

What affects foreign exchange-rates?

Determinants and their impacts



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(1) Basics

What is an exchange rate?

An exchange rate is the price of one currency expressed in terms of another currency.

There are two different kinds of quotations:



Direct quotation:

Number of units of the home currency for one unit foreign currency
e.g.: 0,74 EUR per 1 USD

Indirect quotation:

Number of foreign currency units for on unit home currency
e.g.: 1 EUR = 1,34 USD or EUR/USD 1,34



(1) 5y EUR/USD as an Example: why are exchange rates changing?



(2) Classical Approaches

The historic theoretical background offers two approaches only to explain exchange rates:

(i) Purchasing Power Parity (PPP)

- “one good, one price”
- the idea can be traced back to the medieval times
- formally contributed first by Gustav Cassel 1918/1922

Absolute Purchasing Power Parity:

$$S = \frac{P_H}{P_F}$$



Relative Purchasing Power Parity:

$$\Delta S = \Delta P_H - \Delta P_F$$



(2) Classical Approaches

The historic theoretical background offers two approaches only to explain exchange rates:

(ii) Interest Rate Parity (IRP)

- forward premium must be equal to the two countries' interest rate differential

Covered Interest Rate Parity:

$$F_{0,t} = \frac{1+i_H}{1+i_F} * S_0$$

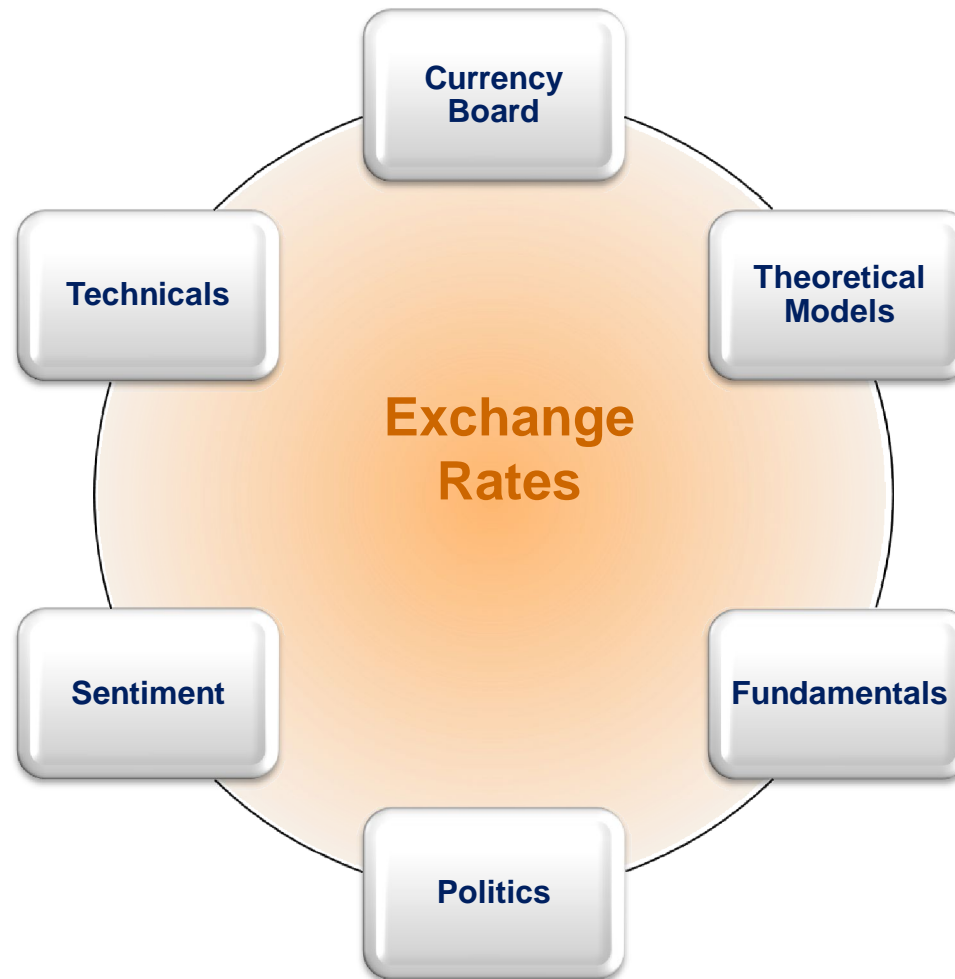
Uncovered Interest Rate Parity:

$$E_0(S_1) = \frac{1+i_H}{1+i_F} * S_0$$

(2) Classical Approaches


- 💰 The purchasing power parity and/or the interest rate parity are able to explain the fundamental direction of exchange rates in the medium and long term run, only.
- 💰 This is entirely logical, otherwise arbitrage profits are possible, but transactions costs have to be considered.
- 💰 The complexity of goods markets and services and the globalized world make it difficult to explain the exchange rates by these approaches only, because exchange rates changes too fast and often too intense without price changes or shifts of the interest rates.
- 💰 Thus, there must be more determinants affecting the exchange rates.

(3) Further Explanations – but how do they affect the rates?




(3) How exchange rates are affected

Currency Board

 **Pegged** (single currency, basket, currency units ...)



 **Managed Float** (clean, dirty, common ranges ...)












 **Free Float**



(3) How exchange rates are affected

Fundamentals







- | | |
|---|--|
|  Balance of Payments | ... the stronger the trade balance surplus is? |
|  Economic growth rates | ... the higher the economic growth rates are? |
|  Interest rates | ... the higher the interest rates are? |
|  Inflation | ... the lower the inflation is? |
|  Monetary policy | ... the more stable and reliable the monetary policy is? |
|  Fiscal policy | ... the lower the corporate taxes are? |
|  (Un-)employment rates | ... the lower the unemployment rate is? |
|  Debt ratio | ... the lower the debt ratio is? |
|  New debts | ... the lower new government debts are? |



The problem is: the real figures count nothing – it is always a Question of the expectations and what is already priced-in!

(3) How exchange rates are affected




Politics

-  Political stability
-  Civil disturbance
-  Wars
-  Elections
-  Behavior of central banks
-  Behavior of Ministry of Finance



(3) How exchange rates are affected

Sentiment

-  A countries reputation/history
-  What's in the media
-  Speculations

(3) How exchange rates are affected

Technicals

- 💰 Short-, medium-, long-term trends
- 💰 Technical signals
- 💰 Oscillator models
 - slow stochastic
 - MACD
 - RSI



... but also in a short term technicals and sentiment are doubtful



Hoch/Tief Vorwoche	1.3486		1.3113	
Mov. Avg.	100D	1.3307	200D	1.3728
Widerstand	1.3486	1.3508	1.3550	1.3568
Unterstützung	1.3403	1.3357	1.3335	1.3303
Wochenausblick	Range 1,3350 - 1,3600			▼
Mittelfristig	Test 1.4000			▼

Nach dem starken Ifo index und der Einigung in Griechenland konnte der Euro aus seiner Range nach oben hin ausbrechen. Wir erwarten weiter festere Kurse. Nächstes Ziel 1.3590. Erst ein unterschreiten der 1.3350 würde das positive Szenario beenden.

Market comment from February, 27th for the then following week ...

... and what really happens!



(4) Conclusions

- 💰 Exchange rates are manifold affected.
- 💰 Long-term development is supported by Theory and the FX-regime.
- 💰 In a medium-term fundamental and political parameters design the way.
- 💰 Short-term development is influenced by statistical models and the market sentiment (expectations).
- 💰 All the influencing parameters may amplify or turn-over a trend or affect diametrically
- 💰 Thereby the absolute level of an exchange rate doesn't matter – we are only talking about relative value of a currency and the respective expectations.
- 💰 **Exchange rates are not predictable.**

(5) Discussion





Back-up

Direct and indirect quotations



Direct quotation:

- for Deutsche Mark common up to 1999

Examples: USD/DEM i.e. 1 USD = 2,30 DEM, USD/JPY, USD/CHF

Indirect quotation:

- valid for all currencies against the USD, except EUR and GBP
- valid for all currencies against the EUR
- valid for all currencies against GBP

Examples: EUR/USD, GPB/USD, EUR/GBP, EUR/DKK

Purchasing Power Parity – an Example



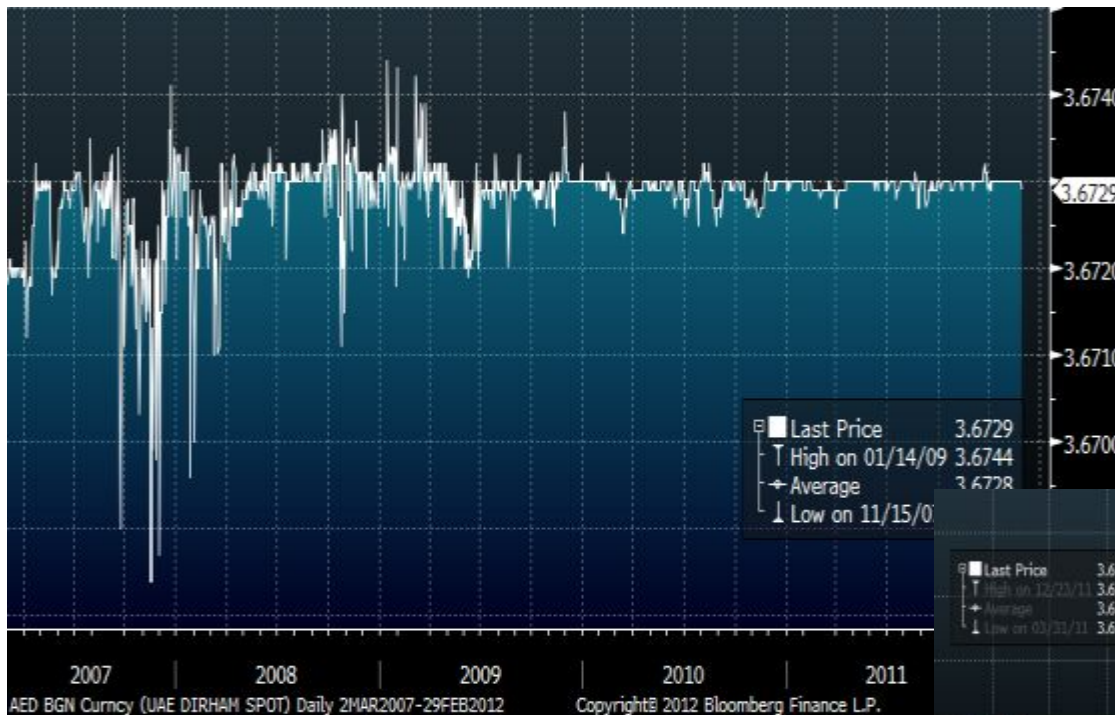
The price of a car in the Eurozone is about EUR 20.0000;

if the price of the same car in the U.S. is about USD 26.000, the exchange rate EUR/USD must be $26.000 \text{ USD} / 20.000 \text{ EUR} = 1,30 \text{ USD per 1 EUR}$.

If the price in the U.S. is 24.000 USD, the EUR/USD exchange rate is too high (USD is too cheap) and price arbitrage will shift the EUR/USD towards 1,20 so that the price ratio is still on the same level

(3) FX-Regime: Pegged Currency: USD/AED

AED is pegged against the USD with the ratio
 $1 \text{ USD} = 3,672 \text{ AED}$



5 years

1 year



(3) FX-Regime: Managed-Float: USD/CNY

CNY is a non-convertible currency; the value is managed by the PBoC against the USD and a basket within a range



5 years



1 year

(3) FX-Regime: Free Float: EUR/USD

EUR/USD is a totally free floating currency pair.



5 years



1 year

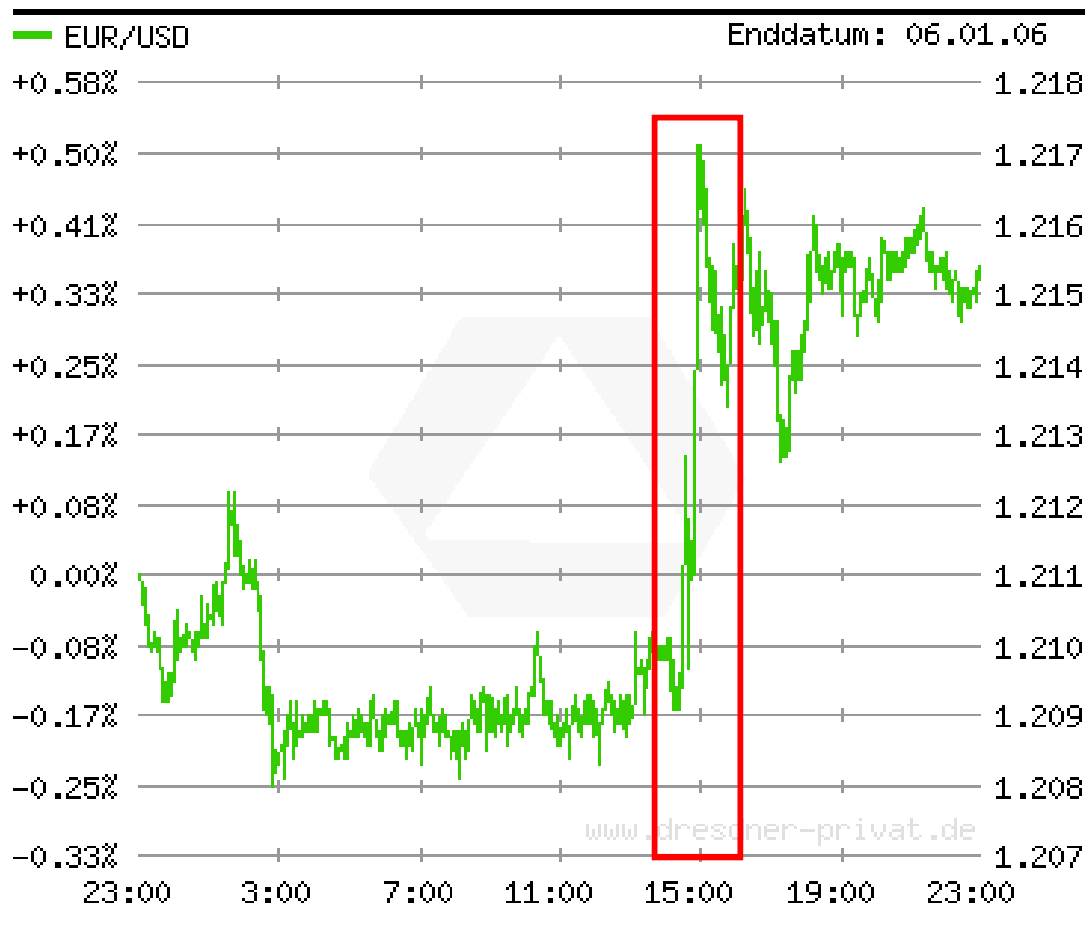
EUR/USD and Bernankes' announcement referring to QE3

February, 29th, 2012: Bernanke stated that because of rising oil prices, inflation is going to be higher



EUR/USD and the non-farm payrolls

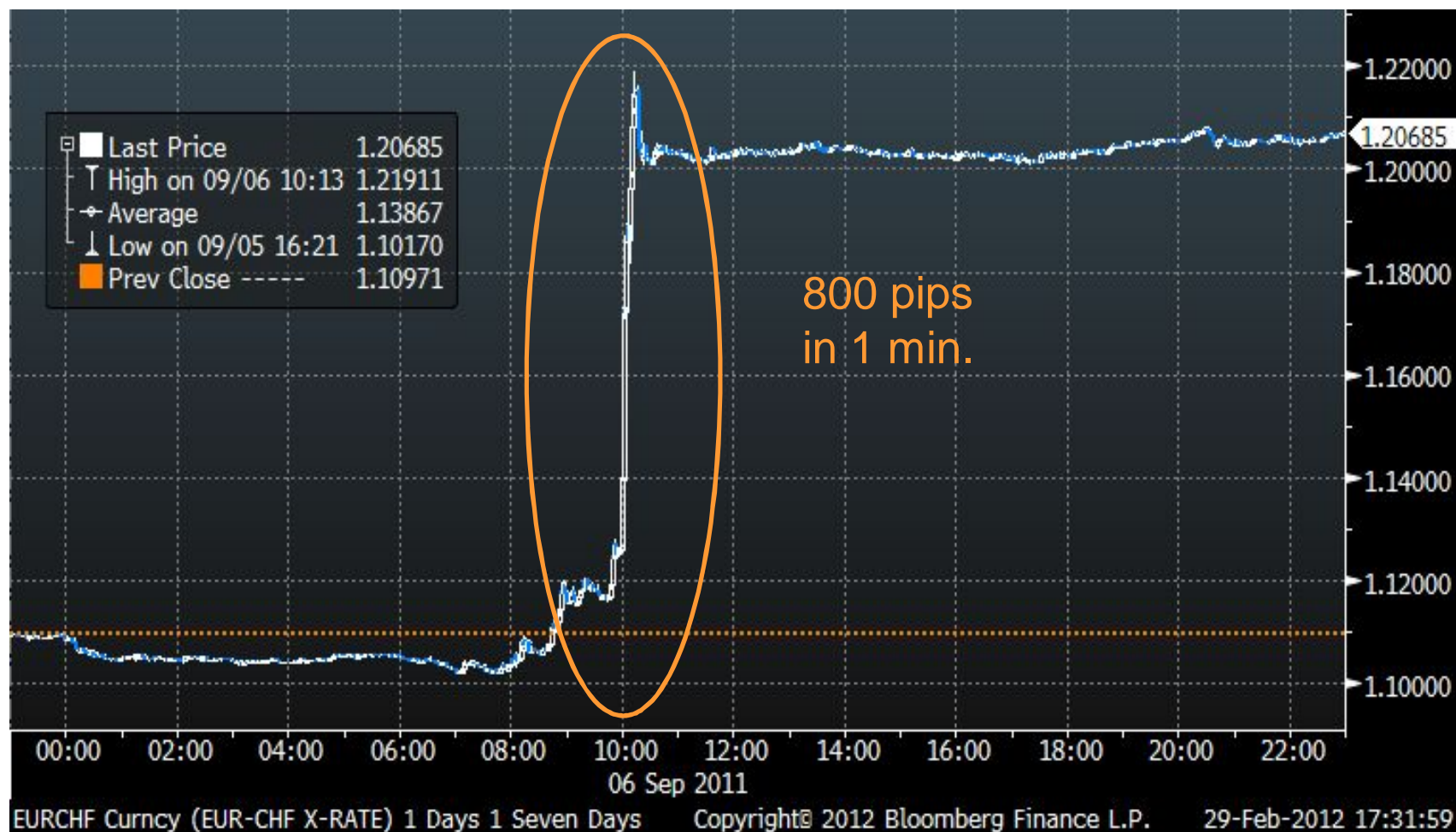
January, 06th, 2006: Non-farm payrolls worse than expected



**+ nearly 1 Cent
in 30 seconds**

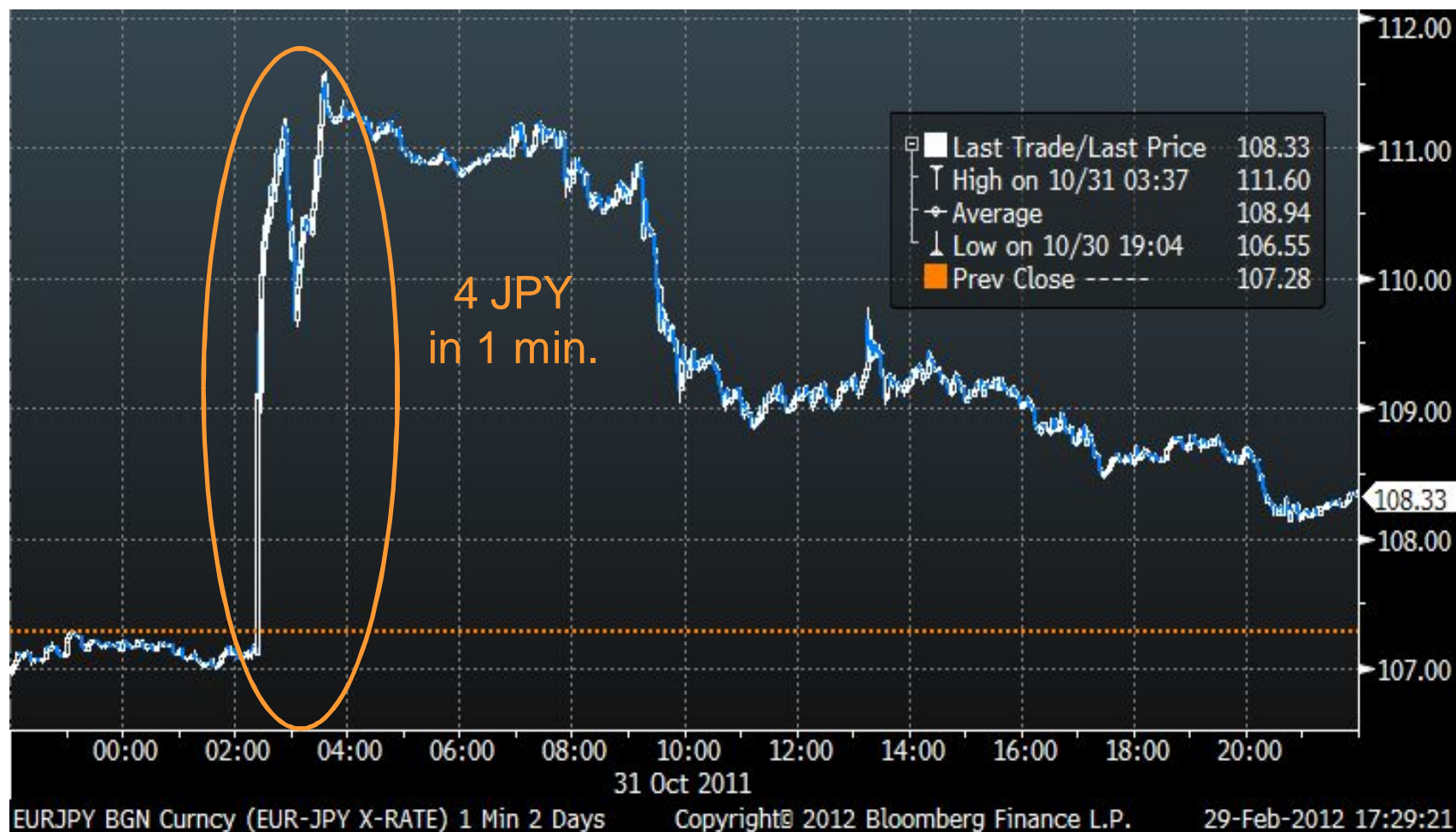
EUR/CHF an the announcement of defending the 1,20-level

September, 6th, 2011: Swiss National Bank decided to defend a EUR/CHF level of 1,20



EUR/JPY an the intervention from Japans Ministry of Finance

October, 31st, 2011: Japans Minister of Finance declared that the Central Bank will buy USD



EUR/USD: Technical Signals

March, 12th, 2012 and history since October 2011



EUR/USD: Slow Stochastik & MACD

