

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.

June 2021

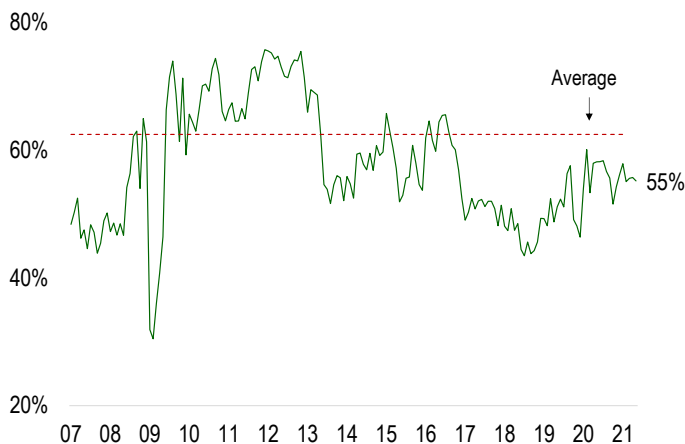
Summary and highlights:

- DM stocks:** DM stocks rose 3% last month, fueled by stronger activity, falling uncertainty and low financial stress. Strong growth and improved sentiment support the risk-reward balance of DM stocks, even as rising inflation increases the likelihood of **higher long-term yields**. We maintain our overweight calls for the US, EZ and CA.
- EM stocks:** EM stocks bounced back this past month, benefiting from rising commodity prices and a 10-point increase in mobility. A bullish growth outlook, a weakening USD, and **rising global inflation** improve the upside of EMEA and LatAm stocks, while falling public health risks reduce the extent of potential losses.
- Macro hedging:** Rising inflation weakens the relative appeal of nominal bonds, especially when expressed in local currency. In this context, we recommend increasing **the weight of gold** and inflation-linked bonds in global portfolios. In addition, a bearish USD outlook improves the relative appeal of non-US bonds over US Treasuries.

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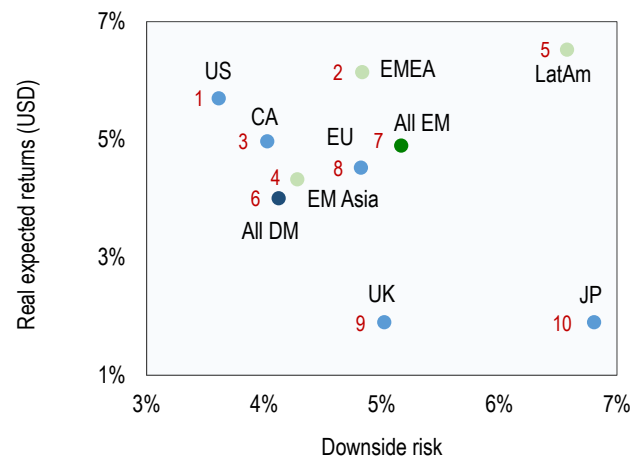
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F1: Excess real returns - DM stocks
Outperformance probability (vs. DM bonds)



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

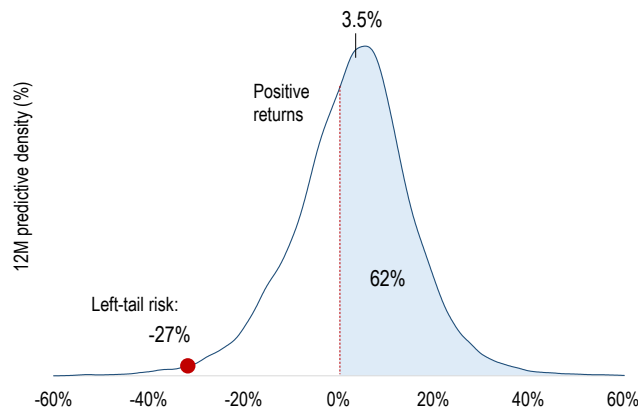


Note: Real USD total expected returns versus downside risk for 12M holdings in major stock markets. Numbers rank assets by their Omega ratio. Source Numera Analytics.

1) DM stocks:

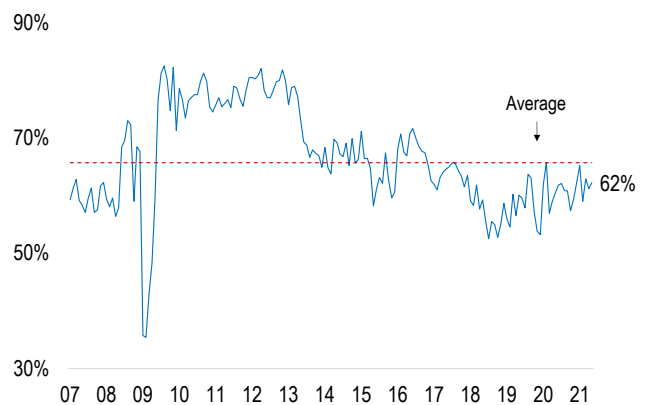
- **Absolute – Overweight (●).** DM stocks rose 3% over this past month, fueled by a 10-point increase in mobility as new COVID deaths fell below their summer 2020 lows. A high vaccine coverage and reduced uncertainty improve the earnings potential of DM firms, while containing left-tail risk (F5). Strong global growth should more than offset the impact of high inflation over long-term yields, continuing to justify an overweight stance.
- **Relative – Neutral (●).** Rising vaccination rates improve the appeal of DM stocks by boosting growth prospects and lowering economic uncertainty. In contrast, bonds are highly vulnerable to further inflation ‘surprises’, which weakens their appeal as a macro hedge. A 70/30 allocation maximizes risk-adjusted returns 12M out.

F3: Real returns - DM stocks¹
12M probability forecast



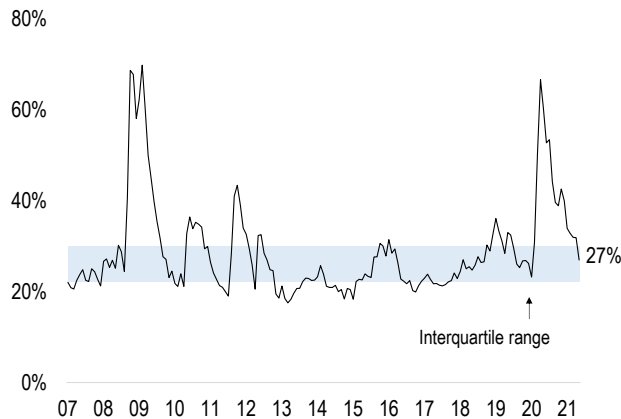
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F4: Positive real returns - DM stocks
Likelihood, 12M ahead (%)



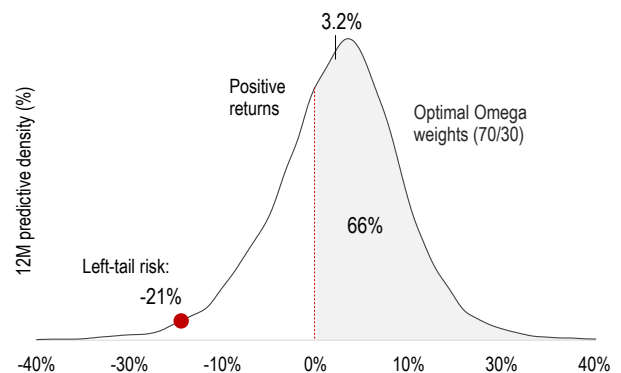
Note: Probability of positive real returns on DM equities (DM MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F3. Red line is the historical average. Source: Numera Analytics.

F5: Downside risk - DM equities
Left-tail risk² (5%) - 12M ahead



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.

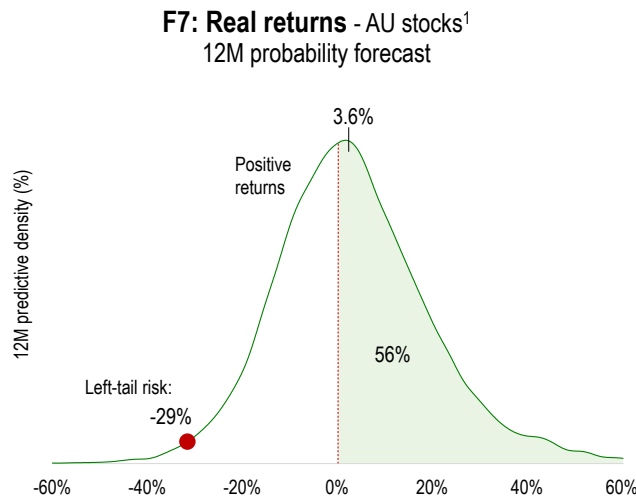
F6: Real portfolio returns - DM assets³
Optimal Omega portfolio (12M)



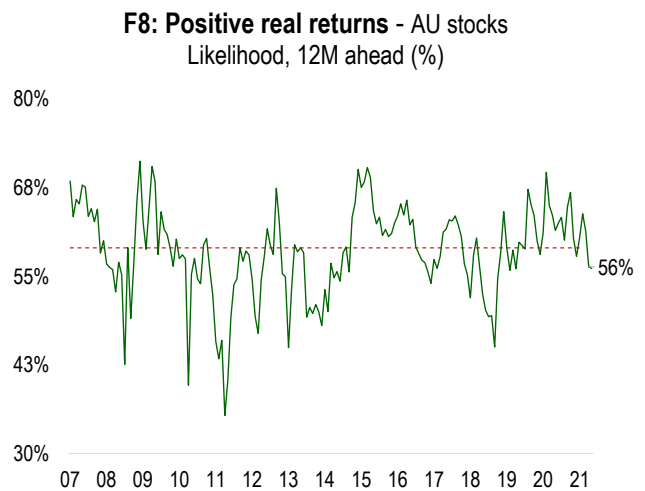
Note: Probability forecast for a portfolio comprised of DM stocks and bonds, with weights chosen to maximize the portfolio's Omega ratio over a 12M holding period. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive returns. Source: Numera Analytics.

2) Australia stocks:

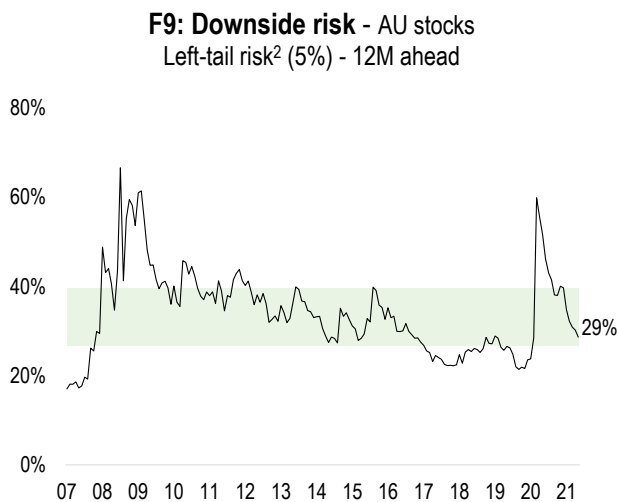
- **Absolute – Neutral (●)**. AU stocks should deliver real returns of 3-4% on 12M holdings (F7), about 1-point lower than the average yearly increase recorded since 2011. A projected decline in iron ore prices (trading well above its ‘fair’ value) remains the key drag, as it significantly weakens the probability of AUD appreciation. Conditional on AUD appreciation, the most likely outcome would be for real returns of 16%+ – among the highest of any DM.
- **Relative – Neutral (●)**. A bearish iron ore outlook, elevated geopolitical tensions with Beijing, and high valuations weaken the relative appeal of AU stocks versus earlier in the pandemic (F10). AU stocks have outpaced total DM equities by nearly 8% since early November, but excess returns should narrow over the next 12M.



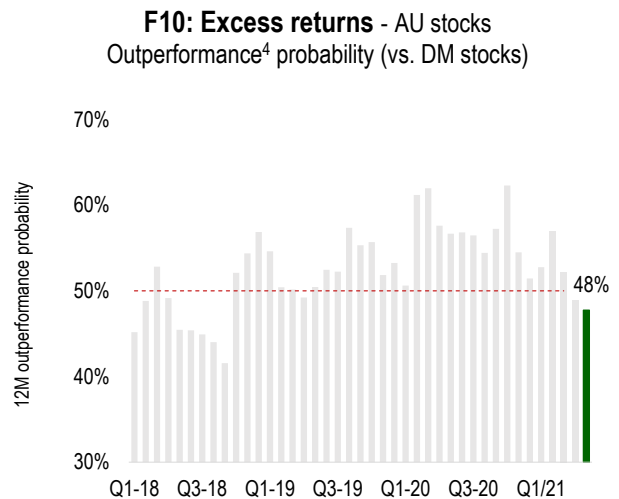
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.



Note: Probability of positive real returns on AU equities (AU MSCI TR USD) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.



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

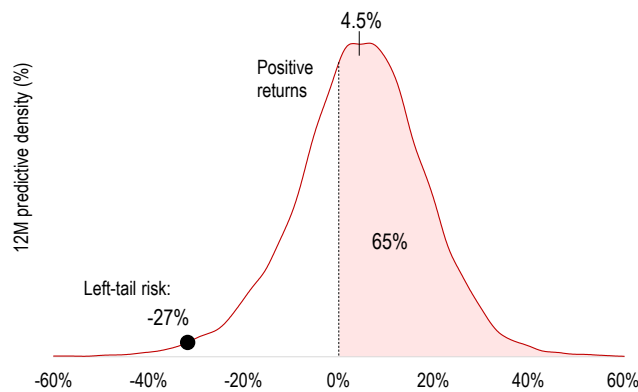


Note: Chart plots likelihood of AU stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

3) Canada stocks:

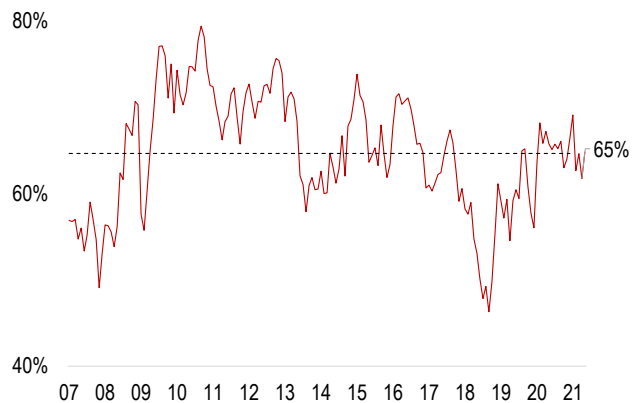
- **Absolute – Overweight (●)**. CA stocks continue to outpace DM equities, rising 3.8% this past month. The CA equity outlook remains supported by the dominance of ‘value’ stocks. Resource firms should benefit from further oil price gains, while a steeper yield curve supports investments in financials. In addition, Canada’s **exceptionally rapid vaccine rollout** helps narrow left-tail risk, down 4-points on 12M holdings from -31% to -27% (F13).
- **Relative – Overweight (●)**. Global ‘reflation’ improves the relative appeal of CA stocks, which typically outperform during periods of high global growth and inflation. There is currently a 57% chance that CA stocks will outperform DM stocks 12M out (F14), and Canadian equities continue to rank highly versus most other geographies (F2).

F11: Real returns - CA stocks¹
12M probability forecast



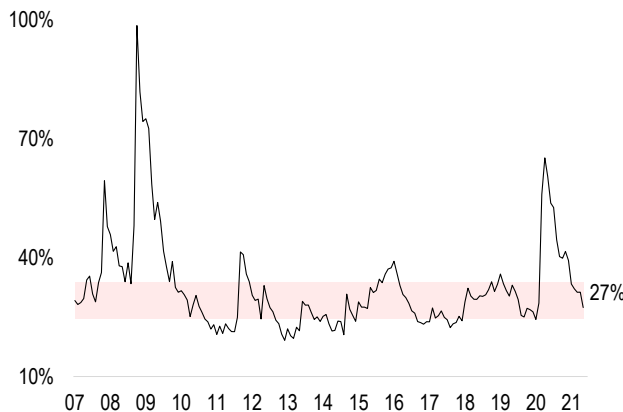
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

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



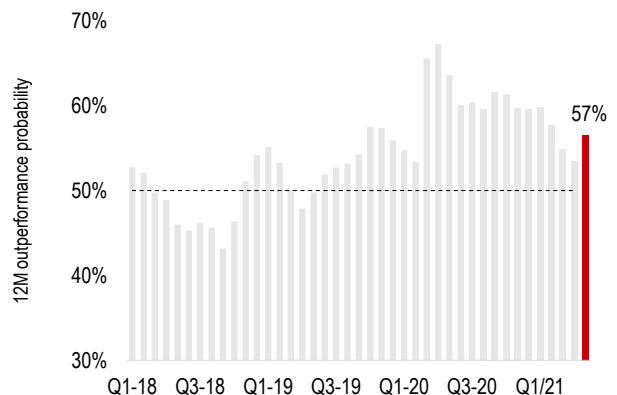
Note: Probability of positive real returns on CA equities (CA MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F7. Red line is the historical average. Source: Numera Analytics.

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



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.

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

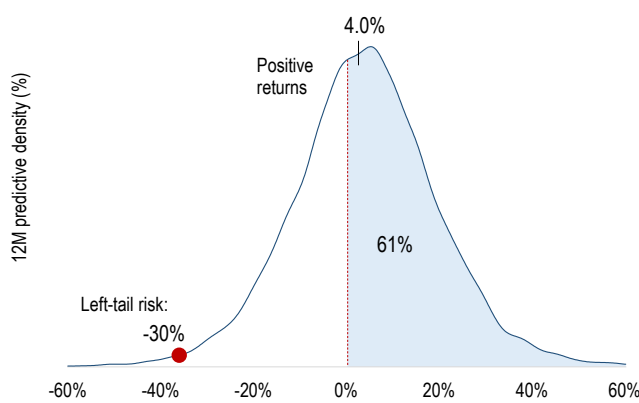


Note: Chart plots likelihood of CA stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

4) Europe stocks:

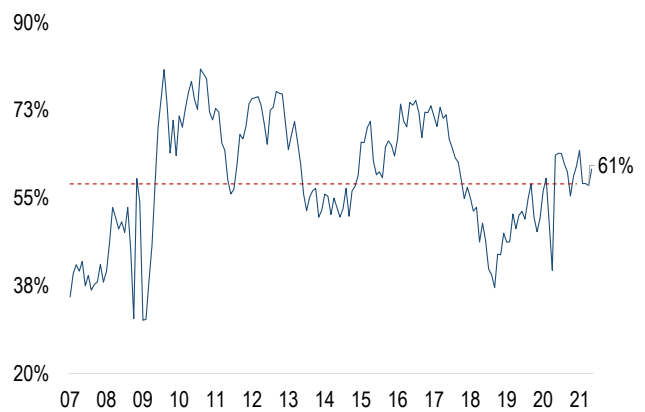
- **Absolute – Overweight (●)**. Europe’s impressive vaccination campaign has lifted away-from-traffic by 27 points over the past month, while causing business and consumer sentiment to soar. Both factors improve growth and earnings prospects, and increase the likelihood of further EUR appreciation. There is currently a 61% chance of positive real returns on 12M investments, about 3-points higher than the long-term average (F16).
- **Relative – Neutral (●)**. Since Europe should grow at a similar pace to other DMs over the coming year, the relative performance of EU stocks depends primarily on currency prospects. A bullish EUR outlook improves the likelihood of excess returns, but not enough to justify a relative overweight stance (given still higher left-tail risk).

F15: Real returns - Europe stocks¹
12M probability forecast



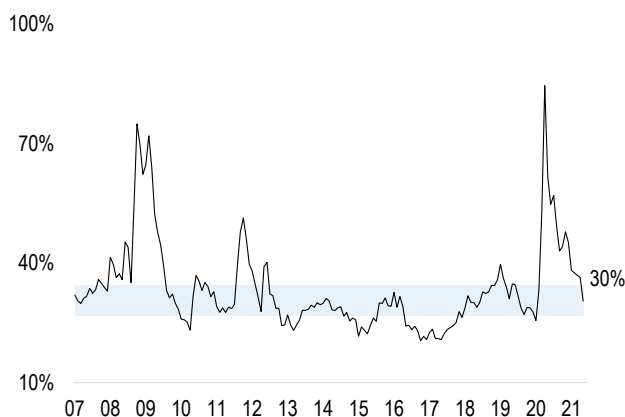
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F16: Positive real returns - Europe stocks
Likelihood, 12M ahead (%)



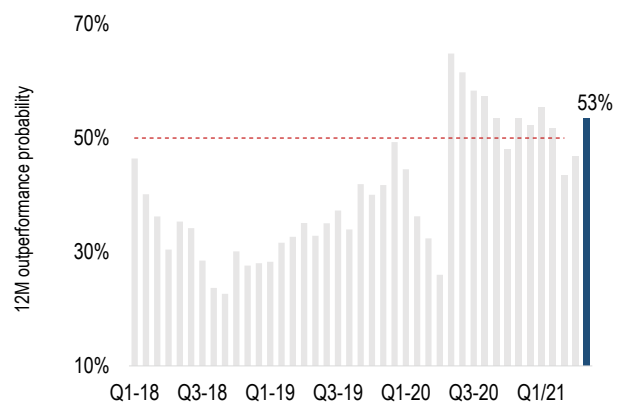
Note: Probability of positive real returns on European equities (Europe MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F11. Black line is the historical average. Source: Numera Analytics.

F17: 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.

F18: Excess returns - Europe stocks
Outperformance⁴ probability (vs. DM stocks)

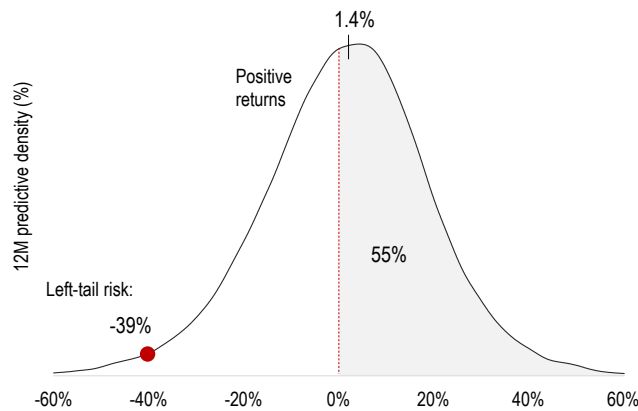


Note: Chart plots likelihood of Europe stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

5) Japan stocks:

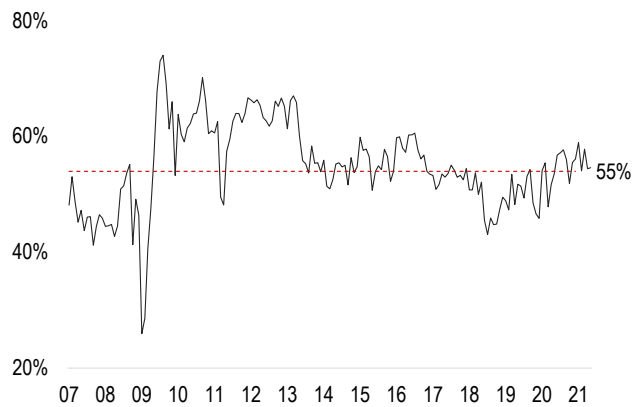
- **Absolute – Neutral (●)**. JP stocks rose 5% this past month, reversing the April losses. As we anticipated in recent reports, these gains primarily reflect stronger earnings prospects as Japan ramps up its vaccination campaign. Global reflation improves the likelihood of positive returns given the dominance of ‘value’ names in the JP equity space. However, weak underlying potential growth limits the probability of rotation towards JP assets.
- **Relative – Underweight (●)**. It is unlikely that Japan will outgrow other DMs over the next 12M, weakening their relative appeal. 12M investments have a low probability of outperformance, while left-tail risk remains higher than for DM stocks as a whole. We continue to recommend underweighting Japan in DM equity portfolios.

F19: Real returns - JP stocks¹
12M probability forecast



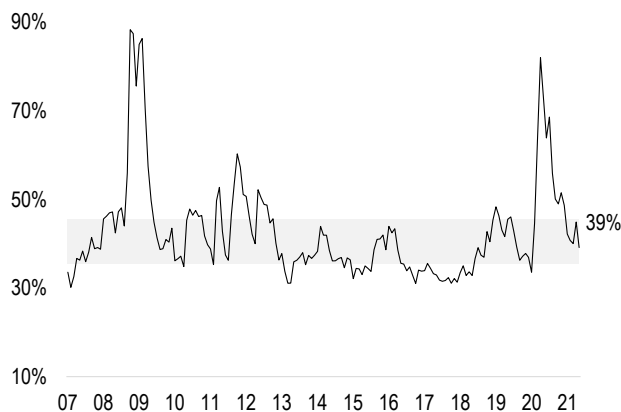
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

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



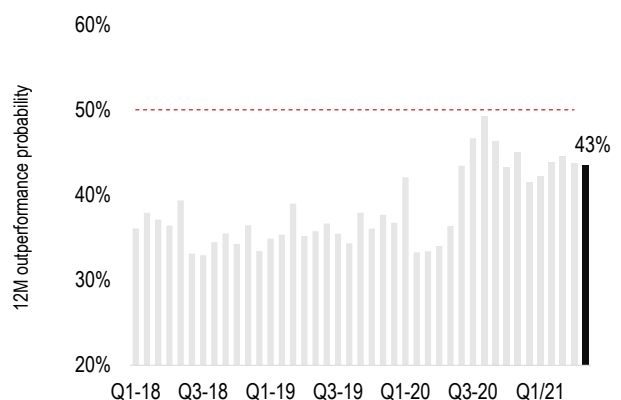
Note: Probability of positive real returns on JP equities (JP MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F16. Black line is the historical average. Source: Numera Analytics.

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



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.

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

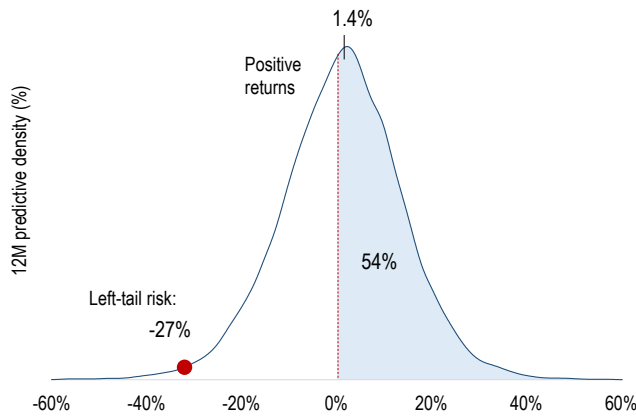


Note: Chart plots likelihood of JP stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

6) UK stocks:

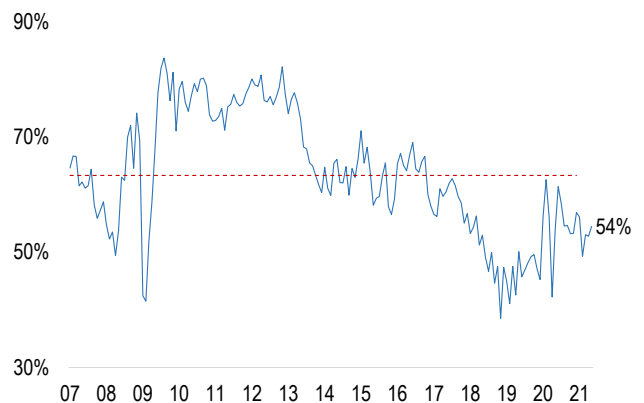
- **Absolute – Neutral (●)**. Net purchases of UK stocks should ease in H2/21 as DM vaccination rates converge. This projected pullback should cause valuations to weaken, offsetting the impact of stronger activity on earnings prospects. In addition, exceptionally high business and consumer confidence have pushed UK stocks well above their ‘fair’ value, limiting the probability of outsized gains at medium investment horizons (6-12M out).
- **Relative – Underweight (●)**. A much faster initial vaccine rollout has caused UK stocks to outperform by around 4% YTD. We do not expect this trend to continue as vaccination rates converge. There is currently a 39% chance of excess UK returns 12M out, well below the 53% for European stocks overall (see p.4).

F23: Real returns - UK stocks¹
12M probability forecast



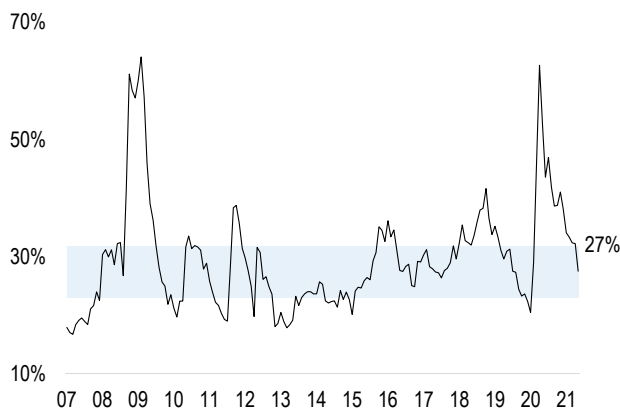
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F24: Positive real returns - UK stocks
Likelihood, 12M ahead (%)



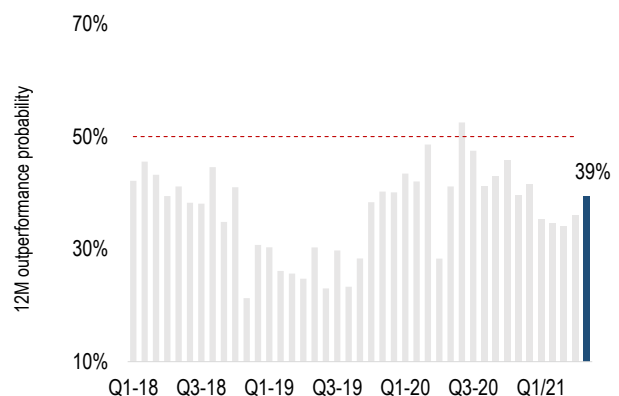
Note: Probability of positive real returns on UK equities (UK MSCI TR USD) over a 12M holding period. Last value corresponds to shaded area in F19. Black line is the historical average. Source: Numera Analytics.

F25: 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.

F26: Excess returns - UK stocks
Outperformance⁴ probability (vs. DM stocks)

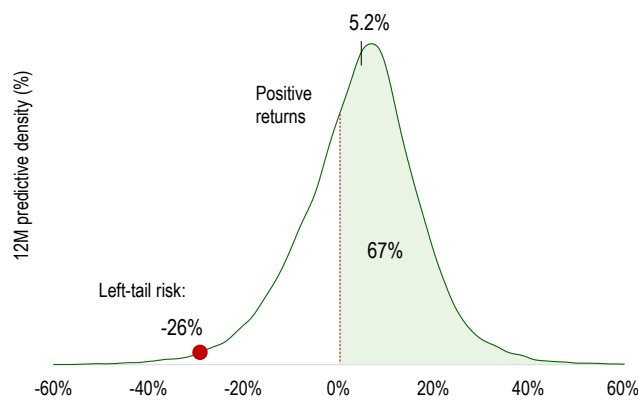


Note: Chart plots likelihood of UK stocks outperforming DM equities over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

7) US stocks:

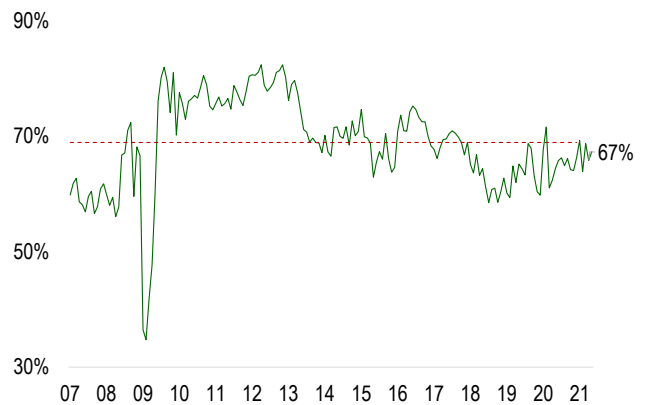
- **Absolute – Overweight (●)**. A high vaccine coverage and ample stimulus should push GDP back to pre-COVID levels by Q3. High growth improves the risk-reward balance for US stocks, even as rising inflation creates uncertainty over Fed policy. Given still weak employment levels, we expect a **single rate hike** over the next 12M. While the policy shift would weigh on valuations, higher yields should be more than offset by strong earnings.
- **Relative – Overweight (●)**. From an asset allocation perspective, a 90% equity weighting maximizes risk-adjusted returns for a US-only stock/bond portfolio (F30). As we show in our latest US Macro Monitor, however, replacing nominal bonds by inflation hedges like TIPS or gold materially improve the portfolio’s projected performance.

F27: Real returns - US stocks¹
12M probability forecast



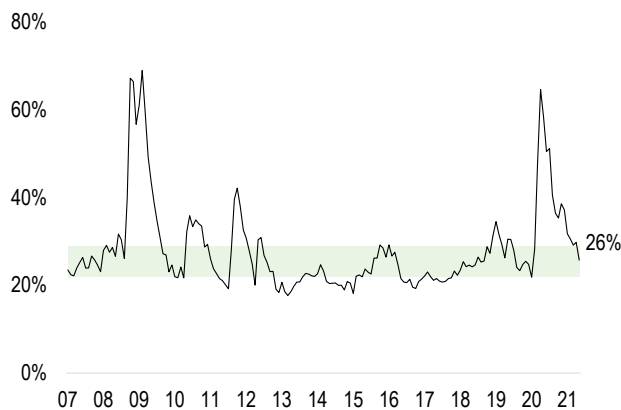
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

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



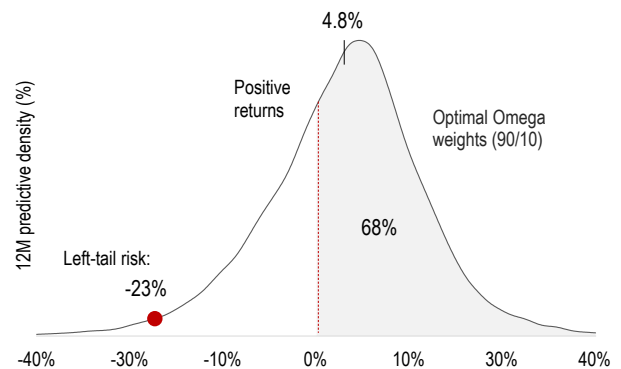
Note: Probability of positive real returns on US equities (S&P 500 TR) over a 12M holding period. Last value corresponds to shaded area in F23. Red line is the historical average. Source: Numera Analytics.

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



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.

F30: Real portfolio returns - US assets³
Optimal Omega portfolio (12M)

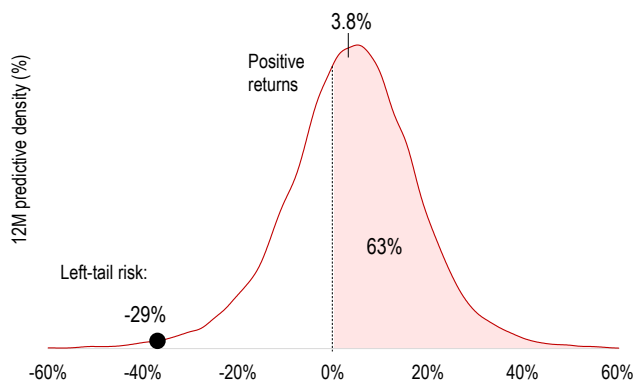


Note: Probability forecast for a portfolio comprised of US stocks and bonds, with weights chosen to maximize the portfolio's Omega ratio over a 12M holding period. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive returns. Source: Numera Analytics.

8) EM Asia stocks:

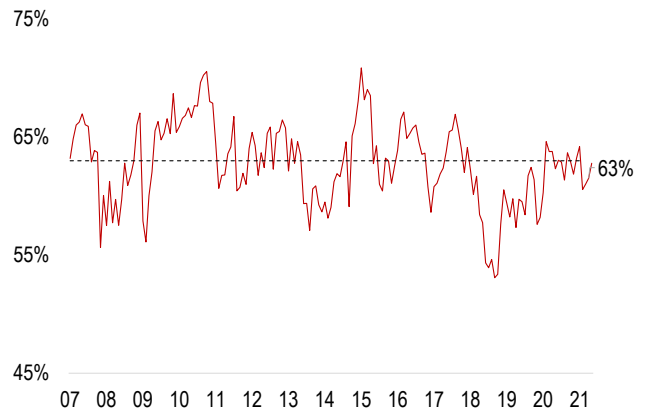
- **Absolute – Neutral (●)**. Equity inflows into Asia picked up this past month, buoyed by soaring vaccination rates in China and rapidly declining case counts in India. Both factors have caused left-tail risk to diminish (F33), improving the risk-reward balance of EM Asia stocks. Nevertheless, reduced macro stimulus in China and a narrowing growth premium limits the upside of new investments versus earlier in the pandemic (F32), justifying a neutral stance.
- **Relative – Neutral (●)**. Rising DM vaccinations are eroding EM Asia’s growth premium and public health edge. A below-average premium is historically associated to relative equity losses of around 5%. Still, we recommend a neutral stance because of strong trade growth (benefiting SE Asia) and a bullish outlook for the KRW and TWD.

F31: Real returns - EM Asia stocks¹
12M probability forecast



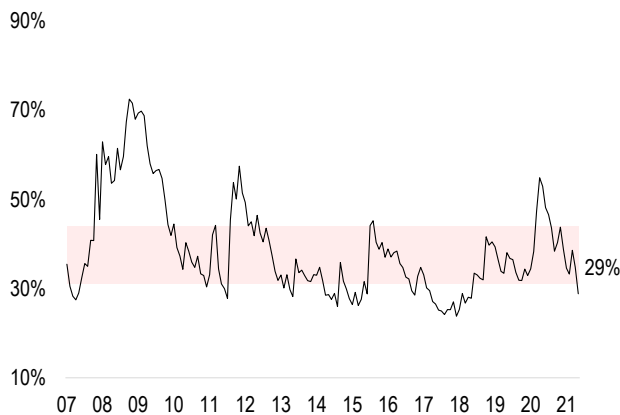
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F32: Positive real returns - EM Asia stocks
Likelihood, 12M ahead (%)



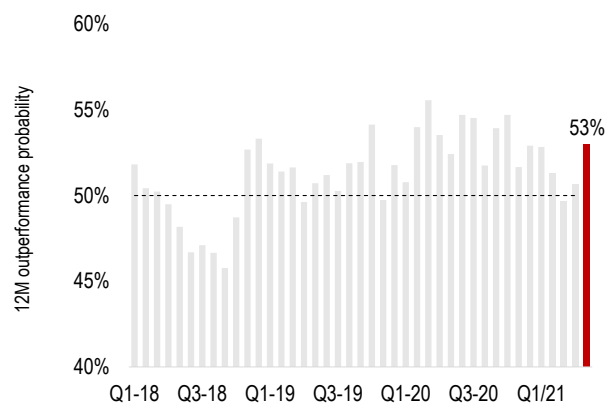
Note: Probability of positive real returns EM Asia equities (EM Asia MSCI TR USD) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F33: Downside risk - EM Asia stocks
Left-tail risk² (5%) - 12M ahead



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

F34: Excess returns - EM Asia stocks
Outperformance⁴ probability (vs. DM stocks)

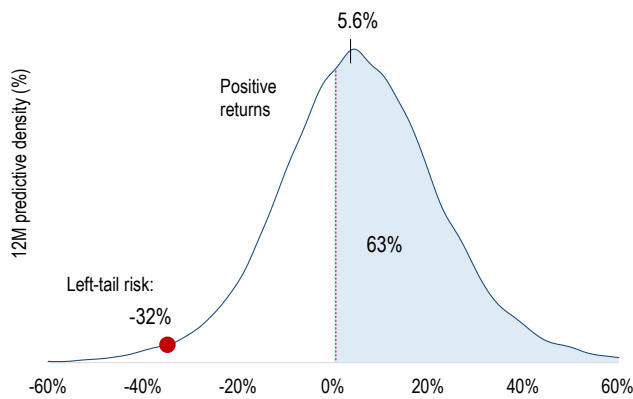


Note: Chart plots likelihood of EM Asia stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

9) EMEA stocks:

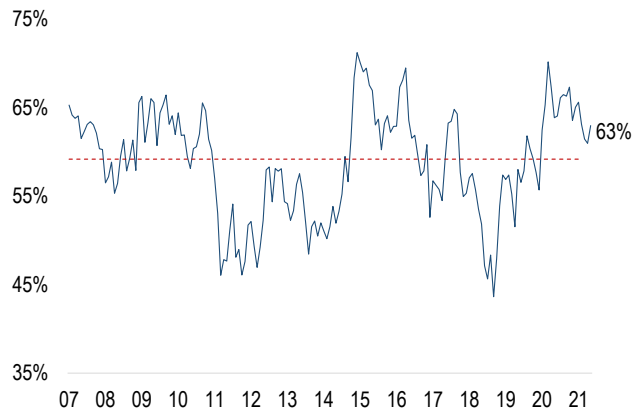
- **Absolute – Overweight (●)**. Rising raw material prices continue to lift EMEA stocks, which are also benefiting from stronger mobility amid plummeting COVID cases in CEE countries. The region retains a high upside, reflecting a still bullish oil price outlook and diversification towards ‘resource-rich’ countries with low valuations. There is a 63% chance of positive real returns 12M out, well above the region’s long-term average (F36).
- **Relative – Overweight (●)**. Strong global growth, rising worldwide inflation and a limited sensitivity of RU and ZA assets to fluctuations in US long-term yields makes EMEA stocks considerably more attractive than DM stocks (F2). As a result, we have upgraded our relative EMEA call to overweight.

F35: Real returns - EMEA stocks¹
12M probability forecast



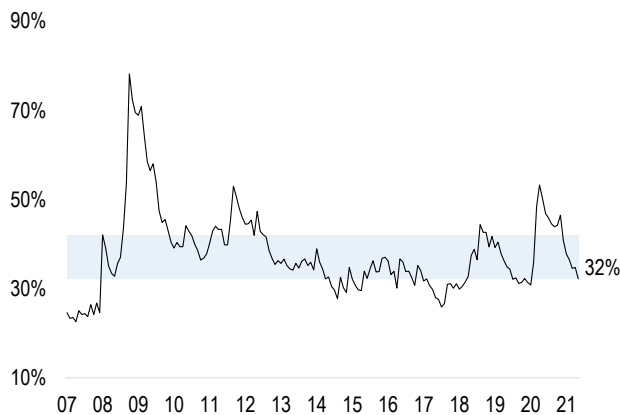
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F36: Positive real returns - EMEA stocks
Likelihood, 12M ahead (%)



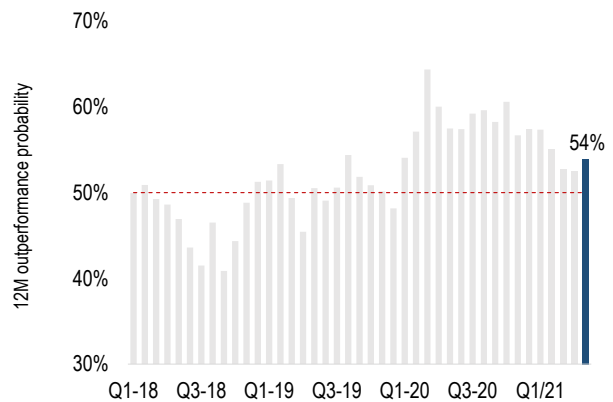
Note: Probability of positive real returns on EM EMEA equities (EMEA MSCI TR USD) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F37: Downside risk - EMEA stocks
Left-tail risk² (5%) - 12M ahead



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

F38: Excess returns - EMEA stocks
Outperformance⁴ probability (vs. DM stocks)

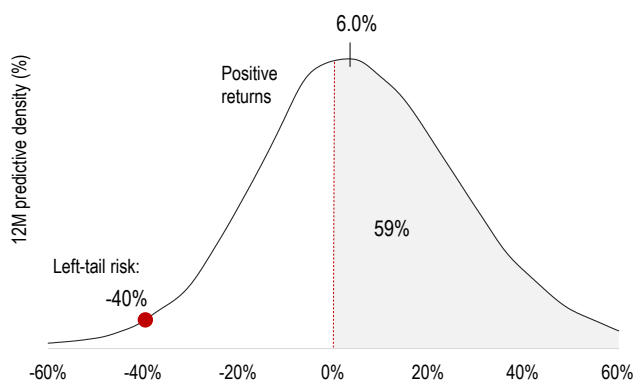


Note: Chart plots likelihood EM EMEA stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

10) Latin America stocks:

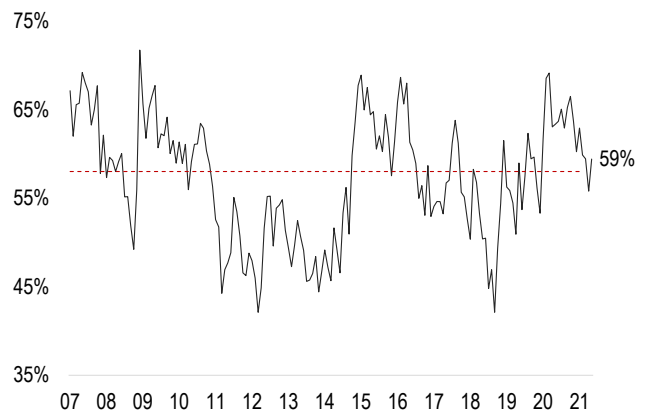
- **Absolute – Neutral (●)**. Strong global growth and rising commodity prices give LatAm equities a higher upside than any other region in the world (see F2). We anticipate real equity returns of 6%+ over the next 12M (F40), an exceptional result compared to average yearly losses of -1.5% over the past decade. Nevertheless, elevated political uncertainty and the possibility of Fed hiking cycle continue to make LatAm equities highly risky investments.
- **Relative – Neutral (●)**. LatAm usually outperforms during periods of strong global growth, rising inflation and a falling USD. Although elevated policy uncertainty makes new investments vulnerable to capital flight, their upside is now high enough to justify a neutral (rather than underweight) relative stance.

F39: Real returns - EM LatAm stocks¹
12M probability forecast



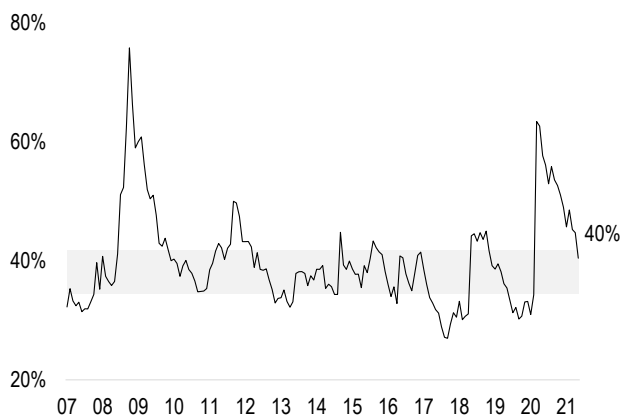
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F40: Positive real returns - LatAm stocks
Likelihood, 12M ahead (%)



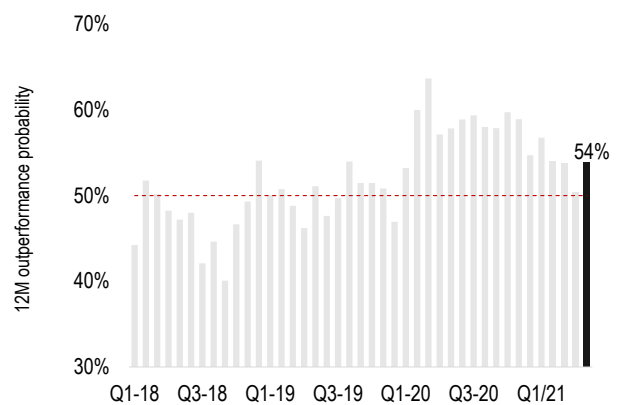
Note: Probability of positive real returns on EM LatAm equities (LatAm MSCI TR USD) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F41: Downside risk - LatAm stocks
Left-tail risk² (5%) - 12M ahead



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

F42: Excess returns - LatAm stocks
Outperformance⁴ probability (vs. DM stocks)

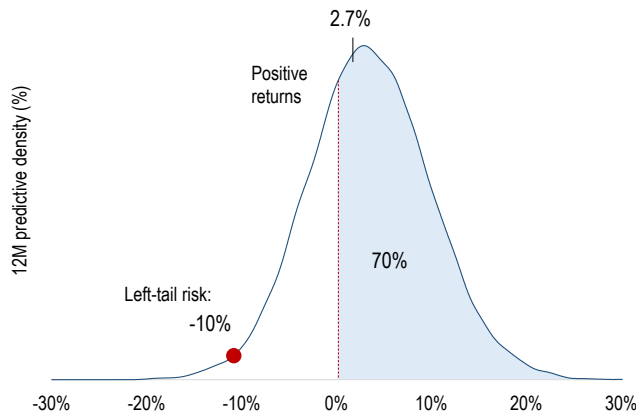


Note: Chart plots likelihood of EM LatAm stocks outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

11) Fixed income:

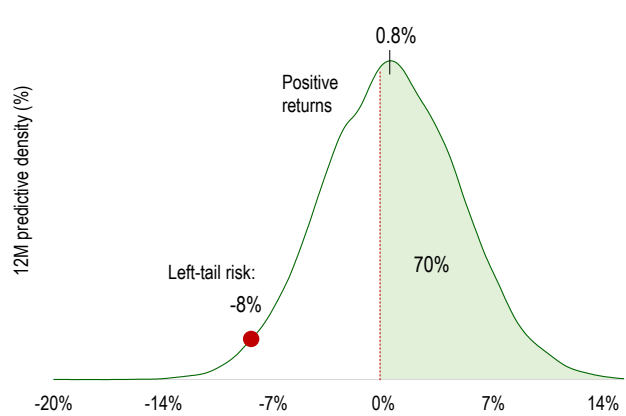
- DM bonds – Neutral (●).** DM 10Y sovereign yields are up 50 bps in 2021, as vaccine optimism has lifted growth and inflation expectations while reducing ‘flight-to-safety’ demand. Yields should increase further in H2/21 on the back of higher inflation. While this weakens the appeal of DM bonds, USD depreciation should more than offset the impact of rising yields on non-US bond indices – increasing their attractiveness vs. US Treasuries.
- EM bonds – Overweight (●).** Rising DM yields caused EM debt flows to weaken sharply in Q1, with hard currency bonds experiencing losses of up to 6%. As we anticipated *two months ago*, the sell-off proved short-lived, with HC bonds rising 4% since April. Low global financial stress should support EM debt fund flows over the next 12M.

F43: Real returns - DM bonds (USD)¹
12M probability forecast



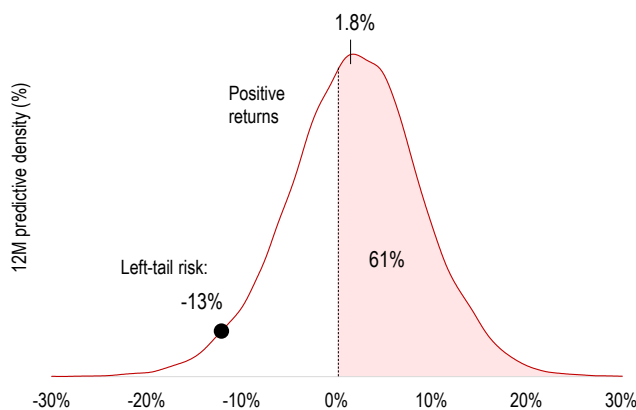
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F44: Real returns - US bonds¹
12M probability forecast



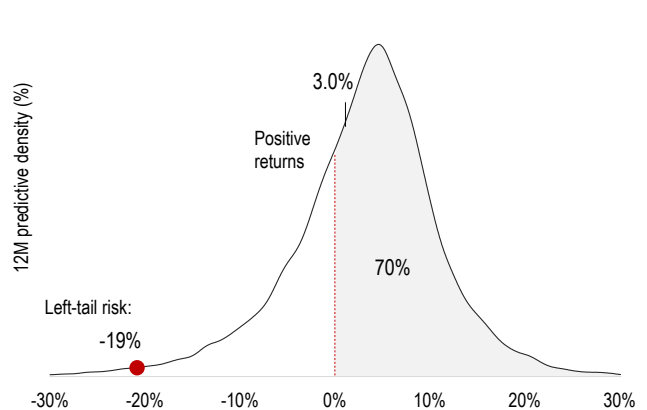
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

F45: Real returns - DE bonds (USD)¹
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.

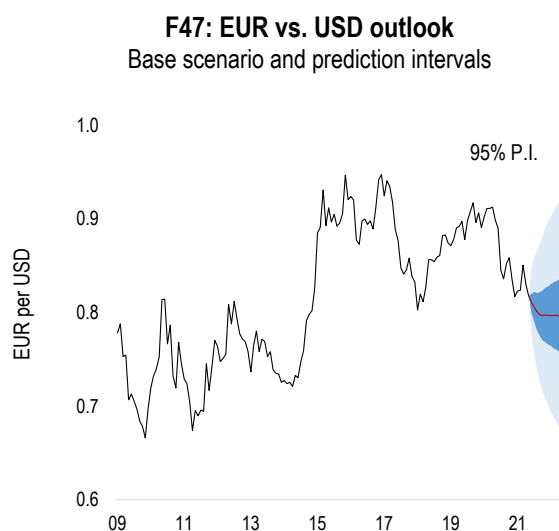
F46: Real returns - EM bonds¹
12M probability forecast



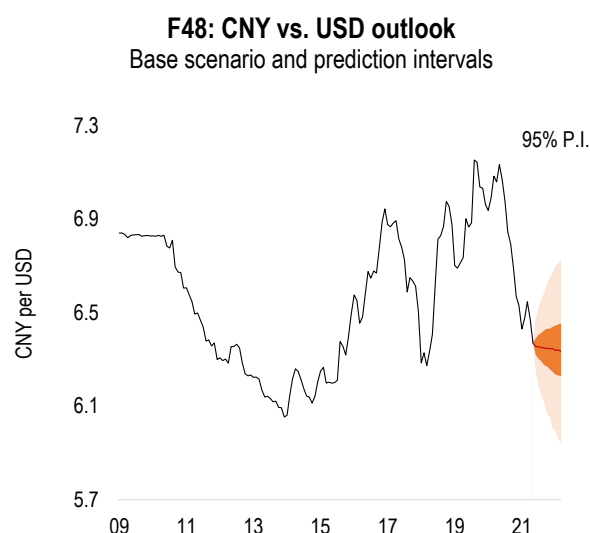
Note: Real expected returns are the mean of the distribution. The red dot is the 5% conditional value-at-risk, expected future losses below the 5% quantile. Shaded area denotes likelihood of positive real returns. Source: Numera Analytics.

12) Currencies:

- **CAD per USD – Underweight USD (●)**. The CAD appreciated nearly 2% in May on the back of rising oil prices and a surge in COVID vaccinations. While the loonie is no longer trading at a discount, a tight oil market balance increases the likelihood of further CAD appreciation. The loonie should gain 5¢ or more 12M out.
- **EUR per USD – Underweight USD (●)**. Narrowing vaccine differentials and improved business optimism continue to lift the Euro. Both factors also reduce the likelihood of future USD appreciation. There is now a 39% probability that the USD strengthens against the EUR 12M out, 9 points lower than two months ago.
- **GBP per USD – Underweight USD (●)**. The GBP keeps strengthening, benefiting from a widening vaccine gap with the US and declining policy uncertainty. Soaring business confidence, rising mobility and strong global growth should continue to lift the UK pound, which we expect will trade below 70 cents to the dollar 12M out.
- **JPY per USD – Underweight USD (●)**. Japan's slow vaccine rollout has so far weighed on the yen, but the JPY should strengthen as vaccinate rates converge. As a result, we now recommend underweighting the USD against the JPY 12M out. Since both are 'safe haven' currencies, strong global growth has a limited impact on the outlook.
- **BRL per USD – Underweight USD (●)**. The BRL is up 8% since late April, buoyed by rising commodity prices, higher vaccine rates and falling US yields. The BRL should continue to strengthen, fueled by strong global growth, further commodity inflation and favourable interest spreads (increasing the BRL's appeal as a 'carry' trade).
- **CNY per USD – Neutral (●)**. The CNY continues to strengthen, benefiting from reduced pressure from US yields and a narrowing vaccine gap. The CNY is trading close to its 'fair' value, but we expect it to strengthen moderately over the next 12M on the back of favourable interest rate and productivity differentials.



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

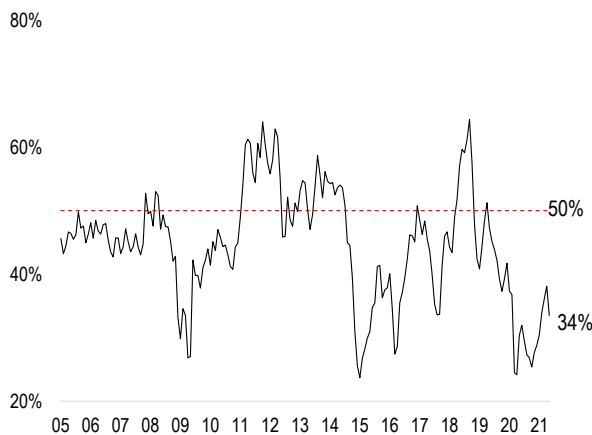


Note: Fan chart corresponds to 70% and 95% prediction intervals. Source: History: Federal Reserve; Forecast: Numera Analytics.

T1: DM currencies	Baseline outlook			12M probabilities (%)		
	05/21	3M	12M	-5%	US dollar appreciation	+5%
	CAD per USD	1.21	1.19	1.16	43%	34%
EUR per USD	0.82	0.80	0.80	40%	39%	20%
GBP per USD	0.70	0.70	0.69	39%	41%	23%
JPY per USD	109.4	108.1	106.7	38%	41%	21%

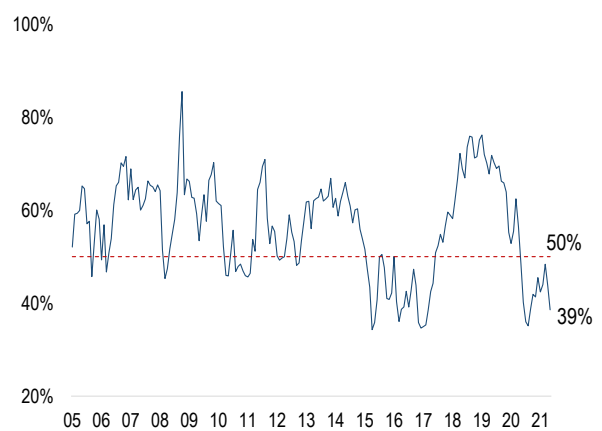
1. Probability of the US dollar appreciating against a given DM currency over a 12M horizon.

F49: USD vs. CAD appreciation
12M ahead probability (%)



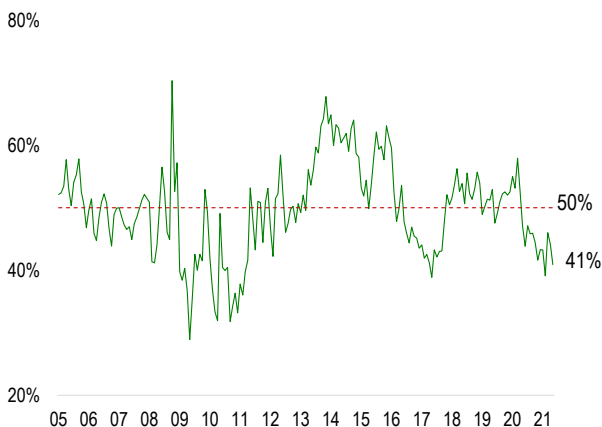
Note: Chart tracks the likelihood of the US dollar strengthening against the CAD 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F50: USD vs. EUR appreciation
12M ahead probability (%)



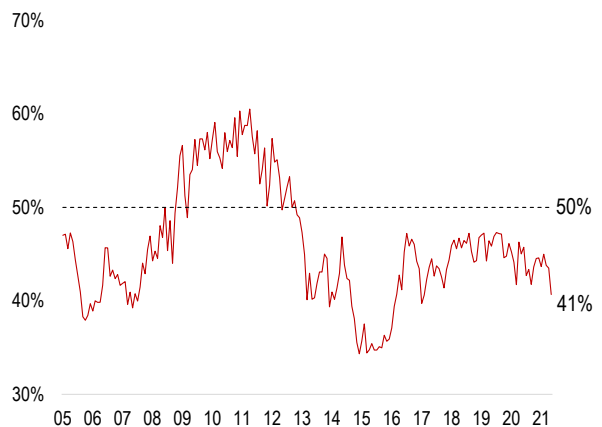
Note: Chart tracks the likelihood of the US dollar strengthening against the EUR 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F51: 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.

F52: USD vs. JPY appreciation
12M ahead probability (%)

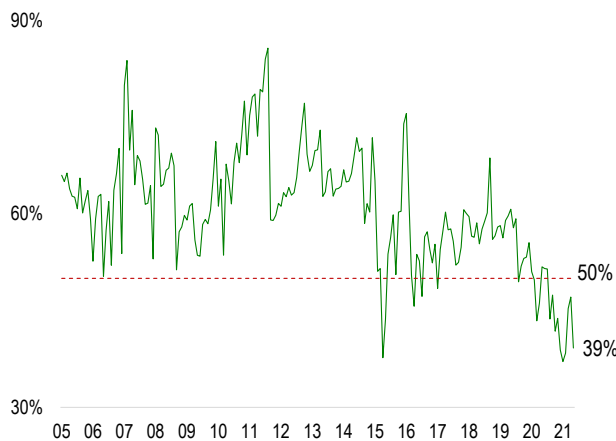


Note: Chart tracks the likelihood of the US dollar strengthening against the JPY 12M out. Probabilities above 50% (dashed black line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

T2: EM currencies	Baseline outlook			12M probabilities (%)		
	05/21	3M	12M	-5%	US dollar appreciation	+5%
BRL per USD	5.25	5.22	5.16	45%	39%	26%
CNY per USD	6.37	6.35	6.34	13%	45%	7.9%
MXN per USD	19.9	19.9	20.1	26%	54%	32%
RUB per USD	73.3	72.3	72.7	31%	48%	24%

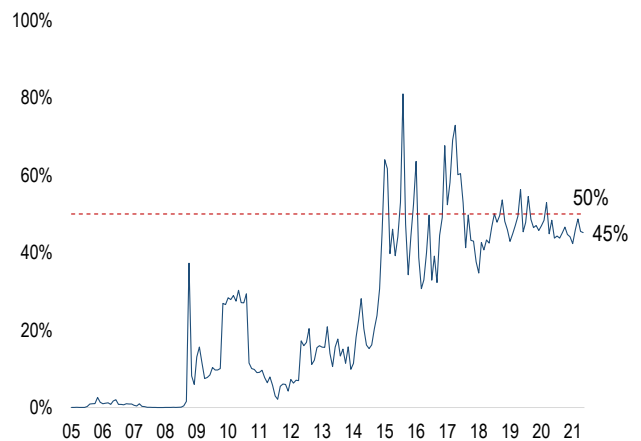
1. Probability of the US dollar appreciating against a given EM currency over a 12M horizon.

F53: USD vs. BRL appreciation
12M ahead probability (%)



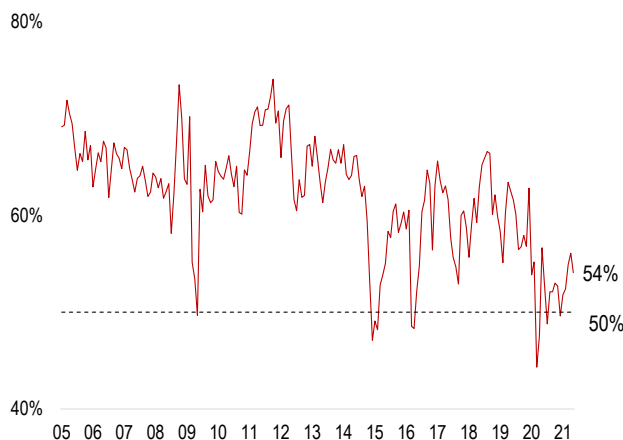
Note: Chart tracks the likelihood of the US dollar strengthening against the BRL 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F54: USD vs. CNY appreciation
12M ahead probability (%)



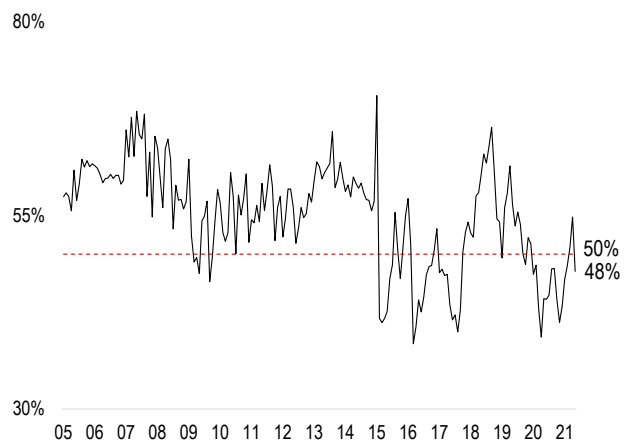
Note: Chart tracks the likelihood of the US dollar strengthening against the euro 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

F55: 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.

F56: USD vs. RUB appreciation
12M ahead probability (%)

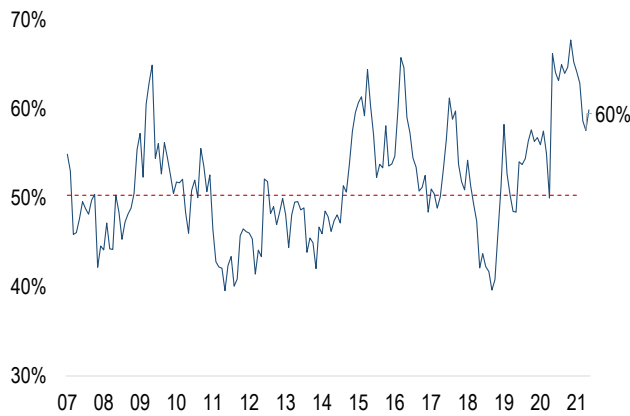


Note: Chart tracks the likelihood of the US dollar strengthening against the Canadian dollar 12M out. Probabilities above 50% (dashed red line) indicates USD appreciation is the most likely outcome. Source: Numera Analytics.

13) Commodities:

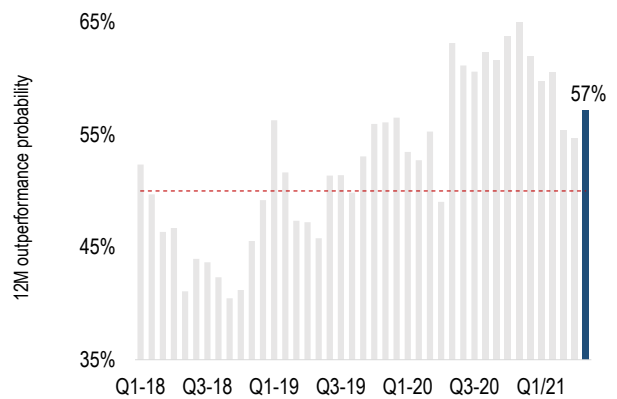
- **Crude oil – Overweight (●).** Global oil consumption should normalize over the next 12-18M, as falling public health risks lift road and air travel. While rising prices should lift supply, low drilling investment limits the production response – depleting inventories and causing the oil balance to tighten sharply. We expect spot Brent prices to near \$85 / bbl by mid-2022, with a two-in-three chance that Brent exceeds \$70 / bbl.
- **Gold – Neutral (●).** Gold prices are up \$200 over the past two months on the back of higher inflation and slightly weaker long-term yields (both of which reduce real rates). While gold should continue to trail stocks, ‘reflation’ benefits gold in absolute prices and against other ‘safe haven’ assets. Gold should **exceed \$1950** 12M out.

F57: Positive real returns - Crude oil
Likelihood, 12M ahead (%)



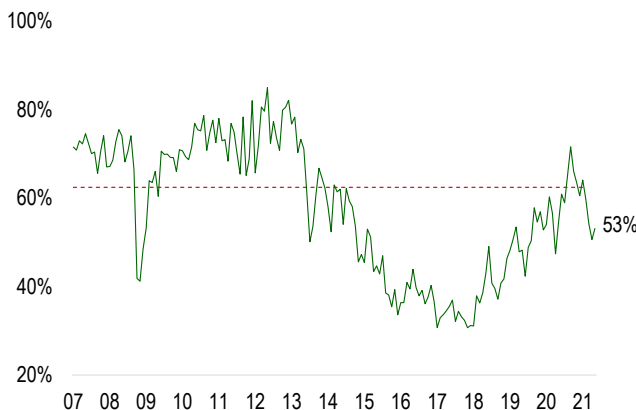
Note: Probability of positive real returns on crude oil investments (S&P GSCI crude oil TR) over a 12M holding period. Red line is the historical average. Source: Numera Analytics.

F58: Excess returns - Crude oil
Outperformance⁴ probability (vs. DM stocks)



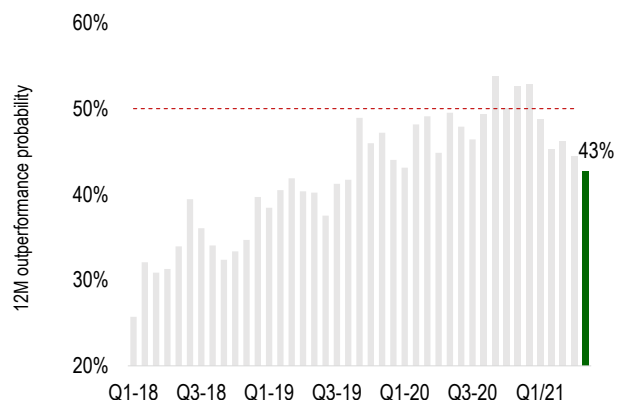
Note: Chart plots likelihood of crude oil investments outperforming DM stocks over a 12M holding period. Probabilities above 50% indicate most likely outcome. Source: Numera Analytics.

F59: Positive real returns - Gold
Likelihood, 12M ahead (%)



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

F60: Excess returns - Gold
Outperformance⁴ probability (vs. DM stocks)



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

Benchmarks and definitions:

1. Benchmarks:

- **DM 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 stocks:** EM Asia: MSCI EM Asia TR USD; EMEA: MSCI EM EMEA TR USD; LatAm: MSCI EM Latin America 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.