J.P.Morgan

Global Quantitative & Derivatives Strategy
12 November 2020

Quantitative Perspectives on Cross-Asset Risk Premia

Value's exposures to yield curve; Mimicking portfolios to rates and Trend-following on equity factors

Equity portfolios that mimick rates and the slope of yield curve
It is useful to construct equity portfolios that track macro-economic variables. Such mimicking portfolios not only allow equity investors to trade macro views, but more importantly better analyze macro factor risk of a portfolio and hedge against unwanted exposures. We demonstrate how to build realistic, pure equity mimicking portfolios to rates and the slope of yield curve.

Can we blame falling rates for Value's underperformance?
Many investors have attributed the poor performance of Value strategies in recent years to falling rates or a flattening yield curve. Whilst it sounds intuitive if one equates Value with financials, the relationship is not trivial for many value strategies, especially the "pure" ones. Even though Value portfolios are positively exposed to rates and the slope of the yield curve, we find that hedging such exposures has not been able to rescue its performance in the past 2 years, and so Value's culprit is not falling rates.

Trend Signal Overlay of Equity Factors
We show that using a trend-following signal as an overlay has helped avoid the underperformance of Value and Size in recent years, and consequently improved the performance of an equity multi-factor portfolio.

Latest views from macro, time-series and machine learning models
We also update our style-timing model with latest predictions from various quant models, and show the active tilting in our Black-Litterman portfolio.

Global Quantitative and Derivatives Strategy

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Hedging value's exposure to the yield curve does not help performance; and an equity multi-factor portfolio based on trend following signal

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg Finance L.P.

See page 45 for analyst certification and important disclosures, including non-US analyst disclosures.

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Recent Risk Premia Performance

Momentum in risk assets was building up in October before the US presidential election, not only in equities but also in credit. However, Equity Momentum just experienced a severe sell-off on 9th Nov, losing almost 6% a day as vaccine developments have driven a rotation to Value.

Quality names continue to be favoured by investors seeking for protections under the uncertainties of economic recovery and a resurgence in COVID infections. Quality has gained steadily throughout the year with a YTD Sharpe ratio close to 2.

Carry strategies in Commodity, Credit and Rates all recorded negative returns in October.

Figure 1: Recent risk premia performance

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Figure 2 shows the Sharpe ratios of the cross asset risk premia, comparing with a few asset class benchmarks and a risk parity risk premia portfolio. As we see, October has been a positive month for most trend following strategies. However, a risk premia portfolio in general suffered some loss, which is especially hurt by exposure to commodity risk premia.

Figure 2: Recent Sharpe ratios of risk premia

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 3 updates the latest market performances across asset classes. Apparently, when equity markets went through a significant correction in late October, safe havens like Treasuries did not provide enough cushion to absorb the losses.

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Figure 3: Global market performances in 2020

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Mimicking the Yield Curve with Equity Portfolios

As bond yields have been hovering around zero for years, the risk of increasing yields in the longer future is building up. For investors who are more positive on economic growth and inflation, it is expected that US 10Y will increase from current lows of around 90 bps. On the other hand, short rates will likely be suppressed by the Fed for a significant period until it achieves the target of an average inflation of 2%. Under such macro backdrops, yield curve may start to steepen (Figure 4).

Figure 4: US treasury yields and the slope of yield curve

Source: J.P. Morgan Quantitative and Derivatives Strategy

Yield curve plays are usually done via treasury futures, but here we provide yet another way to reflect views on the yield curve using factor-mimicking equity portfolios. For equity investors, such portfolios could also be used to monitor exposures to movements in the yield curve and hedge against unwanted portfolio risk (see Custom Performance Attribution based on Portfolio Holdings: Decomposing Risk and Return Drivers via Factor-Mimicking Portfolios).

We construct factor-mimicking portfolios to track the rates as well as the slope of the yield curve. For each stock, its sensitivity to yield curve movements is estimated from a linear regression of monthly stock returns with a rolling window of 5 years:

$$r_t = \alpha_t + \beta_{mkt,t}\, R_t + \beta_{level,t}\, \Delta level_t + \beta_{slope,t}\, \Delta slope_t + \varepsilon_t$$

where R is the market returns, $\Delta level$ is the monthly change of US 2Y yields, and $\Delta slope$ is the monthly change of the slope of the yield curve (10s/2s).

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We note that it is notorious to estimate stock sensitivities to slowly moving macro variables, and extra care needs to be adopted to ensure estimations are not polluted by noise. As in our custom attribution framework, we divide the monthly data into two subsamples with odd and even months, and obtain two sets of betas based on each subsample.

This approach not only helps to better estimate factor risk premia (see Pukthuanthong et al (2019)), but also helps to identify stocks that are well-correlated with the macro variable that we aim to mimick (e.g. rates). For instance, we expect stocks that are truly correlated to rates should have the ***same sign*** of betas estimated either from the odd or even-month subsample. Hence, we only retain the betas if the signs match, and the final beta is estimated as an average between the two. Otherwise, we render the stock as non-sensitive to rates, i.e. beta is zero. To account for significance, we take the t-statistics instead of the coefficients as the estimated sensitivities (results are similar).

Figure 5: Distribution of stock sensitivities (based on t-stats) to rates and the slope of yield curve

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

Rates mimicking portfolio

By sorting the estimated betas on rates, we firstly construct equal-weighted long/short decile portfolios that should largely track the movements in rates. However, strictly speaking it is not a factor-mimicking portfolio because it is not pure, i.e. there are exposures on factors other than rates. Hence, we run an optimized, tradable factor-mimicking portfolio using Axioma's risk analytics. We maximize exposures to rates and constraint exposures to the slope of the yield curve, as well as that to global market, countries, industries and common styles (e.g. Value, Momentum). To be more practical, we also impose an asset weight constraint of +/- 2% and a threshold position of 50bps.

Figure 6 compares the portfolios, and Figure 7 shows their respective exposures to rates and the slope of the yield curve. Clearly, a long/short decile portfolio ranked by sensitivities to rates would be positively exposed to the slope of the yield curve, which is not surprising given the sector bias (e.g. banks).

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Figure 6: Rates mimicking portfolio

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

Figure 7: Maximizing exposure to rates, whilst constraining exposure to the slope of yield curve

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

We examine if the rates mimicking portfolio indeed tracks the level of US 2Y rates. Figure 8 shows that the two do move in tandem most of the times, with correlations of about 0.61.

Figure 8: Comparing the rates mimicking portfolio with US 2Y rates

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

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Yield curve mimicking portfolio

Next, based on the sensitivities to the slope of the yield curve, we sort stocks into deciles and create a long/short portfolio that should gain when the yield curve steepens. Again, it is necessary to neutralize exposures other than the slope, in particular rates. For instance, if a stock is also positively exposed to rates, then falling rates may hurt returns even when the curve is steepening. Similar to the above, we use Axioma's risk analytics to obtain tradable, pure factor-mimicking portfolio that tracks the slope of the yield curve whilst being neutral to rates. Our optimized portfolio also has zero exposures to other factors such as market, countries, sectors and common styles, together with an asset weight constraint of +/- 2% and a threshold position of 50bps.

Figure 9 compares an equal-weighted long/short decile portfolio with the optimized portfolio, while Figure 10 checks their corresponding exposures to rates and the slope of the yield curve.

Figure 9: Yield curve mimicking portfolio

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

Figure 10: Maximizing exposure to the slope of the yield curve, whilst constraining exposure to rates

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

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We check if the mimicking portfolio moves in tandem with the slope of the yield curve. As shown in Figure 11, the portfolio has been performing quite in line with the movements in the yield curve, with an overall correlation of 0.69.

Figure 11: Comparing the yield curve mimicking portfolio with the slope of the yield curve

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

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Value's culprit is not falling rates

Recent years of Value underperformance have led to some debate on whether falling rates and a mostly flattening curve have been the major headwind to Value's success. Such claims seem to be justified when one regards Value as broadly represented by banks and financial stocks, but this is difficult to argue when we also observe a similar underperformance of pure Value strategies, which are supposed to be less sensitive to sector biases.

In a recent study "Value and Interest Rates: Are Rates to Blame for Value's Torments?" (Maloney and Moskowitz (2020)), the authors do not find significant relationships between various definitions of value returns and changes in bond yield levels or slope. To confirm their findings, we apply our results in the previous sections and study how a value factor would perform if we remove its sensitivities to rates and the slope of the yield curve. Indeed, we find that a neutralized value portfolio still underperforms significantly in recent years, and hence it is unlikely that falling rates or a flattening yield curve is the culprit.

In the below, we use book yield as a value score and consider stocks in global DM markets. By sorting stocks by book yield, a simple Value strategy is obtained as a top-bottom decile portfolio, where it is expected to have overall positive exposures to rates and the slope of the yield curve. Another optimized, pure value portfolio is obtained by maximizing its exposure to book yield, and constraining its other exposures in particular to rates and the slope of yield curve (which are obtained in the last section).

Using Axioma's risk analytics, we also constrain portfolio exposures to the market, countries, sectors and common styles (e.g. Momentum, Size). Figure 12 compares the performance of the Value strategies. Although Pure Value has outperformed a simple value portfolio in 2010, 2015 and 2017-2018, both have performed poorly in the past two years (as well as 2011-2012). Moreover, even if we further remove exposures to the yield curve, performance of the Pure Value portfolio remains similar. (Figure 13)

Figure 12: Pure value and a top-bottom decile portfolio based on value score (book yield). Neutralizing value against yield curve exposures do not help performance in the past few years.

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

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Figure 13: Comparing Value's exposure to rates (left) and the slope of the yield curve (right). In the optimized portfolio, we constraint the exposure to within +/-5%

Source: J.P. Morgan Quantitative and Derivatives Strategy, Axioma

In Figure 14, we compare the value strategies with our rates and slope mimicking portfolios (of course we can compare with rates and slope directly, where results are similar). We do not find strong correlations between contemporaneous returns of the value portfolios with rates or the slope of yield curve.

Figure 14: Correlations between value factors and yield curve factor portfolios

Since 2007

	Value	Pure Value	Rates	Slope
Value		0.55	0.09	0.17
Pure Value	0.55		0.04	0.14
Rates	0.09	0.04		-0.07
Slope	0.17	0.14	-0.07	

Since 2017

	Value	Pure Value	Rates	Slope
Value		0.53	0.11	0.17
Pure Value	0.53		0.01	0.22
Rates	0.11	0.01		-0.07
Slope	0.17	0.22	-0.07	

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Trend Signal Overlay of Equity Factors

We analyze whether using a trend-following signal to determine exposures to equity factors could improve the performance of the stand-alone equity factor portfolio as well as a multi-factor portfolio.

We make use of the pure equity factors - Quality, Value, Momentum, Size and Low Volatility- constructed via Fama-MacBeth regressions as described in The quest for pure equity factor exposure by Tzotchev et al. Furthermore, we apply the same trend-following signal methodology as described in Designing Robust Trend-Following System by Tzotchev et al. When the trend-following signal is positive, we take exposure to the factor in question, when it is negative we do not take exposure.

Below we show the binary 0/1 signals for the individual styles and we compare the performance of the pure factors with and without trend signal overlay.

Figure 15: Binary 0/1 signal for the Low Vol factor

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 16: Binary 0/1 signal for the Quality factor

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Figure 17 : Binary 0/1 signal for the Size factor

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 18: Binary 0/1 signal for the Value factor

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 19: Binary 0/1 signal for the Momentum factor

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 20: Performance of pure Low Vol versus the pure Low Vol with trend signal overaly

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 21: Performance of pure Quality versus the pure Quality with trend signal overlay

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Figure 22: Performance of pure Size versus the pure Size with trend signal overlay

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 23: Performance of pure Value versus the pure Value with trend signal overlay

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 24: Performance of pure Momentum versus the pure Momentum with trend signal overlay

Source: J.P. Morgan Quantitative and Derivatives Strategy

The most significant impact of using a trend signal overlay can be noticed for the Value and the Size factor given their recent underperformance, and to some extent for the Quality factor.

In a similar way, we can compare the top-down multi-factor portfolios with and without trend-signal overlay. When the trend-following signal is positive, the respective equity style forms a part of the multi-factor portfolio. Conversely, when the trend-following signal is negative, the respective equity style is excluded. The top-down portfolios are based on a risk parity approach with a 5% target annualized volatility.

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Figure 25: Multi-factor top-down portfolios with and without trend signal overlay

Source: J.P. Morgan Quantitative and Derivatives Strategy

Table 1: Performance statistics

	Factor-mimicking (Top Down) with a trend-signal overlay	Standard factor-mimicking (Top Down)
Ann Return	8.5%	6.9%
Ann Volatility	6.6%	6.2%
Sharpe	1.29	1.10
Max DD	9.8%	29.6%

Source: J.P. Morgan Quantitative and Derivatives Strategy

Over a bigger part of the backtest period the performance of the multi-factor models with and without trend overlay has been quite similar. The outperformance of the multi-factor portfolio with a trend overlay has come up in recent years mainly driven by the avoidance of the underperformance of Value and Size. As a consequence, the drawdown of the portfolio with the trend-overlay is substantially smaller.

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Reviewing the Risk Premia portfolio

In A Quantitative Framework for Cross-asset Style Timing we developed a tilting mechanism to tactically time the exposures of risk premia. In Figure 26, we compare the tilted portfolio (based on weighted views from different models) with the risk parity benchmark. Since mid-October, OW in FX Carry and Commodity Carry has generated the largest positive alpha, which has led to 60bps of active returns in the tilted portfolio. However, the recent crash in Equity Momentum has resulted in the largest loss. Figure 27 shows the performance of the risk premia portfolio in the past 2 years.

Figure 26: Reviewing the tilted risk premia portfolio as of 2020-10-15

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 27: Performance of the cross asset risk premia portfolio

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Latest Model Views

In "A Quantitative Framework for Cross-asset Style Timing", we introduce an approach to construct views from a large set of models (macro-regime, time-series, Machine Learning), and implement such views to tilt a cross-asset risk premia portfolio relative to the risk parity benchmark. Figure 28 shows the latest active weights, active risks and model predictions.

Figure 28: Latest active positions relative to risk parity

Source: J.P. Morgan Quantitative and Derivatives Strategy

Figure 29 shows the details of the model predictions (i.e. aggregated forecasts and the weighted average from each of the 5 groups of models).

Figure 29: Model portfolio and some more details on model forecasts

	Aggregated Forecast (bps)	Aggregated Forecast / Volatility	Model Forecasted Returns (bps, weighted) (Sum to Aggregated Forecast)					Notional (x 100) (5% Vol Target)				Risk (%)		
			Benchmark	Economic Regime	Macro & Financial Forecasting	Time Series	Comprehensive	Risk Parity	Tilted Portfolio	Active Tilting	Active Tilting / Volatility	Vol	Portfolio Risk Contribution	Active Risk Contribution
Equity Value	-21.6	-0.13	-5.3	-5.5	-4.0	-5.0	-1.8	17.9	22.1	4.2	0.7	5.9	3.1	1.0
Equity Quality	1.6	0.01	1.0	5.1	-0.8	-2.2	-1.6	21.8	37.9	16.1	3.3	4.8	6.2	9.5
Equity Carry	59.3	0.29	-2.8	10.6	22.8	20.8	7.9	14.7	18.5	3.7	0.5	7.2	3.2	1.1
Equity Momentum	2.6	0.01	-2.6	1.4	-0.2	0.5	3.5	11.7	18.2	6.5	0.7	9.1	5.0	5.4
Equity Low Vol	29.1	0.17	-10.6	1.3	12.2	16.6	9.6	17.5	32.3	14.8	2.4	6.0	7.0	12.4
Equity Size	-14.5	-0.11	-5.2	-2.1	-0.4	-5.1	-1.6	22.9	21.2	-1.7	-0.4	4.6	1.8	0.1
Equity Volatility	23.7	0.10	-0.2	3.8	8.4	5.9	5.7	12.7	20.9	8.2	1.0	8.3	5.6	7.3
Credit Value	13.4	0.05	0.8	3.7	3.9	1.4	3.5	12.5	23.2	10.7	1.3	8.5	7.1	12.9
Credit Carry	13.8	0.08	-3.4	0.7	2.6	9.0	4.9	17.2	27.8	10.6	1.7	6.1	5.4	6.7
Credit Momentum	28.8	0.07	-19.7	-2.3	15.6	23.0	12.1	7.5	10.3	2.8	0.2	14.1	3.9	2.4
Credit Volatility	27.8	0.32	0.9	8.3	6.3	6.4	5.9	34.7	37.8	3.1	1.0	3.0	2.4	0.1
Rates Value	35.5	0.66	2.2	10.9	10.4	2.1	10.0	57.1	61.9	4.8	2.6	1.9	2.4	0.1
Rates Carry	40.3	0.17	3.7	7.3	5.2	20.9	3.2	12.7	16.4	3.7	0.4	8.3	3.4	1.5
Rates Momentum	31.8	0.43	2.7	15.7	6.3	2.8	4.3	41.7	68.5	26.9	10.6	2.5	5.6	7.3
Rates Volatility	19.9	0.16	2.1	-2.0	7.5	6.4	6.0	24.5	39.4	14.9	3.4	4.3	5.3	6.5
FX Value	22.0	0.55	3.4	8.3	2.9	4.0	3.4	76.5	108.9	32.3	23.4	1.4	4.2	3.1
FX Carry	37.3	0.13	0.4	7.7	16.7	3.0	9.5	10.5	17.8	7.3	0.7	10.1	5.9	8.4
FX Momentum	21.4	0.08	-10.1	4.6	4.4	10.4	12.1	11.7	14.3	2.6	0.3	9.0	3.1	0.9
FX Volatility	27.6	0.24	1.8	1.4	7.7	11.1	5.6	26.7	38.1	11.4	2.9	4.0	4.2	3.2
Commodity Value	41.7	0.20	3.1	15.2	16.1	4.1	3.2	14.3	17.9	3.6	0.5	7.4	3.2	1.1
Commodity Carry	31.8	0.28	4.7	6.9	6.7	7.3	6.2	26.4	40.4	13.9	3.5	4.0	4.8	4.8
Commodity Momentum	27.9	0.09	3.0	15.4	1.5	8.3	-0.3	9.6	11.8	2.2	0.2	11.0	3.1	0.9
Commodity Volatility	43.7	0.24	-1.6	4.1	13.8	12.5	14.9	16.8	24.0	7.2	1.1	6.3	4.2	3.2

Source: J.P. Morgan Quantitative and Derivatives Strategy

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Equity Value

Figure 30: Equity Value

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Equity Quality

Figure 31: Equity Quality

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Equity Carry

Figure 32: Equity Carry

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Equity Momentum

Figure 33: Equity Momentum

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Equity Volatility

Figure 34: Equity Volatility

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Equity Low Vol

Figure 35: Equity Low Vol

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Equity Size

Figure 36: Equity Size

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Credit Value

Figure 37: Credit Value

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Credit Carry

Figure 38: Credit Carry

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Credit Momentum

Figure 39: Credit Momentum

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Credit Volatility

Figure 40: Credit Volatility

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Rates Value

Figure 41: Rates Value

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Rates Carry

Figure 42: Rates Carry

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Rates Momentum

Figure 43: Rates Momentum

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Rates Volatility

Figure 44: Rates Volatility

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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FX Value

Figure 45: FX Value

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FX Carry

Figure 46: FX Carry

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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FX Momentum

Figure 47: FX Momentum

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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FX Volatility

Figure 48: FX Volatility

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Commodity Value

Figure 49: Commodity Value

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Commodity Carry

Figure 50: Commodity Carry

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Commodity Momentum

Figure 51: Commodity Momentum

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Commodity Volatility

Figure 52: Commodity Volatility

Source: J.P. Morgan Quantitative and Derivatives Strategy; Bloomberg; RavenPack; EPFR

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Past Issues and Relevant Reports

Quantitative Perspectives on Cross-Asset Risk Premia

16 October 2020: Synthetic defensive FX baskets, defensive risk premia versus safe-haven assets and equity low vol risk analysis

17 September 2020: Defensive risk premia performance update and latest model views

11 August 2020: Value/Momentum rotation broadly supported by macro backdrop, and latest model views

10 July 2020: Equity value factors review, Defensive overlay on Short-vol strategies and Latest Model Views

08 June 2020: Dissecting Low Vol's exposures building Balanced Cluster Portfolios with Autoencoders and Latest Model Views

12 May 2020: Higher Moments 'Aware' Portfolio Construction Techniques and Update on Market-Neutral Carry Performance

09 April 2020: Update on Defensive Strategies, COVID vs GFC, Monitoring Recession Pattern and Latest Model Views

05 March 2020: Impacts from market shocks, growth revisions and falling rates, and latest model views

17 January 2020: Reviewing 2019 Performance, Raw vs Pure Equity Factors and Latest Model Views

4 October 2019: New Suite of Market-neutral Carry indices, Value/Momentum rotation and Latest Model Views

5 June 2019: Implications from Macro Outlook, Timing Equity Styles with Crowdedness Signal and Latest Model Views

17 April 2019: Yield Curve Regimes, Performance Attributions for Pure ERPs and Latest Model Views

6 March 2019: Macro-Economic Backdrop, Liquidity in Equity Styles and Tail Risk Parity

18 January 2019: Business cycle, crowdedness measures for equity styles, and implications of the JPM Equity Outlook

6 December, 2018: Risk premia sensitivity to rates/equities, implications of JPM 2019 FICC outlooks and our latest timing forecasts

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Systematic Cross Asset Risk Premia Strategies

Tzotchev, D. et al (2020) Defensive Risk Premia: Systematic Strategies for the Risk-Off Times J.P. Morgan Global Quantitative and Derivatives Strategy, 11 March 2020

Lau, A. et al (2019) Custom Performance Attribution based on Portfolio Holdings: Decomposing Risk and Return Drivers via Factor-Mimicking Portfolios J.P. Morgan Global Quantitative and Derivatives Strategy, 3 December 2019

Tzotchev, D. et al (2019) The quest for pure equity factor exposure: How to eliminate the unwanted biases in equity factors? J.P. Morgan Global Cross-Asset Risk Premia Strategy, 28 November 2019

Ravagli, L. et al (2018) Optimal option delta-hedging: Uncovering the link between mean-reversion and options strategies across markets, J.P. Morgan Global Quantitative and Derivatives Strategy, 15 November 2018

Tzotchev, D. et al (2018) Market-neutral carry strategies: Harvesting carry without market risk, J.P. Morgan Global Quantitative & Derivatives Strategy, 4 October 2018

Lau, A. et al (2018) A Quantitative Framework for Cross-asset Style Timing: Machine Learning, Macro and Time-Series models providing views for Portfolio Tilting, J.P. Morgan Global Quantitative and Derivatives Strategy, 03 October 2018

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Lau, A. et al (2017) Value Strategies based on Machine Learning: Incorporating Profitability Measure and Sentiment Signals to Identify Winners and Losers, J.P. Morgan Global Quantitative and Derivatives Strategy, 08 August 2017

Risk Premia Primers

Kolanovic, M. and Wei, Z. (2013) Systematic Strategies Across Asset Classes: Risk Factor Approach to Investing and Portfolio Management, J.P. Morgan Quantitative and Derivative Strategy

Kolanovic, M. and Wei, Z. (2014) Equity Risk Premia Strategies: Risk Factor Approach to Portfolio Management. J.P. Morgan Global Quantitative and Derivatives Research, September 2014

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J.P. Morgan Cross-asset Risk Premia Indices

Table 2: J.P. Morgan cross-asset risk premia Indices. We apply t-costs and running fee assumptions when we rebalance the indices in our portfolio

Name	Asset	Style	Ticker	Strategy overview
Equity				
J.P. Morgan Equity Risk Premium – Global Pure Value	Equity	Value	JPQGVLW2	L/S strategy on Value factor
J.P. Morgan Equity Risk Premium – Global Pure Quality	Equity	Quality	JPQGQUW2	L/S strategy on Quality factor
J.P. Morgan US Volatility Term Premia Index	Equity	Carry	JPMZVP4G	Systematic long puts on VIX Futures
J.P. Morgan Equity Risk Premium – Global Pure Momentum	Equity	Momentum	JPQGMOW2	L/S strategy on Momentum factor
J.P. Morgan Equity Risk Premium – Global Pure Low Vol	Equity	Low Vol	JPQGLVW2	L/S strategy on Low Vol factor
J.P. Morgan Equity Risk Premium – Global Pure Size	Equity	Size	JPQGSZW2	L/S strategy on Size factor
J.P. Morgan US 5% Mean Reversion Short Volatility Index	Equity	Volatility	JPOSUS5M	Monetize carry between implied and realized volatility through options exposure in S&P (5% notional a day)
Credit				
J.P. Morgan Global Credit Value	Credit	Value	JCREGCV1	Aim to monetize the risk premia between major CDS indices using a fair value spread
J.P. Morgan Credit Global Curve Steepener	Credit	Carry	JCRECVSG	Track performance from a rolling 5s10s steepener on iTraxx Main and CDX IG
J.P. Morgan Global Credit Momentum USD	Credit	Momentum	JCREMOGU	Aim to capture cross-sectional momentum in global credit indices
J.P. Morgan Global HY Short Volatility	Credit	Volatility	JCRESV3H	Aim to monetize the high implied volatility relative to realized volatility in iTraxx Crossover and CDX HY options by selling straddles and delta hedging on a daily basis
Rates				
J.P. Morgan MAST Basket of 3 Index (USD)	Rates	Value	JPMSUBK3	Capture forward rate risk premium in 3-month USD, EUR and GBP Libor 1y forward
J.P. Morgan CarryMax 2 Futures-6 USD Index	Rates	Carry	JCMX2A6U	Capture yield differential in govt. bond futures
J.P. Morgan Helix 3 Index (USD)	Rates	Momentum	JHLXH3US	Capture trends in short-term interest rate markets using money market futures
J.P. Morgan JPVLBTYU Index	Rates	Volatility	JPVLBTYU	Capture value from the implied versus realized volatility of UST10Y Note futures by shorting option strangles and delta hedge
FX				
J.P. Morgan JPFCVA01 Index	FX	Value	JPFCVA01	Capture value in FX pairs in G10 using PPP
J.P. Morgan FX Carry JPFCARB1	FX	Carry	JPFCARB1	Long high yielding currencies and short low yielders on a large universe of currency pairs
J.P. Morgan JMCUFCTA Index	FX	Momentum	JMCUFCTA	Aim to extract the momentum effect from the underlying FX pairs
J.P. Morgan FX Volemont JPVOFX02 Index	FX	Volatility	JPVOFX02	Pure short gamma exposure across 5 USD currency pairs
Commodity				
J.P. Morgan Compendium Fundamental Index	Commodity	Value	JCOPCF	Using momentum on fundamental signals to go long-short commodities
J.P. Morgan Alpha Select II Index	Commodity	Carry	JMABDBSE	Capture commodity curve carry
J.P. Morgan JMCUCCTA Index	Commodity	Momentum	JMCUCCTA	Aim to extract the momentum effect from the underlying commodities
J.P. Morgan Custom JMAB279E Index	Commodity	Volatility	JMAB279E	Monetize the premium between implied and realized volatility with Breakeven Curve filter

Source: J.P. Morgan Quantitative and Derivatives Strategy

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