

**Cleared for: EMEA<sup>(1)</sup>, U.S. (\$50+ AUM), Hong Kong<sup>(1)</sup>, Japan<sup>(2)</sup> and Australia<sup>(1)</sup>**

**(1)Not for distribution to retail investors**

**(2)Cleared for external distribution to FIEL professional investors only in Japan**

# The Charts That Matter Next Week

## FX Sales Strats

Friday 13<sup>th</sup> August 2010

John Noyce

[John.Noyce@gs.com](mailto:John.Noyce@gs.com)

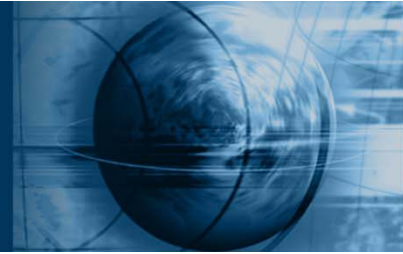
+44 20 7774 2915

Goldman Sachs International

### ***From the trading desk***

*This is not research and is not intended as such. This has been prepared by individuals on the sales/trading desks of the Securities Division. This material does not represent a formal or official view of Goldman Sachs as the views expressed herein are solely those of the author(s), which may differ from those of Global Investment Research.*





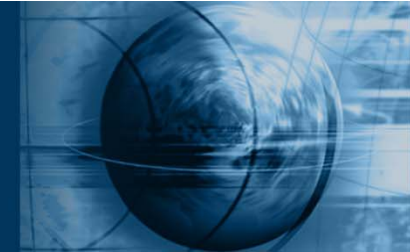
## Have the G10 currencies peaked against the USD earlier than expected?..



Chart Source: Aspen Graphics Data: Reuters

There are certainly a number of warning signs that the last stage of the USD-weakness trend we have been looking for (EURUSD to 1.35-1.37) is unlikely on a tradeable horizon

- The chart opposite is our Broad/USD Index which shows the performance of an equally weighted basket of the "Old World G10" currencies versus the USD, it's USD-termed so lower is USD-strength. *Please note the Broad/USD Index is a product of the Securities Division of GS.*
- As discussed in the daily update on Tuesday it has turned lower from a near perfect hold of the 76.4 retrace of the drop from the cycle highs last November to the lows in June. As we often highlight 76.4 retrace holds against cycle extremes such as this are often seen at significant turning points.
- The subsequent drop in the index, particularly Wednesday's sharp fall has taken the market below the uptrend which had been forming since the June lows.
- Overall, as an overview chart this warns of a material turn in the broader trend of the G10 currencies versus that USD.



## Another notable development is the magnitude of Wednesday's EURUSD fall...

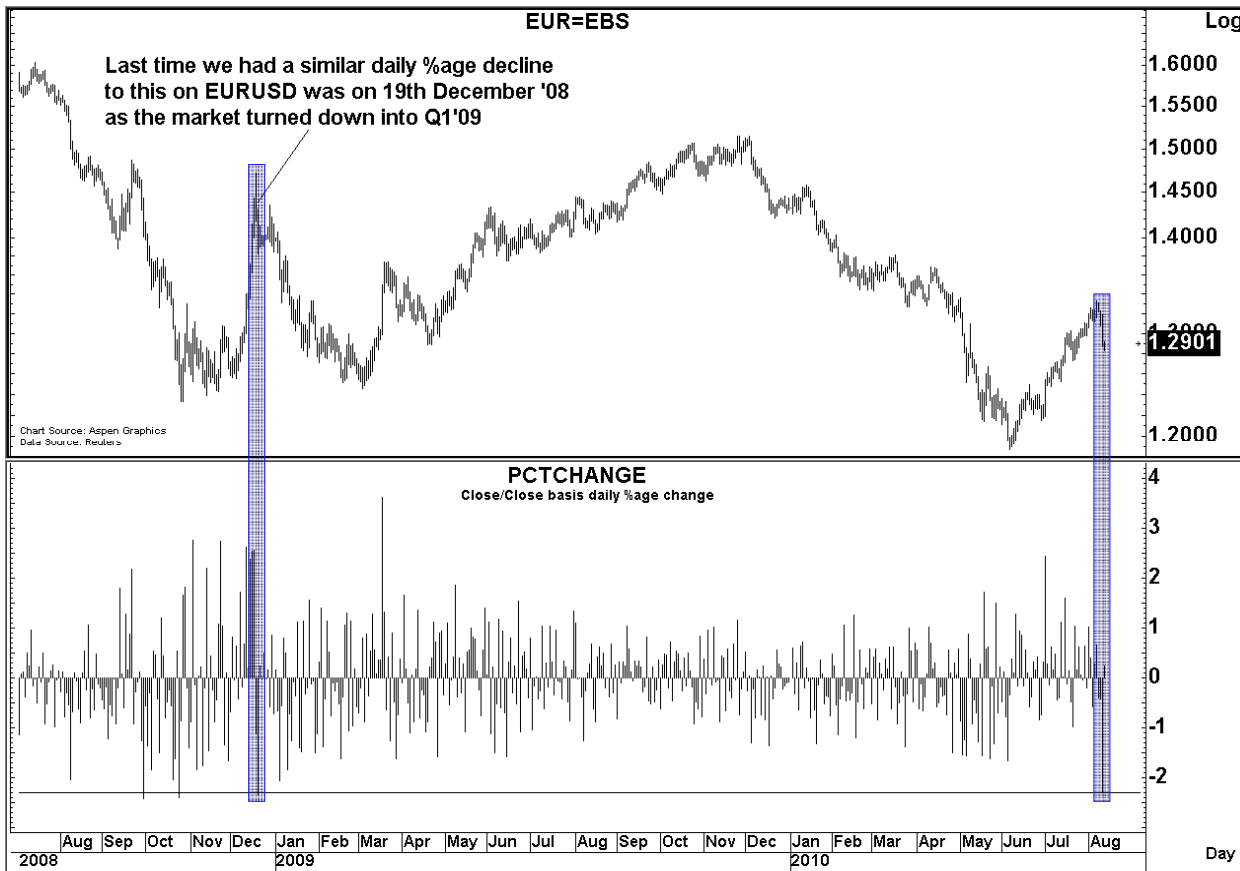


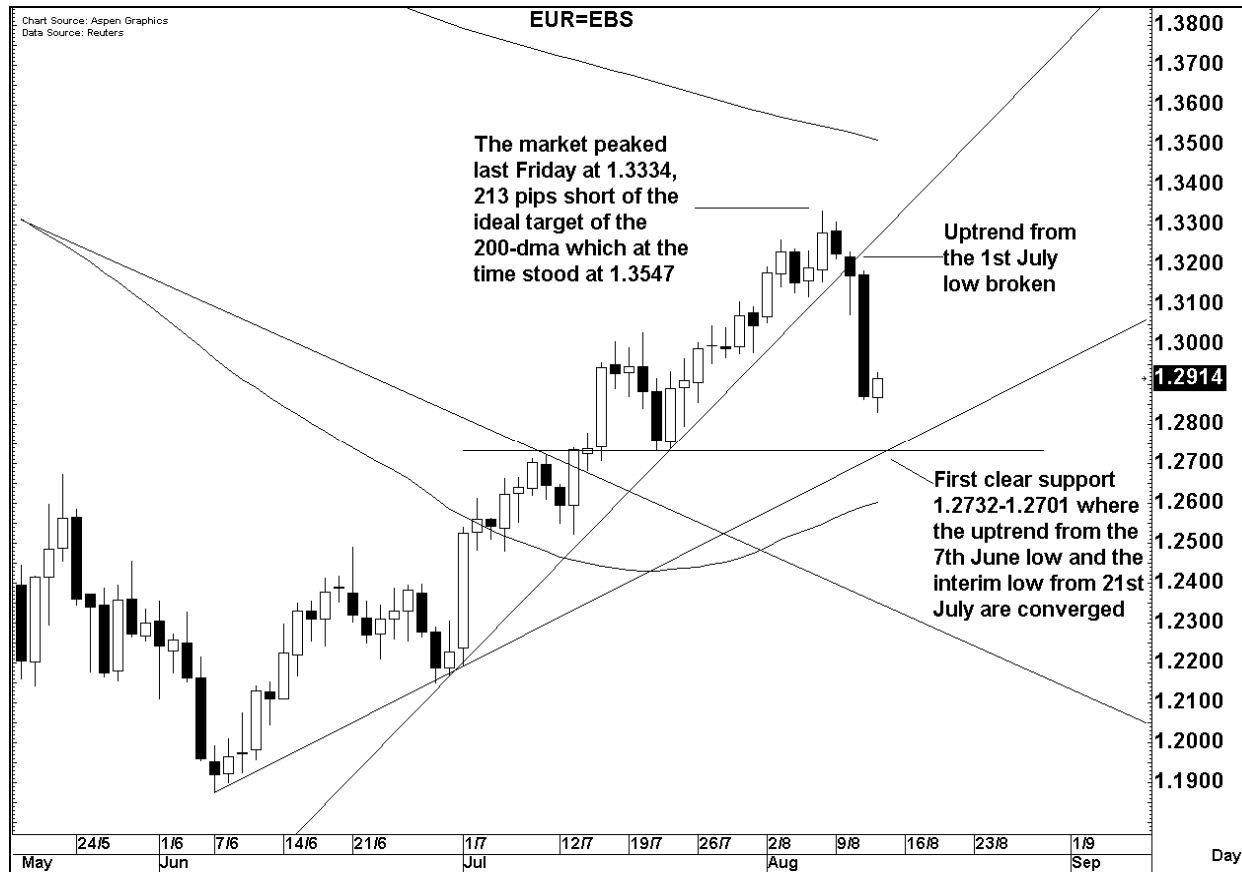
Chart Source: Aspen Graphics Data: Reuters

On a daily close/close basis the market fell 2.29%. The last time a similar move took place was on 19<sup>th</sup> December '08 (-2.34%) – just as the market was peaking following the December '08 rally and beginning the fall into the March '09 lows (1.4720 to 1.2457)

- While we're only making a comparison with one other event in this case, over the last few years we've tended to find that "statistically significant" moves, such as Wednesday's, tend to be seen at trend turn or acceleration points. Looking at this particular case and put another way, violent pull backs such as Wednesday's are uncommon within healthy trends.
- Taking this and some of the more classic analysis discussed on the following slides into account, makes us very seriously consider the idea that EURUSD will not move to the 1.35-1.37 targets we've been discussing over recent weeks and that it's already peaked on a tradeable horizon.



## Looking at the standard daily chart, the rally fell short of the 200-dma target...



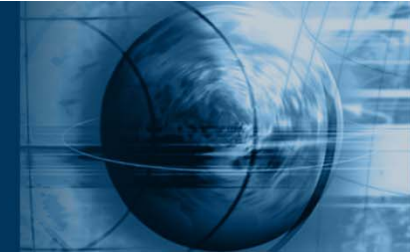
The market has also broken notable support with the move below the uptrend from the 1<sup>st</sup> July low

- Looking at the setup on the daily chart, on Tuesday the market closed marginally below the uptrend from the 1<sup>st</sup> July low. Wednesday's subsequent sharp fall argues a pretty clean break is in place.
- The next pivot/support region to watch is 1.2732-1.2701 where the interim low on 21<sup>st</sup> July and the uptrend from the 7<sup>th</sup> June low are converged.
- A break of this would act as further confirmation of a turn in place.

Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

Foreign Exchange Strategies - From the Trading Desk



## The weekly candle patterns could also be pretty significant...

A weekly close below 1.3069 will give a bearish engulfing on EURUSD

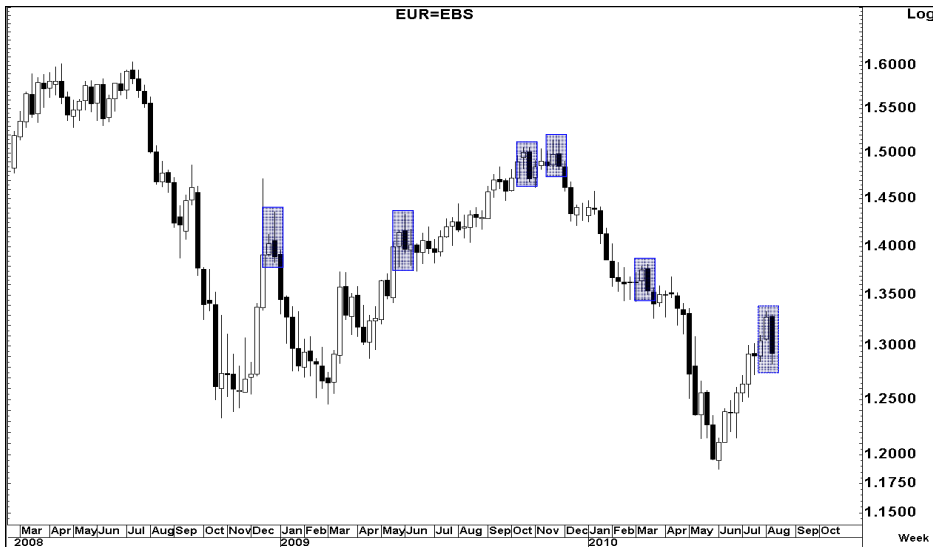


Chart Source: Aspen Graphics Data: Reuters

- The blue highlights indicate a selection of other bearish engulfing weeks which have been posted on EURUSD over the past 2-years. As can be seen they have been quite reliable/important patterns in indicating when the market was either turning lower or entering a significant period of consolidation. The most notable is probably the pattern from the last week of December '08 as it followed the sharp %age daily decline on 19<sup>th</sup> December '08 – i.e. the last time we had a similar %age daily decline to that seen on Wednesday this week. *For full disclosure it was also a bearish weekly reversal (the bar chart equivalent pattern) in December '08, that pattern isn't possible here as there was no new trend high this week.*

A weekly close above 81.51 will give a bullish engulfing on the DXY



Chart Source: Aspen Graphics Data: Reuters

- The blue highlights above show where *bullish* engulfing patterns have been posted on the USD Index over the past two years. They again have a reasonable track record. it's notable the same pattern was again posted at the December '08 lows. *Again for full disclosure there have been a couple of failures, particularly in the first week of August last year which is something we'll need to keep an eye on.*

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.



## The historic comparison chart we've been following also remains important...

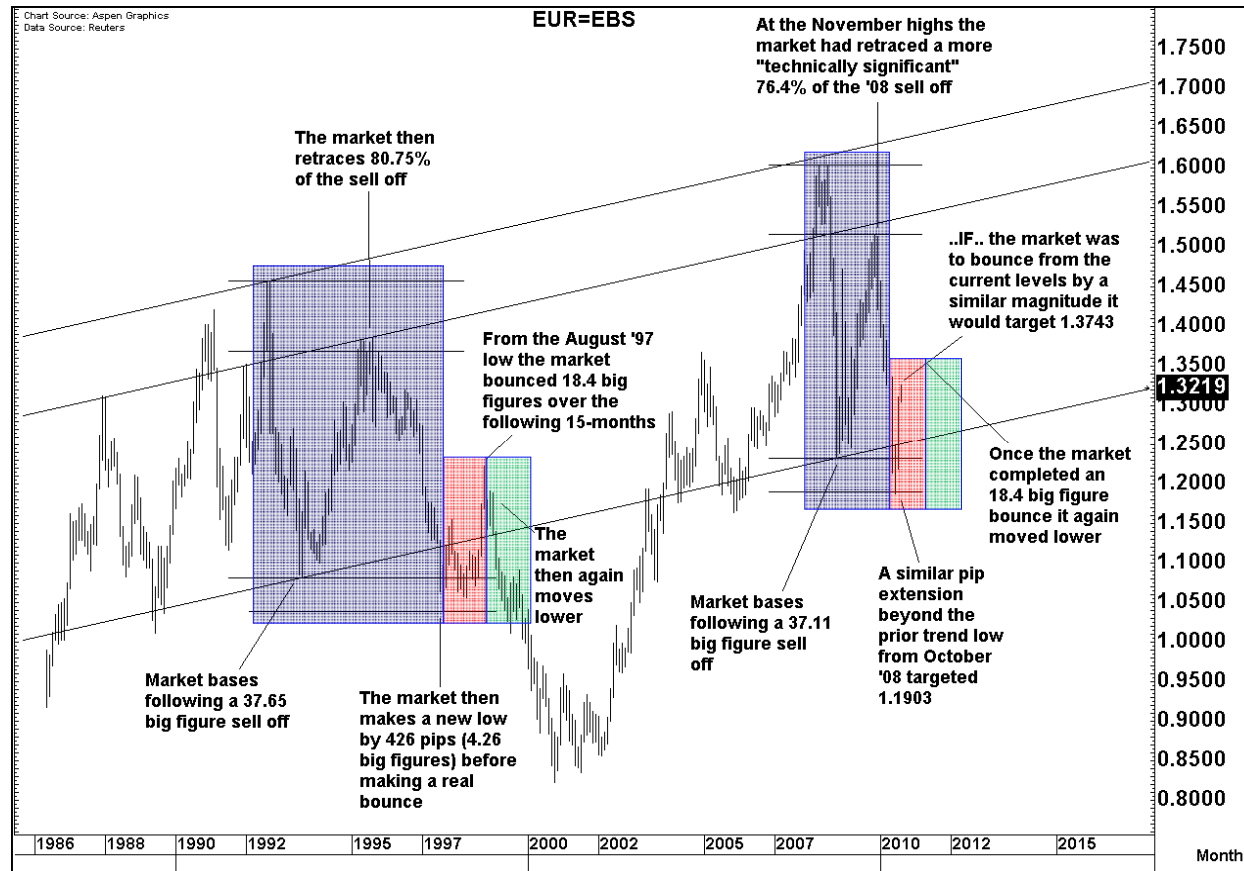


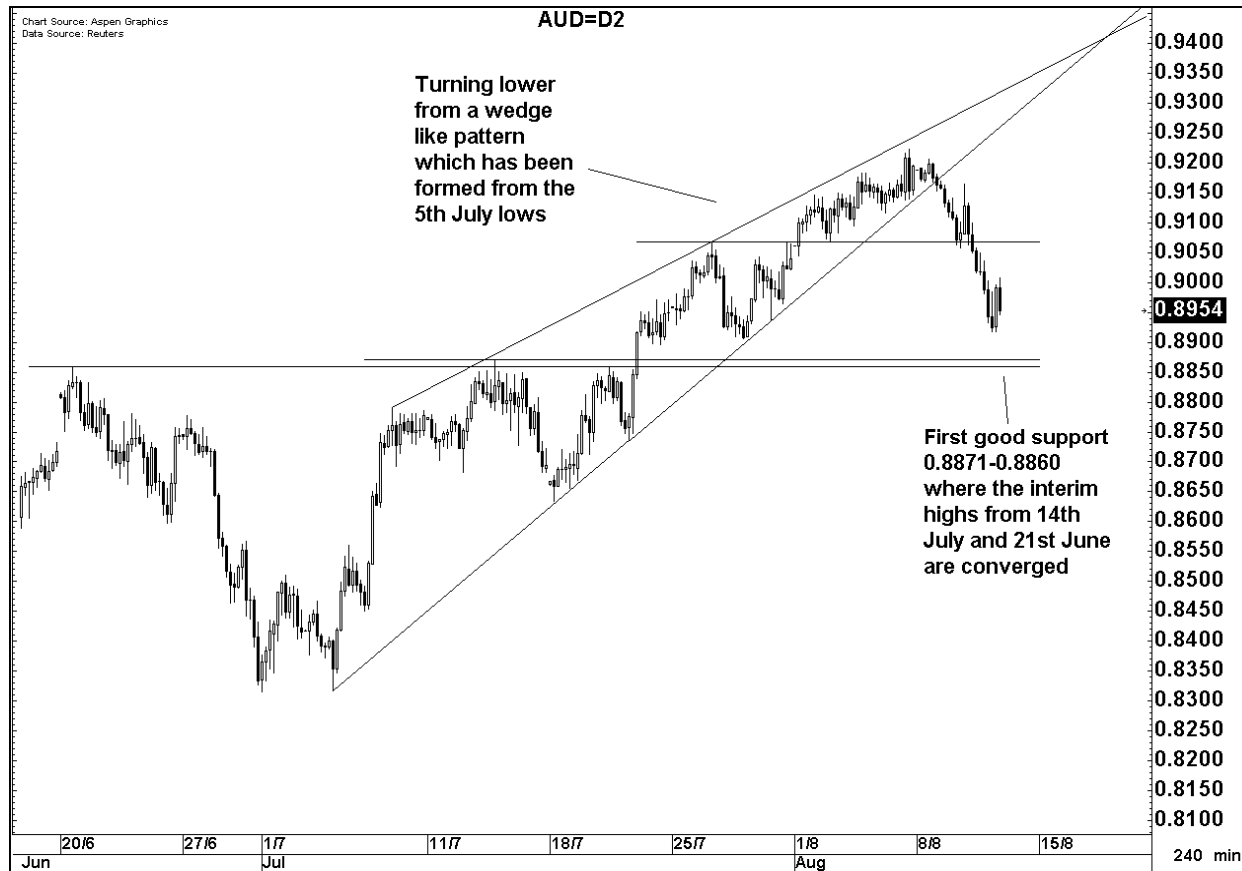
Chart Source: Aspen Graphics Data: Reuters

Again EURUSD has fallen short of the ideal target it implies of 1.3716, but the bigger picture warning that the market will likely find it difficult to, at least initially, rally beyond the mid- to high-1.30s remains

- As discussed on slide 3 the market has so far also fallen a little short of the 200-dma target. These developments could really therefore be viewed in two ways;
  1. We could still have a little more upside to come to fulfil the mid-/high-1.30s targets
  2. The fact the market has fallen short of targets derived from a number of different forms of analysis and subsequently posted quite negative price action could be a signal of underlying weakness
- When taking into account developments across the different asset markets it seems the real answer is closer to scenario 2. While we find it difficult to argue that EURUSD specifically has an underlying bearish setup given the problems for the USD, it does seem that EURUSD's inability to move to the mid-/high-1.30s target and so quickly develop quite a negative setup (extreme daily %age decline and bearish weekly patterns) shows the market's lack of comfort with being long EURUSD at higher levels.



## Looking at other currencies, AUDUSD has a particularly concerning structure...



The rally from the 5<sup>th</sup> July low took the form of a divergent wedge. It's a rare pattern which often culminates in relatively sharp downside corrections

- A full explanation of the theory behind the effectiveness of "Wedge" patterns is given on slide 8 (it's an extract from our *The Hows and Whys of Technical Analysis* presentation).
- In short they are often seen during the latter stages of carry trades, and in FX markets tend to form and subsequently work best when the market is near valuation/range extremes. Once the market breaks lower from the pattern sharp downside corrections and/or trend reversals often take place.
- In this case although not all of the characteristics of a classic carry trade have been present, AUDUSD is certainly near the extremes of its range over the past two decades.
- The first support below current levels comes in AT 0.8871-0.8860 where the interim highs from 14<sup>th</sup> July and 21<sup>st</sup> June are converged.

Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

Foreign Exchange Strategies - From the Trading Desk



## Albeit on a larger scale, a similar pattern formed on AUDUSD into the July '08 highs...



Once the market eventually broke lower in late-July (a similar time of year to now) the market began the sharp drop into the October '08 lows

- A move of similar magnitude seems unlikely here as the pattern is only evident on the intraday as opposed to daily charts and also the backdrop for the USD remains very negative so it's difficult to argue a simultaneous AUD-negative/USD-positive story to get a "real" FX move to develop. However, some further downside correction does certainly look very possible/probable.

Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

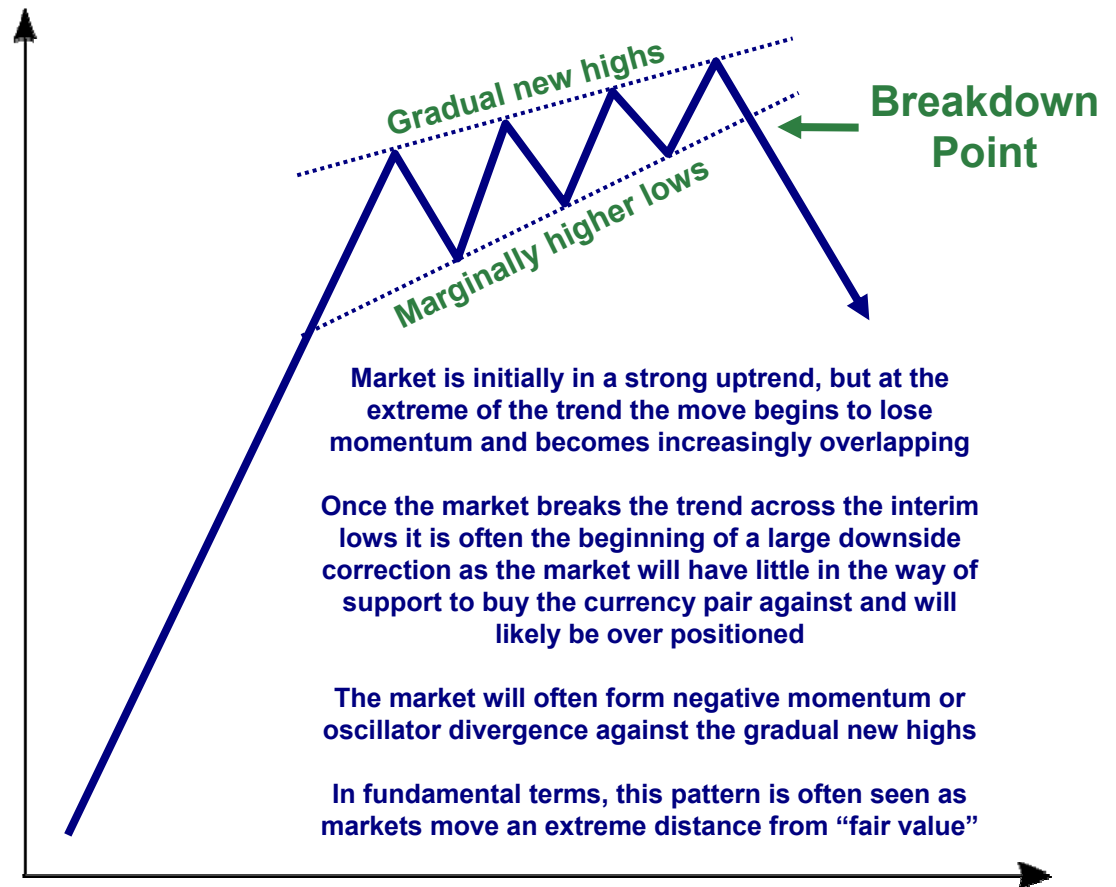
Foreign Exchange Strategies - From the Trading Desk



## STRUCTURES AND THEIR TARGETS: Wedges...

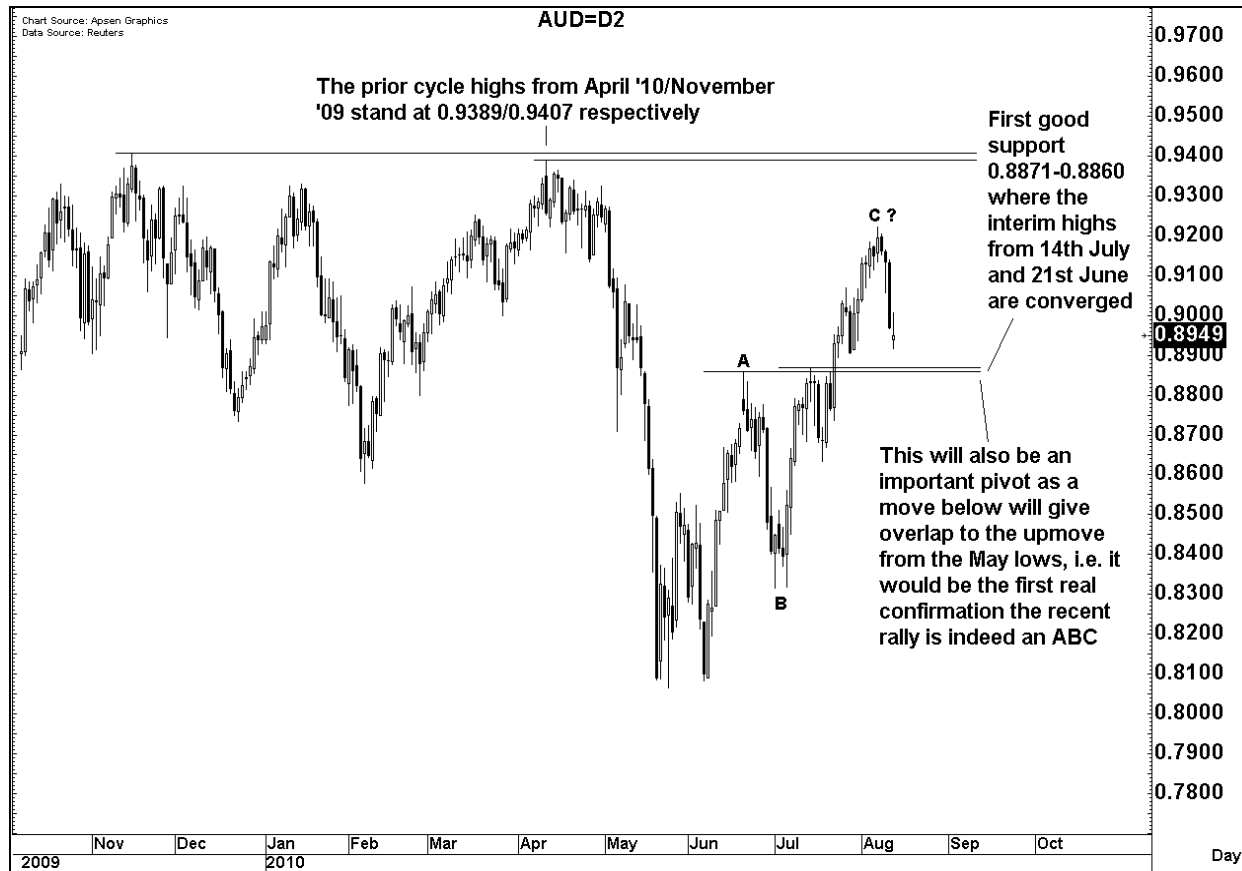
An extract from GS Techs "The Hows and Whys of Technical Analysis", full slide pack available on request

- Trend extremes are often associated with loss of *underlying* momentum. This can manifest itself in one of two ways; (1) extreme volatility with the market making little real progress with the trend or (2) the trend continuing but in an increasingly slow and over-lapping manner
  - Double Tops/Bottoms and Head and Shoulders patterns tend to be associated with (1)
  - Wedge patterns are associated with (2), and are often seen at the extreme on carry trades – market participants being of the view that “they have to own the currency because of its yield” but the news flow to drive incremental gains (i.e. higher yields) is waning
- 
- EXAMPLE: AUDUSD from the August '07 lows to the July '08 highs**





## On the daily chart the first significant support/important pivot runs 0.8871-0.8860...



Below that point overlap would be created within the up move from the May lows. This would make it easier to argue that the rally from the May lows is corrective in nature prior to another decline

- Given the underlying cross asset picture for the USD we'd be tempted to lock in a positive return on our Bearish-AUDUSD *Favourite Tactical Theme* if and when the market does test the 0.8871-0.8860 support with a plan to re-establish on a bounce or once a close below that pivot has been achieved to give further confirmation of more downside to come – it's been very easy to get dragged into being too bearish on the AUD over reason months.

Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

Foreign Exchange Strategies - From the Trading Desk



## AUDUSD has remained very highly correlated to equity markets...

Although AUDUSD currently looks a little high versus the S&P

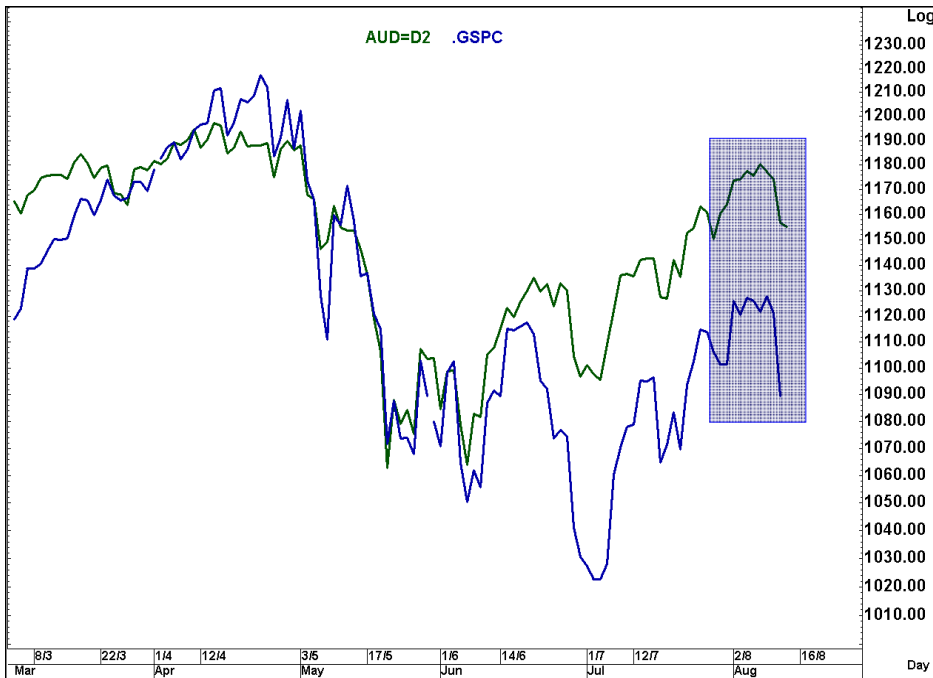


Chart Source: Aspen Graphics Data: Reuters

- The positive correlation between AUDUSD and the S&P has been strong for a number of months/years and has been particularly tight directionally for the past few months. The one notable point at the moment is that AUDUSD looks a little too high versus the S&P, although this was also the case in late-June/early-July too.

The S&P's rally from the July lows can also be viewed as a wedge

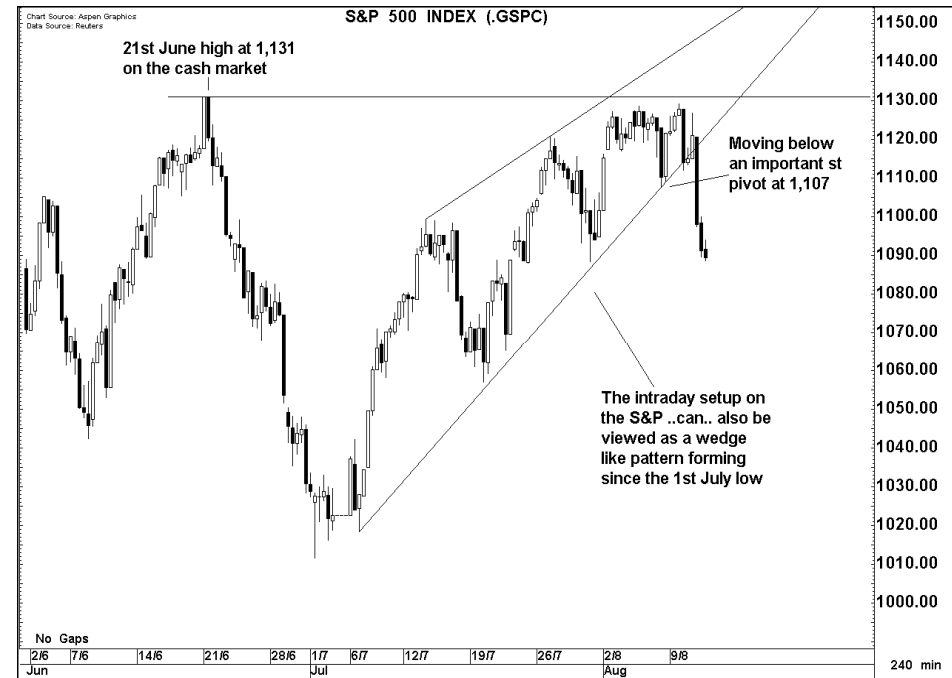


Chart Source: Aspen Graphics Data: Reuters

- Given the positive correlation between AUDUSD and the S&P it's interesting that the recent rally in the S&P also appears to have taken the form of a wedge.
- It highlights the market's inability to develop the necessary positive momentum to break above the prior corrective high from 21<sup>st</sup> June at 1,131.



## The daily chart of the S&P again looks heavy...

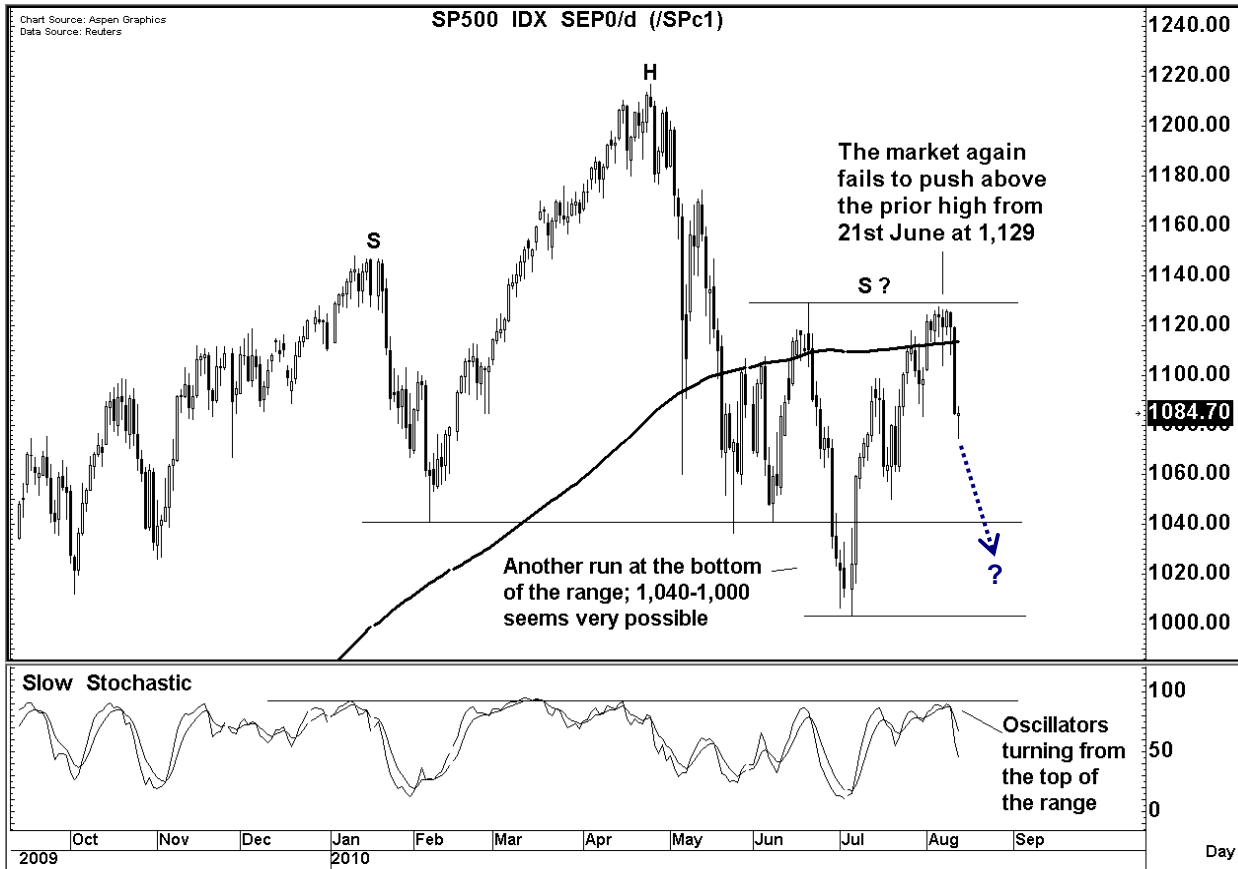


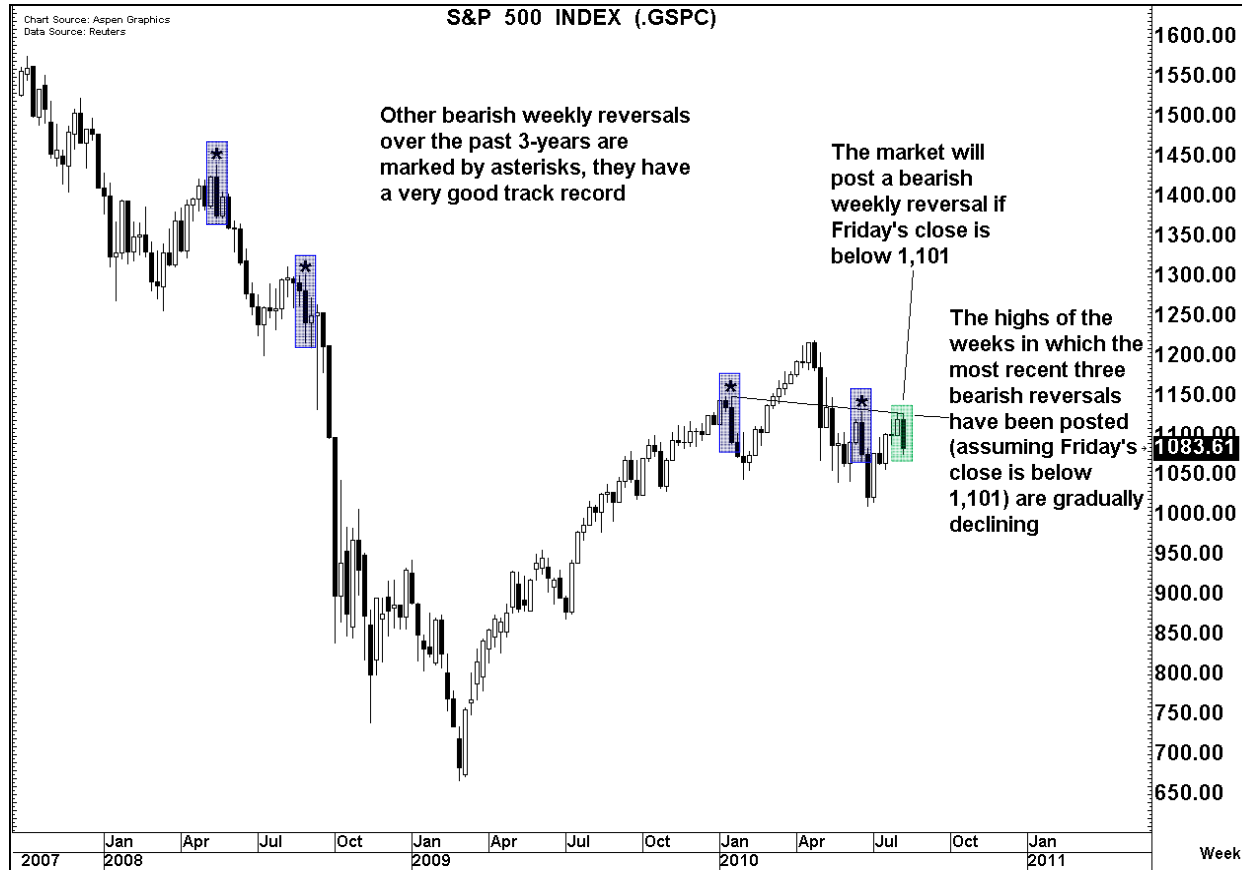
Chart Source: Aspen Graphics Data: Reuters

### Arguably the market could still be forming a larger H&S top

- As detailed on the prior slide the market has failed to move beyond the prior high from June at 1,129 with the momentum of the bounce waning as this level was reached.
- Given the wedge like nature of the rally from the July lows a return to the base of the range from 1,040 to 1,000 looks very possible.
- This would fit well with some further downside correction in risk correlated FX currency pairs.



## The weekly close on the S&P will also be very important...



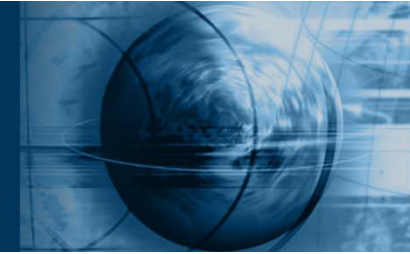
**If Friday's close is below 1,101 the market will post a bearish weekly reversal from the high of the recent recovery**

- Looking back over the past 3-years four other such patterns have been posted. All have given at least some downside follow through.
- Most notable were the two posted in May and September '08. Following both the market declined very sharply.
- The most recent two, posted in mid-June and mid-January this year, have only given minor pull backs, particularly the one posted in January. But the market did still correct lower following both.
- One other notable point, assuming the pattern is achieved this time around with a close below 1,101 on Friday, is that the last three patterns will all have been posted from similar, but very gradually declining, highs; January 1,150.50, June 1,131.08 and August 1,129.23. Taken at face value this seems to indicate that the rallies are becoming weaker as time goes on.
- In conclusion, as discussed in recent client meetings, while the timing is difficult, we remain concerned that a larger topping structure is still being formed on the S&P – which will eventually lead to another meaningful decline.**

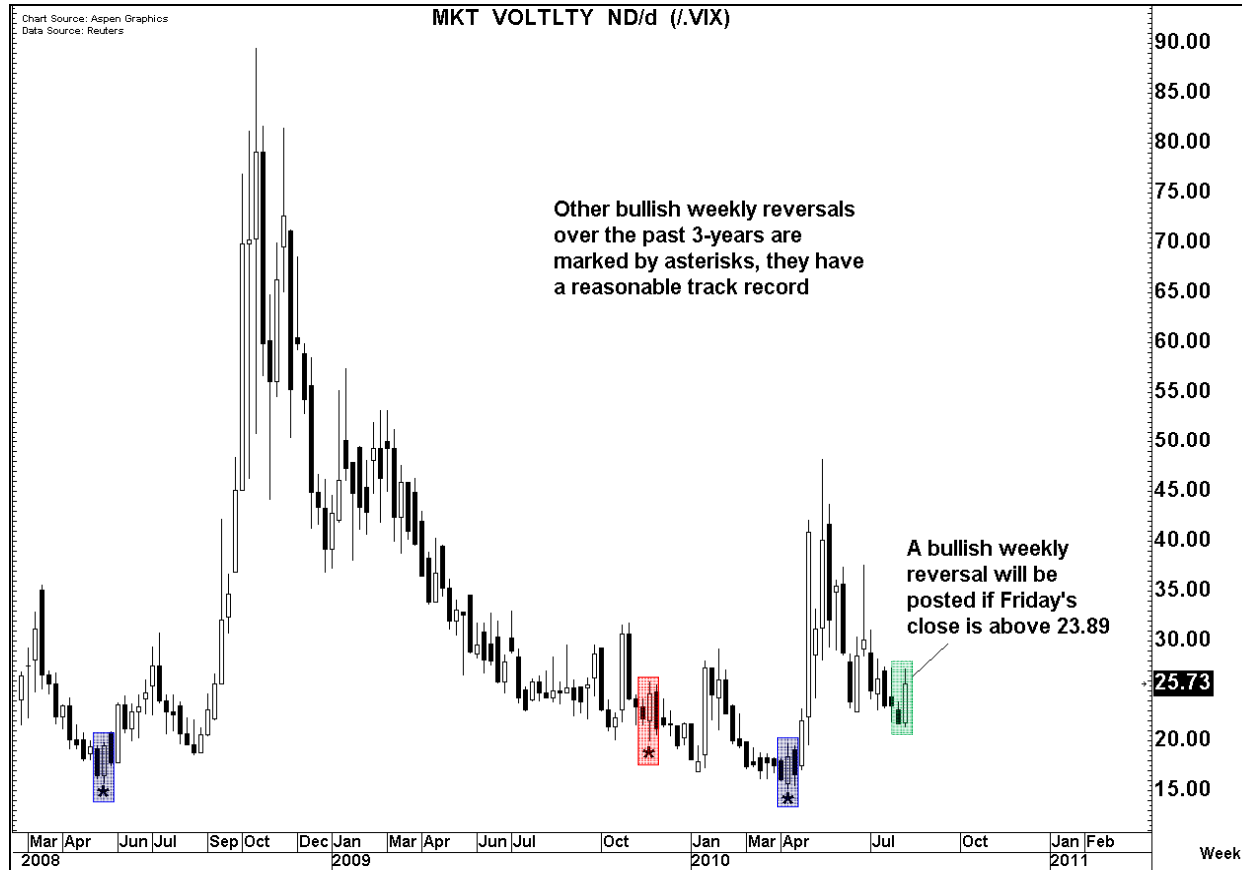
Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

Foreign Exchange Strategies - From the Trading Desk



## Finally we should watch the weekly close on the VIX closely too...



**If Friday's close is above 23.89 the market will post a bullish weekly reversal from the base of the recent down move**

- Three other bullish weekly reversals have been posted over the past 3-years. Their track record isn't perfect, two have worked very well and one didn't work at all.
- The conclusion seems to be that given how well two of the patterns worked...
  - May '08, low to high on the VIX; 15.82-89.53
  - April '10, low to high on the VIX; 15.23-48.2
- ...it's probably best to go with this week's pattern if it's achieve.
- Beyond the significance of VIX patterns for the S&P they're also important for broader markets as in the vast majority of cases a broader swing in risk appetite will take place across asset classes.

Chart Source: Aspen Graphics Data: Reuters

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.



## U.S. 10-year yields continue to decline...

Following last Friday's poor data yields broke from their July range



Chart Source: Aspen Graphics Data: Reuters

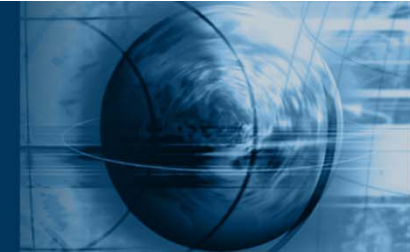
- While it's difficult to calculate ST targets from the consolidation, the base of the old pattern from 2.85 to 2.88% should now act as good resistance (price support) if we do see a material bounce in yields.

The multi-week chart still looks like a big double top targeting 2.2%



Chart Source: Aspen Graphics Data: Reuters

- The break lower from the daily chart consolidation as discussed opposite adds weight to the idea that from May '09 to June this year the market formed a larger double top which targets approximately 2.2%.



## As a result the 10-year/2-year curve is continuing to flatten...

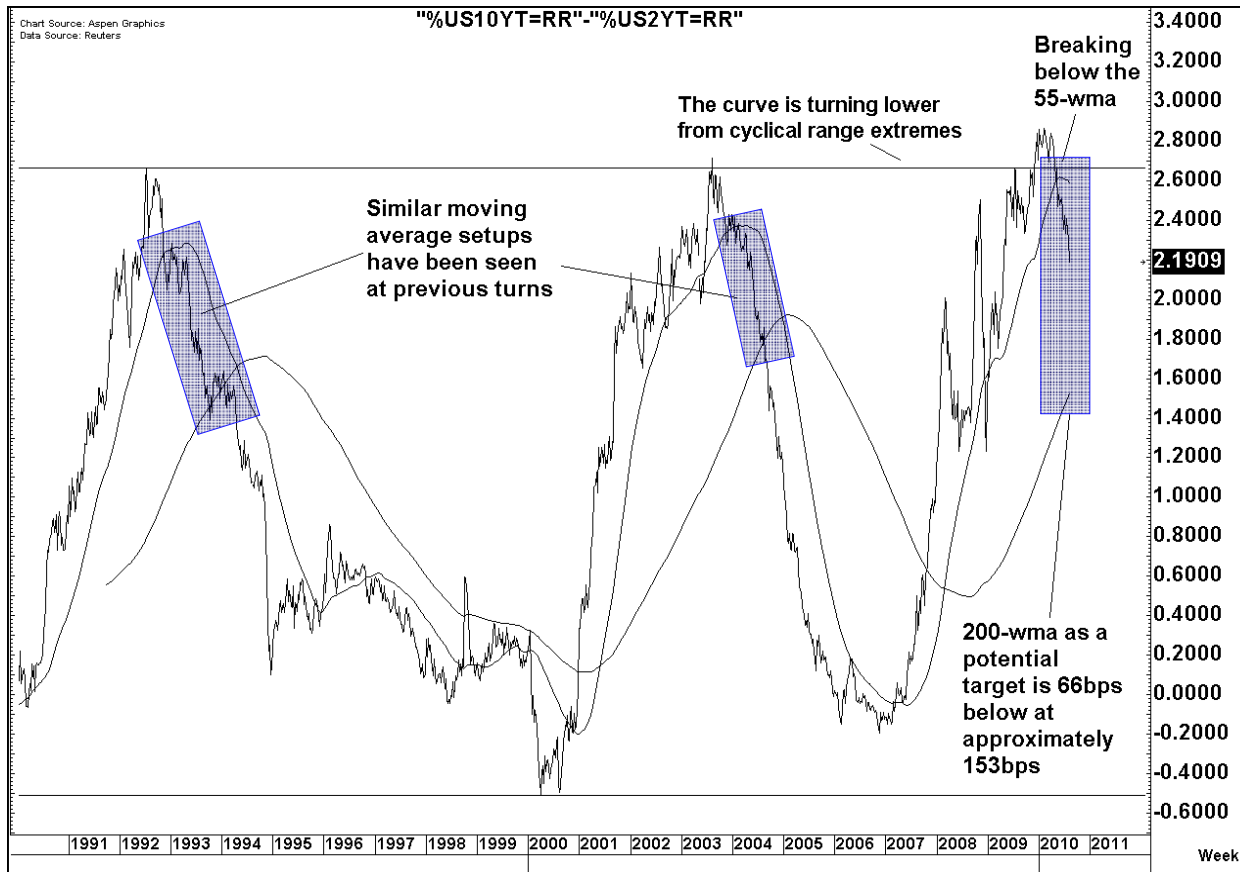


Chart Source: Aspen Graphics Data: Reuters

The ultimate target of the 200-week moving average now stands approximately 66bps below current levels

- While the curve is now bull flattening which is different to the prior trend flattening from '04/'05 this chart alone makes a clear argument for the trend to extend significantly further.



## With this in mind our U.S./Japan spread basket continues to move gradually lower...

The target of the double top is still 30bps below current levels

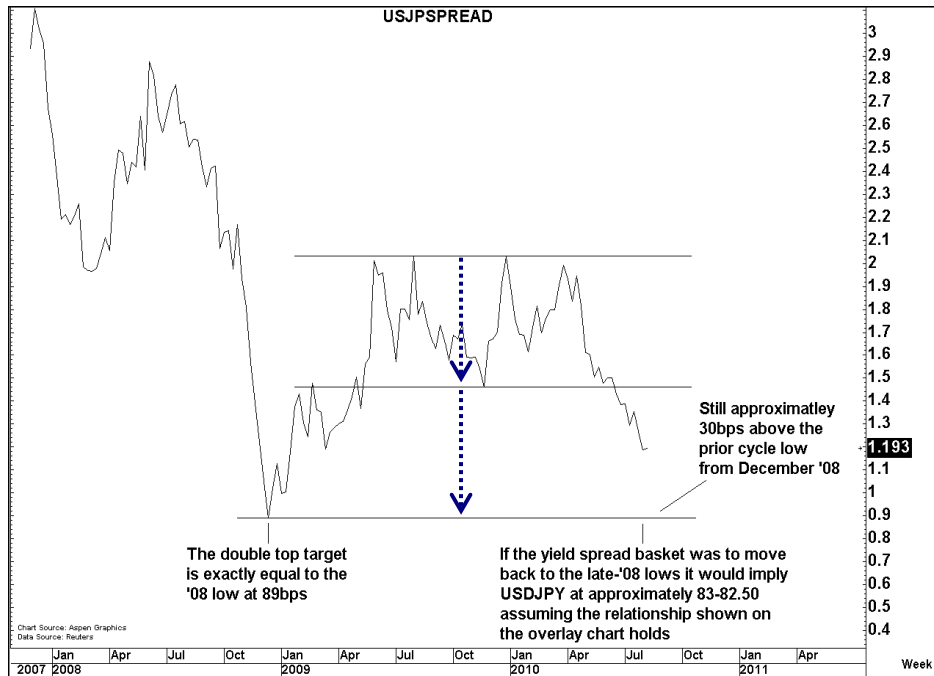


Chart Source: Aspen Graphics Data: Reuters

- This chart shows the performance of the equally weighted basket of U.S./Japan 10-, 5- and 2-year yield spreads which we've been watching for the last few weeks. Although it has declined significantly over recent weeks it still stands approximately 30bps from the target of the double top which has completed which targets 89bps – interestingly that is exactly on the prior low from December '08.

The spread basket overlaid with USDJPY

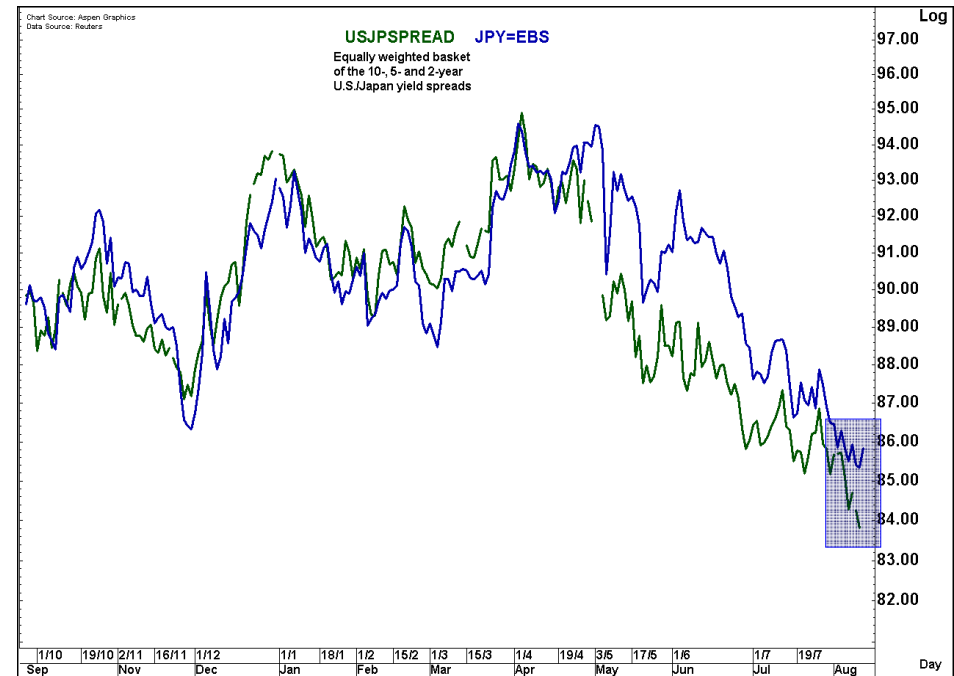


Chart Source: Aspen Graphics Data: Reuters

- This chart shows the spread basket in green overlaid with USDJPY spot in blue.
- The correlation has been quite tight over the last year. Currently USDJPY looks a little over-valued relative to the basket. If the current correlation holds a move to the double top target on the index at 89bps would imply USDJPY nearer to 82.

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.



## With the prior slide in mind, what does USDJPY look like?..

There are some signs of at ST base on the daily charts

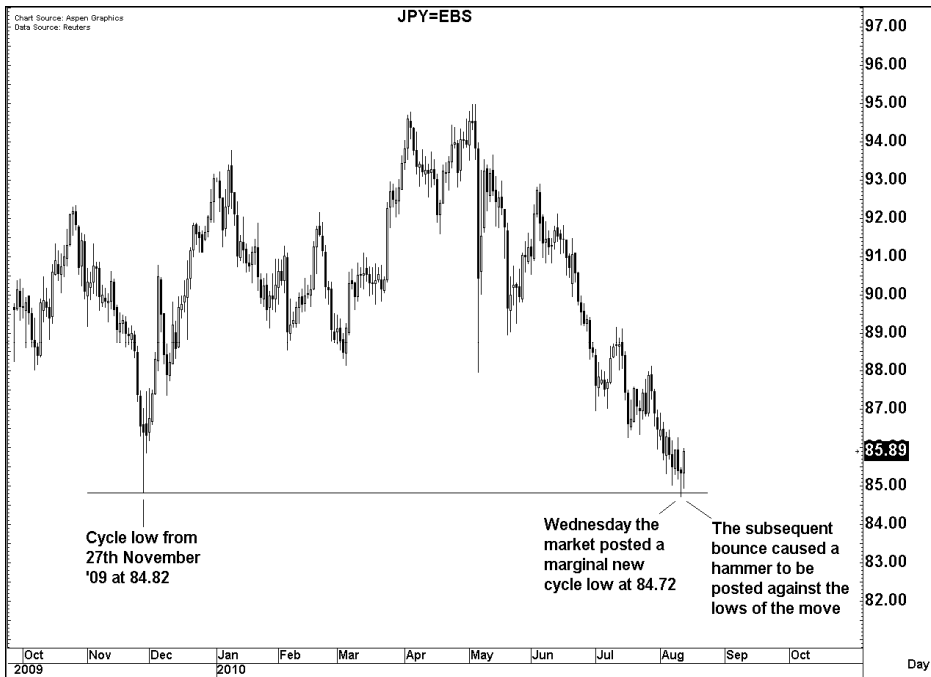


Chart Source: Aspen Graphics Data: Reuters

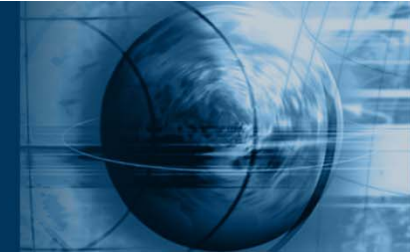
- Wednesday's low at 84.72 was very marginally below the prior cycle low from 27<sup>th</sup> November '09 at 84.82. From that point the market recovered relatively sharply and in the process posted a hammer like patten against the base of the move. This does argue the market can enter a period of consolidation.

Given the setup on the yield spread basket it's difficult to get excited



Chart Source: Aspen Graphics Data: Reuters

- Although the daily chart setup does argue for at least ST consolidation, given USDJPY's strong correlation to yield differentials, the setup on the yield spread basket makes it very difficult to actively look for more than a bounce within the recent downtrend. Interestingly as discussed on the prior slide if the yield spread basket moves to its potential target it would imply a move near to 82 for USDJPY. This would be very close to the base of a possible parallel channel formed off the August '98 high.



## While on the subject of Asia, USDSGD is at a very important pivot...

This week's low at 1.3453 was against the prior low from July '08

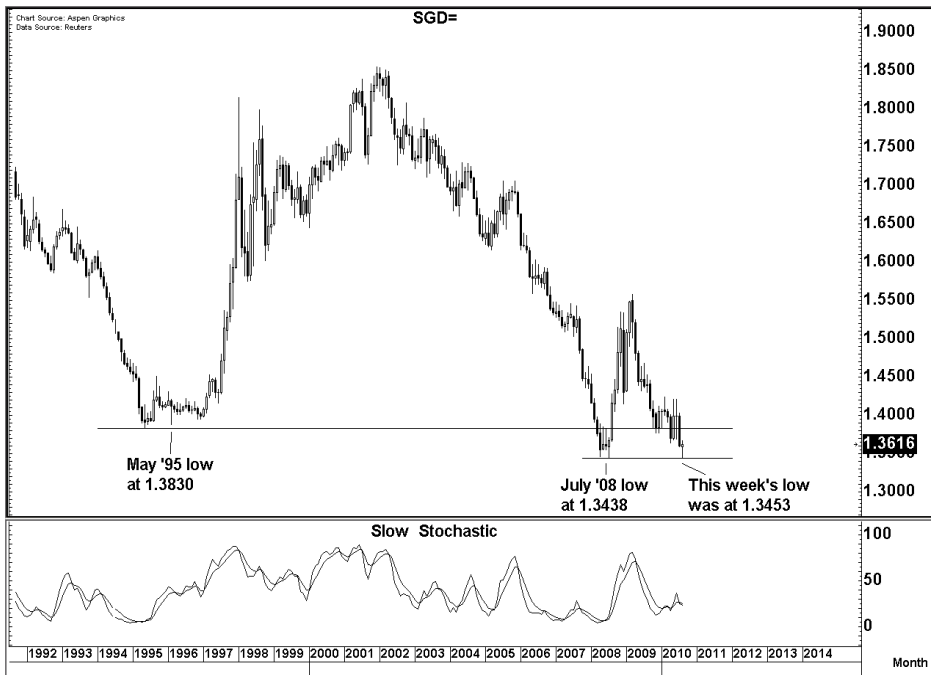


Chart Source: Aspen Graphics Data: Reuters

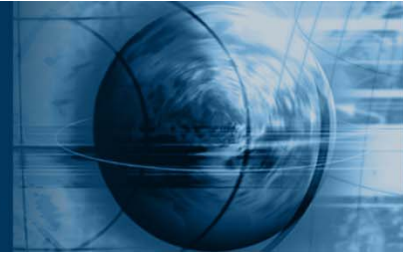
- This week's low at 1.3453 was only very marginally above the all time low from July '08 at 1.3438. This gives the potential for a double bottom to form.

If Friday's NY close is over 1.3603 a weekly reversal will be posted



Chart Source: Aspen Graphics Data: Reuters

- While it's difficult to calculate targets this would certainly warn of further upside correction for USDSGD.
- The last such pattern was posted in December '08 with the market spiking exactly 10 big figures over the following nine weeks. It's notable that it was posted from a far less significant pivot than is potentially the case here.



## With U.S. data deteriorating and yields falling it's very difficult to buy the USD...



Chart Source: Aspen Graphics Data: Reuters

### But is USDSGD really an FX view or just an equity trade?

- This chart shows the Straits Times Index in green overlaid with SGDUSD in blue (i.e. inverse-USDSGD).
- It highlights that while short-USDSGD can be thought of as a USD-trade, really, it's a play on the direction of the Straits Times Index.
- The positive AUDUSD/S&P correlation makes the same point. While EURUSD has to a certain extent de-coupled from equity markets, broader "risk/growth correlated" markets such as AUD and SGD really haven't.
- So it seems that when you sell-AUDUSD or buy-USDSGD you are really still just selling equities as opposed to really buying the USD.

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.

Foreign Exchange Strategies - From the Trading Desk



## Looking specifically at The Straits Times, the market is heavy against resistance...

The recent highs being against the 76.4 retrace of the '07/'09 fall

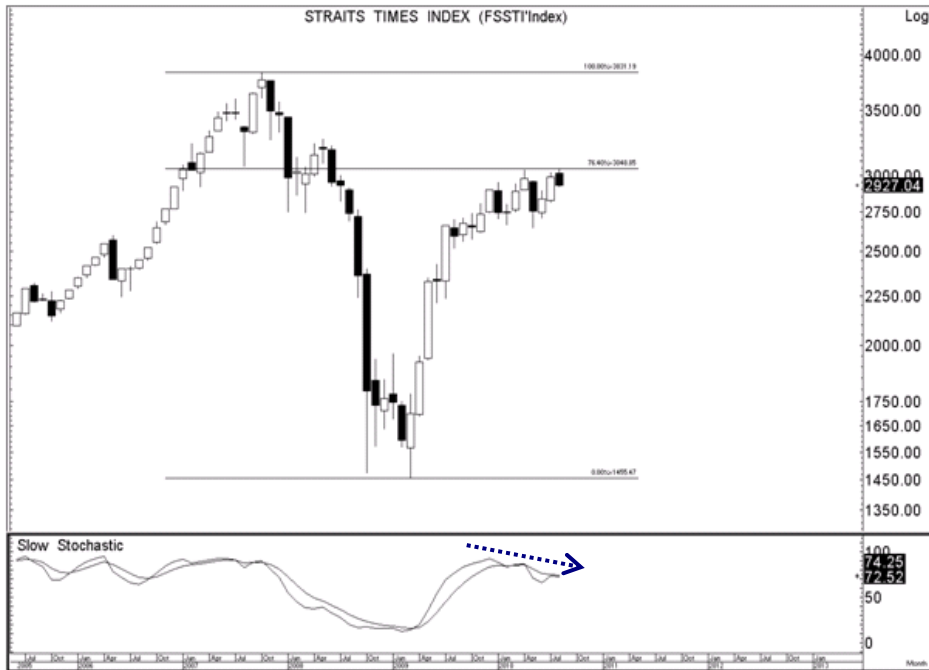


Chart Source: Aspen Graphics Data: Reuters

- On a log scale basis this month's high at 3,043 was right on the 76.4 retrace of the drop from the October '07 high to the March '09 low at 3,048.
- Negative monthly Stochastic divergence is also attempting to develop against the recent series of marginal new highs.

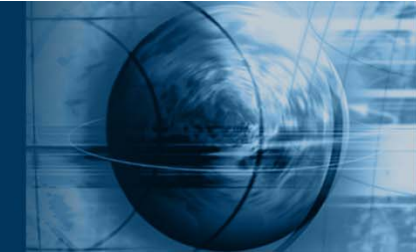
How does this fit with the constructive look to the Shanghai Comp?



Chart Source: Aspen Graphics Data: Reuters

- Over the past year the Shanghai Composite has significantly under-performed the Straits Times. The ratio falling from a high of 1.45 in March '09 to the low in mid-July this year at 0.82 – i.e. the Shanghai Composite fell 43% relative to the Straits Times. The ratio now however sits just above an historically important pivot centred on 0.826-0.809. Fitting with the setup on the components this is where you would look for the Shanghai Composite to begin to recover in at least relative terms.

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.



## Finally in EM space USDZAR is worth watching closely...

The market is now against an important multi-year pivot support

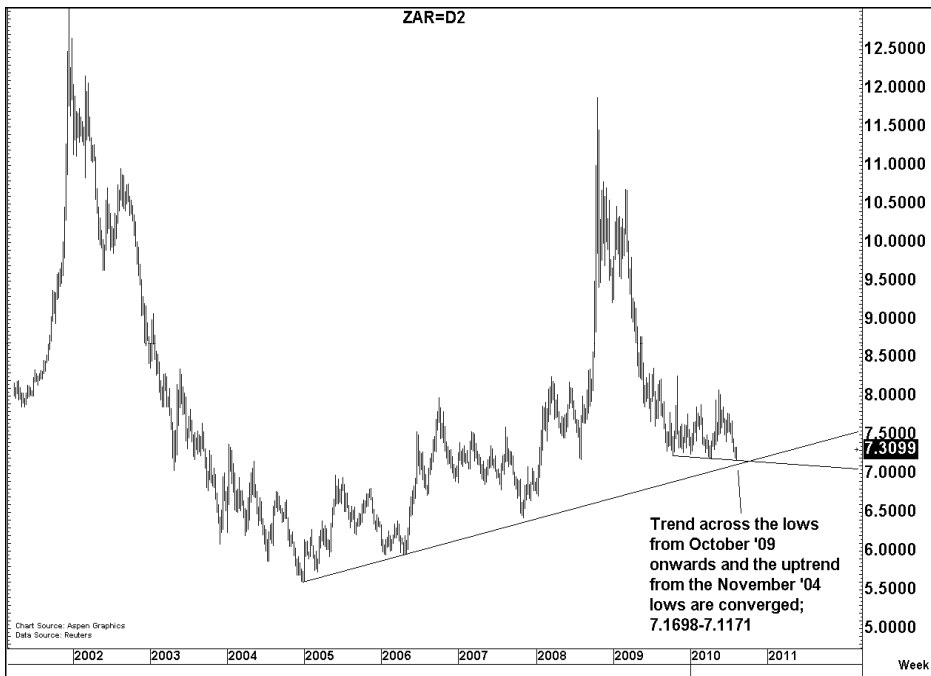


Chart Source: Aspen Graphics Data: Reuters

- The trend across the interim lows from October '09 onwards and the major uptrend from the November '04 lows are converged just below current levels; 7.1698-7.1171.
- Signs of a reversal higher from here (see opposite chart), or a break lower, would both likely have significant implications.

A bullish weekly reversal will be posted with a close above 7.34

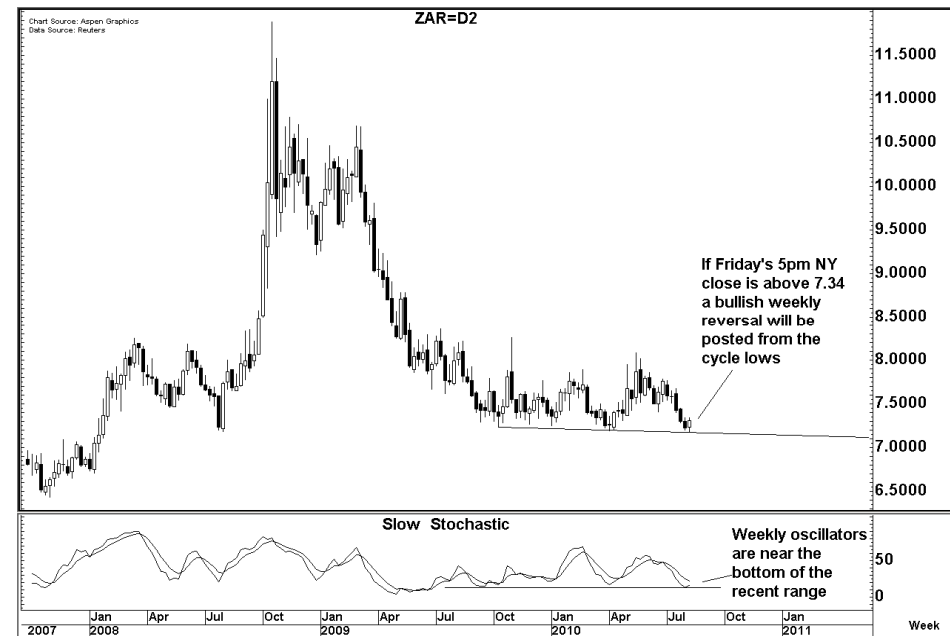


Chart Source: Aspen Graphics Data: Reuters

- Looking at the weekly chart. A close above 7.34 at 5pm NY on Friday would give a bullish weekly reversal from the base of the recent downtrend.
- Coupled with weekly oscillators being against the base of the recent range this would be an important signal of further bounce to come. Particularly with other markets such as equities and the VIX potentially on track for corresponding patterns.

Past performance is not an indicator of future results. Future returns are not guaranteed, and a loss of original investment may occur.



## Product Specific Risk Disclosure

The ideas detailed in this presentation may involve the purchase of options, in this case the premium paid may be lost if favourable market movement for the structure concerned does not take place.

---

## Disclaimer for clients based in Japan

This material has been prepared specifically for you by Foreign Exchange Department and is not the product of Research Department. We are not soliciting any action based upon this material. Opinions expressed are our present opinions only. The material is based upon information which we consider reliable, but we do not represent that it is accurate or complete, and it should not be relied upon as such. Certain transactions, including those involving futures, options and high yield securities, give rise to substantial risk and are not suitable for all investors. We, or persons involved in the preparation or issuance of this material, may from time to time, have long or short positions in, and buy or sell, the securities, futures, options or other instruments and investments identical with or related to those mentioned herein. Goldman Sachs does not provide accounting, tax or legal advice; such matters should be discussed with your advisors and or counsel. In addition, we mutually agree that, subject to applicable law, you may disclose any and all aspects of this material that are necessary to support any U.S. federal income tax benefits, without Goldman Sachs imposing any limitation of any kind. No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without Goldman Sachs' prior written consent. Further information on any of the securities, futures or options mentioned in this material may be obtained upon request.

### <特定投資家用資料>

本資料は、特定投資家のお客さまのみを対象に作成されたものです。本資料における金融商品は特定投資家のお客さまのみがお取引可能であり、特定投資家以外のお客さまからのご注文等はお受けできませんので、ご注意ください。

商号等/ゴールドマン・サックス証券株式会社 金融商品取引業者 関東財務局長(金商)第69号  
加入協会/ 日本証券業協会、(社)金融先物取引業協会



## Product Specific Risk Disclosure

The ideas detailed in this presentation may involve the purchase of options, in this case the premium paid may be lost if favourable market movement for the structure concerned does not take place.

---

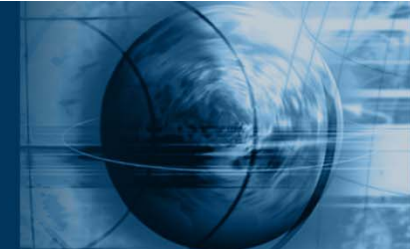
## Disclaimer for clients based in Australia

**This message has been prepared by personnel in the Equities or Fixed Income, Currency and Commodities Sales/Trading Departments of one or more affiliates of The Goldman Sachs Group, Inc. ("Goldman Sachs") and is not the product of the Global Investment Research Department or Fixed Income Research. It is not a research report and is not intended as such.**

In Australia, this document, and any access to it, is intended only for a person that has first satisfied Goldman Sachs that:

- the person is a Sophisticated or Professional Investor for the purposes of section 708 of the Corporations Act of Australia; and
- the person is a wholesale client for the purpose of section 761G of the Corporations Act of Australia.

To the extent that Goldman Sachs International (GSI) is providing a financial service in Australia, GSI is exempt from the requirement to hold an Australian financial services license for the financial services it provides in Australia. GSI is regulated by the UK Financial Services Authority under UK laws, which differ from Australian laws.



## Product Specific Risk Disclosure

The ideas detailed in this presentation may involve the purchase of options, in this case the premium paid may be lost if favourable market movement for the structure concerned does not take place.

## **Disclaimer for all clients not based in Japan or Australia**

This message has been prepared by personnel in the Equities or Fixed Income, Currency and Commodities Sales/Trading Departments of one or more affiliates of The Goldman Sachs Group, Inc. ("Goldman Sachs") and is not the product of the Global Investment Research Department or Fixed Income Research. It is not a research report and is not intended as such.

**Non-Reliance and Risk Disclosure:** This material should not be construed as an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. We are not soliciting any action based on this material. It is for the general information of our clients. It does not constitute a recommendation or take into account the particular investment objectives, financial conditions, or needs of individual clients. Before acting on this material, you should consider whether it is suitable for your particular circumstances and, if necessary, seek professional advice. The price and value of the investments referred to in this material and the income from them may go down as well as up, and investors may realize losses on any investments. Past performance is not a guide to future performance. Future returns are not guaranteed, and a loss of original capital may occur. We do not provide tax, accounting, or legal advice to our clients, and all investors are advised to consult with their tax, accounting, or legal advisers regarding any potential investment. The material is based on information that we consider reliable, but we do not represent that it is accurate, complete and/or up to date, and it should not be relied on as such. Opinions expressed are our current opinions as of the date appearing on this material only and only represent the views of the author and not those of Goldman Sachs, unless otherwise expressly noted.

**Limitations of statistical analysis:** GS provides no assurance or guarantee that the investment will operate or would have operated in the past in a manner consistent with the statistical analysis presented in this document.

**Risk Disclosure Regarding futures, options, equity swaps, and other derivatives as well as non-investment-grade securities and ADRs:** Please ensure that you have read and understood the current options disclosure document before entering into any options transactions. Current United States listed options disclosure documents are available from our sales representatives or at <http://theocc.com/publications/risks/riskstoc.pdf>. Certain transactions - including those involving futures, options, equity swaps, and other derivatives as well as non-investment-grade securities - give rise to substantial risk and are not available to nor suitable for all investors. If you have any questions about whether you are eligible to enter into these transactions with Goldman Sachs, please contact your sales representative. This material is not for distribution to retail clients, as that term is defined under The European Union Markets in Financial Instruments Directive (2004/39/EC) and any investments, including derivatives, mentioned in this material will not be made available by us to any such retail client. Foreign-currency-denominated securities are subject to fluctuations in exchange rates that could have an adverse effect on the value or price of, or income derived from, the investment. In addition, investors in securities such as ADRs, the values of which are influenced by foreign currencies, effectively assume currency risk.

**Special Risk Disclosure related to U.S. Registered Exchange-Traded Funds ("ETFs") and Exchange-Traded Notes ("ETNs"):** To the extent this communication contains information pertaining to U.S. registered ETFs or ETNs, consider the investment objectives, risks, and charges and expenses of the ETFs and ETNs carefully before investing. Each ETF and ETN has filed a registration statement (including a prospectus) with the SEC which contains this and other information about the ETF or ETN as applicable. Before you invest in an ETF or ETN, you should obtain and read carefully the prospectus in the registration statement and other documents the issuer has filed with the SEC for more complete information about the product. You may get these documents for free by visiting EDGAR on the SEC website at [www.sec.gov](http://www.sec.gov). Alternatively, you may obtain a copy of the prospectus for each of the ETFs and ETNs mentioned in these materials by (i) contacting your Goldman Sachs sales representative, or (ii) sending a request by calling toll-free 1-866-471-2526, or (iii) sending a request by email to [Propsectus-ny@ny.email.gs.com](mailto:Propsectus-ny@ny.email.gs.com), by fax to (212) 902-9316, or by mail to Goldman Sachs, 85 Broad Street, NY, NY, 10004, Attn: Prospectus Department.



## **Disclaimer for all clients not based in Japan or Australia (Continued)**

ETFs are redeemable only in Creation Unit size aggregations and may not be individually redeemed; are redeemable only through Authorized Participants; and are redeemable on an "in-kind" basis. The public trading price of a redeemable lot of the ETFs may be different from its net asset value. These ETFs can trade at a discount or premium to the net asset value. There is always a fundamental risk of declining stock prices, which can cause losses to your investment.

Most leveraged and inverse ETFs "reset" daily, meaning that they are designed to achieve their stated objectives on a daily basis. Due to the effect of compounding, their performance over longer periods of time can differ significantly from the performance (or inverse of the performance) of their underlying index or benchmark during the same period of time and as such are not meant to be held for the long term. This effect can be magnified in volatile markets. Prior to entering into a transaction in leveraged or inverse ETFs, you should be aware of the general risks associated with such transactions. You should not enter into leveraged or inverse ETFs transactions unless you understand the nature and extent of your risk exposure. You should also be satisfied that the leveraged or inverse ETFs transaction is appropriate for you in light of your circumstances and financial condition.

Order Handling Practices for Listed and Over-the-Counter Derivatives: While the firm is holding your derivative (e.g. options, convertible bonds, warrants or preferred shares) order, the firm or its clients may engage in trading activity in the same or related products, including transactions in the underlying securities. While such trading activity is unrelated to your order, it may coincidentally impact the price of the derivative that you are buying or selling.

Not a Valuation: Values herein are not customer valuations and should not be used in lieu of a customer valuation statement or account statement. These values may not reflect the value of the positions carried on the books and records of Goldman Sachs or its affiliates and should not be relied upon for the maintenance of your books and records or for any tax, accounting, legal or other purposes. The information provided herein does not supersede any customer statements, confirmations or other similar notifications.

Conflict of Interest Disclosure: We are a full-service, integrated investment banking, investment management, and brokerage firm. The professionals who prepared this material are paid in part based on the profitability of The Goldman Sachs Group, Inc., which includes earnings from the firm's trading, capital markets, investment banking and other business. They, along with other salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions that are contrary to the opinions expressed herein or the opinions expressed in research reports issued by our Research Departments, and our proprietary trading and investing businesses may make investment decisions that are inconsistent with the views expressed herein. In addition, the professionals who prepared this material may also produce material for, and from time to time, may advise or otherwise be part of our trading desks that trade as principal in the securities mentioned in this material. This material is therefore not independent from our proprietary interests, which may conflict with your interests. We and our affiliates, officers, directors, and employees, including persons involved in the preparation or issuance of this material, may from time to time have "long" or "short" positions in, act as principal in, and buy or sell the securities or derivatives (including options) thereof in, and act as market maker or specialist in, and serve as a director of, companies mentioned in this material. In addition, we may have served as manager or co manager of a public offering of securities by any such company within the past three years.

Legal Entities Disseminating this Material: This material is disseminated in Australia by Goldman Sachs JBWere Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs; in Canada by Goldman, Sachs & Co. (or when expressly noted as such, by Goldman Sachs Execution & Clearing, L.P.); in Hong Kong by Goldman Sachs (Asia) L.L.C.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs JBWere (NZ) Limited on behalf of Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); in India by Goldman Sachs (India) Securities Private Limited, Mumbai Branch; in Europe by Goldman Sachs International (unless stated otherwise); in France by Goldman Sachs Paris Inc. et Cie and/or Goldman Sachs International; in Germany by Goldman Sachs International and/or Goldman, Sachs & Co. oHG; in Brazil by Goldman Sachs do Brasil Banco Múltiplo S.A.; and in the United States of America by Goldman Sachs Execution & Clearing, L.P. (or when expressly noted as such, by Goldman, Sachs & Co.) (both of which are members of FINRA, NYSE and SIPC). You may obtain information about SIPC, including the SIPC brochure, by contacting SIPC (website: <http://www.sipc.org/>; phone: 202-371-8300). Goldman Sachs International, which is authorized and regulated by the Financial Services Authority, has approved this material in connection with its distribution in the United Kingdom and European Union. Unless governing law permits otherwise, you must contact a Goldman Sachs entity in your home jurisdiction if you want to use our services in effecting a transaction in the securities mentioned in this material.



## **Disclaimer for all clients not based in Japan or Australia (Continued)**

Reproduction and Re-Distribution: No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without our prior written consent. Notwithstanding anything herein to the contrary, and except as required to enable compliance with applicable securities law, you (and each of your employees, representatives and other agents) may disclose to any and all persons the U.S. federal income and state tax treatment and tax structure of the transaction and all materials of any kind (including tax opinions and other tax analyses) that are provided to you relating to such tax treatment and tax structure, without Goldman Sachs imposing any limitation of any kind.

Information Not for Further Dissemination. To the extent this communication contains Goldman, Sachs & Co. or its affiliates ("Goldman Sachs") pricing information, such pricing information is proprietary and/or confidential and is provided solely for the internal use of the intended recipient(s). You are notified that any unauthorized use, dissemination, distribution or copying of this communication or its contents, including pricing information, in whole or in part, is strictly prohibited. Further, unless prohibited by local law, any use, review or acceptance of this information is subject to and manifests your agreement with Goldman Sachs to use such information only in accordance with the terms set forth above. Goldman Sachs has caused its proprietary information to be delivered to you in reliance upon such agreement.