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Global Cross-Asset Strategy Team

Morgan Stanley & Co. LLC
Gregory Peters
+1 212 761-1488

Morgan Stanley & Co. International plc+
Neil McLeish
+44 (0)20 7677-7481

Morgan Stanley Australia Limited+
Gerard Minack
+61 2 9770-1529

Morgan Stanley & Co. LLC
Jason Draho
+1 212 761-7893

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Global

Outlook

Global Cross-Asset Strategy

Cross-Asset Navigator

Correlation Regime Change

Cross-asset correlations that define the risk-on/risk-off paradigm may be changing into a new regime. Correlations were high in absolute terms and consistent in their patterns in the risk-on/off paradigm. In risk-on environments, equities, credit and commodities all moved higher, while Treasuries and the USD sold-off, and vice-versa when it was risk off.

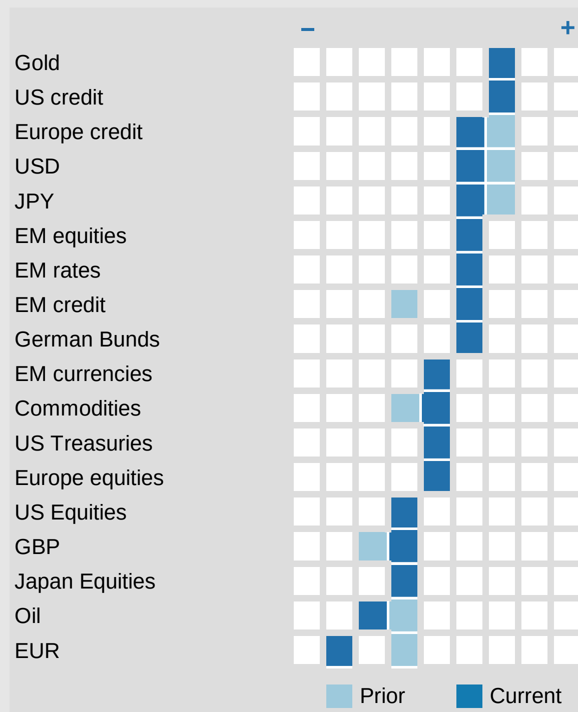
Changing correlations make it more difficult to determine whether the current rally will continue. The recent price signals of Treasury yields jumping sharply up and the USD and equities moving higher together are conflicting as to whether it's still risk on or not. The potential breakdown of risk-on/off investing would be a positive development for the markets, putting the focus back on micro foundations, idiosyncratic stories, and indicating less systemic risk.

We remain cautious, and are watching cross-asset correlations as indicators of market performance. In the risk-on/off environment post-financial crisis, equity and Treasury returns were negatively correlated. The recent jump in Treasury yields would thus suggest risk on, but the potential for financial repression to keep rates low complicates that relationship. The USD also had a negative correlation with equities, but it now may be becoming a pro-cyclical currency; thus, a positive correlation would be consistent with risk on. Lastly, gold oscillated between a positive and negative correlation with equities, rallying on both fear and inflation concerns as growth improved. Now a bigger sell-off in gold may be the best indicator of the risk rally continuing, as it would indicate further normalization.

Four charts: 1) Elevated oil prices weaken fundamentals; 2) oil prices a drag on global growth; 3) oil supply shocks negatively impact US equities; and 4) high-beta commodity currencies at risk of correction (page 8).

Asset Class Views (3-6 months)

Base case: Defensive strategic positioning based on slowing global growth and deleveraging tail risks



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Global Cross-Asset Strategy Overview

Base Case (12-month view)

On a long-term strategic perspective, we are bearish on developed market equities, while bullish on emerging market assets. DM is in a multi-year deleveraging cycle fraught with numerous negative feedback loops, and faces a long, difficult road to economic recovery as a result. In contrast, the strong secular fundamentals for EM economies should continue.

Our base case is slowing global growth, and divergence between anemic DM and solid EM. Our economists forecast global growth of 3.5% in 2012, with EM at 5.7% and DM at 1.2%. European recession is our base case; US and EM recession is in the bear scenario. Risks are to the downside on constrained policy and potential fiscal tightening.

Sovereign risk should gradually ease as the Eurozone makes progress towards a fiscal union. But the tail risk of a disorderly EMU break-up remains, as the process is likely to be protracted and uneven. The ECB under President Draghi was provided a bridge to the final fiscal and institutional solution, but its effectiveness in the future may be impaired by claiming seniority status to other creditors.

The EM outlook should improve in 2H12, with increased regional differentiation. Headwinds from EU bank deleveraging, especially for CEEMEA, should abate as the year goes on. Growth is slowing, but policy easing should improve the outlook by 2H12. China is key; a soft landing still looks likely, but it doesn't have the same policy flexibility as in 2008 to spur growth.

Stay nimble on binary risks skewed to the downside and high volatility. With policy and politics still dominant, markets are likely to remain tactically oriented and range bound. The tactical rally could continue on ECB easing, but growth and fiscal challenges remain.

Risk Factors / Catalysts

- **Insufficient firewall in Europe.** After the Greece bailout, other periphery countries may not be immune to a debt restructuring or market speculation.
- **Deleveraging is disorderly.** If deleveraging occurs too quickly, markets could destabilize. If it's too slow, markets could destabilize as debt levels stay high.
- **Oil-induced growth risks.** Further rises in oil prices could slow global growth and create inflation risks.
- **Political election cycles.** Elections in France and the US could lead to ineffective or counter-productive fiscal policies, and greater austerity.
- **China policy constraint.** Growth does not pick up because of external slowdown and lack of policy flexibility to respond sufficiently to spur growth.
- **Upside risk:** Coordinated global monetary policy as central banks jointly ease.
- **Upside risk:** A breakthrough on the US budget, with increased stimulus and long-term budget cuts.

Asset Class Views (3-6 months)

We maintain a relatively defensive position and would hold the cash or buy cheap downside protection. Given the implementation risks that remain for Greece, potential for growth to roll over, and current valuations, the upside looks limited from here, with the risk-reward skewed to the downside.

Credit still on top. Credit remains our favored asset class. Spreads have widened a bit, but not enough to add back risk. The cyclical outlook favors the US over Europe, while further tightening in Europe is difficult without a decline in sovereign spreads.

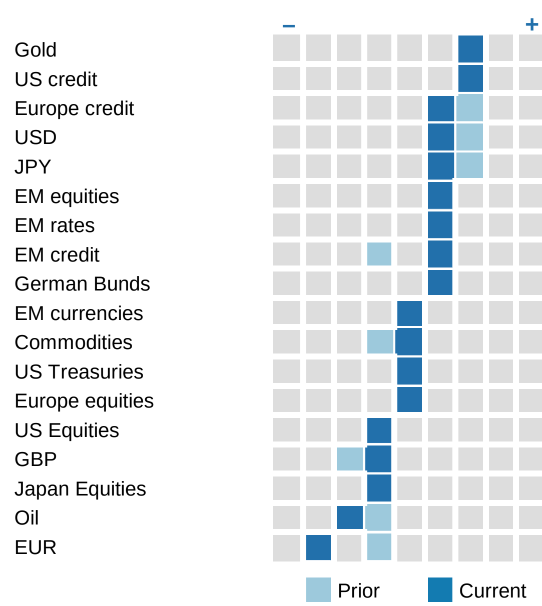
Remain UW DM equities, OW EM. Valuations for DM equities are not as compelling after the rally, while the 4Q11 earnings season was disappointing. In EM, equities may pause after a 25% rally, but central bank easing should be supportive.

Long Bunds, neutral on Treasuries. Bunds should continue to command a 'duration scarcity' and safe-haven premium. We expect Treasuries to stay in a narrow range; resilient inflation expectations on GME2 are a positive for TIPS.

Moderating USD, JPY strength, increased EUR weakness. BoJ easing is unlikely to do much to weaken JPY, though near-term upside is limited. EUR outlook is bearish, with the ECB balance sheet increasing with the next LTRO, with further easing.

Lots of variation in commodities. GME2 is bullish for gold. Geopolitical risks have bolstered oil, but underlying fundamentals are weak. Tight supply conditions are positive for agriculture, but the opposite is generally true for industrial metals.

Relative Preferences (3-6 months)



Correlation Regime Change

Determining whether the market rally will continue is not as simple as asking whether it will continue to be 'risk on'. The reason for that is the recent price action in equities, Treasuries, the USD and gold are collectively making it difficult to determine whether it's even still risk on or not. In fact, we suspect the markets may be at an inflection point in which the cross-asset correlations that defined the risk-on/risk-off paradigm are changing into a new (or maybe old) regime. Binary risk-on/risk-off investing at least has the virtue of a simple, though far from easy, primary objective: determining the current state based on the macro environment. However, even as macro strategists, we find the potential breakdown in risk-on/off investing to be a positive and healthy development for the markets. It puts the focus back on micro foundations, idiosyncratic stories, and signals less systemic risk.

The trade-off is that investors now have to reassess how they interpret cross-asset correlations in order to project market performance, both on an absolute and relative basis. Under the risk-on/off regime, correlations were both high in absolute terms and generally consistent in their patterns. In a risk-on environment, the strategy is to buy risky assets like equities, credit and commodities that would all move higher. The opposite holds when it's risk off; the assets to own are Treasuries, Bunds, the USD and JPY, and usually gold, though it seemed to rally no matter what. This produced a negative correlation between equity and Treasury returns. The recent jump in Treasury yields would thus suggest risk on, but the potential for financial repression to keep rates low complicates that relationship. The USD also had a negative correlation with equities, but it now may be becoming a pro-cyclical currency; thus, a positive correlation would be consistent with risk on. Lastly, gold oscillated between a positive and negative correlation with equities, rallying on both fear and inflation concerns as growth improved. Now a bigger sell-off in gold may be the best indicator of the risk rally continuing, as it would indicate further normalization.

The Rise and Mis-Use of 'Correlation'

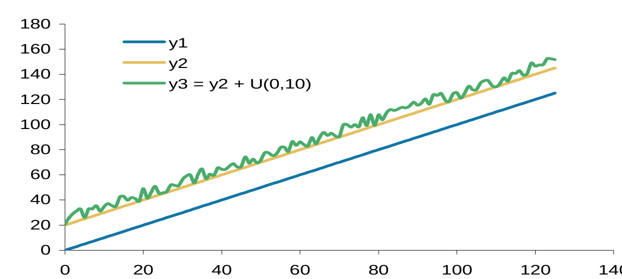
The concept of correlation has decidedly grown and morphed in the past several years. Interestingly, correlation has gone from a rather simple statistical measure to both a tradable market instrument and a full-blown excuse for varied portfolio performance in a few short years. And while we do not question the statistical importance of the correlation measure, we are not convinced that this measure adequately addresses or explains portfolio performance.

In fact, while there may be intense investor focus on correlations, our cynical take is that most don't appreciate either the computational or interpretation challenges to evaluating cross-asset relationships. For instance, there's the seemingly simple issue of whether price levels or returns should be used to measure the correlation between two assets.[1] Presumably, if the two are highly correlated, it shouldn't make much difference how it's measured. Yet to make a pedantic but important point, correlation estimates can be effectively hijacked by differentials in incremental step size or daily volatility.

An example best illustrates this issue. In Exhibit 1, we plot two parallel lines, y1 and y2, to represent the price time series of two securities. The correlation between the two is obviously one. Now if we add some noise to y2 (using a random draw from a uniform distribution bounded by 0 and 10) and call this new line y3, the correlation between y1 and y3 is still very close to 1. This correlation measure seemingly works well except for the small issue that if we examine daily returns instead, y1's correlation with y2 is 0.70, *but* its correlation with y3 is only 0.18. Other than to demonstrate our ability to utilize Excel functions, our point is to highlight that despite the low daily return correlation of y3 and y1, the investor still ends up with the same return over the holding period.

This brings us back to the point that while correlations have a real tangible effect on portfolio performance, an investor's experience can differ significantly from what the reported correlation would imply. In lieu of exploring the impact of these statistical differences, the intent of this note is to examine what we believe are the important cross-asset relationships and emphasize the key components of different risk regimes that effect pairwise relationships and correlations – and thus portfolio performance.

Exhibit 1
Impact to Correlation from Volatility Differentials



Correlation with y1

	Level	Return
y2	1.000	0.701
y3	0.997	0.185

Source: Morgan Stanley Research

[1] This is illustrative in its purpose as using price levels to calculate correlation may result in spurious correlation and thus should be interpreted with caution.

What Correlations Matter, and Why

This focus on correlations comes at a time when volatility for all asset classes has fallen sharply (see Exhibit 2), as has intra-equity market correlation (see Exhibit 3), while cross-asset correlations are also changing. Some of the decline in correlations is a mathematical by-product of falling volatility, but the rest can be attributed to broad macro tail risks subsiding for the moment. However, proclamations by equity investors that it's now a stock-picker's market driven more by idiosyncratic risk seems a bit premature through our macro-oriented glasses. In fact, contrary to prevailing rhetoric, it is quite easy to argue that 2011 was an alpha-seeking stock picker's dream as 252 individual stocks ended up on the year, while 248 were down in the SPX. Nonetheless, recent history implies that the apparently benign macro environment can quickly change if the mixed growth picture doesn't improve or the price of oil continues to move higher.

When the macro risk environment does change, and we may be at a key inflection point now, one of the keys to improving portfolio performance is recognizing and ideally anticipating how cross-asset return correlations will play out. While we can evaluate the correlations across many different pairs of assets, a small subset captures the most fundamental relationships, and change with and define the contemporaneous risk regime. We preface our discussion with the caveat that there are obvious limitations to relying on unconditional correlations as a way to characterize and identify cross-asset relationships. However, they do provide a useful way to isolate and crystallize the most important macro relationships.

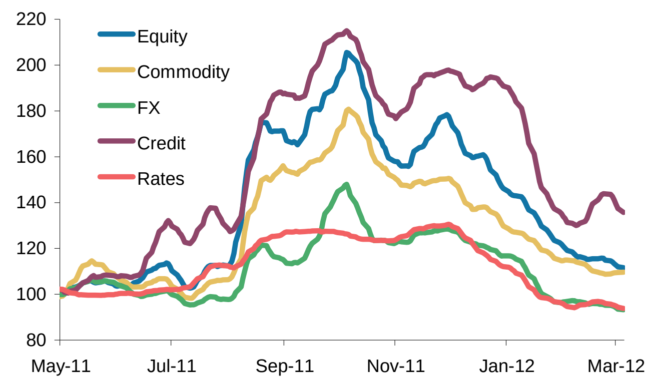
Five asset classes bear the closest watching: US equities, the 10y Treasury, oil, gold, and the USD (and implicitly the EUR). For starters, there have been only five months in the past five years in which the first four of those assets all rose together, January being the most recent, and in three of the previous occasions equities subsequently corrected significantly. Consequently, how their correlations evolve should be telling for risk assets overall. As for other risk assets, the S&P 500 is a reasonable proxy for equities generally, given its high correlation with other major equity indices globally, and credit, especially high yield, also has a fairly high return correlation with equities.

Risk Regimes and Correlations

While ubiquitous now, the risk-on/risk-off terminology for describing market sentiment entered the finance lexicon only a few years ago. If you're like us, you also view this simplifying characterization as another unfortunate product of the post-crisis era. But its emergence and widespread adoption reflects the fact that all risk assets seemed to be rallying or selling off together, justifying this classification. Put differently, risk on/risk off is just another way of saying that cross-asset correlations are high, or that it's a 'market of one'.

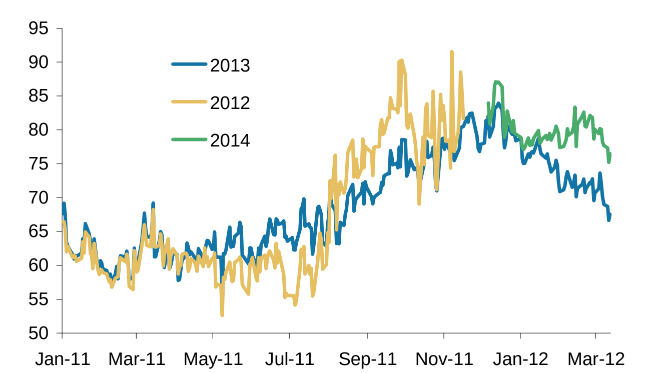
Of course, it's lazy to simply assume that all risk assets are moving together, with only the direction determined by the risk regime. For one, the regime is often neither 'on' nor 'off', but better described as risk neutral with no strong risk bias. It's also true that even in risk-on or risk-off environments, there is still significant performance dispersion across individual assets and markets. That was the case with cross-country equity markets in 2011 and in the current risk rally as well; for instance, the German DAX index is up 40% from its October lows, while Spain's IBEX 35 is only 8% higher.

Exhibit 2
Implied Volatility Has Fallen across Asset Classes…



Source: Bloomberg, Quantitative and Derivative Strategies, Morgan Stanley Research

Exhibit 3
…and Implied Correlation for the S&P 500 Has Also Fallen



Source: CBOE, Bloomberg, Morgan Stanley Research

Over the past few years, certain cross-asset relationships became synonymous with either risk on or risk off. US Treasuries, the USD and JPY, and gold are 'flight-to-safety' assets that rallied when it was risk off. That means they also typically had a negative correlation with risk-on assets like equities, credit, and commodities. Since USD strength usually implies EUR weakness, the latter became a risk-on currency by default. But that wasn't the only reason for the rise in the correlation between the EUR and equities (see Exhibit 4). Both sold off during periods of elevated stress in the Eurozone debt crisis, and were thus likely to rise together when the stress abated.

Probably the most relevant correlation from a portfolio perspective is the one between equities and Treasuries. It's not just the actual correlation that matters, but how it has changed from pre- to post-financial crisis, and most importantly how it could evolve with the economic environment and different risk regimes. From the early 1980s to 2007, US equity and Treasury returns were positively correlated, reflecting the bull market in both stocks and bonds (see Exhibit 5). However, since the crisis, this correlation has reversed, with bond yields, not prices, rallying with equities (see Exhibit 6). With rates so low, when the economic data started to suggest a sustainable improvement in US growth, both Treasury yields and equities moved higher. The upward move in yields was reinforced by the debate on Fed policy shifting from the form of further easing to when tightening may start.

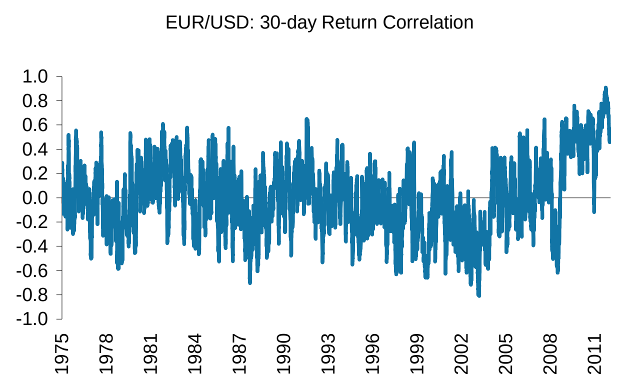
Interpreting Inflections in Correlations and the Risk Regime

With the advent of the current rally beginning in October, risk-on/risk-off investing has started to break down, correlations have fallen and performance dispersion has increased. Declining macro and systemic tail risks are a big reason why, with the sovereign debt turmoil in Europe stabilizing for now and the US growth outlook improving. For investors who have become accustomed to operating under the assumption of cross-asset correlations consistent with risk-on/risk-off investing, this breakdown – despite offering greater alpha-generating opportunities – poses new challenges because interpreting price action won't be as easy.

The very recent price moves in Treasuries and the USD highlight this challenge. Equity and Treasury returns may have been negatively correlated in the past few years, but that started to moderate with the rally beginning in October. While the S&P 500 is up 28% from its low, the 10y Treasury yield remained anchored around 2% up to a week ago (see Exhibit 7). Why rates stayed anchored is a matter of debate, but the two main explanations are bond investor scepticism about improving growth and Fed policy, whether Operation Twist or expectations for QE3, keeping yields artificially low.

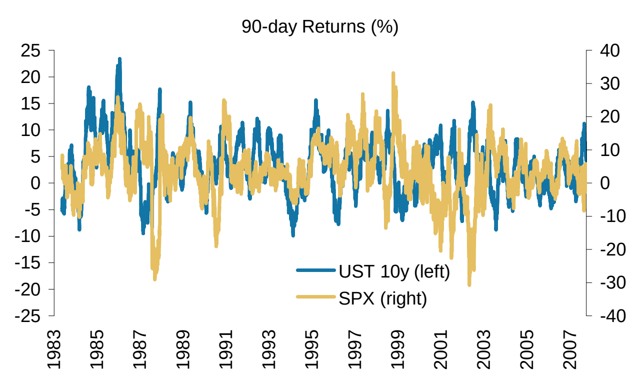
What then to make of the 35bp move higher in the 10y since the end of February? A less dovish tone from Chairman Bernanke's Congressional testimony and especially the latest FOMC statement have caused the market to perhaps price out QE3, and possibly an extension of Operation Twist, from happening. At a minimum, the market is now pricing the first Fed rate hike for April 2014, up from July 2014 a week ago, and much sooner than the official policy of the end of 2014. But this doesn't rule out the very real possibility that Treasuries are also now pricing in a better growth outcome.

Exhibit 4
The Recent Correlations between the EUR and US Equities Reflect Similar Risk-On Sentiment



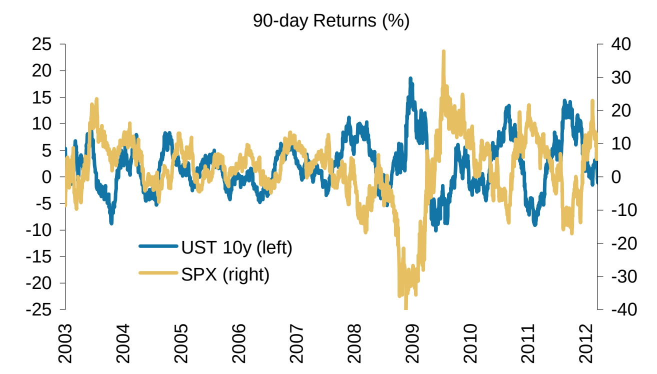
Source: Bloomberg, Morgan Stanley Research

Exhibit 5
US Equity and Treasury Returns Have Historically Moved Together…



Source: Bloomberg, Haver Analytics, Morgan Stanley Research

Exhibit 6
…but Since the Crisis, They Have Begun to Move in Different Directions

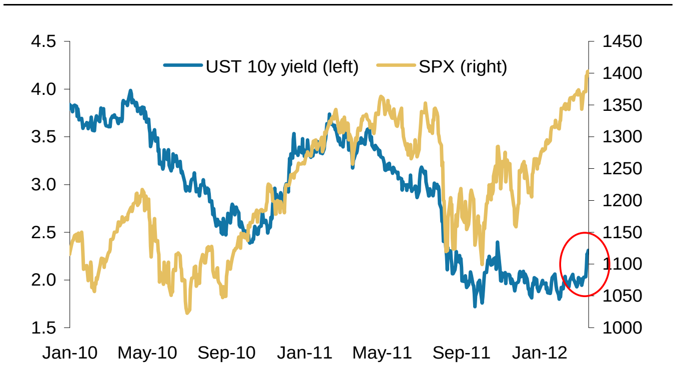


Source: Bloomberg, Haver Analytics, Morgan Stanley Research

Deciphering this price action and its causes – better growth or changing Fed policy – is tantamount to determining whether the correlation between equities and Treasuries is still highly negative or not. Since further increases in rates should indicate a better growth outlook, also positive for equities, the correlation between the two becoming more negative than it already is would be a risk-on signal.

Throwing a wrinkle into reading the correlation tea leaves for Treasuries is the possibility of financial repression. The Fed and other central banks could keep rates artificially low for an extended period – by not raising rates, through measures like QE, or by implicitly forcing financial institutions to buy and hold sovereign debt. Given the unsustainability of rising interest costs at current debt levels, this is a real possibility. And that means rates may not rise, even with better growth, confounding the correlation risk signal.

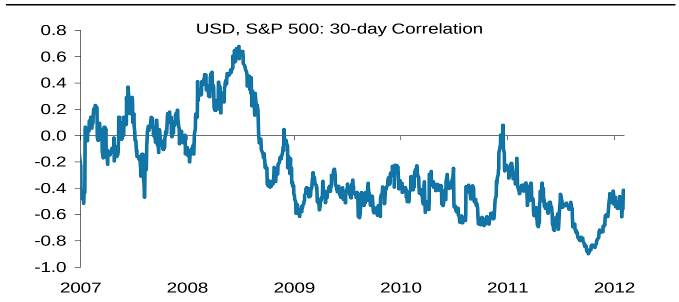
Exhibit 7
Equities Rallied Since October, but Treasury Yields Remained Anchored…Until Now



Source: Bloomberg, Haver Analytics, Morgan Stanley Research

The risk-on signal from the correlation between the USD and equities is the opposite of Treasuries. It has been mostly negative for the past few years, consistent with the USD's safe haven status (see Exhibit 8). However, the correlation has been trending higher and in March the USD has rallied with other risk assets. This raises the possibility of the USD becoming a pro-cyclical asset-driven currency again, a point raised by our FX strategy team (see *Changing USD Parameters?* March 15, 2012). If the rising USD is signaling better growth ahead, then a positive correlation with equities would be a sign for risk on.

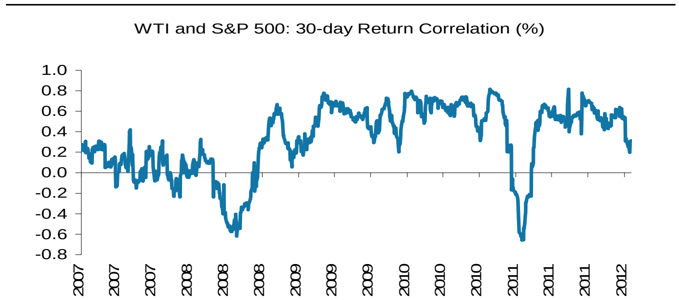
Exhibit 8
A Rising Correlation to the S&P 500 Suggests the USD Could Become Pro-Cyclical



Source: Bloomberg, Morgan Stanley Research

Two other correlations to watch are those between equities and oil and equities and gold. The first has historically been relatively low, but post-crisis equities and oil have tended to move higher together, driven jointly by better growth. Recently though, the correlation has fallen (see Exhibit 9). While the drop is not nearly as large as a year ago, both situations coincided with the price of oil rising near demand destructive levels. At the current Brent price of about US$125/barrel, the correlation is likely to continue to fall, as higher oil prices would be a negative for growth and thus equities.

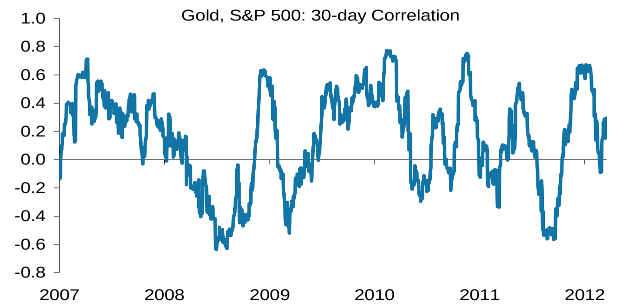
Exhibit 9
The Correlation between Oil and US Equities Has Recently Fallen, after Rising Post-Crisis



Source: Bloomberg, Morgan Stanley Research

The correlation between equities and gold has oscillated between positive and negative territory in the past few years (see Exhibit 10). This reflects the dual nature of gold fluctuating between being a risk-off flight-to-safety asset, as well as an inflation hedge when growth starts to improve. The correlation staying in positive territory could be a risk-on indicator. However, if better growth means less expansionary monetary policy, the price of gold could fall, potentially sharply, as it has done recently. If tail risks remain contained, a negative correlation could be the true indicator of risk on, contrary to the past few years.

Exhibit 10
The Correlation between Gold and US Equities Has Become More Volatile



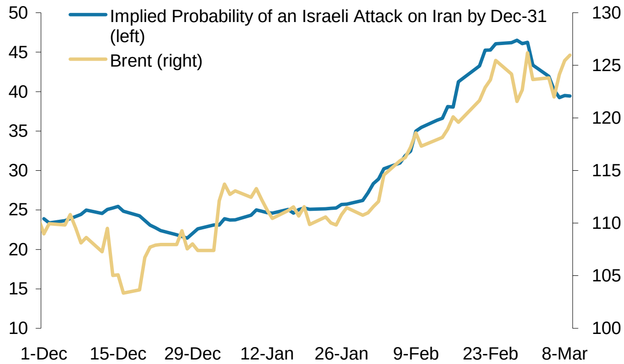
Source: Bloomberg, Morgan Stanley Research

Global Cross-Asset Chart Corner

Commodities Strategy

Hussein Allidina

Geopolitical tensions in the Middle East and healthy risk appetite continue to drive oil prices higher. We believe that fundamentals will continue to weaken into 2Q12, but heightened political tensions will prevent this from showing up in the price. Declining demand and elevated OPEC production will perpetuate this weakening in fundamentals.



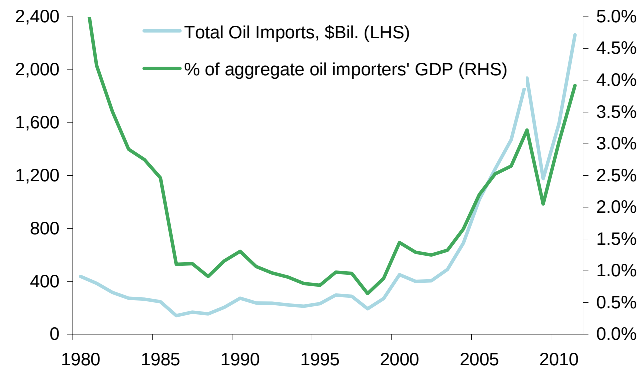
The implied probability is not Morgan Stanley's projection. The source is Intrade, which is used by major news media for probability projections. Source: Bloomberg, Morgan Stanley Commodity Research

Global Oil Fundamentals: Elevated Prices Weakening Fundamentals, March 13

Global Economics

Joachim Fels

We revisit the global wealth transfer from net oil importers to net exporters. This will likely rise this year to US$2.5 trillion of 4.2% of oil importers' combined GDP on current crude prices. This would be a drag on global growth, but would, on its own, not be sufficient to derail the recovery. Oil prices at US$150 could well tip some of the more fragile parts of the global economy into recession, especially in DM.



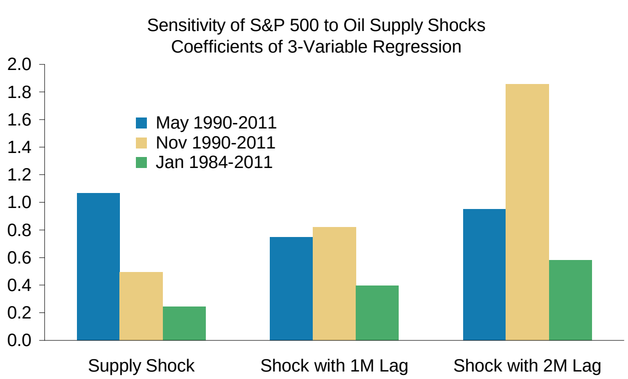
Source: BP, IEA, IMF, Morgan Stanley Research

The Global Monetary Analyst: Barrel Bill (2012 Edition), March 14

US Equity Strategy

Adam Parker

The US equity market is negatively impacted during and after crude oil supply shocks. With political risks in the Middle East, we examine supply shocks and the relationship they have with US equities. We find the S&P to be significantly sensitive to supply shocks, and that it takes several months for the negative effects of a crude oil supply shock to be realized in the US equity market.



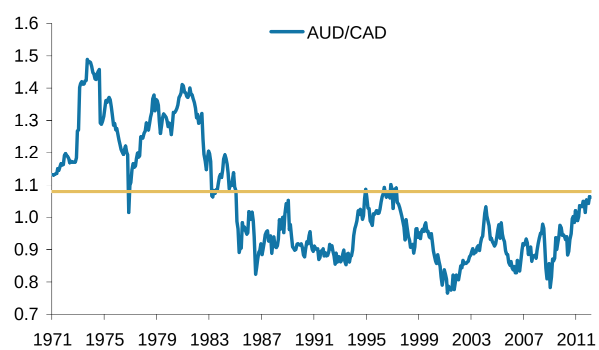
Source: Bloomberg, Morgan Stanley Research

US Equity Strategy: High Oil / Gas at the Pump: What's the Impact on Stocks, March 11

FX Strategy

Hans Redeker

High-beta commodity currencies are at risk of a significant correction, particularly as global central banks grow more cautious on providing further liquidity, and in light of the signs of a renewed global slowdown. We expect divergent performance among commodity currencies, with the AUD the most at risk while the CAD should be better supported. The AUD/CAD cross is at the upper end of its 27-year range and we see a major decline ahead.



Source: Reuters Ecowin, Morgan Stanley Research

FX Pulse: Changing USD Parameters? March 15

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(as of February 29, 2012)

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	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	**1120**	**38%**	**461**	**44%**	**41%**
Equal-weight/Hold	**1229**	**42%**	**449**	**42%**	**37%**
Not-Rated/Hold	**105**	**4%**	**24**	**2%**	**23%**
Underweight/Sell	**464**	**16%**	**124**	**12%**	**27%**
Total	**2,918**		**1058**		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

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Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.
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Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

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The Americas	Europe	Japan	Asia/Pacific
1585 Broadway	20 Bank Street, Canary Wharf	4-20-3 Ebisu, Shibuya-ku	1 Austin Road West
New York, NY 10036-8293	London E14 4AD	Tokyo 150-6008	Kowloon
United States	United Kingdom	Japan	Hong Kong
Tel: +1 (1)212 761 4000	Tel: +44 (0) 20 7 425 8000	Tel: +81 (0)3 5424 5000	Tel: +852 2848 5200

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