Strategy and Economics
What If the Euro Overshoots?

In this note, we assess the implications of a EUR overshoot. A material EUR overshoot could derail the tentative stabilisation in economic activity and the ongoing recovery in risk markets. A key policy implication of a material EUR overshoot would be that the debate about ECB rate cuts would be reopened. In addition, a much stronger EUR could also challenge the positive sentiment vis-a-vis the periphery.

Increasing possibility of a EUR overshoot:
We have warned about the possibility of EURUSD overshooting our near-term 1.36 target for a while. Now there is an increasing possibility of EURUSD overshooting and breaking above 1.40. Valuation models, which still put EURUSD below fair value, suggest there is still scope for EURUSD to extend gains. Our year-end target remains unchanged at 1.26 though.

Would introduce risks to the euro area recovery:
A 10% appreciation in the EUR reduces euro area GDP by ~ 0.5% in the first year. A simulation of the impact of a permanent increase of the trade-weighted exchange rate of the EUR by 10% relative to our current baseline forecasts of -0.5% GDP growth this year shows that a marked rise in the EUR would likely derail the H2 recovery. Exports, capex and corporate profits would likely be hit hardest, consumer spending the least.

Navigating equity markets when the EUR is rising:
Historically, a stronger EUR has been negative for relative equity market performance and we estimate that every 10% move in EUR impacts EPS by 3%. At the sector level a stronger EUR tends to favour Utilities, Retail, Real Estate, Food & Beverages and Construction & Materials. The relative laggards are often Technology, Financials and Autos.

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What If the Euro Overshoots? Summary and Conclusions

In this note, we assess the implications of a material overshoot of the EUR on Euro Area economies and European equity markets. A material EUR overshoot could derail the tentative stabilisation in economic activity and the recovery in market sentiment. A key policy implication of a material EUR overshoot would be that the debate about a ECB rate reduction would be reopened, up to and including a deposit rate cut. In addition, a much stronger EUR could also challenge the positive market sentiment vis-a-vis the periphery and the structural improvements in export performance there.

Our FX strategy team has cautioned about the possibility of the EUR overshooting their near-term 1.36 target vs. the USD for a while (see FX Pulse: EUR Overshoot, January 24, 2013). The FX team believe there is now an increasing possibility of EURUSD overshooting to the upside and breaking above 1.40. Their valuation models, which would still put EURUSD below fair value, suggest there is still scope for EURUSD to extend gains. In addition, Japanese investors are leading the way with a reallocation into EUR as the BoJ’s easing measures create JPY liquidity that will be seeking higher returns overseas. As traditional higher yielders such as AUD no longer generate the required returns, our FX experts believe that attention will be returning to the EUR, and peripheral EMU. In terms of currency moves, EURJPY has been leading the way. But as EURUSD closes the gap this could cause a EURUSD overshoot to 1.40.

Normally, a short-lived EUR rally would not make a big difference for the euro area growth outlook. But at the current juncture, the impact might be more pronounced, given only a tentative stabilisation in economic indicators, the unresolved issues regarding the EUR’s institutional underpinnings and the ongoing rebalancing of the euro area. While a mildly stronger EUR might not necessarily be an issue for the euro area as a whole, some countries already face strong competitive pressure and don’t have a domestic demand cushion to offset deteriorating export demand as austerity continues to bite. This holds in particular for Greece and Italy and to lesser extent for France, Portugal and Spain.

From an economic point of view, the impact of a stronger EUR is determined by the pattern of international trade, on the share of domestic production that is exported and on the degree of import competition, as well as the extent to which imported inputs are used in domestic production. The higher the share of imported inputs contained in goods exported, the lower the domestic value added negatively affected. In addition, exporters’ pricing power, which tends be to higher for differentiated products, matters and so does the size of the export market. Together with the rate of capacity utilisation it determines exporters’ pricing strategy where exporters could decide to absorb a stronger EUR in their profit margins and protect their market share, notably in large markets such as the US. Next to direct exports, foreign affiliate sales of euro area companies abroad are another transmission channel for currency moves. Foreign affiliate sales (FAS) account for a significant multiple of the direct exports, especially in the US. The FX impact on export demand, import competition and corporate profits also affects the wider euro area economy. The fall in output is partially offset by a fall in inflation (as imports get cheaper and unemployment starts to rise). Initially, consumer spending is sheltered via lower domestic inflation and higher affordability of imported goods while investment spending takes a serious hit. Overall, a 10% appreciation in the euro’s external value reduces GDP by ~ 0.5% in the first year. Hence, a material EUR overshoot could tilt the debate on the ECB Governing Council back towards rate cuts.

Equity strategy implications
We would summarise the equity implications of a stronger Euro as follows:

- Over time, a stronger EUR is usually negative for the relative performance of European equities (in local currency terms).
- We estimate that a 10% rise in trade-weighted EUR would hurt European EPS growth by c. 3%.
- Implications of EUR moves on sector performance can be inconsistent. In general, a stronger EUR tends to favour Utilities, Retail, Real Estate, Food & Beverages and Construction & Materials. The relative laggards are often Technology, Financials, Autos – we also expect Capital Goods & Healthcare to be at risk of underperforming.
- On page 19 we provide a list of stocks that are potentially hurt by a stronger euro based on analysis of geographical revenue exposure and share price correlation to moves in EUR. On page 20 we details a list of stocks with relatively high revenue exposure to Japan.
- MSCI UK tends to underperform MSCI EMU in periods of GBP weakness. Relative sector beneficiaries of a weaker GBP are Personal & Household Goods, Healthcare and Chemicals.
FX Strategy: Rising Risks of EUR Overshoot

We believe there is now an increasing possibility of EURUSD overshooting to the upside.

Our valuation models suggest there is still scope for EURUSD to extend gains.

Japanese investors are leading the way with a reallocation into EUR, in our view...

...as the BoJ easing measures create JPY liquidity seeking higher returns overseas.

Traditional higher yielders such as AUD no longer generated the required returns...

...suggesting attention is returning to EUR, and peripheral EMU.

EURJPY has been leading the way, but we expect EURUSD to close the gap...

...opening the way for an EURUSD overshoot to 1.40.

EUR upside potential

Despite strong gains since the middle of last year, and even the accelerated pace of appreciation in the past couple of months, the EUR remains relative moderately valued against the USD and on many crosses, according to our models, suggesting that there remains plenty of potential for further gains. Our traditional PPP models (see Exhibit 1) suggest that the EUR has only just returned to fair value (MS PPP fair value estimate for EURUSD currently 1.33) after a period of significant under valuation, while our short run misalignment models show that the EUR is still undervalued in many cases, even against the USD. On a trade-weighted basis the EUR also remains below its long run average. Hence, we believe that there is an increasing risk that EURUSD overshoots on the upside, exceeding our 1.3600 forecast, with the 1.40 area looking increasingly achievable.

EUR gains are being driven to a large extent by developments in Japan, in our view, where the scale and pace of policy implementation, both monetary and fiscal by the new Abe-led government is exceeding market expectations. This dynamic has been highlighted by the sharp rise in EURJPY as a result of the JPY playing a significant role in Japan’s policy initiative.

Indeed, we have found that there is a close correlation between Japanese inflation and the JPY with a lag, suggesting that JPY weakness has a strong tendency to feed through in to inflation and inflation expectations. However, to achieve the newly-adopted inflation target of 2%, relying on the exchange rate alone will require further significant JPY weakness. We have one of the most bullish USDJPY forecasts in the market, anticipating 95.00 for this quarter. However, even this projection appears to be moderate in the current environment.

We anticipate JPY weakness having significant implications for global financial markets, even changing the behaviour of currencies. Indeed, there is already strong evidence to suggest that the EUR is at the forefront of these changing market dynamics, which could drive the EUR into overshooting territory as a result.

**EURJPY a leading indicator**

Indeed, we would suggest that EURJPY is acting as a leading indicator for broader EUR gains, even having the potential to drive EURUSD higher, as JPY weakness generates a change in Japanese and global investor behaviour, resulting in sizable portfolio shifts.

<table>
<thead>
<tr>
<th>Exhibit 1</th>
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</thead>
<tbody>
<tr>
<td><strong>EURUSD at fair value</strong></td>
</tr>
</tbody>
</table>

![Graph of EURUSD at fair value]

Source: Morgan Stanley Research

With the JPY weakening and Japanese investors’ currency expectations changing, there is likely to be a greater tendency for Japanese investors to seek higher returns overseas on a currency unhedged basis. The Japanese flow data suggests that this is already happening. We have highlighted in the past the increasing use of the JPY as a funding currency, especially...
for AXJ strategies, as implied by the sharp money market outflows from Japan and the increased inverse correlation between JPY and the performance of Asian equity markets.

However, we now believe that outflows from Japan have broadened to larger scale portfolio shifts. But, examination of the portfolio flow data finds that flows have not been heading to the traditional higher yielding currencies in the G10 normally favoured by Japanese investors. Indeed, portfolio inflows to the AUD have in fact been slowing down. We believe this is a result of the global decline in yields, which has left many of the traditional higher yielding currencies unable to offer the returns they have historically generated. Hence, the liquidity being generated by JPY weakness is now seeking alternative higher yielders, with the EUR now catching the attention of international investors.

Changing investor behaviour
The changing trends in investor behaviour are clearly visible in the flow data where the Japanese portfolio investment into EMU is currently running at the fastest pace since 2005 (see Exhibit 3), while flows into the AUD have slowed to a pace approaching the recent lows of 2010. This has also changed the behaviour of EURAUD, which has rebounded strongly over recent months, breaking the correlation to indicators of risk appetite, such as the performance of the S&P (see Exhibit 2).

EUR – Investment destination
The ECB’s OMT has stabilized peripheral EMU asset markets and reduced risk premia. This is evident when analysing risk-adjusted yields. Risk-adjusted yields are one of our favoured indicators for the EUR and have proved to be a successful guide, even when other more traditional indicators broke down during periods of heightened market volatility. This has continued to be the case, with the EUR risk-adjusted yield having rebounded from its lows mid-last year, and proving to be a good leading indicator for EURUSD. The EU-US risk-adjusted yield differential has also been an equally effective indicator for currency markets and is currently pointing towards a higher EURUSD (see Exhibit 4).

Exhibit 3
Japanese portfolio flows (12m cumulative)

Hence, the weakness of the JPY is leading a portfolio shift out of the JPY into higher yielding alternatives, with Europe heading the list of investment destinations among the G10, with higher yields at the periphery attracting investors. Furthermore, the recent outperformance of European asset markets has not gone unnoticed by the broader investment community.

While Japanese investors appear to have been leading the way in returning to European markets, there is also evidence to suggest that they are not the only ones. Currencies that had been acting as safe havens to the volatility and uncertainty in Europe are currently underperforming. This suggests that the improvement of market conditions at the periphery of Europe is also leading to an unwinding of safe haven flows with GBP, SEK and even CHF coming under pressure as a result. This suggests that the strong rise in EURJPY is now likely to spill over into broader support for the EUR, leading to an overshoot of EURUSD.
EURJPY dragging EURUSD higher

Indeed, EURJPY has been the most significant mover year-to-date among the G10 currencies, with gains of 6.5%. While gains in the EURJPY cross have been driven to a large extent by the weakness of the JPY, it must be pointed out that the EUR has been independently strong, making gains on many of the other crosses and against the USD. However, these EUR gains have been more muted with the EUR only making gains of 1.90% year-to-date against the USD.

Our analysis finds that the correlation between the EURUSD and EURJPY has remained intact, suggesting that the EURJPY gains are likely to spill over into EURUSD. We note that the difference in the pace of gains (% year-on-year) between EURJPY and EURUSD is now at an extreme, with the gap as large as that seen since 2001. Historically, a divergence in performance between EURJPY and EURUSD of this magnitude is only temporary and is usually closed quickly. Given that we anticipate the JPY weakening trend to be sustainable as a result of the rapid pace at which the Japanese authorities are implementing policy changes, we expect EURJPY gains to continue to push EURUSD higher, opening the way for a EUR bullish overshoot.

We maintain a bullish EURUSD forecast of 1.3600, but believe an overshoot into the 1.40 area is increasingly possible.

Morgan Stanley is acting as sole financial adviser to PSA Peugeot Citroen SA ("Peugeot") in relation to their strategic alliance with General Motors Co., as announced on February 29, 2012. The proposed acquisition is subject to requisite regulatory approvals and other customary closing conditions. Peugeot has agreed to pay fees to Morgan Stanley for its financial services that are contingent upon the consummation of the proposed transaction. Please refer to the notes at the end of the report.
Divergence of EUR Fair Values in EMU

While our PPP models show that EURUSD has only just moved back to fair value, at the 1.33 level, following a period of under-valuation, our analysis of fair value EUR rates for individual countries within EMU shows significant divergence. For example, we estimate the fair value of the EUR against the USD, for Germany at 1.53, while at the other end of the scale, we estimate the fair value of the EUR for Greece to be just 1.07. While there is a wide divergence of fair values within EMU, we also find it of interest that with EURUSD currently at our estimate of aggregate fair value, there are only three countries with a fair value above this level, Germany, Ireland and Austria. The other countries in EMU have much lower fair values, according to our calculations.

Looking at some of the EUR cross rate fair values also reveals some interesting developments, especially EURJPY, where the recent sharp decline of the JPY has taken USDJPY above our estimate of fair value. We currently estimate EURJPY fair value at 111.15, suggesting that the EUR on an aggregate basis is above fair value against the JPY. Moreover, we calculate the German EURJPY fair value at 127.65, which is being approached.

<table>
<thead>
<tr>
<th>EURUSD</th>
<th>Over/Under Valuation</th>
<th>EURUSD Equivalent</th>
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</thead>
<tbody>
<tr>
<td>Germany</td>
<td>-13.2%</td>
<td>1.53</td>
</tr>
<tr>
<td>Ireland</td>
<td>-5.7%</td>
<td>1.41</td>
</tr>
<tr>
<td>Austria</td>
<td>-1.5%</td>
<td>1.35</td>
</tr>
<tr>
<td>Finland</td>
<td>3.8%</td>
<td>1.28</td>
</tr>
<tr>
<td>Spain</td>
<td>5.4%</td>
<td>1.26</td>
</tr>
<tr>
<td>Portugal</td>
<td>7.3%</td>
<td>1.24</td>
</tr>
<tr>
<td>France</td>
<td>7.8%</td>
<td>1.23</td>
</tr>
<tr>
<td>Netherlands</td>
<td>9.1%</td>
<td>1.22</td>
</tr>
<tr>
<td>Belgium</td>
<td>12.0%</td>
<td>1.19</td>
</tr>
<tr>
<td>Italy</td>
<td>12.1%</td>
<td>1.19</td>
</tr>
<tr>
<td>Greece</td>
<td>24.3%</td>
<td>1.07</td>
</tr>
</tbody>
</table>

Source: Haver Analytics, Morgan Stanley Research

*The MS PPP fair value estimates are generated from our Purchasing Power Parity (PPP) models, where we use a combination of CPI and PPI price indices to capture relative price differentials. To estimate the fair value of the EUR for individual countries within EMU, we assess the relative changes in competitiveness for each country since they joined the EUR. To achieve this we use three measures of competitiveness, relative growth compared to the Eurozone average, relative unit wage costs and relative export growth.*
Economics: What If the Euro Overshoots?

A 10% rise in the EUR reduces GDP by ~0.5% in the first year. Below we simulate the impact of a 10% increase in EUR relative to our current baseline estimates and find that it would derail the H2 recovery we are forecasting.

A material EUR overshoot could therefore potentially derail the tentative stabilisation in economic activity and the recovery in market sentiment in the euro area.

In addition, a much stronger EUR could challenge the positive market sentiment vis-a-vis the periphery and the structural improvements in competitiveness seen there.

A key policy implication of a material EUR overshoot would be that the debate about ECB rate reduction would be reopened, up to and including a deposit rate cut.

Exhibit 7
Euro’s external value close to long-run average

The starting point is one where the EUR in trade-weighted terms is broadly in line with its long-term average, both in nominal and real terms. This would imply that at face value the EUR is not excessively strong yet. But these aren’t normal times in the euro area. Instead, on our forecasts, the euro area is the weakest link amongst the large industrial countries. Clearly, the euro area is not enjoying any tailwinds on the currency side. But, what if serious headwinds start to materialise on the currency front? Well, in typical economist refrain: “It depends”. Here are the factors on which it depends.

Going forward, it matters which FX cross is moving …
USD is by far the most important currency cross in terms of the euro area’s international competitiveness. This is not just because the US is a key trading partner for the euro area, but also because China has pegged its currency against the USD. On average, ~33% of international trade (excl intra EMU trade) is affected by EURUSD moves if we take direct exports and direct imports as well as third-market effects, where euro area exporters compete against dollar-based producers, into consideration. This compares to only ~7% for Japan and ~15% for the UK. Within the euro area there are significant country differences though due to varying export specialisations. The countries competing the most with USD bloc are, actually, the Netherlands, Ireland, and Italy where the total USD based-trade accounts for 40% or more. The countries trading the most with the JPY are the Benelux countries (~8.5%). The country facing most GBP competition is also Ireland, where UK trade accounts for 29%.

Exhibit 8
Trade pattern shows: USD matters more than JPY

Note that that trade weights represent the global trade structure excluding the intra-EMU trade over the period 2007-09.
Source: ECB, Morgan Stanley Research

… as well as openness and supply chain integration …
The pattern of international trade is only a first step in assessing the potential exposure of an economy or a sector. Other key factors are the degree of openness, i.e. the share of domestic value-added subject to international competition. This will depend on the share of production that is exported and on the degree of import competition, as well as the share of
imported inputs. Increasingly integrated global supply chains mean that imported inputs are an increasingly important factor in determining the exchange-rate sensitivity. The higher the share of imported inputs contained in goods exported, the lower the domestic value added and the higher the potential pass-through to the producers of the intermediate inputs.

Exhibit 9
Foreign value-added contained in exports varies depending on integration into global supply chains

... and, finally the pricing power exporters have
Exponents’ pricing power tends be to higher for differentiated products and also depends on the market structure and the size of the export market. Together with the current capacity utilisation this will determine exporters’ pricing strategy, e.g. exporters might absorb a stronger EUR in their profit margins instead of raising their USD selling prices, if they feel that they could lose significant market share. The willingness to protect market share might be further increased at the current juncture where capacities are underutilised. In this case, the main impact of a stronger EUR would be to squeeze profits and weaken investment rather than dampen export volumes.

The extent to which manufacturers can absorb a stronger EUR in their profit margins is also dictated by the size of their profit margins at the outset. As the accompanying chart shows there are sizeable differences in profit margins across countries. In this context, we would highlight France and Italy whose profit margins seem to be on a multi-year downtrend since 2007 and whose profit margins did not participate in the margin improvements seen in other countries recently. The total impact on revenues is a function of the combined impact of exchange rate moves on export volumes and domestic prices.

Exhibit 10
EURUSD vs. export orders and expectations

Exhibit 11
Export profit margins vary a great deal

Exhibit 12
EUR appreciation and its impact on different manufacturing sectors

Note: Yellow fields indicate that the estimate is not statistically significant. Simulated impact is the sum of the impacts for IP and PPI. Source: ECB estimates, Morgan Stanley Research
Foreign affiliate sales are even more important
Next to the trade channel, foreign affiliate sales of euro area companies abroad are another key channel of transmission for currency moves. This is because in today’s world of multi-national companies, foreign affiliate sales (FAS) account for a significant multiple of the direct exports. Depending on whether the currency exposure associated with these FAS have been hedged, significant translation effects into reported earnings can arise quickly even if the underlying business is fully hedged by having local production and local sales perfectly aligned. On this key intra-company trade link, the USD is far more important than the JPY and GBP, accounting for 5 to 7 times as much sales volumes as the direct exports.

Exhibit 13
Foreign affiliate sales have outgrown direct trade especially in the US and in the UK

Source: Eurostat, National Statistics, Morgan Stanley Research

To sum up: Impact of a stronger EUR
The impact of currency moves on export demand, import competition and corporate profits also affects the wider euro area economy. The deterioration in cost competitiveness lowers exports and boosts imports. The subsequent fall in output is partially offset by a fall in inflation (as imports get cheaper and unemployment rises further). The stronger currency causes a terms-of-trade improvement that shelters consumer spending via lower domestic inflation and higher affordability of imported goods. At the same time, investment spending will take a serious hit as will overall economic activity. Overall, a 10% appreciation in the euro’s external value reduces GDP by ~0.5% in the first year.

The table below simulates the impact of a permanent increase of the trade-weighted exchange rate of the EUR by 10% based on a macro econometric model (see Macroecnometric Model for the Eurozone, October 2011) relative to our current baseline forecast (see European Economics: Crisis Contained, Not Resolved, January 7, 2013). Note that this model-based simulation only provides a rough guideline. The negative repercussions could potentially be much more sizeable at the current juncture because capacity in the euro area is seriously underutilised at the moment and because big currency movements can also have non-linear effects – in particular in the periphery where countries were already struggling with their cost competitiveness when the EUR was much weaker and where exports are the only possibly engine of recovery.

Exhibit 14
Stylised impact of a permanent EUR overshoot

Source: INSEE, Morgan Stanley Research estimates

Exhibit 15
Impact of stronger EUR shows a relatively fast pass-through on GDP in the first four quarters

Source: INSEE Data, Morgan Stanley Research estimates

Joining the dots: Stronger global growth & stronger EUR
The euro area is caught in two different cross-currents at the moment: On the one hand there is a recovery in global economic activity that might be stronger than expected, but, on the other hand, there is a stronger EUR that seems set to appreciate more than previously forecast. To assess the impact of both factors together and the extent to which they could possibly offset each other, we used the multipliers used...
by the ECB and the national central banks in their own econometric models. We find that on average, a 10% appreciation of the EUR shaves ~0.7% of EMU GDP while a 1% upside surprise in global growth adds 0.1% to EMU GDP during the first year. On the whole, it would therefore take a very sizeable global growth surprise to offset even a small appreciation of the EUR in trade-weighted terms.

The “map” below identifies the countries that are more sensitive to global growth (notably Ireland, Spain, Belgium, the Netherlands and Germany) and those less sensitive to exchange rate movements (notably Portugal, France and Ireland but also Spain and Belgium). Taking the two parameters together we would expect Ireland, the Benelux countries and Spain to weather a possible EUR currency war better than some of their peers.

Exhibit 16
Who wins, who loses in a EUR currency war?

Exhibit 17
Currency and markets tighten monetary conditions

Exhibit 18
Euro area policy rates vs. EUR/USD cross

Impact on the euro crisis and ECB policy
In our view, a material overshoot could tilt the policy debate on the ECB Governing Council back towards policy rate cuts. On our Monetary Conditions Index (MCI), the recent rally in the EUR TWI amounts to roughly the same amount of monetary tightening as a 100 bp rate hike by the ECB. In a situation, where money market rates are also on the rise because of concerns about LTRO pay-backs and a resulting decline in excess liquidity in the system, this could potentially create a double whammy for economic growth. We would expect the ECB to be relatively slow to act though. For starters, some on the ECB Council members seem to be worried of being forced into an overly expansionary policy stance through exchange rate movements. This concern is a valid one, we think, especially where central bank mandates or social inflation preferences differ materially across the Atlantic. Global monetary policy easing, especially where quantitative easing is accompanied by unsterilized foreign exchange rate intervention (as reportedly being contemplated by the BoJ), is not a zero sum game. The resulting overall monetary policy stimulus may have an impact on growth and inflation in countries not engaging in an active weakening of their currency. A ‘currency war’ could therefore create inflation pressures also in countries that have not engaged in the same aggressive quantitative easing strategy.

Over the medium term, this would offset the near-term dampening effect of a stronger EUR on HICP inflation (which is smaller than the growth impact). Hence, we think that it would probably take a meaningful and prolonged move above 1.40 for EURUSD for the ECB to amend its assessment of the outlook for price stability in the euro area and thus its monetary policy stance.
Equity Strategy: Investing with a Stronger EUR

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Matthew Garman
Matthew.Garman@morganstanley.com

- Over time, a stronger EUR is usually negative for the relative performance of European equities (in local currency terms).
- We estimate that a 10% rise in trade-weighted EUR would hurt European EPS growth by c. 3%.
- Implications of EUR moves on sector performance can be inconsistent. In general, a stronger EUR tends to favour Utilities, Retail, Real Estate, Food & Beverages and Construction & Materials. The relative laggards are often Technology, Financials, Autos – we also expect Capital Goods & Healthcare to be at risk of underperforming.
- On page 18 we provide a list of stocks that are potentially hurt by a stronger euro. On page 20 we also detail a list of stocks with relatively high revenue exposure to Japan.
- MSCI UK tends to underperform MSCI EMU in periods of GBP weakness. Relative sector beneficiaries of a weaker GBP are Personal & Household Goods, Healthcare and Chemicals.

EUR denominated investors have not benefitted from Japan rally. Before we discuss the specific investment implications of a stronger euro on European equities we want to make two, more general, points. First, we traditionally make our investment recommendations on a local currency basis given that different investors are likely to have different hedging abilities and strategies (subsequent charts show relative performance in local currency terms). However, when considering currency moves it makes sense to assess performance in both local and a common currency. While MSCI Japan has risen by 27% over the last 6M, unhedged USD investors would have seen this return reduced to 10% and unhedged EUR investors to just 1%.

FX appreciation traditionally weighs on regional equity performance... The second issue concerns the fact that moves in certain currencies (especially the EUR and YEN) over the past few years have tended to reflect periods of “risk-on” and “risk-off” rather than, or in addition to, a guide to relative economic fundamentals. This change has meant that the investment implications of currency moves have been different in this cycle to the prior period. An example of this can be seen in Exhibit 20. In the 15 years preceding 2007 the year-on-year change in EURUSD correlated closely with the year-on-year relative performance (local currency terms) of MSCI Europe ex UK versus MSCI USA.

...however, this rule-of-thumb has weakened since 2007. However, since 2007 this correlation has weakened materially as European equities have tended to underperform in periods of rising EUR (in line with the historic relationship), but then also struggle when EUR was weakening as that depreciation reflected sovereign debt concerns. Another way to illustrate this change in relationship is via correlation. Exhibit 21 shows that there was a significant negative correlation between the relative performance of MSCI Europe ex UK and the euro.

Exhibit 19
Euro denominated investors have not participated in Japan’s rally

Exhibit 20
Traditionally a stronger currency implied relative underperformance (and vice versa)...

Source: MSCI, Datastream, Morgan Stanley Research
(versus US assets) pre 2009, but a very weak correlation subsequently.

Further ‘normalisation’ should see traditional relationship return. Over the last six months we have even seen European equities significantly outperform their US peers despite a stronger euro as investors perceive the latter as symptomatic of Europe’s falling risk premium. This process may have a bit further to run. However, investors should be aware that a continued trend toward “normalization” should ultimately see correlations in Exhibit 21 revert back to more historic norms.

With this caveat in mind we now look to analyse the implications of currency trends, and specifically a EUR overshoot, at the market, sector and stock level. We make six broad points.

1) Stronger currency usually negative for relative equity market performance

As we mentioned above, over the long run, domestic equity performance, relative to other regions, tends to be negatively impacted by a stronger domestic currency. To reiterate the point, Exhibit 22 shows a very close relationship between moves in the Euro’s trade weighted index and the relative performance of MSCI Europe ex UK versus MSCI World. Although the relationship has weakened in recent years we still believe that the overall message that a strong currency is negative for relative equity performance holds true over the medium to longer term, and is also particularly important for investors who believe that markets are ‘normalising’. Consequently, sustained strength in the Euro would likely start to undermine the strong outperformance that the region has posted over the last six months.

Of course, currency isn’t the only driver of relative performance trends. However, when we look at valuation now we find that European stocks are no longer particularly undervalued compared to global peers. For example:

1) Exhibit 23 shows that the relative valuation between MSCI Europe and MSCI USA has narrowed from 38% to 29% over the last 9 months and is now only around 1% below its 20-year average.

2) Exhibit 24 shows how the consensus 12m PE for MSCI EMU relative to MSCI World is now comparable historic averages.

3) Exhibit 25 details how the current 12m PE for different regions compares to the averages recorded over the past 2,3,5
and 10 years. Interestingly, Europe/EMU is the most expensive region relative to its average across all time horizons.

Such relative valuations are not necessarily a strong relative sell signal given that Europe’s level of profitability and earnings has lagged global peers in recent years. However, it does emphasise that further outperformance of Europe is likely to require EPS outperformance and sustained Euro strength would be a headwind to such a profit outcome.

**We estimate every 10% rise in the trade-weighted euro subtracts around 3% from European earnings growth.** The most recent quantitative data on the impact of currency movements on earnings is shown in Exhibit 27. Based on work from our Global Exposure Guide database, analysts had previously estimated that for every 10% fall in the USD against all European currencies, 2012 EPS would fall by 1.8%. However, exposure to non-Eurozone regions is around 3.5x the size of exposure to the US. Eurozone companies generate 14% of their revenues in the US, and around 53% outside of the Eurozone. This would suggest that a 10% rise in the trade-weighted euro would knock around 7% off Eurozone EPS (1.8% x 53% / 14%). Given, though, that the Eurozone accounts for around 45% of pan-European earnings, this would suggest an overall impact on MSCI Europe’s earnings of around 3%.

**Exhibit 25**

<table>
<thead>
<tr>
<th>Consensus 12m PE</th>
<th>Current</th>
<th>2Y</th>
<th>3Y</th>
<th>5Y</th>
<th>10Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI EMU</td>
<td>11.4</td>
<td>16</td>
<td>12</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>MSCI Europe</td>
<td>11.8</td>
<td>15</td>
<td>12</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>MSCI UK</td>
<td>11.2</td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>-1</td>
</tr>
<tr>
<td>MSCI AC World</td>
<td>12.6</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>-3</td>
</tr>
<tr>
<td>MSCI Japan</td>
<td>13.6</td>
<td>10</td>
<td>2</td>
<td>-13</td>
<td>-18</td>
</tr>
<tr>
<td>MSCI USA</td>
<td>13.5</td>
<td>8</td>
<td>7</td>
<td>5</td>
<td>-6</td>
</tr>
<tr>
<td>MSCI EM</td>
<td>10.8</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: MSCI, IBES, Morgan Stanley Research

**Exhibit 26**

<table>
<thead>
<tr>
<th>Revenue exposure of European ex UK companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
</tr>
<tr>
<td>5%</td>
</tr>
<tr>
<td>Emerging Markets</td>
</tr>
</tbody>
</table>

Note: Emerging markets are defined here as World ex Developed Europe, North America and Japan. Data refers to our analysts’ 2012 estimates, based on company information in combination with their estimates where disclosure is not detailed enough. Source: Morgan Stanley Research

**Exhibit 27**

Our analysts had estimated that a 10% rise in all European currencies vs USD would reduce earnings by 1.8%.

Source: Morgan Stanley Research
2) Sector exposure to stronger euro

While we believe that the impact of currency moves provides some clear investment implications at the market level, such conclusions are harder to identify at the sector and stock level. For example, the results from different analysis and methodologies can vary considerably, likely reflecting the wide range of factors that influence the performance of individual industries and companies. Below, we summarise the findings of three such methodologies.

#1 – Regional revenue exposure

In Exhibit 28 we rank sectors by the percentage of their revenues that are generated from Europe. While this is somewhat crude, for example it doesn’t account for the geographical location of cost bases, it nevertheless provides a simple top-down view on where currency risks may lie.

On this basis the sectors with the highest degree of overseas exposure, and perhaps less impacted by a stronger euro, are: Real Estate, Retailing, Utilities, Consumer Services, Telecoms and Banks.

#2 – Correlation to Euro

In Exhibit 29 we show the correlation between the relative performance of European sectors and the Euro since 2007 and between 1987 and 2006. We summarise this data as follows:

i) Sectors that have a positive correlation to a stronger currency in both periods are: Utilities; Construction & Materials; Oil & Gas; Chemicals; Basic Resources and Autos.

ii) Sectors that have a negative correlation in a stronger currency environment in both periods are: Technology; Insurance and Media.

iii) Given our preference for focusing more on the data pre 2007 other sectors to flag up as relative winners of a stronger currency are: Retailing; Real Estate; Food & Beverages; Financial Services and Travel & Leisure. Additional relative losers could be: Telecoms and Banks.

#3 – Performance in prior periods of Euro strength

In Exhibit 30 we show annualized relative returns of sectors in periods of euro strength and weakness. Historically, the
sectors that have performed most strongly during prior periods of Euro strength have been Utilities, Media, Health Care and Retailing. Basic resources, Autos, and Insurance are the sectors that have suffered most in prior periods of Euro strength.

The conclusions from exhibits 28-30 highlight the problem with inconsistency that we flagged earlier. Although the results differ somewhat depending on the methodology we’d highlight the most relevant sector conclusions as follows:

i) Relative winners from a stronger Euro are traditionally: Utilities, Retail, Real Estate, Food & Beverages and Construction & Materials.

ii) Relative losers from a stronger Euro are traditionally: Technology, Financials, Autos. We’d also flag Healthcare and Capital Goods as other sectors potentially at risk of EUR-related underperformance at this time.

Our database also allows us to look at the regional exposure of country stockmarkets as highlighted in Exhibit 31. Further, we have replicated our correlation analysis for EMU countries in Exhibit 32. The countries that have generally underperformed in periods of a stronger euro are Finland and the Netherlands while Austria, Belgium and Greece have the highest positive correlations.

Exhibit 31
% of Revenues from developed Europe

Exhibit 32
Country correlations to a stronger Euro

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRIA</td>
<td>0.08</td>
<td>BELGIUM</td>
<td>-0.22</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>0.36</td>
<td>GREECE</td>
<td>0.37</td>
</tr>
<tr>
<td>GREECE</td>
<td>0.33</td>
<td>AUSTRIA</td>
<td>0.45</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>0.27</td>
<td>PORTUGAL</td>
<td>0.42</td>
</tr>
<tr>
<td>IRELAND</td>
<td>0.20</td>
<td>IRELAND</td>
<td>-0.17</td>
</tr>
<tr>
<td>GERMANY</td>
<td>0.18</td>
<td>SPAIN</td>
<td>0.32</td>
</tr>
<tr>
<td>FRANCE</td>
<td>0.04</td>
<td>GERMANY</td>
<td>-0.18</td>
</tr>
<tr>
<td>ITALY</td>
<td>0.01</td>
<td>ITALY</td>
<td>0.06</td>
</tr>
<tr>
<td>SPAIN</td>
<td>-0.01</td>
<td>FRANCE</td>
<td>-0.66</td>
</tr>
<tr>
<td>NETHERLAND</td>
<td>-0.15</td>
<td>NETHERLAND</td>
<td>0.21</td>
</tr>
<tr>
<td>FINLAND</td>
<td>-0.53</td>
<td>FINLAND</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Source: MSCI, Morgan Stanley Research

Source: MSCI, Morgan Stanley Research
3) Euro overshoot – not sustained strength

The possibility that other regions’ central banks could perhaps be more aggressive in fighting currency appreciation than here in Europe could increase investor perceptions of a more sustained increase in the Euro. However, our FX strategy team currently forecast a temporary overshoot in the common currency rather than a sustained period of appreciation. For example, their Dec-13 forecast for EURUSD remains at 1.26. In this context, investors should be somewhat circumspect about taking longer-term sector positions based on the analysis above, although the conclusions are likely to be relevant for more tactical investments.

Given that our FX strategists are calling for a temporary Euro overshoot we have also looked at the implications of prior such occurrences. We have approached this in two ways.

First, Exhibit 33 comes from our FX strategists and shows a time series of over/under valuation of the Euro based on their PPP framework. On this chart we have highlighted four periods where the euro moved above fair value and we have then looked at relative sector performance from that moment up until the peak in overvaluation. As illustrated in Exhibit 34 this analysis suggests that the best-performing sectors in these periods were industrial cyclicals and the worst performers health care, domestically-focused consumer cyclicals and consumer staples.

One significant note of caution with this analysis, however, is that three of the four periods analysed can be found within the last five years and are therefore perhaps less relevant if we move back to more traditional relationships. It is noteworthy that the relative performance measured in the 2004 period was the opposite of what occurred during the latter three periods.

While Exhibit 33 suggests that the Euro is not yet in overvalued territory, the change at the margin (which is often important for equities) is very significant. For example, in Exhibit 35 we plot the percentage change between the current level of the EUR (trade weighted) and the average reading of the last 12 months. On this basis we find that the common currency is currently 6% above its trailing average, a level only surpassed twice in the last 25 years.

Euro overshoot tends to lead to weaker relative EPS and price trends

In Exhibit 36 we then plot this same Euro series against the relative trend of MSCI Europe ex UK EPS versus MSCI World EPS. This chart suggests that periods where the Euro is 3% above its trailing 12m average (equivalent to 15% of readings over last 25 years) tend to be followed by relative EPS underperformance of Euro companies versus their global peers. A similar story is observed if we look at the impact of Euro strength on the relative price performance of Euro equities too, as illustrated in Exhibit 37.
Exhibit 35
Current EUR TWI is 6% above its 12m average – only seen bigger overshoots in 2003 and 1990

Exhibit 36
Periods of >3% EUR overshoot tend to be followed by Euro EPS underperforming global EPS...

Exhibit 37
... that then tends to prompt relative price underperformance too

Defensives have led the market during Euro overshoots
In Exhibit 38, we have shown the relative sector performance in the 6M leading up to the peak in Euro overshoots. Consistent with the weak market performance during Euro overshoots, the three best sectors have all been defensives - Food & Bev, Utilities and Telcos. Cyclicals and Financials have suffered in Euro overshoots, with Travel & Leisure, Autos and Banks all underperforming by 5%/ or more.

In the 6M post the overshoot, Technology, Media and Travel have been the strongest sectors, while Basic Resources, Real Estate and Retail have been the biggest underperformers.

Exhibit 39
Sector performance in 6M after Euro overshoot
4) Stocks exposed to a stronger Euro

To try and highlight possible implications of a stronger Euro at the stock level we have constructed a screen based on three criteria:

i) Stocks where our analysts have estimated that a strong euro would have a negative impact on operating profit

ii) Stocks that have a negative correlation to moves in the trade weighted euro index over the last 60 months

In Exhibit 40 we detail the individual names within this screen. Note that, of the 30 stocks that qualified, 9 come from each of the Healthcare and Consumer Discretionary sectors. Further, there are 13 French stocks and 8 listed German ones. Underweight rated stocks include Adidas, Aurubis AG, CRH, Essilor, Havas, Luxottica and Merck KGaA.

Exhibit 40

| Eurozone Companies Ranked on: 1) Negative / Very Negative Impact from a Stronger Euro; 2) Negative Correlation to Trade-weighted Euro Over Last 60M and 3) At Least 20% Revenue Exposure from Outside Developed Europe ex-UK |
|---|---|---|---|---|---|---|
| Name | Country | GICS Sector | Market Cap ($mn) | Price | MS Rating | Impact From A Stronger EUR | Correlation With Trade-Weighted Euro | % of 2012e Revenues From Non Dev Eur ex-UK |
| 1 Luxottica | Italy | Consumer Discretionary | 21,183 | € 26.79 | Underweight / I | Very Negative | -14.9 | -36.6 | 86.0 |
| 2 Sanofi SA | France | Health Care | 129,048 | € 53.90 | Underweight / A | Very Negative | -19.3 | -40.0 | 80.2 |
| 3 EADS | France | Industrials | 38,380 | € 28.76 | Overweight / I | Very Negative | -26.8 | -49.7 | 78.5 |
| 4 MTU Aero Engines Holding | Germany | Industrials | 4,971 | € 58.99 | Equal-Weight / I | Negative | -41.9 | -32.2 | 85.0 |
| 5 Bayer AG | Germany | Health Care | 80,094 | € 51.00 | Overweight / A | Very Negative | -4.0 | -25.8 | 77.0 |
| 6 DiaSorin S.p.A. | Italy | Health Care | 2,156 | € 22.10 | - | Negative | 3.5 | -34.3 | 70.0 |
| 7 Essilor International | France | Health Care | 22,339 | € 68.76 | Underweight / A | Negative | -26.0 | -34.0 | 70.0 |
| 8 Safran | France | Industrials | 18,949 | € 27.11 | Overweight / I | Very Negative | -32.4 | -31.6 | 74.0 |
| 9 SES | Luxembourg | Consumer Discretionary | 9,809 | € 18.50 | Equal-Weight / A | Negative | -23.3 | -44.4 | 69.0 |
| 10 STMelectronics NV | France | Information Technology | 7,499 | € 3.72 | Equal-Weight / C | Very Negative | -24.4 | -23.6 | 76.0 |
| 11 HeidelbergCement AG | Germany | Materials | 11,613 | € 35.43 | Overweight / I | Very Negative | 8.3 | -13.8 | 81.5 |
| 12 Adidas | Germany | Consumer Discretionary | 19,463 | € 60.42 | Underweight / I | Very Negative | -27.4 | -15.2 | 78.0 |
| 13 Fresenius SE | Germany | Health Care | 21,081 | € 76.12 | Equal-Weight / I | Negative | -19.2 | -54.6 | 63.0 |
| 14 TOTAL | France | Energy | 125,729 | € 34.59 | Equal-Weight / I | Very Negative | 9.0 | -11.5 | 85.9 |
| 15 Wolters Kluwer | Netherlands | Consumer Discretionary | 11,25 | € 12.35 | Equal-Weight / A | Negative | -0.6 | -38.3 | 62.0 |
| 16 LVMH Moet Hennessy Louis Vuitton | France | Consumer Discretionary | 94,875 | € 122.25 | Overweight / I | Negative | 5.8 | -11.4 | 80.9 |
| 17 Philips | Netherlands | Industrials | 28,334 | € 14.52 | Equal-Weight / C | Negative | -6.1 | -13.4 | 75.0 |
| 18 Erli SpA | Italy | Energy | 94,048 | € 15.98 | Overweight / I | Very Negative | -3.9 | -8.5 | 85.9 |
| 19 Merck KGaA | Germany | Health Care | 8,768 | € 75.40 | Underweight / A | Very Negative | -3.1 | -31.4 | 56.9 |
| 20 BioMerieux SA | France | Health Care | 3,934 | € 64.30 | Underweight / A | Negative | -1.4 | -22.5 | 59.0 |
| 21 Eutelsat Communications | France | Consumer Discretionary | 7,482 | € 23.31 | Overweight / A | Negative | -17.0 | -25.0 | 51.0 |
| 22 Aurelis AG | Germany | Materials | 3,368 | € 39.63 | Underweight / I | Very Negative | -27.0 | -5.4 | 83.1 |
| 23 UC B S.A. | Belgium | Health Care | 10,527 | € 39.02 | Overweight / A | Very Negative | -16.3 | -6.4 | 63.9 |
| 24 Lagardere | France | Consumer Discretionary | 4,562 | € 20.53 | Equal-Weight / A | Negative | 8.6 | -13.4 | 50.9 |
| 25 Havas | France | Consumer Discretionary | 2,454 | € 3.06 | Underweight / A | Negative | -8.3 | -5.5 | 66.0 |
| 26 Ipsen | France | Health Care | 2,964 | € 20.60 | Overweight / A | Very Negative | 9.9 | -15.0 | 23.7 |
| 27 CRH | Ireland | Materials | 15,409 | € 13.45 | Underweight / I | Very Negative | 7.7 | -7.3 | 55.9 |
| 28 Tod’s SPA | Italy | Consumer Discretionary | 4,184 | € 83.40 | Equal-Weight / I | Negative | 2.0 | -9.8 | 27.0 |
| 29 Infineon Technologies AG | Germany | Information Technology | 9,638 | € 6.43 | Equal-Weight / C | Negative | 5.4 | -5.9 | 60.0 |
| 30 Rexel S.A. | France | Industrials | 5,064 | € 14.93 | Underweight / C | Negative | 7.2 | -2.4 | 55.0 |

Source: MSCI, Haver Analytics, Morgan Stanley Research

Note: A negative (very negative) impact from a stronger euro implies a low single-digit (greater than low single digit) impact on company’s EBIT (or most applicable form of operating profit) from a rise in the euro. Correlation calculated on monthly (weekly) relative performance of stock vs. moves in the trade-weighted euro over a 60M (52W) period. Negative correlation implies as euro goes up (down) the company underperforms (outperforms).

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5) Implications of the EURYEN move

Given that the Euro’s appreciation has been most significant against the Yen we have also looked at some specific implications on this axis. We note the following.

First, historically MSCI Europe has underperformed MSCI Japan when the Euro is appreciating against the Yen. As illustrated in Exhibit 41, this relationship can last for a number of years. For example, Japanese stocks outperformed European ones from 2002 to 2006 while the Euro was appreciating against the Yen, and then underperformed for much of the last five years as the currencies reversed path.

In Exhibit 42 we show that European companies generate just 2% of their revenues from Japan, however, as traditional exporter economies it is likely that the currency has wider implications than just direct revenue exposure. The point that a stronger euro is likely to lead to MSCI Europe underperforming MSCI Japan is supported by our relative EPS assumptions too. Arguably, Japanese EPS is likely to be boosted by both a weaker currency and more aggressive fiscal policy, whereas in Europe the combination of continued austerity (albeit at a declining rate) and a stronger currency provides an EPS headwind. Note that we forecast European EPS to grow 5% this year (3% excluding financials) whereas our Japanese strategist Yohei Yamada forecasts Japanese EPS to rise 56%.

Using data from our Global Exposure Guide Exhibit 43 details a list of European companies whose revenue exposure to Japan is relatively high in the context of the wider market.
## Exhibit 43
### Top 20 European companies with the highest revenue exposure to Japan

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Sector</th>
<th>Industry Group</th>
<th>Country</th>
<th>Price $mn</th>
<th>Market Cap % of 2012e revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burberry</td>
<td>Consumer Discretionary</td>
<td>Consumer Durables &amp; Apparel</td>
<td>United Kingdom</td>
<td>£13.87</td>
<td>9.654</td>
</tr>
<tr>
<td>APR Energy</td>
<td>Utilities</td>
<td>Utilities</td>
<td>United Kingdom</td>
<td>£7.13</td>
<td>878</td>
</tr>
<tr>
<td>Dassault Systems SA</td>
<td>Information Technology</td>
<td>Software &amp; Services</td>
<td>France</td>
<td>€62.84</td>
<td>14.131</td>
</tr>
<tr>
<td>Nobel Biocare</td>
<td>Health Care</td>
<td>Health Care Equipment &amp; Services</td>
<td>Switzerland</td>
<td>CHF9.46</td>
<td>1,297</td>
</tr>
<tr>
<td>Wolfsen Microelectronics</td>
<td>Information Technology</td>
<td>Semiconductors &amp; Semiconductor Equipment</td>
<td>United Kingdom</td>
<td>£2.0225</td>
<td>371</td>
</tr>
<tr>
<td>Eramet SA</td>
<td>Materials</td>
<td>Materials</td>
<td>France</td>
<td>€105.65</td>
<td>3,941</td>
</tr>
<tr>
<td>STMicroelectronics NV</td>
<td>Information Technology</td>
<td>Semiconductors &amp; Semiconductor Equipment</td>
<td>France</td>
<td>€6.642</td>
<td>8,283</td>
</tr>
<tr>
<td>Renewable Energy Corporation</td>
<td>Information Technology</td>
<td>Semiconductors &amp; Semiconductor Equipment</td>
<td>Norway</td>
<td>NOK1.1</td>
<td>428</td>
</tr>
<tr>
<td>ICAP</td>
<td>Financials</td>
<td>Diversified Financials</td>
<td>United Kingdom</td>
<td>£3.292</td>
<td>3,349</td>
</tr>
<tr>
<td>ARM Holdings Plc</td>
<td>Information Technology</td>
<td>Semiconductors &amp; Semiconductor Equipment</td>
<td>United Kingdom</td>
<td>£8.935</td>
<td>19,424</td>
</tr>
<tr>
<td>Tullett Prebon</td>
<td>Financials</td>
<td>Diversified Financials</td>
<td>United Kingdom</td>
<td>£3.425</td>
<td>831</td>
</tr>
<tr>
<td>African Barrick Gold Plc</td>
<td>Materials</td>
<td>Materials</td>
<td>United Kingdom</td>
<td>£3.66</td>
<td>2,363</td>
</tr>
<tr>
<td>Air Liquide</td>
<td>Materials</td>
<td>Materials</td>
<td>France</td>
<td>€659.96</td>
<td>41,042</td>
</tr>
<tr>
<td>Novo Nordisk</td>
<td>Health Care</td>
<td>Pharmaceuticals, Biotechnology &amp; Life Sciences</td>
<td>Denmark</td>
<td>DKK1041</td>
<td>86,475</td>
</tr>
<tr>
<td>Elekta AB</td>
<td>Health Care</td>
<td>Health Care Equipment &amp; Services</td>
<td>Sweden</td>
<td>SEK96.6</td>
<td>5,967</td>
</tr>
<tr>
<td>Sanofi SA</td>
<td>Health Care</td>
<td>Pharmaceuticals, Biotechnology &amp; Life Sciences</td>
<td>France</td>
<td>€72.1</td>
<td>130,974</td>
</tr>
<tr>
<td>LVMH Moet Hennessy Louis Vuitton SA</td>
<td>Consumer Discretionary</td>
<td>Consumer Durables &amp; Apparel</td>
<td>France</td>
<td>€139.85</td>
<td>97,333</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>Health Care</td>
<td>Pharmaceuticals, Biotechnology &amp; Life Sciences</td>
<td>United Kingdom</td>
<td>£30.685</td>
<td>60,295</td>
</tr>
<tr>
<td>Richemont SA</td>
<td>Consumer Discretionary</td>
<td>Consumer Durables &amp; Apparel</td>
<td>Switzerland</td>
<td>CHF77.1</td>
<td>44,574</td>
</tr>
<tr>
<td>BHP Billiton Plc</td>
<td>Materials</td>
<td>Materials</td>
<td>United Kingdom</td>
<td>£22.145</td>
<td>73,640</td>
</tr>
</tbody>
</table>

Source: Company Data, Morgan Stanley Research

Note: Data refers to our analysts' 2012 estimates, based on company information in combination with our analysts' estimates where disclosure is not detailed enough.

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6) Implications of the GBP/EUR move

Given the recent appreciation of the EUR vs GBP, we have looked at the potential implications of a weaker sterling.

Historically, UK equity markets have been relatively consistent beneficiaries from GBP weakness. As we show in Exhibit 46, sterling’s strength through much of the late 90s and early 2000s led to the UK having its weakest periods of relative performance vs the rest of Europe, while the UK outperformed strongly through GBP weakness during 2007-9. However, as illustrated in Exhibit 45, the correlation between the UK’s relative performance and currency moves has actually reversed in the last few years, with EMU’s outperformance coinciding with periods of Euro strength.

In Exhibit 47, we have shown the correlation between relative sector performance and moves in GBP vs both EUR and USD. The sectors that have traditionally shown the most consistent benefit from GBP weakness have been personal & household goods, health care and chemicals. Those that have generally suffered from a weaker GBP have been oil & gas, real estate and financial services.

At the stock level, we have shown in Exhibit 48 a list of UK companies where our analysts have highlighted a weaker GBP as having a positive impact on operating profit and where the stock has exhibited a negative correlation with sterling.

Exhibit 44
Revenue exposure of UK companies

Exhibit 45
MSCI UK tends to outperform MSCI EMU during periods of sterling weakness...

Exhibit 46
… but the correlation to FX moves has actually reversed in recent years

Exhibit 47
Sector correlations to GBP/EUR and GBP/USD

Note: Emerging markets are defined here as World ex Developed Europe, North America and Japan. Data refers to our analysts’ 2012 estimates, based on company information in combination with their estimates where disclosure is not detailed enough. Source: Morgan Stanley Research
**UK stocks ranked on: 1) Positive / very positive impact from a weaker GBP and 2) Negative correlation to trade-weighted GBP over last 60M**

<table>
<thead>
<tr>
<th>Co. name</th>
<th>GICS Sector</th>
<th>Market Cap ($mn)</th>
<th>Price</th>
<th>MS Rating</th>
<th>Impact From A</th>
<th>Correlation With Trade-Weighted GBP</th>
<th>% Of 2012e Revenues From Outside The UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBM plc</td>
<td>Consumer Discretionary</td>
<td>2,968</td>
<td>£ 7.65</td>
<td>Overweight / A</td>
<td>Positive</td>
<td>-0.0 -34.0</td>
<td>87.0</td>
</tr>
<tr>
<td>Pearson</td>
<td>Consumer Discretionary</td>
<td>15,303</td>
<td>£ 11.85</td>
<td>Underweight / A</td>
<td>Positive</td>
<td>9.8 -32.6</td>
<td>86.0</td>
</tr>
<tr>
<td>Shire PLC</td>
<td>Health Care</td>
<td>18,608</td>
<td>£ 21.10</td>
<td>Overweight / A</td>
<td>Very Positive</td>
<td>-8.5 -32.4</td>
<td>96.0</td>
</tr>
<tr>
<td>Informa</td>
<td>Consumer Discretionary</td>
<td>4,574</td>
<td>£ 4.80</td>
<td>Overweight / A</td>
<td>Positive</td>
<td>-18.0 -31.7</td>
<td>85.0</td>
</tr>
<tr>
<td>GlaxoSmithKline</td>
<td>Health Care</td>
<td>109,689</td>
<td>£ 14.16</td>
<td>Equal-Weight / A</td>
<td>Very Positive</td>
<td>-7.1 -23.5</td>
<td>94.9</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>Health Care</td>
<td>62,204</td>
<td>£ 31.57</td>
<td>Equal-Weight / A</td>
<td>Very Positive</td>
<td>-25.3 -21.0</td>
<td>94.0</td>
</tr>
<tr>
<td>WPP Group Plc</td>
<td>Consumer Discretionary</td>
<td>19,995</td>
<td>£ 9.90</td>
<td>Equal-Weight / A</td>
<td>Positive</td>
<td>-22.7 -15.2</td>
<td>87.0</td>
</tr>
<tr>
<td>Reed Elsevier PLC</td>
<td>Consumer Discretionary</td>
<td>13,072</td>
<td>£ 6.92</td>
<td>Overweight / A</td>
<td>Positive</td>
<td>-19.7 -12.6</td>
<td>93.0</td>
</tr>
<tr>
<td>Smiths Group</td>
<td>Industrials</td>
<td>7,730</td>
<td>£ 12.44</td>
<td>Equal-Weight / C</td>
<td>Positive</td>
<td>-6.6 -3.9</td>
<td>96.0</td>
</tr>
</tbody>
</table>

Source: MSCI, Haver Analytics, Morgan Stanley Research

Note: A positive (very positive) impact from a weaker GBP implies a low single-digit (greater than low single-digit) positive impact on company's EBIT (or most applicable form of operating profit) from a fall in the GBP. Correlation calculated on monthly (weekly) relative performance of stock vs. moves in the trade-weighted GBP over a 60M (52W) period. Negative correlation implies as GBP goes down (up) the company outperforms (underperforms). For important disclosures regarding covered companies that are the subject of this screen, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures.
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