

SUPPLEMENT TO THE GLOBAL MACRO MONITOR

The Chart Pack features our latest investment calls and probability forecasts on global (DM + EM) stocks and bonds, foreign exchange and commodity market benchmarks, as well as overall asset allocation.

September 2020

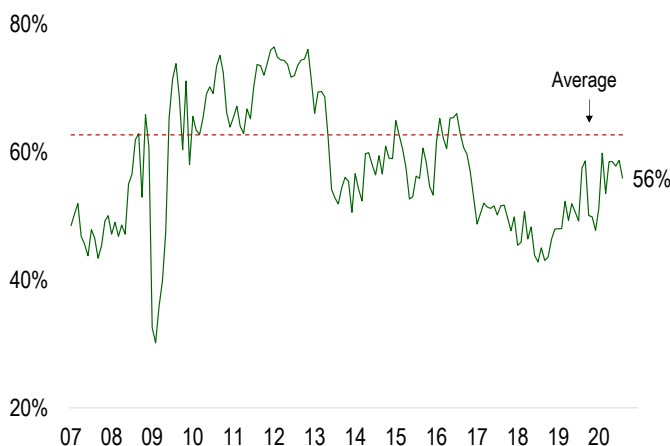
Summary and highlights:

- Asset allocation:** The recent correction in US tech stocks brings DM equity prices closer to their 'fair' value, thereby reducing downside risk. Because the global growth outlook remains exceptionally uncertain, we suggest a neutral (50/50) allocation between DM stocks and bonds to hedge the possibility of deep equity losses.
- Country rotation:** A projected recovery in commodity prices and a weakening of the US dollar improve the relative appeal of countries or regions especially sensitive to the global economic cycle. USD-denominated investments in CA stocks have the highest upside 12M out, followed by EZ stocks (F2).
- Commodities:** Stronger global transportation, sturdy manufacturing and construction activity in China and a weaker US dollar improve the upside for investments in industrial commodities. We also expect gold prices to remain elevated on the back of rising inflation expectations and supportive monetary policy.

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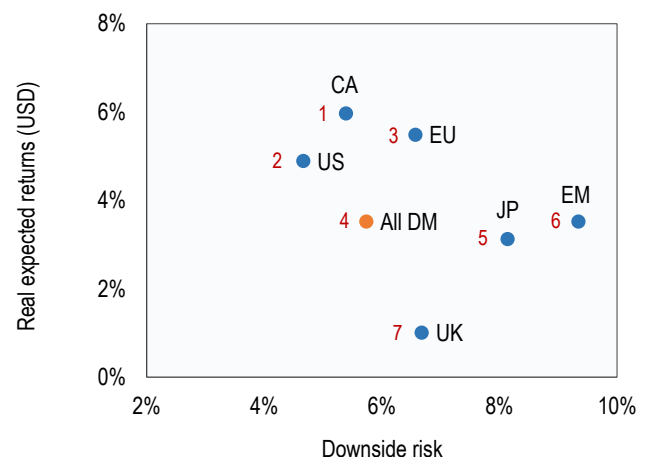
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F1: Excess real returns - DM stocks
Outperformance probability (vs. DM bonds)



Note: Likelihood of USD-denominated DM stocks outperforming DM bond investments over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

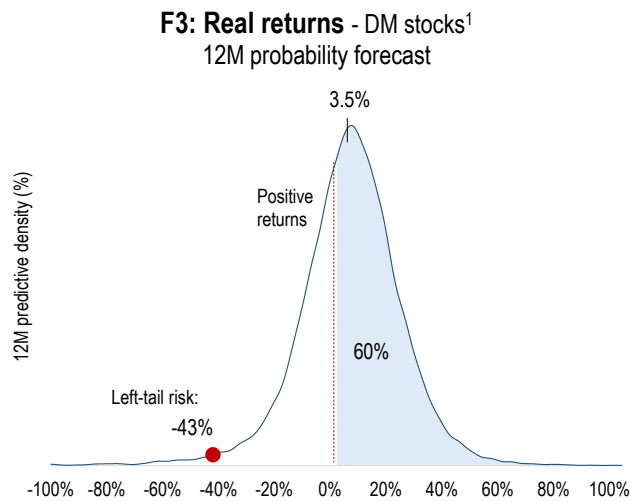
F2: Risk-reward comparison
Global equities - 12M ahead



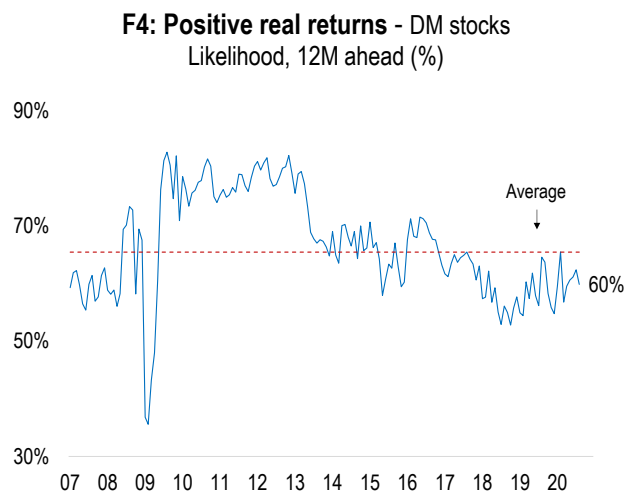
Note: Real USD total expected returns versus downside risk for 12M holdings in major stock markets. Numbers rank assets by their Omega ratio. Source Numera Analytics.

1) DM stocks:

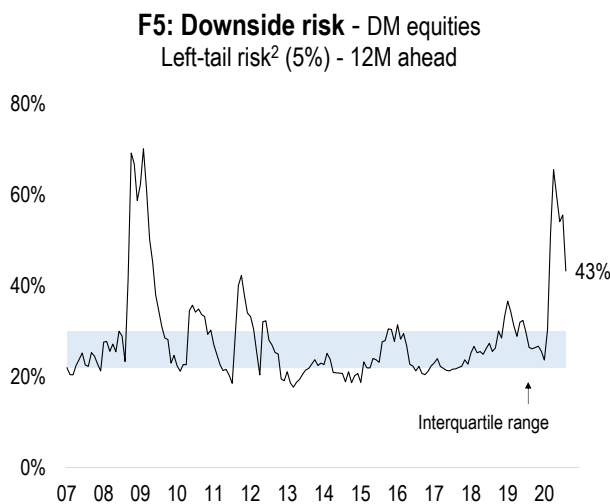
- **Absolute – Neutral (●)**. DM stocks have lost momentum in recent weeks owing to an 8% correction in US tech. The IT sell-off helps bring DM equity prices closer to their ‘fair’ value. Moving forward, negative real yields and a projected recovery in DM economic activity all improve the chances of positive returns on 12M holdings. Because investors remain exposed to deep potential losses (F5), we continue to recommend a neutral positioning.
- **Relative – Neutral (●)**. For balanced investors, DM bonds are just as attractive as DM stocks as expansionary monetary policy limits the possibility of a deep sell-off. Because EZ and JP bonds have limited upside, a neutral (50/50) allocation between DM stocks and bonds maximizes risk-adjusted returns 12M out (F6).



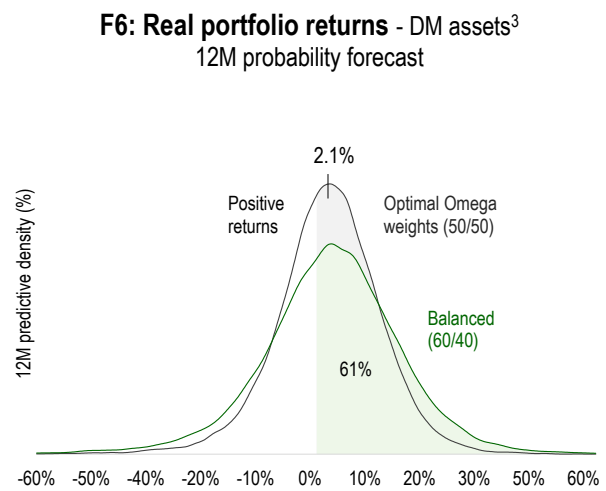
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.



Note: Probability of positive real returns on DM equities (DM MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F3. Red line is the historical average. Source: Numera Analytics.



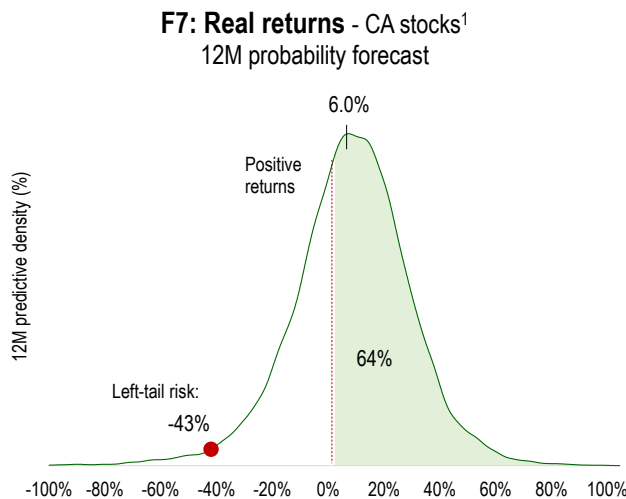
Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M USD investments in DM stocks. Shaded band is the interquartile range. Source: Numera Analytics.



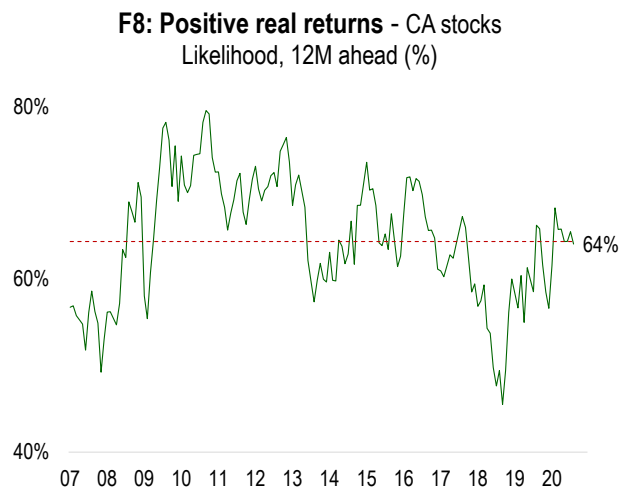
Note: Chart compares 12M probability forecasts for a portfolio comprised of DM stocks and bonds. The red line shows the range of potential outcomes for a 60/40 stock/bond allocation. The grey line, in turn, corresponds to the distribution for the optimal Omega portfolio, with the weights shown in brackets. Source: Numera Analytics.

2) Canada stocks:

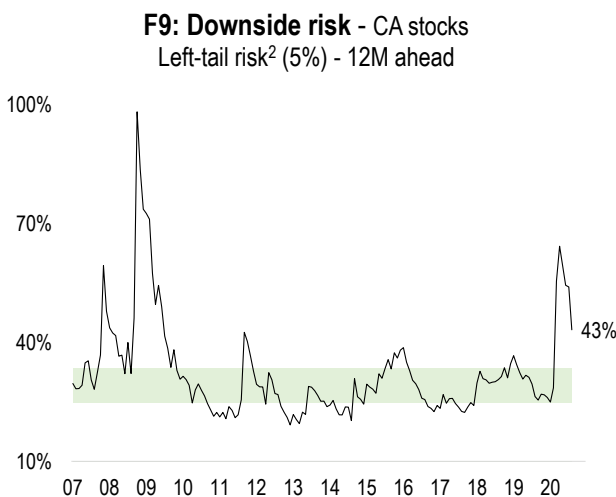
- **Absolute – Overweight (●)**. Even with a weak start to September, CA stocks are now close to pre-COVID levels after rising almost 65% since mid-March. Although the likelihood of positive returns is lower than earlier in the pandemic (F8), CA stocks retain a favourable risk-reward balance. Their strong upside reflects a bullish commodity outlook, a high probability of CAD appreciation (see F37) and ongoing improvement in domestic activity.
- **Relative – Overweight (●)**. CA equities are particularly sensitive to commodity cycles, so strong projected growth in raw material prices vastly improves their relative appeal. There is a 56% chance that CA will outperform overall DM stocks 12M out (F14), and CA stocks rank highly versus other equity investments (F2).



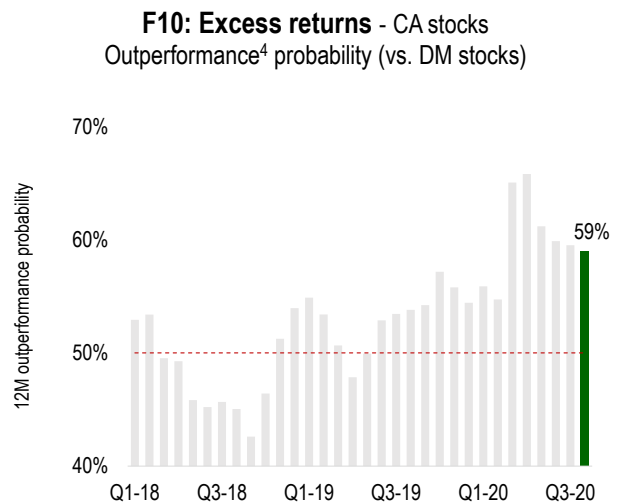
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.



Note: Probability of positive real returns on CA equities (CA MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F7. Red line is the historical average. Source: Numera Analytics.



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M USD investments in CA stocks. Shaded band is the interquartile range. Source: Numera Analytics.

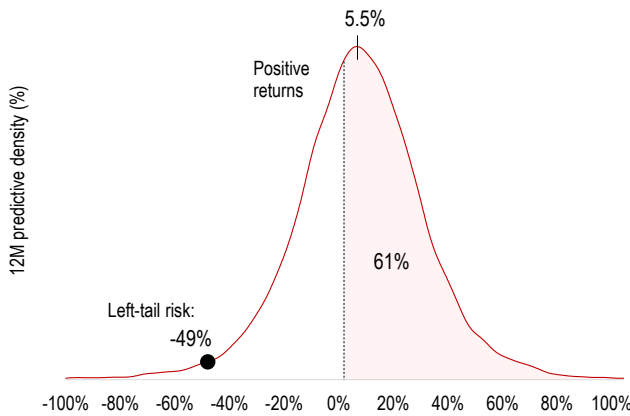


Note: Chart plots likelihood of CA stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

3) Europe stocks:

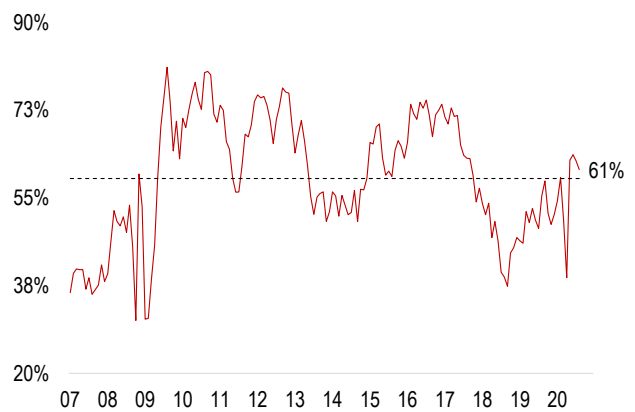
- **Absolute – Overweight (●)**. Despite a spike in COVID cases, hospitalizations remain extremely low, supporting the economic recovery. Away-from-home activities have normalized, and high frequency indicators point towards broad-based improvements in activity in August and September. Stronger domestic demand, a favourable euro outlook and still relatively low valuations all improve the chances of positive returns on EZ equities.
- **Relative – Overweight (●)**. In relative terms, there is still a 50%+ chance that European equities will outperform total DM stocks over the next 12M (F14). In terms of country rotation, we favour investments in NL and FR stocks as these are particularly responsive to the ongoing recovery in consumer spending.

F11: Real returns - Europe stocks¹
12M probability forecast



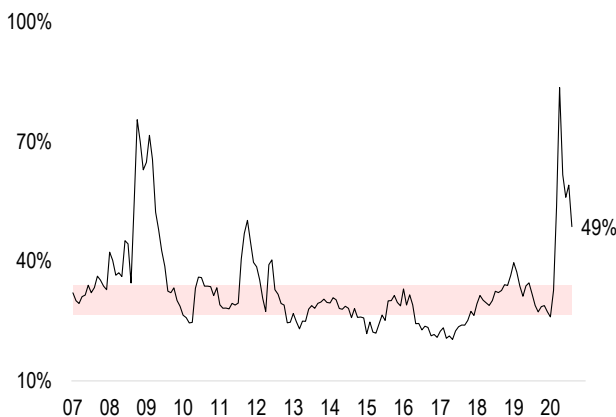
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F12: Positive real returns - Europe stocks
Likelihood, 12M ahead (%)



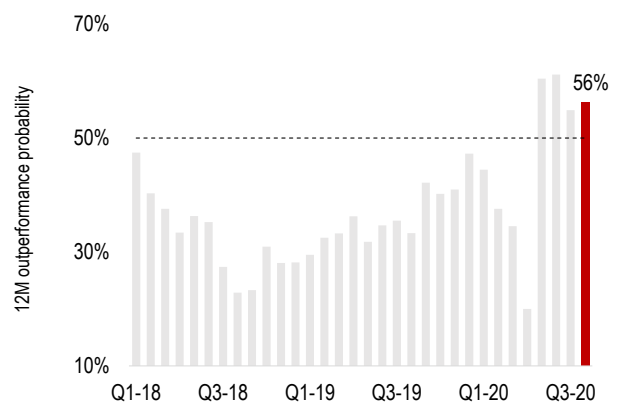
Note: Probability of positive real returns on European equities (Europe MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F11. Black line is the historical average. Source: Numera Analytics.

F13: Downside risk - Europe stocks
Left-tail risk² (5%) - 12M ahead



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M USD investments in Europe stocks. Shaded band is the interquartile range. Source: Numera Analytics.

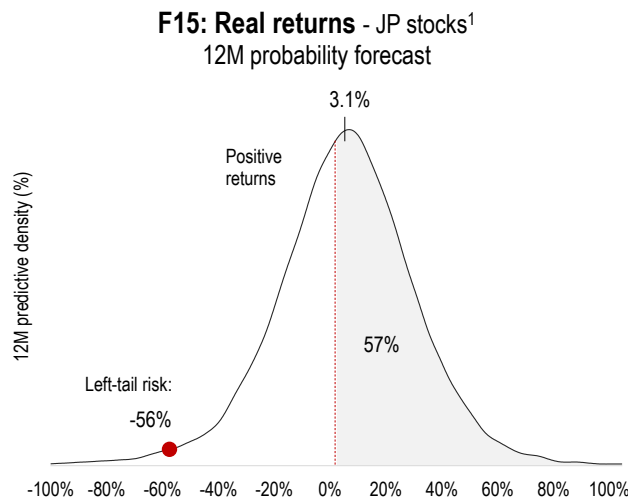
F14: Excess returns - Europe stocks
Outperformance⁴ probability (vs. DM stocks)



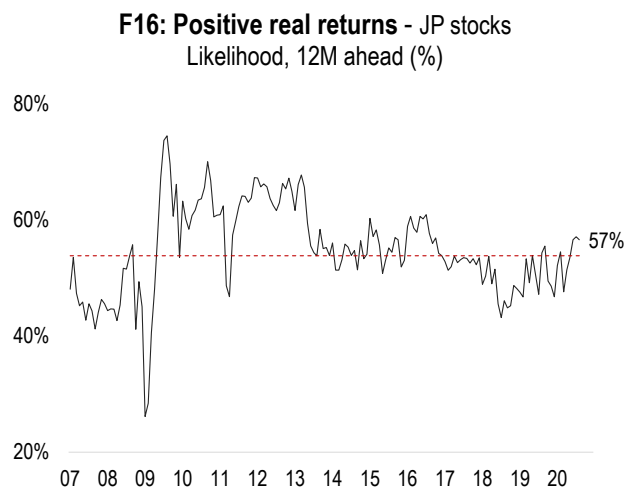
Note: Chart plots likelihood of Europe stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

4) Japan stocks:

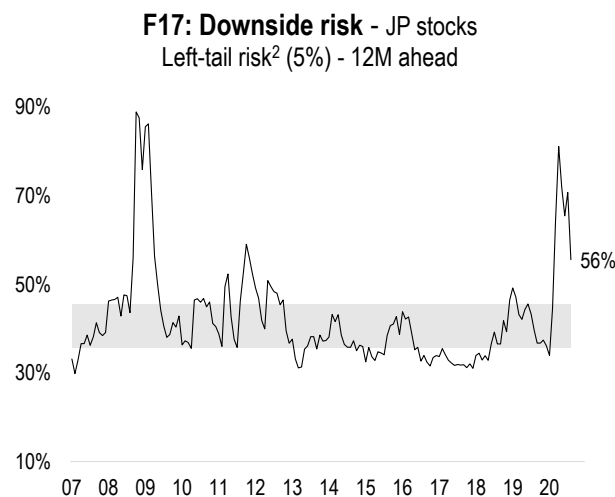
- **Absolute – Overweight (●)**. New COVID cases in Japan have fallen sharply in recent weeks after peaking in early August, while hospitalizations remain 10X lower than the DM average. Moderate declines in mobility and stronger domestic production point towards a faster and less uncertain economic recovery than most other DMs. We have upgraded our 12M absolute call to overweight on the back of a favourable short-term growth outlook.
- **Relative – Neutral (●)**. In relative terms, JP stocks retain higher downside risk than total DM stocks (F5 vs. F17). This partly reflects a higher probability that the JPY will weaken in value as the global economy recovers. Given a fairly high probability of excess returns (F18), however, we continue to recommend a neutral relative allocation.



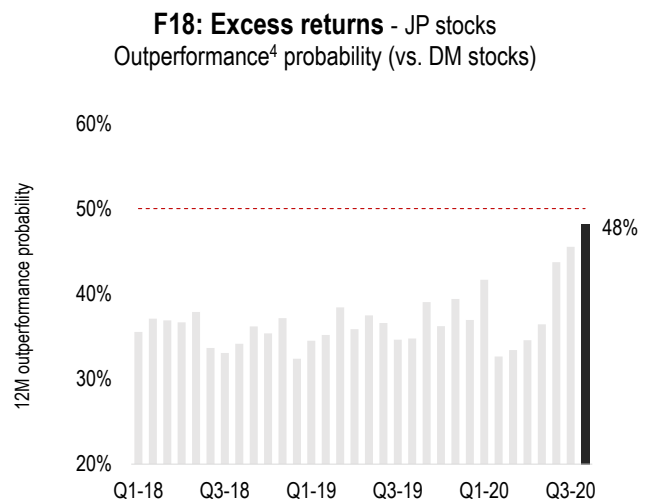
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.



Note: Probability of positive real returns on JP equities (JP MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F16. Black line is the historical average. Source: Numera Analytics.



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M USD investments in JP stocks. Shaded band is the interquartile range. Source: Numera Analytics.

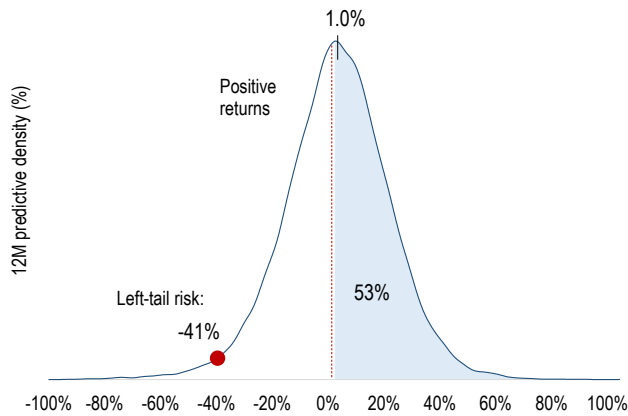


Note: Chart plots likelihood of JP stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

5) UK stocks:

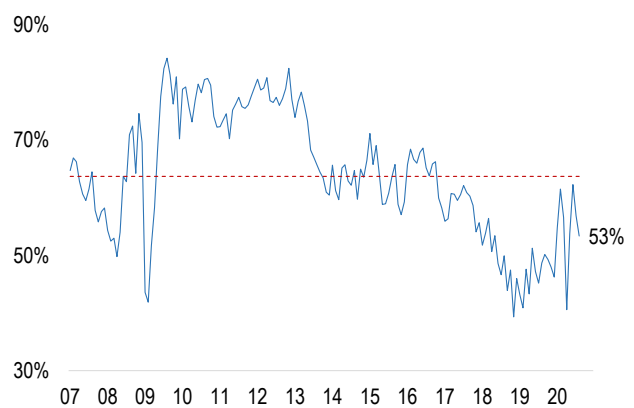
- **Absolute – Underweight (●)**. No major DM has been impacted as much by COVID-19 as the United Kingdom. Despite a recent uptick in mobility, broad-based economic activity remains extremely weak. Although left-tail risk is now declining (F12), the high probability of permanent economic losses dents the upside on equity investments. There is currently a 53% probability of positive returns on 12M holdings (F20), the lowest among major DM stocks.
- **Relative – Underweight (●)**. Britain’s particularly deep economic downturn (we expect GDP to contract 13% this year) dents the relative appeal of new equity investments. UK stocks carry a 41% chance of outperforming DM stocks overall 12M out (F22), well below excess return probabilities for European stocks as a whole (F14).

F19: Real returns - UK stocks¹
12M probability forecast



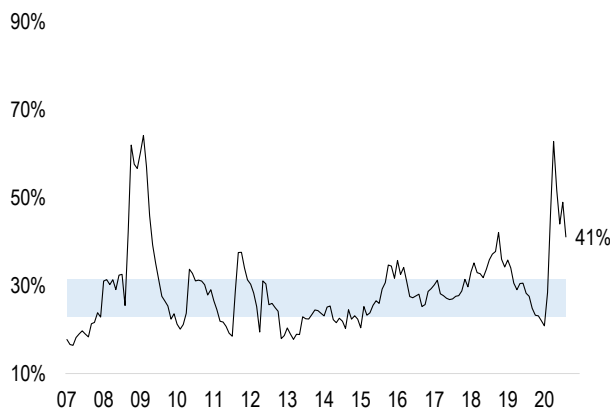
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F20: Positive real returns - UK stocks
Likelihood, 12M ahead (%)



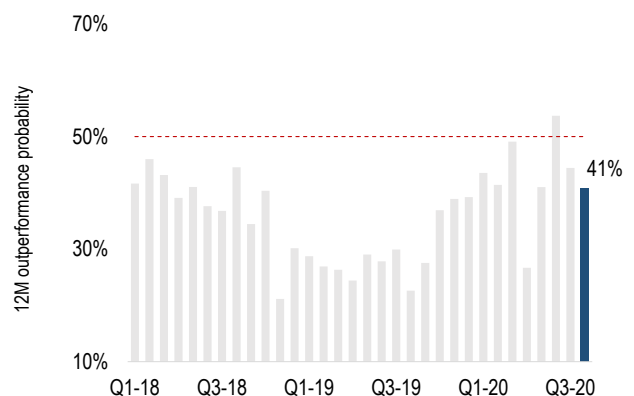
Note: Probability of positive real returns on UK equities (UK MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F19. Black line is the historical average. Source: Numera Analytics.

F21: Downside risk - UK stocks
Left-tail risk² (5%) - 12M ahead



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M USD investments in UK stocks. Shaded band is the interquartile range. Source: Numera Analytics.

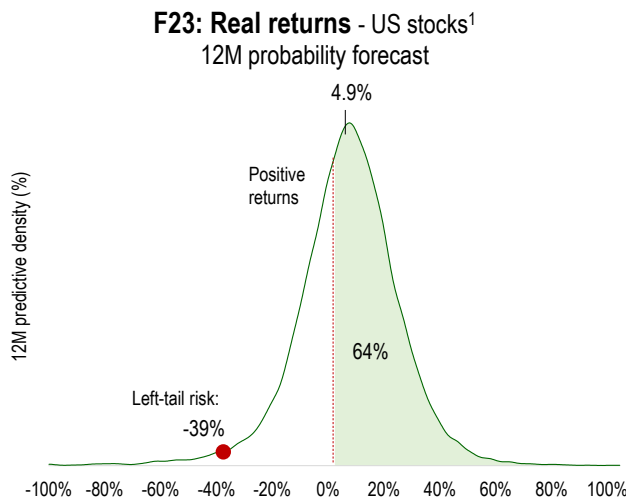
F22: Excess returns - UK stocks
Outperformance⁴ probability (vs. DM stocks)



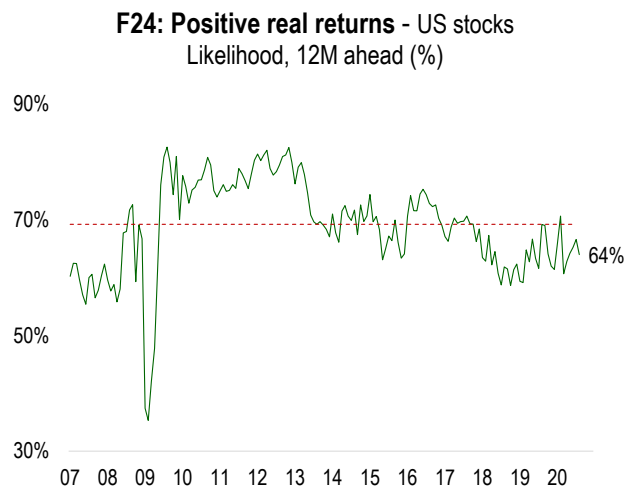
Note: Chart plots likelihood of UK stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

6) US stocks:

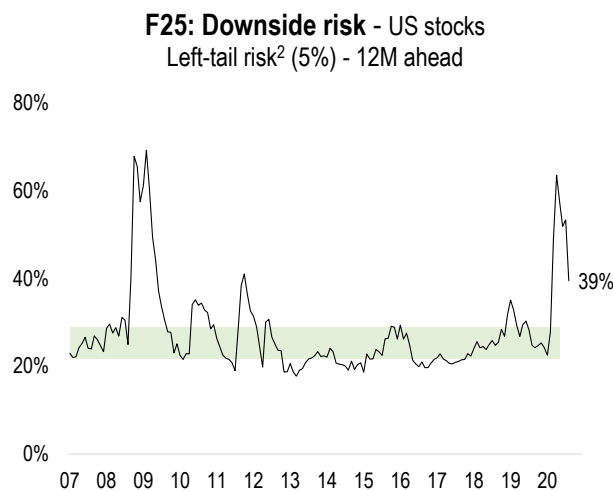
- **Absolute – Neutral (●)**. In last month’s [US Investment Views](#), we warned that high valuations on IT and consumer cyclicals were keeping left-tail risk exceptionally high. These fears partly materialized with the recent 8% correction in tech stocks, eliminating some of the downside risk by bringing prices closer to their ‘fair’ value. We continue to recommend a neutral absolute stance, but the risk-reward balanced has improved versus August and July.
- **Relative – Underweight (●)**. For balanced investors, US bonds remain more attractive than stocks as a dovish Fed outlook limits the chances of a deep sell-off. Since stronger growth and lower valuations improve the expected performance of US stocks, we now recommend raising the equity weighting slightly from 1/3 to >40%.



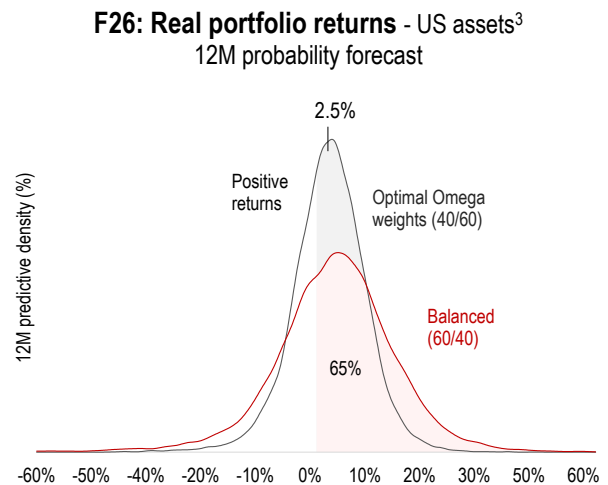
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.



Note: Probability of positive real returns on US equities (S&P 500 TR) over a 12M holding period. Last value corresponds to shaded area in F23. Red line is the historical average. Source: Numera Analytics.



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M investments in US stocks. Shaded band is the interquartile range. Source: Numera Analytics.

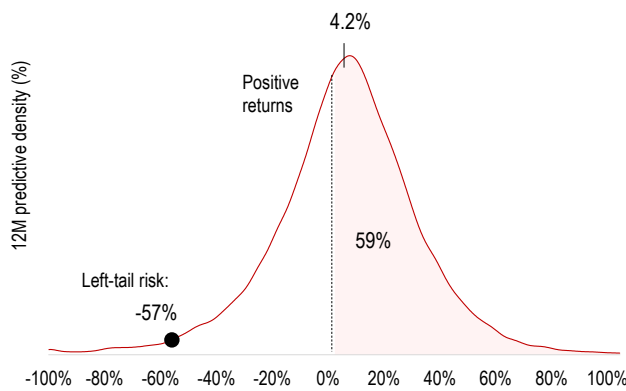


Note: Chart compares 12M probability forecasts for a portfolio comprised of US stocks and bonds. The red line shows the range of potential outcomes for a 60/40 stock/bond allocation. The grey line, in turn, corresponds to the distribution for the optimal Omega portfolio, with the weights shown in brackets. Source: Numera Analytics.

7) EM stocks:

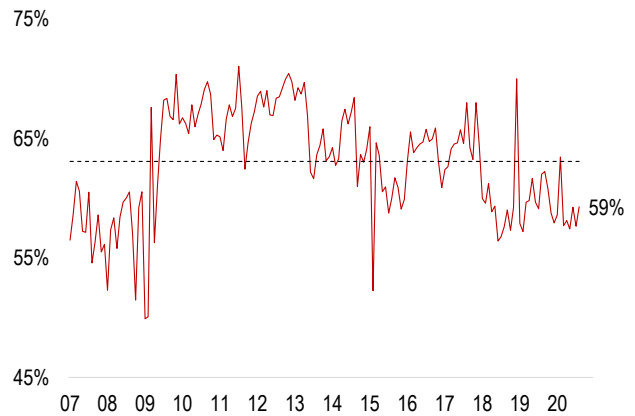
- **Absolute – Neutral (●)**. The risk-reward balance on EM stocks continues to improve owing to moderate declines in downside risk. While CN returns should stabilize now that activity has normalized, weak USD prospects and a bullish commodity outlook improve the upside for EMEA and LatAm stocks, still trading at steep discounts. We continue to recommend a neutral absolute position as investors are still subject to deep potential losses (F29).
- **Relative – Neutral (●)**. EM equities should outperform DM stocks 12M out (F30). Yet EM investments remain considerably riskier as the advent of a ‘second wave’ could result in a new wave of portfolio outflows. We suggest a neutral relative stance, since the excess return differential does not compensate for higher left-tail risk.

F27: Real returns - EM stocks¹
12M probability forecast



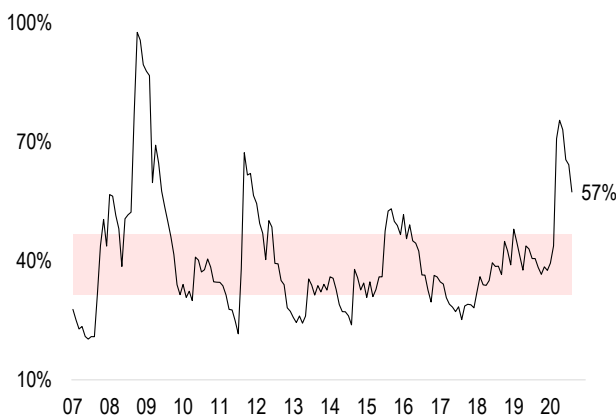
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F28: Positive real returns - EM stocks
Likelihood, 12M ahead (%)



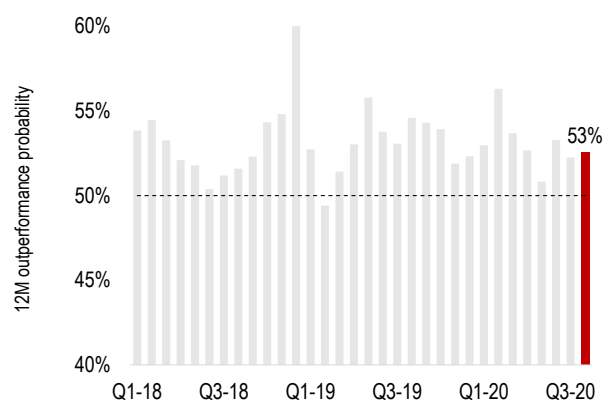
Note: Probability of positive real returns on EM equities (EM MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F27. Black line is the historical average. Source: Numera Analytics.

F29: Downside risk - EM stocks
Left-tail risk² (5%) - 12M ahead



Note: Chart tracks the (absolute) 5% conditional value-at-risk for 12M investments S&P 500 communication services stocks. Shaded band is the interquartile range. Source: Numera Analytics.

F30: Excess returns - EM stocks
Outperformance⁴ probability (vs. DM stocks)

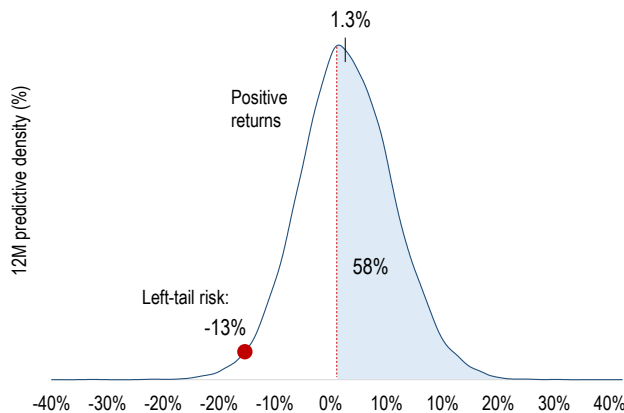


Note: Chart plots likelihood of UK stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

8) Fixed income:

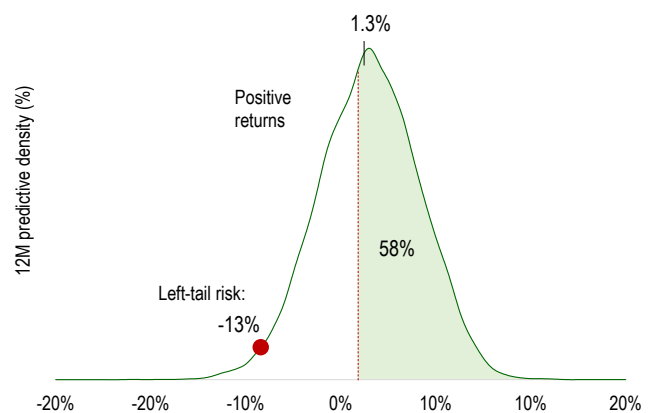
- DM bonds – Neutral (●).** The choice to overweight bonds depends critically on risk preferences. For balanced investors, US Treasuries remain more attractive than DM stocks, as QE and the Fed’s zero interest policy suppresses downside risk. We are less optimistic on EZ bonds, however, as close proximity to the lower bound limits the possibility of strong returns. We continue to recommend a neutral stance for DM bonds as a whole (F6).
- EM bonds – Overweight (●).** EM hard currency bonds offer one of the best risk-reward trade-off of any major asset class. We expect demand for EM sovereign debt to increase as long as the Fed keeps short-term rates at near zero, while falling financial stress and a bullish commodity outlook limit the chances of deep potential losses.

F31: Real returns - DM bonds¹
12M probability forecast



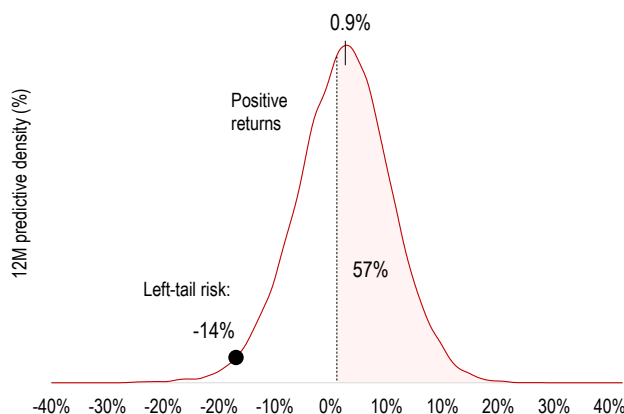
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F32: Real returns - US bonds¹
12M probability forecast



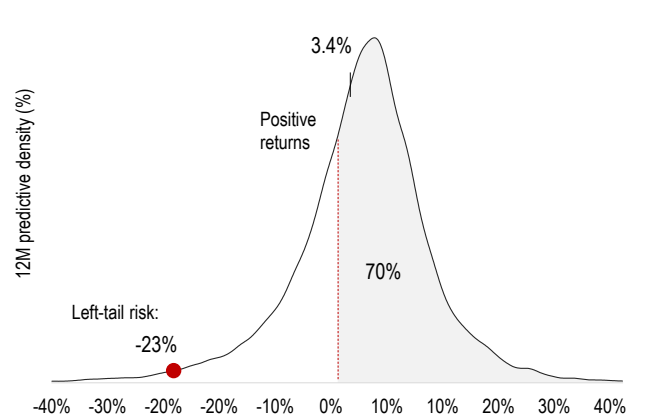
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F33: Real returns - DE bonds¹
12M probability forecast



Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

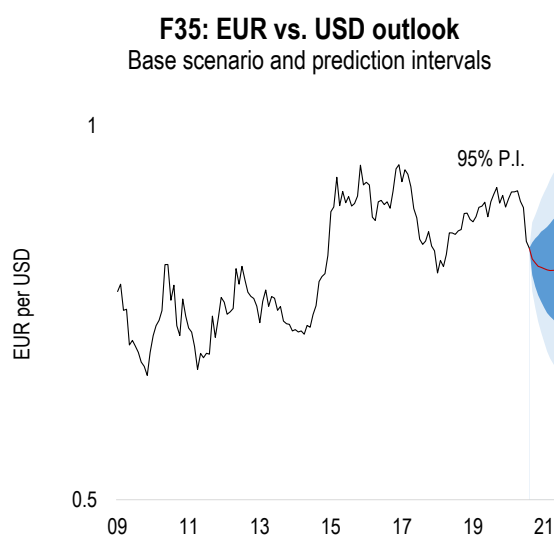
F34: Real returns - EM bonds¹
12M probability forecast



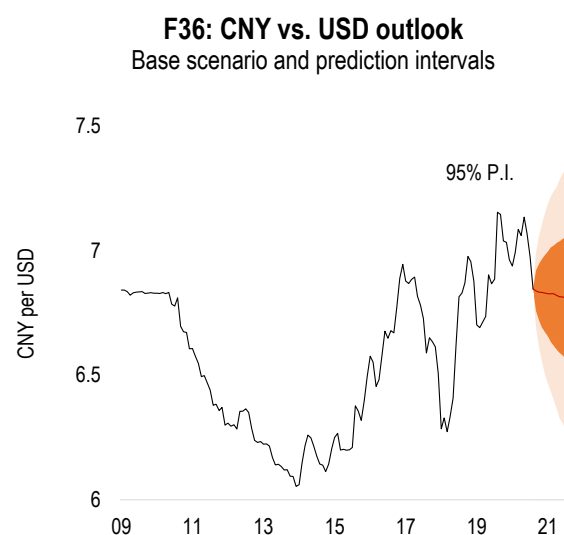
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

9) Currencies:

- CAD vs. USD – Underweight USD (●).** We continue to expect the US dollar to weaken against the Canadian dollar, largely owing to [favourable oil prospects](#). Among all major DM currencies, the likelihood of USD appreciation is lowest against the loonie, currently at 29% over a 12M horizon (F15).
- EUR vs. USD – Underweight USD (●).** We have downgraded our EUR/USD call to underweight. Economic data points towards a swifter recovery in Europe, which in combination with falling financial stress should lift the euro over the next 12M. We currently estimate a 35% chance of a USD appreciation, well below the historical average.
- GBP vs. USD – Underweight USD (●).** No major DM has been as affected by COVID than the UK. Away-from-home traffic has strengthened markedly since late August, and is now comparable to other DMs. Improved growth prospects and falling financial stress both improve the chances of the GBP strengthening over the next 12M.
- JPY vs. USD – Neutral (●).** Unlike its performance against most DM currencies, the dollar has held its ground against the yen since June. The stronger showing is a direct consequence of declining equity market volatility and global liquidity risk. We recommend a neutral allocation over the next 12M, as we expect this pattern to continue.
- BRL vs. USD – Underweight USD (●).** Deep uncertainty about Brazil's growth prospects reduce demand for BR assets, in turn keeping the BRL well below its equilibrium value. We continue to expect the BRL to strengthen over the next 12M, fueled by stronger raw material prices and an improvement in Brazil's external balance.
- CNY vs. USD – Underweight USD (●).** Despite rising political tensions with the United States, there is a 56% chance that the CNY will strengthen against the USD over the next 12M (F14, F20). The fairly high probability reflects strong CN growth, favourable productivity differentials and stable foreign exchange reserves.



Note: Fan chart corresponds to 70% and 95% prediction intervals. Source: History: Federal Reserve; Forecast: Numera Analytics.

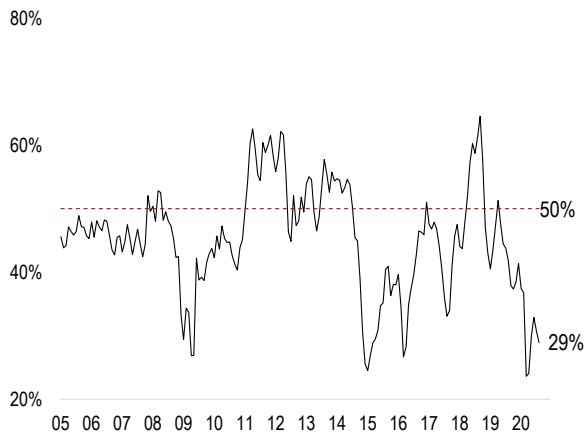


Note: Fan chart corresponds to 70% and 95% prediction intervals. Source: History: Federal Reserve; Forecast: Numera Analytics.

T1: DM currencies	Baseline outlook			12M probabilities (%)		
	Current	3M	12M	-5%	Appreciation ¹	+5%
USD vs. CAD	1.30	1.25	1.29	45%	29%	11%
USD vs. EUR	0.84	0.81	0.81	43%	35%	18%
USD vs. GBP	0.75	0.74	0.74	34%	44%	24%
USD vs. JPY	106.0	104.4	105.6	35%	46%	25%

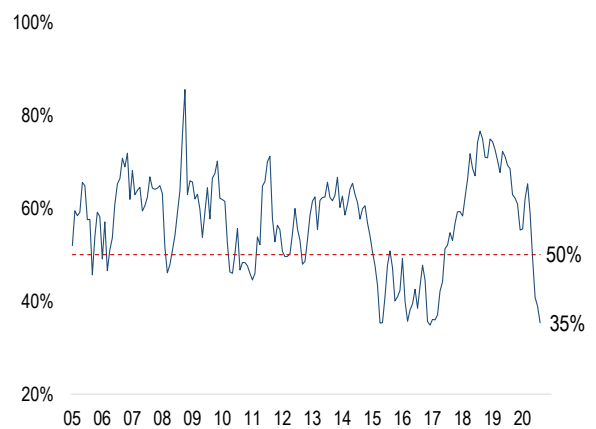
1. Probability of the US dollar appreciating against a given DM currency over a 12M horizon.

F37: USD vs. CAD appreciation
12M ahead probability (%)



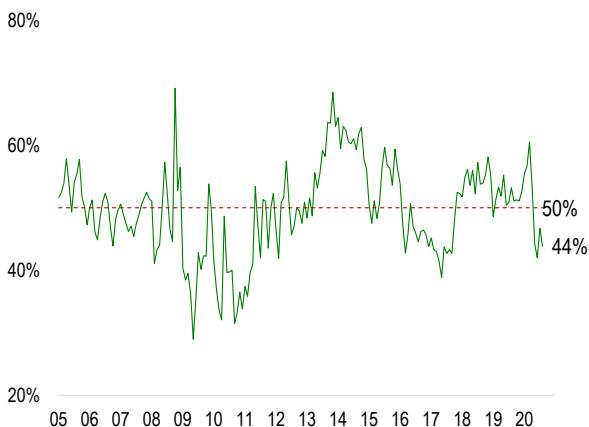
Note: Chart tracks the likelihood of the US dollar strengthening against the CAD 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F38: USD vs. EUR appreciation
12M ahead probability (%)



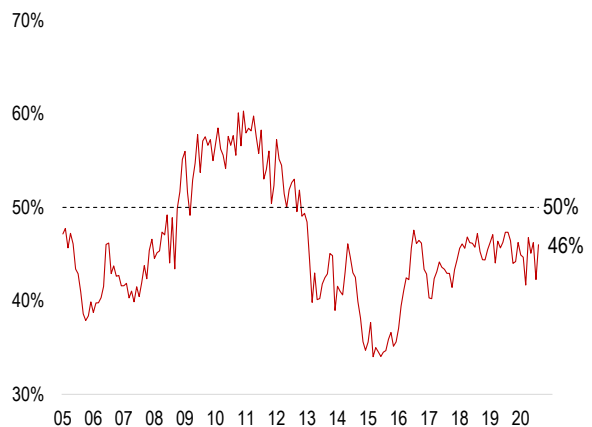
Note: Chart tracks the likelihood of the US dollar strengthening against the EUR 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F39: USD vs. GBP appreciation
12M ahead probability (%)



Note: Chart tracks the likelihood of the US dollar strengthening against the GBP 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F40: USD vs. JPY appreciation
12M ahead probability (%)

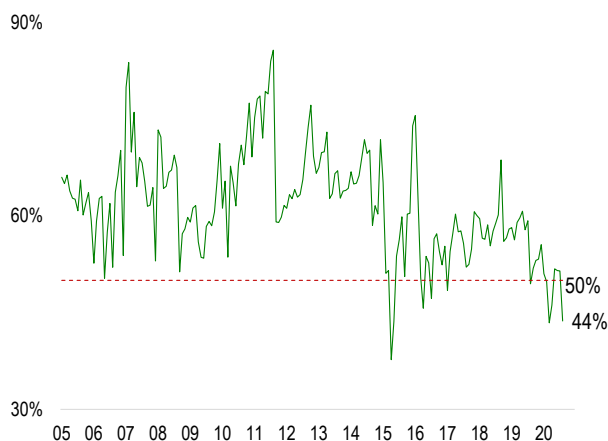


Note: Chart tracks the likelihood of the US dollar strengthening against the JPY 12M out. Probabilities above 50% (dashed black line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

T2: EM currencies	Baseline outlook			12M probabilities (%)		
	Current	3M	12M	-5%	Appreciation ¹	+5%
USD vs. BRL	5.49	5.45	5.41	39%	44%	29%
USD vs. CNY	6.85	6.83	6.81	11%	44%	7%
USD vs. MXN	21.88	21.98	21.89	33%	52%	34%
USD vs. RUB	74.0	74.0	73.1	38%	48%	34%

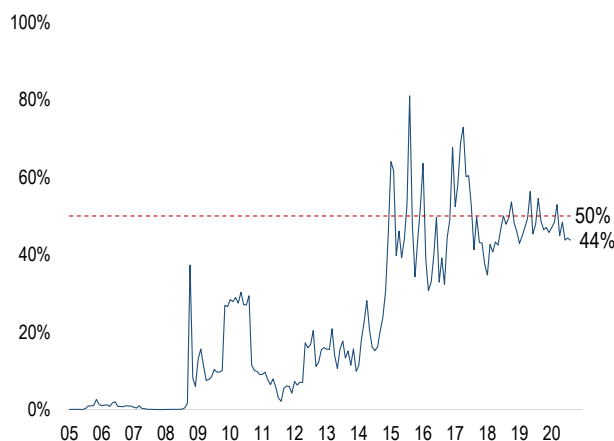
1. Probability of the US dollar appreciating against a given EM currency over a 12M horizon.

F41: USD vs. BRL appreciation
12M ahead probability (%)



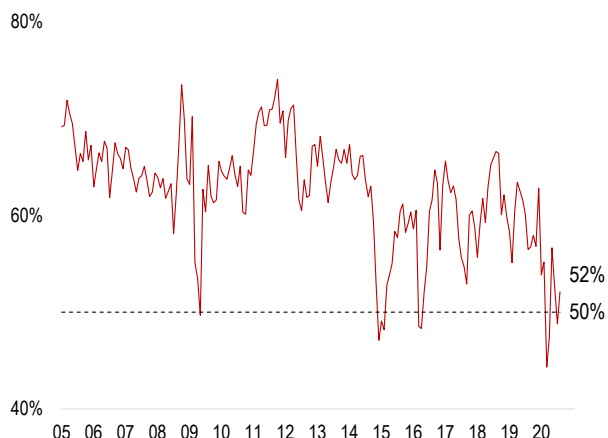
Note: Chart tracks the likelihood of the US dollar strengthening against the BRL 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F42: USD vs. CNY appreciation
12M ahead probability (%)



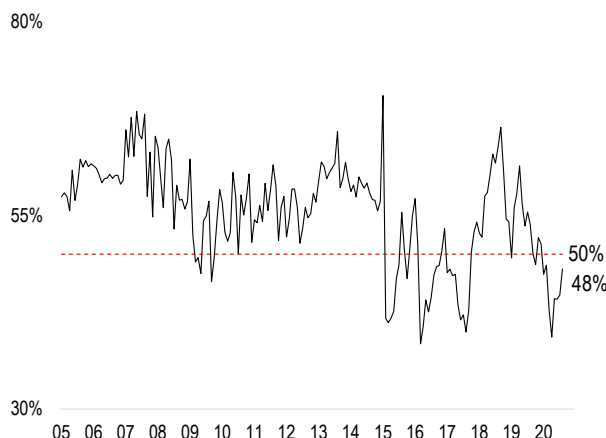
Note: Chart tracks the likelihood of the US dollar strengthening against the euro 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F43: USD vs. MXN appreciation
12M ahead probability (%)



Note: Chart tracks the likelihood of the US dollar strengthening against the Mexican peso 12M out. Probabilities above 50% (dashed black line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F44: USD vs. RUB appreciation
12M ahead probability (%)

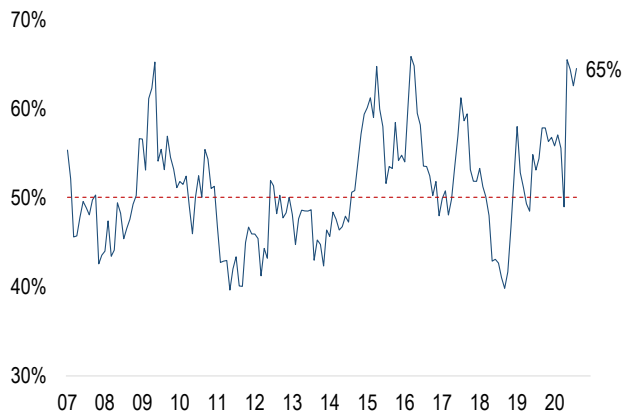


Note: Chart tracks the likelihood of the US dollar strengthening against the Canadian dollar 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

10) Commodities:

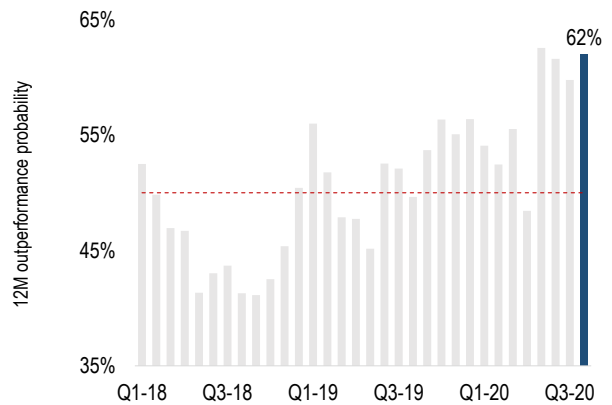
- **Crude oil – Overweight (●)**. OPEC production cuts have helped restore the market balance. A recovery in road traffic and stronger industrial activity should lift consumption above 98M / bbl per day by 2021. We expect Brent to exceed \$60 / bbl by mid-2021, which maps into a 65% chance of positive returns on 12M holdings (F45).
- **Gold – Overweight (●)**. Despite elevated prices, **gold should strengthen further** on rising inflation expectations, supportive Fed policy and a weakening USD. Negative real yields improve its appeal as a macro hedge. There is a 65% chance that gold investments deliver real positive returns 12M out. Gold also has a strong upside versus bond investments, as it is not constrained by the zero / effective lower bound.

F45: Positive real returns - Crude oil
Likelihood, 12M ahead (%)



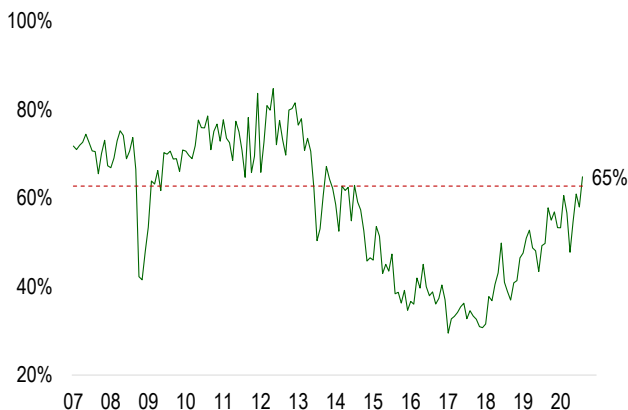
Note: Probability of positive real returns on crude oil investments (S&P GSCI crude oil TR) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F46: Excess returns - Crude oil
Outperformance⁴ probability (vs. DM stocks)



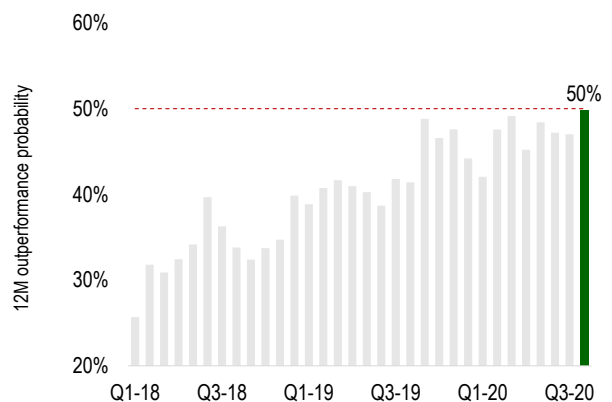
Note: Chart plots likelihood of crude oil investments outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

F47: Positive real returns - Gold
Likelihood, 12M ahead (%)



Note: Probability of positive real returns on crude oil investments (S&P GSCI gold TR) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F48: Excess returns - Gold
Outperformance⁴ probability (vs. DM stocks)



Note: Chart plots likelihood of crude oil investments outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

Benchmarks and definitions:

1. Benchmarks:

- **Stocks:** DM: MSCI World TR USD; CA: MSCI CA TR USD; Europe: MSCI Europe TR USD (Western Europe, including UK and CH); JP: MSCI JP TR USD; UK: MSCI UK TR USD; US: S&P 500 TR; EM: MSCI EM TR USD
- **Bonds:** DM: BofAML world sovereign bond index TR USD; US: ICE BofAML US Treasury index TR; DE: BofAML German government index TR USD; EM: BofAML EM external sovereign index TR USD.
- **Commodities:** Crude oil: S&P GSCI crude oil TR USD; Gold: S&P GSCI gold TR USD
- **Deflator:** US consumer price index, all urban consumers (SA)

2. We define left-tail risk as the 5% conditional value-at-risk (cVaR) on 12M investments. The cVaR measures expected future losses below the 5% quantile. It therefore quantifies the *depth* of potential losses when investing in a given asset class.

3. The optimal weights are set to maximize the portfolio's Omega ratio (a measure of investment quality that compares expected returns to downside risk) for 12M holdings. The weights solve a constrained optimization problem via maximum likelihood.

4. The outperformance probability tracks the likelihood of a specific asset class yielding excess returns versus a given benchmark (usually MSCI World) over a one-year investment horizon.