



Research

# Unintended Consequences of Extraordinary Monetary Policies

## Postscript

In our view, the emergency response of the U.S. Federal Reserve and other global central banks has so far been appropriate given the dramatic market dislocations of March 2020. The scope of the COVID-19 shock for the secular and cyclical prospects for U.S. credit and equity markets remains unknown, as the market's dependence on the "Fed put" is being severely tested in the current environment.

We think the violent unwinding of carry trades built on the desperate search for yield over the past several years should give pause to policymakers as they contemplate their next steps and the ultimate impact of their emergency measures. We hope central banks will examine longer-term implications of their policy choices for their financial systems, the prospects for savers, and the appropriate function of markets.

To help navigate these uncharted waters, we believe it is imperative for asset allocators to consider the secular and structural effects of extraordinary monetary policies on investors worldwide.

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## EXECUTIVE SUMMARY:

- In the years since the end of the global financial crisis, global central banks have continued to rely on extraordinary monetary accommodation to stimulate growth and avoid systemic disruption.
  - In some cases, capital markets and the real economy have responded to unconventional policies in unforeseen, even perverse ways.
  - With many investors having grown accustomed to routine intervention, central banks find it increasingly difficult to normalize their policies.
  - China's excessive credit expansion over the past decade highlights the global interconnectedness of central bank policies and the buildup of excesses abroad.
  - Central banks' extraordinary policies could contribute to an unforeseen regime shift in growth or inflation.
  - Asset allocators may want to source return from a diverse set of financial and real assets to hedge against unexpected inflationary and deflationary outcomes.
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## Unintended Consequences of Extraordinary Monetary Policies

Since the end of the 2008–09 global financial crisis (GFC) and the 2011–12 European sovereign debt crisis (EDC), the world's largest central banks have engaged in various forms of "extraordinary" monetary policy. These policies have included direct intervention into the sovereign debt market-rate structure through large-scale asset purchases (aka quantitative easing, or QE); yield curve management; implementation of zero or negative policy rates; and the injection of trillions of dollars of credit and liquidity into short-term markets.

In this paper, we argue that these extraordinary actions, while supporting asset prices over the past decade, have had mixed and unintended effects on the global economy, including increased risk in local financial systems, deflationary impulses, and a weaker-than-expected consumer response. Moreover, on occasions when central banks resolved to retreat from these policies, they found themselves caught in a high-debt, low-rate quagmire with no clear path of escape.

Overall, we believe these dynamics have contributed to a more modest outlook for equity and bond returns, along with uncertainty regarding the long-term path of inflation. We conclude with some recommendations for portfolio construction in a potentially prolonged environment of extremely accommodative monetary policy.

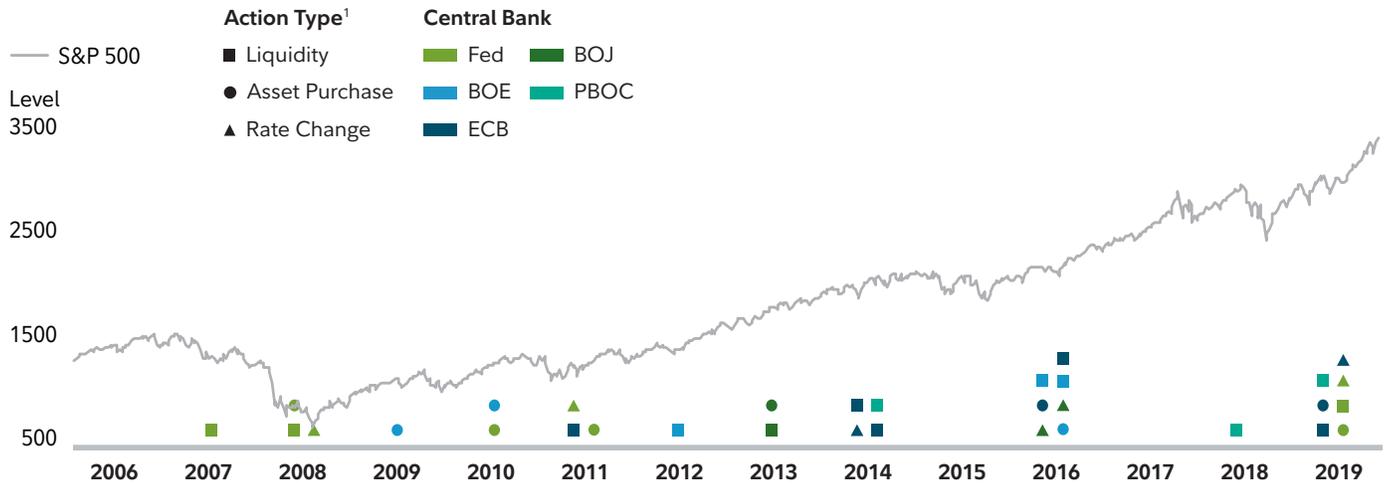
### Recapping extraordinary monetary policies

Historically, an economic recession—or financial crisis—involving massive leverage in the credit and household sectors has prompted a surge in savings and a sharp decline in the production of goods and services. The global financial crisis proved true to form. As the GFC unfolded, global central banks fretted over the prospect of outright deflation and its potential to inhibit their ability to set policy interest rates below the rate of inflation, a condition often needed for monetary policy to stimulate an economy. Escalating savings rates among wealthy, advanced economies helped drive currency values upward, compounding deflationary pressures.

As the GFC progressed, monetary authorities introduced different tools aimed at forestalling a deflationary collapse of the world's financial system. Before the crisis's peak, the U.S. Federal Reserve implemented liquidity programs allowing for lower-rated collateral to be posted in exchange for central bank financing. The Fed also established extensive cross-currency swap lines with its developed-market central bank partners. When these steps proved insufficient, the Fed in December 2008 cut interest rates effectively to zero, setting the federal funds target range at 0% to 0.25%, and in subsequent years undertook several rounds of quantitative easing.

## EXHIBIT 1: EQUITIES HAVE GENERALLY BENEFITED FROM EXTRAORDINARY MONETARY POLICIES

### Major Central Banks' Accommodative Actions



Fed: Federal Reserve. BOE: Bank of England. ECB: European Central Bank. BOJ: Bank of Japan. PBOC: People's Bank of China. Source: Official government statistics, Fidelity Investments Asset Allocation Research Team (AART); data as of 2/13/20. All indices represented are unmanaged. Past performance is no guarantee of future results.

The European Central Bank (ECB) was slower to take action. Following Europe's 2011–12 sovereign debt crisis, the ECB initiated its own QE and liquidity programs. Similarly, the Bank of Japan (BOJ), which first implemented a zero interest rate policy (ZIRP) in 2010, added a massive QE program in 2013. Finally, in 2014, the People's Bank of China (PBOC) launched its own collateral programs, meant to alleviate financial distress resulting from the gross misallocation of capital during China's massive credit expansion, itself a response to the global financial crisis. Exhibit 1 displays a more expansive list of policy solutions.

While acknowledging that extraordinary policies were necessary to stabilize financial and economic systems during the GFC and EDC, in this paper we focus more closely on actions taken by central banks following the 2015–16 global trade recession. We argue these actions proved less effective and that their repercussions materially impinge on the future efficacy of monetary policy. Nevertheless, even with the worst of the GFC over, the ECB, BOJ, Swiss National Bank, and several Nordic central banks maintained extraordinary measures, including negative interest rate policy (NIRP).

### Negative ramifications outweigh the benefits of extraordinary monetary policies

The introduction of ultra-low and negative interest rates was intended to reignite lending and spending (i.e., reduce savings), ease the interest burden on consumers and businesses, and make exports more attractive through a weaker currency. We argued in a previous white paper ("Potential Pitfalls of Negative Rates," 2016) that whatever their intended goals, extremely low policy rates would ultimately result in unintended consequences.

### Low interest rates alongside aging demographics has resulted in higher savings rates

One goal of extraordinarily accommodative monetary policy has been to increase household consumption by inducing both a lower cost of borrowing and a positive wealth effect. For example, asset values surged following implementation of ZIRP in the U.S. that, over the past decade, boosted the ratio of household net worth to household income to its highest level in history. Similarly, the decline in interest rates helped push households' debt service to its lowest level ever.

### Intended Central Bank Goals

Substitution effect

Ease credit conditions

Reduce debt-service burden

Improve export competitiveness



Consumption up

Bank lending up

Lower interest expense

Weaker currency

### Unintended Consequences

Income effect

Price controls

Weaker productivity

Currency wars



Savings up

Bank lending down

Less productive firms stay in business

Limited impact on currency

Source: Fidelity Investments AART, as of 2/29/20.

Despite strong consumer health and a booming labor market, the U.S. savings rate rose under ZIRP, indicating that neither the boost to net worth nor the extremely low cost of borrowing had translated into rising marginal demand.

The higher savings rate may have surprised many policymakers, but this result may be partly explained by the demographic profile of advanced economies. Japan and Germany in particular offer a window into income effects that extremely low interest rates can produce in older populations. In Germany—despite its strong domestic economy, wage growth topping 4%, and the lowest unemployment rate in nearly 40 years—savings rates steadily increased over the past five years. Similarly, despite the strongest real wage growth since 2006 and the lowest unemployment rate in nearly three decades, Japan’s household savings rate also rose following inception of NIRP.

While the propensity to consume remains high among younger and middle-aged households, older households seem to respond to lower interest rates by lowering their consumption. Research by Princeton economist Arlene Wong shows strong empirical evidence that as rates decline, so too does the willingness to spend among households on a fixed income—usually those in retirement (Exhibit 2). For Japan and Germany, where a respective quarter and fifth of the population is aged 65 and over, NIRP appears to have caused a marginal decline in consumption—versus the expected increase—as evidenced by rising savings rates. To maintain a greater level of policy efficacy and predictability in the future, global central banks may need to better incorporate demographic sensitivity in their decisionmaking.

While the propensity to consume remains high among younger and middle-aged households, older households seem to have responded to lower interest rates by decreasing consumption.

## EXHIBIT 2: OLDER HOUSEHOLDS TEND TO SAVE MORE WHEN RATES FALL

Changes in Consumption Rates for Different Age Groups Following an Expansionary Monetary-Policy Shock

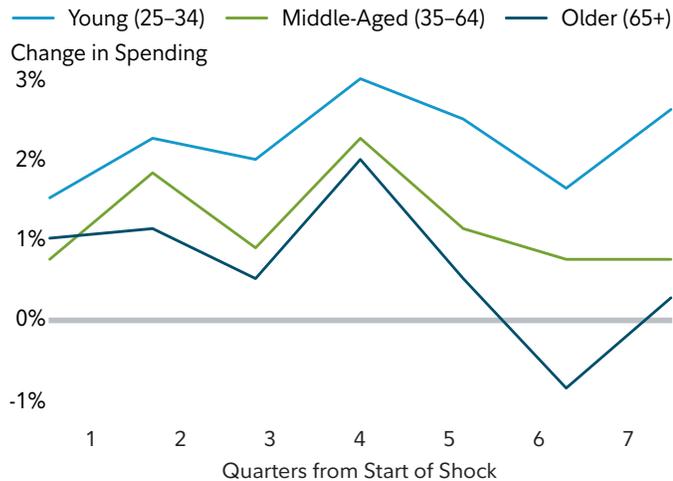


Chart represents the impulse response function to a 1 standard deviation expansionary monetary policy shock (changes to short-term interest rates and forward guidance as defined by Wong). Source: “Population Aging and the Transmission of Monetary Policy to Consumption,” Wong, Arlene; Northwestern University, December 2015; quarterly data, 1989–2007.

### Low interest rates inhibit bank lending

Accommodative monetary policies aim to encourage banks to extend credit amid borrowers’ lower financing burden and concomitant rise in servicing ability. A simple test of banks’ lending decisions pre- and post-NIRP, however, indicates that banks did not, in fact, increase their marginal propensity to lend. Instead, rate suppression narrowed banks’ net interest margins and thereby discouraged credit expansion. Loan growth in Europe and Japan has remained weak and, despite the significant rally in global equity markets, bank stocks did not fare better after the arrival of NIRP.

Just as a grocer might choose to sell fewer apples as their cost approaches their market price, bankers have found that, under negative rates, many traditional lines of business are no longer profitable enough to pursue. Subdued price-to-book ratios observed for European and Japanese banks highlight the market’s understanding of NIRP’s fundamental hit to profitability.

If we consider the imposition of NIRP as a form of price fixing by central banks, we can understand the producer response (here, from banks) as typical of any industry with price controls. Overall, extraordinary monetary policies have so far proven ineffective in meeting central bankers’ intended goals of encouraging consumption and bank lending.

### Perverse effects of extraordinary policies on capital markets

#### The portfolio balance effect

At the peak of global central banks’ synchronous QE in 2016–17, the ECB and BOJ collectively purchased more than \$4 trillion of assets in conjunction with imposition of negative policy rates. As a result, the total global value of fixed income assets carrying a negative yield rose from essentially zero at the start of 2015 to almost \$8 trillion by the start of 2017—and reached \$17 trillion in 2019. In response, investors allocated capital to higher-yielding assets, often in fixed-income instruments issued by lower-quality companies, even as corporate bond yields fell to their lowest levels in recorded history.

These actions dramatically influenced capital markets via the “portfolio balance effect,” with lower policy rates driving investors toward riskier assets offering higher yields and return potential. Market shifts effectively reduced the attractiveness of sovereign debt and pushed savers and other more conservative investors into equities and corporate credit.

In addition to sovereigns, the ECB and BOE bought corporate bonds, while the BOJ added equity ETFs and REITs to its balance sheet. Purchases of riskier assets were based on nominal quantity rather than considerations of price or valuation, pushing asset prices up further and suppressing risk premiums. Indeed, in 2017 the U.S. equity market experienced its lowest calendar-year volatility in 55 years. On a price-to-book basis, the Russell 3000’s valuations this cycle eclipsed previous records set during the dot-com bubble (Exhibit 3).

### EXHIBIT 3: BY SOME MEASURES, STOCKS HAD HIGHER VALUATIONS THAN DURING THE DOT-COM PEAK

Russell 3000 Price-to-Sales (LTM)

P/S Ratio

2.5x



LTM: Last 12 months. P/S: Price/Sales. Gray bars indicate recession. Source: National Bureau of Economic Research (NBER), Russell Investments, Fidelity Investments AART; monthly data through 2/29/20. It is not possible to invest directly in an index. All indices are unmanaged. Past performance is no guarantee of future results.

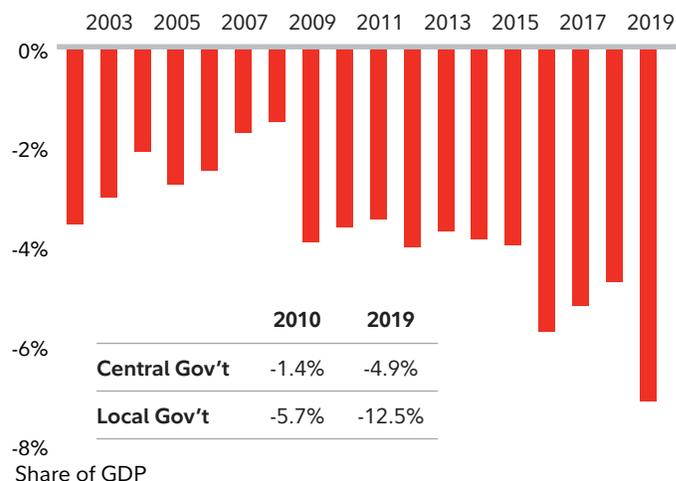
### Global financial linkages and fiscal expansion

As the BOJ and ECB depressed market interest rates, the search for assets with positive yield led capital to flow to U.S. asset markets. These inflows offset the Federal Reserve’s quantitative tightening (QT) efforts in 2014, and the Federal Reserve resorted to rate hikes starting in late 2015. The Fed’s rate hikes contributed to a widening of relative yields, which only further encouraged foreign inflows. As capital markets have grown more globally integrated, central bank policies have become increasingly intertwined.

In the same vein, central banks’ extraordinary monetary policies also can influence other countries’ fiscal-policy expansions. Since Europe and Japan initiated NIRP, the U.S. government has more than doubled the annual federal budget deficit from 2.3% of GDP to more than 5%—with no discernible impact on its borrowing rate. Generally, when a country increases its deficit during a cyclical upturn, it should expect to see its borrowing rate also rise; however, ECB and BOJ policies kept downward pressure on bond yields globally, including on U.S. Treasury yields.

### EXHIBIT 4: CHINA’S FISCAL DEFICIT HAS BEEN RISING OVER THE PAST DECADE

China Central and Local Government Deficit



Source: China National Bureau of Statistics (official data), ChinaBond, Fidelity Investments AART; monthly data through 12/31/19.

Another beneficiary of European and Japanese extraordinary monetary measures has been China. Versus a target of 2.8%, China’s fiscal deficit overall (including government-directed financing functions of the country’s policy banks<sup>2</sup>) exceeded 7% of its GDP by the end of 2019 (Exhibit 4). While China’s fiscal activities are not funded by Europe and Japan directly, global QE and NIRP have allowed China to expand its fiscal footprint with a relatively stable currency and low borrowing rates.

### Currency effects

Implementation of negative rates has had mixed effects on world currencies. For example, contrary to expectations, the Japanese yen strengthened dramatically following the BOJ’s 2016 introduction of NIRP, moving from 118 JPY/USD in January 2016 to a low of 100 JPY/USD in August 2016. Moreover, in the four years overall since the BOJ adopted NIRP, the yen has directionally strengthened, appreciating more than 6% on a real trade-weighted basis.

For the eurozone, the initial impact of NIRP fit a more classical model: The exchange rate weakened from 1.35 EUR/USD near the start of June 2014 to 1.08 at the end of March 2015. Subsequent ECB rate cuts in late 2015 and early 2016, however, coincided with a rise in the euro, which at year-end 2019 sat at roughly the same level as four years prior. On a real trade-weighted basis, the euro—like the yen—has appreciated since the 2015–16 rate cuts.

### Effects of extraordinary policy on capital markets and the real economy

#### Financial engineering

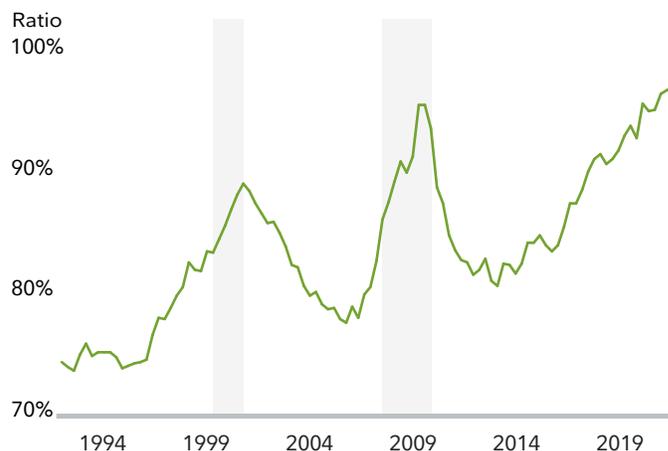
Central banks' extraordinary—and intersecting—policies can affect the real economy as well as the capital markets. For example, while household lending showed little or no response to ultra-low interest rates over the past decade, lending into the capital markets has flourished. As monetary authorities kicked off their QE programs and pushed interest rates into negative territory, the corporate sector was expected to take advantage of the lower cost of borrowing to invest in their businesses. And the U.S. corporate sector, for instance, indeed increased its leverage: Non-financial corporate credit recently hit 97% of sector revenues, well above previous peak levels, witnessed in 2007 (Exhibit 5).

But the increase in corporate indebtedness has not translated into the hoped-for capital-investment boom. Over the past decade, the U.S. non-financial corporate sector has taken on about \$3.5 trillion in debt, whereas capital spending has risen only \$1.5 trillion.

Rather than increasing capital expenditures, companies instead exploited the lower cost of capital in two other key ways: to fund net share repurchases (buybacks) and funding through private equity. These actions have helped deliver higher returns to public shareholders and institutional private-market investors alike, but they have not improved corporate profitability, which has moved sideways since 2012—and steadily declined on an inflation-adjusted basis.

#### EXHIBIT 5: U.S. CORPORATE LEVERAGE HAS BEEN RISING

Non-Financial Corporate Credit as a Percentage of Revenue



Shaded bars indicate recessions. U.S. non-financial corporate revenue derived from Bureau of Economic Analysis GDP calculations. Source: NBER, Federal Reserve Board, Haver Analytics, Fidelity Investments AART; quarterly data through 9/30/19.

#### Implications for pension funds and private equity

Despite domestic equity markets reaching all-time highs this cycle, improvement in defined-benefit pension plan funding ratios was effectively countered by the low-rate regime because DB pension plans are required to discount their liabilities to high-quality bond yields. This is another indication that the distribution of benefits from low interest rates falls more to debtors than to savers. In pursuit of a higher return and to avoid the volatility of public markets, many institutional funding pools—including endowments, foundations, and pension plans—have shifted substantial assets out of publicly traded securities and into unlisted equity and debt as well as other private assets.

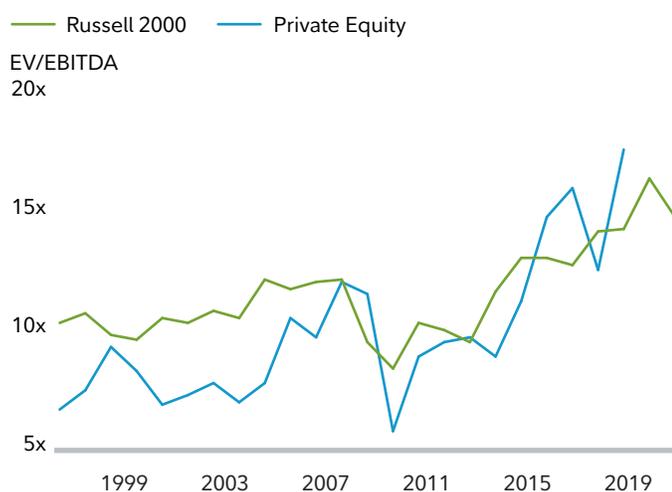
Privately held securities can offer the benefit of a leveraged return with an opaque pricing system. By devoting greater resources to such assets, institutional investors believe they can achieve higher returns with (at least seemingly) lower volatility relative to publicly traded assets. Since 1998, global pension funds have grown their share of private holdings from 7% to 26%.

But non-public valuations have lately been called into question. In 2019, the largest newly public technology companies sustained an average post-IPO drawdown of about 40%, an outcome that could slow previously ample venture capital flowing to startups and other early-stage enterprises. A study from independent market researcher Strategas found that private-equity valuations exceed those of the publicly traded market, suggesting the illiquidity premium typically reflected in private-equity pricing has possibly been bid away by investors desperate for a higher risk/return profile (Exhibit 6). Historically, higher valuations have tended over time to translate into lower returns; given relative valuations these past few years, private equity could well underperform public markets, in turn deepening the challenges faced by underfunded pension plans.

Extremely low interest rates also have, perversely, facilitated a growing number of venture capital-funded business models with sustained negative profits.

#### EXHIBIT 6: PRIVATE EQUITY APPEARS EXPENSIVE

Market Valuations for Public and Private Equity



EV: Enterprise value. EBITDA: Earnings before interest, tax, depreciation and amortization. Source: Strategas Research Partners, Haver Analytics, Fidelity Investments AART; annual data through 2/29/20. It is not possible to invest directly in an index. All indices are unmanaged. Past performance is no guarantee of future results.

For example, in major markets such as San Francisco, New York, and Boston, shared-workspace provider WeWork represented a significant share of marginal demand for office space. Ample access to low-cost funding allowed the company to offer office leases well below cost, essentially losing money on its renters.

Similarly, rideshare companies have been providing their services at a loss, pressuring other types of transportation providers and keeping a lid on local travel costs. More and more e-commerce companies deliver products at no cost to buyers, losing money on shipping and severely undercutting traditional retailers. These operational decisions put downward pressure on pricing—a boon to consumers but a rebuttal to central bankers’ traditional view that extremely low interest rates can help boost inflation.

#### New carry trades

Global investors’ desperate search for yield, coupled with central banks’ stifling of market volatility, has led to a blossoming of new carry trades. A form of arbitrage, a typical carry trade boils down to an attempt to borrow in a lower-yielding market and invest the proceeds in a higher-yielding market, often employing substantial leverage to amplify returns.

Historically, one common carry trade involved high yield and emerging-market (EM) debt. High yield and EM bonds typically benefit from cyclical expansion as investors move out along the risk curve, and the current business cycle has proven no exception. For the past decade or so, whenever central bankers flooded capital markets with liquidity, the portfolio balance effect worked its magic: With a lag of about a year, investors steered flows to high yield and EM assets (Exhibit 7).

When, in late 2017, central bank purchases faded and the Fed moved to normalize its balance sheet, the decrease in liquidity contributed to market volatility and led ultimately to weaker financial conditions. In response, the ECB cut rates deeper into the negative and re-engaged its QE efforts, and the Federal Reserve shifted to a more dovish stance. These maneuvers helped keep the decade-long bull market roaring.

### Unwinding QE: A challenge to both global liquidity growth and riskier credits

Central bank willingness to intervene and deliver liquidity during times of systemic financial stress has engendered a new investment tactic commonly referred to as short-volatility trading, or just “short-vol.” In this strategy, options traders sell out-of-the-money equity-market puts, essentially betting against large equity price swings.

Because they expect central bank intervention to quell any major volatility spikes, short-vol traders believe their puts will never be called. Consequently, some have grown complacent in using substantial leverage to boost their returns, and many inexperienced speculators have been executing short-vol strategies without adequate risk-management processes in place.

At the start of 2018, with the Fed still normalizing its balance sheet and raising interest rates, a surge in equity-market volatility led to the rapid demise of several short-vol strategies. Nevertheless, short-vol trading re-emerged in 2019 as the Fed shifted back to a more dovish stance and implemented three rate cuts.

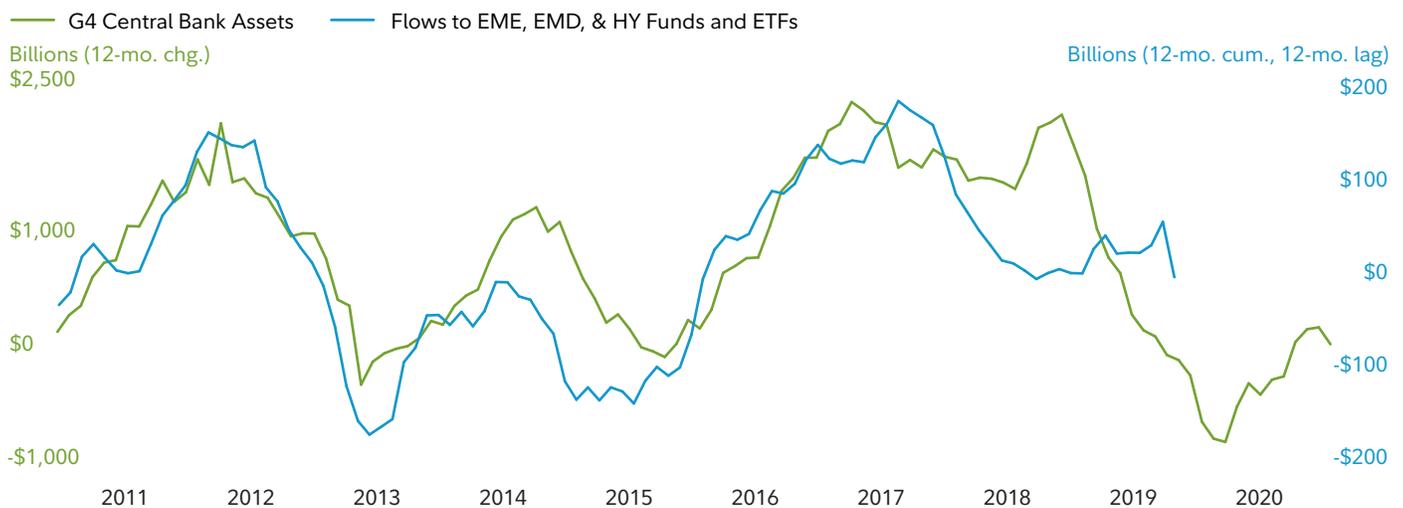
In September 2019, a combination of rising fiscal deficits, some large banks’ unwillingness to provide liquidity, and demand for overnight repurchase agreements from levered investors sent repo rates soaring. The Fed intervened as if on cue, injecting short-term financing into repo markets and announcing the purchase of \$60 billion of Treasury bills per month to relieve money market stress and avoid disruptions across the financial system.

Despite the Fed’s claim that its actions were “not QE,” the market impact was similar to previous QE efforts: Volatility abated and equity valuations trended higher. The message received by short-vol traders seemed to be that any rise in volatility big enough to derail their strategies would be counterbalanced with market-positive monetary accommodation, adding to traders’ conviction that the Federal Reserve would be there, at least indirectly, to bail out the short-volatility market.

The last carry trade we will examine—and potentially the most concerning because it remains the least understood—relates to the effects of extraordinary monetary policies on global capital flows.

### EXHIBIT 7: QUANTITATIVE EASING HAS INFLUENCED INVESTOR FLOWS

G4 Central Bank Balance Sheets and Asset Flows



EME: Emerging-market equity. EMD: Emerging-market debt. HY: High-yield debt. G4: BOE, BOJ, ECB, and Fed. Source: U.S. Federal Reserve (Fed), Bank of England (BOE), European Central Bank (ECB), Bank of Japan (BOJ), Emerging Portfolio Fund Research, Haver Analytics, Fidelity Investments AART; monthly data through 1/31/20.

U.S. public and private debt holdings have increased substantially over the past decade, and non-U.S. buyers represent a significant portion of net demand: Foreign ownership of U.S. debt currently exceeds \$2 trillion. Over the past four years, the search for yield has sent an incremental \$1 trillion of capital flowing into U.S. markets from the eurozone and Japan alone.

Historically, global buyers of U.S. debt instruments hedged some or most of their currency risk. With debt levels climbing, foreign-exchange (FX) hedging has lately contributed to massive growth in the largest, most liquid market in the world, with \$72 trillion of currency derivatives active in U.S. dollar markets.

In 2015, as the Federal Reserve began withdrawing monetary accommodation, the cost of hedging higher-yielding assets increased and, at times, neutralized any yield pickup. At its extreme—during the fourth quarter of 2018—the yield of hedged U.S. Treasuries for investors based in Japan and Europe went negative. Effectively, Fed actions inverted the global yield curve far earlier than they did the classic U.S. Treasury curve.

The Fed reversed course entering 2019, and we believe non-U.S. investors continued to relax their U.S. hedging discipline. A growing number have used short-maturity local-currency instruments to purchase higher-yielding foreign assets, but without appropriate FX hedging. In our view, a segment of the global carry trade may be developing a classic case of duration mismatch—borrowing on the short end but lending longer-term—only on a cross-currency basis and in a market that runs to more than \$3 trillion of transactions per month.

Global investors seem to have become more willing to lend across borders, confident that central banks will provide liquidity to distressed markets whenever needed and that the primacy of the U.S. dollar and the U.S. credit markets will persist indefinitely. This currency mismatch may prove a source of unforeseen risk to global investors and corporate balance sheets.

### External ramifications: China's debt boom

At the start of the global financial crisis in 2007, the Chinese economic and financial system found itself in “better-than-most” shape to weather the coming storm. China's corporate sector remained highly competitive, its financial sector had recently emerged from a dramatic restructuring and recapitalization, the country maintained a high current-account balance and savings rate, and its path for secular growth still appeared strong.

China responded to shocks from the GFC—as well as from the European debt crisis, its own internal dislocations, and other shocks over the past 10 years—with an enormous charge of debt-fueled growth.

The country's non-financial sector expanded its debt outstanding from 117% of Chinese GDP in 2007 to 210% by 2019—well above the U.S. equivalent, which stood at roughly 150% of GDP at the end of 2019. Household debt levels also rose dramatically, while the national savings rate, reflected in current-account surpluses, declined from 9.9% in 2007 to 0.4% in 2018. Lastly, China's fiscal deficit is running about 6% of GDP, up from 1% in 2007. Arguably, unintended consequences of extraordinary monetary policy could prove more enduring for China than for major Western economies.

Today, China faces challenges similar to those the U.S. faced in 2007. The Chinese economy's debt infusion helped home prices rise 153% from 2007 levels. Home price-to-income ratios skyrocketed to 26x in Shenzhen and 18x in Beijing, compared with about 6x in New York and 9x in San Francisco. Credit excess also is evident in the country's vehicle sector, which has built out production capacity at a torrid pace, up 210% over the past decade, with a capacity utilization rate of 76%.

But despite a 378% increase in total Chinese debt over the past decade, the country's credit expansion has, to a large extent, been offset by the QE policies of G4 central banks, thereby allowing China's policymakers to maintain a relatively stable currency. Facing the risk of credit imbalances and a potential property-price

Central bank willingness to intervene and deliver liquidity during times of stress has engendered a new investment tactic commonly referred to as short-volatility trading.

bubble, along with less effective stimulus tools, China stands firmly in the capital-market crosshairs should global central banks attempt to reverse course or seek to terminate their extraordinary monetary policies.

As the Federal Reserve in 2015 sought to unwind its extraordinary policies, China's debt-infused economy was stung by higher interest rates globally and by downward pressure on the yuan. A key component of the Fed's decision to pause its tightening cycle at the end of 2015 concerned the fragility developing around China's economy and currency.

China's economic rebound in early 2017 allowed the Fed to return to a tightening stance—and once again, the global interconnectedness of central banks and their policies was made clear: China re-entered a growth recession in 2018. Unlike previous growth recessions in China, the lack of a rate-policy reversal from the Federal Reserve in 2018 and the continuation of QT into first half 2019 forced China into a much less dramatic credit resurgence (Exhibit 8).

The Fed's resumption of rate cuts and reversal of its balance-sheet tightening has lately begun to soften the negative implications for the Chinese economy. Going forward, we believe the Federal Reserve, as it seeks to manage U.S. monetary policy, is likely to find itself increasingly constrained by the sensitivities of the world's largest source of marginal demand—China.

### Portfolio construction considerations in a world of extraordinary monetary policy

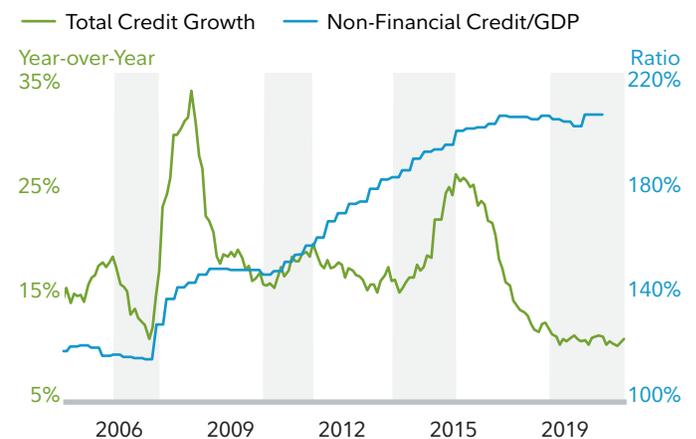
Central banks' extraordinary measures contributed to persistent, above-average returns for major asset classes in recent years. Asset allocators need to consider the portfolio-construction implications of

non-traditional monetary policy along with the growing willingness of world central banks to routinely intervene in asset markets.

We believe the future investment environment will require portfolio strategies that source return from a diverse set of financial and real assets, with the ability to hedge against unforeseen risks from both inflation and deflation. The long-term ramifications of extraordinary policies are highly uncertain, but we see a rising probability of an unprecedented regime shift in economic growth, inflation, or both. Simply applying the return, volatility, and correlation data of the past few decades is no longer sufficient for modeling robust multi-asset portfolios over a secular time horizon.

#### EXHIBIT 8: CHINA CREDIT HAS SURGED

China Private Credit



Gray-shaded bars represent China growth recessions as defined by AART. China credit growth estimate based on current economic conditions. Source: China National Bureau of Statistics (official data), Bank for International Settlements, People's Bank of China, Haver Analytics, Fidelity Investments AART; monthly data through 12/31/19.

## Final thoughts

The stark and unintended consequences arising from a decade of extremely low to even negative interest rates along with various other forms of monetary easing are likely to challenge central banks' ability to unwind their extraordinary policies. When the Federal Reserve pushed to normalize policy, volatility surged and global growth faltered, prompting the Fed to reverse course, cut rates, re-inflate its balance sheet, and inject massive credit into repo markets.

In the latter half of 2019—despite a strong economy, a near-target inflation rate of 1.9%, and the lowest unemployment rate in 50+ years—the Fed cut policy rates by 75 basis points, this in addition to purchasing nearly \$60 billion of Treasury bills per month and contemplating installation of a standing repo facility.

These actions contributed to 2019's 32% gain for the S&P 500, tighter credit spreads, subdued volatility, and seemingly ever-lower sovereign bond yields. Fed intervention into Treasury and repo markets reinforced investors' perception that central banks will routinely provide liquidity to quell volatile markets. Case in point: In February 2020, after just an 11% drawdown of the S&P 500, the Federal Reserve enacted an intra-meeting 50 basis point cut in an attempt to subdue volatility and sustain growth. Only time will tell whether this most recent easing will be effective.

Extraordinary monetary policies of the past few years have created a series of unintended consequences:

- Older households—the largest and fastest-growing population segment across advanced economies—rationing their spending (increasing savings) in response to lower rates.
- Institutional investors pushed into opaque private markets in a search for higher returns.
- Corporations, unable to generate sufficient growth through traditional means, turning to financial engineering to boost returns.
- Private investment vehicles pouring money into loss-making and deflationary platform enterprises.
- Leveraged investment strategies flourish on the belief that the Fed will forever suppress volatility.
- Financial institutions escalating cross-border carry trades with exposure to rising duration mismatch.
- Growth-focused Chinese policymakers able to extend extraordinary levels of credit, potentially amplifying financial vulnerabilities.

Since the end of the global financial crisis in 2009, extraordinary monetary policies have supported a “risk on” fervor that has boosted performance across major asset classes. But the boom of the past decade—culminating in soaring valuations—may foreshadow, at the very least, substantially weaker results over the next 10 to 20 years.

If the unintended effects of central banks' policy decisions persist—or proliferate—asset allocators should consider preparing a portfolio construction strategy to offset an expanded array of potential outcomes, including the possibility of an enduring shift in expected returns, asset-class correlations, market volatility, and currency valuations.



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*AART Research Analyst Jordan Alexiev, CFA, also contributed to this article. Fidelity Thought Leadership Director David Risgin, CFA, provided editorial direction.*

## Endnotes

<sup>1</sup> Central bank actions include various forms of Quantitative Easing (QE), as well as the Federal Reserve Term Auction Facility (TAF); ECB Longer-Term Refinancing Operations (LTRO) and Outright Monetary Transactions (OMT); BOE Funding for Lending Scheme (FLS), Corporate Bond Purchase Scheme (CBPS), and Term Funding Scheme (TFS); PBOC Short-Term Liquidity Operation (SLO), Standing Lending Facility (SLF), Pledged Supplementary Lending (PSL), Medium-Term Lending Facility (MLF), and Central Bank Bill Swap (CBS); and BOJ Yield Curve Control (YCC) and Qualitative Monetary Easing (QQE).

<sup>2</sup> In 1994, China established three "policy banks": Agricultural Development Bank of China, China Development Bank, and Export-Import Bank of China. Policy banks were to oversee the policy operations of China's state-owned professional banks, finance economic and trade development as well as state-invested projects, and otherwise implement China's economic policies.

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