



# REPORT

Q2, 2013

**AGGREGATE TECHNICAL INDICATOR**

FUNDAMENTAL ANALYSIS

**TECHNICAL ANALYSIS**

ECONOMIC RESEARCH

**TRADE PATTERN**

 **IDEAS**

## “ EXPERT COMMENTARY

"The 17-nation bloc's economy, which caught some wind in the beginning of this year, is still facing serious internal problems and is not expected to return to growth until 2014"

*Mihkel Kersna,  
Economist at Dukascopy Bank*

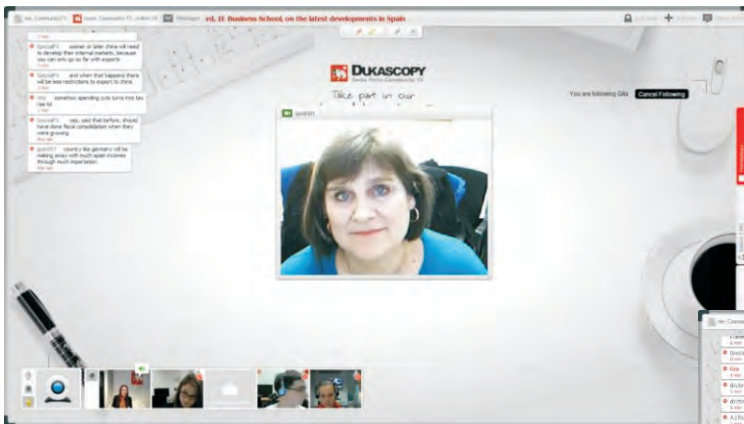


# Take part in our live daily webinars and exchange your trading ideas!

The beginning of 2013 has been truly interesting in terms of the events that took place in different parts of the world. Europe has been under the spotlight, in particular, with record high unemployment, corruption scandal in Spain, and Cyprus being the 5th Eurozone member to ask for a bailout. All of the top headlines were discussed during Dukascopy Community TV Webinars.

*As always, we had leading professors to provide their expertise on the hottest topics!*

In addition, we could not ignore other important topics such as “Behavioral Finance” and “Trading VS. Gambling” that are bound to pique the interest of our traders!



Gayle Allard, IE Business School, discusses Spain and what to expect for the 4th largest economy in the Eurozone:

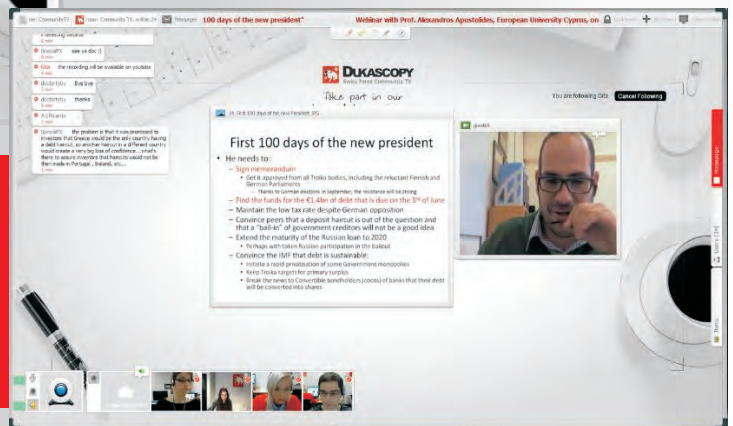
***“It is not true that Spain brought it [economic woes] on itself by being fiscally irresponsible.”***

[Webinar link](#)

Alexandros Apostolides, European University Cyprus, talks about Cyprus elections and what do the results mean for the European debt crisis:

***“There is systematic risk: if Cyprus goes down, Greece might need a 3rd bailout.”***

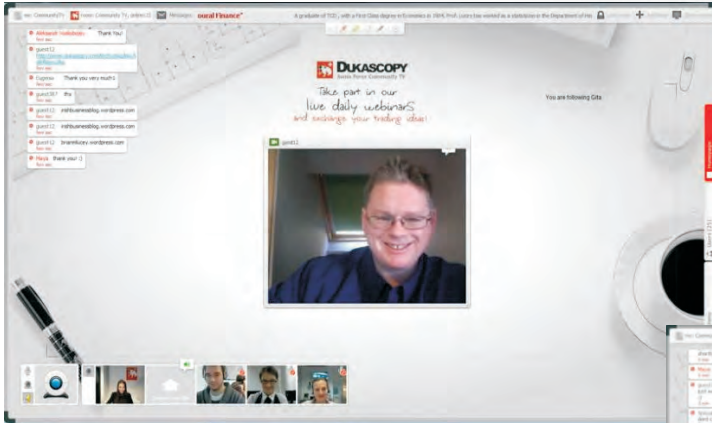
[Webinar link](#)







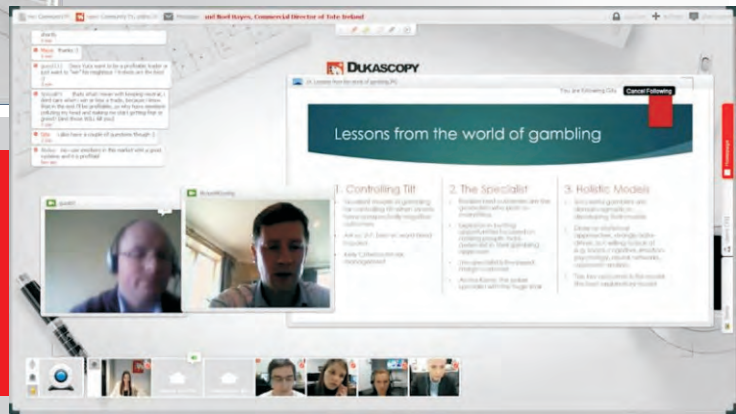
Take part and exchange trading ideas!



Brian M. Lucey, Trinity College Dublin, shares his views on "Behavioral Finance":

*"There is no necessary conflict between emotion and rationality; they have to work together in harmony."*

[Webinar link](#)



Michael Dowling, Dublin City University and Noel Hayes, Commercial Director of Tote Ireland, consider the difference between a gambler and a trader:

*"In gambling you focus on returns, while in trading the focus is on risk-adjusted returns."*

[Webinar link](#)

**During the first quarter of 2013 we even enjoyed our first debate!**



Internal adjustment or external devaluation? The question is tackled by joined forces of Yusaf Akbar, Central European University, and Ioannis Bournakis, Middlesex University:

**Ioannis Bournakis: "Enough with internal adjustment at the moment, we have to look at the alternatives."**

[Webinar link](#)



More great webinars are on the way in the second quarter of 2013. Be sure that you check the schedule on the Dukascopy Live TV page.



One of the professors who will be joining us is Joe Nellis, School of Management Cranfield University, to talk about "Beyond the Horizon in the 21st Century - Identifying New Normals". Therefore, be sure to mark 11 April at 12:00 GMT on your calendars not to miss the broadcast!

To top things off, we not only benefit from the participation of academic experts; however, we also have practical webinars by traders who provide their outlooks on various currency pairs as well discuss their analyses and strategies.

Dukascopy Swiss Forex Community TV is also inviting YOU to broadcast your own webinars on interesting FX related topics and earn 30 USD per hour on your live trading accounts! For more info simply visit [www.dukascopy.com/tv/Live](http://www.dukascopy.com/tv/Live).





Dear traders,

The last quarter on Dukascopy's timeline was marked with several notable events. We have formed alliances with new partners, the range of usable leverage level has been substantially widened to meet various needs, the Hong Kong Dollar has been made available as an account base currency - all part of the endeavour directed towards improving your trading and making your experience with us enjoyable as possible.

Also, we are not planning to abandon our constant quest for achieving better quality, wider spectrum, and new depth of analysis in our informational products. Therefore we constantly update and add new features to [FXSpider](#), our in-house developed news-aggregation tool. Beyond that, we increase the coverage of Forex and economics related substance on the [Dukascopy Live TV](#), where traders broadcast for traders. Join our [FX Community](#), share your ideas, win prizes, and acquire new knowledge with us.

And after this intro to the latest developments I would like to welcome you to get acquainted with our latest effort to deliver to you the most relevant and interesting information on the Forex market that is contained in our [Quarterly Report](#).

Wishing you the best of luck,

Alexander Suhobokov, CFA, FRM

Head of Research

Dukascopy Bank SA



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## Fundamental Overview



## Eurozone



The 17-nation bloc's economy, which caught some wind in the beginning of this year, is still facing serious internal problems and is not expected to return to growth until 2014. During the last three months of 2012, the Eurozone economy experienced its most severe contraction in almost four years, with the gross domestic product contracting by 0.6%, while for the whole 2012 the economy shrank by 0.9%. Despite three consecutive quarters of contraction, the European Central Bank maintained its benchmark interest rate at 0.75%. Many economists expect a further rate cut in 2013 in order to revive the struggling economy, however, with the cost of borrowing already close to zero, it may not have an expected impact.

A better-than-expected pick-up in exports of Europe's largest economy helped carry the rest of the bloc and offers cautious optimism to the region. In March the Organization of Economic Cooperation and Development or OECD said that their indicator of economic performance climbed to 99.7 from 99.6, led by regional powerhouse Germany, and moved closer to the 100 threshold which means economic growth.

The labour market remains a major concern for policy makers in the Eurozone. In the first month of 2013, the overall unemployment rate soared to a fresh high, with an estimated 19 million people in the bloc being out of work. February's jobless rate reached all-time high at 12%, as another 33,000 people lost their jobs. Furthermore, almost a quarter of all people aged between 16 and 24 are out of work, with the youth unemployment rate in January standing at 24.2%, compared to 21.9% a year ago. For Greece, Spain, and Italy, this rate was 59.4%, 55.5%, and 38.7%, respectively. "Unemployment is a tragedy; youth unemployment is an even greater tragedy," Mario Draghi said. "There is very little the ECB can do about that." Moreover, the Eurozone's stagnant economy failed to generate new jobs at the end of 2012, even despite the festive shopping season, with employment falling 0.3%, adding more pressure on the Eurozone leaders to reduce record unemployment.

Widespread austerity measures and weakening economies have left consumers with little free cash to spend, depressing retailers' ability to increase prices. In February, consumer prices hit a two-year low of 1.8%, falling below the ECB's 2% target. Weak domestic demand, record high unemployment, an unclear political situation in Italy, and a last-minute deal for Cyprus, are all adding to concerns that there is a long way to go before the Eurozone economy will experience stable growth.

*"We should aim to build a strong and deep economic and political union in Europe, which would be to the benefit of all members of the single currency"*  
- Mario Draghi, President of the European Central Bank



## USA

Even though the U.S. government managed to avoid the so-called “fiscal cliff”, budget cuts will soon begin taking effect. Moreover, the start of automatic spending cuts in the U.S. has not altered a stalemate between Democrats and Republicans on America's fiscal future. President Barack Obama and congressional Republicans refused to concede any share of the blame for failing to prevent these cuts. The U.S. economy is facing \$85 billion in domestic spending cuts this year and \$1.2 trillion over the next decade, which will weigh on both Republicans and Democrats. The huge cuts in defence spending are expected to hurt Republicans, while more dovish Democrats are likely to suffer from cuts in other sectors of government spending like research, education, the Environmental Protection Agency, and a potential 2% cut to Medicare providers. Even despite the fact that these cuts will have a devastating impact on the economy, and more than a million people will likely lose their jobs, both parties claimed the blame rests squarely on the other for any damage the cuts might inflict.

*“In most areas, there was a pretty healthy rate of improvement. The Fed is going to be happy to see these numbers”*

*- Drew Matus, deputy U.S.*

*chief economist at UBS*

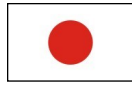
The upcoming budget cuts weighed on consumer confidence in March, as an index of consumer attitudes fell by 8.3 points to 59.7 (according to the Conference Board). However, both labour and housing markets, which are considered by Ben Bernanke as key indicators of economic health, are showing signs of improvement. In February, the U.S. economy created 236,000 new jobs, while private job creation stood at a robust 246,000, indicating that the world's largest economy may be ready to escape the tight growth range in which it has been held since the financial crisis. The unemployment rate unexpectedly dropped to 7.7%, down from 7.9% in the previous month, reaching a four-year low. “The labour market looks pretty solid,” said Drew Matus, deputy U.S. chief economist at UBS Securities LLC in Stamford. “In most areas, there was a pretty healthy rate of improvement. The Fed is going to be happy to see these numbers.” The stable improvement of the labour market is increasing chances that the Fed may finish its quantitative easing programme earlier than previously announced.

The housing market is gaining pace as well, with total existing home sales standing at 4.98 million in February, the highest level since the tax credit period of November 2009. Meanwhile, the national median existing home price surged 11.6% from February 2012 and reached \$173,600. Even a huge national debt, worth \$16.7 trillion or 106% of the gross domestic product, has little impact on the economy. The U.S. Federal Reserve now predicted growth between 2.3% and 3% for 2013, as conditions are just good enough to keep growth figures positive. “The U.S. is moving towards a 3% real GDP growth rate in 2013, in part because of housing, and a nominal growth rate of 5%,” said Bill Gross, who runs the biggest bond fund in the world at PIMCO.





## Asia & Pacific



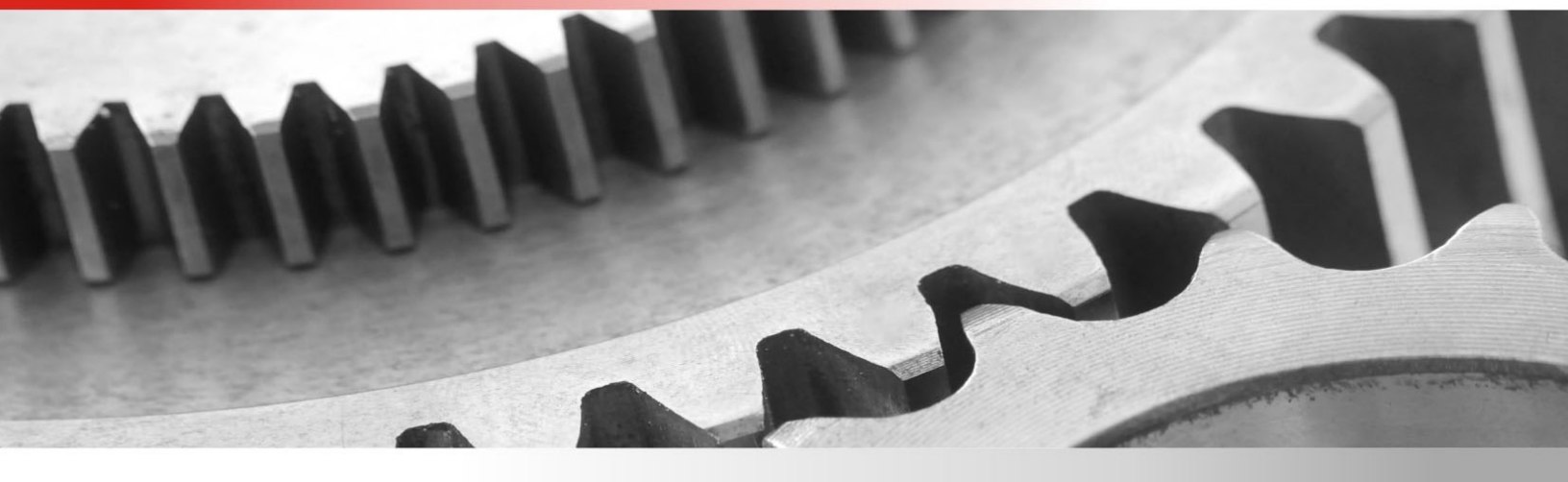
While Chinese and Japanese economies are struggling to sustain a cyclical recovery, Australia and New Zealand are continuing to gain momentum. Even despite certain problems, Asian nations have become the key driver of global economic growth in recent years. “This is the era of Asian-consumption led global growth,” says Shaun Rein, managing director of China Market Research Group. However, a slowdown in the Eurozone and the U.S. are likely to weigh on the performance of Asian countries.

The Chinese economy has showed some signs of weakness in the first two months of 2013, raising concerns it would resume the kind of strong growth with low inflation that has helped drive a global economic recovery. In the last quarter of 2012, the world’s second largest economy expanded by 7.9%, compared with a year earlier, up from 7.4% in the prior quarter, halting seven consecutive quarters of declining growth. Still, the nation’s economic growth continues to be shored up by an unsustainable reliance on credit and, in case the country is to avoid running into overcapacity, credit growth will soon have to slow. Consumer inflation soared to 3.2% year-to-year in February, compared to 2% in January, for the highest increase since April last year, while property sales have rocketed 77.6% from last year’s levels, putting more pressure on the central bank to clamp down.

New Zealand’s economy grew at its fastest pace in three years in the final quarter of 2012, with gross domestic product expanding by 1.5%, while on the year, GDP rose 3.0%. Meanwhile, the Australian economy expanded 3.6% last year, posting the best performance since a 4.7% expansion in 2007. Growth in both countries was mostly provided by several rate cuts, which boosted expansion. However, muted inflation and a high exchange rate are likely to keep interest rates at a record low for the rest of the year.

Japanese economy returned to growth in the last three months, according to the Cabinet Office. The nation's gross domestic product in annualised terms grew by 0.2% in Q4 through December, compared with a preliminary calculation of a 0.4% decline, up from the previous quarter's 3.8% contraction. Meanwhile, Haruhiko Kuroda stepped in as a new governor of the Bank of Japan on Thursday, March 21. He pledged to launch full-scale efforts to end decades of deflation in the world's third largest economy and claimed his confidence in reaching a 2% inflation target, rebutting doubters, who expect his efforts will fail, as he prepares to strengthen monetary stimulus. By purchasing of longer-dated government bonds as well as other measures, Shinzo Abe and Haruhiko Kuroda are expected to revive growth, while the latest data are adding to signs that the worst is over for the Japanese economy.

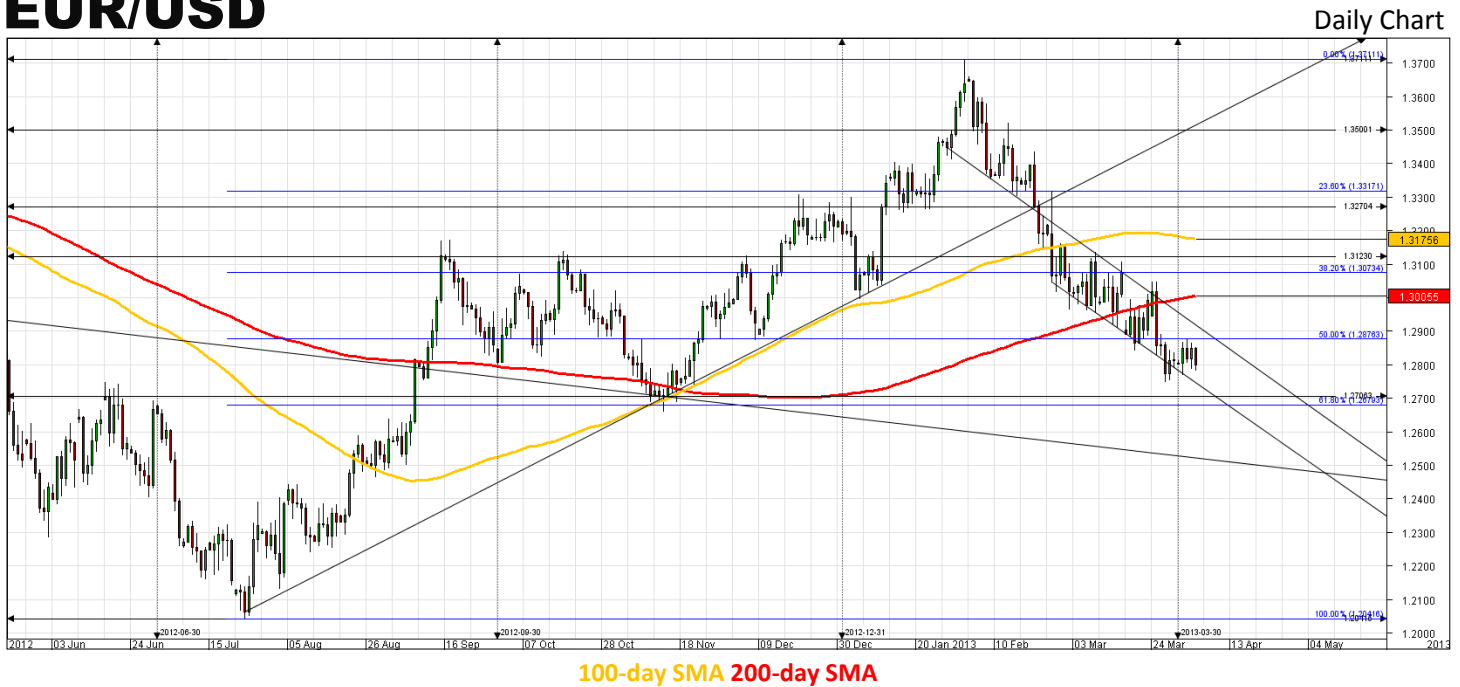
*“From a region wanting  
to be an economic  
superpower, Asia has  
become one”  
- Shaun Rein, managing  
director of China Market  
Research Group*



## **Technical Overview**



# EUR/USD



## 2013 Q1 Summary

The core assumptions of our projections proved to be true and led to an accelerated advancement of the currency pair during the first part of the previous quarter. This was a supposition that the rising support line that goes through the lows recorded on July 24, November 13 of 2012, and January 4 of 2013 would not be violated until EUR/USD reached 1.35. This was the actual course of events, as an initial dip was quickly cancelled by a rebound from the rising trendline, causing an extension of the recovery up to 1.37. However, in the end the rally turned out to be unsustainable, resulting in a nine-figure decline since the start of February and leaving bulls without a chance to recuperate at 1.33. Also, neither the 100 nor 200-day simple moving averages were capable of halting the aggressive sell-off, though they did manage to elicit a response from the market, demonstrated by the long upward spikes near the points of contact between the price and the trailing technical indicator.

## 2013 Q2 Outlook

At the moment the price is standing just below the 50% Fibonacci retracement level of the up-move from July 24, 2012, to February 1, 2013. This support provided only a temporary relief, since all eyes are on 1.27, a mark that seems to be the most probable target in the nearest future, being that the pair is trading within a clear down-trend for more than two months already and is set to weaken even further given the current sentiment of the market with respect to the single European currency. And even though historically 1.27 had a significant impact on price action and thereby has a considerable chance of changing EUR/USD's course to a bullish one, we are disposed to believe that in the long term, presumably already beyond the second quarter of 2013, the currency pair could be heading towards 1.2041, the lowest price level seen in 2012.



# GBP/USD

Daily Chart



## 2013 Q1 Summary

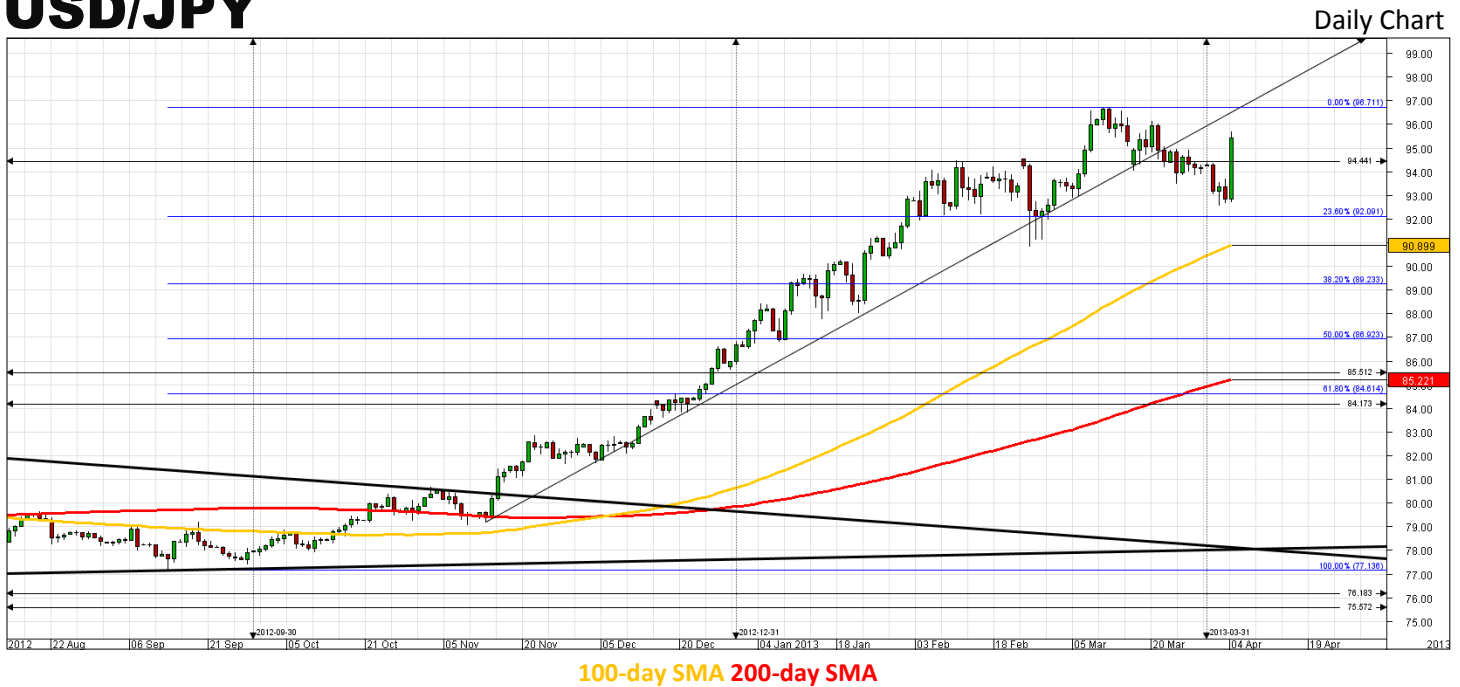
Initially we were expecting the EUR/USD and GBP/USD charts would continue to exhibit similarities, but the first month of 2013 signalled that the direct correlation between these two instruments has been broken, as the prices moved in completely opposite directions. At first the Cable dived below the 100-day SMA and then a breach of the 200-day SMA followed shortly after. The only support to notably delay development of a fall was 1.57, when the price touched upon the long-term up-trend, the initiation of which dates back to the beginning of 2009. Nevertheless, the scenario did not play out as previously intended and the support line gave in, paving a way for a decline down to 1.4825, a level last seen in the middle of 2010.

## 2013 Q2 Outlook

Lately we have been witnessing a short-squeeze that has pushed the price up by more than four figures, showing the endeavour of bulls to halt the dip. Nonetheless, this is viewed as an upward correction, which eventually is likely to be negated by the next bearish wave, as overall we are observing an exodus of Sterling-bulls from the market. Accordingly, we reckon that GBP/USD will be capped by a combination of last year's June low, a 23.6% Fibonacci retracement level derived from a move started on January 2, and a falling resistance line in the area bounded by 1.5266 and 1.5190. A settlement above this zone remains a possibility, albeit with a low chance of occurring, and we cannot yet rule out such an event completely - this may entail recuperation of the price up to 1.58. In the meantime, the British Pound retains the potential to step down to 1.4227, the 2010 low.



# USD/JPY



## 2013 Q1 Summary

Over the course of the first quarter of 2013 USD/JPY has been consistently respecting the bullish trend-line that stretches from 79.20, the Nov 13 low, through valleys charted on Jan 23 and Feb 25, among others. The durability of this line secured protracted appreciation of the U.S. Dollar relative to the Japanese Yen. The bullish run was in fact anticipated in our previous quarterly review, but has significantly overshot our expectations, which were not set high due to significant risks to the rally existing at the time, represented by 90 and 94.44, notable levels of 2010. Nonetheless, despite the odds against, positive sentiment has been dominating this currency pair, which in turn has mounted over these marks and soared up to 96.71.

## 2013 Q2 Outlook

The most recent price action, namely the violation of the rising support line, the intactness of which has not been doubted across the last five months, may instil fears that we are on the verge of a major reversal. However, it does not seem that the rally is on the brink of collapse and there are no irrefutable signs of long-term bearishness in the pair. At the moment the currency couple is being underpinned by a support line at 92.09, though an extension of a dip, neither down to 89.23, 38.2% a Fibonacci retracement of the continuous six-month advancement, nor down to 86.92, a 50% retracement of the same move, should invalidate the bullish outlook on the pair. Theoretically, even if USD/JPY plummets to 85.51/84.17, there will be enough reasons to suppose that subsequently the price will be able to recover by pushing off the 200-day SMA that has merged with the 61.8% level and some of the previous highs. The most likely scenario, on the other hand, is assumed to be an earlier lift-off, with targets placed at 99.79, a 50% retracement of the June 2007 to October 2011 sell-off, and 101.46, the 2009 high.





# USD/CHF

Daily Chart



## 2013 Q1 Summary

Starting from the second part of 2012 the trading range of USD/CHF has been gradually narrowing. At the same time the price has been constantly posting new lows, which has led to the formation of the falling wedge pattern on the daily chart. This set-up usually predisposes the pair to a reversal of the general trend, which was the case in the first quarter of 2013. The instrument sky-rocketed from 0.9079 and until now holds above the accelerated up-trend that may be drawn from a trough reached in the beginning of February through the subsequent minima. Somewhat surprising was the fact that the 100 and 200-day SMAs were incapable of postponing, or at least noticeably influencing, development of the rally, which was stopped only by 0.9513, last year's November high that played a major role in the price action throughout 2012.

## 2013 Q2 Outlook

March was in many ways different from February in terms of USD/CHF's performance. While the former month was characterised by robust appreciation of the U.S. Dollar relative to the Swiss Franc, the latter turned out to be a prolonged consolidation phase that has not yet been overcome. Right now the pair is hesitant to move upwards, being contained by 0.9513 (November's high), but the two-month up-trend line has also not been violated, adding to signs that the upward impulse has not yet fully vanished and we are likely to see continuation of the ascent. The interim target is 0.9567, the nearest peak, but we assume there is scope for a surge up to 0.9972, the highest level achieved in 2012.



# EUR/JPY

Daily Chart



## 2013 Q1 Summary

The pair continued the rally which started in the mid November, 2012, until the first week of February when it started consolidating in the 127 Yen area. As it recently turned out, it was the first top of a Double Top pattern, with the second being on 11th of March, 2013, at 126 Yen. Recently the pair approached the pattern's neck line at 118.7 Yen. The close proximity of the 100-day SMA should not be forgotten as well.

## 2013 Q2 Outlook

Recent developments in the pair forced the major market participants to revise their expectations for the pair for the second quarter of 2013 which now lie in the 117-126 Yen area, with the median at 123 Yen. Aggregate readings coming from medium and long term indicators, which give a rather clear bullish signal, suggest that the mentioned Double Top pattern won't work out fully and the pair is much more likely to bounce from the 100-day SMA. However, similar to the expectations of major market participants, it is hard to believe that the pair would manage to advance above 127 Yen, but as the not-so-distant history shows it would not be the first time when market participants underestimate the pair's abilities. It might be the case that we will see a formation of a third top, which should lie somewhere between the first and second tops, in the 126-128 yen area, and only then the pair might dip below 118 Yen. All in all, the pair should be somewhat range bound in the course of the second quarter of 2013 with the main gravitational zone being in the 120-125 Yen area.

# AUD/USD

Daily Chart



## 2013 Q1 Summary

In the first quarter of 2013 the pair remained in the 1.01-1.06 range, the same range it has been in since mid 2012 and started the quarter with a minor rally to 1.06, which was followed by a 45 day movement towards 1.01 which culminated with an almost 100 pip dip on 4th of March. After that the pair picked up and after a four week rally it seems to be consolidating around 1.04 where the 100 and 200-day SMAs are.

## 2013 Q2 Outlook

Short and medium term technicals point in *“Expectations of major market participants are not far behind all of the discovered above—their expectations lie between 1.01-1.06 with a median at 1.04”* completely different directions, whilst the long term, monthly, technicals suggest that the pair should trade sideways for some time. This might seem rather contradictory at first sight, but actually it gives rather clear indications about the pair's future development. Short term technicals, which point at appreciation of the pair, suggest that the 100 and 200-day SMAs, at least for the time being, are strong support levels for the pair. This can be seen from the last 3-4 candles as well. The overall trend of the pair, at least in the medium term, should remain bearish and the pair should dip below the mentioned 100 and 200 day SMAs. Monthly technicals, however, do not give any clear directional indications which could be seen as a manifestation of a signal coming from the pair being traded between 1.01 and 1.06 for the past nine months or so. Expectations of major market participants are not far behind all of the discovered above—their expectations lie between 1.01-1.06 with a median at 1.04.



# USD/CAD

Daily Chart



## 2013 Q1 Summary

For the majority of the quarter's duration the pair has been hovering around the 100 and 200-day SMAs close to parity condition which was tested and broken a few times. The pair received bullish impetus from the mentioned parity condition which ignited an eleven day, 300 pip rally, which ended on 1st of March, 2013, when the pair peaked to 1.034. For the past 25 or so days the pair has been demonstrating bearish tendencies and at the moment is trading slightly below 1.02.

## 2013 Q2 Outlook

Major market participants expect the greenback/loonie pair to lose 1% of its value in every quarter of 2013. As for the upcoming quarter it is expected that the pair will be trailing in the 1.03-1.00 range with median expectation being at 1.01. This seems fairly reasonable as the pair historically is not very keen for any unexpected moves and is likely to maintain the current, bearish, trend in the future. Technical indicators do not suggest any major changes either—on aggregate they give a neutral outlook, supporting the idea of calm developments. The Stochastic indicator on the short and medium outlook, however, sends a buy signal suggesting that the pair might peak sometime in the future, but it is very unlikely that this predicts any major moves, but rather a minor price correction. However, the situation might become a bit tense when the pair approaches the predicted 1.01, this might cause some turmoil in the market especially if the pair will be posing for a possible dip below the parity condition which might be seen as a normal development from a technical point of view somewhere in the third quarter.

*"[...] this might cause some turmoil in the market especially if the pair will be posing for a possible dip below the parity condition [...]"*



# NZD/USD

Daily Chart



## 2013 Q1 Summary

The last quarter proved to be very volatile and a majority of the time the pair did not give away any clear or single directional impulse. Most of the time until the end of February the pair was somewhat range bound between 0.83 and 0.85. Clearer directional indications could be noticed from mid February to mid March and from mid March up to the recent days where the pair's development was noticeably less volatile. It is very likely the majority of this was caused due to the fact that the pair peaked above 0.84 which is a very important psychological level—historically the pair has peaked above it only 3-4 times before the start of this quarter.

## 2013 Q2 Outlook

Technical indicators on aggregate point at further appreciation of the pair. However, there are a few very important factors to be considered. First, only a few technical indicators are in the overbought area, but a significant proportion of them are giving a neutral outlook, suggesting that market sentiment might be the main driver behind the pair. The second factor is somewhat related to the first one. It seems that the close proximity of 0.84, which indisputably is a very important psychological level, is causing some sort of hiatus. It can be observed when one takes a look at the outlook of major market participants—they are in the 0.82-0.84 area with the median being at 0.84. This does not erase the probability that the pair might peak above 0.84, but it allows for the belief that in such a case the pair's move will be rather erratic and volatile and it should be pushed back below the mentioned level rather quickly.

*“It seems that the close proximity of 0.84, which indisputably is a very important psychological level, is causing some sort of hiatus”*





## **Expert Commentary**

*In order to provide our clients with diverse expert opinions, we have conducted five interviews with FX analysts from all around the world. We spoke to specialists from Royal Bank of Scotland, ANZ, Barclays, Raiffeisen Bank and Gain Capital in order to find out their outlook for various currency pairs. Here is what they expect to see during the second quarter.*



**Valentin Hofstätter**  
**Head of Currency Research**  
**Raiffeisen Bank**  
**Austria**

## **EUR/USD**

Actually, we expect the Euro area's currency to strengthen versus most of the major counterparts: the U.S. Dollar to 1.35, the Japanese Yen to 131, the Swiss Franc 1.23, which is not too much though. In our view, Italy is the main downside risk in the second quarter for EUR/USD. We hope that Italy will manage to get an interim government: be it a technocratic government or a minority government. This would be enough to alleviate market worries that Italy might head into early elections immediately and fall apart.

That is actually the main reason. Otherwise, of course, it would help if the leading indicators for the Euro economy head up over the next month, which is also something that we expect.

In fact, we believe that we will not see any other significant events other than the political stalemate in Italy, which has been a major question mark for the second quarter as we believe the negotiations will not be easy. Hence, there is a significant risk to the downside.

***“We expect EUR/USD to go up on the basis of optimism that Italy will manage to break the deadlock...”***

Otherwise, we do not think that too much will happen from the US side that can work against the EUR/USD pair, since all these political deadlines in the U.S., in our view, are not that important as the politicians have to compromise anyway. Therefore, we do not anticipate any negative news coming from the other side of the Atlantic. Thus, we expect EUR/USD to go up on the basis of optimism that Italy will manage to break the deadlock, thus brightening the economic outlook for the Eurozone.



**Melinda Burgess**  
**FX Strategist**  
**RBS**  
**UK**

## **GBP/USD**

In my opinion, the Sterling is going to continue to struggle versus its major counterparts in the second quarter of the year. To my mind, we expect GBP/USD to be mostly driven by the better performance of the U.S. economy relative to the U.K. We also see the risk of further monetary easing from the BoE, although likely in the second half of 2013 once Mark Carney takes over as governor of the central bank. The growth data in the U.K., as well as the general activity numbers, point to very sluggish growth during the entire year. Risks remain to the downside. I believe that due to the fact that we have the inflation rate remaining above the BoE target, the central bank will have to continue to show flexibility around the inflation goal. Therefore, as I have mentioned before, we would expect further monetary easing from the BoE.

In contrast, from the U.S. Dollar side, where the economy has been improving, it is expected that the monetary policy stance will remain unchanged until the unemployment rate falls to what the Fed considers to be a sustainable level. However, better U.S. data is likely to see the market continue to romance the idea that the Fed could taper off QE sometime in the second half of the year. This will provide support for the U.S. Dollar. Hence, better U.S. data will continue to play positive for the U.S. Dollar in coming months.

*“The Sterling is going to continue to struggle versus its major counterparts in the second quarter of the year.”*

With regards to the Sterling against the Euro, from my perspective we see the Sterling outperforming the Euro in the second quarter of the year, as the market starts to worry more about Euro area growth. Moreover, we do anticipate indicators to continue to indicate only sluggish growth, particularly in the periphery European countries, but also France. In addition to that, fiscal and deficit issues will remain key concerns. The recent problems in Cyprus highlight the fact that solvency issues in the Euro area will also remain under the spotlight and pose significant risks to both individual countries and the wider currency union. To sum up, we expect the Euro to under-perform a broad range of currencies in the second quarter of the year, including the Pound.

Our forecast for GBP/USD is 1.46 and we see GBP/USD holding in the 1.45-1.55 range for the rest of the year.



**Eric Viloria**  
**Senior Currency Strategist**  
**Gain Capital**  
**US**

## EUR/USD

We think that the Euro is facing a number of headwinds, with the recent package agreed by the EU officials on Cyprus, which raises a number of uncertainties with regards to how future situations would be handled. There is a potential shift towards more bail-ins, which require private capital, from outright bailouts, where public money is used. Thus, we see a risk that if there is going to be a shift in the future, then Europe might face a threat of contagion and fears which could lead to capital flows away from the perceived weaker banks. That would create larger imbalances and financial stresses, which could undermine confidence. From an economic prospective, the fundamentals continue to deteriorate. We have seen a weakening Purchasing Managers' Index, or PMI, which suggests that the contraction is still ongoing in the Eurozone. Italy is still trying to form a government, which points to still unresolved political issues in the country, presenting

another headwind to the Euro. Taking all this into consideration, we believe that the Euro could struggle moving forward.

*“We have seen a weakening Purchasing Managers’ Index, or PMI, which suggests that the contraction is still ongoing in the Eurozone.”*

Looking at the technicals, we have seen a recent break below the 200-day simple moving average, which is also the 50% retracement of the rally from July lows to February highs that is around 1.2880. Hence, if the currency continues to trade underneath that level, then we assume that it could see a further decline, possibly towards November lows, which are around 1.2660. Those are some of the factors that we are looking at.

For EUR/USD we are looking for the range between 1.25 and 1.33. It could move towards the bottom end of the range due to the headwinds that it is facing. As I previously mentioned, if the pair stays below the 200-day simple moving average, then we are looking at 1.2650 as a next potential support level.



**Bill Diviney**  
**FX Strategist**  
**Barclays Bank Plc**  
**Japan**

## **USD/JPY, EUR/JPY**

We are looking for USD/JPY to rise to 103 over the coming quarter, and expect that to be driven chiefly by an aggressive easing of monetary policy by the Bank of Japan at its two April meetings. We expect an extra JPY16trn in government bond purchases to be announced for 2013, which by our estimates would lead to the BoJ easing at a pace nearly twice that of the Fed under its QE3 programme.

On the U.S. side, economic data has been quite resilient. Though not spectacular, it has been better than a lot of analysts expected given the recent automatic government spending cuts and payroll tax rises earlier this year. As a result, we expect general Dollar strength will also support further gains in USD/JPY.

With that said, I would highlight that we do expect the Yen to reach a bottom over the next six months, but not necessarily the next quarter. At 103 – our target for the peak in

USD/JPY – the Yen would be 25% below fair value by our estimates, and we expect valuation considerations to eventually lead to a gradual appreciation in the Yen.

We expect EUR/JPY to trade at 132 by the end of the second quarter, which is mostly driven by the move in USD/JPY. Our forecast for EUR/USD is 1.28, so we are not looking for much change in the Euro itself.

*“I would highlight that we do expect the Yen to reach a bottom over the next six months, but not necessarily the next quarter.”*

The reason we anticipate no significant change in EUR/USD is simply that the risks at this stage are quite broadly balanced for the Euro. Although we have some uncertainty on the political side in Cyprus and Italy, we do not think this is going to be a substantial negative factor for the Euro, given that any rise in government bond yields will be kept in check by the ECB’s determination to “do whatever it takes” to defend the integrity of the single currency with its OMT programme. Hence, we do not believe political uncertainty should weigh too heavily on the Euro. Having said that, the economic outlook remains quite subdued, thus, we do not think there is much room for the Euro to strengthen either.





**Andrew Salter**  
Currency Strategist  
ANZ  
Australia

## **AUD/USD, AUD/JPY**

We expect the Australian Dollar to remain higher around 105 U.S. cents. The outlook for that is on the basis of strong foreign investment, in particular foreign direct investment. There is a number of liquefied natural gas projects or LNG Projects, which are financed by Australian and international investors. We anticipate that around 90 billion dollars will come into the country throughout this year.

While it is expected that the Australian trade balance will show a deficit of around 24 billion during the year, that funding covers the trade balance deficit more than three times. In addition to that, the Australian Dollar is a very high-yielding currency, and we anticipate it to remain unchanged, with international investors continuing to put money into Australian capital market on the basis of those high yields.

For AUD/USD we have got 1.05 U.S. cents, AUD/JPY we have - 88 yen. We do see a little bit of depreciation, but that is a view on the Yen's strength more than on the Aussie's weakness. We do not think that the BoJ will be able to put in place the type of reforms to monetary policy that the market expects. Thus, we expect the Yen to strengthen.

*“We anticipate that around 90 billion dollars will come into the country throughout this year.”*



## Trade Pattern Ideas



# AUD/JPY

Daily Chart



200-day SMA

**AUD/JPY**  
Rising Wedge

**AUD/JPY has formed a Rising Wedge pattern on the one-day chart. The pattern has 80% quality and 80% magnitude in the 156-bar period.**

The pattern started on the 14th of September, 2012, when the pair peaked above the 200-day SMA at 83.09; after a recent bounce from the pattern's support it is trading at 99.39; the gap between the pattern's support and resistance narrows by 320 pips in a 100 bar period. Trading volume is increasing in the length of the pattern. Technical indicators on aggregate point at appreciation of the pair on the one-week horizon, suggesting it should continue following the pattern's upward-sloping trend. The probability of such a scenario increases due to the fact that 62% of all pending orders are to go short which suggests that traders expect that the pair will inch up higher. Long traders could focus on the Bollinger band/weekly pivot (R2)/pattern's high at 100.01/11, weekly pivot (R3) at 100.81 and pattern's resistance at 101.65.

Current market sentiment is strongly bearish as 67% of market participants have sold the Aussie versus the Japanese yen. Short traders could focus on the weekly pivot (R1) at 99.14, 20-day SMA/weekly pivot (PP) at 98.59/43, weekly pivot (S1)/Bollinger band at 97.46/17, weekly pivot (S2)/pattern's support at 96.76/74 and weekly pivot (S3) at 95.79.

# USD/PLN

Daily Chart



200-day SMA

## USD/PLN

Double Bottom

USD/PLN is signalling about an appreciation as it formed a **Double Bottom** pattern on the one-day chart. The pattern has **73% quality** and **100% magnitude** in the 212-bar period.

The pattern started on the 1st of June, 2012, when the pair peaked to 3.6035; currently it is trading at 3.2758; the pattern's resistance is at 3.3099. Trading volume is U shaped (higher in the beginning and the end and lower in the middle of the pattern). Although, individually both currencies are more often bought than sold across the board, the pair's market sentiment is bullish as the green-back is bought versus the Polish zloti in 55% of all cases. Long traders could focus on the Bollinger band/weekly pivot (R1)/pattern's resistance at 3.3015/99 and weekly pivots at 3.3365 (R2) and 3.3903.

There are no major indications about a possible depreciation of the pair, but the stochastic indicator on the medium and long term outlooks sends a sell signal suggesting it might not breach the pattern's resistance. Short traders could focus on the weekly pivot (PP)/20-day SMA at 8.2477/375, weekly pivot (S1) at 3.2127, cluster of support levels at 3.1818/3.1480 (100 and 200-day SMAs, Bollinger band and weekly pivot (S2)) and weekly pivot (S3) at 3.1239.



# EUR/GBP

Weekly Chart



200-week SMA

## EUR/GBP

**Channel  
Down**

**EUR/GBP remains in the spotlight with the Channel Down pattern after a recent rebound from the pattern's resistance on the one-week chart. The pattern has 61% quality and 50% magnitude in the 145-bar period.**

The pattern started on the 12th of October, 2009, when the pair peaked to 0.9412; currently it is trading slightly below the 200-week SMA at 0.8494. Trading volume is U shaped (higher in the beginning and the end and lower in the middle of the pattern). A vertical line marks where the pattern was described in the last quarterly report. Technical indicators on aggregate point at appreciation of the pair on the one-week horizon suggesting we might see an attempt to return above the 200-week SMA. The fact that 60% of all pending orders are to buy the single currency versus the cable provides additional support for such a scenario. Long traders could focus on the 200-week SMA/monthly pivot (PP) at 0.8521/46, monthly pivot (R1)/pattern's resistance at 0.8676/702, Bollinger band at 0.8855, and monthly pivots at 0.8924 (R2) and 0.9054 (R3).

Short traders, who expect that pair will continue moving towards the pattern's resistance, could focus on the 20 and 100-week SMAs at 0.8399/66, monthly pivots at 0.8298 (S1) and 0.8168 (S2) and Bollinger band/monthly pivot (S3) at 0.7943/20.



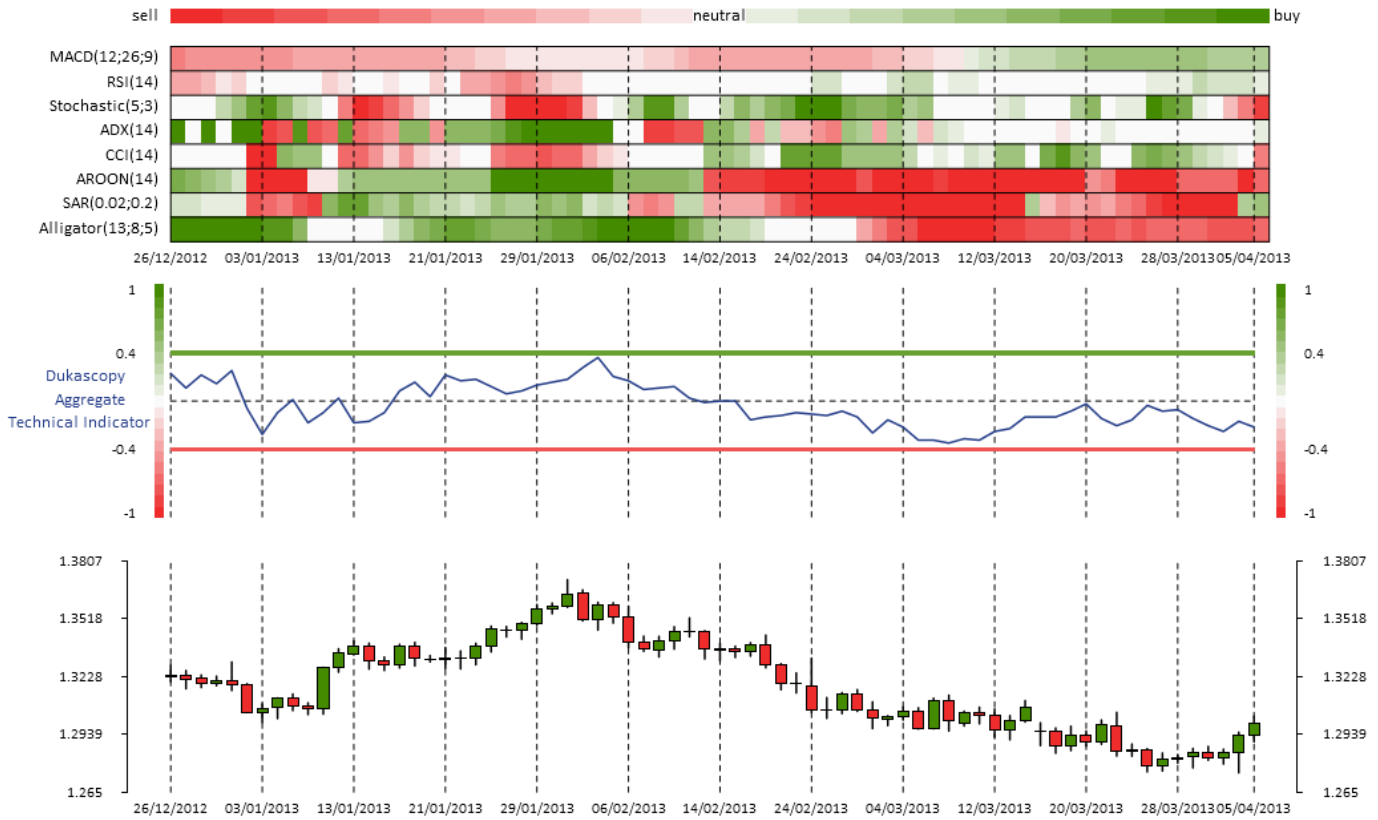
# Aggregate Technical Indicator





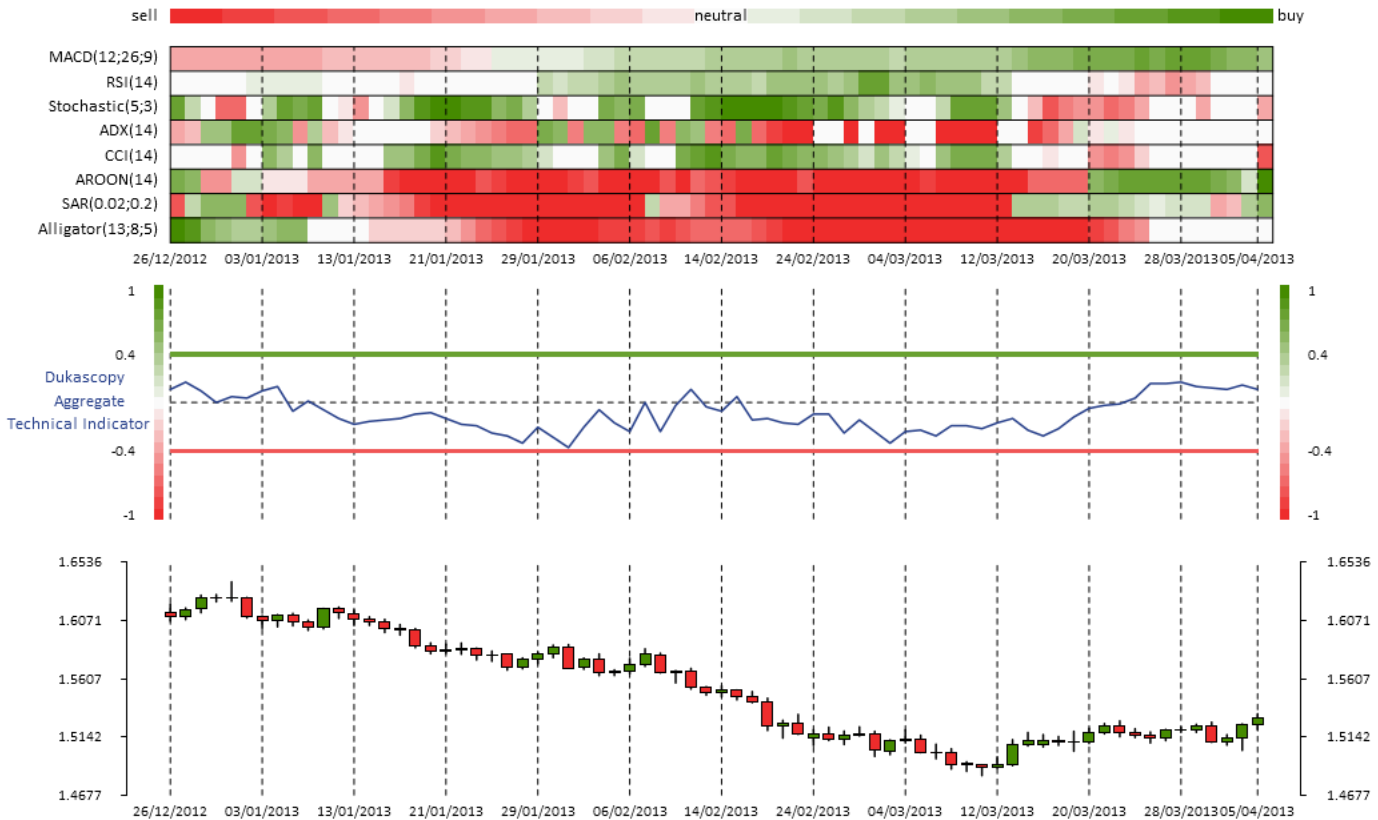
# EUR/USD

Daily chart



# GBP/USD

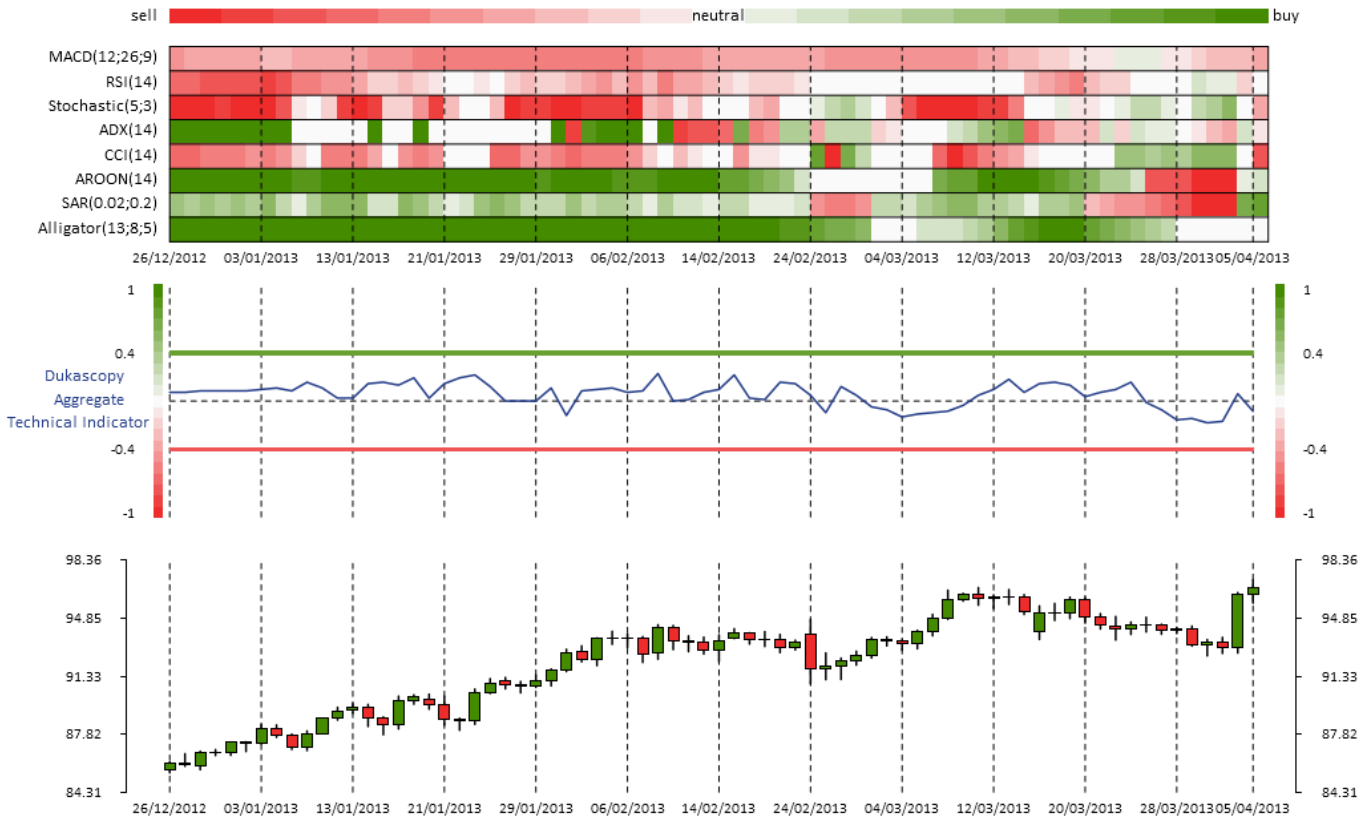
Daily chart





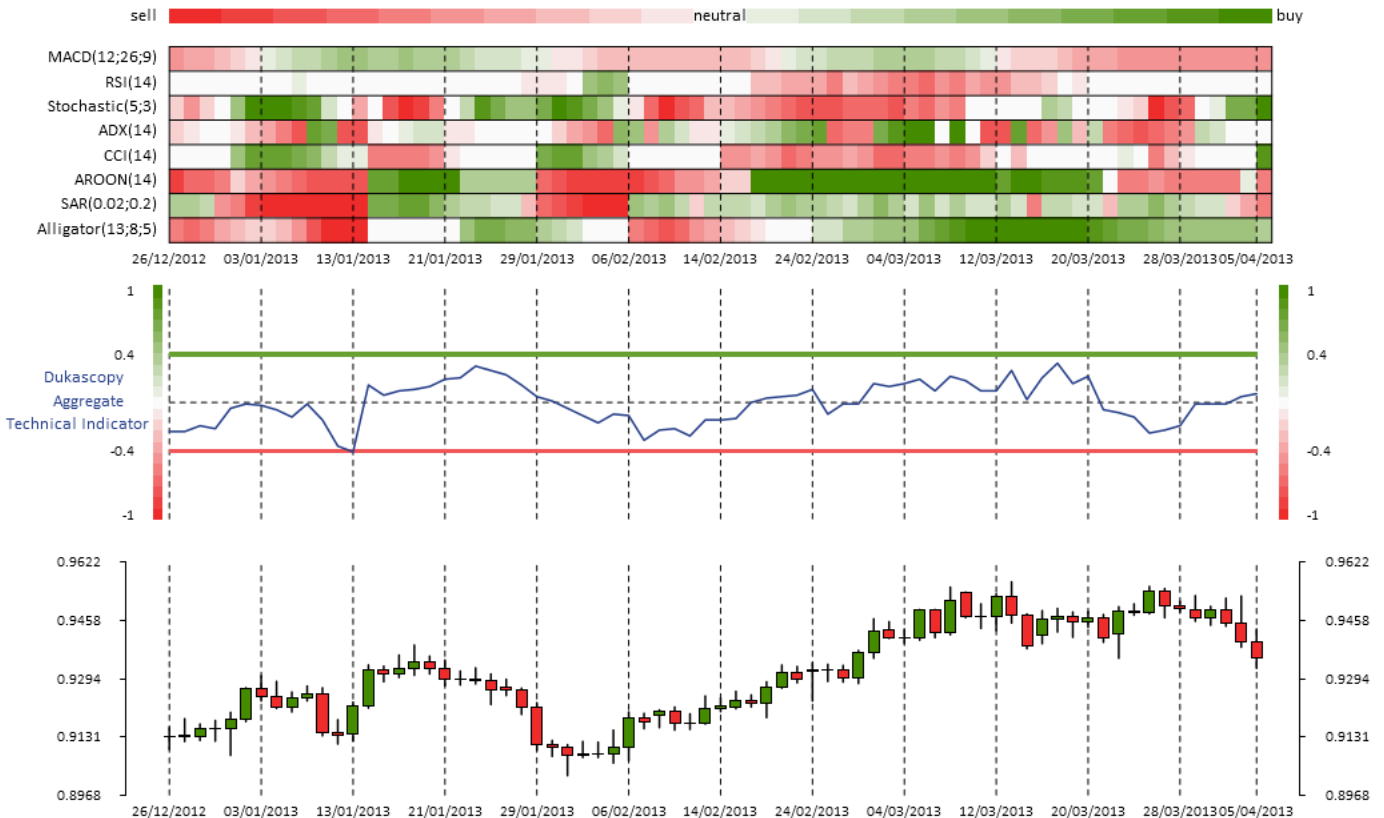
# USD/JPY

Daily chart



# USD/CHF

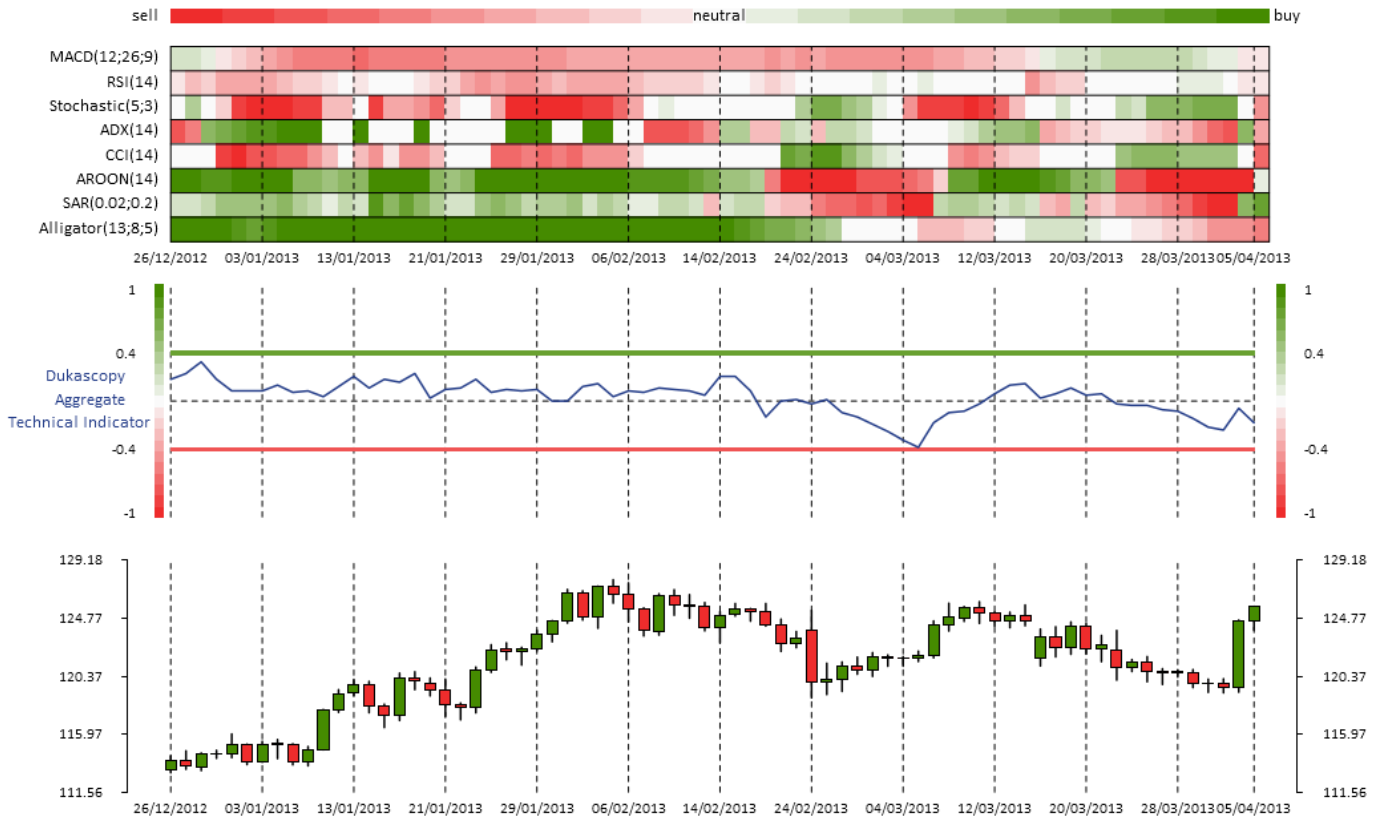
Daily chart





# EUR/JPY

Daily chart



# AUD/USD

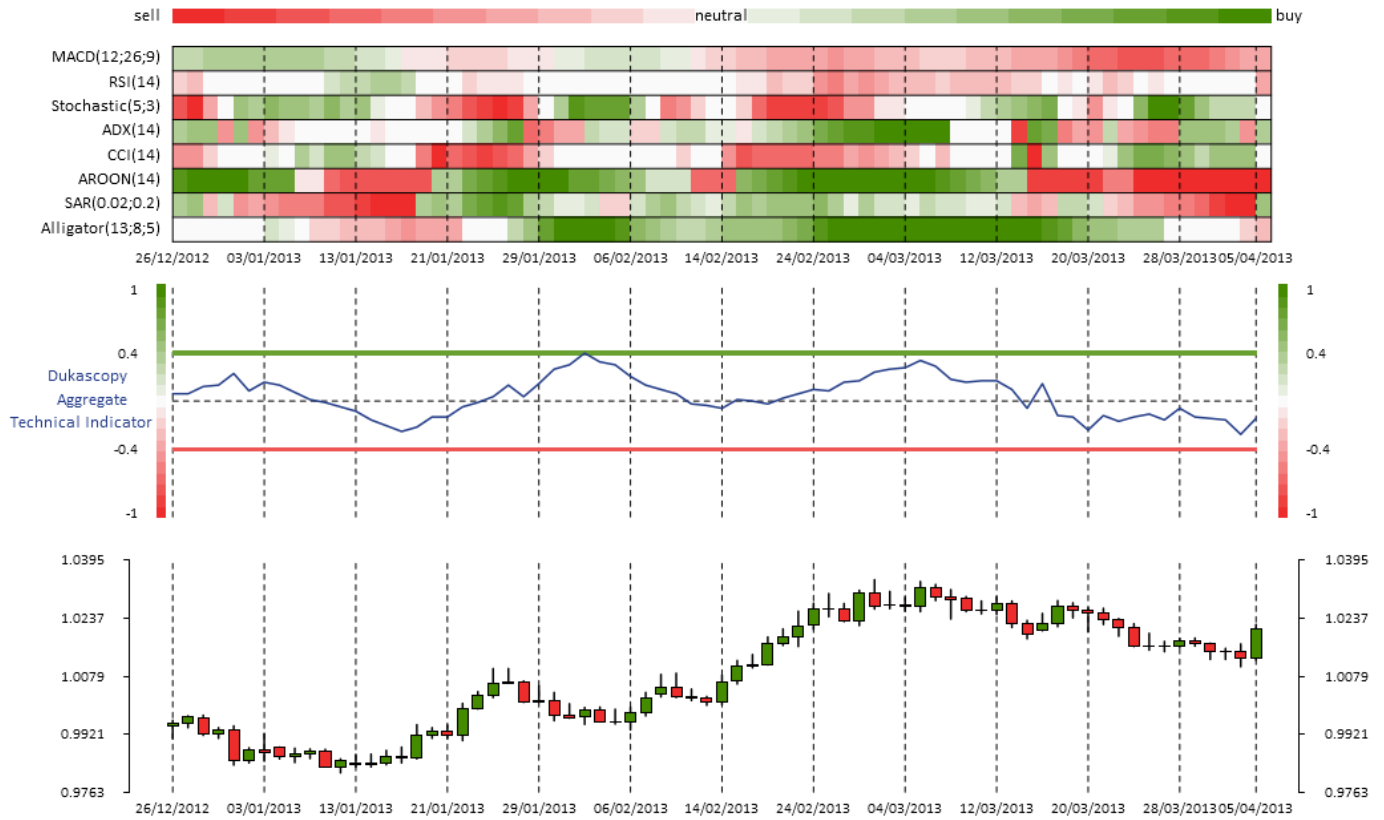
Daily chart





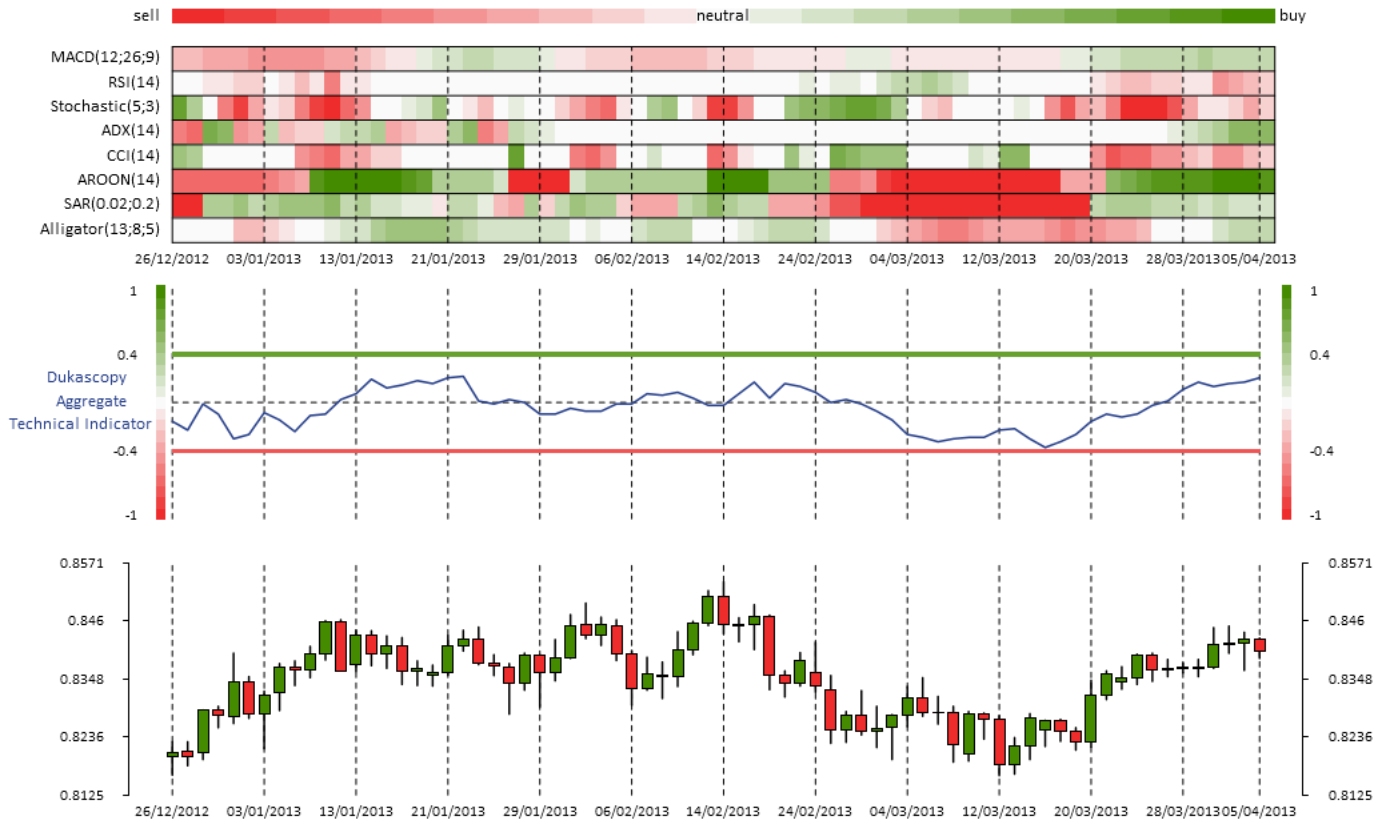
# USD/CAD

Daily chart



# NZD/USD

Daily chart





# Economic Research

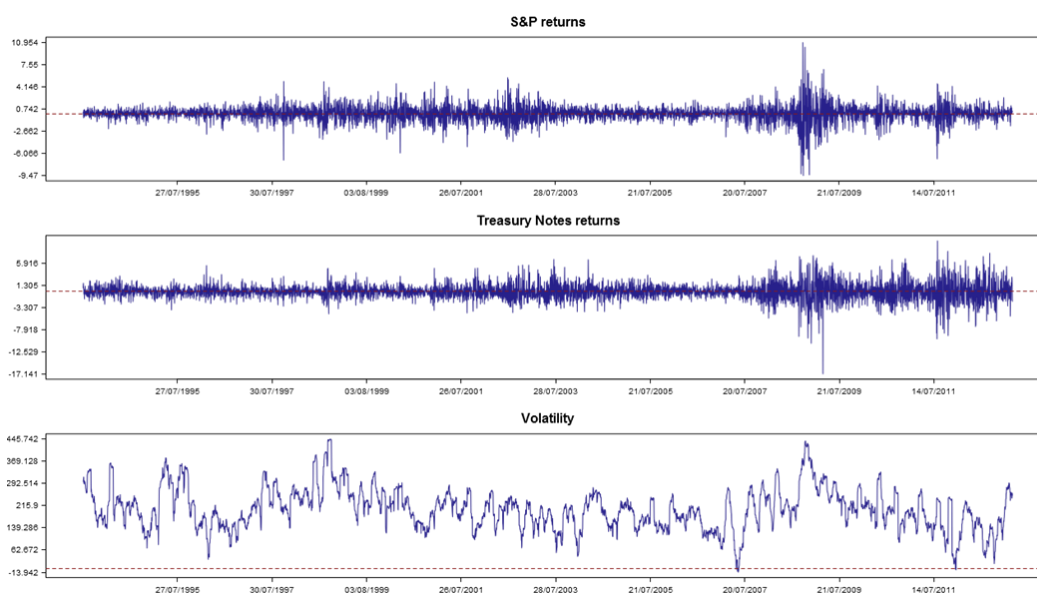
## Safe-Haven Currencies

*Safe-haven currencies are believed to serve as a reliable investment in times of economic instability. However, the methods for identifying such currencies remain more intuitive than systematic. In this issue we employ one of the possible strict definitions to see which currencies can be called safe-haven and whether this property varies over time.*

In this research we will examine safe-haven properties in relation to economic indicators. Namely, a currency will be called a safe-haven if it tends to appreciate when the financial market depreciates or faces great instability. Additionally, to make the study less complex, we will limit the global concept of a safe-haven currency to being “a safe-haven in a particular currency pair”.

We have chosen to pair the examined currencies with the U.S. dollar, concentrating on USD/JPY, USD/CHF, GBP/USD, NZD/USD, USD/CAD, AUD/USD, EUR/USD, USD/SGD, and USD/SEK. The financial market, in turn, is represented by Standard & Poor’s 500 Stock Price Index and 10-Year US Treasury Notes, with instability measured by currency market volatility (see the Appendix for further information). All data is collected over the period from 1993 to 2013.

The Japanese yen, the Swiss franc, the euro, and the British pound are generally considered to be safe-haven currencies. Therefore, we expect the test results to set them apart from the others. However, we do not rule out the possibility of adding some new currencies to the list, or, conversely, crossing out some of those mentioned.



**Figure 1: Data used in the research: 1993 – 2013 returns (%) on S&P and T-Notes, and market volatility for JPY**



## Methodology

As we want to investigate appreciation and depreciation of the assets, we apply the tests to logarithmic or continuously compounded daily returns.

The simplest way to examine the link between the currency pairs and the financial market is to construct a linear factor model.

A linear factor model employs a linear equation to describe a relationship between a dependent variable and a finite number of factors. In our study, the dependent variable is the currency pair returns (Curr), but the factors are market volatility (Vol) and returns on S&P and T-Notes. The associated equation is [1]:

$$Curr_t = \beta_0 + \beta_1 \cdot S \& P_t + \beta_2 \cdot T - Notes_t + \beta_3 \cdot Vol_t + \beta_4 \cdot S \& P_{t-1} + \beta_5 \cdot T - Notes_{t-1} + \beta_6 \cdot Vol_{t-1} + \varepsilon_t$$

Coefficients  $\beta_i$  ( $i = 1, 2, \dots, 6$ ) measure the change in currency pair returns per unit change in the corresponding factor.  $\beta_0$ , or intercept, shows how the dependent variable can change while the factors are equal to zero. The term  $\varepsilon_t$  represents the change in the dependent variable that is not related to the examined factors.

Indices  $t$  and  $t-1$  denote the concerned time moments. Thus, for example, modelling today's returns ( $t = \text{today}$ ) would require current and lagged ( $t-1 = \text{yesterday}$ ) values of the factors.

We describe "economic instability" by increasing market volatility and negative returns on S&P. Under such circumstances the prices on government bonds, including T-Notes, are expected to rise. In theory, safe-haven currencies would in turn appreciate against the U.S. dollar.

**Therefore, we are looking for equations that have positive  $\beta$  coefficients for volatility and T-Notes, and negative – for S&P.**

The proposed linear model measures the combined impact of the factors. To investigate the relationship between the currency pairs and each factor separately we use correlation analysis.

In correlation analysis, just like in linear equation, we expect safe-haven currencies to have negative coefficients with S&P, and negative with T-Notes and volatility.

Correlation is a measure of dependence between two variables. Coefficient of correlation ranges from -1 to 1. A positive coefficient of correlation indicates that the variables are moving in the same direction. If one variable decreases when the other goes up, the correlation is negative.

## Results

### 1. Safe-haven properties are time-dependent and can be observed in different currencies.

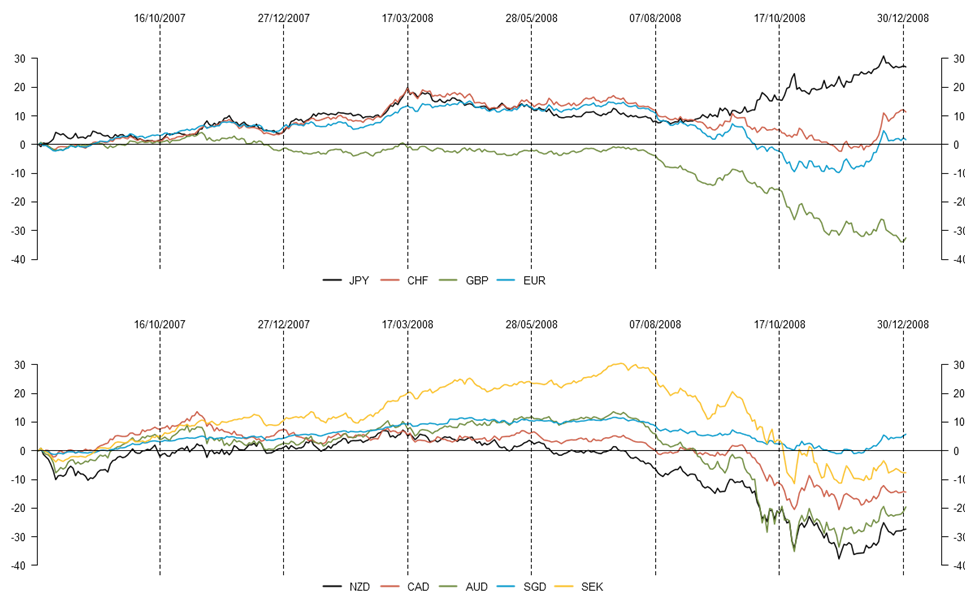
It is a common belief that safe-haven properties are most evident when the financial market is hit by global events. Thus, as a preliminary test, we look at the behavior of the currency pairs during two major events – the financial crisis of 2007-2008, and hurricane Sandy.

August 7, 2007 can be viewed as a starting point of the global financial crisis. Figure 2 shows the evolution of cumulative currency pair returns from that date up to the end of December 2008.

A cumulative return measures the change in price in relation to a certain starting point. Each point on a cumulative return chart shows a gain or loss on an investment held from the starting date up to the corresponding time moment.

As can be seen, JPY showed the most rapid appreciation against the USD with only a few downward movements. CHF and EUR performed almost as good up until August 2008. Then both currencies started to lose their value against USD, while JPY, on the contrary, went up. GBP apparently went together with the market, having negative cumulative returns throughout the whole period.

Some of the other currencies performed similarly to CHF and EUR. SEK showed the greatest appreciation in mid-2008, while SGD maintained positive cumulative returns during the crisis.

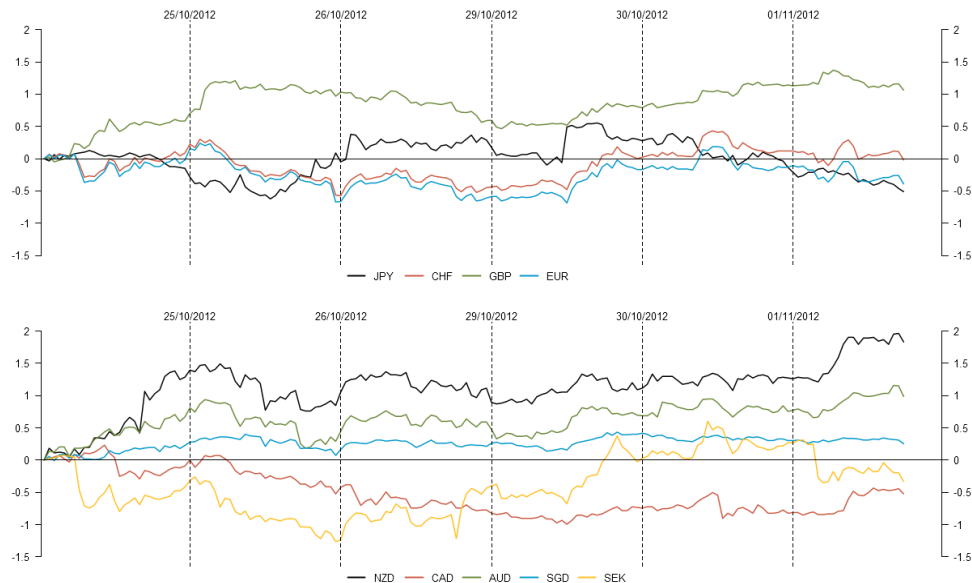


**Figure 2: Cumulative daily returns (%) during financial crisis of 2007-2008**

Hurricane Sandy that hit the North-eastern coast of the United States in late October 2012 led to a different picture. Figure 3 shows that GBP was the only “presumably safe-haven” currency to appreciate against USD. The rest had mainly negative returns, with just a brief upturn in JPY.

Surprisingly, safe-haven properties were expressed more clearly by the currencies outside the list. Both NZD and AUD appreciated rapidly during the first hours of the storm, and kept their cumulative returns on a relatively high level. SGD/USD showed little change during the event, but nevertheless performed better than the pairs with CHF, EUR, and JPY.

Thus it can be seen that safe-haven properties are not everlasting and are not necessarily expressed during every shocking event. Furthermore, the currencies that are believed to be safe-haven do not always behave similarly, and can sometimes be outperformed by others.



**Figure 3: Cumulative daily returns (%) during hurricane Sandy**

**2. The Japanese yen shows the strongest safe-haven patterns.**

Table 1 summarises the results of linear model fitting. It shows the coefficients, their *t*-statistic values, and *R*<sup>2</sup> values for the equations.



Coefficients of the linear equation are estimated from a data sample.  $t$ -statistic measures the significance of each estimation – a greater absolute value of  $t$ -statistics means greater probability of the true coefficient to be different from zero. For the examined models the benchmark  $t$ -statistic value is 1.65. Therefore, if some coefficient has a lesser  $t$ -statistic, the corresponding factor most probably does not affect the dependent variable.

$R^2$  measures how well the equation explains the behaviour of the dependent variable. It ranges from 0 to 1.

	JPY	CHF	GBP	NZD	CAD	AUD	EUR	SGD	SEK
Intercept	0.0029 (0.30)	0.0091 (0.89)	-0.0026 (-0.32)	0.0023 (0.22)	0.0001 (0.02)	0.0020 (0.19)	0.0008 (0.09)	0.0039 (0.76)	-0.0001 (-0.01)
S&P (t)	-0.0892 (-6.49)	-0.0406 (-3.24)	0.0506 (4.20)	0.2225 (13.95)	0.1669 (15.77)	0.2342 (11.91)	0.0398 (3.23)	0.0597 (9.37)	0.1358 (8.94)
Treasury Notes (t)	0.0136 (1.90)	-0.0027 (-0.33)	-0.0053 (-0.86)	-0.0033 (-0.43)	-0.0076 (-1.47)	-0.0071 (-1.04)	-0.0023 (-0.33)	-0.0016 (-0.42)	0.0028 (0.35)
Volatility (t)	0.1863 (3.33)	-0.1298 (-2.07)	-0.0479 (-1.26)	0.0358 (0.68)	0.0031 (0.10)	0.0441 (0.81)	-0.0759 (-1.42)	0.0028 (0.12)	-0.0879 (-1.38)
S&P (t-1)	0.0241 (2.55)	0.0291 (2.59)	0.0348 (4.33)	0.0280 (2.14)	0.0298 (0.10)	0.0595 (2.98)	0.0223 (2.15)	0.0101 (1.95)	0.0709 (5.17)
Treasury Notes (t-1)	-0.0685 (-7.65)	-0.0390 (-3.77)	-0.0010 (-0.16)	0.0116 (1.21)	0.0275 (4.00)	0.0316 (3.40)	-0.0064 (-0.70)	0.0116 (2.46)	0.0166 (1.56)
Volatility (t-1)	-0.1802 (-3.26)	0.1298 (2.10)	0.0569 (1.54)	-0.0301 (-0.59)	-0.0009 (-0.03)	-0.0443 (-0.85)	0.0774 (1.48)	-0.0039 (-0.17)	0.0919 (1.47)
Depr (t-1)	-0.9013 (-0.42)	-0.0347 (-2.02)	-0.0134 (-0.81)	-0.0207 (-1.15)	-0.0563 (-3.15)	-0.0643 (-1.94)	-0.0163 (-1.03)	-0.0280 (-1.07)	-0.0667 (-4.13)
$R^2$	0.0799	0.0251	0.0183	0.1234	0.1829	0.1541	0.0076	0.0499	0.0623

**Table 1: Linear model coefficients with  $t$ -statistic (in braces) for pairs XXX/USD**

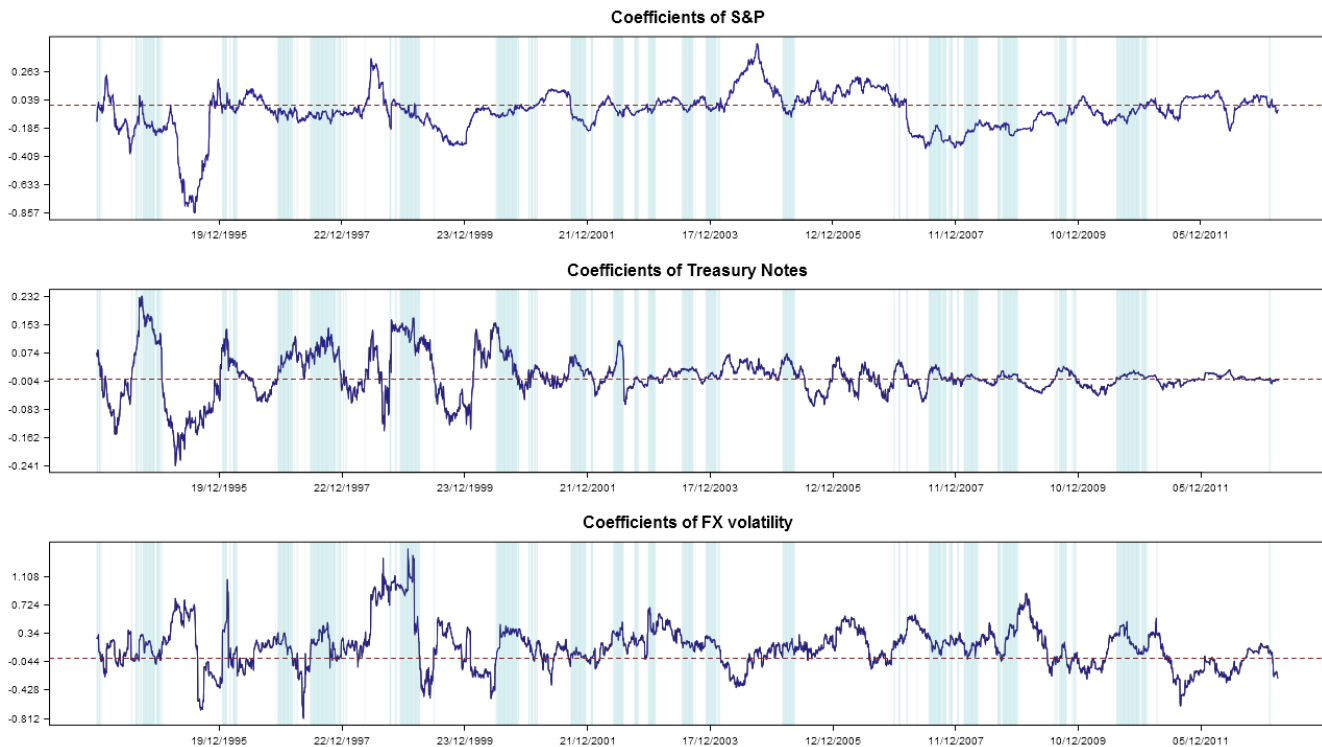
JPY is the only currency that meets all safe-haven characteristics: its equation has a negative coefficient for S&P, and positive – for T-Notes and volatility. CHF has a good negative S&P coefficient, but also a significant negative coefficient for volatility. None of the other currencies have a significant positive volatility coefficient, but all have positive ones for S&P.

Coefficients of lagged factors do not mark any currency as safe-haven. This suggests that the property does not occur after some disturbing events, but develops simultaneously with it.

All observed models have small  $R^2$  values, meaning that the relationship, if there is one, is not linear. However, as we are not interested in investigating the true nature of the relationship, there is no need to try and build a more complex model.

**3. JPY, CHF, and EUR show safe-haven properties more often than other currencies.**

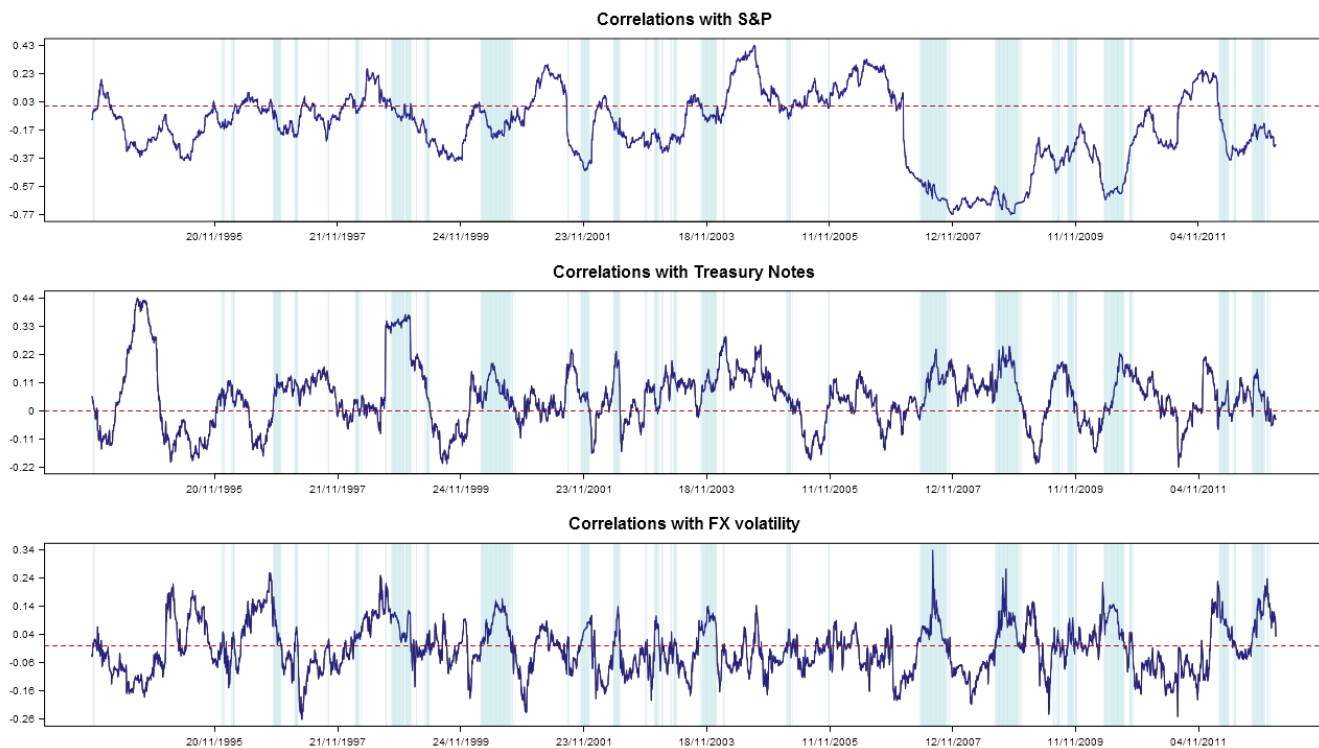
To see how safe-haven properties change in time we construct linear models over moving time-frames. That is, we estimate the equation coefficients based on moving data subsets. Figure 4 shows the resulting coefficients for the JPY equation. Shaded regions mark time periods when the equation conforms to the definition of a safe-haven currency. Similar charts for some other currencies can be found in the Appendix.



**Figure 4: Moving linear model coefficients for JPY with 100 day window**

Such analysis shows that in the period of 1993-2013 JPY had safe-haven properties 26.88% of time, CHF – 11.18%, NZD – 10.26%, EUR – 9.45%, and GBP – 8.02%.

We performed the same analysis on moving correlation coefficients between the currency pair returns and linear model factors, and got somewhat similar results.



**Figure 5: Moving correlation coefficient for JPY over 100 day window**

Using the correlation criteria, CHF could be called a safe-haven currency 23.7% of time, JPY – 20.52%, EUR – 19.28%, SEK – 16.47%, and GBP – 14.6%. Unfortunately, we were not able to associate such periods with any distinguishable economic situations neither in this case, nor in the previous one.

Interestingly, the correlation coefficients with T-Notes and market volatility range similarly for all the currencies, but correlation with S&P shows a noticeable differentiation. For JPY, correlation with S&P has the best negative values. For CHF, EUR, GBP, and SEK – both best negative and best positive. Furthermore, the great positive values appeared in the past few years, but before that correlation has mostly been negative. For AUD, CAD, NZD, and SGD the correlation with S&P has the best positive values.

It is worth mentioning that, based on the correlation analysis, **the Japanese yen is at present the only currency to have safe-haven properties**. All the other currencies have the reverse property: they are positively correlated with S&P and negatively – with market volatility.





**4. JPY shows clear safe-haven patterns only against USD.**

As currently, JPY might be considered safe-haven in the pair against USD. It is therefore logical to wonder whether the same properties hold for other JPY pairs. To answer this question we use the same linear model method, pairing JPY with CHF, GBP, NZD, CAD, AUD, EUR, SGD, and SEK. The results are given in Table 2.

	USD	CHF	GBP	NZD	CAD	AUD	EUR	SGD	SEK
Intercept	0.0029 (0.30)	-0.0058 (-0.53)	0.0053 (0.47)	0.0007 (0.05)	0.0029 (0.25)	0.0012 (0.09)	0.0022 (0.20)	-0.0007 (-0.08)	0.0032 (0.26)
S&P (t)	-0.0892 (-6.49)	-0.0466 (-2.76)	-0.1376 (-6.62)	-0.3097 (-12.88)	-0.2537 (-1.84)	-0.3214 (-11.05)	-0.1269 (-6.66)	-0.1487 (-10.07)	-0.2227 (-10.34)
Treasury Notes (t)	0.0136 (1.90)	0.0167 (2.01)	0.0193 (2.39)	0.0180 (2.13)	0.0223 (2.80)	0.0223 (2.60)	0.0165 (2.23)	0.0162 (2.55)	0.0118 (1.43)
Volatility (t)	0.1863 (3.33)	-0.1438 (-2.63)	-0.2202 (-3.64)	-0.2956 (-4.52)	-0.2806 (-4.24)	-0.3191 (-4.28)	-0.1937 (-3.11)	-0.2154 (-3.88)	-0.2246 (-3.66)
S&P(t-1)	0.0241 (2.55)	-0.0045 (-0.41)	-0.0034 (-0.30)	-0.0063 (-0.41)	0.0005 (0.04)	-0.0360 (-1.64)	0.0007 (0.06)	0.0096 (1.10)	-0.0411 (-2.80)
Treasury Notes (t-1)	-0.0685 (-7.65)	-0.0294 (-2.68)	-0.0675 (-7.19)	-0.0792 (-7.67)	-0.0953 (-9.37)	-0.0987 (-9.27)	-0.0612 (-6.22)	-0.0788 (-10.57)	-0.0841 (-7.37)
Volatility (t-1)	-0.1802 (-3.26)	0.1399 (2.63)	0.2080 (3.55)	0.2848 (4.48)	0.2738 (4.23)	0.3116 (4.33)	0.1877 (3.09)	0.2114 (3.90)	0.2177 (3.65)
Depr (t-1)	-0.0090 (-0.42)	0.0022 (0.11)	0.0206 (1.09)	-0.0298 (-1.66)	-0.0240 (-1.24)	-0.0547 (-2.13)	-0.0283 (-1.49)	-0.0460 (-2.43)	-0.0259 (-1.46)
R^2	0.0799	0.0201	0.0978	0.2042	0.2120	0.2215	0.0816	0.1594	0.1476

**Table 2: Linear model coefficients with t-statistic (in braces) for pairs JPY/XXX**

As can be seen, all models have significant negative coefficients for S&P, and significant positive coefficients for T-Notes. However, none of the newly examined pairs have positive volatility coefficients. This makes their set of safe-haven properties incomplete.

Lagged factors give an opposite situation. Lagged volatility has good positive coefficients for all new currency pairs, while lagged T-Notes coefficients have the wrong sign, and lagged S&P coefficients are insignificant. Therefore, technically, JPY/USD is the only JPY pair that meets all safe-haven requirements.



## Conclusion

We have performed several types of analysis to examine safe-haven properties in nine currencies. It turned out that such properties are not permanent, and can be observed in different currencies at different times. Furthermore, safe-haven patterns seemed to be better pronounced as a response to S&P behaviour rather than one of market volatility or government bonds.

JPY, CHF, and EUR appeared to act like safe-haven currencies more often than others. However, the periods when the safe-haven properties held seemed to be unpredictable. Moreover, some currencies that are not generally considered safe-haven also occasionally showed the same properties. GBP performed well in one of the preliminary tests, but fell behind other “presumably safe-haven” currencies later on. Currently only the Japanese yen in pair against the U.S. dollar shows safe-haven patterns in its behaviour.

Such findings show that the group of safe-haven currencies is not constant, and currencies tend to change their behaviour under different circumstances. It should be taken into account by the investors who seek to secure their holdings in times of economic instability. Otherwise a seemingly reliable investment might unexpectedly turn into an unprofitable one.

## Appendix

[1] The linear model used in this research was proposed by Prof. Dr. Angelo Ranaldo and Prof. Paul Söderlind, Ph.D., in their 2007 paper “Safe Haven Currencies”.

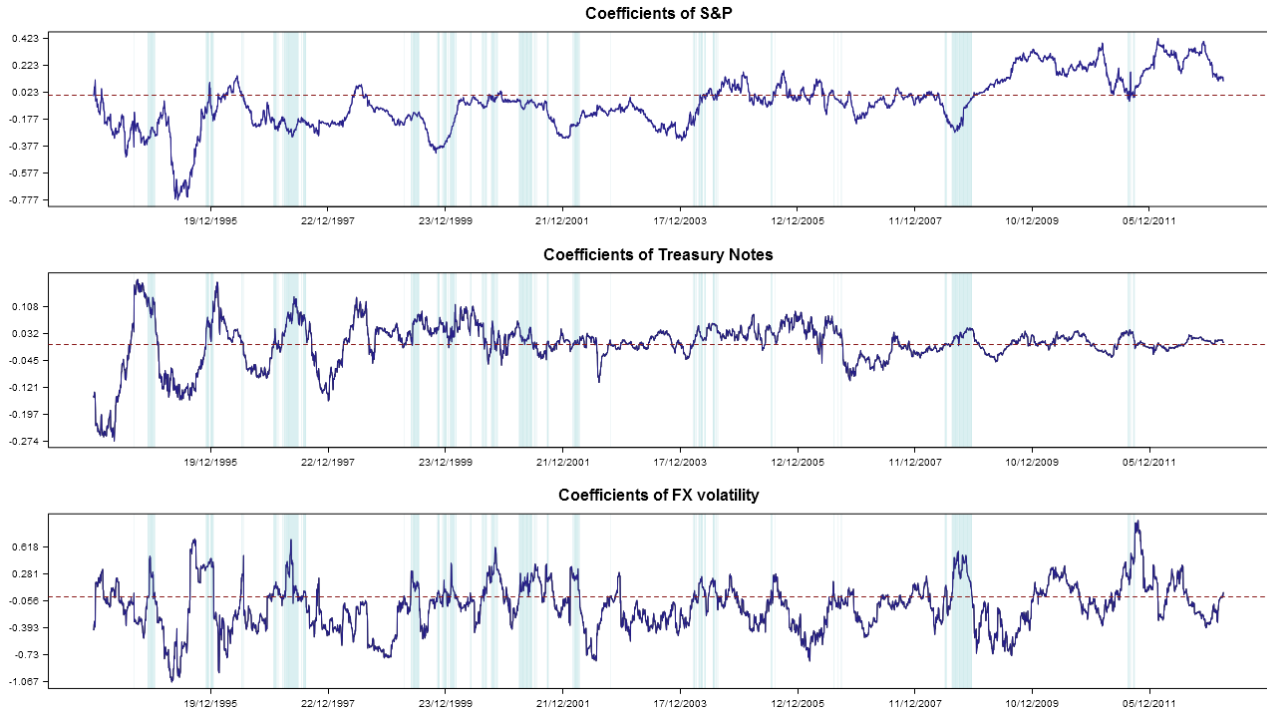
**S&P 500 (Standard & Poor's 500 Index)** - U.S. stock market index consisting of the 500 large-cap shares widely traded on the New York Stock Exchange and the NASDAQ.

**T-Notes (Treasury notes)** – marketable U.S. government debt security with 2-10 year maturity and semi-annual coupon payment.

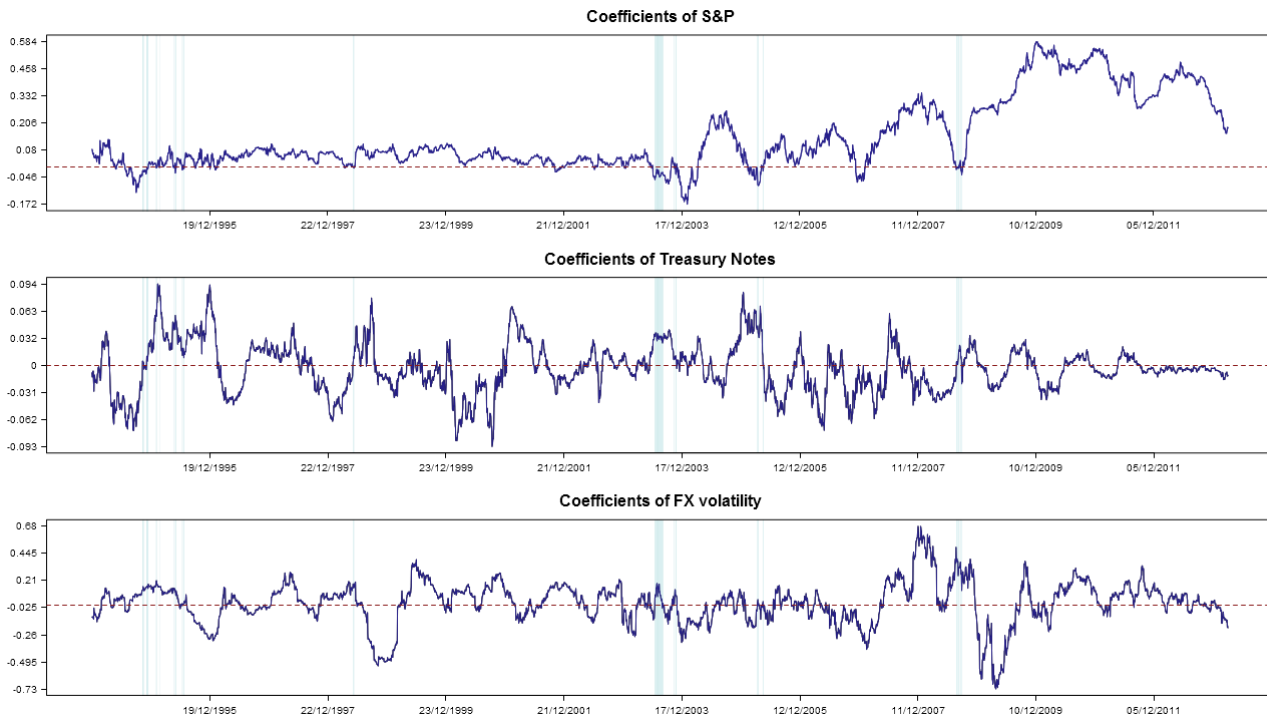
**Currency Market Volatility** – a weighted sum of the realised volatilities of the currency pairs used in the research. Each realised volatility is calculated as the natural logarithm of the sum of squared returns. Weights are determined using principal component analysis. For each linear model, market volatility is defined using all currency pairs except the one defined as a dependent variable.

### Charts

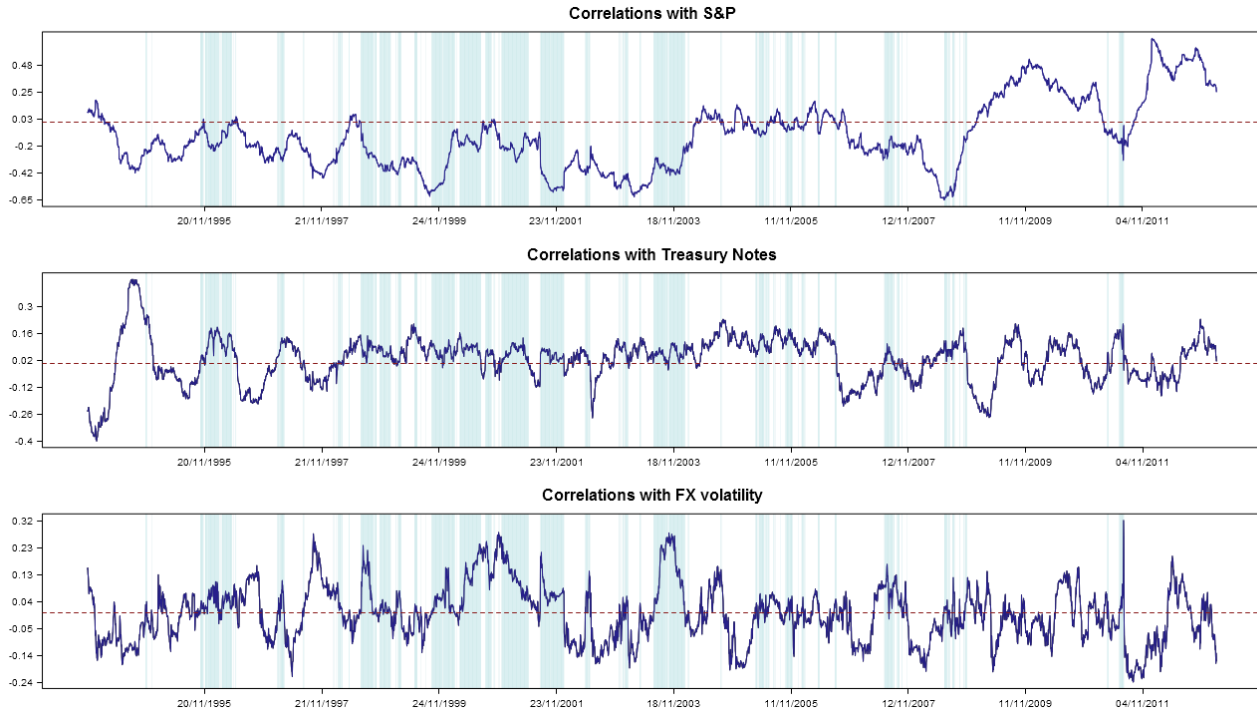
Next pages give examples of the moving parameters charts: for CHF, that often has safe-haven behaviour, and for CAD, that shows no safe-haven properties.



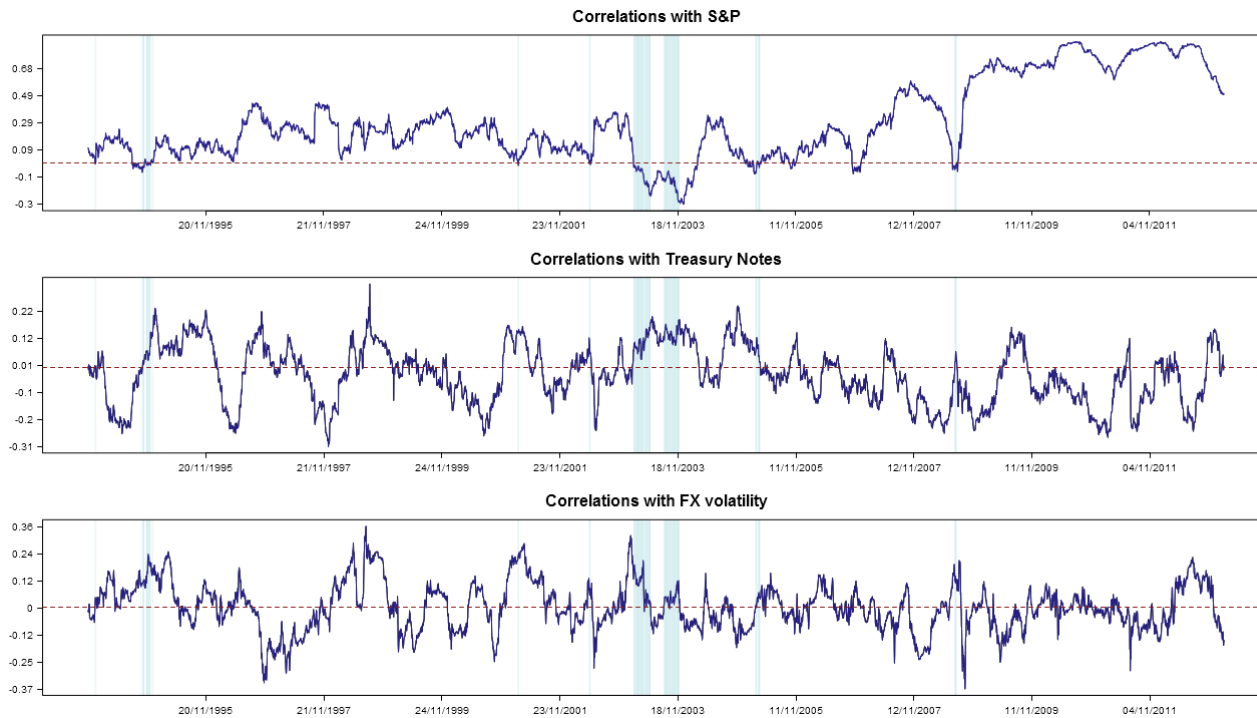
**Figure A1: Moving linear model coefficients for CHF**



**Figure A2: Moving linear model coefficients for CAD**



**Figure A3: Moving correlation coefficient for CHF**



**Figure A4: Moving correlation coefficient for CAD**



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