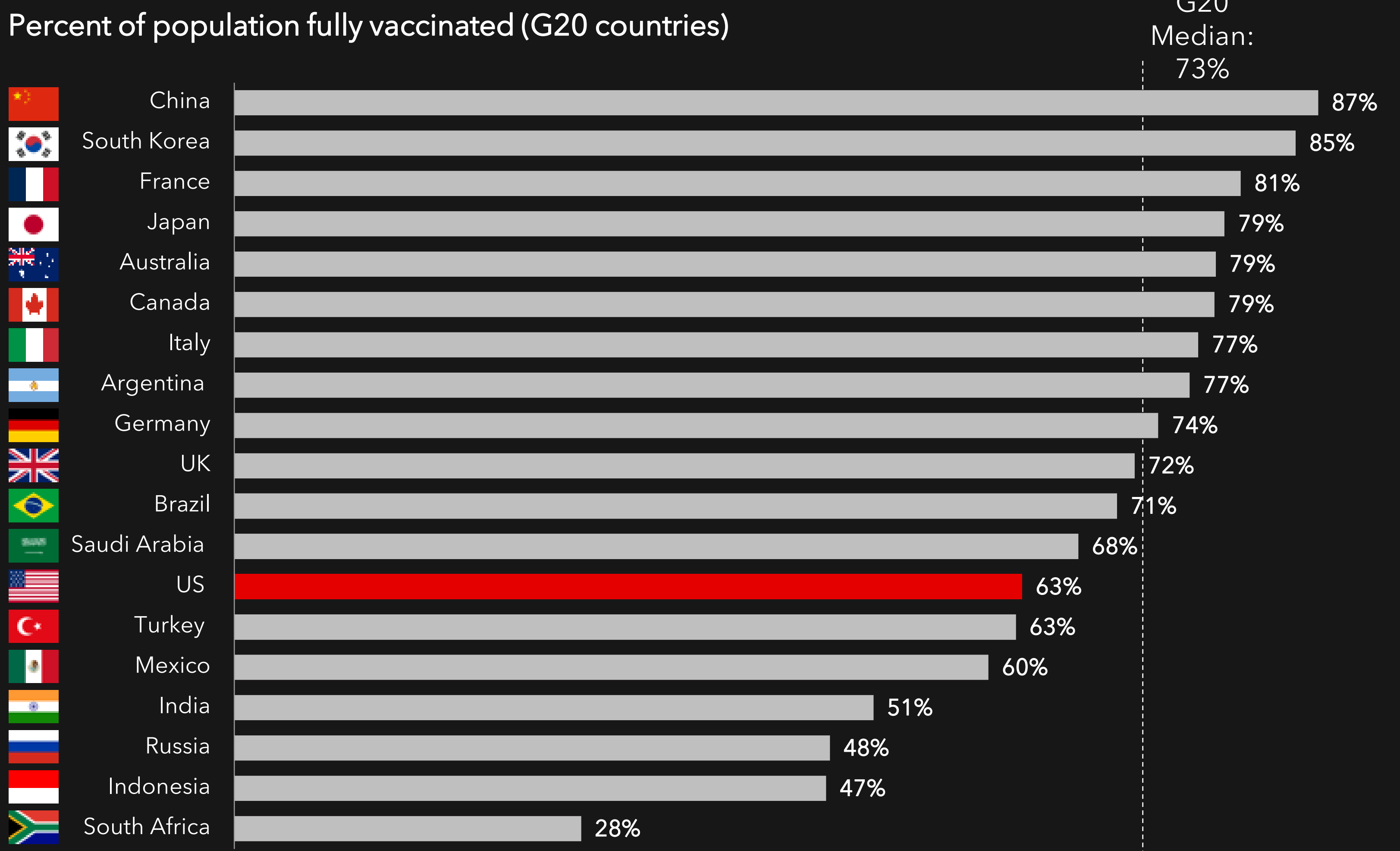
Since late November, Omicron has spread to over 106 countries, and has increased from just 1% of daily new cases in the US to nearly 100% by mid-January. While daily US case counts are multiple times higher than the peak of one year ago, actual infections are even higher given the high level of unreported self-testing. Hospitalizations have remained comparatively lower with this milder strain, but are expected to rise sharply over the next month by virtue of the extraordinary pace of virus proliferation.



Source: (1-2) Bloomberg. Data as of January 31, 2022. Daily new cases is 7-day moving average.

US Vaccination Rate Lags G20

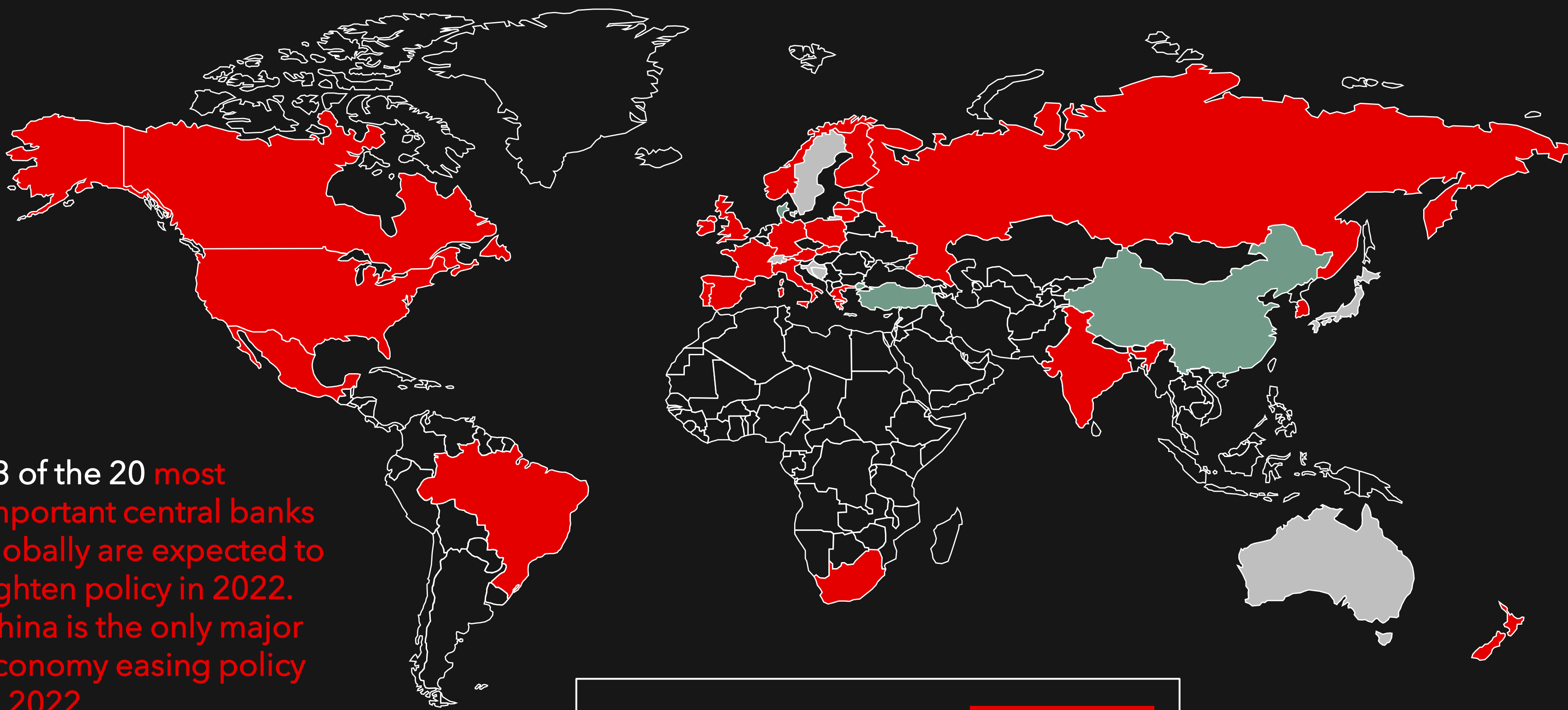
In just one year, over 10 billion vaccines have been administered across 184 countries



Source: (1) OurWorldinData. Data as of January 31, 2022.
% fully vaccinated does not include booster dose.

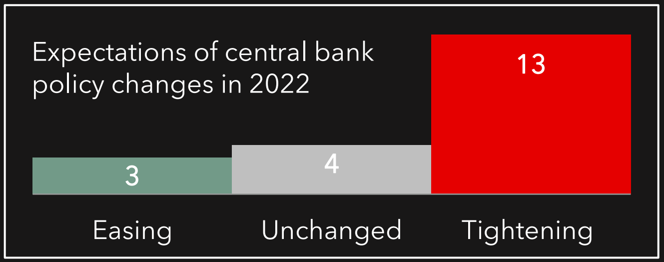
2. Tightening the Liquidity Spigot

2022 central bank policy expectations



13 of the 20 most important central banks globally are expected to tighten policy in 2022. China is the only major economy easing policy in 2022.

- Easing
- Unchanged
- Tightening



Source: (1-2) Capital Economics, "A Hawkish Pivot" (December 21, 2021). Data updated as of February 7, 2022.

Fed Tightening & Recession Risk

Excess Monetary & Fiscal Policy

- COVID relief
- Running economy "hot"
- Redefining infrastructure (tech, care, green)

Asset Price Distortions

- Risk assets (oil, equity, HY)
- Alternative assets (crypto, SPACs)
- Supply chain disruptions
- TINA / FOMO

Above Trend GDP Growth

- Strongest growth in 40 years
- Re-engaged consumer
- Accelerating business investment
- Labor market shortages

Rising Inflation

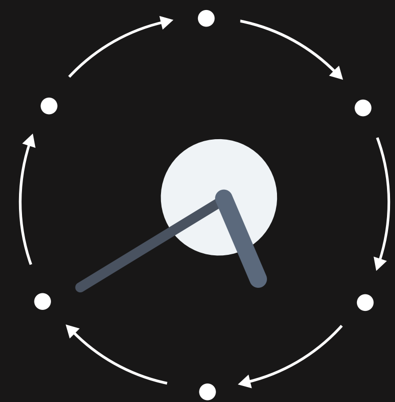
- Durable goods
- Commodities / transportation
- Housing & wages

Fed Tightening

- Verbal tightening signals
- Tapering asset purchases
- Raising interest rates
- Balance sheet reduction

Recession

- Tightening financial conditions
- Asset price volatility
- Credit default cycle turns
- Transmission to real economy (confidence, spending, jobs)



Washington's Agenda "On Hold"

Following Senator Joe Manchin's (D-WV) unexpected December pivot against President Biden's $1.75 billion "soft" infrastructure bill, a smaller $300-$700bn largely "green energy" bill has become the focus. However, Democrats have temporarily lost their one person majority in the Senate following Senator Dan Lujan's (D-NM) recent illness. While Senator Lujan is expected to make a full recovery, the timing of his return and related Democratic agenda remain unclear. In either case, substantive tax code changes in 2022 appear VERY unlikely.

Primary focus of scaled down BBB

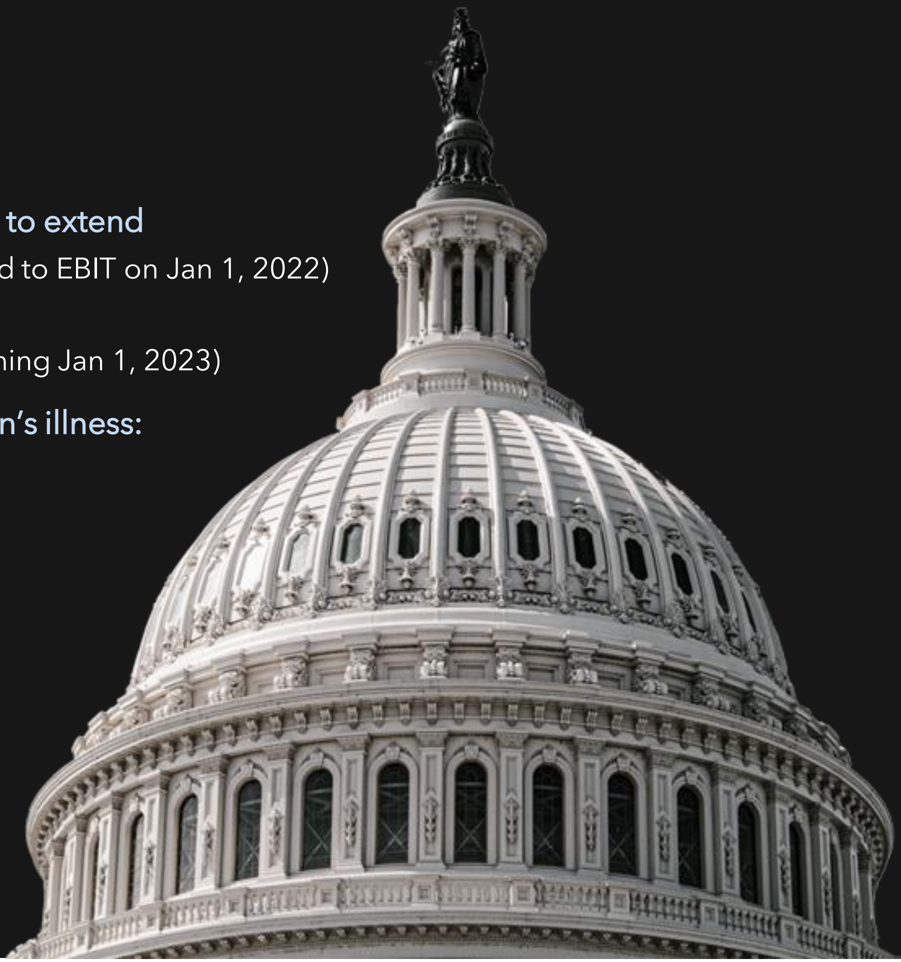
- New clean energy tax credits (roughly $300 bn)
- Limited Child Care Tax Credit extension
- Tax extenders / expanded ACA tax credit

Expiring business tax provisions that Republicans would like to extend

- Debt interest expensing calculated on an EBITDA basis (shifted to EBIT on Jan 1, 2022)
- Upfront expensing of R&D costs (expired Jan 1, 2022)
- 100% bonus depreciation allowance to be phased out (beginning Jan 1, 2023)

Legislative and agenda items impacted by Senator Dan Lujan's illness:

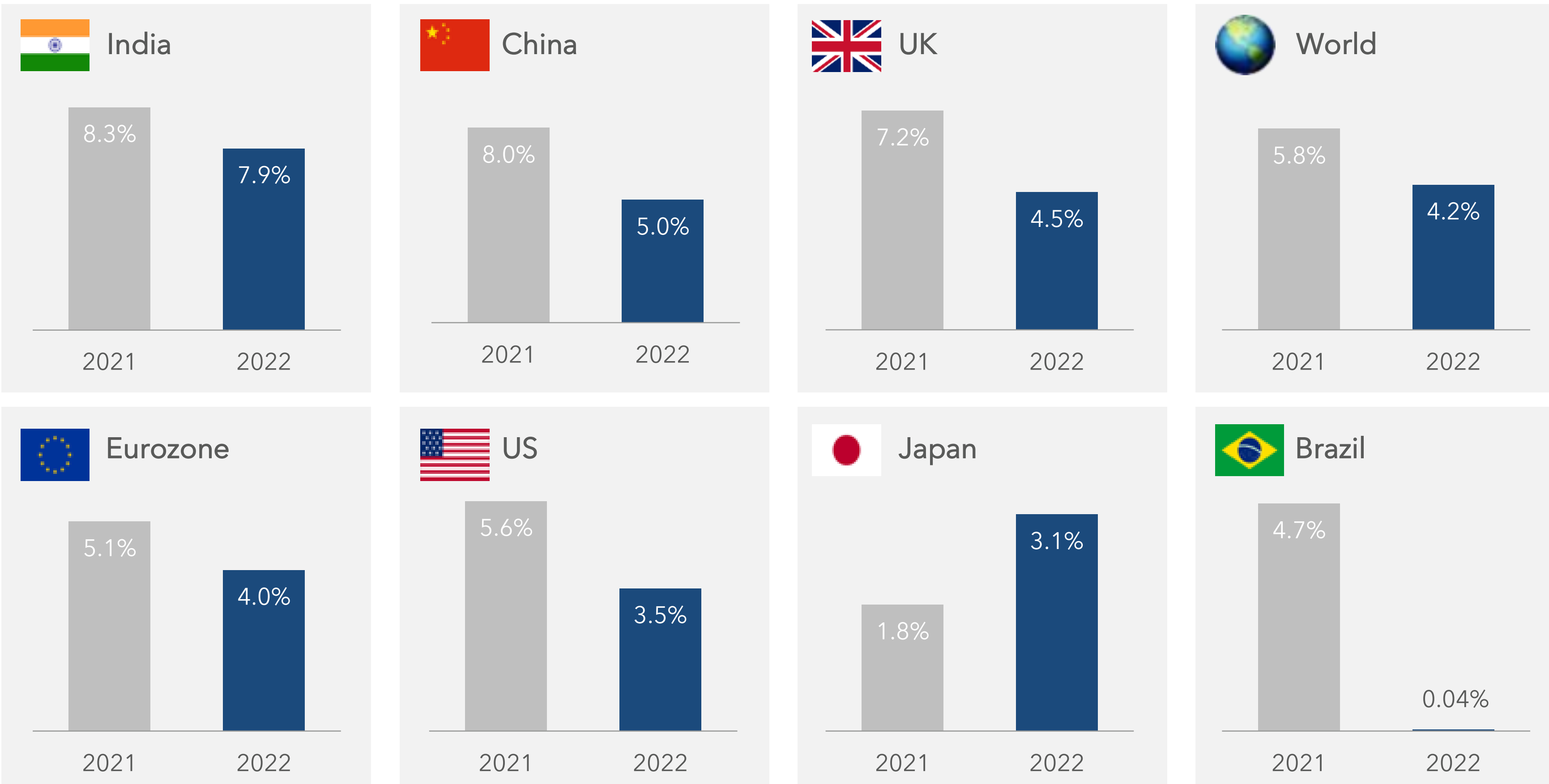
- Passage of $300-700bn "green energy" infrastructure bill
- President Biden's and Senate Commerce Committee nominees for FCC & FTC
- President Biden's 5 nominees for Fed (including Powell, Brainard and Raskin)
- Supreme Court pick and confirmation
- Russia sanctions bill
- China competition bill
- Feb 18 government funding deadline



3. Decelerating Global Growth

Growth will likely decelerate in almost every major global economy in 2022, but still remain "above long term trend" in most advanced economies

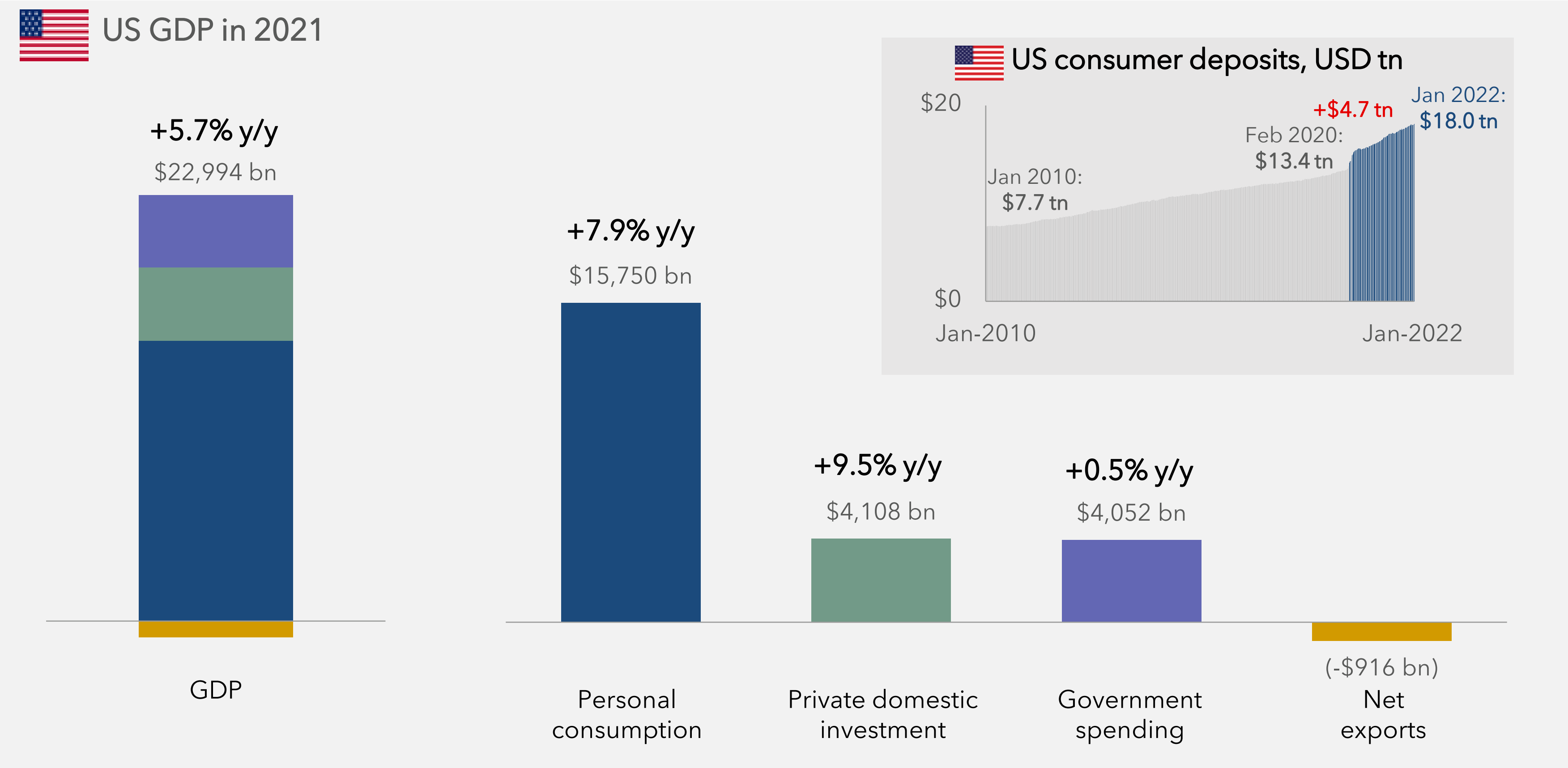
2021 & 2022 GDP growth forecasts, y/y



Source: (1) Oxford Economics. Data as of February 7, 2022.

Consumption Driven US GDP Growth

Personal consumption, which accounts for close to 70% of US GDP, increased by 7.9% in 2021, by far the biggest driver in a US economy that had its fastest growth rate (5.7%) since 1984. The chart below provides a breakdown of the four primary components for GDP growth. With nearly $3 trillion in "excess" savings, we expect the US consumer to also be an important driver of growth in 2022.



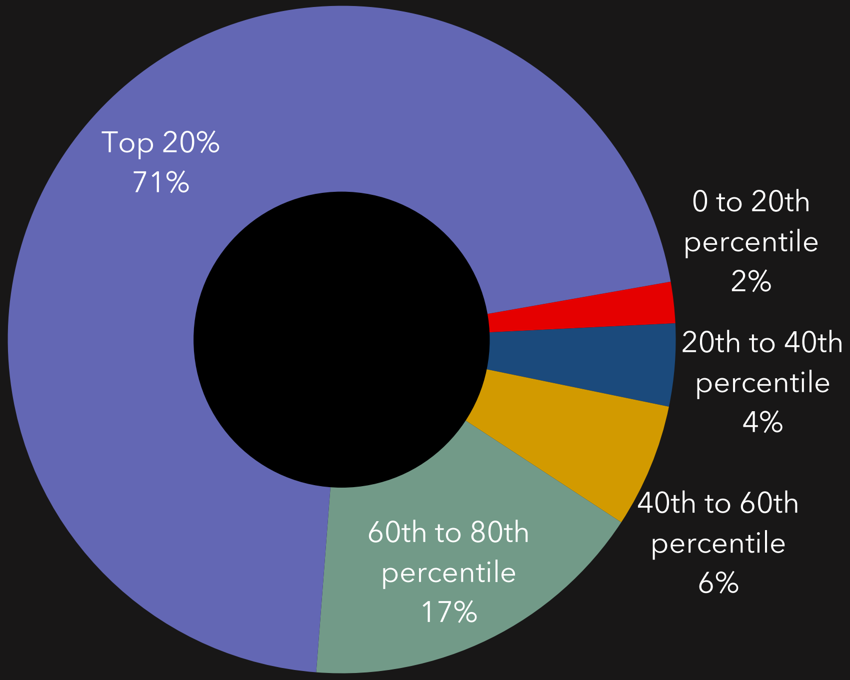
Source: (1) Statista. US Bureau of Economic Analysis. Data as of January 28, 2022. (2) FRED. Deposits for all commercial banks, weekly Wednesday level as of January 19, 2022.

US Household Wealth Rose $28 Trillion

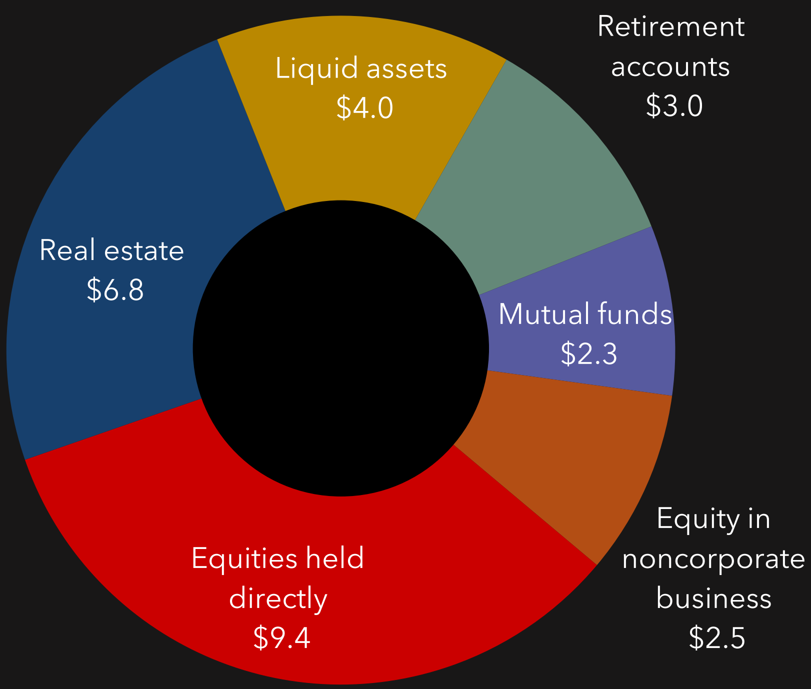
Total US household wealth has risen a net $28 trillion since the pandemic began at the end of Q4 2019. Over 70% of total wealth gains accumulated to those in the top 20% income bracket, who spend more heavily on services. The majority of increases ($16 trillion) came from real estate and stock price gains. Liquid assets rose $4 trillion. While not evenly distributed across income brackets, "excess savings" during the crisis period will support growth in 2022.

US household wealth gains since Q4 2019

Share of cumulative household net worth change during the pandemic by percentile



Breakdown of growth in US household assets since Q4 2019 , USD tn

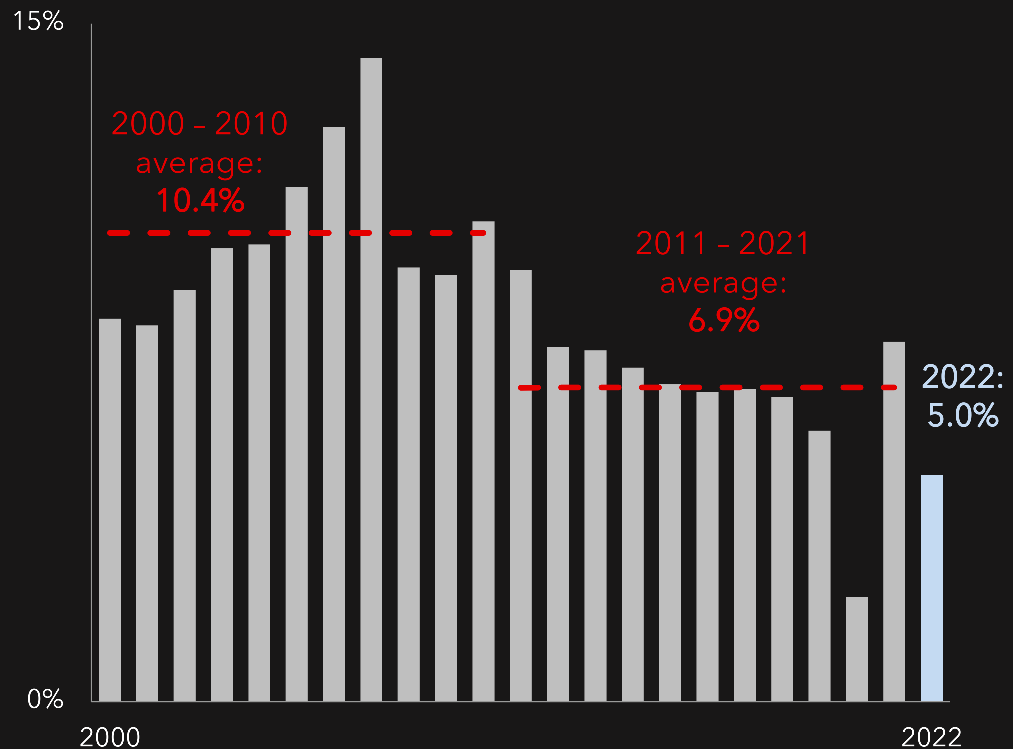


Source: (1-2) Oxford Economics, "US Excess Savings Offer Cushion to Only Some Households" (January 6, 2022).

China Rebalancing & Slowing

China's slowdown will be an important theme for the global economy in 2022. Decelerating global growth and supply side dislocations will contribute to a slowing export sector. Domestically, China will seek to balance policy easing for the economy while simultaneously containing property sector credit growth. In the baseline scenario, China is expected to grow in the 5% area in 2022, its lowest rate in decades (2020 aside).

China GDP growth, y/y



Key 2022 Drivers

- Omicron "zero tolerance" policy
- More tepid consumer spending
- Supply chain dislocations
- Slowing export sector
- Cooling property market
- Regulatory activism
- Structural headwinds (aging population, declining productivity)

Source: (1) Oxford Economics. Data as of January 31, 2022.

Shanghai, China

4. Supply Side Dislocations

Due to Omicron's impact, global supply side dislocations may very well persist into late 2022. Moderation in supply chain bottlenecks will not alleviate until capacity constraints improve across the entirety of the global transportation and logistics network, including shipping, trucking, warehousing and labor.

- Vaccine rollout
- Extraordinary policy easing
- Excess consumer savings
- Changing consumer behavior patterns
- Virus restrictions

- Shipping queues
- Port delays
- Container backlogs
- Warehouse constraints
- Trucking bottlenecks
- Labor shortages
- Rising input costs
- Production shortfalls

Supply side dislocations

Supply Chain Pressures Have Likely Peaked

The Federal Reserve Bank of New York created a new gauge of supply chain disruption which shows pressures are near their highest levels since at least 1997. The Global Supply Chain Pressure Index examines 27 components covering variables from cross-border transportation costs to country-level manufacturing data in seven regions (US, China, Eurozone, Japan, South Korea, Taiwan, and the UK). While the index is exhibiting signs of peaking, the impact of Omicron may delay moderation into late 2022.

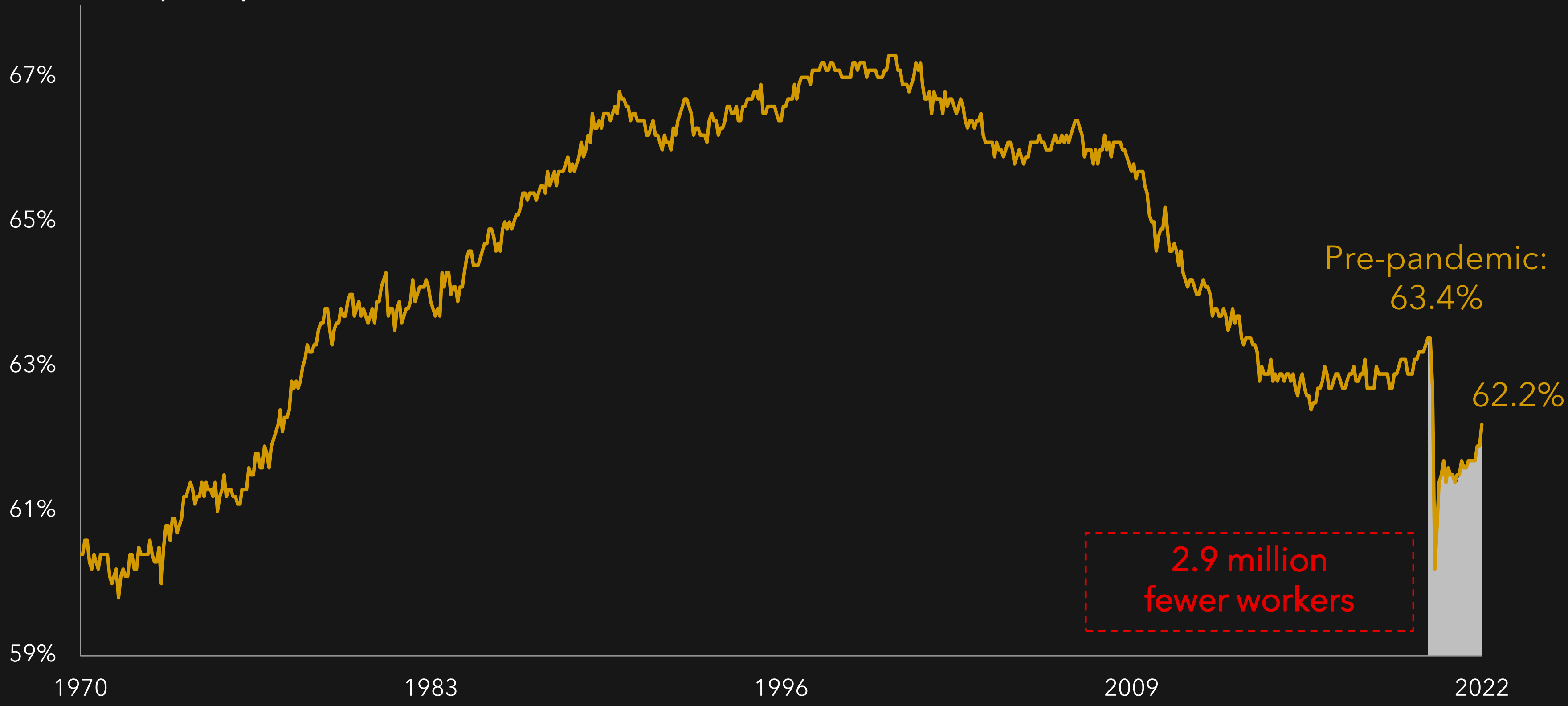
New York Fed global supply-chain pressure index

Source: (1) Bloomberg, "New Global Supply Gauge Signals Some Relief Might Be Ahead" (January 5, 2022). New York Fed index based on data from the Bureau of Labor Statistics; Harper Petersen; Baltic Exchange; IHSMarkit; ISM; Haver Analytics; Bloomberg; NY Fed researchers' calculations. Data updated as January 12, 2022.

Labor Market Participation Rate Improving

As the covid-related supply side pressures begin to moderate over the course of 2022, labor market shortages and wage inflation may prove more persistent. To date, the US labor market rebound has been rapid, recouping over 19 million of the 22 million jobs lost during COVID (87%). Over the past year alone, the unemployment rate has declined 2.7 points to 4.0% (in line with the pre-COVID 2019 average). Record low layoffs, record high quit rates, rising wages and high variance by industry have all become defining attributes of the 2022 labor market.

Labor force participation rate



Source: (1) Bloomberg. Data as of February 8, 2022.

Key Drivers of Labor Market Shortages

More COVID-related

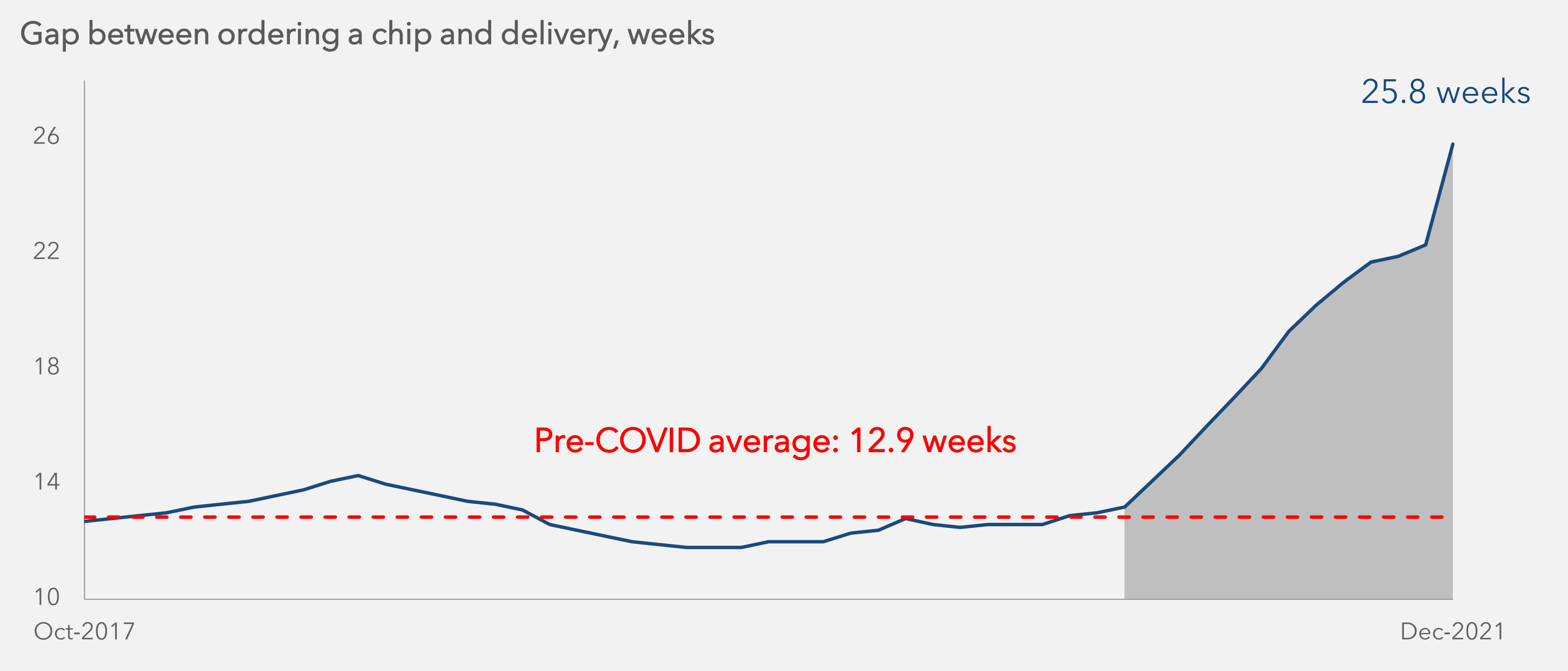
- COVID related fears
- COVID related visa / travel restrictions
- Elevated consumer savings
- Impact of supply chain disruptions
- Child & elderly care challenges
- Accelerating baby boomer retirements
- Low female workforce participation rates
- "Mismatches" between job needs and skillsets
- Low immigration
- Decade-long disruption from technology disintermediation

More STRUCTURAL

Source: (1) Bloomberg. Data as of February 2, 2022. John Authers, "Beating Expectations Isn't What it Used to be" (February 2, 2022).

Microchip Backlog May Not Improve Until Late 2022

In December, the delivery lead time for new semiconductors increased to a record high 25.8 weeks, a week longer than November levels and nearly double the pre-COVID average. Despite efforts to alleviate bottlenecks, the regionally specialized global value chain, surging global demand, and the rapid spread of the Omicron variant suggest disruption is likely to persist longer than previously anticipated. With much of East Asia committed to a "zero COVID tolerance" strategy, delays may get worse before they get better. In fact, many chip companies do not anticipate substantive improvement before the second half of 2022, or possibly later.

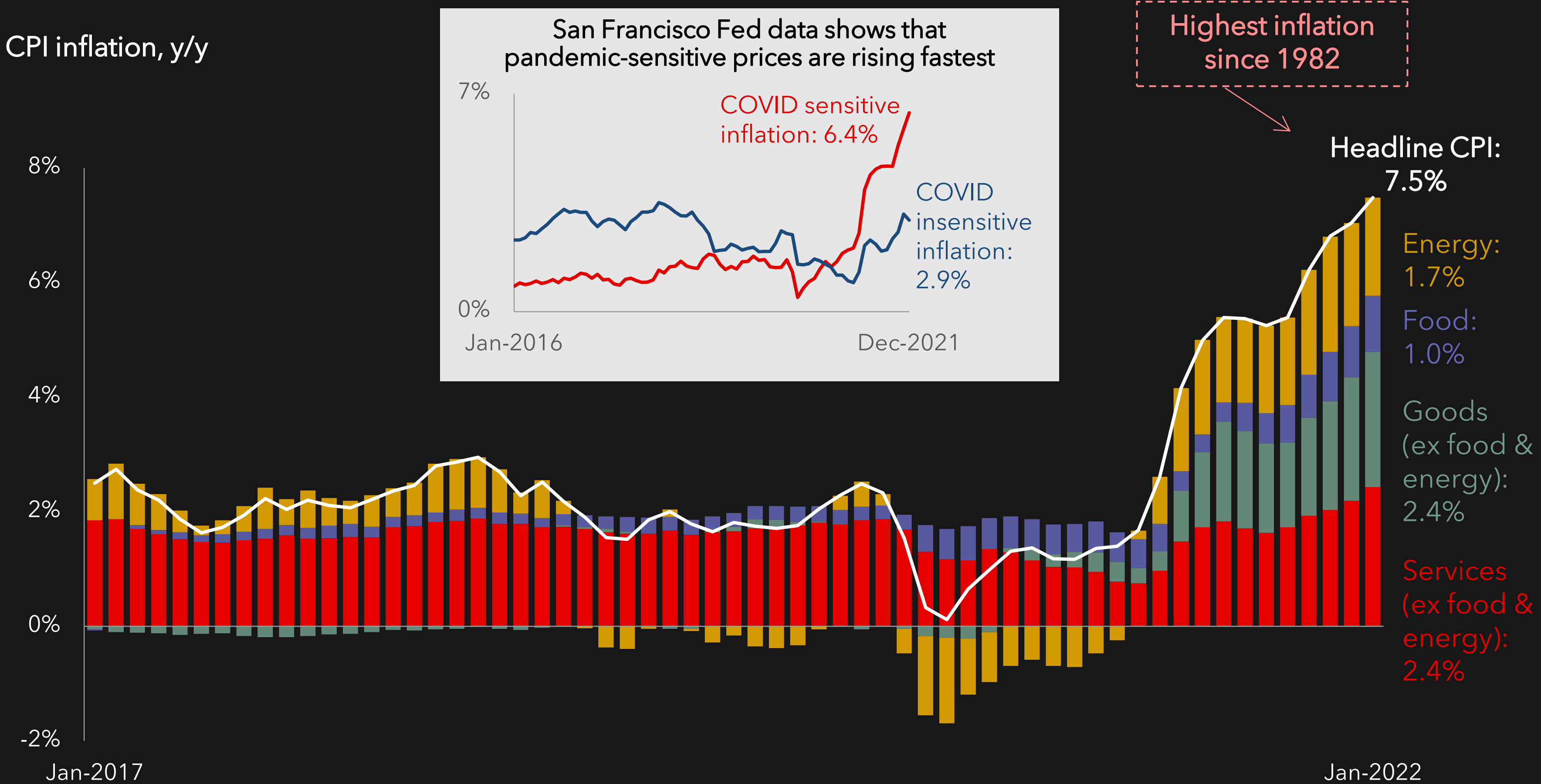


Source: (1) Bloomberg ,"Chip Delivery Times Are on the Rise Again, Shortages to Continue" (January 4, 2022).


Taipei, Taiwan

5. Inflation Rising & Broadening

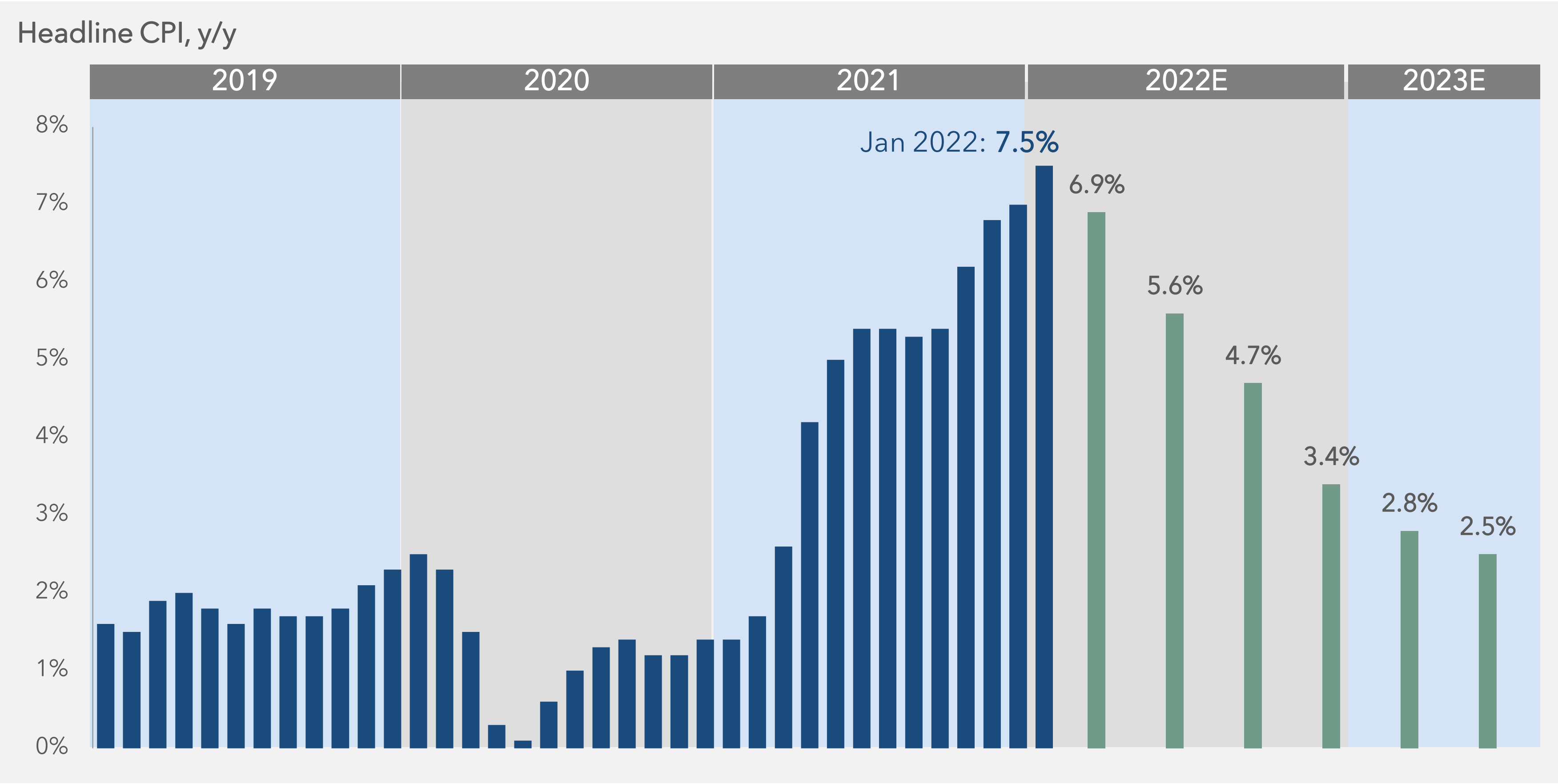
Food and energy costs both increased rapidly in January. However, a more rapid rise in less volatile measures such as shelter and healthcare costs indicates the broadening of inflationary pressures. Since merchandise goods make up a larger component of the CPI basket, a slower transition from goods to services purchases will keep inflation figures elevated.



Source: (1-2) Bloomberg. Data as of February 10, 2022. John Authers.

Forecasts Expect Moderation in 2H 2022

Despite inflation rates at 40 year highs and supply side dislocations expected to continue in 2022, inflation pressures could moderate in the back half of 2022 as global monetary and fiscal policy tighten, global growth slows, and more favorable base effects come into play. Structurally disinflationary factors such as aging populations, rising debt, and declining productivity will also help inflation pressures moderate.



Source: (1) Bloomberg. Data as of February 14, 2022. Bureau of Labor Statistics. Forecasts are Bloomberg consensus.

Inflation Moderation in Late 2022 or Early 2023

In a non-COVID world, supply side gaps can be closed relatively quickly, which raises questions about whether the current rising inflation environment represents a fundamental "regime change" or a short term phenomenon vulnerable to "normalization". Looking ahead, numerous factors could converge to drive a moderation in inflation pressures as soon as the 2H of 2022 or early 2023.

More favorable base effects (Y/Y comparisons)

Energy prices approaching cyclical highs / demand destruction at higher prices

Continued deceleration in global growth

Rebalancing of consumer behavior from goods to services
(if global pandemic eases)

Massive global production and supply increases underway

Gradual easing of supply chain disruptions

Global monetary and fiscal stimulus tightening

Pre-COVID disinflationary forces remain intact
(aging populations, rising debt, declining productivity)

Source: (1) MUFG Macro Strategy, (George Goncalves).


Tel Aviv, Israel

2 Regime Change in Markets

> "The market is a pendulum that forever swings between unsustainable optimism (which makes stocks too expensive) and unjustified pessimism (which makes them too cheap). The intelligent investor is a realist who sells to optimists and buys from pessimists."
>
> Benjamin Graham, American Economist and the "father of value investing" (1894 - 1976)

6. Regime Change

	FROM…	TO…
ECONOMY	Early-stage recovery growth acceleration	Mid-cycle GROWTH DECELERATION
	A more synchronized global recovery	A more DE-SYNCHRONIZED AND UNEVEN recovery
	Persistent multi-year low inflation	Rapidly RISING AND BROADENING inflation
	The high unemployment and labor market volatility of the COVID crisis	Historically LOW UNEMPLOYMENT, record low layoffs, record high quits and rising wages
POLICY	Quantitative easing (balance sheet expansion)	QUANTITATIVE TIGHTENING (balance sheet reduction)
	Extraordinary fiscal stimulus and easing	SHARPLY LOWER FISCAL SPENDING and tightening
	Fossil-fuel energy resources	SUSTAINABLE AND RENEWABLE ENERGY sources
	Generally declining corporate tax rates	Generally INCREASING CORPORATE TAX RATES and global minimums

Source: (1) Wall Street Research. Bloomberg.

Regime Change (cont'd)

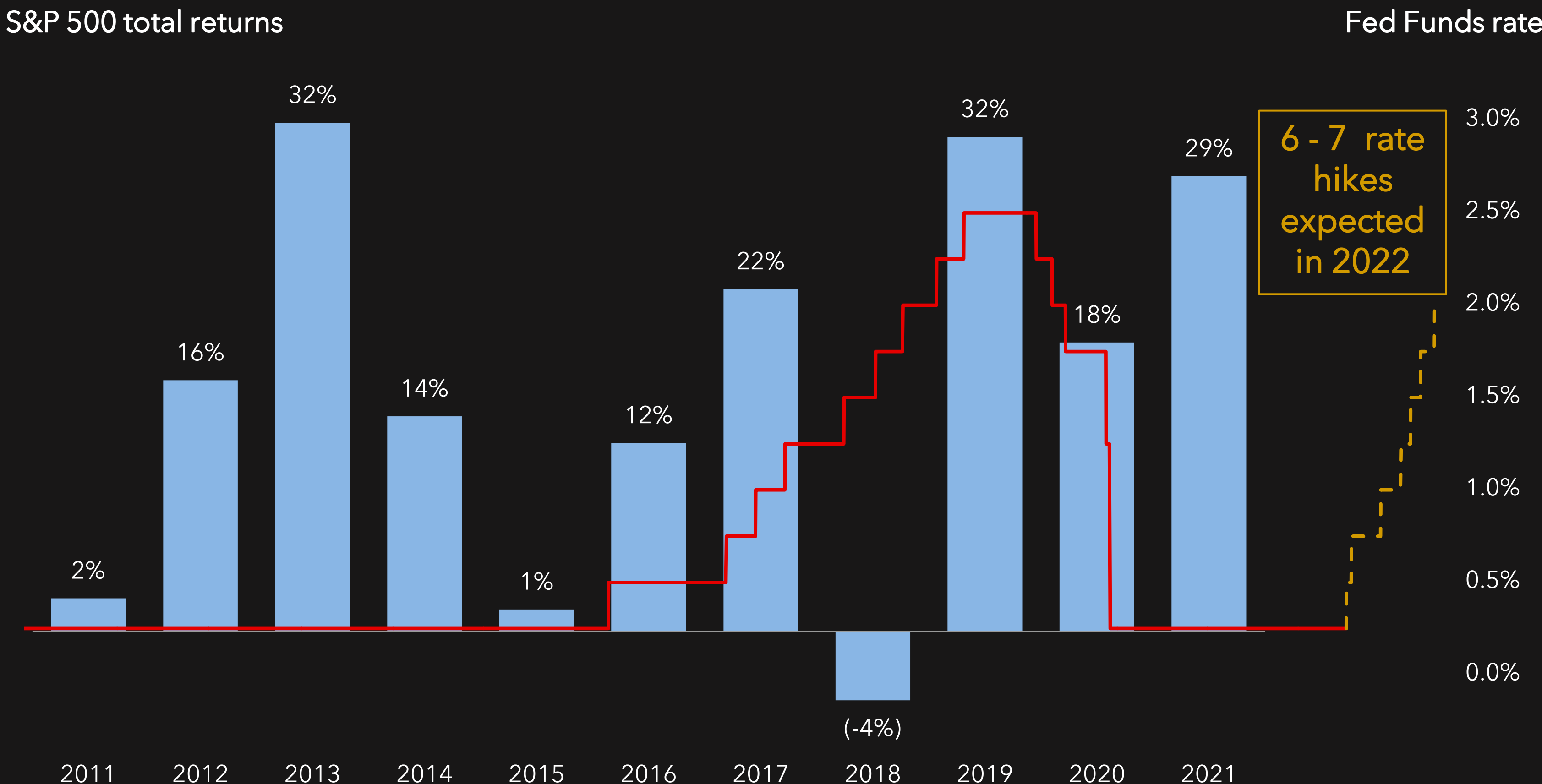
	FROM…	TO…
MARKETS	Central bank volatility suppression	STRUCTURALLY HIGHER VOLATILITY
	Declining interest rates near multi-century lows	RISING INTEREST RATES
	Credit spread tightening near multi-decade tights	Modest CREDIT SPREAD WIDENING
	Higher investment portfolio returns of early easing cycles	LOWER INVESTMENT PORTFOLIO RETURNS of mid-cycle tightening
CORPORATIONS	Efficient, low cost, just-in-time global supply chains	Formidable SUPPLY CHAIN DISLOCATIONS, RE-SHORING AND BOTTLENECKS
	Chronically low rates of corporate capex investment	SHARP INCREASES IN CORPORATE SPENDING toward productive, tech-intensive investment
	More stable labor market conditions	Significant LABOR SHORTAGES AND RAPIDLY RISING WAGES
	Accelerating earnings growth	DECELERATING EARNINGS growth

Source: (1) Wall Street Research. Bloomberg.

Moscow, Russia

7. From QE to QT

Bond markets enter 2022 knowing that all 7 FOMC meetings from March onward are potentially "live" for interest rate hikes or changes to the Fed's balance sheet tightening policy. Over the past decade, the S&P 500 has only had a negative return in 2018, the year the Fed raised rates above 1%. With inflation rising rapidly, the risk for markets in 2022 is that the Fed tightens financial conditions more quickly than markets are currently anticipating.

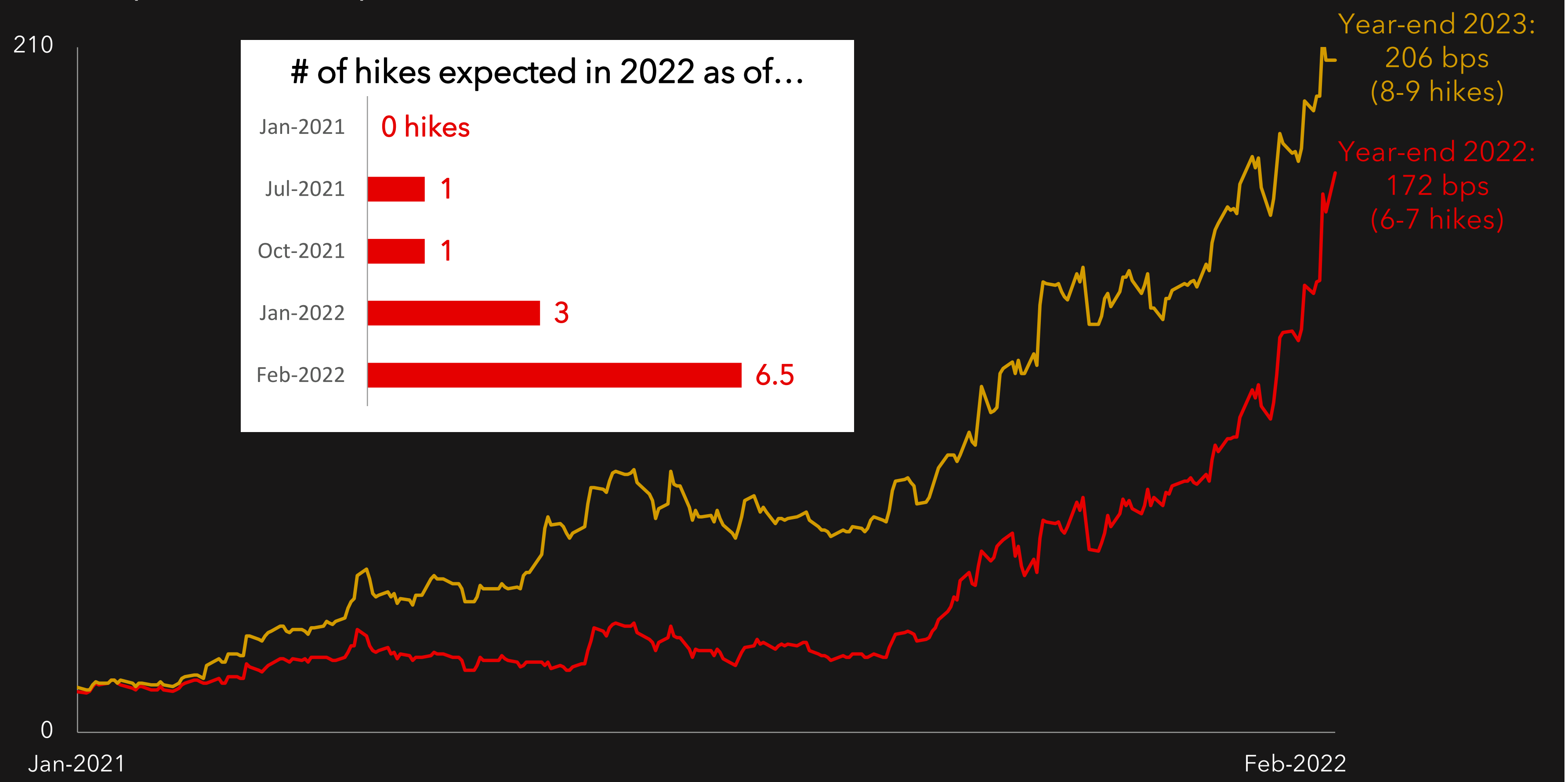


Source: (1) Wall Street Research. Bloomberg. Data as of February 12, 2022.

Markets Repricing Fed Hike Path

Expectations for Fed Tightening in 2022

Market implied rate hikes, bps

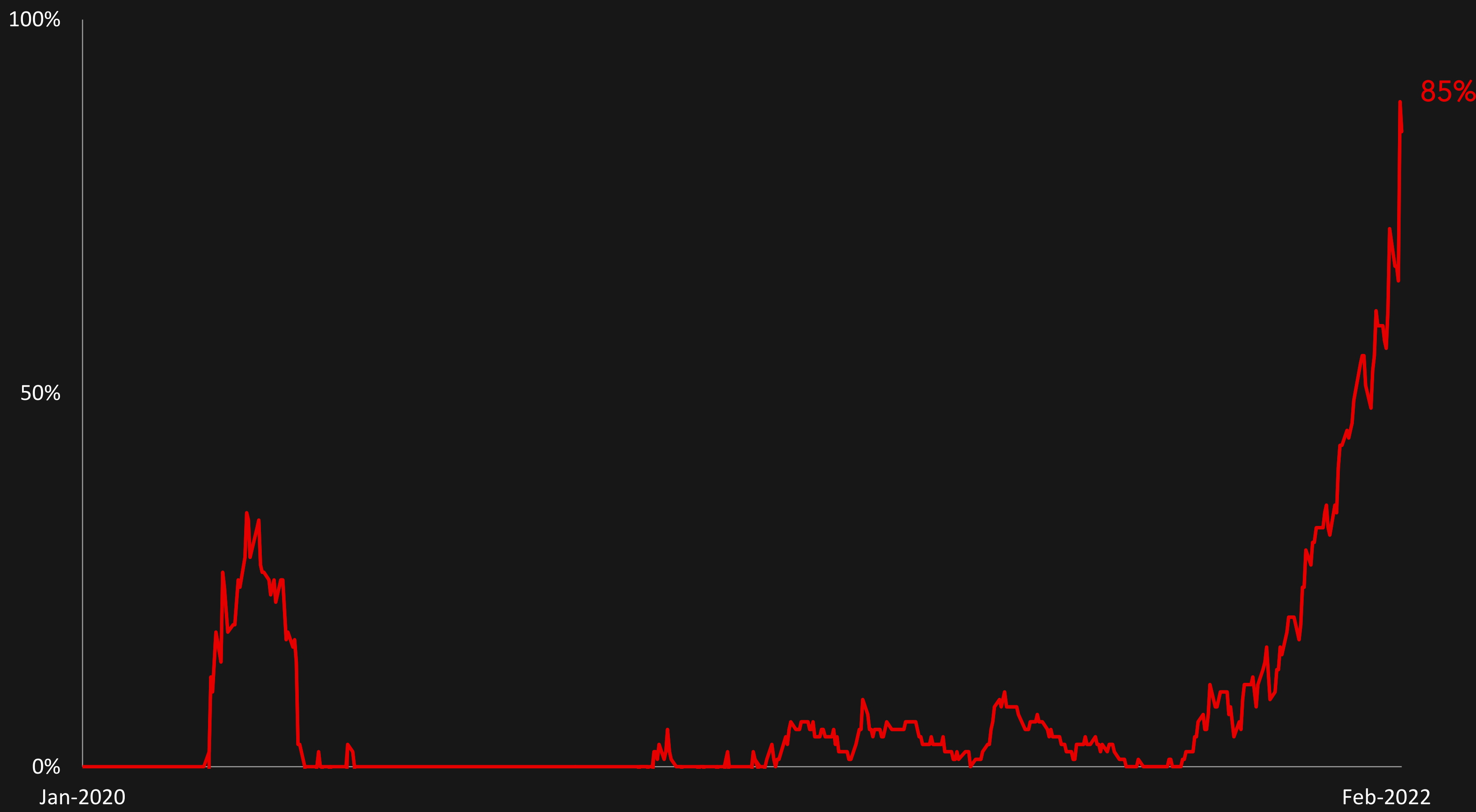


Source: (1) Bloomberg. Data as of February 14, 2022. Market implied probability of Fed rate hike based of off January 2023 futures contract and current effective federal funds rate. Market implied rate hikes based on December 2022 futures contract and December 2023 futures contract.

Probability of 50 bps in March

The market is now pricing in a full 50 bp rate hike by the Fed in March

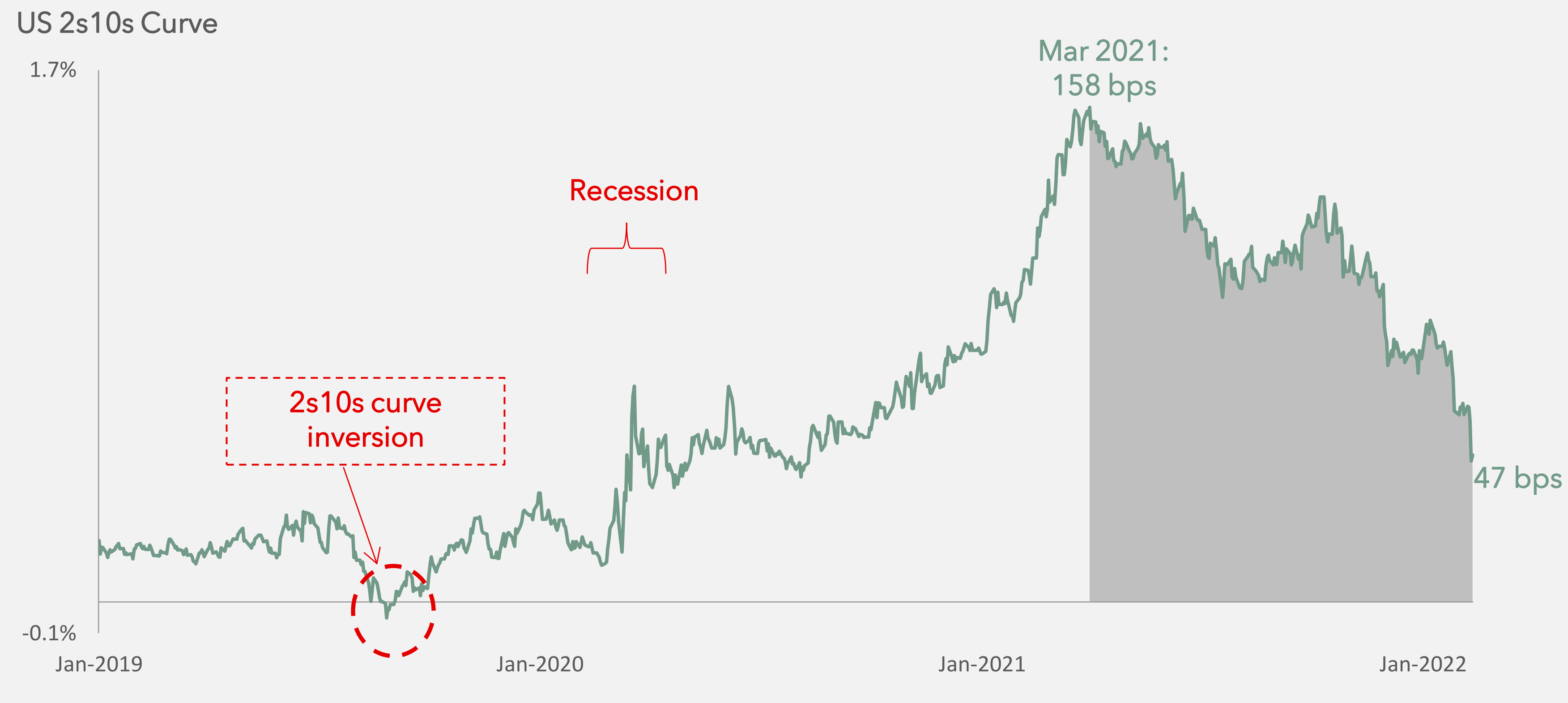
Market Implied Probability of 50 bps Hike in March 2022



Source: (1) Bloomberg. Data as of February 12, 2022.

Engineering a "Soft Landing" Will be Difficult

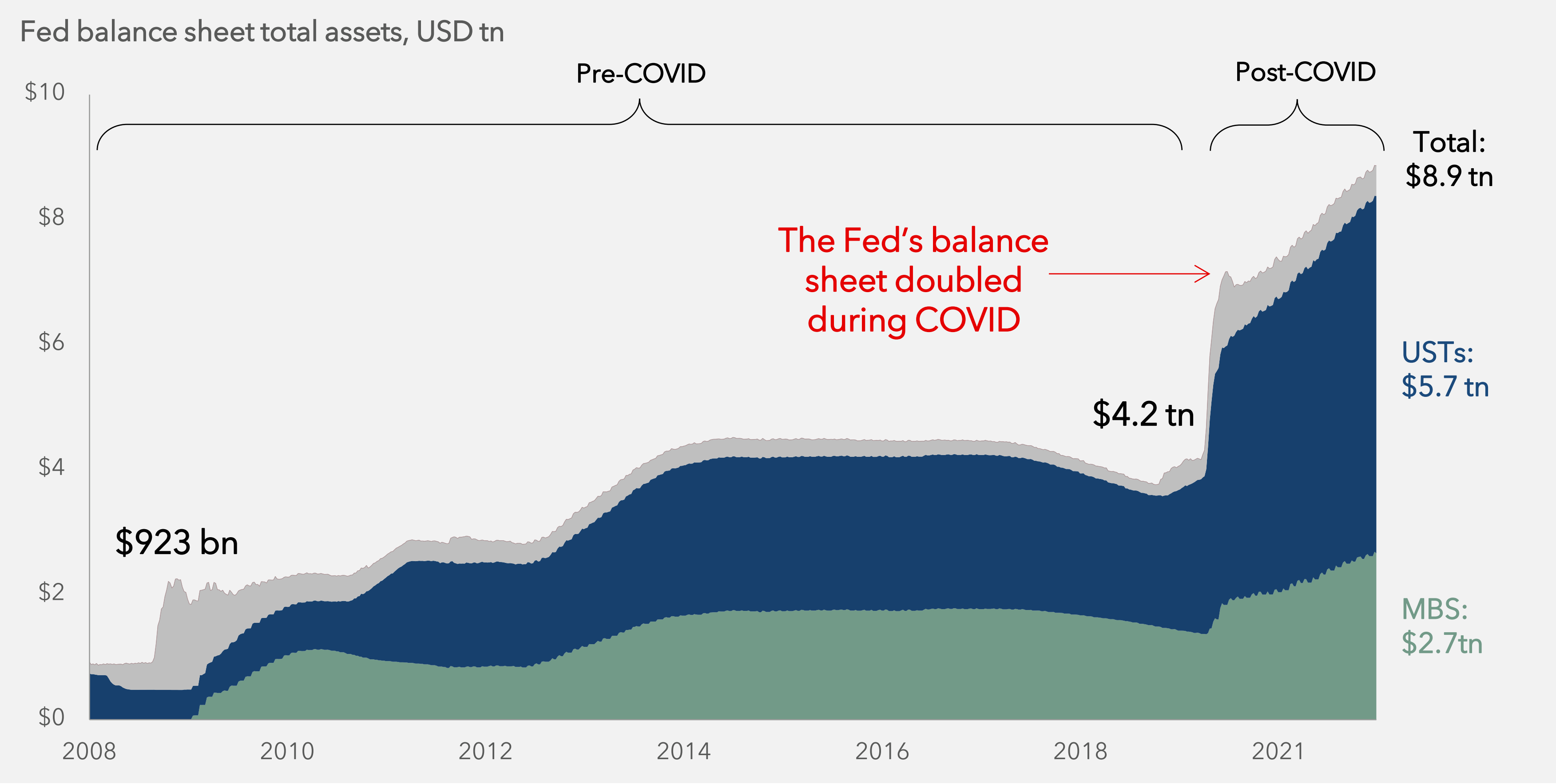
With inflation running high, and the Fed clearly "behind the curve," markets have become concerned that the Fed will tighten too quickly, with potential damage to the real economy. In this scenario, inflation would decline, but in a disruptive manner for jobs and economic stability. The yield curve, which has been flattening at the rate of approximately 10 bps per month since March, has historically been an accurate predictor of US recessions at the point of inversion, and is currently signaling the market's concern about the strength and durability of the business cycle during policy tightening.



Source: (1) Bloomberg. Data as of February 12, 2022.

QT Will Be a Test for Markets

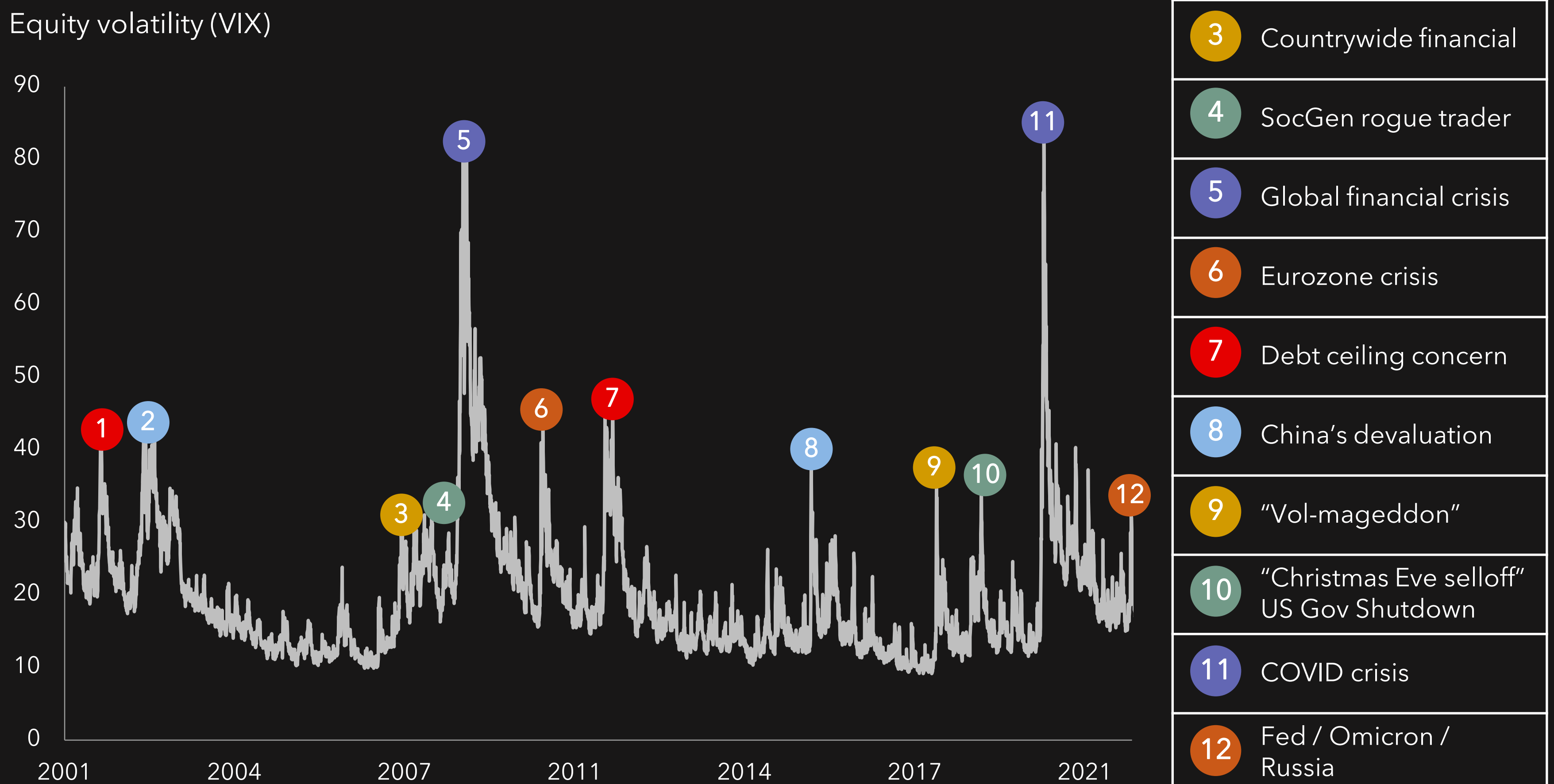
MUFG's Head of US Macro Strategy, George Goncalves, notes that "quantitative tightening" (QT) will be a test for financial market conditions and the economy. He states the Fed should implement QT gradually, unwinding over $1 trillion in excess liquidity over the next three years. Each $250-300 billion of balance sheet reduction equals approximately one 25 bps rate hike.



Source: (1) Bloomberg. Data as of January 26, 2022. Federal Reserve.

8. Structurally Higher Volatility

Structural volatility in markets will likely escalate in 2022 as a result of Omicron disruption, decelerating global growth, rising geopolitical risk, China slowdown, and monetary-fiscal tightening.



Source: (1) Bloomberg, Data as of January 31, 2022. "Making Sense of This Economy Is a Rorschach Test." John Authers. (December 6, 2021).

January Volatility Exceeds Expectations

We entered 2022 expecting higher structural volatility than the prior year, but January well exceeded expectations across multiple markets. Rapidly rising inflation, Omicron disruption, a more hawkish Fed and rising geopolitical risk (Russia-Ukraine) all contributed to more challenging market conditions than anticipated.

Global Markets in January 2022

Credit Markets

10 year UST:
+27bps

USD HY OAS:
+53bps

USD IG OAS:
+12bps

Equity Markets

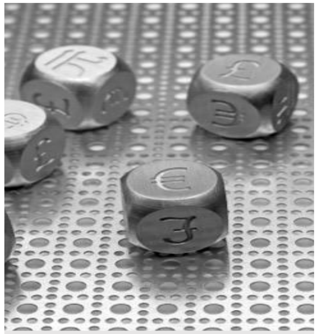
S&P 500:
(-5.3%)

NASDAQ:
(-9.0%)

Oil Markets

Brent:
+17.3%

WTI:
+17.2%



Currency Markets

US Dollar Index:
+0.9%

EUR / USD:
(-1.2%)

USD / JPY:
+0.03%

Geopolitical Risk

Ruble vs. USD:
(-2.9%)

Russian 5 year CDS: +100bps

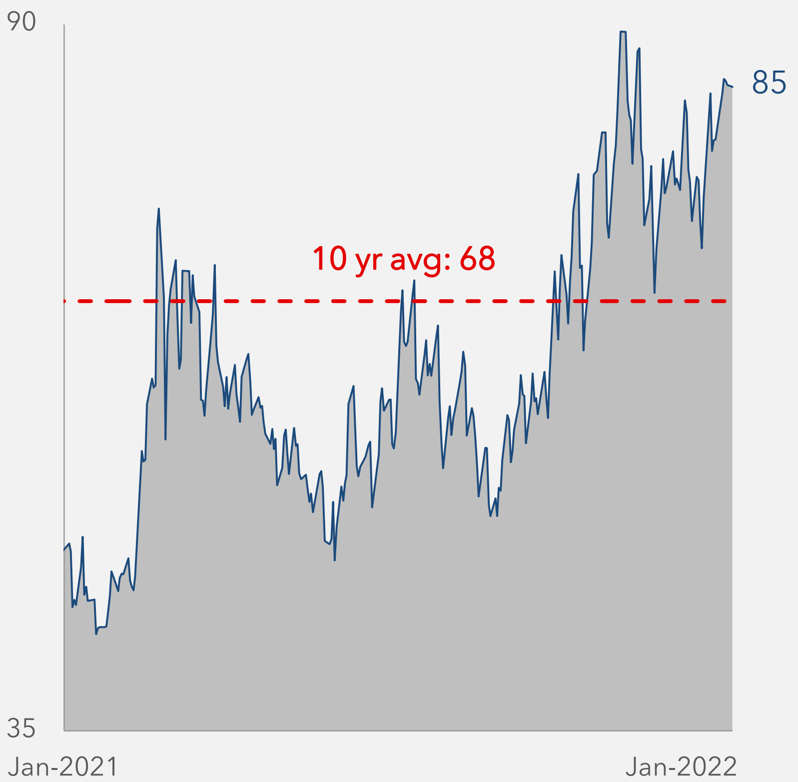
Russian equities:
(-5.5%)

Source: FRED. Bloomberg. Data as of January 31, 2022.

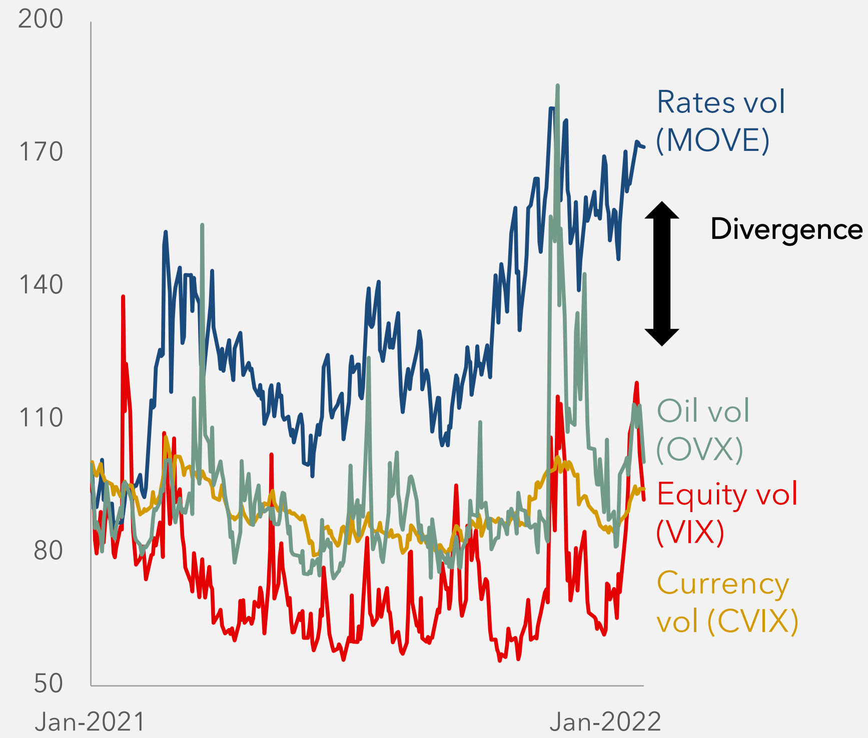
Rate Volatility Diverging as Fed Tightens

Historically, as the economy transitions to mid-cycle, with decelerating growth, rising asset prices and policy tightening, volatility in markets moves structurally higher. COVID-related supply side dislocations and inflationary pressures further exacerbate the uncertainty and volatility typical in this stage of the cycle.

Rates vol (MOVE)



Volatility, January 1, 2021 = 100

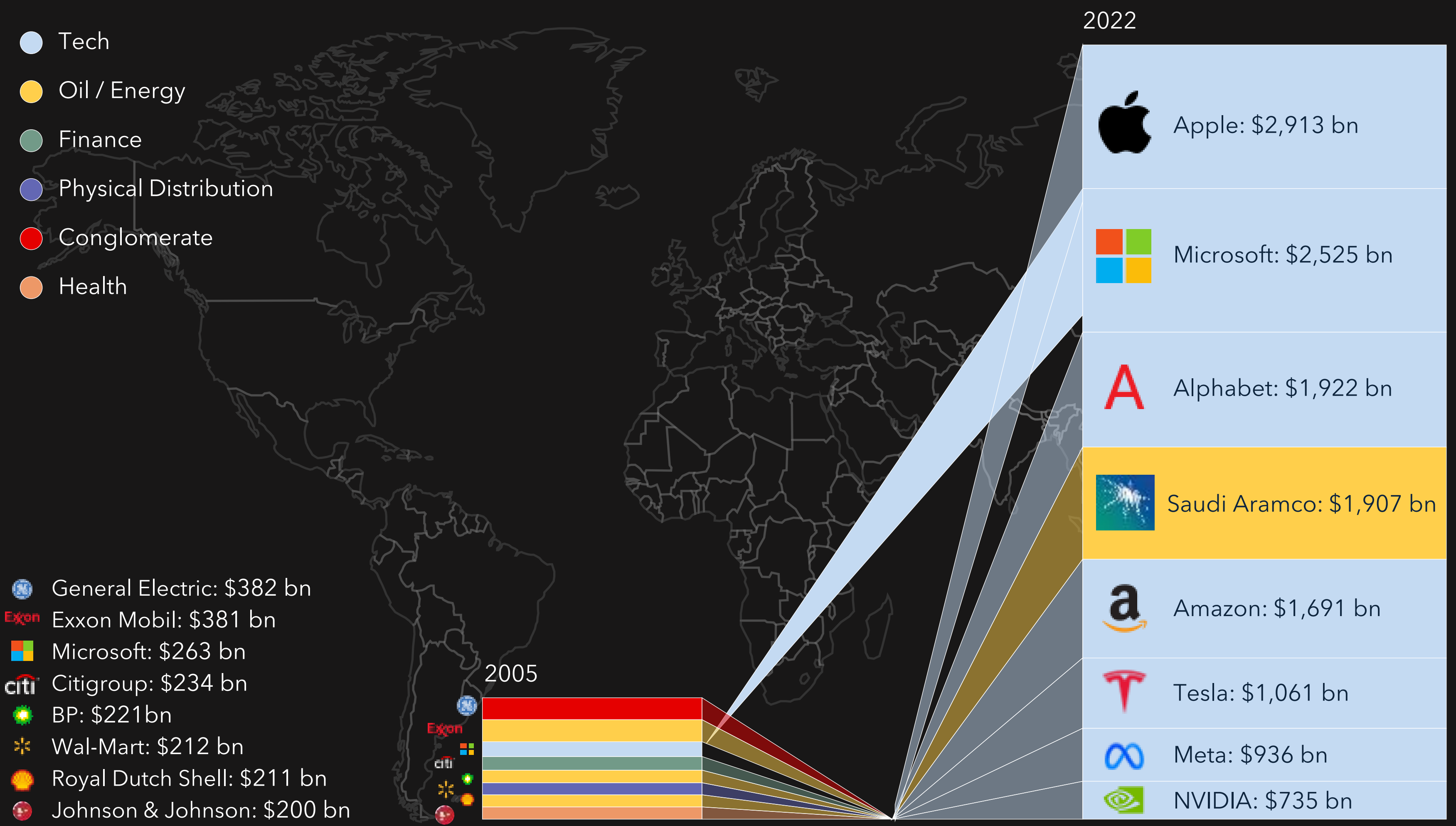


Source: (1-2) Bloomberg. Data as of January 31, 2022.

Rio de Janeiro, Brazil

9. Technology's Outsized Presence

Companies with the world's largest market capitalizations in 2005 and 2022 (in billion US dollars)

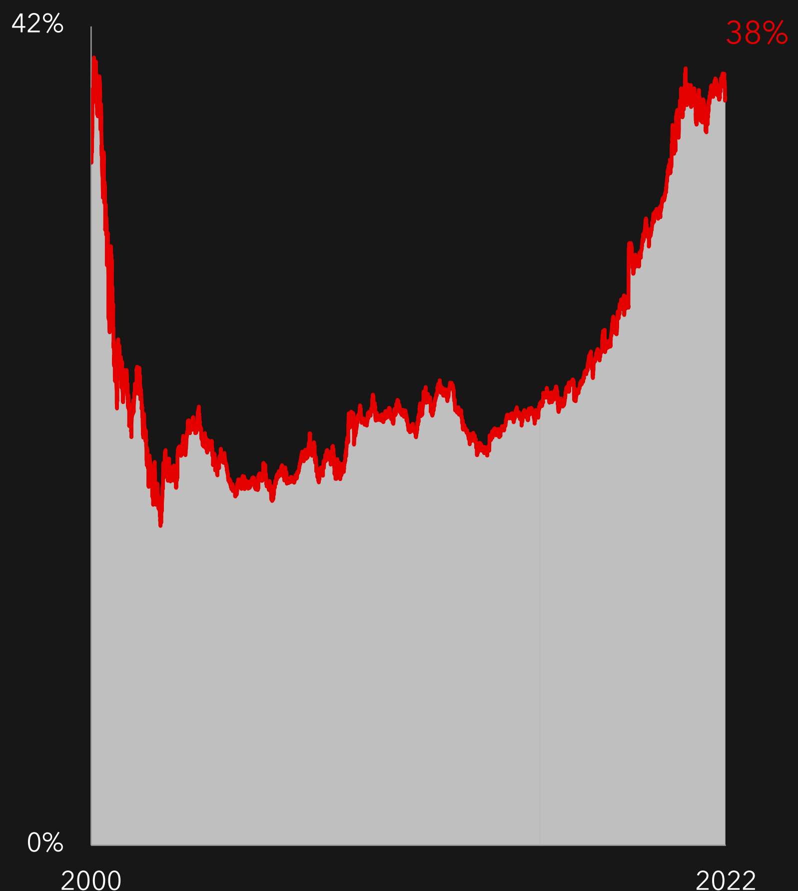


Source: Statista. Financial Times. Bloomberg. 2005 data as of March 31, 2005 and 2022 data as of January 1, 2022.

Technology's Rising Prominence in Markets

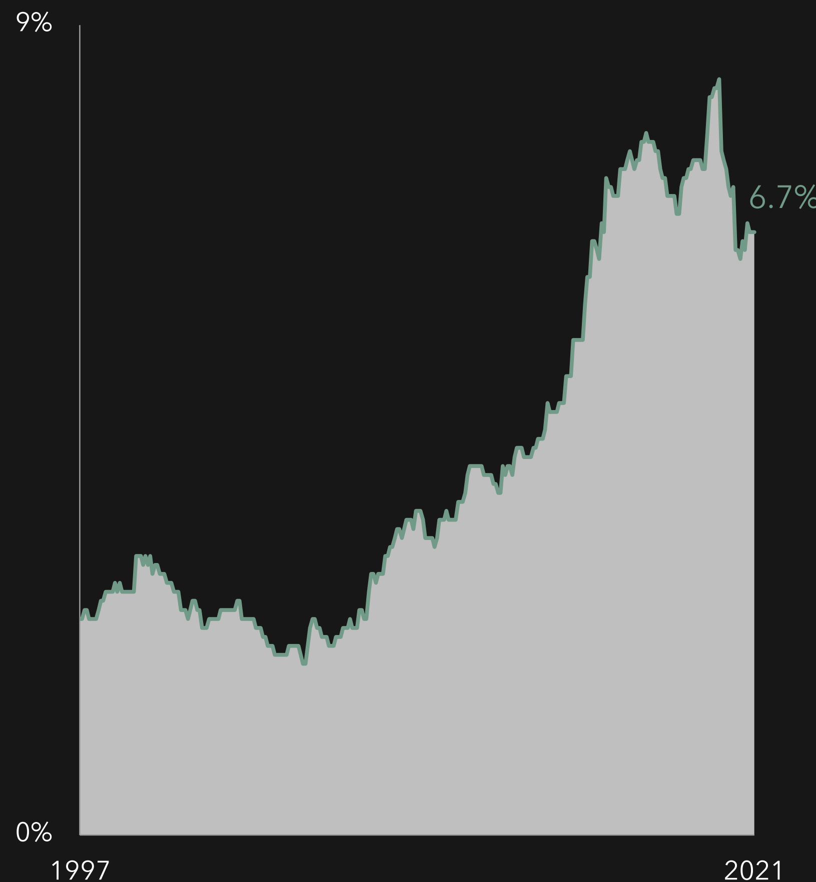
US equity markets

Technology as a % of S&P 500 market cap



USD investment grade credit markets

Technology as % of USD IG index

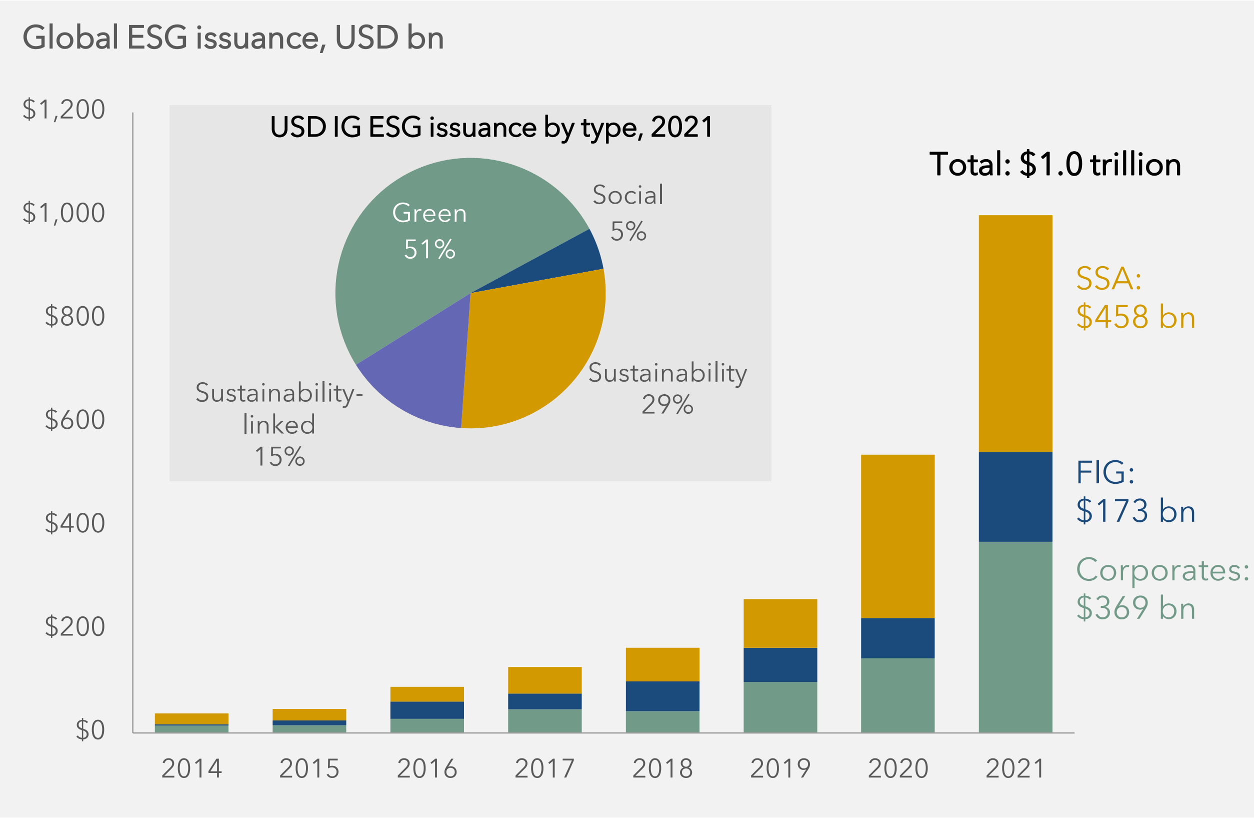


Source: (1) Bloomberg. Data as of January 12, 2022. Tech is S&P 500 Information Technology & Communication Services GICS Level 1 indices. (2) CreditSights. ICE BofAML Indices. Data as of December 15, 2021.


Yokohama, Japan

10. Greening the Financial System

In 2021, global ESG new issuance volume surpassed $1 trillion for the first time on record, more than double the 2020 total of $480 bn. In the US, while Green transactions still dominated the bond market, both Sustainability and Sustainability-Linked bonds saw significant growth. Looking ahead, 2022 is expected to be another banner year in sustainable financing markets, with some estimates expecting as much as a 50% increase in new issuance.

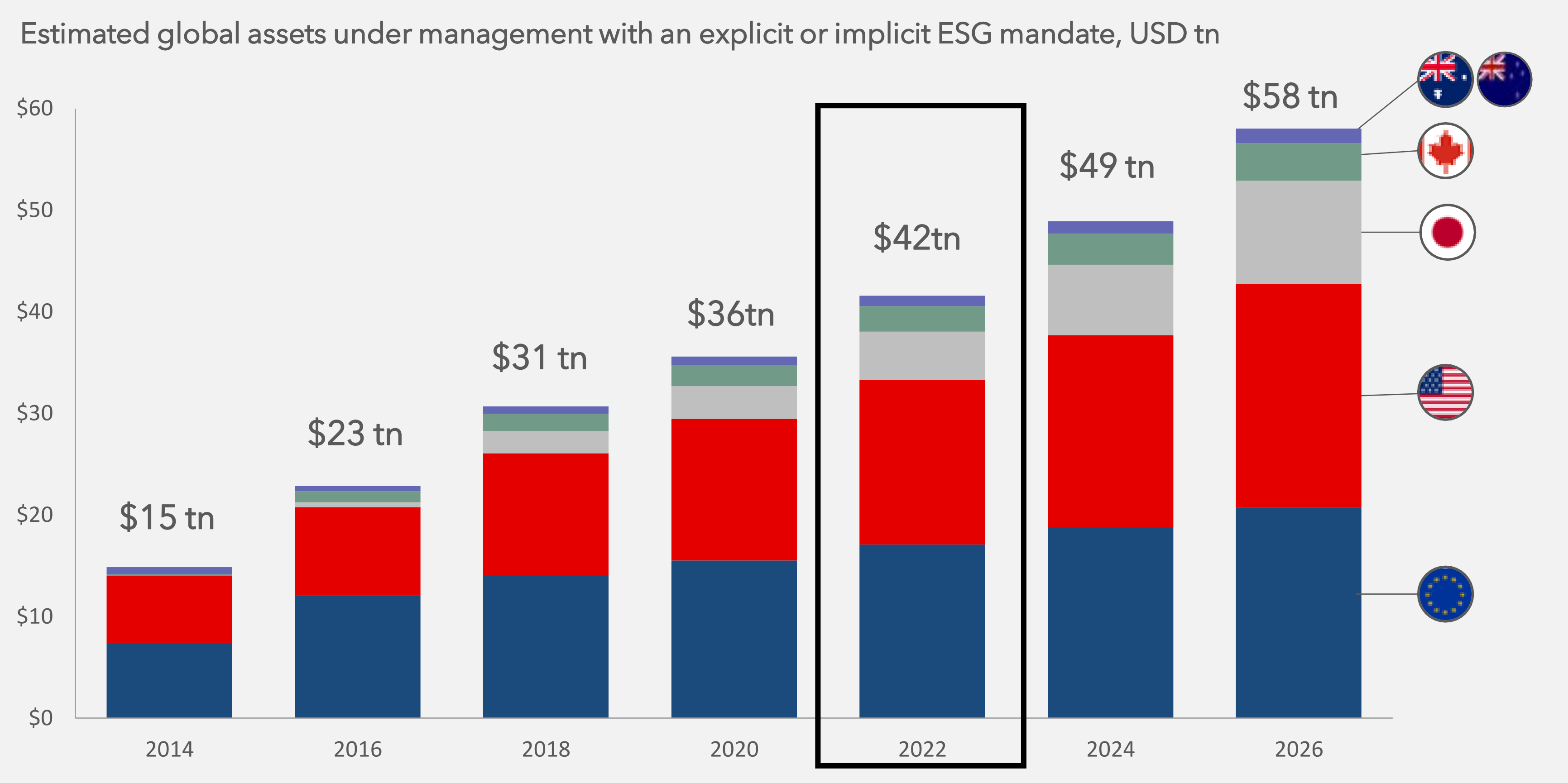


Expectations for ESG in 2022
• Heightened ESG shareholder activism to continue
• Increased mandatory and voluntary ESG related disclosure
• Rising prominence of "S" & "G" factors
• Rising prominence of sustainability-linked bond transactions
• USD IG market to grow relative to global peers (only ~6% of issuance in 2021)

Source: (1-2) MUFG Investment Grade Capital Markets 2022 Outlook, December 23, 2021.

Transformation of Global Finance

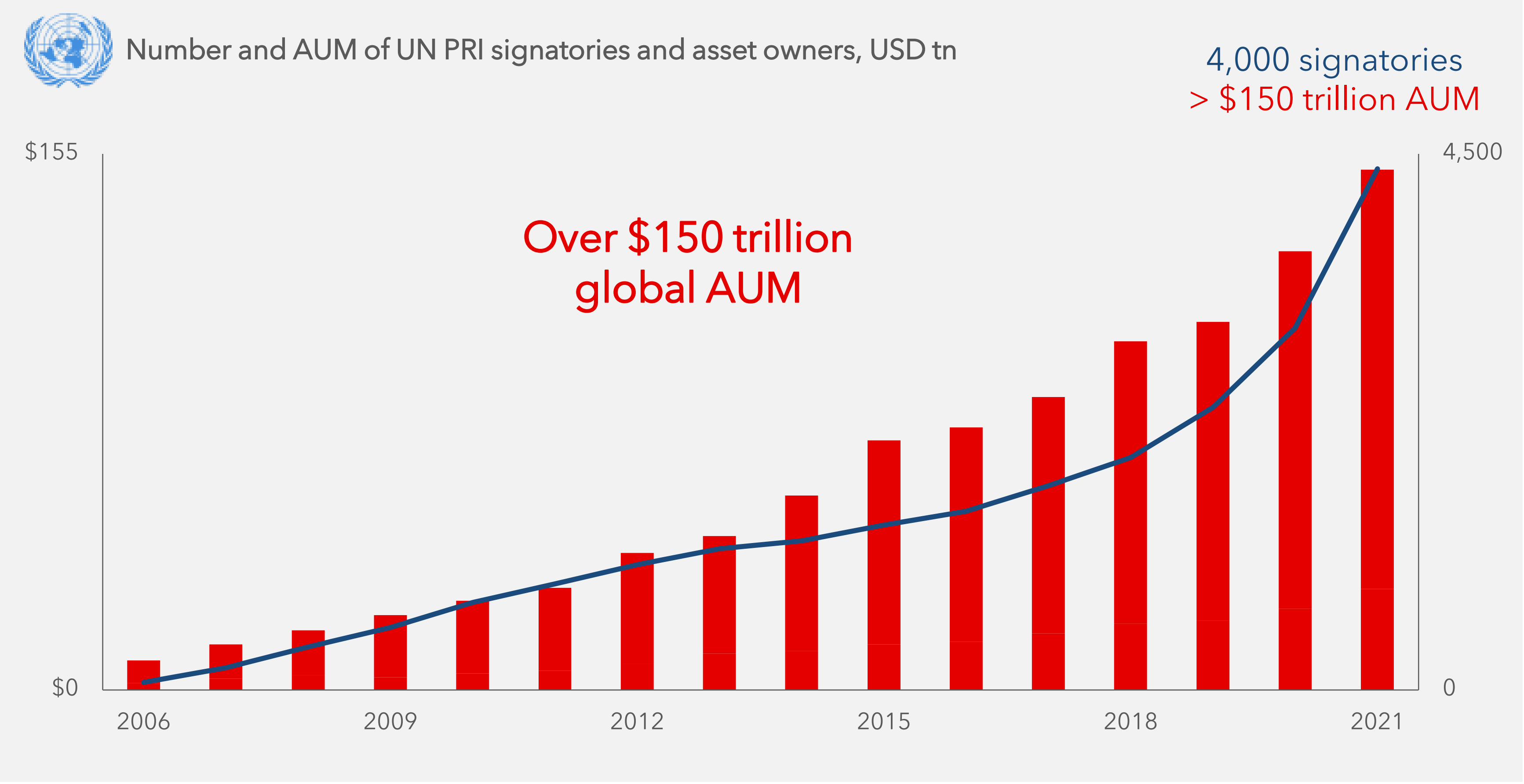
As we enter 2022, global ESG assets under management are expected to exceed $40 trillion. By 2025, that number is likely to approach $60 trillion. In the US, the forum for Sustainable and Responsible Investment has identified over $17 trillion of professionally managed assets that are incorporating ESG criteria into the investment process, that's roughly 1/3 of all US professionally managed assets.



Source: (1) Bloomberg Intelligence. 2020 – 2024 estimates are base case scenario assuming 15% growth. 2014 – 2018 data is from the GSIA. Data updated as of January 12, 2022.

Over $150 Trillion Committed to ESG

4,000 signatories and asset owners, representing over $150 trillion in global AUM, have joined the UN Principles for Responsible Investment (PRI) and agreed to incorporate ESG factors into their investment and ownership decisions. Signatories are required to report annually on their responsible investment activities, with those who fail to do so delisted from the initiative.



Source: (1) UN PRI. Data updated as of Q4 2021. Total Assets under management (AUM) include reported AUM and AUM of new signatories provided in sign-up sheet that signed up by end of March of that year. Total AUM since 2015 excludes double counting resulting from subsidiaries of PRI signatories also reporting, and external assets managed by PRI signatories. AUM for previous years include some element of double counting. Includes AUM and asset owners.

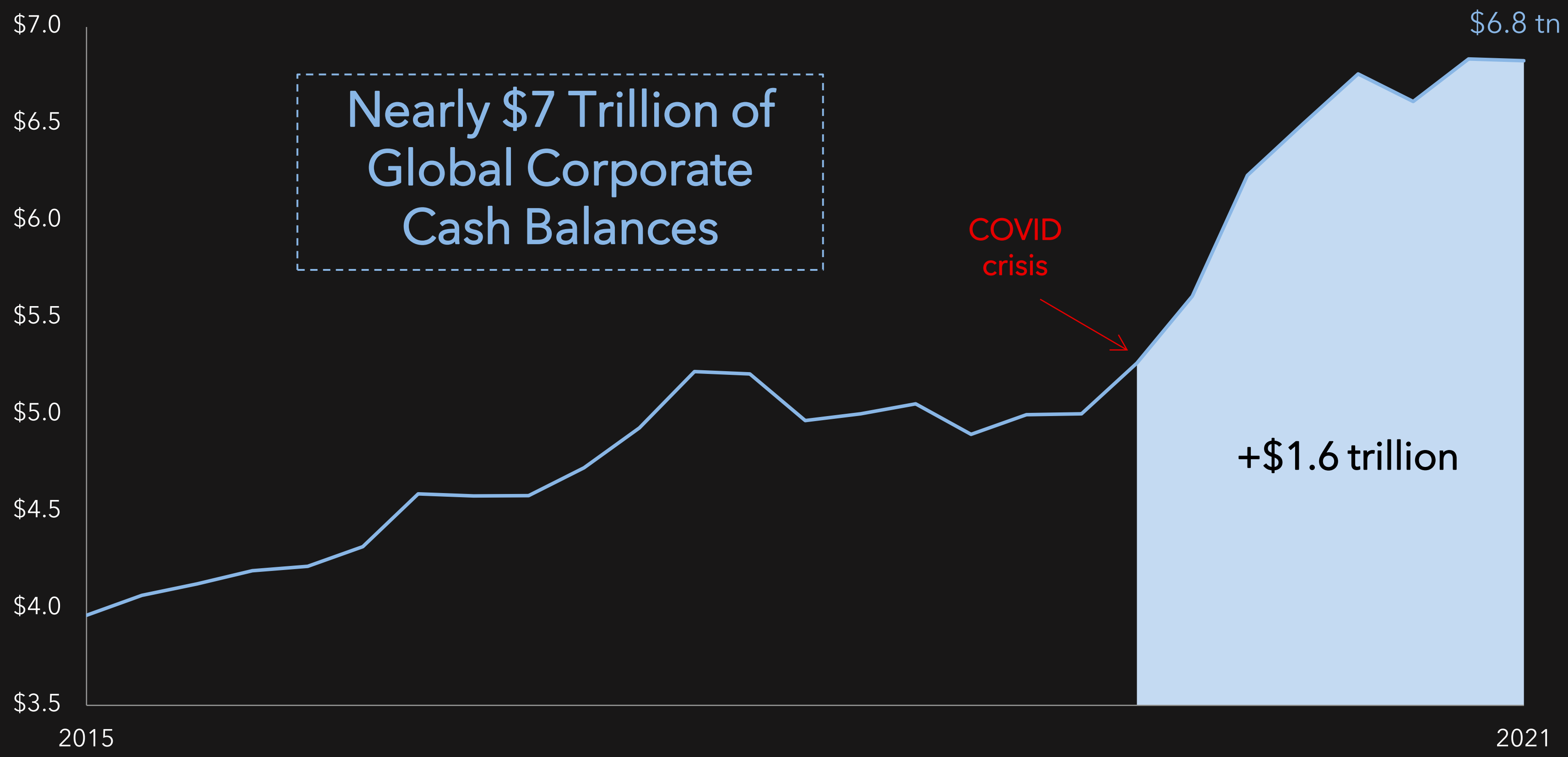
3 Strategic Positioning from Strength

> "What made war inevitable was the growth of Athenian power and the fear which this caused in Sparta."
>
> Thucydides in "The History of the Peloponnesian War"
> (Early 4th Century BC)

11. Fortified Balance Sheets

Given strong operating performance and ready access to financing, global corporate cash balances are close to record nominal levels. Expect to see further substantial M&A and continued robust growth in capex in the year ahead.

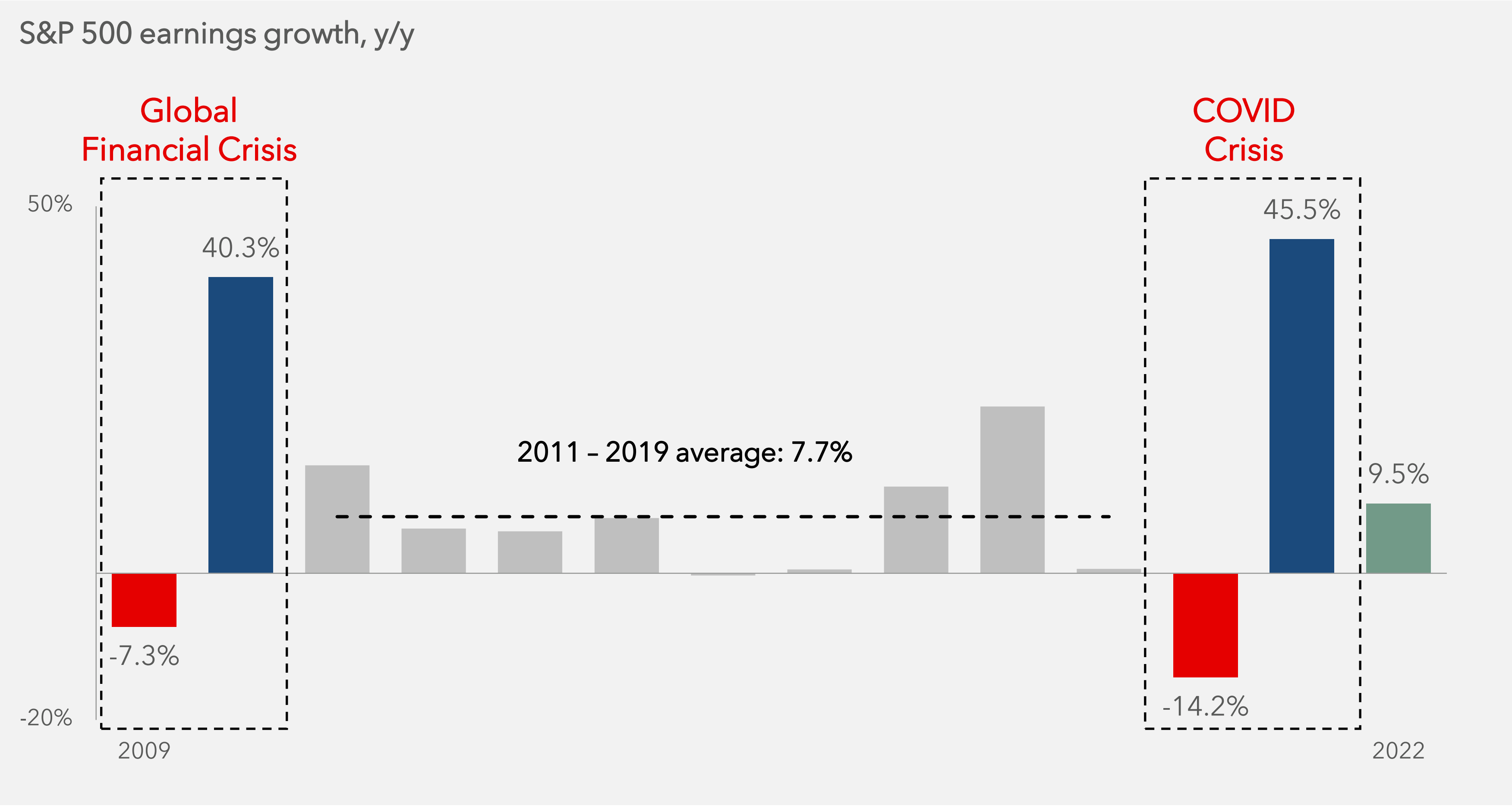
Cash and short-term investments on companies' balance sheets, USD tn



Source: (1) S&P "Global Credit Outlook 2022: Aftershocks, future shocks, and transitions." WSJ, "Companies are hoarding record cash amid delta fears" (August 2021). 2021 data through Q3. Non-financial corporates.

12. Historic Earnings & Margins

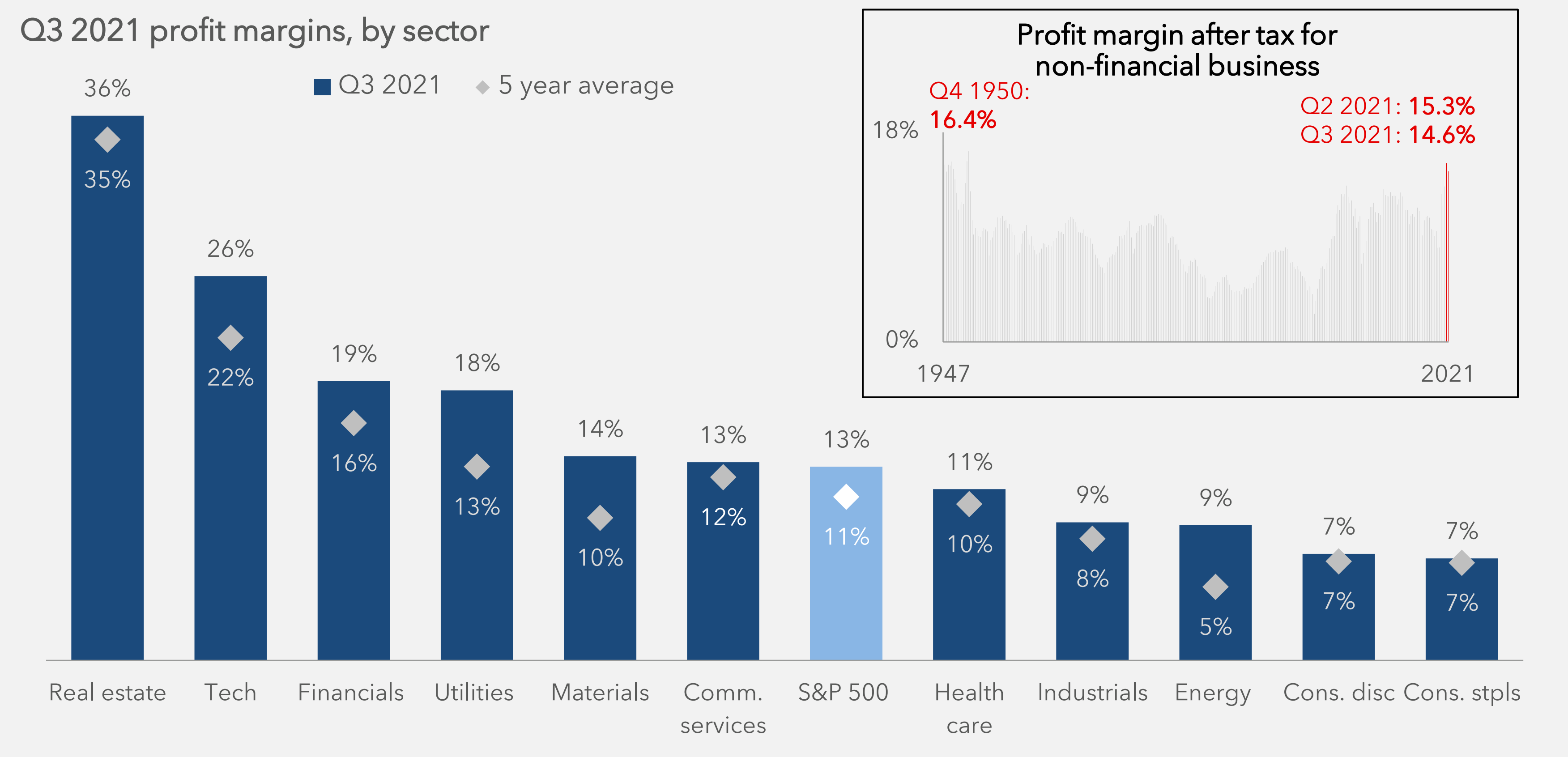
The contraction and subsequent recovery in corporate earnings during the COVID crisis was much larger than during the financial crisis. Looking ahead to 2022, the more normalized earnings outlook of +9.5% y/y is above the pre-COVID average.



Source: (1) 2021-22 earnings data is FactSet. Earnings Insight (January 28, 2022). Yardeni Research "YRI S&P 500 Earnings Forecast" (December 27, 2021).

Highest Profit Margins Since 1950

Throughout the pandemic, investors have continually under-estimated the ability of large multi-national corporations to make adjustments to business strategy in the face of formidable challenges. Although supply chain dislocations have led to rising costs of labor and materials, US non-financial corporates had their highest profit margins since 1950 in Q2 and Q3 2021. Currently projected at 12%, Q4 2021 is expected to be the 5th highest quarter on record.



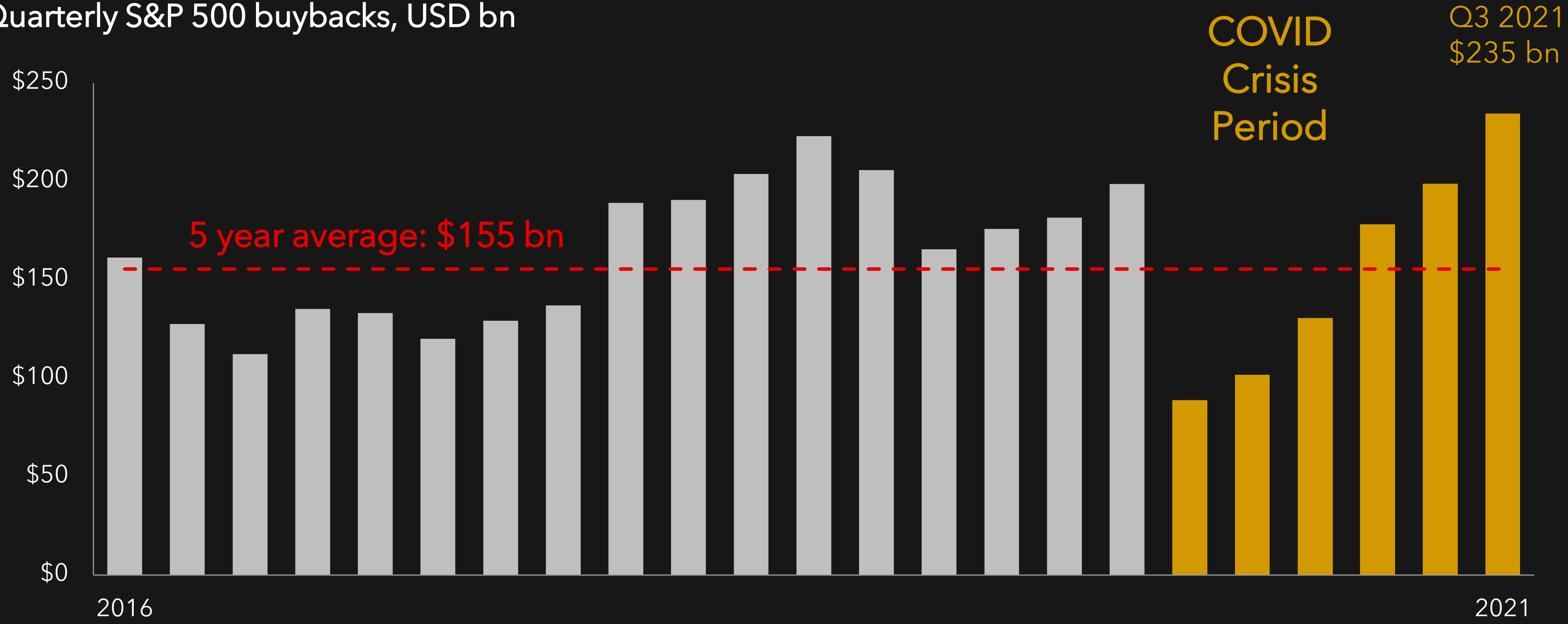
Source: (1) MarketDesk. Based on quarterly net profit margins for all S&P 500 sectors. FactSet Earnings Insight Report (January 7, 2022). (2) Bloomberg. FRED. Margin is seasonally adjusted profits as share of gross value added by non-financial corporate business. Data as of January 12, 2022.

Hong Kong

13. Record Stock Buybacks

S&P 500 companies repurchased a record $235 bn of stock in Q3, a 20% Q/Q increase. Activity remained highly concentrated with the top 20 purchasers accounting for over 50% of volume (vs. 45% avg. pre-COVID). Tech and financial sectors recorded the largest share of buybacks at 28% and 26%, respectively. We expect the rapid pace of buybacks to continue in 2022 given high cash flow and CEO confidence readings. Small market corrections may also create opportunities for buying.

Quarterly S&P 500 buybacks, USD bn



<u>Regulatory Headwind</u>: In mid-December, the SEC *proposed* greater disclosure requirements on buybacks, including rationale and criteria. In February, Congress will consider a 1% excise tax on stock buybacks as part of a possible $300-700bn soft infrastructure package.

Source: (1) S&P Dow Jones Indices. WSJ.

Companies Executing Buybacks Outperformed in 2021

US companies that repurchased shares outperformed the S&P 500 index. In addition, S&P does not expect a potential 1% excise tax from Washington on buybacks to materially impact market performance or buyback activity, as the average daily high / low spread is near that mark (0.97%), thereby showing that timing (or dollar averaging) is just as important.

Buyback index vs. S&P 500 since Jan 2021

Source: (1) Cannon Advisors. Koyfin. Bloomberg. Data through year-end 2021. Buyback index is Invesco Buyback achievers ETF. New public company IPO index is Renaissance IPO index.

Dividends Rising to New Highs

S&P 500 dividends increased to a record $130 bn in Q3, a 12% Y/Y increase. While the absolute size of dividends increased to record levels, their rise was tepid compared to earnings growth. We therefore expect the return of “excess capital” to shareholders to continue its climb higher.

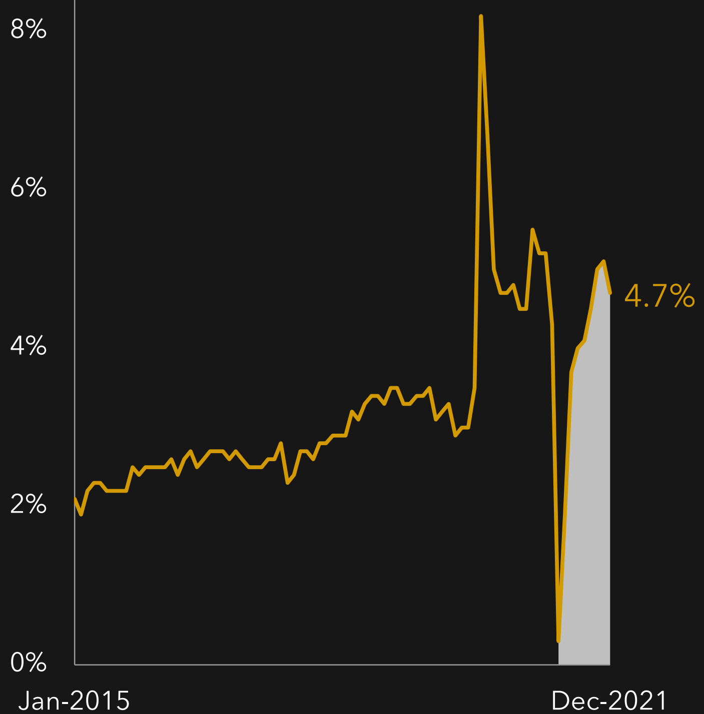
Quarterly S&P 500 dividends , USD bn

Source: (1) Bloomberg. Index / Portfolio Buyback & Dividend Analysis. S&P Dow Jones Indices. Data as of January 12, 2022.

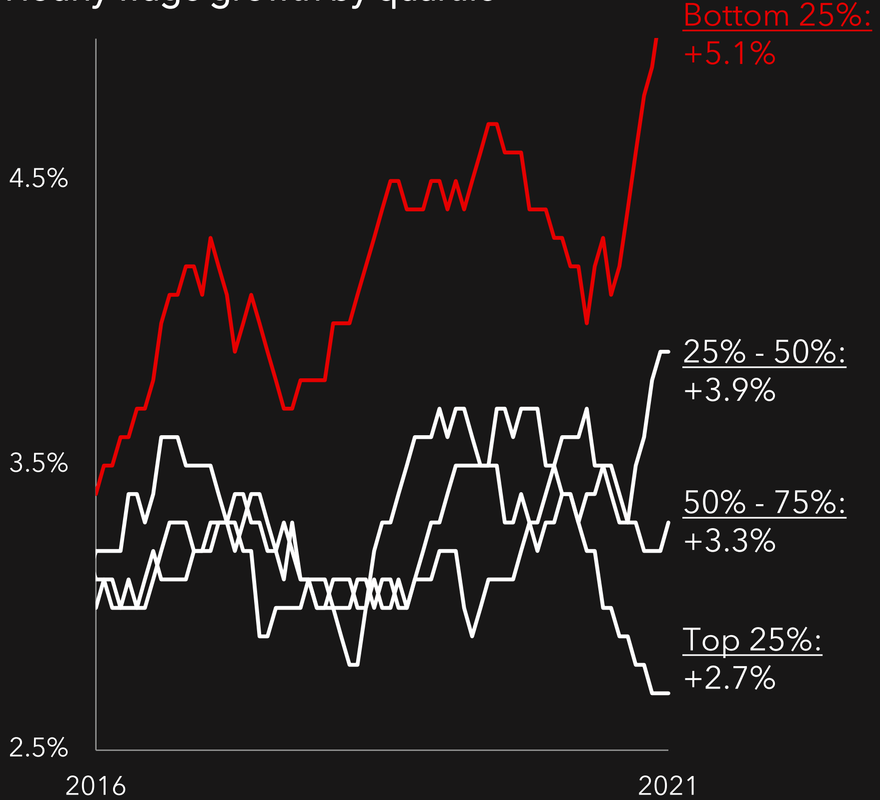
14. Absorbing Higher Wages

In December, wages rose at a higher than expected 4.7% y/y. Tight labor markets have pushed wages higher in the post-crisis period, particularly for those in the lower quartile of earners. Rising minimum wages in some states and COVID-related federal stimulus programs have helped wage growth rates match those seen in the early 2000s.

Average hourly earnings, y/y

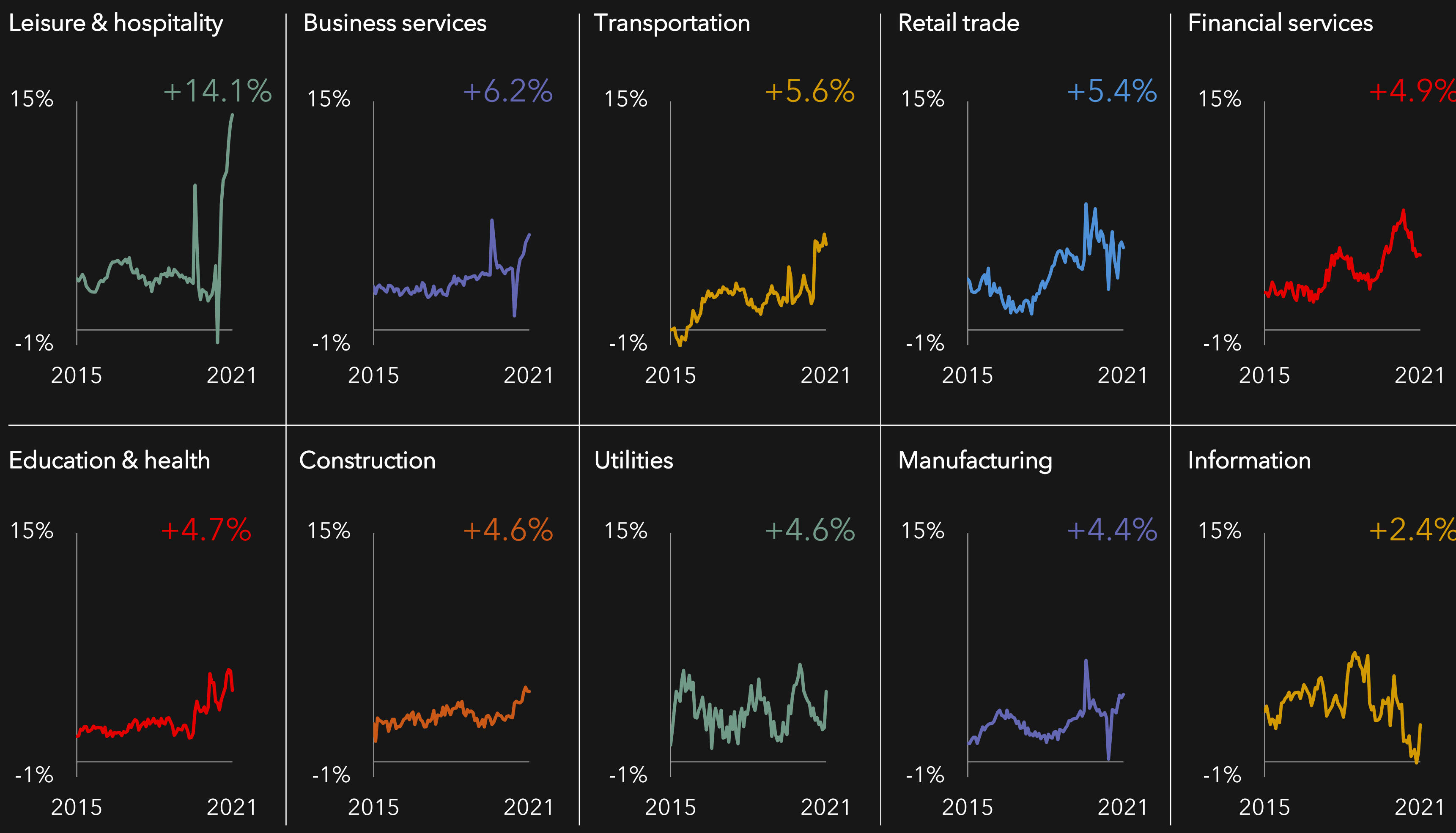


Hourly wage growth by quartile



Source: (1) Bloomberg. Data as of January 31, 2022. (2) Atlanta Fed Wage Growth Tracker. 12-month moving average of median wage growth, hourly data.

Persistent Wage Inflation Varies Sharply by Sector



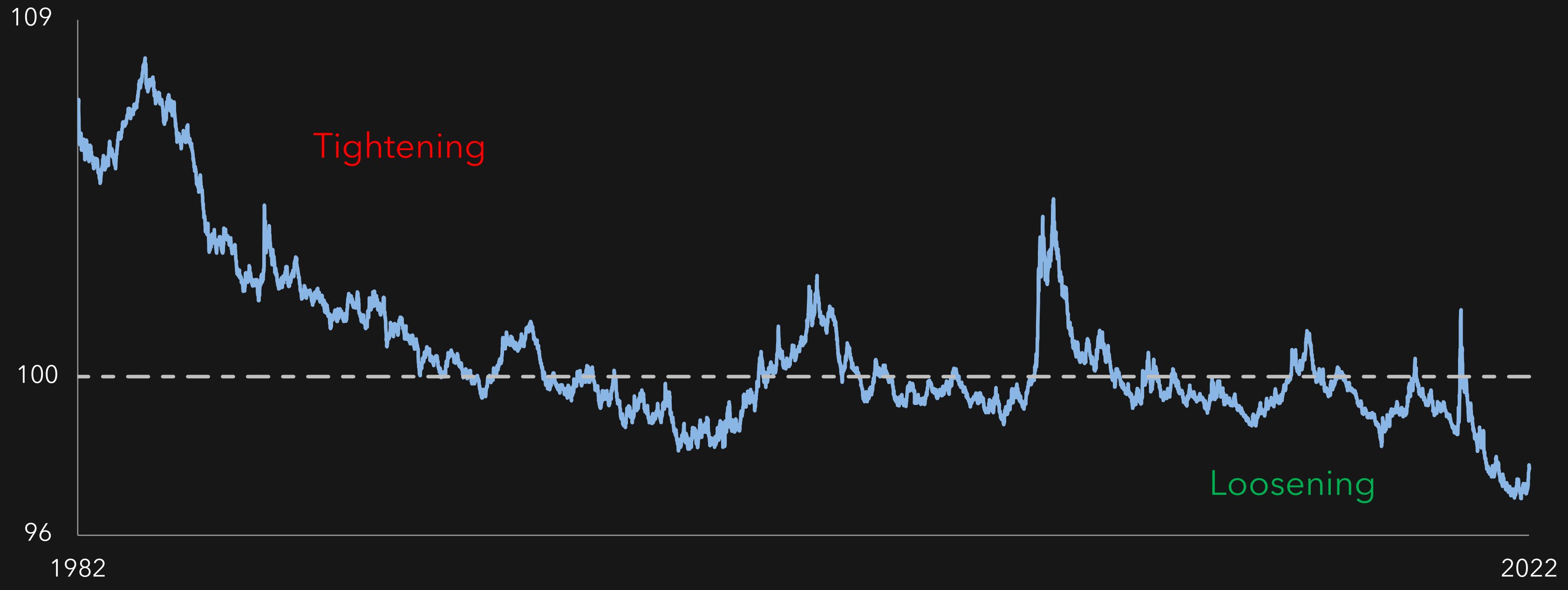
Source: (1-10) Bloomberg. Data as of January 12, 2022.

Paris, France

15. Favorable Financial Conditions

At this early stage of the Fed tightening cycle, US financial market conditions are currently the easiest on record. While we expect financial conditions and risk assets (equities, HY, EMFX) to remain vulnerable to tightening financial conditions, we expect new issue capital markets to nonetheless remain available to issuers "in size" throughout 2022 at pricing that remains attractive by historic standards.

US financial conditions index



Key Question for 2022: Given high asset price valuations and rising inflation, will a Fed "behind the curve" precipitate a disorderly tightening in financial conditions with negative feedback loops for markets and the real economy?

Source: (1-2) Bloomberg. Data as of January 31, 2022. Financial conditions index is Goldman Sachs FCI.

Sydney, Australia

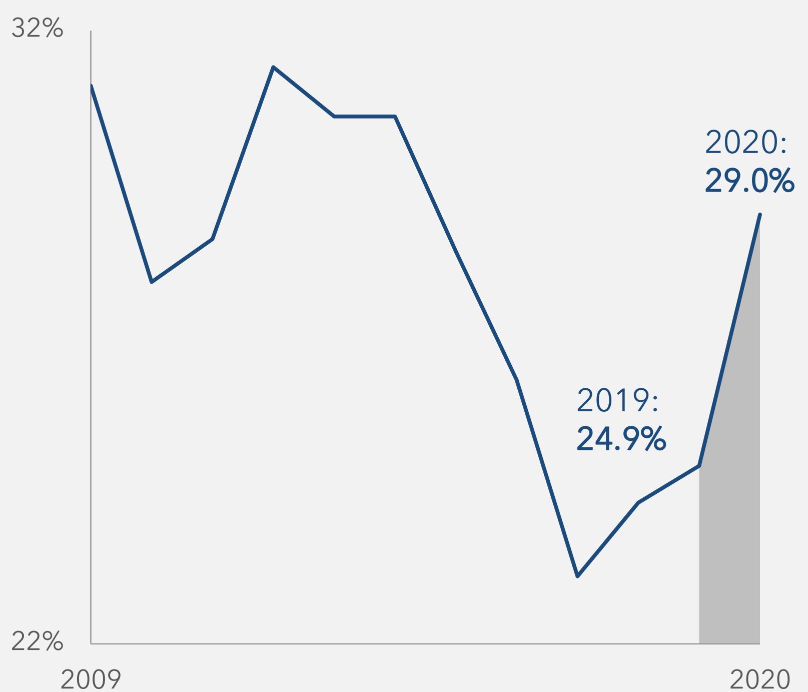
4 Investing in a Post-Pandemic World

> "We have much to learn from Leonardo. His ability to combine art, science, technology, the humanities and imagination remains an enduring legacy for creativity."
>
> Walter Isaacson, in his biography, Leonardo Da Vinci

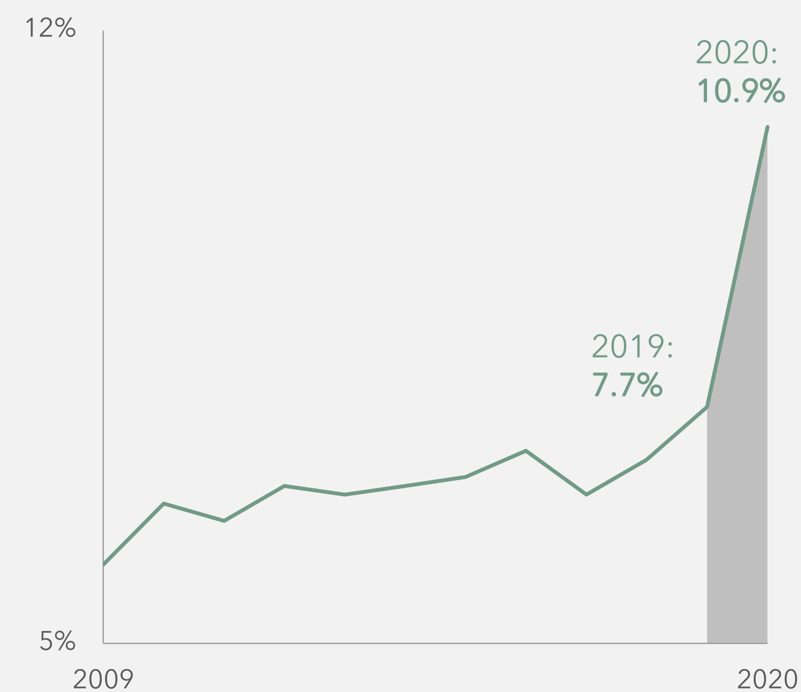
16. Accelerating CapEx Cycle

Historically, companies have responded to periods of supply side and labor market shortages with an uptick in productivity-focused investment. Faced with volatile and uncertain short-term operating environments during COVID, companies globally responded by sharply increasing their spending on capex by nearly 30% across: (i) vertical integration of supply chains; (ii) productivity-enhancing infrastructure (tech, automation, digitization); and, (iii) sustainability and climate-related investment. Notably, R&D investment jumped to its highest levels in decades.

Capex as a % of total global spend

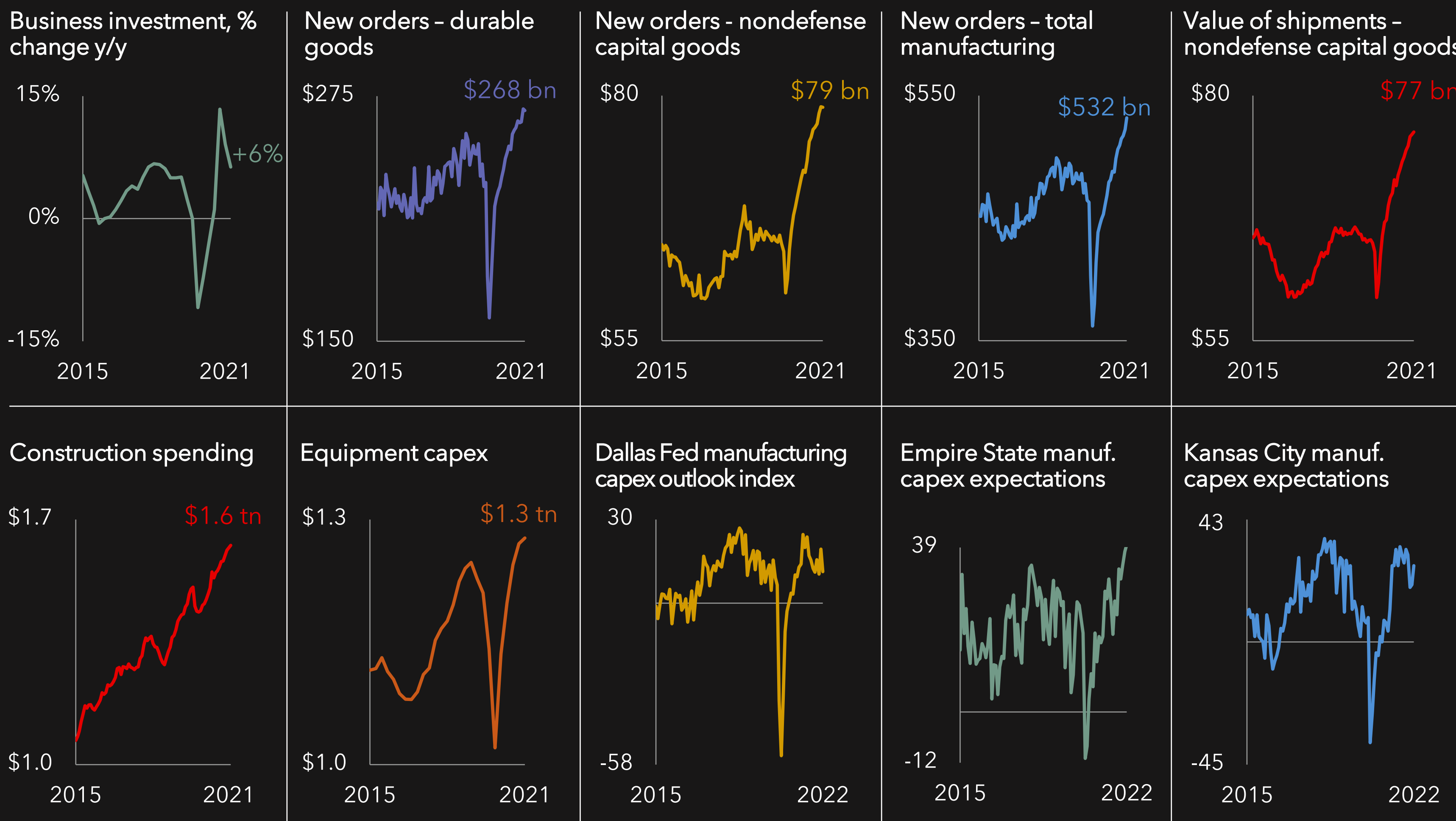


R&D as a % of total global spend



Source: (1-2) FCLT Compass 2021 Report, "The Economics of Resilience: Capital Allocation and Investment Horizons During COVID-19." Data is based on FactSet data from the balance sheets of ACWI index companies.

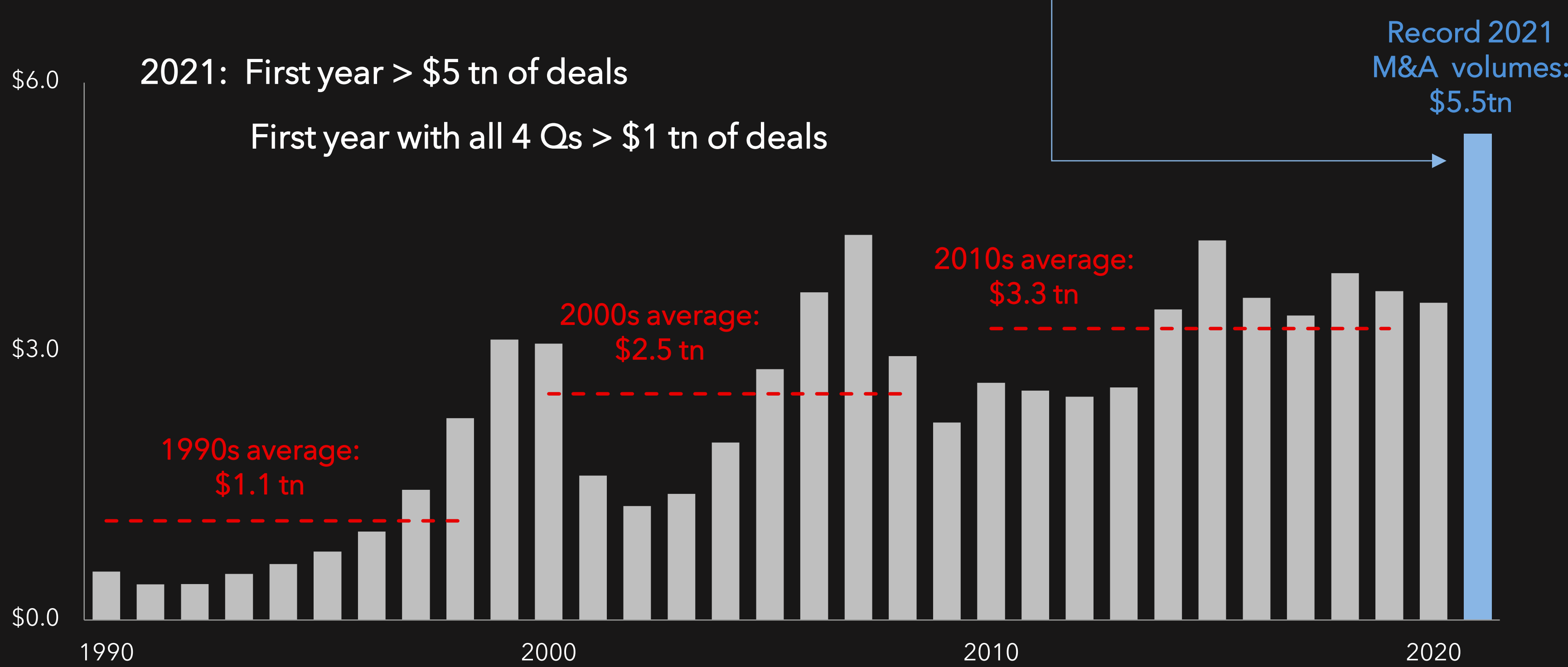
Strongest CapEx Cycle Since the 1940s



Source: (1-10) FRED. Business investment is real gross private domestic , fixed, nonresidential investment. Data as of January 31, 2022. Nondefense capital goods new orders & shipments is ex-aircrafts. Empire State and Kansas City Manufacturing Survey is 6 month ahead expectations for capital expenditures.

17. Transformative M&A

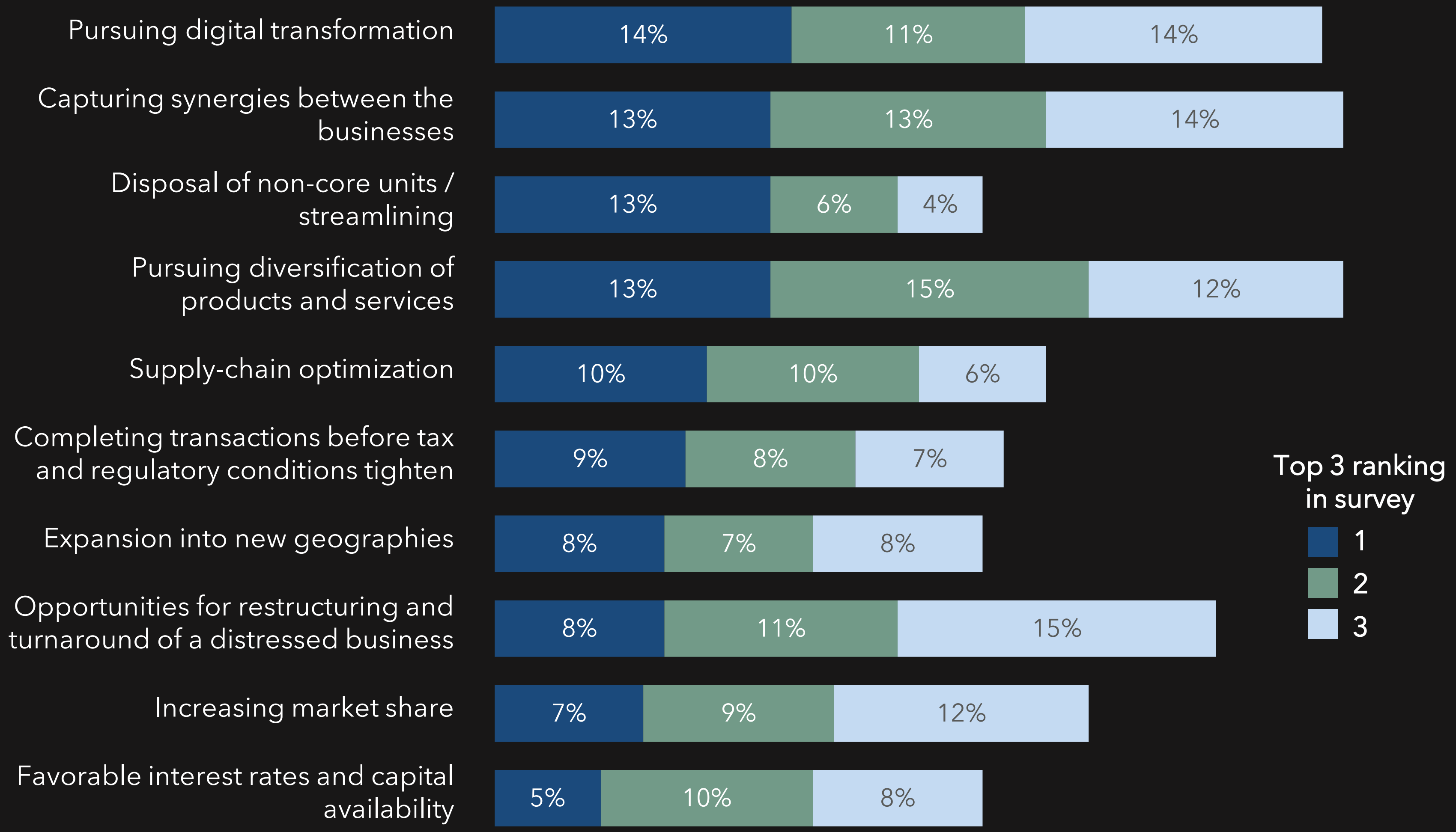
Key drivers			
Above trend GDP	Record corporate earnings	Strong equity valuations	Evolving competitive landscape
High CEO confidence	High cash balances	Low cost debt	Technology's disruption



Source: (1) Institute for Mergers, Acquisitions and Alliances (IMMA). S&P Capital IQ. Dealogic. Bloomberg. Data as of December 29, 2021.

Drivers of 2022 M&A Activity

Survey: What will be the key drivers of your M&A activity over the next 12 months?



Source: (1) Intralinks and Mergermarket. Global M&A Dealmakers Report 2022. Survey of 300 dealmakers, 225 corporates and 75 private equity professionals in North America, EMEA, APAC and Latin America across TMT, industrials & chemicals and consumer.

10 M&A Trends to Watch in 2022

As the global economy locked-down during COVID, global M&A surged to new heights in 2021. We expect many of these accelerating trends to continue well into 2022.

1 **Mega-deals (> $10 bn) rose to new highs in 2021, despite increased anti-trust scrutiny**
- 2021 set new records for mega deals: 106 deals > $5 bn; 37 deals > $10 bn; 12 deals > $20 bn*
- Record cash balances and attractive financing markets for large deals

2 **"Scope" deals to expand capabilities have risen to 56% of global deal volumes, vs. "scale" M&A (consolidation, cost savings driven) at 44%** (Source: Bain)
Acquiring new technologies and capabilities; expanding product portfolios; optimizing supply chains; new production and distribution capabilities; expanding geographic footprint

3 **Competition for assets remains fierce, driving deal volumes and valuations higher**
Abundant capital led by a proliferation of PE, VC, SPACs and strategic buyers driving supply-demand imbalances for assets

4 **Private equity players will continue to drive M&A volumes in 2022**
PE driven M&A deals reached a record $1 trillion in 2021; over $3.3 trillion of PE dry powder

5 **Well capitalized SPACs seeking targets over the next 12 - 24 months**
Over 450 listed SPACs actively seeking targets to invest IPO proceeds with sense of urgency

*Source: Refinitiv. BCG. KPMG. Squire Patton Boogs. Cravath. Dykema. Intralinks. Bain. Pitchbook. Paul Weiss. PwC. *includes both announced and closed deals in 2021*

10 M&A Trends to Watch in 2022

As the global economy locked-down during COVID, global M&A surged to new heights in 2021. We expect many of these accelerating trends to continue well into 2022.

6 **Technology as a pervasive driver of global M&A activity**

- Tech accounted for 27% of 2021 global M&A (double the 20 year average); $400 bn of 2021 tech sector PE deals (2x 2020)
- High % of SPACs have investment objectives focused on tech and emerging technologies

7 **Carve-outs and spins becoming more prominent**

Raise cash; reduce debt; optimize portfolios; realizing value; “focus on the core”

8 **Cross-border activity at record highs, despite increased scrutiny globally**

Cross-border deals nearly doubled in 2021 (driven by US-European deals)

9 **ESG and “sustainability” integral to purchasing, rationalizing and divesting assets**

- Over 60% of dealmakers highlighted ESG in both potential and abandoned deals (Source: MergerMarket 2021 Survey)
- Acquisition costs need to factor in alignment with announced net zero commitments

10 **Governments globally continue to expand their scrutiny of M&A, with more rigorous anti-trust enforcement and cross-border deal reviews**

More pre-announcement preparation; longer regulatory review periods; longer termination periods; smaller regulatory break-up fees; more complex deal risk; enhanced due diligence and mandatory filing requirements

Source: Refinitiv. BCG. KPMG. Squire Patton Boogs. Cravath. Dykema. Intralinks. Bain. Pitchbook. Paul Weiss. PwC.

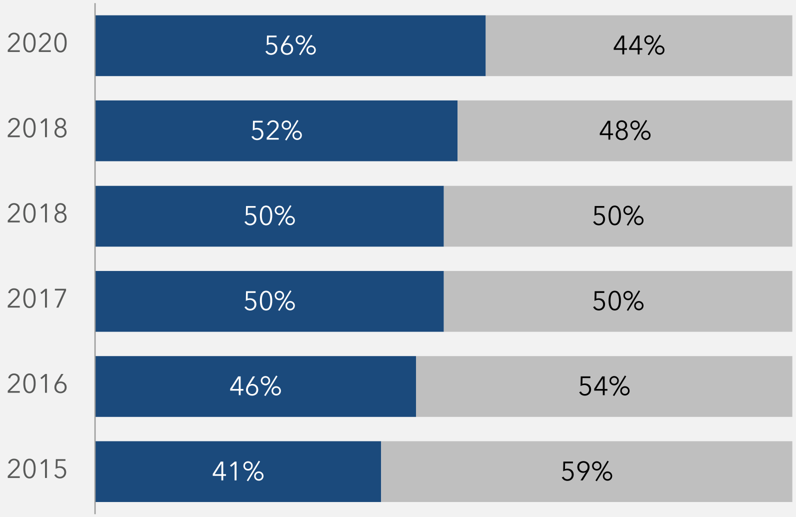
Scope Transactions Gaining Over Scale

A recent study from Bain & Company shows that scope driven M&A to acquire new technology or critical capabilities have risen sharply higher in recent years. This trend has continued during COVID, with scope deals accounting for 56% of 2020 M&A volumes (vs. 44% driven by scale and cost savings). While the rapid rise in strategic M&A is increasingly driven by companies seeking to add critical new capabilities, large consolidation and scale driven transactions remain relevant, especially in those industries highly disrupted by COVID.

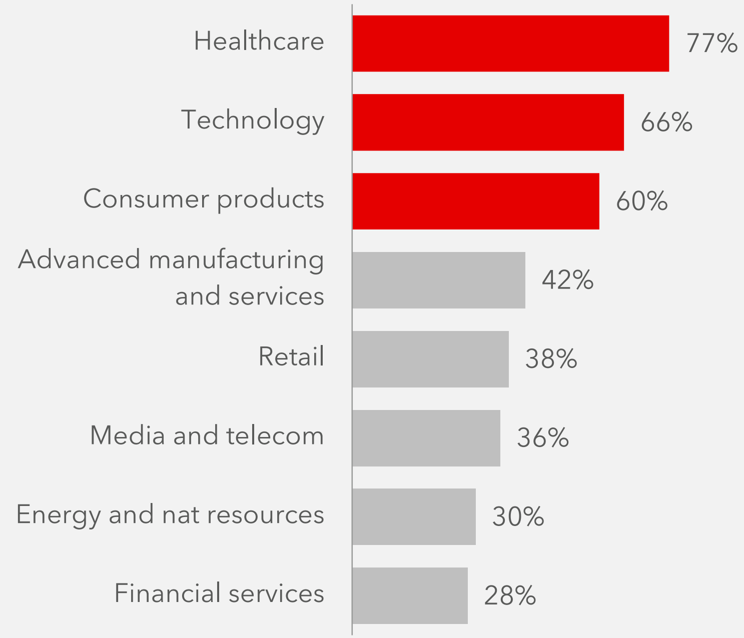
Strategic deals greater than $1 billion

Primary scope oriented:
- Growth objective
- Acquiring new capabilities (i.e., digitization)

Primary scale oriented:
- Size objective
- Cost savings driven



Percentage of scope deals by sector, 2015 – 2020



Source: (1-2) Bain "Global M&A Report 2021 – As the World Locked Down and Masked up, M&A Endured." Top 250 strategic deals of the year from 2015 to 2019 and top 131 deals from 2020 (January–September) identified by excluding nonstrategic deals, such as asset or property acquisitions, financial investment deals, government acquisitions, internal reorganizations, or minority stake acquisitions; deals classified by rationale using a proprietary classification framework, as per stated strategic rationale at the time of announcement

COVID's Outsized Impact on M&A

COVID's immediate impact on the competitive landscape precipitated notable shifts in strategic activity as companies adjusted business models to "adapt" to the new environment. Other COVID implications for M&A have included: longer regulatory review periods, elevated deal risk, rapidly rising valuations and more rigorous due diligence and deal-making processes.

Notable Areas of Increased M&A Activity in Selected Industries

Technology: Expanding capabilities in automation, cloud, software, video, workplace collaboration, cybersecurity, data analytics, etc.

Telecom & Media: Adapting to changing consumer behavior patterns; converging technologies; content distribution & delivery; labor & talent acquisition

Industrials / Auto: Transformative transactions to enhance technology platform & digitization; vertical integration of supply chains

Healthcare: Acquiring digital healthcare technology and platforms; data-enabled care coordination; electronic record-keeping; expanding pharma and biotech product lines

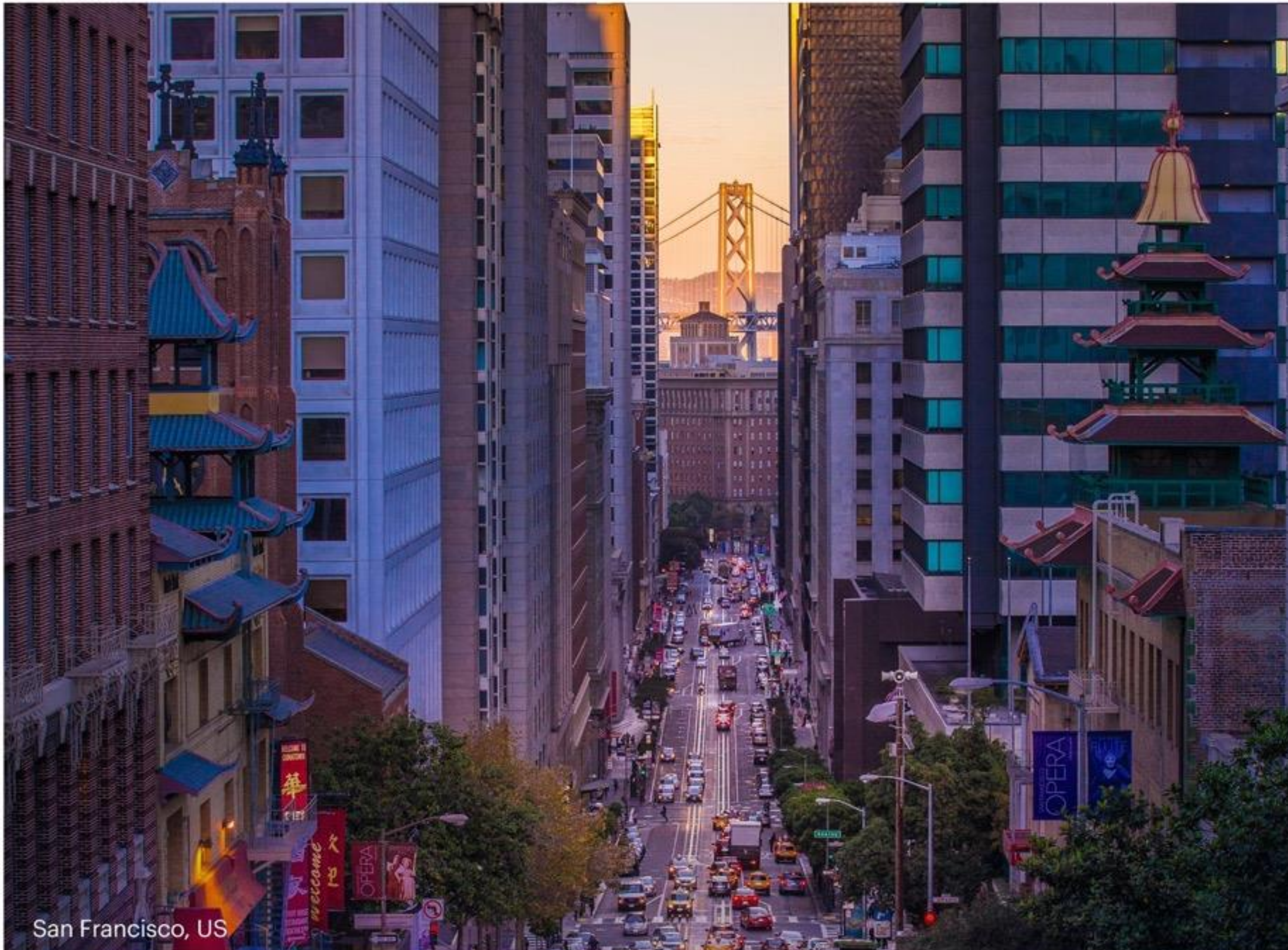
Consumer: Repositioning for changes in consumer behavior; elevated consumer spending; supply-chain strength; direct-to-consumer capabilities

Leisure: Distressed sales, divestitures and bankruptcy resolutions

Financials: Strongest deal volumes since GFC; fintech (online and mobile technologies); PE demand for insurance assets; crypto currency assets

Oil & Gas: Repositioning portfolios for decarbonization, sustainable investments and ESG transformation; strong demand for carbon offset assets

Source: Refinitiv. BCG. KPMG. Squire Patton Boogs. Cravath. Dykema. Intralinks. Bain. Pitchbook. Paul Weiss. PwC.



San Francisco, US

18. Investing in Tech's Acceleration

How much data is generated **every minute** on the internet ?

TikTok users watch 167M videos

Twitter users post 575k tweets

Instagram users share 65k photos

Facebook users share 240k photos

Facebook live receives 44M views

YouTube users stream 694k hours

Netflix users stream 452k hours

Teams connects 100k users

Zoom hosts 856 minutes of webinars

Slack users send 148k messages

Google conducts 5.7M searches

Discord users send 668k messages

12M people send an iMessage

Clubhouse creates 208 rooms

Snapchat users send 2M snapchats

Amazon customers spend $283k

6M people shop online

Strava athletes share 1.5k activities

Instacart users spend $67k

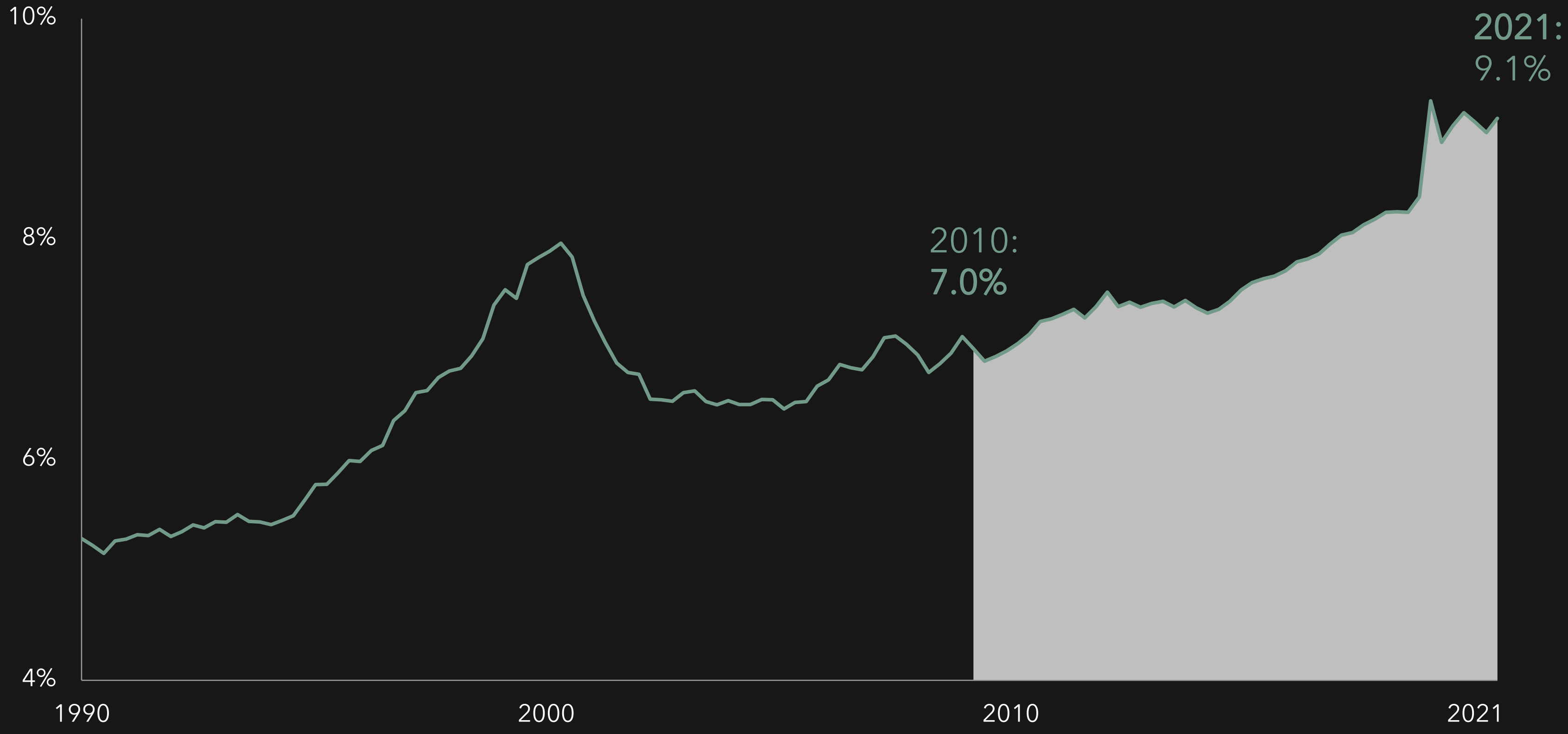
Venmo users send $304k

Source: Visual Capitalist.

Corporate Investment in Innovation Rising Sharply

According to the Bureau of Economic Analysis and CBO, corporate sector spending on technology and R&D has risen gradually over the past decade, and at a more rapid pace since the COVID crisis began. Spending has accelerated across numerous areas, including: software, data analytics, e-commerce, digitization, cloud computing, AI, automation, workplace collaboration, healthcare innovation and cyber-security.

US software, info processing and R&D spending as % of GDP

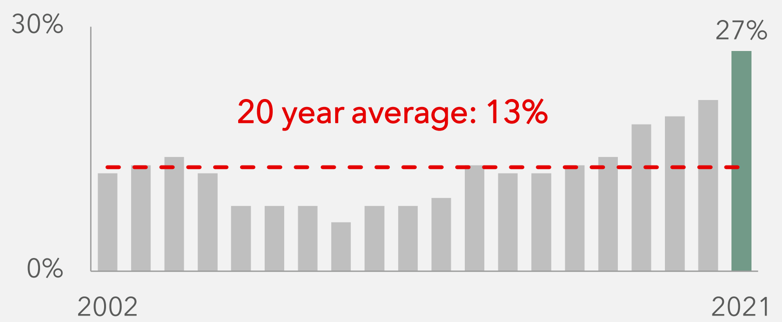


Source: FRED. BEA. GDP data from CBO. Software , Information Processing and R&D is Private Fixed Investment, Nonresidential.

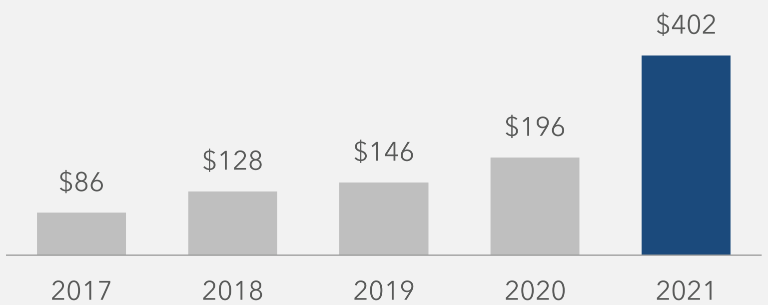
Technology as Pervasive M&A Driver

In 2021, tech driven transactions dominated both the global M&A space and the private equity market as the trend toward automation and digitization accelerated in the COVID-recovery period. In 2022, expect technology deal flow to continue its rapid pace as companies seek to improve productivity in the face of supply side challenges and as tech focused PE firms raise record levels of capital for new investment vehicles.

Tech as a % of global M&A



Private equity backed technology sector deals, USD bn



Technology as pervasive M&A driver

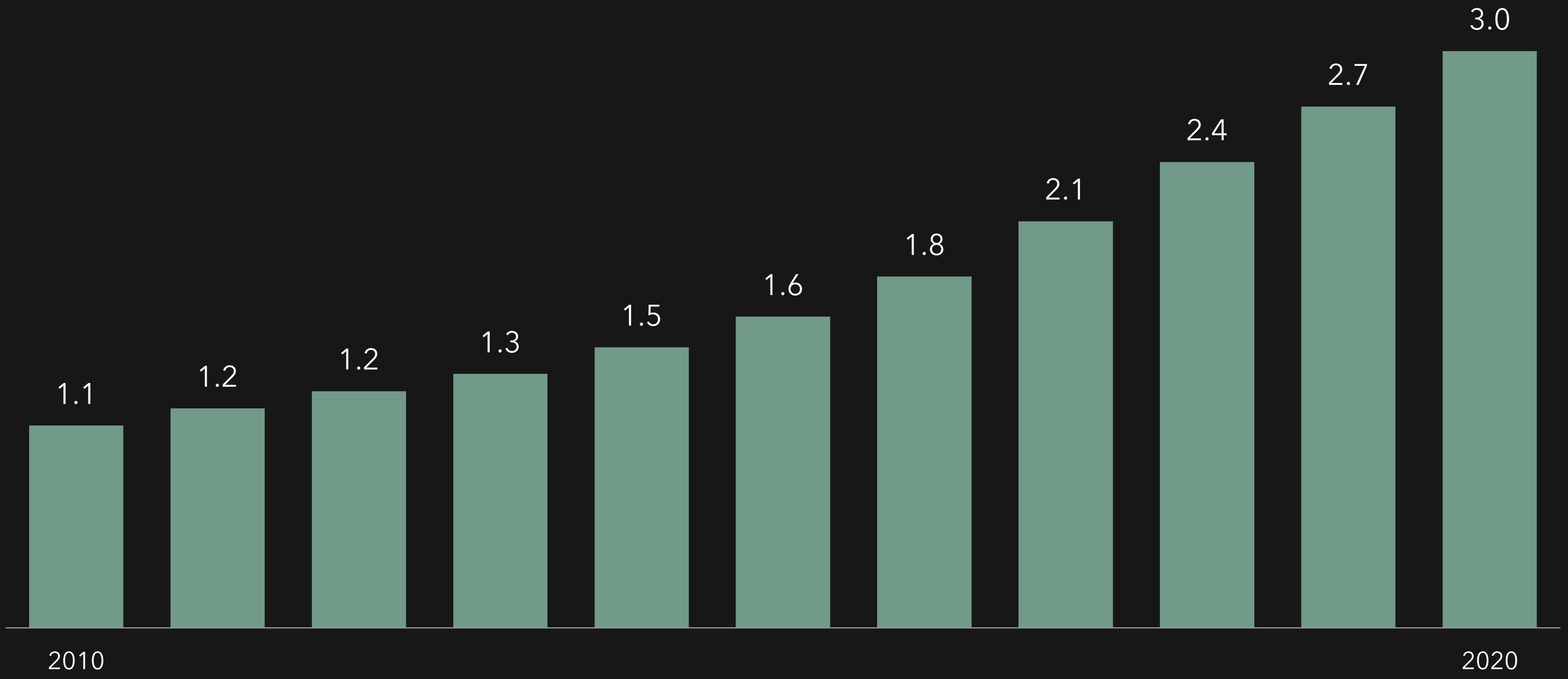
- Acquiring technology to reduce costs (i.e., automation)
- Acquiring technology to produce growth (i.e., digitization)
- Mitigating disintermediation risk to business strategy
- Industry convergence changing competitive landscape
- Emergence of complex corporate ecosystems (requiring cross industry partnerships)
- Repositioning for new competition as tech lowers barriers to entry
- Attracting and retaining skilled labor
- Opening up new channels to customers (premium for speed to market)
- Responding to evolving customer preferences and behavior

Source: (1) MUFG Corporate Advisory. Dealogic. Data as of December 22, 2021. (2) WSJ, "Private Equity Backs Record Volume of Tech Deals" (January 3, 2022). Total for 2021 is as of December 17, 2021. All figures include new deals, exits and add-on acquisitions. Dealogic.

The Automation of Industrial Processes

Between 2010 and 2020, the global operational stock of industrial robots tripled as automation became an essential part of complex manufacturing processes. While robotics and automation have been global phenomena, China has far outpaced other countries, accounting for 44% of industrial robot installations in 2020.

Global operational stock of industrial robots, millions



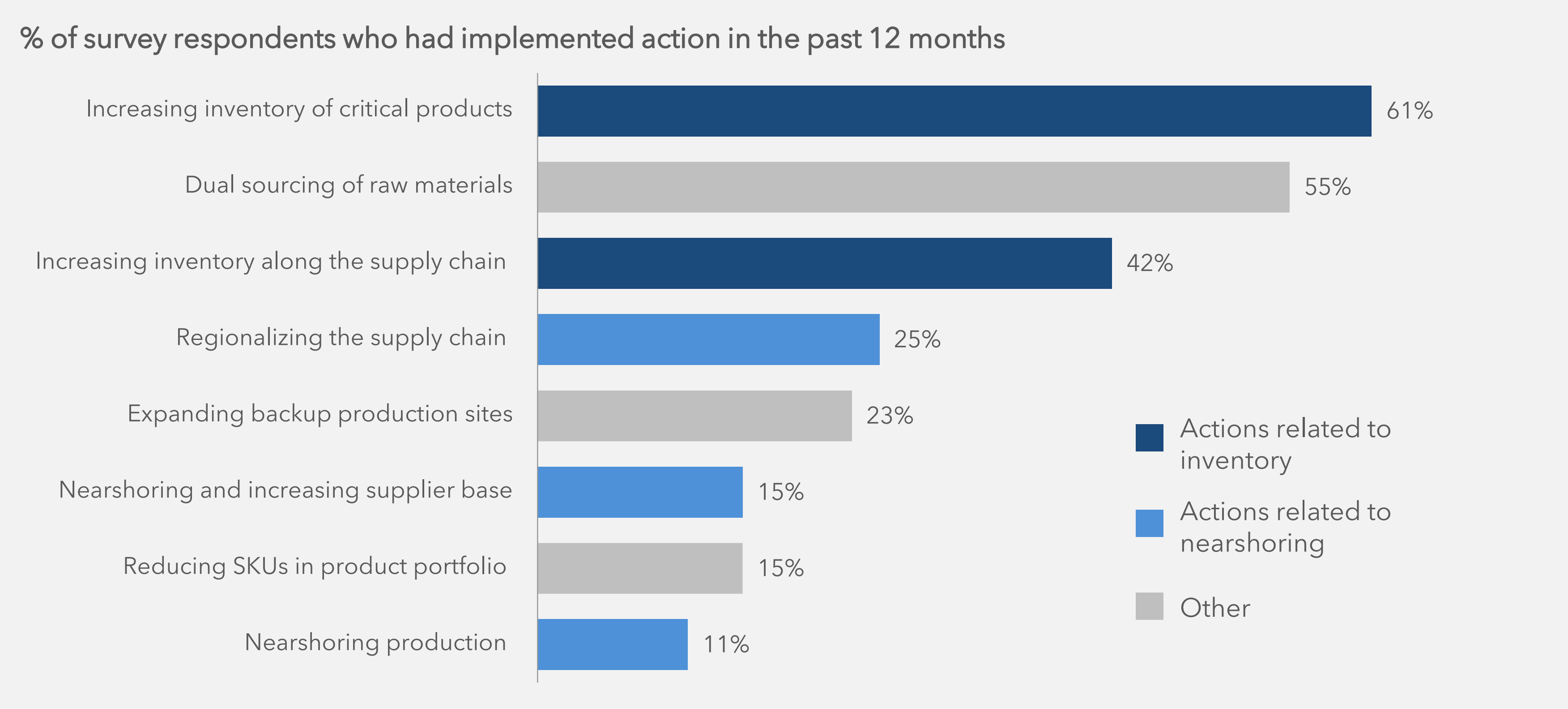
Source: (1-2) IFR. International Federation of Robotics. Statista.

Diamniadio Lake City, Senegal*

*$2 billion futuristic city, construction began in 2013 and will not be completed until 2035. Rendering of Diamniadio Lake City in Senegal Hussein Bakri/BAD Consultant/Semer Group

19. More Resilient Supply Chains

In response to the pandemic-related global demand shock and supply side dislocations, companies globally have been re-designing supply chains to be more flexible, agile and resilient. A study conducted one year into the pandemic, in 2Q 2021, found that a majority of companies surveyed had already increased inventories and diversified their sourcing of raw materials to improve resilience. The study also found that while nearly 40% of companies had intended to "nearshore" their supply chains, only 15% had already done so.

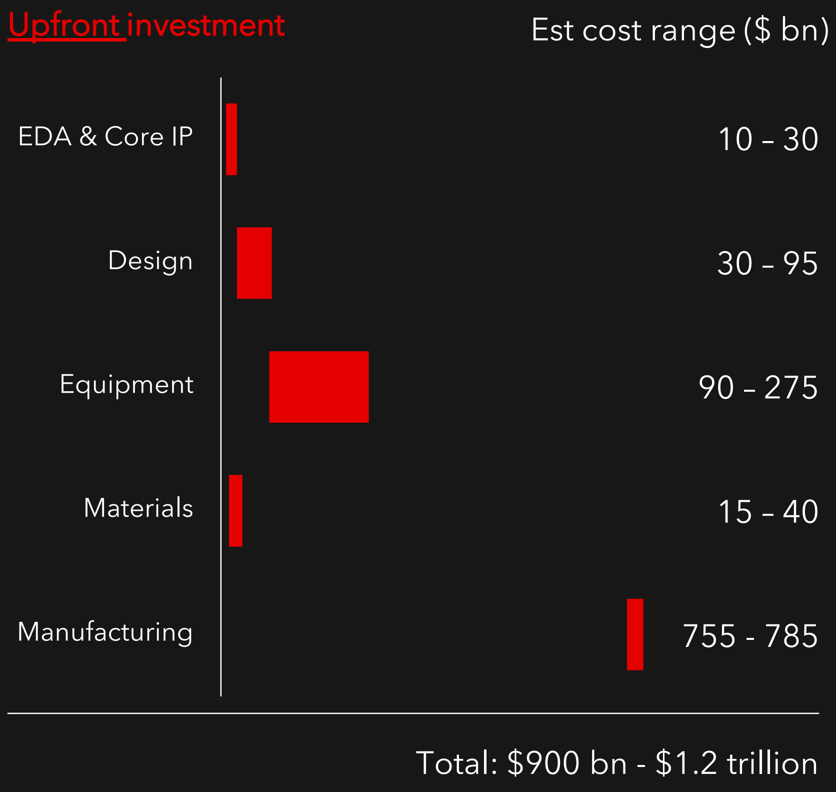


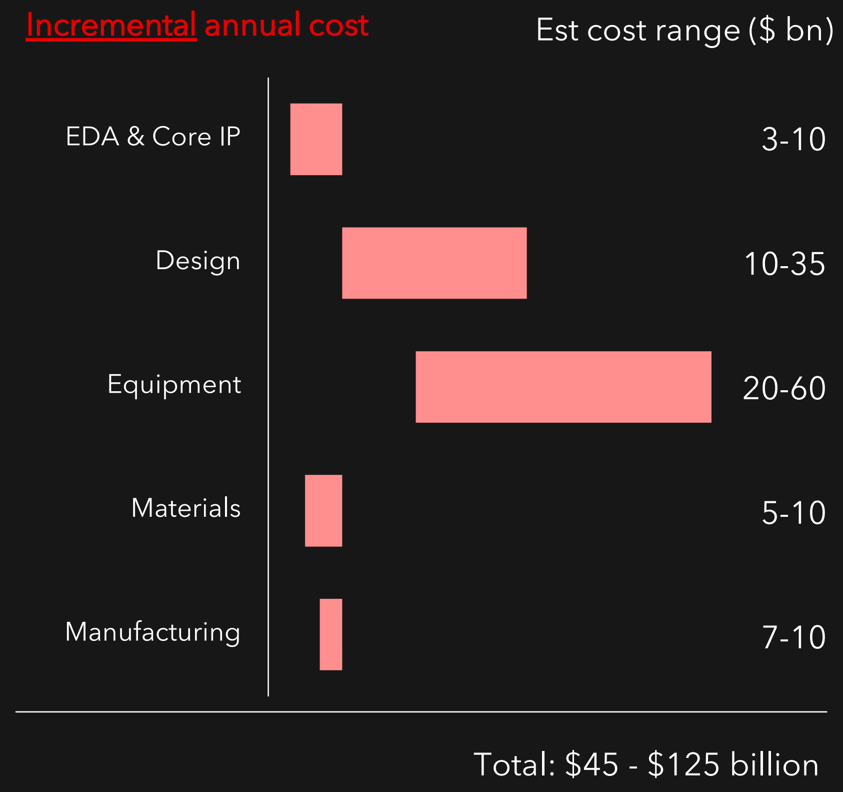
Source: (1) McKinsey, "How COVID-19 is Reshaping Supply Chains" (November 23, 2021). Survey of global supply-chain leaders (May 4 - June 16, 2021, n=71).

The Staggering Cost of Semiconductor Self-Sufficiency

While semiconductors are strategically important for both economic growth and national security, developing "self-sufficiency" in every major region would require roughly $1 trillion of upfront investment and up to $125 billion of incremental annual cost

Incremental cost to cover 2019 demand with fully "self-sufficient" localized semiconductor supply chains





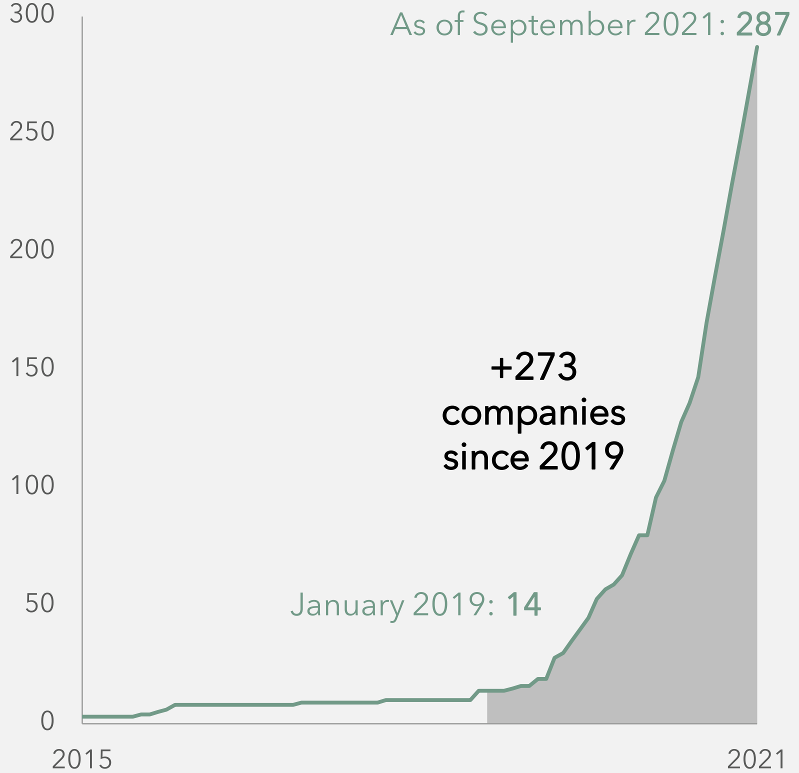
Source: (1-2) BCG, Semiconductors Industry Association "Strengthening the Global Semiconductor Supply Chain in an Uncertain Era". April 2021. Manufacturing includes both wafer fabrication and assembly, packaging and testing. Range defined by number of local companies assumed to be required to meet the local needs in each activity of the value chain.


Singapore

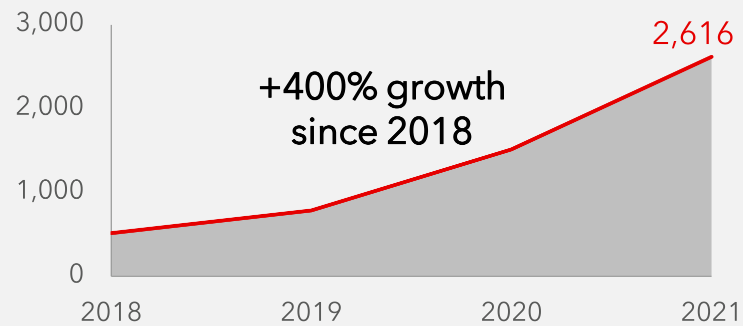
20. Keeping Pace with ESG

Companies globally are becoming more outspoken and transparent about their Net Zero goals. Ahead of expected regulatory action, companies are rapidly adopting voluntary disclosure models (such as TCFD, SASB, or GRI) and publicly setting net zero goals for their businesses. As of Q3 2021, 287 of the world's 500 largest companies in the heaviest-emitting sectors had made net zero pledges.

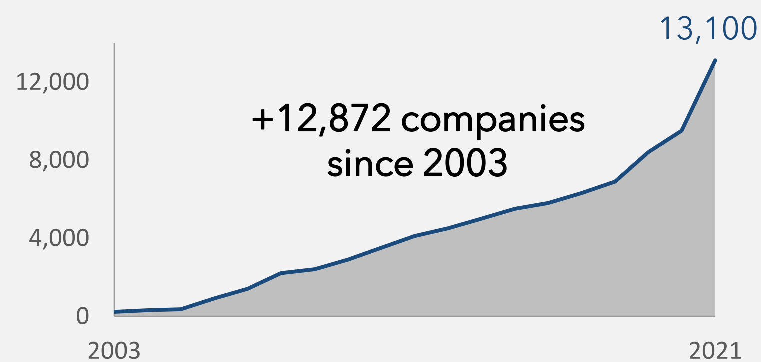
# of 500 largest companies in the heaviest-emitting sectors making net zero pledges



# of entities supporting TCFD disclosure framework



# of companies disclosing emissions to CDP



Source: (1) BloombergNEF. "The net zero bug - charting the spread of corporate net zero" (September 2021). (2) Task Force on Climate- Related Financial Disclosures – 2021 Status Report. (3) Bloomberg , "Corporate Greenhouse Gas Data Doesn't Always Add Up" (January 12, 2022) CDP.

Numerous Alliances Committed to Net Zero

Investors and corporates have created numerous forums and alliances to increase accountability and demonstrate support for net zero commitments

Notable corporate, financial and investor forums and alliances

INVESTOR & ASSET MANAGER ALLIANCES

- UN PRI
- Climate Action 100+
- Institutional Investors Group on Climate Change
- Net Zero Asset Managers Initiative
- One Planet Sovereign Wealth Funds
- Asia Investor Group on Climate Change
- Interfaith Center on Corporate Responsibility
- Net Zero Asset Owners Alliance
- Net Zero Investment Consultants Initiative

CORPORATE SECTOR ALLIANCES

- Science Based Targets Initiative
- International Coalition for Sustainable Aviation
- Fashion Industry Charter for Climate Action
- Race to Zero
- World Business Council for Sustainable Development

BANK & FINANCIAL SECTOR ALLIANCES

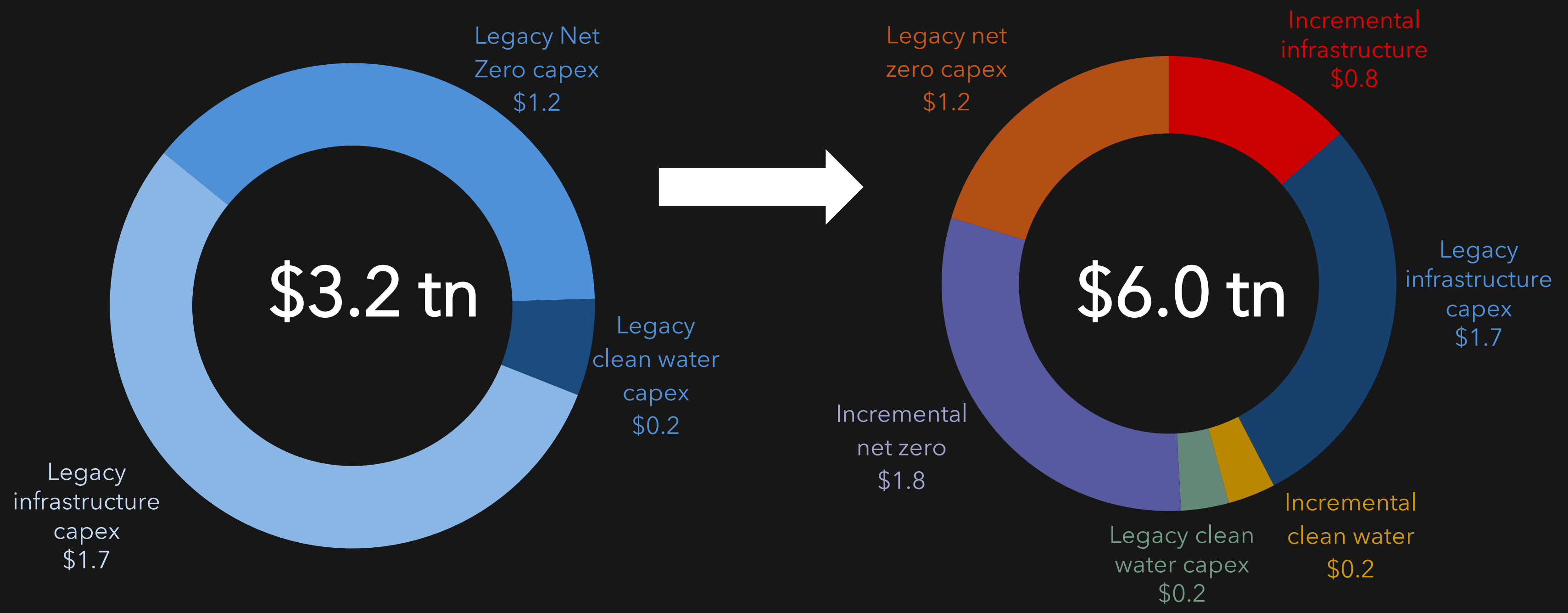
- Glasgow Financial Alliance for Net Zero
- Net Zero Banking Alliance
- Net Zero Insurance Alliance
- Net Zero Financial Service Providers Alliance

Green CapEx Investment

Historically, "Green CapEx" (investments in net zero, green and clean water infrastructure) has averaged roughly $3.2 trillion per year. In order to meet the Net Zero and UN Sustainable Development Goals, CapEx will need to rise to roughly $6 trillion per year for the rest of the decade. Going forward, corporates are expected to play an important role in increasing Green CapEx investments.

Current Green CapEx investment

Necessary Green CapEx to meet Net Zero goals



Source: (1-2) Goldman Sachs, "Green Capex Making Infrastructure Happen" (October 2021). World Bank. IEA. McKinsey. OECD.

Financial Sector Supporting Net Zero

Major financial institutions are committing as much as $1.3 tn per year to sustainable finance investments. In addition, over 450 global financial institutions, representing 40% ($130 tn) of global financial assets have committed to the Glasgow Financial Alliance for Net Zero (GFANZ) and agreed to support the economy-wide transition to net zero emissions. As global financial institutions make firmer commitments to reducing Scope 3 emissions, expect corporate lending relationships to involve more focus on sustainability and ESG transparency.

GFANZ initiatives:

1. **Broaden** Race to Zero's existing finance sector campaign to establish credible net zero commitments covering all financed activities in all sectors of the financial system.
2. **Expand** the number of financial institutions with high ambition, credible, and transparent commitments to financing the transition to net zero.
3. **Ensure** that commitments are backed by interim targets (2030 or sooner), alongside robust transition plans consistent with 1.5°C above pre-industrial levels as required by Race to Zero.
4. **Coordinate** commitments and actions across the financial system to support economy-wide transition, including the critical analytical tools and market infrastructure (such as credit rating agencies, auditors and stock exchanges) for financial institutions to implement their net zero strategies.
5. **Support** technical collaboration on substantive and cross-cutting issues that will accelerate the alignment of investment and lending with net zero.
6. **Advocate** for public policy that supports economy-wide transition to net zero.

Source: (1-2) Goldman Sachs, "Green Capex Making Infrastructure Happen" (October 2021). World Bank. IEA. McKinsey. OECD. Annualized sustainable financing targets based on our survey of the top 50 largest Banks and top 10 Diversified Financial companies (>75% of both sectors' asset base in the MSCI ACWI).

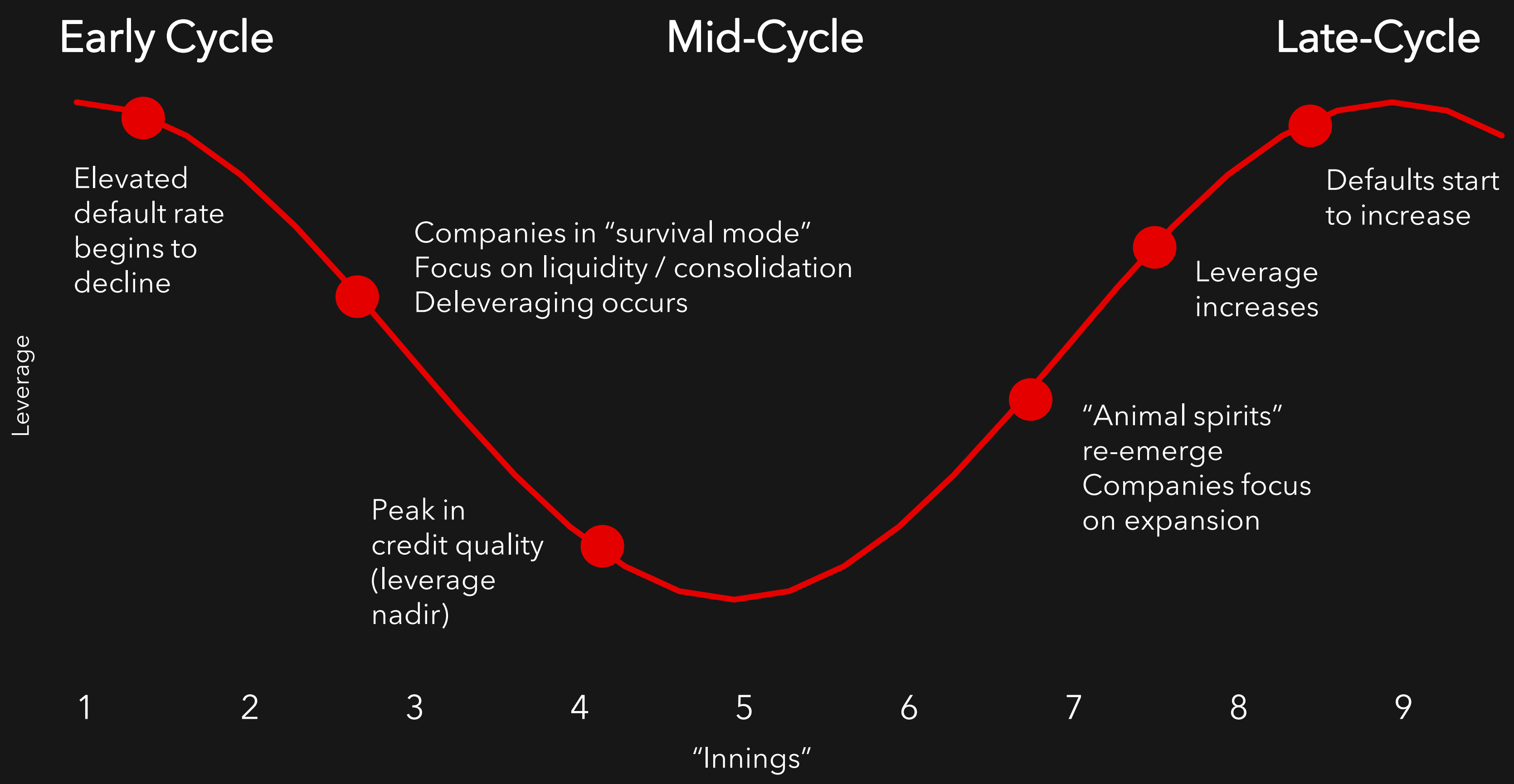
5 Resilient USD Credit Markets

> "They sat far apart deliberately, to experience, daily, the sweetness of seeing each other across great distance."
>
> Louise Gluck, American poet and winner of the 2020 Nobel Prize in Literature

Cambridge, United Kingdom

21. More Mid-Cycle than Late Cycle

With declining default and leverage ratios, and strong interest coverage ratios driven by impressive earnings growth, USD credit markets, overall, enter 2022 much more in mid-cycle than late-cycle



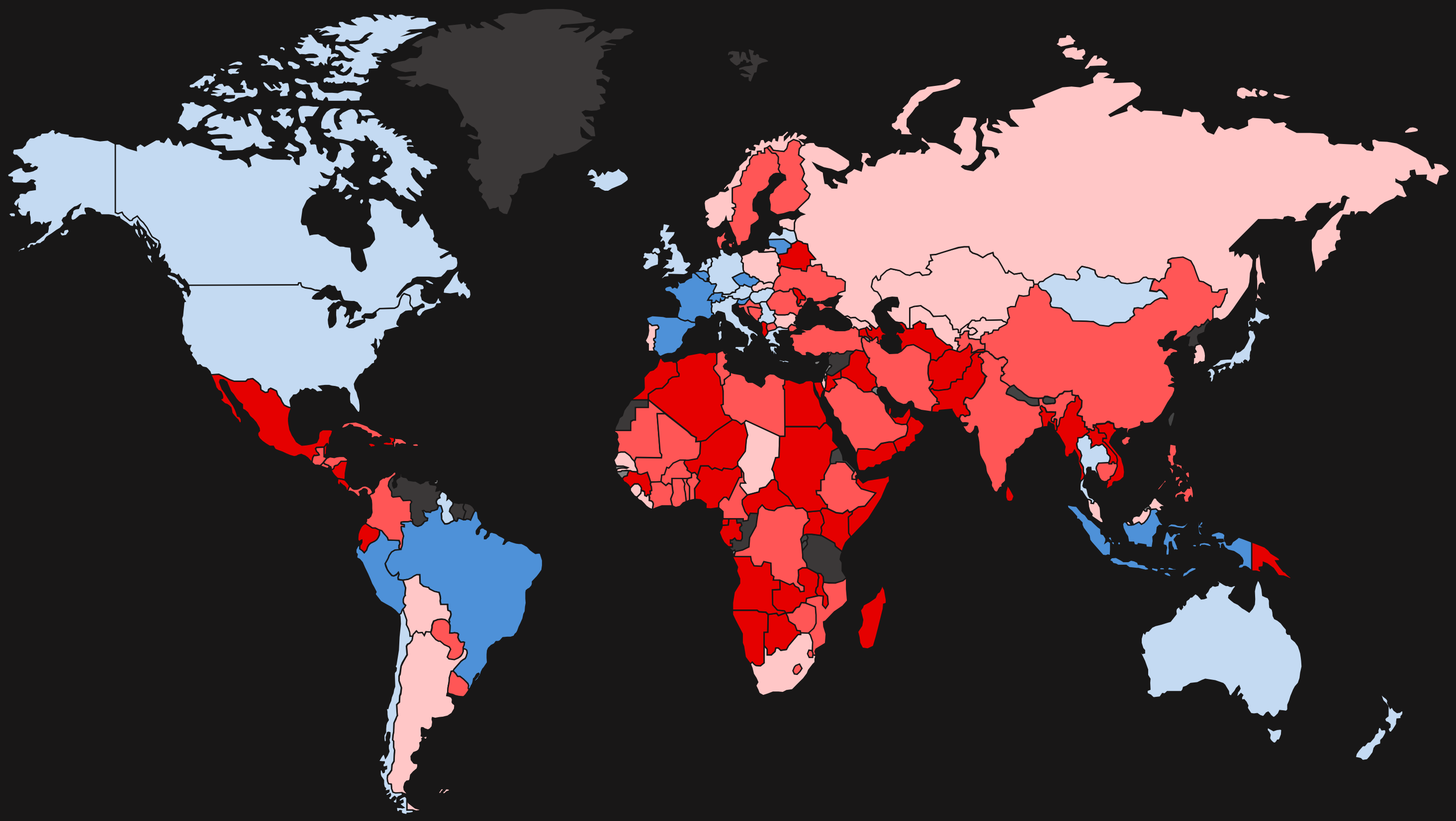
Source: (1) Capital Markets Strategy. (2) PGIM Fixed Income (Michael Collins, "The Global Credit Cycle," June 2016). For illustrative purposes only.

22. World Awash in Liquidity

Global monetary and fiscal stimulus has risen by a remarkable $32 trillion over the last 18 months, $13 trillion in the US alone ($5.5 monetary, $7.5 fiscal)

Global fiscal stimulus in response to COVID-19 (% of GDP)

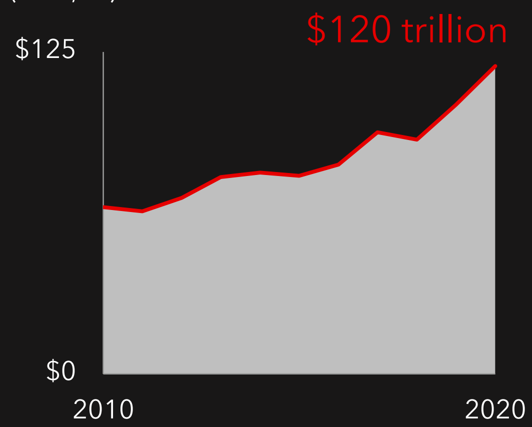
● Less than 2.5% ● 2.5% - 5% ● 5% - 7.5% ● 7.5% - 10% ● More than 10%



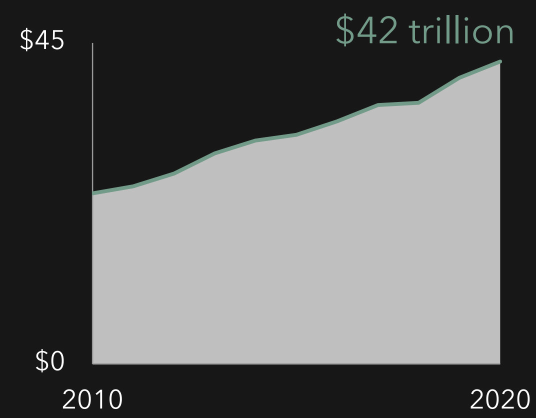
Source: IMF Database of Fiscal Policy Response to COVID-19, data as of October 2021. Fiscal stimulus includes spending and foregone revenue in response to COVID-19 pandemic as percent of 2020 GDP

Over $250 Trillion of Investment Funds

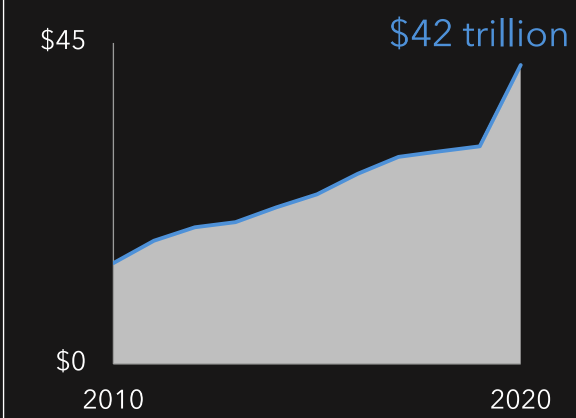
Global Money Manager Assets
(USD, tn)



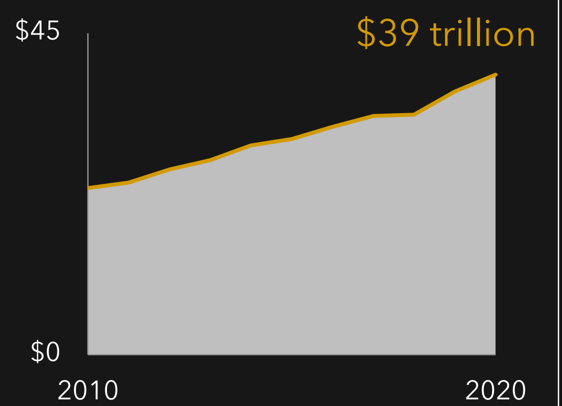
Global Pension Fund Assets
(USD, tn)



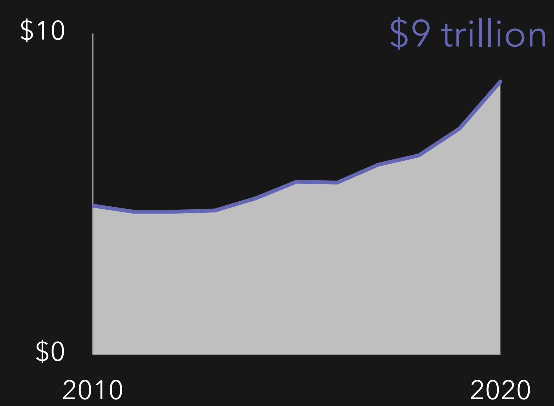
Global Central Bank Assets
(USD, tn)



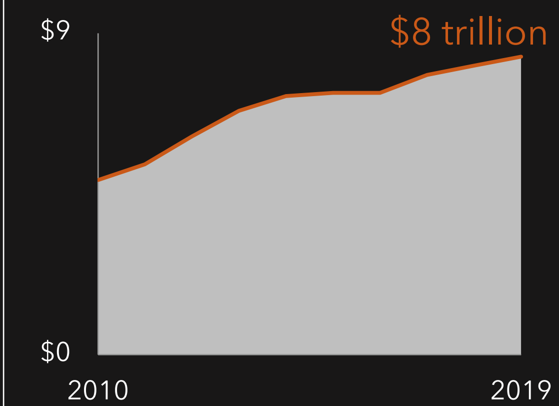
Global Insurance Assets
(USD, tn)



Global Money Market Fund Assets
(USD, tn)



Global Sovereign Wealth Fund Assets
(USD, tn)

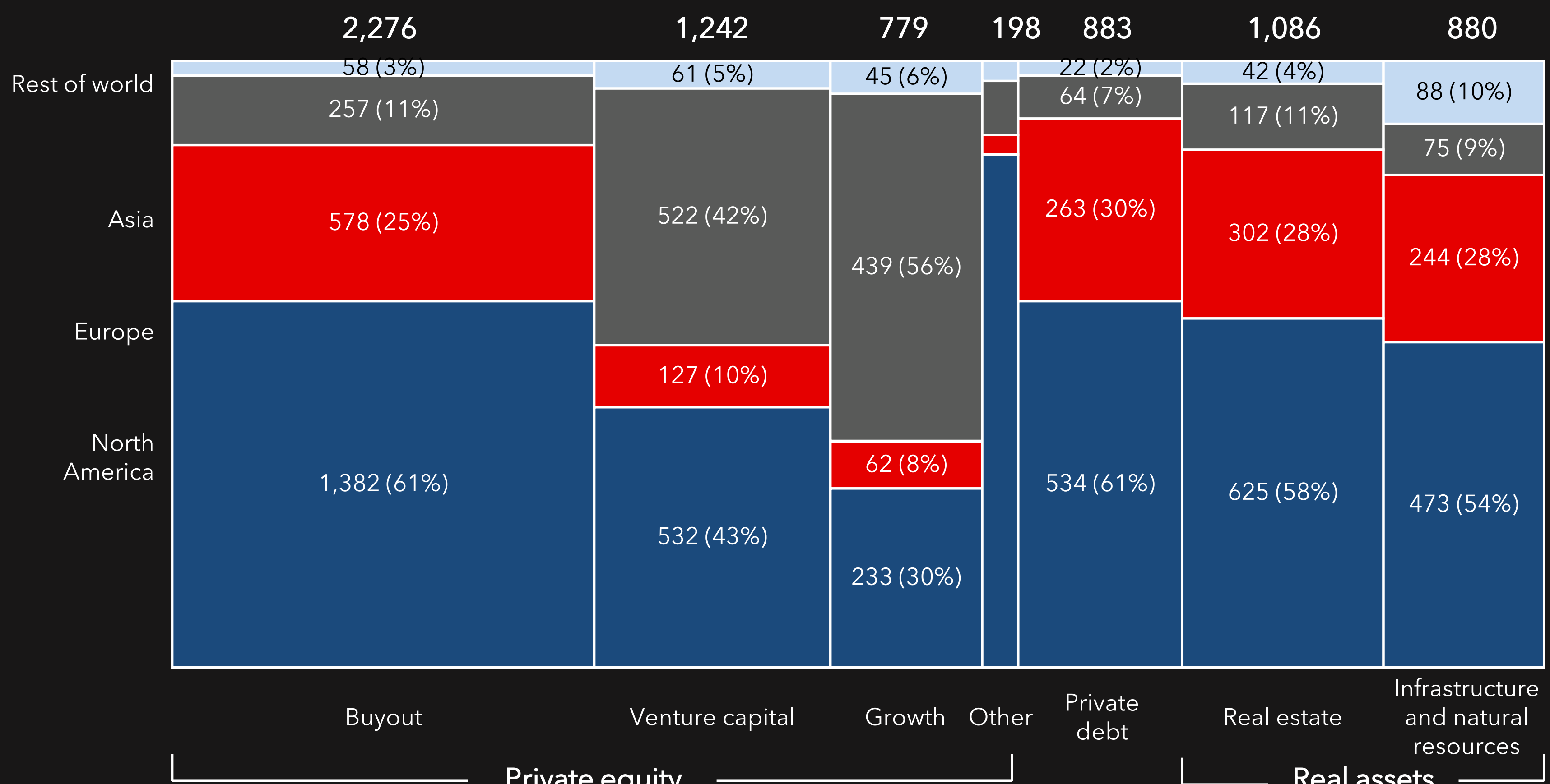


Source: (1) Thinking Ahead Institute "The world's largest 500 asset managers" (October 2021). Financial Stability Board. Global Monitoring Report on Non-Bank Financial Intermediation. (December 2021). G21 +Euro Area. National Sector Balance Sheets, FSB calculations. Statista. IE Center for Governance and Change. Sovereign Wealth Funds 2020. 2019 Data as of September 2019.

Over $7 Trillion of Private Capital Globally

According to a recent McKinsey & Company report, in the first half of 2020, there was $7.3 trillion of private market closed-end assets under management. Despite COVID-related volatility in fundraising, global private market AUM still grew 5.1%. Private Equity funds were the largest driver of growth, increasing 6% to 4.5 trillion (61% of total private market AUM).

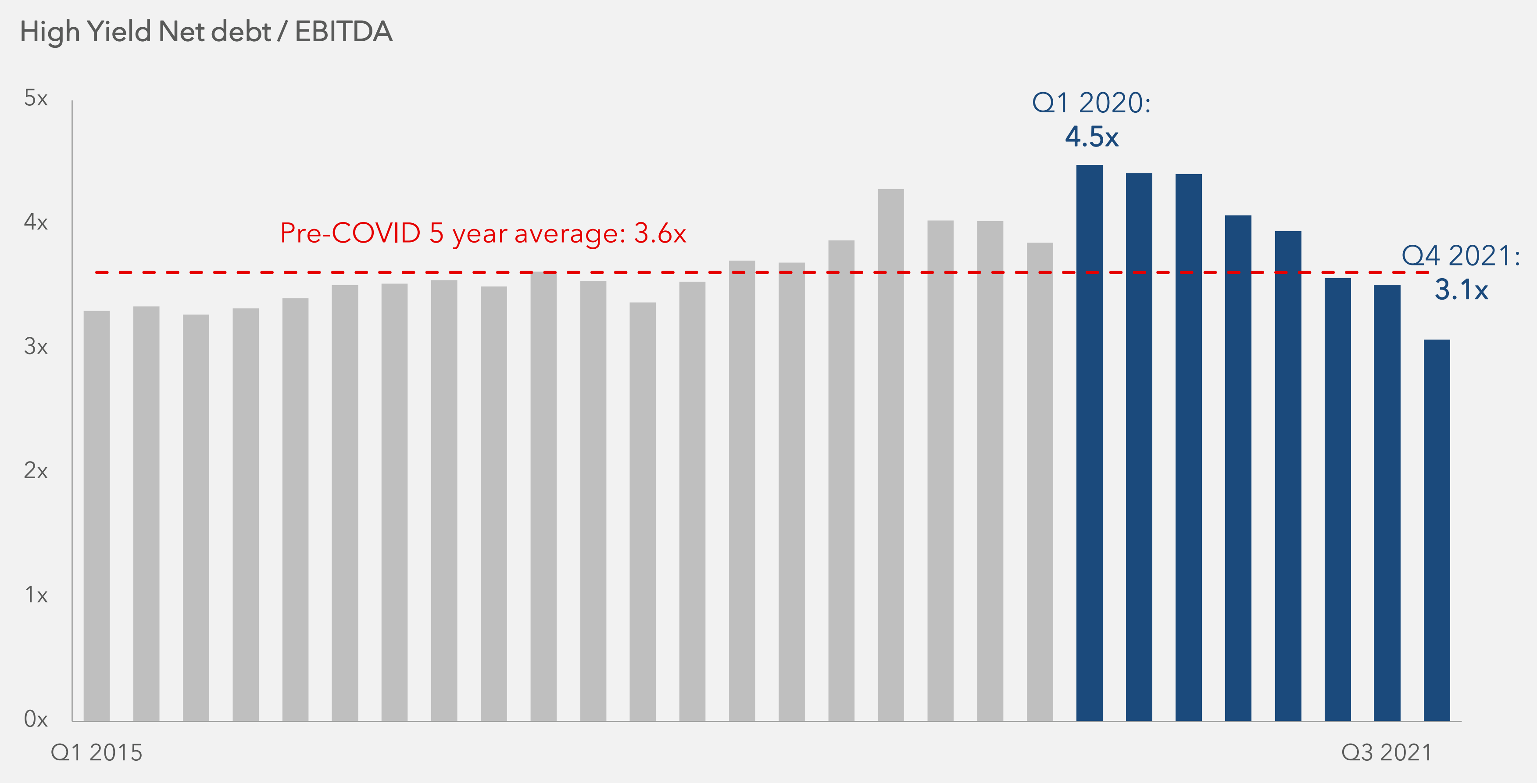
Private market assets under management, 1H 2020, USD Billion



Source: (1) McKinsey & Companies, "A Year of Disruption in Private Markets" (April 2021). Figures might not sum to 100% due to rounding. Preqin.

23. Improving Credit Fundamentals

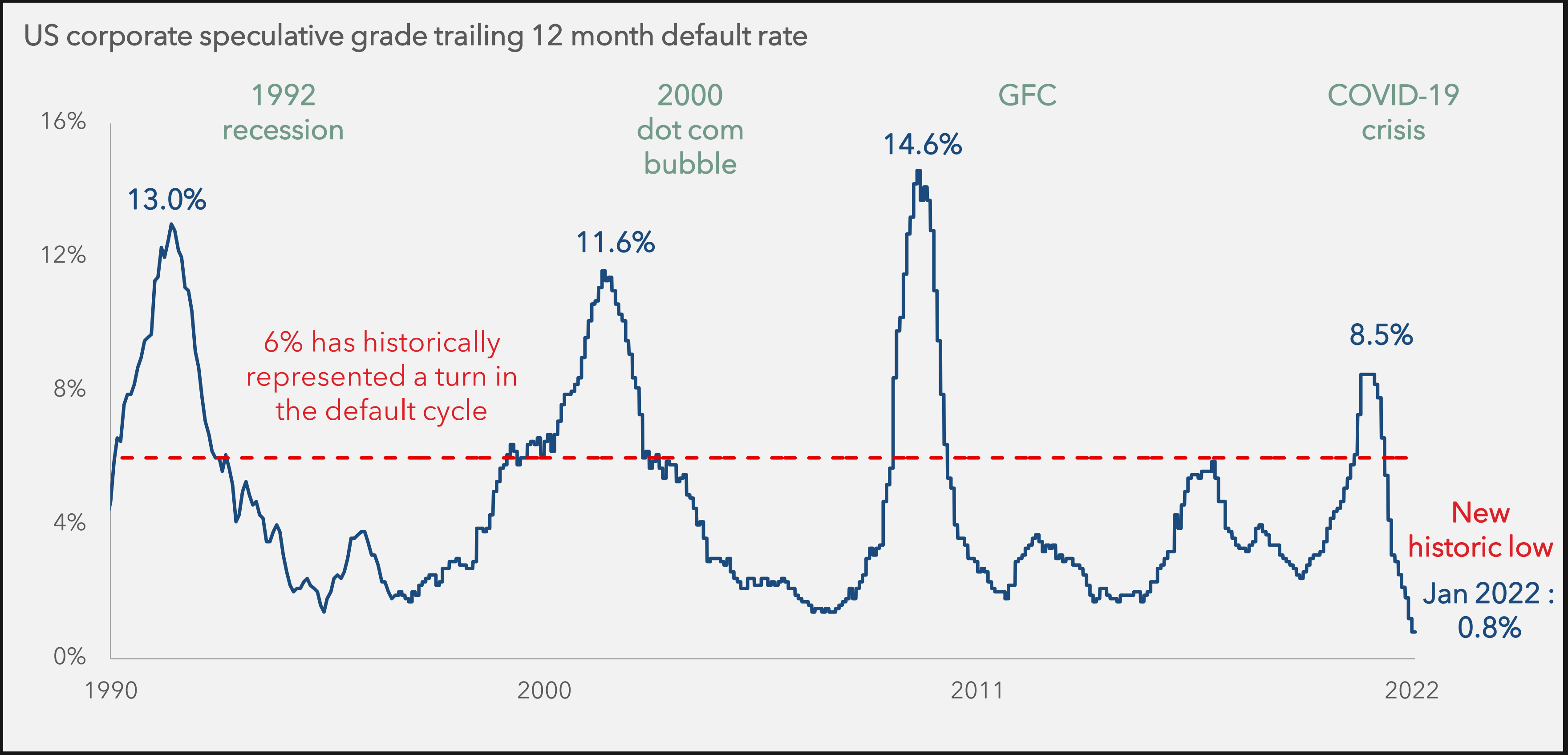
US corporates have entered 2022 with elevated cash balances, rising EBITDA margins and net leverage levels below pre-COVID levels. Further, in 2021, credit rating upgrades outpaced downgrades, a trend expected to continue in early 2022.



Source: (1) Bloomberg. Median net debt to EBITDA for companies in Bloomberg high yield index for which data was available. Companies that reported negative EBITDA are excluded. Data as of February 10, 2022.

USD High Yield Default Rates at Record Low

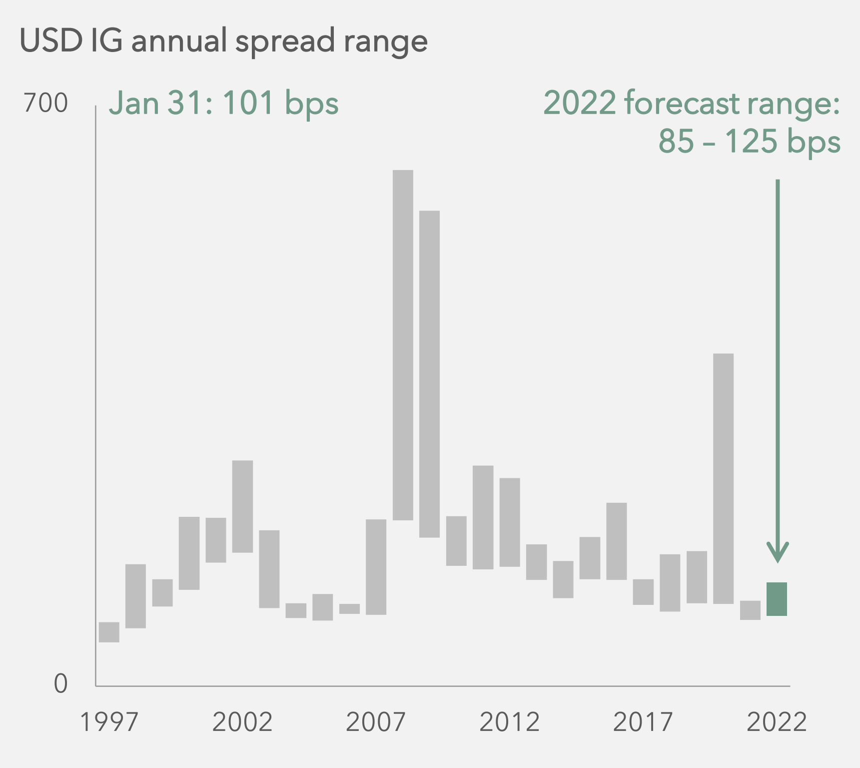
Despite the high volatility and poor credit market returns in early 2022, the US High Yield market did not have a single default in the month of January, with the 12 month trailing default rate declining to an all-time record low of 0.8%. In fact, according to a recent Fitch report, there have not been any defaults in six of the last 12 months, including a record 103-day zero default period in Q3 and Q4 2021. Volatility and inflation are running high, but the economy and credit quality remain strong.

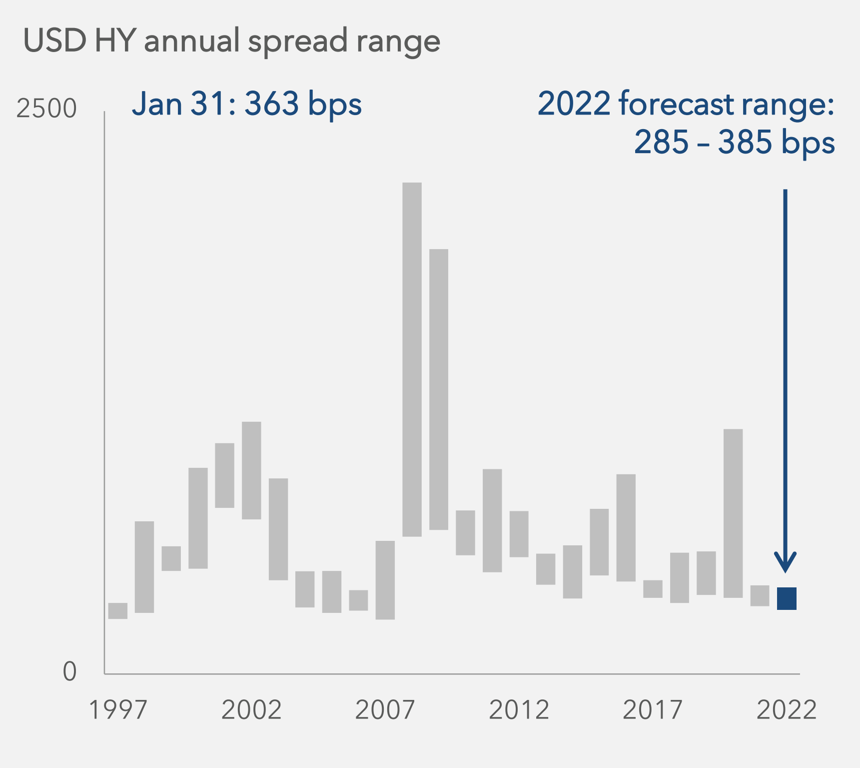


Source: (1) Bloomberg. Median net debt to EBITDA for companies in Bloomberg high yield index for which data was available. Companies that reported negative EBITDA are excluded. Data as of February 10, 2022.

24. Range Bound Credit Spreads

High macro-economic uncertainty poses significant challenges for accurately forecasting credit spreads in 2022. Nonetheless, IG spreads traded in a range of just 23 bps in 2021, the tightest trading range since 2006. HY spreads were also tightly range-bound. While higher structural volatility elevates the risk of modest spread widening in the early part of the year, MUFG believes that both IG and HY spreads can trade closer to the tight end of the forecast range if economic and policy normalization proceed smoothly. Should financial conditions tighten more than expected, HY spreads would be more vulnerable than IG to sudden "gap risk".

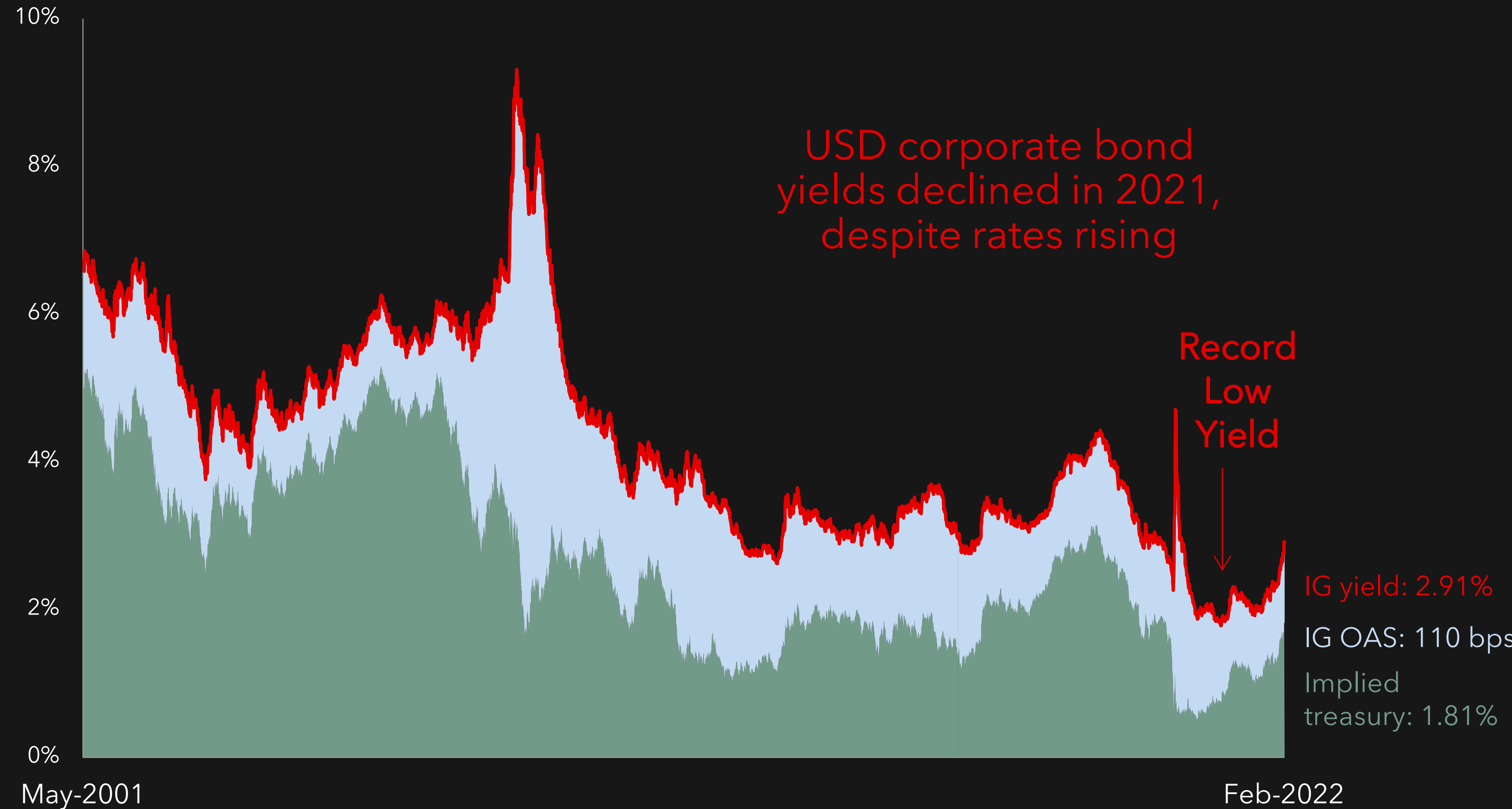




*Source: (1-2) CreditSights. FRED. Data as of January 31, 2022. *IG – 2008 peak of 622 bps, 2009 peak of 573. HY – 2008 peak of 2,182 bps, 2009 peak of 1,886 bps.*

Corporate Bond Yields Still Historically Low

Despite rising structural rate volatility and an expectation for modestly higher spreads relative to 2021's closing levels, USD corporate bond yields are likely to remain attractive by historic standards

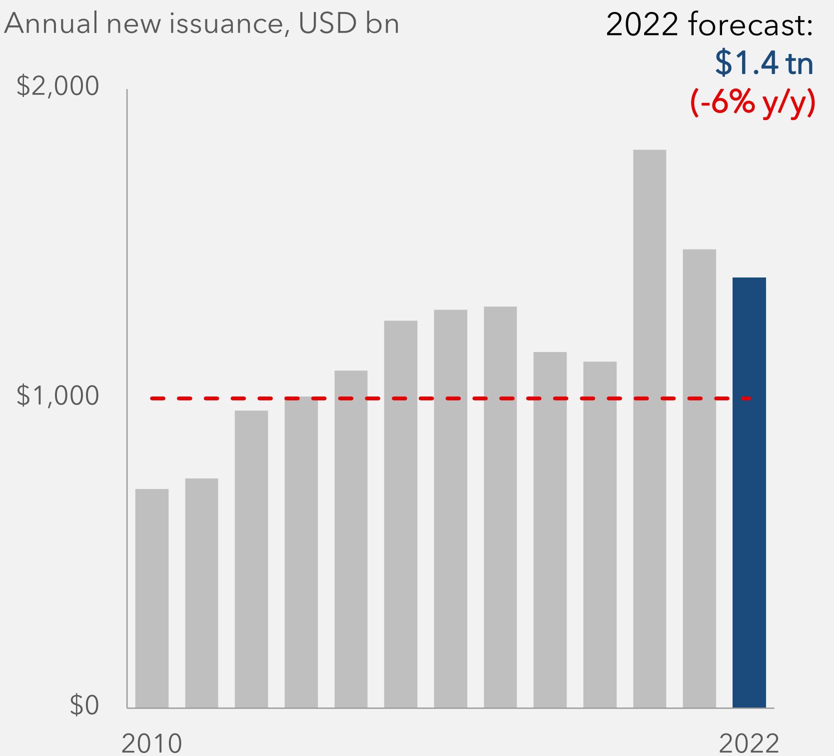


Source: (1) CreditSights. FRED. Data as of February 9, 2022.

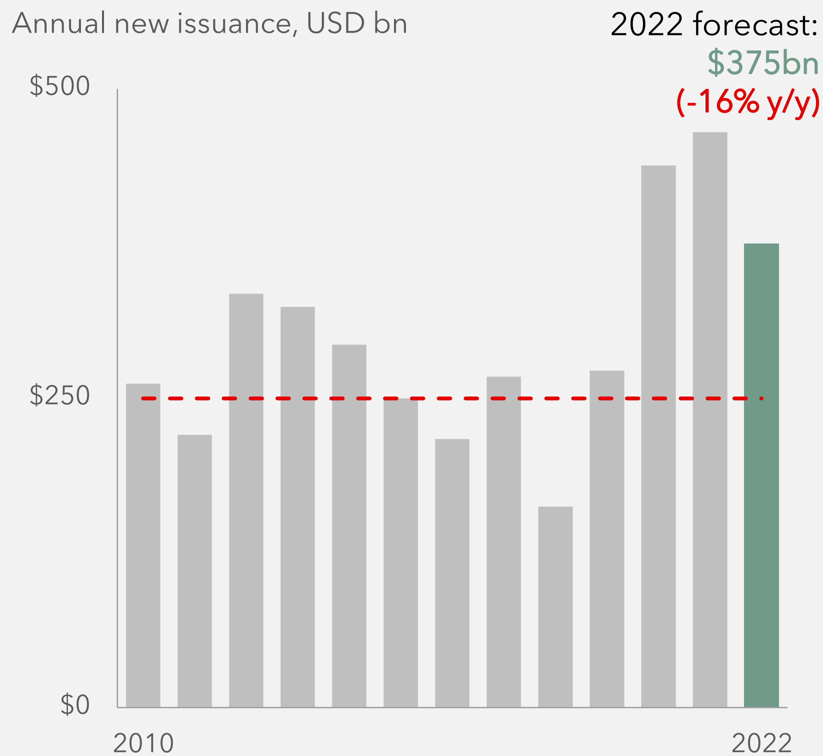
25. Robust New Issue Markets

2021 was the highest and second highest issuance year ever for USD high yield and investment grade markets, respectively. In 2022, expect still attractive funding levels, an active M&A environment, and significant business investment to drive robust issuance once again, particularly in the first half of the year. MUFG expects $1.4 tn of IG issuance (-6% y/y) and $375 bn (-16% y/y) of HY issuance in 2022.

2021 was the second highest USD IG new issuance year ever at $1.5 trillion



2021 was the highest USD HY new issuance year ever at $465 billion



Source: (1-2) IFR. Data as of January 12, 2022.

6 Geopolitical Risk & Big Government

> "The United States brags about its political system, but the President says one thing during the election, something else when he takes office, something else at the midterm and something else when he leaves."
>
> Deng Xiaoping, Leader of China from 1978 - 1989, also known as the "Architect of Modern China"

26. Russia-Ukraine: Why Now?

The peak-winter season, perceived Western leadership weakness and tacit Chinese support have all contributed to the current timing of President Putin's long-held wish to restore Russia's 20th century borders and pushback on potential NATO expansion. However, while seeking to take advantage of a seemingly weakened West and fragmented NATO alliance, Putin's actions have become a catalyst for much stronger NATO unity and policy coordination than anticipated.

Peak winter timing maximizes leverage on West

- European gas dependencies ~40%
- German dependency ~50%
- "Muddy terrain" for military exercises in early Spring ("lesson of history")

Perceived weakness of NATO & Western leadership

- US NATO & European trade policy under Trump
- Recent US withdrawal from Afghanistan
- Low Biden (US) & Johnson (UK) approval ratings
- Upcoming Macron election in France

Deepening Sino-Russian strategic ties

- Putin and Xi have held over 30 in-person meetings
- Challenge and disruption to Western-dominated global architecture
- Mirror Xi Jinping's assertiveness in restoring old boundaries (HK, Taiwan & S.China Sea)

NATO's Eastward Expansion

Since the early1990's, NATO has expanded its membership from 16 to 30 nations, and has acknowledged 3 new aspirational members: Ukraine, Georgia and Bosnia & Herzegovina. With Presidential elections in both the US and Russia in 2024, and Putin's own political clock advancing, drawing a line on Western expansion of NATO became a more important political priority for Putin.

Source: NATO
Note: Map excludes NATO members, the US & Canada

Russia-Ukraine Scenario Analysis

With decision-making so centralized in President Putin's authoritarian regime, it remains difficult to accurately forecast the "scale and likelihood" of a Russian military incursion in the Ukraine. While a diplomatic solution appears marginally more likely as of Feb 15, the situation remains highly uncertain and fluid, both near and medium term. Perhaps more than pivoting in either direction, Putin appears to be keeping "all options open."

Scenario	Description/Consideration	Probability
Diplomatic Resolution	Description: No military incursion; Putin extracts concessions and guarantees from NATO Consideration: West very unlikely to commit to "never" including Ukraine in NATO, or to removing military presence in former Warsaw-pact countries	45%
Limited Incursion	Description: Military incursion focused on Eastern "Donbas" region to solidify Crimea foothold and position for further expansion at later date Consideration: Financial and economic sanctions from the West will be significant	45%
Full Incursion and Occupation	Description: Likely a prohibitively challenging task given size of Ukraine and 42 million population (with rising resistance since Crimea in 2014) Consideration: Maximizes Western response (economic and geopolitical) in manner perhaps not aligned with Russian strategic objectives	10%

Scenario probabilities above differ from those in MUFG's EMEA research team

Expectations for Western Sanctions on Russia

Ukraine is not a NATO member and so an "Article 5" NATO military response is not on the table. However, the US and Europe have moved in a more rapid and unified manner than anticipated. The US Senate, in consultation with NATO allies, is in the final stages (down to "the one yard line") of a comprehensive sanctions package that Congress is prepared to pass into law in February, if needed. Such strong bipartisan legislative support is unusual, and notable, in a mid-term election year.

Notable observations on potential US sanctions

Key Targets	Russian banks, energy companies & oligarchs
Timing	Late February (event dependent) Combination of "immediate" and "trigger-based" sanctions (i.e., invasion)
Expectations on magnitude	Restrictions on Russian sovereign debt financing & trading Financial sanctions on individuals & entities • Some USD clearing restrictions (carve-out for energy sector) • Capital market financing restrictions • Asset freezes • Travel & visa restrictions Trade related measures & restrictions • Export controls and technology bans • Key focus areas: Semiconductors, lasers, robotics, quantum computing, cyber, defense, aerospace, oil equipment & "emerging technologies"

Supply Side Shock for Economies

Russian military action and Western sanctions would largely constitute a supply side shock, rather than demand, for the European and global economy. While higher energy prices would be the most immediate transmission channel, the negative knock-on effect to consumer demand would follow.

Channels of contagion for supply

- Russia restraining exports as a diplomatic tool
- Western embargoes and sanctions
- Damage to infrastructure (i.e., pipelines)

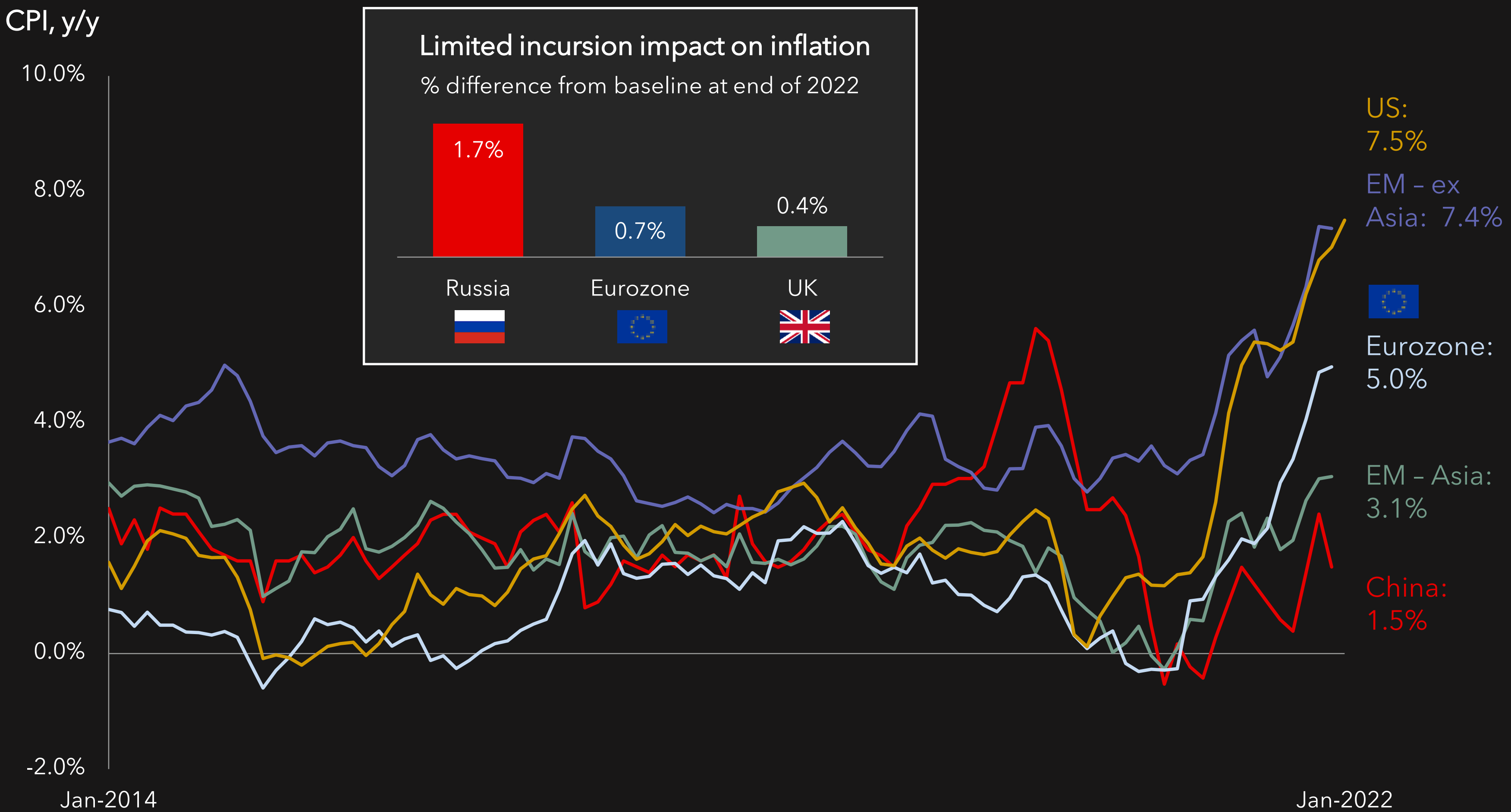
Commodities most vulnerable to supply shocks

- Russia accounts for approximately 40% of European **natural gas**
- Russia is the world's 3rd largest oil **producer**, accounting for > 10% of global production
- Russia and Ukraine account for 25% of global **wheat** exports
- Russia is the world's largest exporter of **fertilizers**
- Russia is the world's largest exporter of **palladium**, critical for the global auto sector
- Russia is highly dependent on the West for **technology**, **semiconductors** and **oil equipment**

Source: Capital Economics: Russia-Ukraine: Near-term inflation; long-term decoupling. EIA.

Limited Incursion Impact on Inflation

With energy prices already high, an extended or escalating conflict with Ukraine is likely to have an outsized impact on European inflation, exerting pressure on household incomes, GDP growth and ECB policy



Source: (1) BIS. Bloomberg. Data as of February 10, 2022. (2) Oxford Economics, "Limited Ukraine Incursion Would Dampen Recovery" (February15, 2022).

Global Commodity Crunch Underway

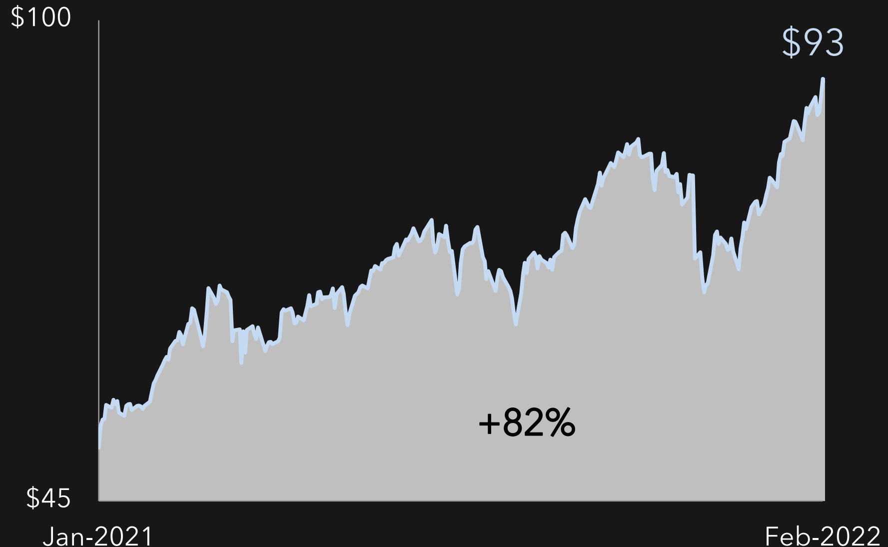
According to Bloomberg, more major commodity contracts today are in backwardation (current prices > future prices) than at any time since 1997. Production cuts, underinvestment in fossil fuel projects, bad weather, pent-up demand and supply chain constraints have driven the Bloomberg Commodity index to record highs. In addition, stockpiles of key commodities (including copper, aluminum, natural gas, and some agricultural products) are at seasonally, and in some cases, historically low levels.

Source: (1) Bloomberg. Data as of February 15, 2022.

Oil Heading Above $100 per Barrel

Oil prices rose 17% in January, their strongest increase during January in over 30 years. Resilient demand, depleting inventory, structural under-investment and rising geopolitical risk (Russia-Ukraine) have all been contributing factors. While demand was the prevailing driver of oil prices early in the COVID crisis, supply considerations have now become the stronger marginal driver of oil both currently and looking ahead to 2022.

Brent



	Spot (Feb 15)	Q1 2022	Q2 2022	Q3 2022	Q4 2022
Brent	$93	$96	$102	$87	$108
WTI	$92	$93	$99	$84	$105

Key Drivers of Oil Prices in 2022

Robust demand

- Omicron subsiding
- Warm weather re-opening
- Extraordinary stimulus and high consumer savings
- Above trend 2022 global GDP growth

Thinning spare capacity

- Rapidly depleting inventories
- Acute supply constraints (OPEC, low investment, supply-chain and transportation bottlenecks)

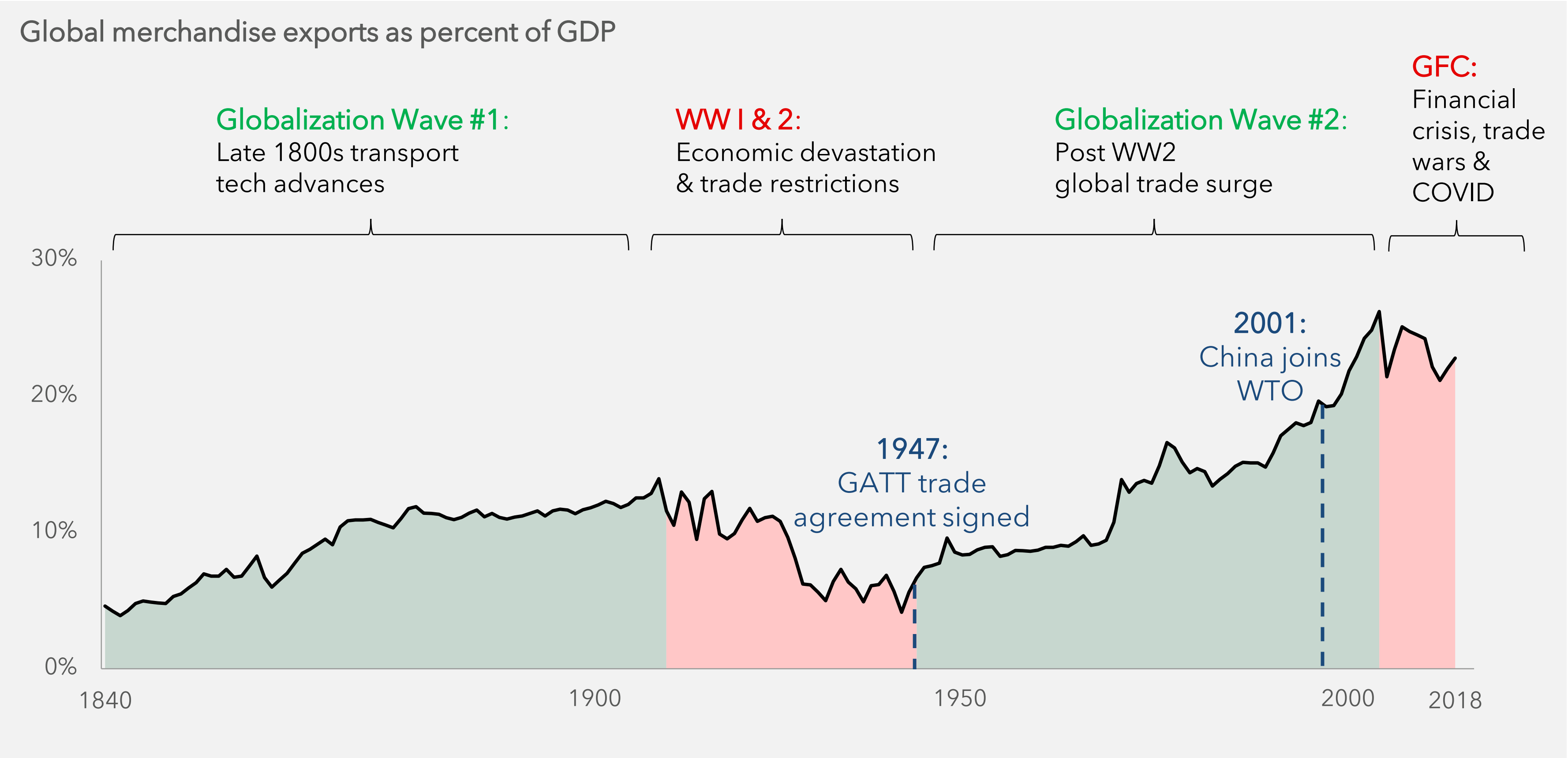
Policy considerations

- Hawkish Fed driving investor positioning toward oil as hedge against rising rates
- "Green transition" contributing to structural under-investment
- Potential Western sanctions targeting Russia's energy sector (#3 producer globally at 10.5m b/d)

Source: (1) Bloomberg. Data as of February 15, 2022. MUFG Oil Market Weekly (Ehsan Khoman). EIA.

27. "Policy" De-Globalization

Over the past 200 years, two major waves of globalization in the late 1800s and late 20th century were each interrupted by WW1, WW2, the GFC in 2008-9 and, more recently, the US-China trade wars and COVID crisis. While other structural factors may have contributed to de-globalization (populism, China slowdown), a rising tide of government "policy de-globalization" has also been a formidable contributor to the reversal.



Source: (1) Oxford Economics and Investment Management Corporation of Ontario, "De-globalization Implications for Investors" (June 2020). Ourworldindata. Fouquin and Hugot (CEPII 2016).

Factors Driving De-Globalization

STRUCTURAL FACTORS

- China slowdown
- Post-GFC cross border bank deleveraging
- Slowing global supply chain expansion

POLICY FACTORS

- Creeping protectionism (tariffs, subsidies, restrictions)
- Declining global trade growth
- Rising techno-nationalism
- Rising US-China structural rivalry
- Rising anti-immigration sentiment
- Cross border bank deleveraging
- Greater scrutiny of cross border M&A

The Implications of De-Globalization

Directional Impact of Increased De-globalization

Economic Impact:	
Global growth	↓
Export – oriented EM	↓
Low income country development	↓
Economic cycle correlations	↓
Inflation	↑
Trade volumes	↓
Global capital flows	↓
Cross – border FDI	↓
Immigration	↓
Corporate Impact:	
Tariff costs	↑
Input costs	↑
Labor costs	↑
Cost of capital	↑
MNC earnings	↓
MNC earnings multiples	↓
International bank lending	↓
Complexity of nation – state regulations	↑
IP rights enforcement	↓
Regional fragmentation of tech	↑
Market Impact:	
MNC asset returns	↓
Domestic focused stocks	↑
Small cap equities	↑
Bond yields	↑
Equity market correlations	↓
Market volatility	↑
Safe – haven currencies (USD, Yen)	↑
Trade – heavy currencies (RMB, EUR)	↓

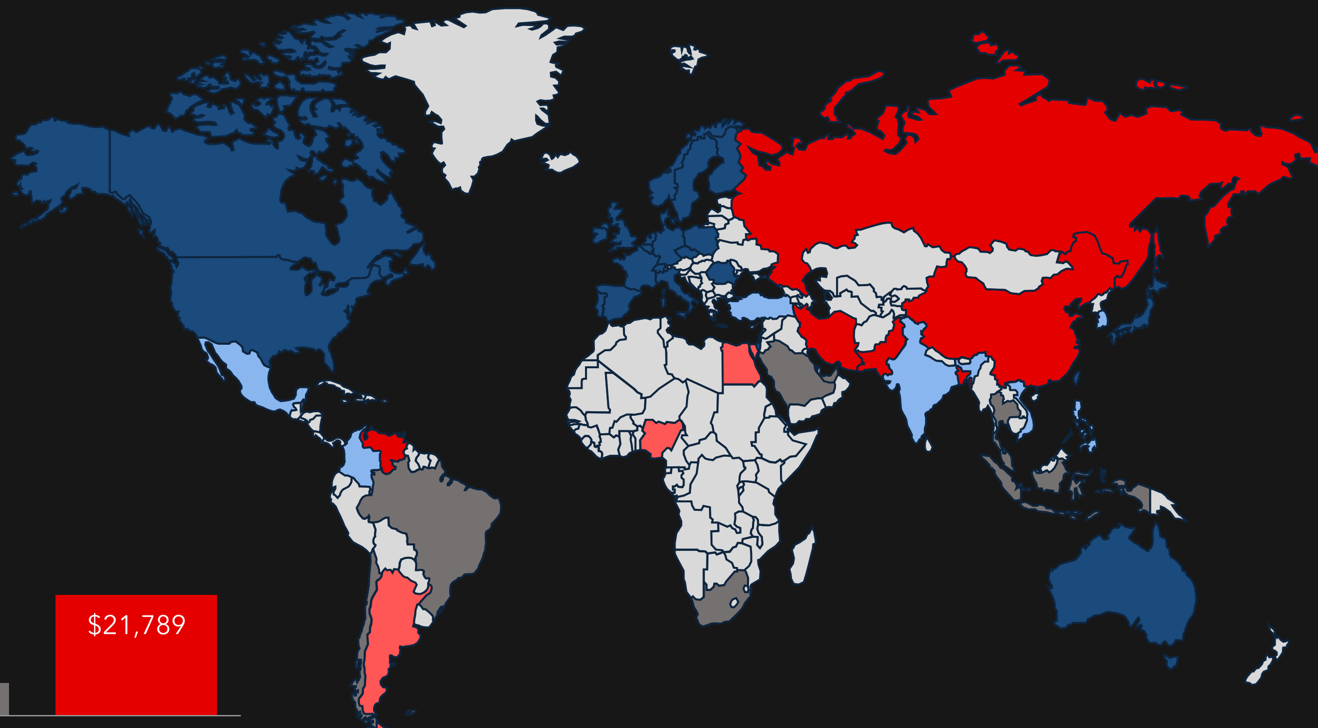
Source: (1) Oxford Economics. Investment Management Corporation of Ontario.

Mapping US – China Decoupling

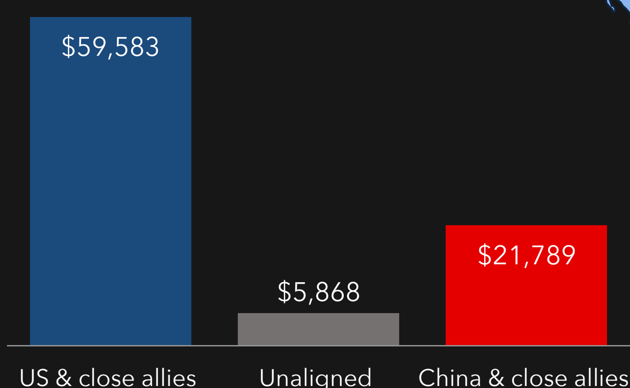
US-China structural rivalry and decoupling will be a dominant global theme in 2022 and the decade ahead. While countries that generally align with China account for around 50% of the global population, the US bloc is more than double the size economically. Notably, many of the faster growing emerging markets are US leaning. The US bloc is also more independent on an import/export basis, relatively speaking, with over 50% of global trade occurring within the US bloc.

Relative Alignment for World's 50 Largest Economies

- US & close allies
- Leans US
- Unaligned
- Leans China
- China & close allies



Total GDP, USD bn

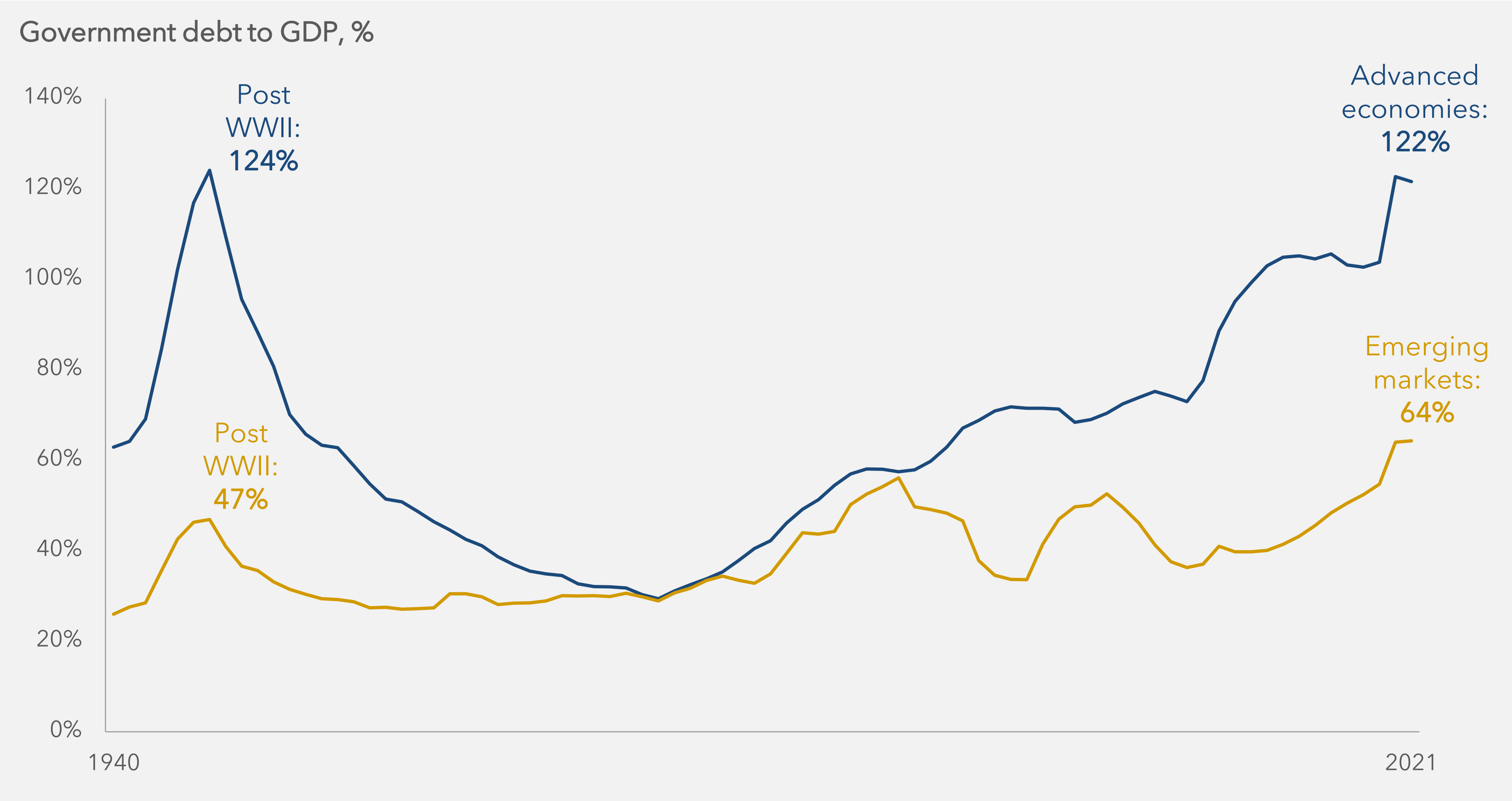


Source: (1) Capital Economics, "China Economics Focus – Mapping Decoupling" (September 17, 2021). World Bank, IMF, UN, OECD, Pew Research Center, US Department of Defense, Capital Economics.


Mexico City, Mexico

28. High Tolerance for Debt

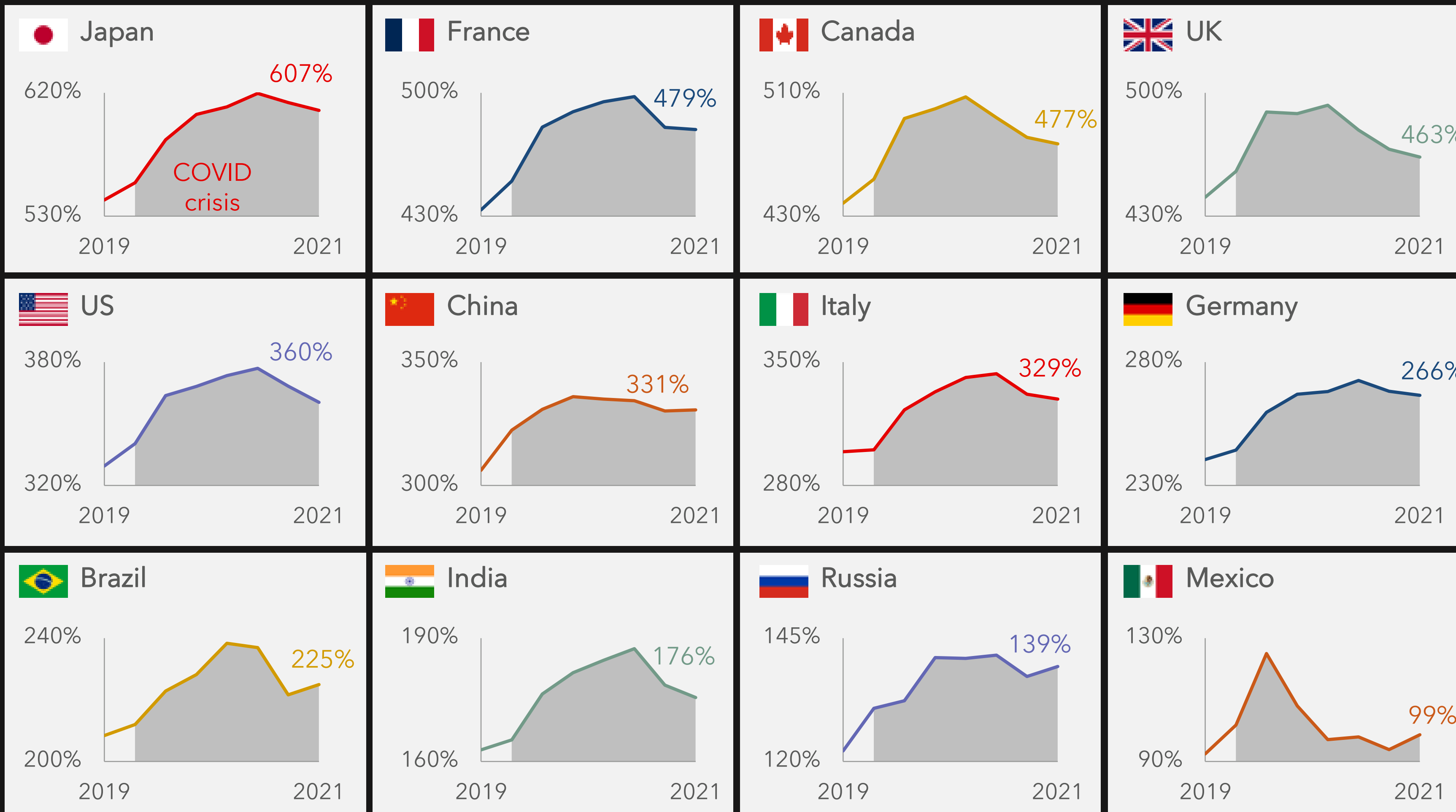
Since the Global Financial Crisis and COVID pandemic, advanced economy global debt has surged back to WWII levels



Source: (1) IMF . Fiscal Monitor: Policies for the Recovery (October 2021). Historical Public Debt Database; IMF, World Economic Outlook database; Maddison Database Project; and IMF staff calculations. The aggregate public-debt-to-GDP series for advanced economies and emerging market economies is based on a constant sample of 25 and 27 countries.

COVID Crisis Debt Levels Rising

Total debt to GDP, % (household, government, non-financial corporate and financial balances)



Source: (1-12) IIF Global Debt Monitor. Data as of January 12, 2022 through Q3 2021. Total debt includes household, government, non-financial corporate and financials. Quarterly data.

Gov't Funded Infrastructure

According to a report by the World Economic Forum, annual global investment would need to top $3.7 trillion (or 4% of global GDP) between 2017 and 2035 to close existing infrastructure gaps

Top 50 countries ranked by quality of infrastructure

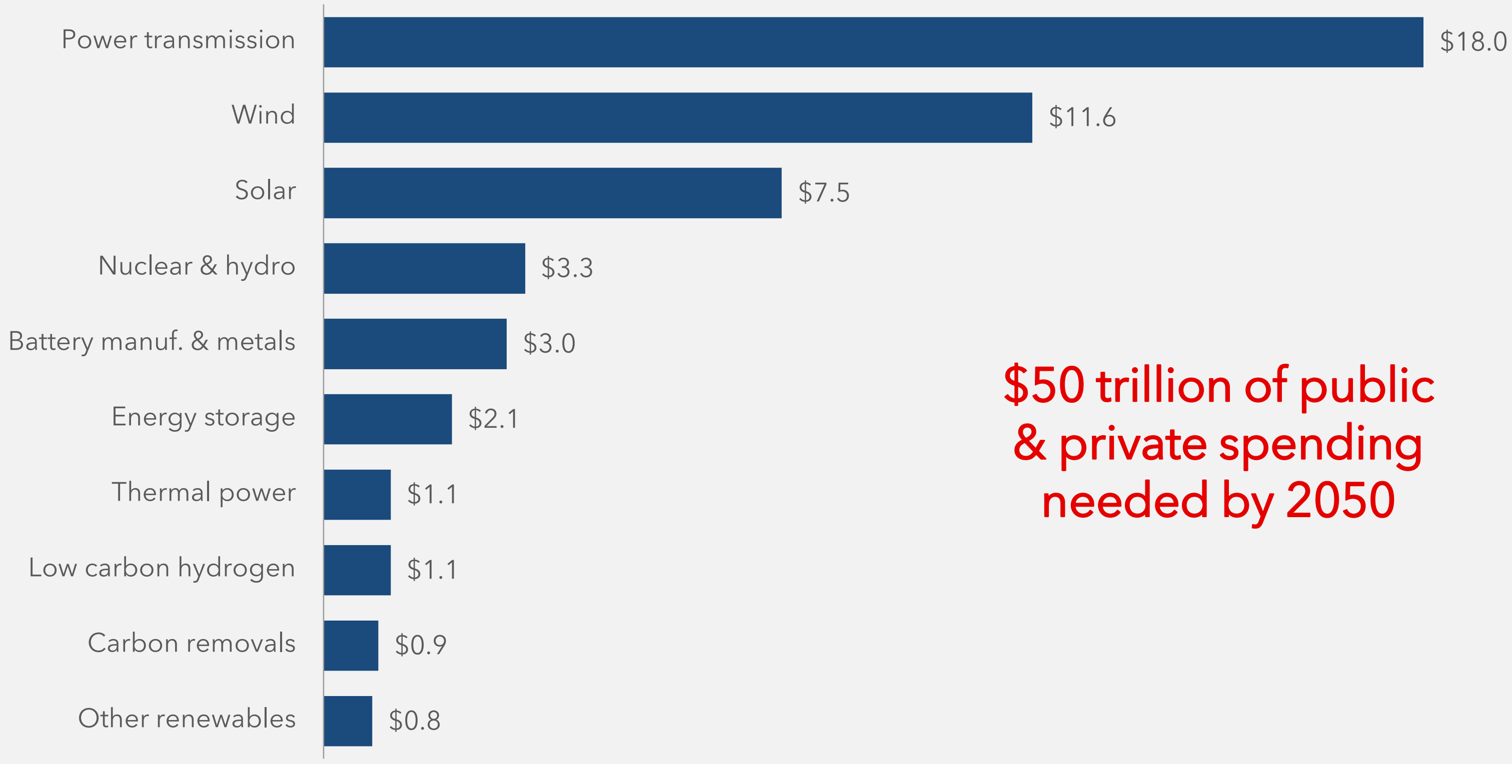
1	Singapore	18	Italy	35	Malaysia
2	Netherlands	19	Sweden	36	China
3	Hong Kong	20	Czech Republic	37	Greece
4	Switzerland	21	Portugal	38	Azerbaijan
5	Japan	22	Finland	39	Lithuania
6	Korea	23	Israel	40	Ireland
7	Spain	24	Qatar	41	Iceland
8	Germany	25	Poland	42	Chile
9	France	26	Canada	43	Latvia
10	Austria	27	Hungary	44	Norway
11	UK	28	Oman	45	Estonia
12	UAE	29	Australia	46	New Zealand
13	US	30	Slovakia	47	Malta
14	Belgium	31	Bahrain	48	Cyprus
15	Denmark	32	Croatia	49	Turkey
16	Taiwan	33	Slovenia	50	Russia
17	Luxembourg	34	Saudi Arabia		

Source: (1) World Economic Forum – Global Competitiveness Report 2020. Rankings are for 2019.

29. Climate Transition

In order to meet the goals of the Paris Climate Accord, an estimated $50 trillion in cumulative spending (including public & private financing) on clean energy technology will be needed by 2050

Estimated cumulative spending by category to get to net zero emissions by 2050, USD tn

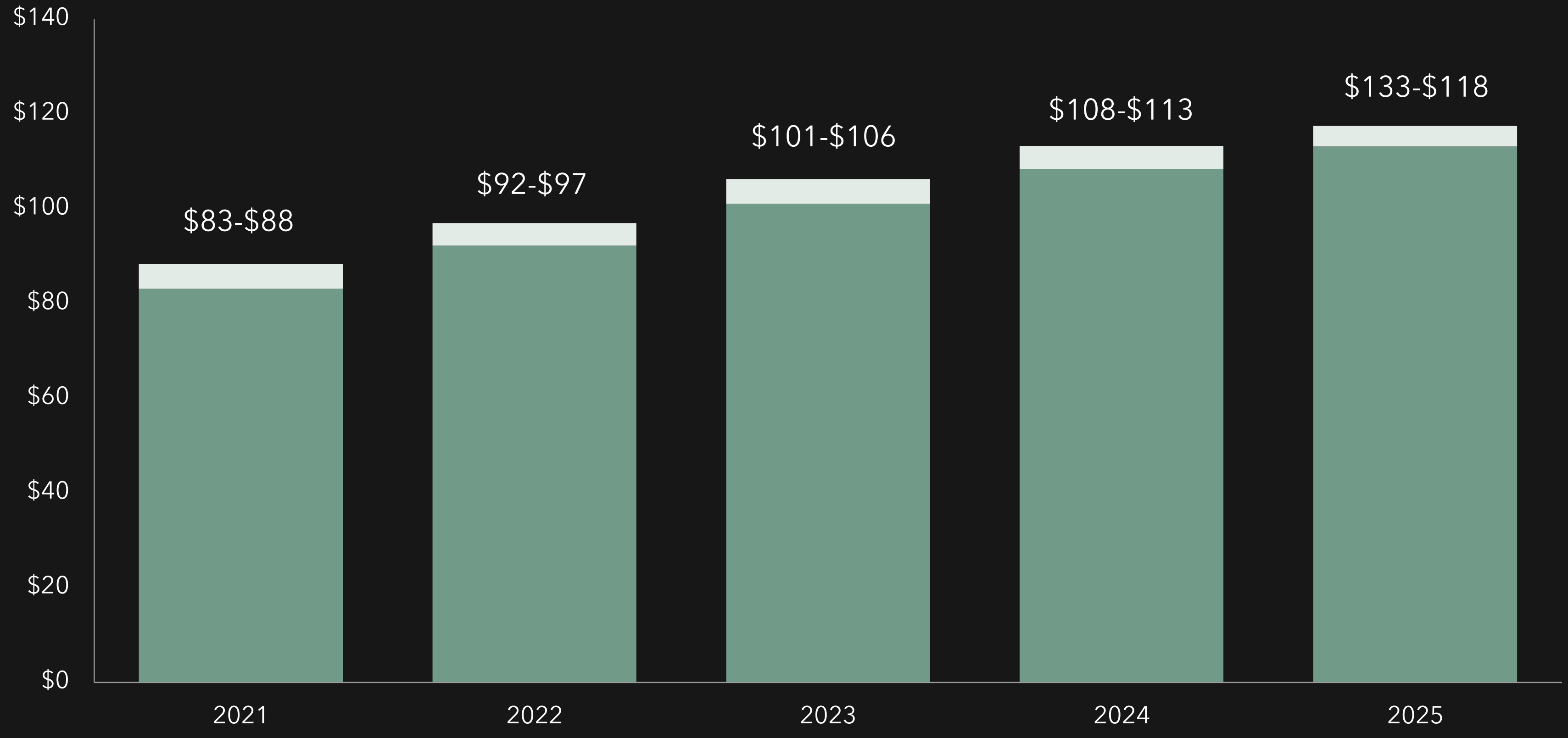


Source: (1) BloombergNEF. "The net zero bug - charting the spread of corporate net zero" (April 14, 2021). (2) WSJ. Wood Mackenzie. net zero emissions by 2050 also based on world limiting global warming to 1.5 degrees Celsius above pre-industrial levels.

Climate Financing for Emerging Markets

Developed economies have committed to increasing the amount of climate & adaptation financing they provide emerging economies. However, at roughly $85 billion in 2021, advanced economies are still short of their prior target of providing $100 billion by 2020.

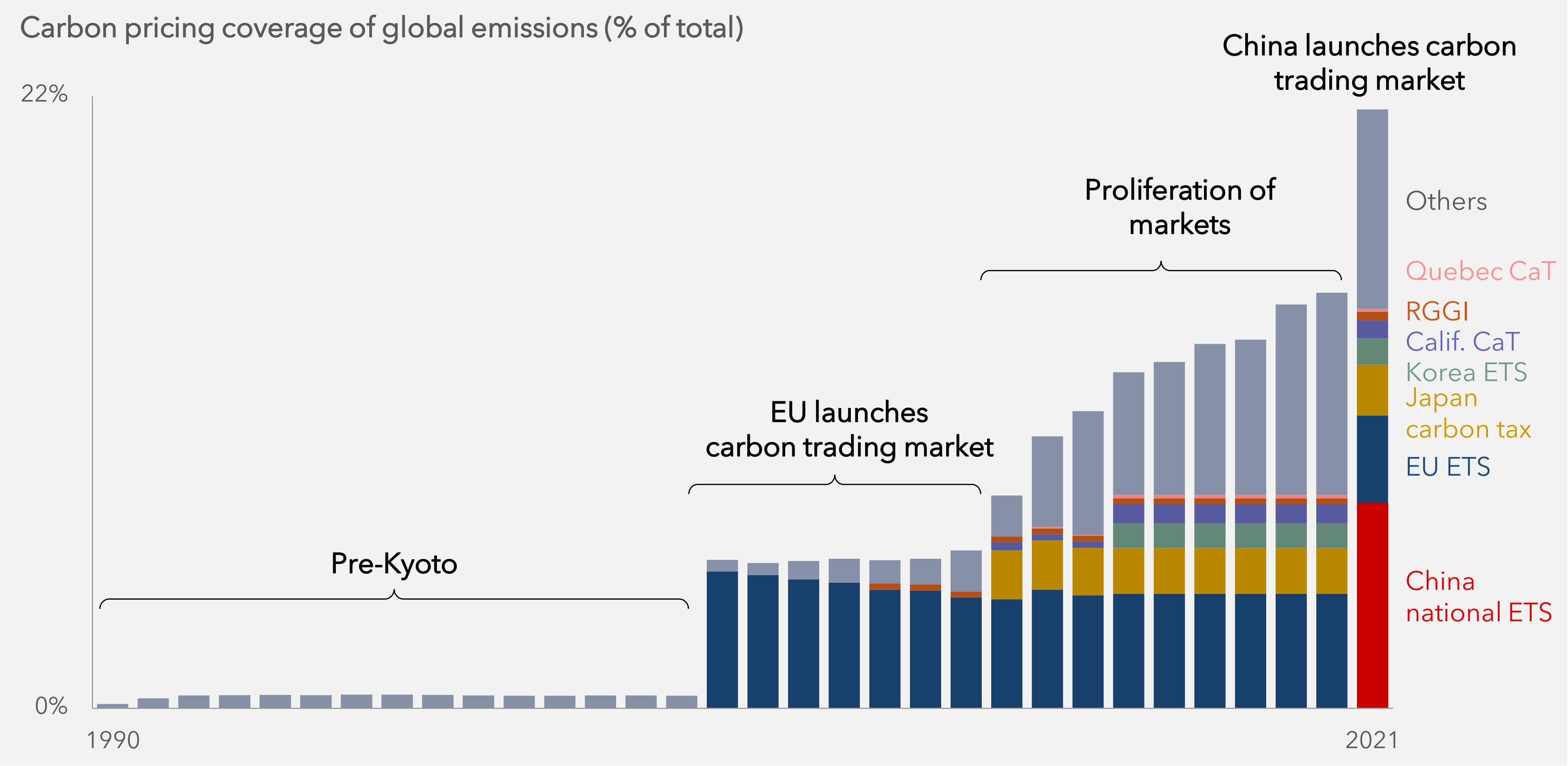
Projected climate finance provided by developed countries to developing countries, USD bn



Source: OECD. "Forward-looking Scenarios of Climate Finance Provided and Mobilized by Developed Countries in 2021-2025". October 2021. Range based on different scenarios. Scenario 1 Based on countries and multilateral development banks fully delivering on their intended climate finance commitments, in terms of both volume and timing. Scenario 2 based on delays in scaling up climate finance due to a wide range of factors.

Rapidly Growing Carbon Trading Markets

Globally, there are 64 carbon pricing schemes (30 carbon markets and 34 tax schemes) which cover over 20% of global greenhouse gas (GHG) emissions. At COP26, parties agreed on rules for international trading of carbon emission credits which should provide a pathway for linking carbon markets globally. By some estimates, the market for trading emissions in bilateral deals and in the UN-supervised marketplace could reach $100 billion.



Source: (1) MUFG, "Carbon Markets and Their Integral Role in the Energy Transition" (Ehsan Khoman, December 2021).

President Biden's Federal Sustainability Plan

With the Build Back Better bill (which included ~$550 billion in climate provisions) stalled, and likely to be significantly paired down in 2022, President Biden has had to push much of his climate agenda through by executive order and regulation. On December 13, Biden signed an executive order launching the "Federal Sustainability Plan" which aims to reduce emissions across US federal operations. In 2022, look for additional regulatory actions, particularly around financial regulation and mandatory ESG disclosure to come from the SEC, OCC and members of the Financial Stability Oversight Council (FSOC).

Key components of President Biden's Federal Sustainability Plan

- 100% Carbon Pollution-Free Electricity by 2030, including 50% on a 24/7 basis
- 100% Zero-Emission Vehicle Acquisitions by 2035, including 100% light-duty acquisitions by 2027
- Net-Zero Emissions Buildings by 2045, including a 50% reduction by 2032
- Net-Zero Emissions Procurement by 2050
- Net-Zero Emissions Operations by 2050, including a 65% reduction by 2030
- Climate Resilient Infrastructure and Operations
- Develop a Climate- and Sustainability-Focused Workforce
- Advance Environmental Justice and Equity-Focused Operations
- Accelerate Progress through Domestic and International Partnerships

Source: White House office of Federal Chief Sustainability Officer – Council on Environmental Quality.

Bangalore, India

30. Antitrust & Merger Scrutiny

US Leadership on More Assertive Antitrust Policy

Lina Khan
Chair of the Federal Trade Commission

Jonathan Kanter
Assistant Attorney General for DOJ Anti-Trust Division

Tim Wu
Special Assistant to the President for Technology & Competition Policy

Brian Deese
NEC Director & Chair of White House Competition Council

Government intervention has become the # 1 concern in rising deal activity. While Increased DOJ scrutiny pre-dated the new Administration, President Biden has taken numerous actions to significantly strengthen anti-trust enforcement by way of his regulatory appointments, "whole-of-government" approach, and Executive Orders.

General Overview

- **Investigations:** More frequent, rigorous, longer and well-funded
- **Industry focus:** Technology, healthcare, consumer, banking, transportation, and "repeat offenders"
- **Legal Shift:** FTC seeking to switch from a *US Common Law* approach (court and case driven) to a more *European rules-based* and prescriptive regime (US courts may push back)
- **Post Deal Reviews:** Given high deal volumes, FTC announced it will selectively review and investigate deals post closing

President Biden's Executive Order on "Promoting Competition"

- 72 initiatives (60 of 72 focused on more rigorous due diligence)
- Directs DOJ and FTC to "enforce anti-trust vigorously"
- More rigorous vertical and horizontal merger guidelines
  - More skepticism on efficiency claims
  - More novel theories of harm
  - Competition in labor markets
  - Serial acquirers / acquisitions of nascent competitors
  - Consumer privacy and data accumulation
- Creates a "White House Competition Council" led by the NEC Director

Implications for Deal Making

The rising prominence of both megadeals and vigorous regulatory review processes have increased the importance of incorporating expert advisors earlier in deal stage life-cycle

Companies more diligent in anticipating review on higher risk deals

Increased scrutiny and regulatory risk for transaction completion

Longer regulatory review periods

Longer termination periods to allow for potentially protracted regulatory reviews

Smaller regulatory break-up fees

Timeline and level of post deal integration

More complex deal risks for both US and foreign companies in cross-border deals

Mandatory filings now required for certain foreign acquirors

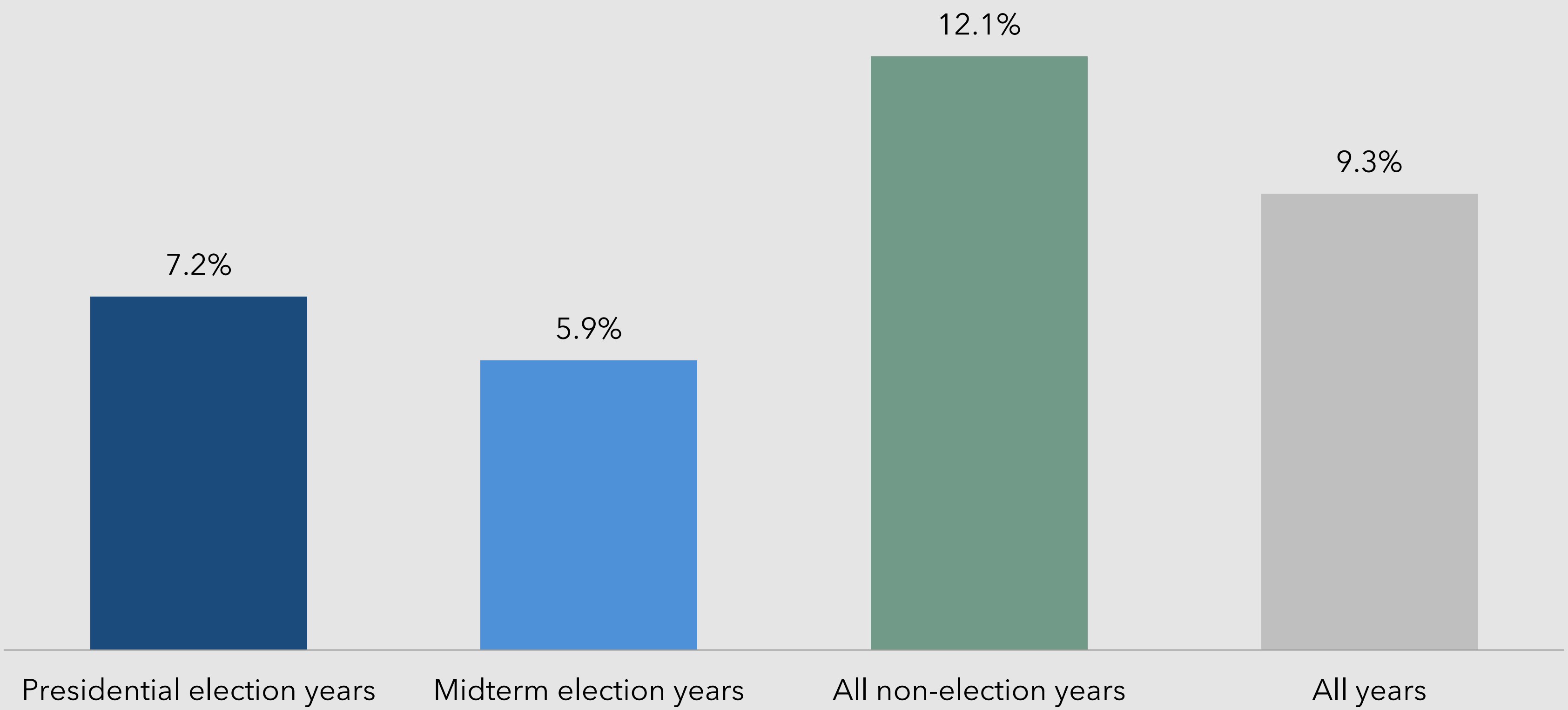
Less inbound investment from focus countries (i.e., China)

Greater uncertainty for buyout funds with
complex international ownership structures

Epilogue: US Equities in Mid-Term Election Years

On average, S&P 500 returns are materially lower in presidential and midterm election years vs. non-election years

S&P 500 average annual price return (1950 – present)



Source: (1) MarketDesk.

Appendix:

2021: In Memoriam


In memory of the
5 MILLION +
COVID-19 fatalities.
More people in the world died of COVID in 2021 (> 3 million)
than in 2020 (2 million)

2021: In Memoriam

"As long as there are only 3 to 4 people on the floor, the country is in good hands. It's only when you have 50 to 60 in the Senate that you want to be concerned."

Bob Dole, WWII veteran, Senate leader and US Presidential candidate (1923-2021)

Aaron T. Beck
Psychiatrist & developer of cognitive therapy (1921-2021)

Abebech Gobena
Ethiopian humanitarian known as the "Mother Teresa of Africa" (1938 – 2021)

Aleksander Doba
Polish adventurer who kayaked across the Atlantic Ocean (1946 - 2021)

Anne Beatts
Comedian and original writer for SNL (1947-2021)

Bernard Madoff
Financier who ran the largest Ponzi scheme in history (1938-2021)

Betty White
Acclaimed American actress and comedian (1922 – 2021)

Beverly Cleary
Beloved children's book author (1916-2021)

Bill Brock
Former US Labor Secretary & GOP national chairman after Watergate (1930-2021)

Bob Moses
US civil rights activist (1935-2021)

Bob Avian
Broadway director & choreographer (1937-2021)

Carl Levin
Former US Senator from Michigan (1934-2021)

Charles Coolidge
Oldest US Medal of Honor recipient (1921-2021)

Christopher Little
Literary agent who originally represented J.K. Rowling (1941-2021)

Chuck Close
American artist (1940-2021)

Cloris Leachman
American Oscar winning actress (1926-2021)

David Swensen
American investor & CIO of the Yale endowment fund (1954-2021)

Del Crandall
All Star Atlanta Braves catcher (1930-2021)

Demaryius Thomas
American NFL player (1987-2021)

DMX (Earl Simmons)
Famed American rapper (1970-2021)

Don Everly
Rock 'n roll pioneer & Everly Brothers member (1937-2021)

Don Sutton
Hall of Fame pitcher (1945-2021)

"Success is where preparation and opportunity meet."

Bobby Unser, Three-time Indy 500 winner (1934-2021)

"Rock and roll has probably given more than it's taken."

Charlie Watts, English musician & drummer for the Rolling Stones (1941-2021)

2021: In Memoriam

"Great leaders are almost always great simplifiers, who can cut through argument, debate and doubt, to offer a solution everybody can understand."

Colin Powell, Former US Secretary of State (1937-2021)

"Simplify, slow down, be kind. And don't forget to have art in your life – music, paintings, theater, dance and sunsets."

Eric Carle, Children's book author & illustrator (1929-2021)

"I never doubted my ability, but when you hear all your life you're inferior, it makes you wonder if the other guys have something you've never seen before. If they do, I'm still looking for it."

Hank Aaron, "Home Run King"
and one of baseball's first Black executives (1934-2021)

Eli Broad

American billionaire businessman & philanthropist (1933-2021)

Emil Freireich

Pioneer oncologist known as the "father of modern leukemia therapy" (1927-2021)

Cicely Tyson

American Tony Award winning actress (1924-2021)

Eugenio Martinez

Watergate burglar (1922-2021)

Frank Shankwitz

Philanthropist & co-founder of the Make a Wish Foundation (1943-2021)

G. Gordon Liddy

Mastermind behind the Watergate burglary (1930-2021)

George Armstrong

All-star hockey player who led Toronto to four Stanley Cups (1930-2021)

Gordon Stewart

American pioneer big wave surfer (1937-2021)

2021: In Memoriam

"If an elephant has its foot on the tail of a mouse and you say that you are neutral, the mouse will not appreciate your neutrality."

Archbishop Desmond Tutu, South African anti-apartheid leader and human rights activist (1931 – 2021)

"Above all, we owe it to the children of the world to stop the conflicts and to create new horizons for them."

F.W. de Klerk, Nobel Peace Prize winner & last president of apartheid South Africa (1936-2021)

"The inability of those in power to still the voices of their own consciences is the great force leading to change."

Kenneth Kaunda, First President of Zambia & leader of the African independence movement (1924-2021)

"I remind myself every morning: Nothing I say this day will teach me anything. So if I'm going to learn, I must do it by listening."

Larry King, Acclaimed TV & radio host who hosted over 50,000 interviews (1933-2021)

Greg Noll

Green Bay Packers Hall of Famer
(1934-2021)

Harry Reid

Former US Senate Majority Leader,
(1939 – 2021)

Irv Cross

Former NFL player & first Black network TV sports analyst (1939-2021)

James Ridgeway

Hard-hitting investigative journalist
(1936-2021)

Jane Withers

Famed child star of the 1930s and 1940s
(1926-2021)

Jessica Walter

Actress known as the matriarch in "Arrested development" (1941-2021)

John Chaney

Temple University basketball coach with more than 500 wins (1932-2021)

John J. Sweeney

American labor leader & former head of the AFL-CIO (1934-2021)

2021: In Memoriam

"The measure of your quality as a public person, as a citizen, is the gap between what you do and what you say."

Ramsey Clark, Attorney general under President Johnson
(1927-2021)

"Musicals are plays, but the last collaborator is your audience, so you've got to wait 'til the last collaborator comes in before you can complete the collaboration."

Stephen Sondheim, Influential American composer and lyricist
(1930-2021)

Robert "Lee" Elder
American professional golfer & first Black player in the Masters (1934-2021)

Leon Spinks
American boxer who upset Muhammad Ali in heavyweight championship
(1953-2021)

Leslie E. Robertson
Lead structural engineer of the original World Trade Center (1928-2021)

Lucille Times
American civil rights activist who inspired the Montgomery bus boycott
(1921-2021)

Margaret C. "Peg" Snyder
Founder of the UN's Development Fund for Women (1929-2021)

Marty Schottenheimer
NFL coach with over 200 career wins
(1943-2021)

Marvelous Marvin Hagler
Middleweight boxing champion of the 1980s
(1954-2021)

Mary Wilson
Renowned Motown act & founding member of The Supremes (1944-2021)

Michael K. Williams
Actor known for playing Omar in "The Wire" (1966-2021)

Nawal el Saadawi
Egyptian feminist writer (1931-2021)

Neal Conan
Broadcaster on NPR's "Talk of the Nation"
(1949-2021)

Neal Sher
Justice Department official dedicated to tracking down Nazi war criminals
(1947-2021)

Norm Macdonald
Famed comedian and SNL cast member
(1959-2021)

Olympia Dukakis
Academy Award winning actress
(1931-2021)

Paul Van Doren
Co-founder of Vans shoe company
(1930-2021)

Paul Westphal
NBA hall of fame player, coach and commentator (1950-2021)

Purnell W. Choppin
Virologist & former head of the Howard Hughes Medical Institute (1929-2021)

Reuben Klamer
Creator and designer of The Game of Life
(1922-2021)

2021: In Memoriam

"Treat each federal dollar as if it was hard earned; it was - by a taxpayer."

Donald H. Rumsfeld, Former US Defense Secretary (1932-2021)

"My eye caught something in the window; it was a book on magic, I knew I had to have it. I can't explain, even now, why that was."

Siegfried Fischbacher, Magician and half of Siegfried & Roy duo (1939-2021)

Richard Donner
Filmmaker who directed "Superman" and "Lethal Weapon" (1930-2021)

Richard Stolley
Founding managing editor of People magazine (1928-2021)

Robert A. Mundell
Economist known as the father of the Euro and Reaganomics (1932-2021)

Rush Limbaugh
American radio personality & conservative political commentator (1951-2021)

Ruthie Topson
Disney legend known for work on animated feature films (1910-2021)

S. Prestley Blake
Restauranteur & co-founder of Friendly's Ice Cream (1914-2021)

Sam Jones
Hall of Fame Celtic and 10x NBA champion (1933 – 2021)

Sheldon Adelson
Businessman, philanthropist & GOP political donor (1933-2021)

"Constitutionally I don't exist."

Prince Philip, Duke of Edinburgh, husband of Queen Elizabeth II (1921-2021)

"I'm the luckiest guy in the world. I never really had a job. I was a football player, then a football coach, then a football broadcaster. It's been a life. Pro football has been my life since 1967. I've enjoyed every part of it. Never once did it ever feel like work."

John Madden, Hall of Fame NFL football coach & 16x Emmy Award winning broadcaster (1936 – 2021)

2021: In Memoriam

"America may be slow to rise to a challenge. But our history has shown that once we make up our minds to really do something, nothing can stand in our way."

Carrie Meek, Pioneering Black Congresswoman from Florida (1926-2021)

Sarah Weddington
Attorney who successfully argued Roe v. Wade (1945 – 2021)

Shirley Fry Irvin
Tennis star & four time Grand Slam champion (1927-2021)

Spencer Silver
Creator of specialized adhesive for Post-it Notes (1941-2021)

Stephen Bechtel Jr.
Leader and co-owner of Bechtel corporation (1925-2021)

Steven Weinberg
Nobel Prize winning theoretical physicist (1933-2021)

Stonewall Jackson
Grand Ole Opry star for over 60 years (1932-2021)

Sylvia Weinstock
Baker known as the "Da Vinci of wedding cakes" (1930-2021)

Tanya Roberts
Actress known for her roles in Charlie's Angels and James Bond (1955-2021)

Toko Shinoda
Trailblazing Japanese artist (1913-2021)

Tommy Lasorda
Hall of Fame manager for the Dodgers (1927-2021)

Vartan Gregorian
President of the Carnegie Corporation of New York (1934-2021)

Vernon Jordan
Civil Rights Activist and close advisor to President Clinton (1935-2021)

Virgil Abloh
American fashion designer and entrepreneur, Louis Vuitton artistic director (1980-2021)

Walter Mondale
US Vice President under Jimmy Carter (1928-2021)

Wilhelmina Cole Holladay
Co-founder of the National Museum of Women in the Arts (1922-2021)

Winfred Rembert
Acclaimed artist who depicted scenes of the Jim Crow South (1945-2021)

Johnny Isakson
US Senator from Georgia (1944-2021)

"Writing nonfiction is more like sculpture, a matter of shaping the research into the finished thing. Novels are like paintings, specifically watercolors. Every stroke you put down you have to go with."

Joan Didion, Acclaimed American essayist and author (1934 – 2021)

Appendix:

2021: Key Dates to Watch

Key Dates in 2022

Jan 1	Germany assumes Presidency of the G20
Jan 1	France assumes rotating 6-month Presidency of the European Council
Jan 1	Eric Adams sworn in as the 110th mayor of New York City
Jan 17-21	Scheduled date for the World Economic Forum in Davos, rescheduled for summer due to Omicron's impact
Jan 25-26	**FOMC Meeting**
Feb	President Biden expected to submit budget proposal to Congress
Feb 1	Chinese New Year (Year of the Tiger)
Feb 4-20	Winter Olympics held in Beijing, China
Feb 6	Queen Elizabeth's Platinum Jubilee marking 70 years on the throne, the longest for a British monarch
Feb 28	Egypt marks 100 years of semi-independence from British rule
Mar 1	President Biden's State of the Union Address
Mar 9	South Korean Presidential election
Mar 15-16	**FOMC Meeting**
Mar 27	Hong Kong's Chief Executive election (via 1,500 person election committee)
Apr 10 & 24	French Presidential election (two rounds)
Apr 22-24	IMF / World Bank Annual Spring Meeting
Apr 25-May 8	Part 2 of the UN Convention on Biological Diversity COP15 in Kunming, China
Apr 29-May 5	Japan's Golden Week

May 3-4	**FOMC Meeting**
May 9	Philippine Presidential election
Jun 14-15	**FOMC Meeting**
Jun 26-28	G7 Summit scheduled in Schloss Elmau, Germany
Jul 1	Czech Republic assumes rotating 6-month Presidency of the European Council
Jul 26-27	**FOMC Meeting**
Aug 9	Kenyan Presidential election
Aug 14	Pakistan celebrates 75 years of independence
Aug 15	India celebrates 75 years of independence
Sep 7	Brazil celebrates 200 years of independence
Sep 13	77th UN General Assembly meeting
Sep 21-22	**FOMC Meeting**
Oct	China's 20th National Party Congress where Xi Jinping is expected to win a third term as President
Oct 1	US Government fiscal 2023 year begins
Oct 2	Brazilian general election
Oct 14-16	IMF / World Bank Annual Meeting
Nov 1-2	**FOMC Meeting**
Nov 7-18	UN COP27 in Egypt
Nov 8	US Mid-term elections (all seats in the US House of Representatives, roughly 1/3 of seats in US Senate, and several State and local seats will be up for election)
Dec 6	100 years since the founding of the Irish Free State
Dec 13-14	**FOMC Meeting**
Dec 18	Final of the FIFA World Cup in Doha, Qatar

Notable Elections in 2022

Jan 24	Italy Presidential election
Jan 30	Portugal Legislative election
Feb 6	Costa Rica General election
Mar 9	South Korea Presidential election
Mar 13	Colombia Legislative election
Mar 27	Lebanon General election
Apr 3	Serbia Presidential & Legislative elections
Apr 3	Hungary Parliamentary election
Apr 10 & 24	France Presidential election
Apr 24	Slovenia Parliamentary election
Apr TBD	Gambia Legislative election
May 9	Philippines General election
May 29	Colombia Presidential election
May TBD	Australia Parliamentary election
Jun 18	Nigeria Gubernatorial election

Jun TBD	Malta Parliamentary election
Jul TBD	Senegal Parliamentary election
Jul TBD	India Presidential election
Aug 9	Kenya General election
Sep 11	Sweden General election
Sep TBD	Austria Presidential election
Oct 1	Mauritius Parliamentary election
Oct 1	Latvia Parliamentary election
Oct 2	Bosnia & Herzegovina General election
Oct 2	Brazil General election
Oct TBD	Slovenia Presidential election
Nov 8	US Midterm election
Nov TBD	Fiji General election
Dec 17	Tunisia Legislative election

About the Authors

Tom Joyce

Managing Director
Capital Markets Strategist
New York, NY

Tom.Joyce@mufgsecurities.com
(212) 405-7472

Tom Joyce is a Managing Director and Capital Markets Strategist within MUFG's global capital markets and investment banking business. Based in New York, Tom heads a team that creates customized analytical content for multi-national S&P 500 companies. His team provides in depth analysis on the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Tom has over 25 years of Investment Banking experience in New York, London, Hong Kong, and San Francisco. Over the last 15 years, Tom created and built the Capital Markets Strategy role, advising corporate C-Suite executives (Boards, CEOs, CFOs, and Treasurers) on the pervasive macro forces driving markets. Tom also presents at dozens of corporate events each year including Board meetings, CEO ExCo sessions, CFO and Treasury off-sites, corporate leadership events and conferences.

Tom's educational background includes a year of study at Oxford University from 1991 - 1992, a Bachelor of Arts in Political Science from Holy Cross College in 1993, and a MBA from Kellogg Business School, Northwestern University in 2000.

Tom resides in New Canaan, CT with his wife and four sons, where he coaches youth basketball and serves on the Board of Trustees of the New Canaan Library, the Board of the New Canaan Football (Soccer) Club and the Holy Cross College President's Council.

About the Authors

Hailey Orr

Director
Capital Markets Strategist
New York, NY

Hailey.Orr@mufgsecurities.com
(212) 405-7429

Hailey Orr is a Director in MUFG's Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Hailey has a decade of Wall Street experience, including three years as a Consumer Sector Specialist in Equity Sales and seven years as a Capital Markets Strategist. Hailey is also a member of MUFG's Inclusion & Diversity Council and has devoted years to participating in and developing Wall Street recruiting programs.

Hailey graduated with honors from the University of Michigan's Ross School of Business with a BBA and a minor in International Studies.

In March 2020, Crain's New York Business Magazine named Hailey one of the "Rising Stars in Banking and Finance".

Stephanie Kendal

Associate
Capital Markets Strategist
New York, NY

Stephanie.Kendal@mufgsecurities.com
(212) 405-7443

Stephanie Kendal is an associate in MUFG's Capital Markets Strategy group within the global capital markets and investment banking business. The team provides market based content for corporate clients to assist in strategic decision making. Focus areas include the impact of economic, political, public policy and regulatory dynamics on the US credit, foreign exchange, rates and commodities markets.

Stephanie has spent over three years as a Capital Markets Strategist. At her prior firm, Stephanie was a part of the Americas Women's Network Junior Council and was an active member of the University of Michigan recruiting team.

Stephanie graduated with honors from the University of Michigan's Ross School of Business with a BBA .

MUFG's Capital Markets Strategy Team

The MUFG Capital Markets Strategy team provides monthly publications and weekly policy notes, presenting to Boards and C-Suite executives, on a broad range of transformative themes driving the FX, rates and credit markets including: the COVID-19 recovery, ESG's acceleration, tax code policy changes, US-China decoupling, corporate strategy, geopolitical risk and central bank monetary policy.

MUFG's Capital Markets Strategy Team

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