Market Strategy
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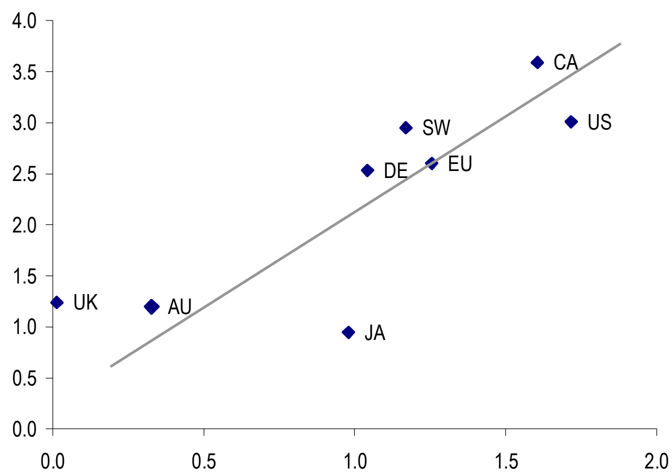
INVESTMENT STRATEGIES: NO. 15

A cross-market bond carry strategy

- **The strategy: buy the 10-year where carry is highest, against the market where it is lowest, currency hedged**
- **Over past 10 years, the return-to-risk ratio is 1.0**
- **The strategy exploits differentials in risk premia across markets as bond markets with steeper curves offer higher risk premia than less steep curves**
- **Around 2/3 of the total return is due to carry**
- **The strategy is modestly directional, performing well also in bear bond markets**
- **Current strategy: buy Japan, Sweden and Euros vs the UK, Australia and the US**

Our strategy of overweighting markets that still offer decent carry has worked well over the past years as many curves have become almost totally flat (Chart 1). This strategy does raise the question whether it depends on global curve flattening or whether it more broadly captures mispricings in markets. In this note we show that a strategy focused on overweighting bond markets with the most carry has been a very profitable strategy for the past 10 years and worked even before that. The strategy is modestly directional, performing well in both bull and bear bond markets and exhibiting low correlation with global bond returns.

Chart 1: Bond market returns vs carry
2000-06 bond market returns, ar, y-axis, vs 10year-1month Libor on x-axis



Source: JPMorgan

Nikolaos Panigirtzoglou*
(44-20) 7777-0386
nikolaos.panigirtzoglou@jpmorgan.com
J.P. Morgan Securities Ltd.
www.morganmarkets.com

The certifying analyst is indicated by an *. See last page for analyst certification and important legal and regulatory disclosures.

Nikolaos Panigirtzoglou (44-20) 7777-0386
nikolaos.panigirtzoglou@jpmorgan.com

Historical performance

To assess the historical performance of this trading rule, we use monthly data on bond yields and returns since 1988. We choose 8 developed bond markets — US, UK, Canada, Australia, Germany, Japan, Denmark and Sweden. The choice of countries is constrained by data availability.

At the start of each month, we buy on a currency hedged basis, the 10-year bond of the market with the highest carry relative to libor and sell the 10-year bond of the lowest carry. The monthly returns produced by this trading rule over the past ten years are shown in Chart 2. The average annual return produced over that period has been strong at 6% but returns were lower before then.

We also implemented the trading with two pairs (buy the two steepest vs the two least steep) and three pairs (buy the three steepest vs the three least steep). The information ratios achieved by the trading strategy over different time periods and pairs are shown in Table 1. Trading only one pair worked overall better than trading more than one pairs. The strongest performance was in the period after 2000 driven by the flattening of global yield curves.

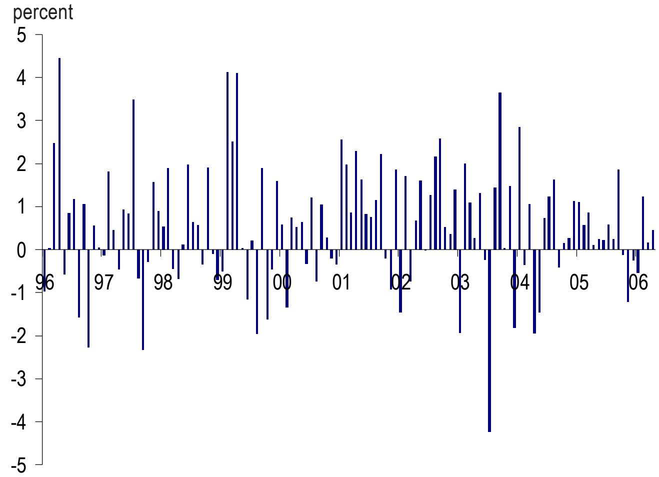
What is the rationale?

Overweighting the bond market with the most carry vs the least one on a currency hedged basis is obviously a positive carry trade. The carry that the trade is earning is the reflection of the tendency for forward rates to overpredict future interest rates. The overprediction of forward rates as predictors of future interest rates can be either to systematic expectational errors or term premia. The term premium is the compensation that holders of longer maturity bonds require for uncertainty in addition to the compensation they require for expected losses or gains due to interest rate movements.

Steeper curve usually mean that investors expect short rates to rise by more in the future. But fast rate hikes usually also create uncertainty, forcing an extra risk premium into the curve. So even if expected interest rates are realised in the future, the trading rule will make money over time by taking advantage of the higher risk premia in steeper bond markets relative to the less steep.

Chart 2: Monthly returns of overweighting the steepest 10-year

percent



Source: JPMorgan

Table 1: historical performance of the trading rule

information ratios

Return-to-risk ratios on overweighting the steepest 10y bonds

No of market pairs	1	2	3
88-	0.78	0.58	0.69
88-95	0.34	0.33	0.50
96-	1.33	0.94	0.94
00-	1.47	0.94	0.88
05-	0.36	0.47	0.45

Source: JPMorgan

Table 2: Historical returns and carry of the trading rule

returns since 1988 in %

Returns on overweighting the steepest 10y bonds

No of market pairs	1	2	3
returns(annualised)	5.0	3.0	3.1
carry	3.2	2.7	2.1
capital gains	1.8	0.4	0.9

Source: JPMorgan

How much of performance is due to carry?

Table 2 shows what part of returns is due to carry. Of the 5% return achieved by trading one pair since 1998, 3.2% was due to carry, and the rest to capital gains from the higher gain on bond with more carry. Around 2/3 of the total return is due to carry when trading one or three pairs. Trading two pairs relies more on carry with about 90% of the total return arising from carry.

Is this a bull market strategy?

Is the good performance of the trading rule simply the result of a bull market in bonds over the past 10-15 years? To address this issue we test the performance of the trading rule in both bull and bear bond markets. That is, we split the sample into periods when an equally weighted portfolio of the 8 bond markets — US, UK, Canada, Australia, Germany, Japan, Denmark and Sweden, outperformed cash (bull market) on a currency hedged basis vs the periods where it underperformed cash (bear market).

The results are shown in Table 3. The performance is better during bull markets but is also robust during bear markets. In addition, the correlation between monthly returns of the trading rule and a strategy of being long an equally weighted portfolio of the above 8 bond markets has a very low correlation of 0.05 (Chart 3).

The strategy earns term premia not just in bonds, but also along money market

An important consideration when looking at the steepness of the curve as a signal for trading is to what extent the 10y-1m part of the curve is driven by monetary policy expectations. If, for example, the 10y-1m part of the curve is steep mostly because of expected movements in the policy rate over the first year or so, there is not much of term premium priced in for the 10-year bond.

To address this issue we also test a trading rule where the steepness is defined by the difference between the 10-year yield and the 1-month rate 1-year forward. Table 4 shows the return-to-risk ratios achieved by this trading rule over different periods. The ratios are generally lower than these reported in Table 1. This might reflect that over time the money market part of the yield also contains a term premium which is sacrificed when using the expected 1-month one year ahead.

Table 3: Performance in bull and bear bond markets
information ratios by trading one pair

Returns-to-risk on overweighting the steepest 10y bonds

	bull	bear
88-	1.10	0.41
96-	1.59	0.62

Source: JPMorgan

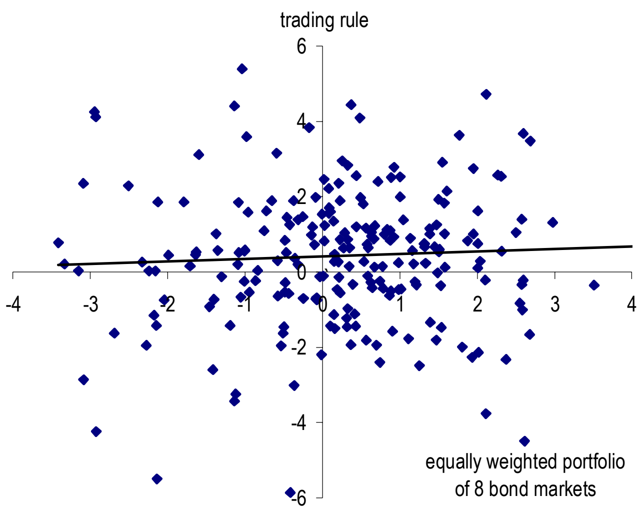
Table 4: Using the 10-year minus 1-month 1-year forward as a signal
information ratios

Return-to-risk ratios on overweighting the steepest 10y- 1m 1y forward

No of market pairs	1	2	3
Jan 88-	0.45	0.60	0.66
Jan 96-	0.70	0.87	0.87
Jan 00-	0.85	0.63	0.82

Source: JPMorgan

Chart 3: Global bond returns vs trading rule
x-axis shows monthly returns over cash of an equally weighted portfolio of 8 bond markets – US, UK, Canada, Australia, Germany, Japan, Denmark and Sweden hedged in US$, y-axis shows monthly returns over cash of the trading rule with one traded pair, sample period since 1988, returns in percent



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Nikolaos Panigirtzoglou (44-20) 7777-0386
nikolaos.panigirtzoglou@jpmorgan.com

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