The debate over Modern Monetary Theory

Also inside: Hedge against an overshoot in inflation or a growth slowdown (see page 24).
One topic that has recently come up in an increasing amount of discussions is whether Modern Monetary Theory (MMT) is appropriate to stimulate growth and inflation and what the consequences from an increased government spending at least partially financed by expansive monetary policy could be.

This month we look at how UHNW and Global Family Office clients can adapt their portfolios to a variety of different experiments about the relationship between deficit spending, inflation, and economic growth. In the Feature article summary, Mark Haefele gives some background on the current debate and highlights the key takeaways for investors. MMT was also a topic at our latest Investor Forum.

MMT may create an opportunity for governments to think about sustainable infrastructure spending more forcefully. We highlight an example of a Global Visionary already active in this field.

Lastly, we examine how investors can prepare for a potentially more inflationary environment by allocating across a range of areas within private markets.

Regards,

Mike Ryan
Simon Smiles
Modern Monetary Theory (MMT) proponents believe governments that print their own currencies can’t go bankrupt and don’t need to tax or even borrow to finance spending. When the state wants to spend, it can print more “money.” In this framework, excessive spending is measured through increases in inflation instead of budget deficits. While prominent figures have publicly denounced MMT, certain political figures on both sides of the aisle have lined up behind the idea.

Whatever the merits of MMT or other theories, the fact is that your portfolio is already exposed to a variety of different experiments about the relationship between deficit spending, inflation, and economic growth. In this article, I take a closer look at how the policy debate is evolving to take account of new economic realities and the implications for investment portfolios.

Interests on both sides of the political aisle
Some contenders for the Democratic presidential nomination are lining up behind the MMT idea of a “job guarantee,” a federally funded government job creation scheme. The Democrats’ Alexandria Ocasio-Cortez has linked MMT to financing the controversial Green New Deal proposal. But the MMT debate is not confined to the political left.

President Donald Trump has been critical of the way the Fed has tightened monetary policy. The administration has followed policies that have fostered a large budget deficit for a peace-time economy close to full employment. Larry Kudlow, President Trump’s economic adviser said this month, “I don’t think good growth policies have to obsess, necessarily, about the budget deficit.”

The evolution of policy
At first, orthodox economists reigned supreme with their claim that printing money was tied to higher inflation. But the link between the monetary base and the rate of inflation was soon severed.

1985-1995
US monetary base grew at an annual rate of 8%, while inflation (consumer price index) rose at a 3.5% pace.

1995-2005
US monetary base slowed to a 6% annual growth rate, and CPI also slowed to a pace of just 2.5%.

2005-2015
Monetary base increased at an annual rate of around 18%, while CPI slowed again to a pace of just 1.9%.
And so the case for MMT was born...

- MMT believers point to Japan as a success story for the new approach. Japan’s debt is equivalent to 240% of its GDP and the Bank of Japan’s balance sheet is larger than the nation’s GDP, yet annualized inflation is currently 0.2%.

- Meanwhile, MMT proponents point to the Eurozone’s relative fiscal discipline as a failure. Monetary financing is prohibited in the region and despite the combination of five years of negative interest rates and quantitative easing, growth in Germany—the poster child for fiscal discipline—hit a five-year low in 2018.

- Detractors don’t believe implementing MMT is possible. While MMT theory involves governments investing in initiatives that will spur growth, most government spending is typically absorbed by entitlements like retirement benefits and healthcare.

- Skeptics also highlight that MMT policies would ultimately mean taking power away from the central banks in favor of an unknown experiment in sharing power with a technocratic group responsible for using fiscal policy to steer the macro economy.

...while traditionalists fought back.

- Many argue that printing too much money will still lead to inflation, higher interest rates, and lower growth rates. While Japan has avoided a deflationary spiral, smaller nations, such as Venezuela, have not escaped the classic paradigm.
Global CIO preferences

So what does MMT mean for your portfolio?
Thinking about the impact of MMT can help us build more robust portfolios. For example, we need to at least imagine a world where the traditional economic cycle is dead. Typically, now that the Federal Reserve has started to raise rates, we would expect the cycle to turn as the Fed eventually hikes rates enough to choke off inflation and growth. However, whether we call it MMT or not, it is possible that we may be in a world of more expansive fiscal policy and continued easy monetary policy that extends the upswing and sustains the rally in risk assets. For us, inflation remains the most important variable to watch.

Yet over the longer term, we need to design portfolios that are robust enough to survive even if things are not different this time. Ultimately, high deficits may yet lead to higher inflation, interest rates, and currency devaluation. We must assume that the very different monetary and fiscal policies pursued by major nations will not end equally well. There will be winners and there will be losers. So while it is important to maintain sufficient assets in the home currency of your liabilities, now more than ever is a time to diversify into some of the other regions of the globe pursuing different policies.

Tactical asset allocation recommendations
We remain risk-on but have reduced our equity exposure this month. We also continue to hold certain counter-cyclical positions that can help protect portfolios against downside risks.

For more information, click any asset class name above, or visit ubs.com/cio-preferences

This is a visual summary of our preferences.

*We do not apply tactical preferences to non-traditional asset classes.

Underweight: Tactical recommendation to hold less of the asset class than specified in the moderate risk strategic asset allocation.
Neutral: Tactical recommendation to hold the asset class in line with its weight in the moderate risk strategic asset allocation.
Overweight: Tactical recommendation to hold more of the asset class than specified in the moderate risk strategic asset allocation.
Month-to-month change
Overview

Will UK lawmakers approve a Brexit deal?
The Brexit clarity investors have been hoping for remains elusive. The EU agreed late last week to a two-week delay to Brexit day, originally scheduled for 29 March. That gives Prime Minister Theresa May a final chance to win approval for her Brexit deal, which UK lawmakers have rebuffed twice. All options remain possible, including approval of May’s plan, a fresh election, or a referendum. Given the difficulty in predicting the final outcome, we do not recommend taking directional views on sterling. And with their less certain risk-reward outlook, we recommend investors remain underweight UK equities.

Could we see a US-China trade breakthrough?
Long-running trade tensions have been a major preoccupation for investors. US trade relations with China remain fragile, even as high-level trade talks continue. In addition to the feud with China, the US continues to threaten higher tariffs on auto imports, which if implemented could hit Germany and Japan especially hard. While a renewed trade escalation remains a risk, there are promising signs that President Trump is willing to compromise and is not impervious to the economic impact of his trade policies. Markets are also supported by continued economic growth and rising earnings.

Is now the right time to buy equities?
Progress in US-China negotiations and a more dovish Federal Reserve have helped lift global stocks roughly 16% from their Christmas lows. We still need evidence of concrete progress on several fronts in order to see stocks move much higher from here: Comprehensive progress on trade, renewed earnings momentum, and data confirming our view that the current economic soft patch is only temporary.

Is the Fed tightening cycle over?
The Federal Reserve’s monetary policy stance has shifted from “autopilot” to “patient”, raising the question of whether the central bank has finished hiking rates in this cycle. In March the Fed cut its forecast for rate hikes this year from two to zero and announced it will end its balance sheet run-off in September rather than in 2020. Markets are pricing in a rate cut in the next 12 months but the Fed’s median forecast points to one hike in 2020.

Should the yield curve worry investors?
For the first time since 2007, a part of the US yield curve has inverted, a move traditionally seen as a harbinger of recession. The yield on 3-month Treasury bills rose past the yield on 10-year Treasury bonds on 22 March, following disappointing data from the US and Europe and dovish signals from the Federal Reserve earlier in the week. We see no cause for concern. An inverted yield curve has only predicted recessions with long and variable delays. It may prove less prophetic this time, since central banks’ bond buying has suppressed yields on long-duration bonds. We do not expect a global recession this year.

60%
Probability that a trade agreement will be signed in the next two to three months

Source: UBS, as of 21 March 2019.
External Views

At UBS CIO, a culture of challenge and diversity of opinion is part of our investment philosophy. Here, we highlight views from leading external investment managers, clients, and entrepreneurs.
Modern Monetary Theory (MMT) is “neither modern, nor monetary, nor a theory.”

—Shamik Dhar, BNY Mellon

Another controversial theme debated was the Modern Monetary Theory (MMT), a topic heavily discussed among economists around the world. Our participants expressed their critical view on this subject with BNY Mellon’s Shamik Dhar stating that it is “neither modern, nor monetary, nor a theory.” Allianz GI’s David Tan responded by explaining that the MMT is technically working in Japan, an example which is often used in this context. Ralf Preusser from BAML questioned a possible Japanification of Europe due to different starting points, with Japan starting from a much higher productivity growth rate.
Overall, confidence levels among business owners in Asia have become muted, but they don’t expect a sharp fall in demand. Instead, they expect growth rates will slow to a more sustainable trend over the next three to five years. Their concerns are dominated by global political risks such as an escalation of US–China trade tensions, a potential no-deal Brexit scenario, and uncertainty about the Trump administration’s policy agenda.

Despite the anticipation of less economic growth, business owners are optimistic about the improving quality of growth in both China and the wider South-East Asia region. Chinese efforts to rebalance the economy—away from investment-led to consumption-driven growth—are well under way. State policymakers have used numerous tools to reduce excess industrial capacity that made business and market conditions turbulent in 2015 and 2016.

US-China trade tensions have hurt sentiment among business owners but are less of a threat to Chinese firms making high-value products with inelastic demand. Many China-based entrepreneurs say that even with 15%-20% tariffs their firms are still profitable. For higher value-add products reliant on high-quality infrastructure, skilled labor, and an integrated local ecosystem, Southern China (especially Guangzhou) still offers business owners an extremely attractive package.

Instead, it’s the lower value-add industries that are moving marginal new production to lower-cost countries such as Malaysia, Thailand, Indonesia and Vietnam, and this shift already is having an impact. An Indonesia-based business owner shared, “For my business, I’ve already seen an increase in orders. I’m expanding my manufacturing sites and increasing capacity.”
UBS Global Visionaries

A solar power revolution

UBS Global Visionaries are entrepreneurs who use their business or non-profit to address the world’s biggest social and environmental issues. We recognize them as leaders in their fields and support them to scale their impact.

Businesses are becoming more environmentally conscious and are seeking new ways to increase their energy efficiency. UBS Global Visionary Sebastian Groh founded SOLshare, the world’s first solar energy-sharing company, which allows people to buy energy or monetize their excess solar power via smart peer-to-peer grids.

This is an energy-sharing model that Groh believes can be scaled by small-scale industries as well. Once a solar system is installed at their factories, they can create an energy exchange grid with other businesses nearby.

SOLshare piloted its mini-grids in Bangladesh, one of the world’s most densely populated countries. For comparison, Bangladesh is home to 160 million people—that is double Germany’s population, while it is only half the European country’s size by area. This level of population density is one of the main reasons why solar grid systems have proved so successful.

SOLshare currently has 21 operational mini-grids in Bangladesh and has started its first installations in Assam, India. As well as the monetary gains from energy trading, there are indirect economic gains too, as people can work and children can study after sunset.

Groh is one of Ashoka’s ‘Leading Social Entrepreneurs’ and a Stanford Business School Ignite Fellow; SOLshare has received an accolade from the World Economic Forum, and the UN’s $1mn Powering the Future We Want Award.

Each year we actively support 20 Global Visionaries to accelerate their impact by providing mentoring from UBS experts and opportunities to connect with our clients. Global Visionaries work across all 17 of the UN’s Sustainable Development Goals—you can see all the profiles on www.ubs.com/GlobalVisionaries.
Own your worth

Throughout the year, we examine how investors feel about important issues to uncover fresh insights that help UBS Financial Advisors better address our clients’ needs. In this edition, we asked women about taking control of their wealth to achieve financial well-being.

Women know that they’re living longer

78% believe they will outlive their spouse

80% say retirement planning is top priority

Most women take care of short-term finances, but opt out of long-term finances

91% manage day-to-day expenses equally or more than their spouses

54% “My spouse takes the lead” in major financial decisions

Globally, women defer long-term financial decisions to spouses

- 72% Singapore
- 71% Hong Kong
- 69% Switzerland
- 62% UK
- 60% Germany
- 54% US
- 52% Italy
- 45% Brazil
- 39% Mexico

Why women opt out

88% “I think my spouse knows more than I do.”

Women who have been there know better

98% of divorces and widows encourage other women to be more involved with their finances now

Sharing decisions equally has big benefits

99% “If something happens to my spouse, I will know about our finances.”

97% “We make fewer mistakes when we’re both involved.”

96% “I’m more confident about our financial future.”

96% “I’m less stressed about our finances.”

Find more on these results and all previous editions at ubs.com/investorwatch

About the survey: From September 2017 to January 2019, UBS surveyed 3,652 women. Of these women, 2,251 were married with at least $1m in investable assets. Others (1,401) were either divorced or widowed. These women had at least $250k in investable assets. UBS also conducted interviews with 71 female respondents. The entire sample was split across nine markets: Brazil, Germany, Hong Kong, Mexico, Singapore, Switzerland, Italy, the UK and the US. The US sample consisted of 797 women (632 married, 165 widowed or divorced).
Global Investment Insights

This section augments UBS’s House View with additional asset classes, sustainable and impact investments, dislocation and hedge investment ideas as well as short-term investment opportunities to address the specific, specialized needs of UBS’s Ultra High Net Worth (UHNW) and Global Family Office (GFO) clients.
Hedge against an overshoot in inflation or a growth slowdown

Not only is the Fed “patient” but it is also in the process of reviewing its policy strategy over the next few months. One policy option the Fed is considering is average inflation targeting. If it were to be adopted, it may lead to a steeper yield curve.

The Fed has consistently stated that inflation should be symmetric around its 2% target. In its upcoming policy review, which includes a conference at the Chicago Fed on June 4-5, we expect more clarity on any potential changes in policy, which we anticipate to be more flexible. If the Fed is to achieve average inflation or inflation expectations of 2% on a forward basis, it should purposely allow inflation to run above 2% when the economy is running at or above potential, to allow for periods when the economy is running below potential, when inflation should be less than 2%. This policy is consistent with one of “average inflation targeting.” Likewise, another potential policy change may be that the Fed does not change policy until there is an actual rise in inflation, as opposed to higher inflation predicted by its econometric models.

Historically, one of the primary factors behind every post-war recession is that the Fed over-tightens to maintain its inflation fighting credibility. An extended Fed pause when the policy is neutral, while growth is above trend, should lead to looser financial conditions. If the Fed’s reaction function were to delay an increase in real rates, or even allow real rates to decline as inflation rises above 2%, this should be bullish for equities since it extends the economic expansion. However, this increases the risk that the Fed may get behind the curve, which typically then leads to a steeper curve due to higher breakeven inflation in long-maturity securities. A steeper curve due to fears of higher inflation has historically coincided with a decline in the S&P 500.

We think this is an opportune time for investors to consider curve caps on the 2Y/30Y swap curve. As seen in the chart, prices are near all-time lows. While the 2Y/30Y curve has slightly steepened of late, we anticipate that the curve should continue to steepen as the Fed pivots its policy, especially if it were to state that a wider range of inflation is allowable around its 2% target.
Buy MSCI Asia ex-Japan (AAxJ) and Sell AUDUSD

While a successful outcome to the China trade negotiations is mostly priced into Asia equities, terms that favor foreign investment and the private sector should help stimulate a more balanced growth going forward.

While Asia ex-Japan (AAxJ) has rallied 10% year-to-date, we think it is relatively inexpensive and offers reasonable upside. For example, its Equity Risk Premium (ERP) is 7.95% (61st percentile - see chart). If ERP were to decline to its average since 2002 (7.73%), its expected return would be 5%. However, over the past 17 years China and Asia have become more developed. As such, we would expect the ERP for AAxJ to decline below its long-term average since it has more attributes of a developed economy. Further, China is taking measured steps to free up its economy. At the recent National People’s Congress, Premier Li stated that the government would focus more on a market-based approach to stimulate the economy, such as “stabilizing macro leverage and having Total Social Financing growth keep pace with nominal GDP growth.” He also stressed tax cuts and increased financing to SME; in addition, the new Foreign Investment Law addresses many US concerns including IP protection, forced technology transfer, and cyber security. The key point we wish to address is that some of the US demands in the trade negotiations may actually be beneficial to the private sector of China’s economy.

We are short AUDUSD as a partial hedge since AUD has had a fairly close positive correlation with AAxJ over the past few years. Likewise, the AUD has been weak of late due to the slowing Australian economy. While the RBA has kept its overnight cash rate steady at 1.50% since August 2016, the Interbank futures market is pricing in almost two 25 basis points (bps) cuts over the next year. This should keep AUD on the weak side, even if these cuts are priced into current FX exchange rates.

For a hypothetical USD 10mn total allocation:
- Buy USD 5mn MSCI Asia ex-Japan
- Sell USD 2.5mn worth of AUDUSD currency forward

Other open recommendations
- Long US 2-Yr T-note, Short 10-Yr T-note
- Long Nikkei, Short USDJPY
- Long Brent Crude, Short USDCAD
- Long Eurostoxx 50 Dividends, Long Gold
- Long Gold, Short 5-Yr T-note

Ask your Private Wealth Advisor for more information on investment recommendations.
Hedge funds

Hedge fund investors seek regional diversification

Hedge funds can be a useful source of uncorrelated return and stability in a multi-asset portfolio, especially during times of market volatility. Historically, they have offered superior risk-return compared to many other asset classes.

Hedge fund investors appreciate these features and actively use them to increase their exposure across specific regions and to differentiated strategies. For example, according to a survey from Barclays capturing 298 investors with USD 885bn invested in hedge funds, for 2019 30% of hedge fund investors plan to invest in a strategy they are currently not allocated to and increase allocations in geographies they are less exposed to, i.e., APAC and Europe. Among these are strategies we deem as most suitable in this late stage of the cycle as they can reduce the directionality of a portfolio, e.g., discretionary macro and market-neutral funds. In order to maximize diversification, investors can also consider funds of hedge funds and multi-strategy funds.

2019 should be another year of economic divergence, with some economies likely to accelerate such as India and Brazil and others likely to slow down, e.g., the US and Germany. Monetary and fiscal policies also appear to diverge, e.g., some countries are more accommodating than others. In this context, investors need to be vigilant with their asset allocation. In particular, portfolios with a strong geographical bias and a main focus on traditional assets like bonds and equities may prove to be suboptimal.

Hedge funds can be a valuable tool to capture opportunities across asset classes and the globe. Managers often opportunistically shift their allocation to the most attractive regions. Separately, they forecast economic scenarios and trade across a large range of instruments to implement their views. In this regard, managers can provide some form of hedging against scenarios such as higher inflation.

A majority of hedge funds have a global investment focus
Regional investment focus of hedge funds by assets, in %

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>Global</td>
<td>50.4</td>
</tr>
<tr>
<td>North America</td>
<td>34.4</td>
</tr>
<tr>
<td>Europe</td>
<td>7.0</td>
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<tr>
<td>Asia</td>
<td>3.5</td>
</tr>
<tr>
<td>Other</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Source: HFR, UBS, as of 4Q2018
Private markets

Protecting against inflation with private markets

Direct lending and real asset strategies can help protect portfolios in inflationary environments.

To provide context to a potential ‘Modern Monetary Theory’ scenario as outlined in this month’s UBS House View, investors may be considering approaches that can help protect against inflationary pressures. We outline private market strategies that may counter these forces below.

Direct lending strategies focus on loans to companies underserved by traditional lending sources. Unlike traditional fixed-income investments, these loans can offset inflationary pressures, as coupons tend to be floating rate in nature. Also, these loans are often collateralized by underlying assets, contain protective covenants, and are higher in the capital structure and therefore first in line to recoup capital in case of default. In combination, these factors can help protect investors during an inflationary environment and from potential adverse effects from negative macro events.

Real assets including real estate and infrastructure strategies can also be considered. Real estate funds that own and operate properties commonly adjust leases to include escalators to reflect CPI or fixed upward escalators. Infrastructure funds invest in sectors such as transportation, water, power generation, and telecommunication. Fund managers can regularly negotiate contracts to reflect price increases on user fees.

Manager selection matters. For example, direct lending managers can leverage extensive credit teams to screen out borrowers with poor balance sheets that may be at risk from rising rates. Within real estate and infrastructure, top managers can identify quality assets with strong pricing power that can absorb rate increases.

Given the longer time horizon of private markets investing, we note that dynamics may change over the investing period and investors should consider allocating to these strategies as part of a strategic, diversified portfolio.
Sustainable and impact investing

Investing with a gender lens may contribute to returns

Each year, March marks Women’s History Month, which celebrates the achievements of women worldwide and is a great time to reflect on both the progress and road ahead in achieving gender equality throughout the world.

Women play a vital role in society and are taking on an increasing role in the workforce. The breadth of skills and knowledge they are bringing to the market is also evolving. Women account for almost 50% of all students in advanced degree programs, up from 10% in the 1960s.1 This makes women a key talent pool and a source of leadership, diversity, and perspective for companies.

There is an economic case to be made for gender diversity. In the workforce, women remain underrepresented, occupying just 21% of S&P 500 board seats and 26.5% of senior management positions.2 Moreover, the US labor force participation rate for women is just 57.5%, vs. 69.3% for men.3 Studies show that narrowing the gap between labor force participation rates for men and women globally could add USD 12tr, or 11% to global GDP growth by 2025.4

From an investment perspective, gender diverse companies could be at an advantage. Our research shows that Russell 1k firms with at least 20% female senior management were more profitable than their less gender-diverse peers. In the same universe, we also found that gender-balanced firms have higher average dividend yields. Academic research also supports the gender-diversity, profitability connection. One study found that a move from all-male leadership to 30% female leadership could result in a 15% bump in net revenue.5 Given this data and the potential for impact, there is a case to be made for investing with a gender lens.

Gender-diverse companies exhibit higher profitability

Five-year average, in %

<table>
<thead>
<tr>
<th></th>
<th>Gender-diverse companies</th>
<th>Other companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on assets</td>
<td>5-10%</td>
<td>9-12%</td>
</tr>
<tr>
<td>Return on invested capital</td>
<td>9-12%</td>
<td>8-12%</td>
</tr>
<tr>
<td>Return on equity</td>
<td>18-20%</td>
<td>15-18%</td>
</tr>
</tbody>
</table>

Note: Based on Russell 1000 companies. Gender-diverse companies defined as at least 20% women on the board and 20% in senior management.

Source: Bloomberg, UBS, as of 15 October 2018

Laura Kane
Head of Thematic Investing

Michelle Laliberte
Thematic Investing Associate

1American Bar Association; Association of American Medical Colleges; U.S. Department of Education, as of 2010.
4McKinsey research.
Cautionary statement regarding forward-looking statements

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Statement of risk

Equities - Stock market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables.

Fixed income - Bond market returns are difficult to forecast because of fluctuations in the economy, investor psychology, geopolitical conditions and other important variables. Corporate bonds are subject to a number of risks, including credit risk, interest rate risk, liquidity risk, and event risk. Though historical default rates are low on investment grade corporate bonds, perceived adverse changes in the credit quality of an issuer may negatively affect the market value of securities. As interest rates rise, the value of a fixed coupon security will likely decline. Bonds are subject to market value fluctuations, given changes in the level of risk-free interest rates. Not all bonds can be sold quickly or easily on the open market. Prospective investors should consult their tax advisors concerning the federal, state, local, and non-U.S. tax consequences of owning any securities referenced in this report.

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Municipal bonds - Although historical default rates are very low, all municipal bonds carry credit risk, with the degree of risk largely following the particular bond’s sector. Additionally, all municipal bonds feature valuation, return, and liquidity risk. Valuation tends to follow internal and external factors, including the level of interest rates, bond ratings, supply factors, and media reporting. These can be difficult or impossible to project accurately. Also, most municipal bonds are callable and/or subject to earlier-than-expected redemption, which can reduce an investor’s total return. Because of the large number of municipal issuers and credit structures, not all bonds can be easily or quickly sold on the open market.
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The House View Investment Strategy guide reflects the views of the UBS Global Investment committee (GIC). The GIC comprises nine members, representing top market and investment expertise from across all divisions of UBS:

**Global Investment Process and Committee description**
The UBS investment process is designed to achieve replicable, high-quality results through applying intellectual rigor, strong process governance, clear responsibility, and a culture of challenge. Based on the analyses and assessments conducted and vetted throughout the investment process, the Chief Investment Officer (CIO) formulates the UBS Wealth Management Investment House View (e.g., overweight, neutral, underweight stances for asset classes and market segments relative to their benchmark allocation) at the Global Investment Committee (GIC). Senior investment professionals from across UBS, complemented by selected external experts, debate and rigorously challenge the investment strategy to ensure consistency and risk control. The GIC is comprised of members representing top market and investment expertise from across all divisions of UBS.

**Global Investment Committee (GIC)**
- Paul Donovan
- Mark Haefele (Chair)
- Andreas Koester
- Min Lan Tan
- Mike Ryan
- Jorge Mariscal
- Bruno Marxer*
- Simon Smiles
- Themis Themistocleous

*[Business area distinct from Chief Investment Office]

**WMA Asset Allocation Committee description**
We recognize that a globally derived house view is most effective when complemented by local perspective and application. As such, UBS has formed a Wealth Management Americas Asset Allocation Committee (WMA AAC). WMA AAC is responsible for the development and monitoring of UBS WMA’s strategic asset allocation models and capital market assumptions. The WMA AAC sets parameters for the CIO Americas, WM Investment Strategy Group to follow during the translation process of the GIC’s House Views and the incorporation of US-specific asset class views into the US-specific tactical asset allocation models.

**WMA Asset Allocation Committee**
The WMA Asset Allocation Committee comprises nine members:
- Mike Ryan (Chair)
- Michael Crook
- Brian Rose
- Jeremy Zirin
- Jason Draho
- Tom McLoughlin
- Leslie Falconio
- Laura Kane
- David Lefkowitz
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**Lead authors**  
Mike Ryan  
Simon Smiles

**Contributors**  
Sara Barman  
Robert Boer  
Karim Cherif  
Miguel Costa  
Mark Haefele  
Laura Kane  
Maximilian Kunkel  
Michelle Laliberte  
Natascha Lander  
Jay Lee  
Gerald Lucas  
Samantha Naleski  
Vinay Pande  
Louis Pfau  
Vishakha Rajput  
Yang Tang  
Georg Weidlich  
Chris Wright

**Editor**  
Kate Hazelwood

**Project management**  
John Collura  
Maximilian Kunkel  
Paul Leeming  
Matt Siegel

**Design**  
Cheryl Seligman