New developments in collateral and liquidity management in Europe: Quantitative Easing and monetary policy considerations

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DeNederlandscheBank

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Outline

- Overview of the financial crisis and unconventional measures of the Eurosystem
- What is Quantitative Easing (QE)?
- Why Quantitative Easing (->inflationary developments)
- Monetary transmission and effects
- Implementation QE
- Market reaction on QE

Why does a central bank take unconventional measures?

In times of immediate crisis, a central bank can act swiftly:

- Can expand balance sheet
- Operational, ready to act

But:

- Within the mandate of the central bank?
- Legal/reputational/financial risks
- Effect on incentives / moral hazard

4 phases of the crisis:

1. **Summer 2007 – autumn 2008: liquidity crisis**
   - *Banks hoarding liquidity*
   - *Other pattern of liquidity provision (in time, maturity)*
2. **Autumn 2008 – spring 2010: solvency crisis**
   - *Interbank market dysfunctional*
   - *Fixed rate full allotment, extension collateral list*
3. **Spring 2010 - 2013: sovereign debt crisis**
   - *Distortions in government bond markets: SMP /OMT*
   - *Risk disorderly deleveraging: VLTROs*
4. **2014: low growth/inflation, credit supply subdued**
   - *Monetary policy at (zero) lower bound: negative rates, QE*
   - *Support credit supply: TLTRO, asset purchases*

Liquidity measures Eurosystem

Tensions from US sub-prime mortgage market spilled over to money markets inducing liquidity hoarding by banks.

ECB reacted quickly by:

- Offering temporarily extra liquidity: Fine Tuning Operations, above-benchmark allotment in MRO's
- Still balanced liquidity conditions over maintenance period, but other pattern of liquidity provision during maintenance period
- More longer term refinancing operations: maturity profile changes

MRO = Main Refinancing Operation

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More liquidity!

In reaction to a freeze of interbank market (Lehman) the ECB implemented:

- Interest rate cuts
- Fixed Rate Full Allotment, both in EUR and USD Narrowing interest rate corridor
- Temporary expansion list of eligible collateral
- No active absorption of excess liquidity.

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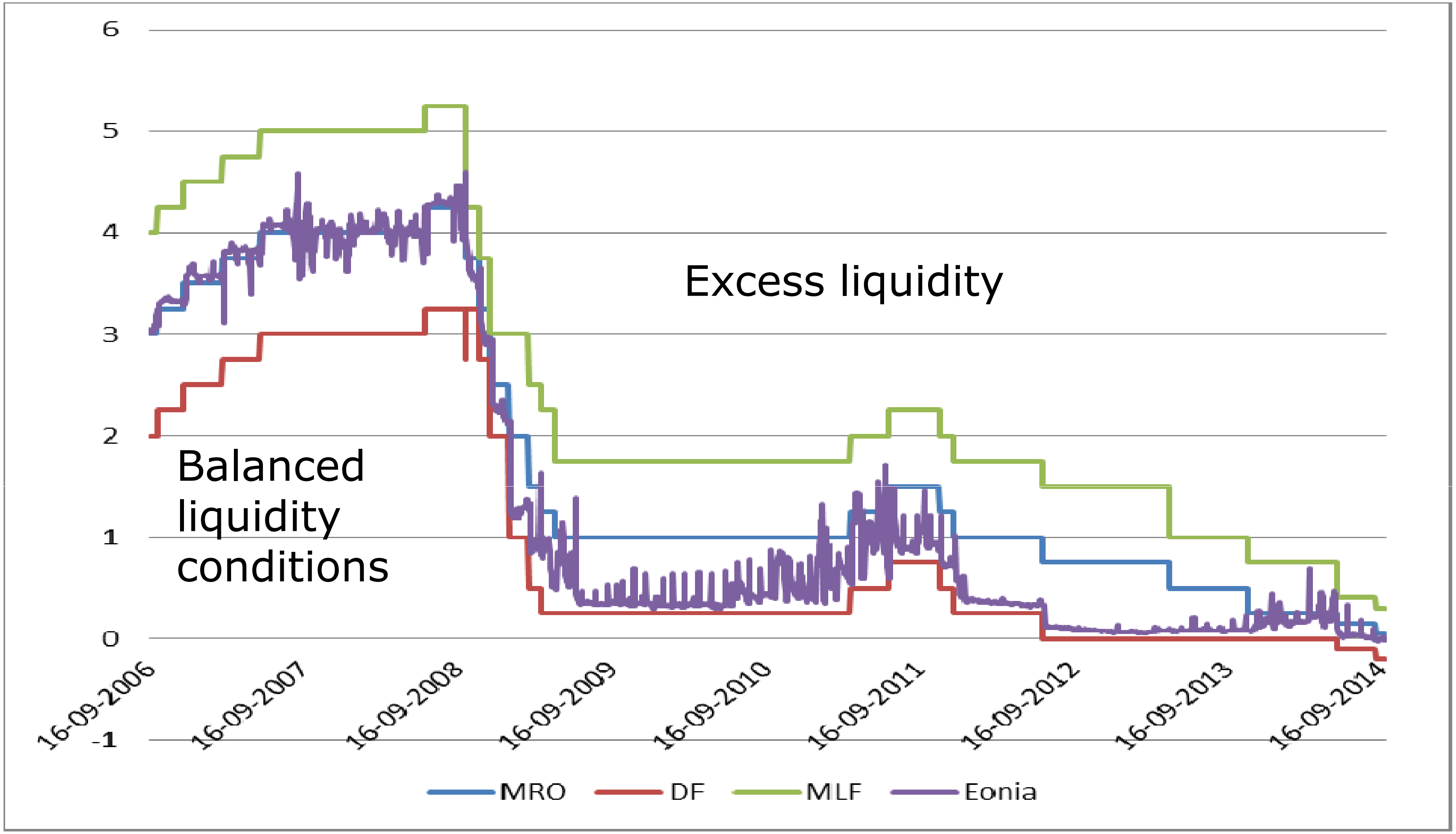

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Sovereign debt crisis

- End of 2009/beginning 2010: Greek deficit turns out to be 12,7% (instead of 3,7%); April 2010 Greece in EU/IMF programme.
- November 2010: Ireland in EU/IMF programme (after real estate crash).
- Contagion to Portugal: requests EU/IMF programme in April 2011.
- Contagion to Spain and Italy (2011) July 2012: ESM-support granted for Spanish banking system.
- Cyprus in EU/IMF-programme since March 2013.

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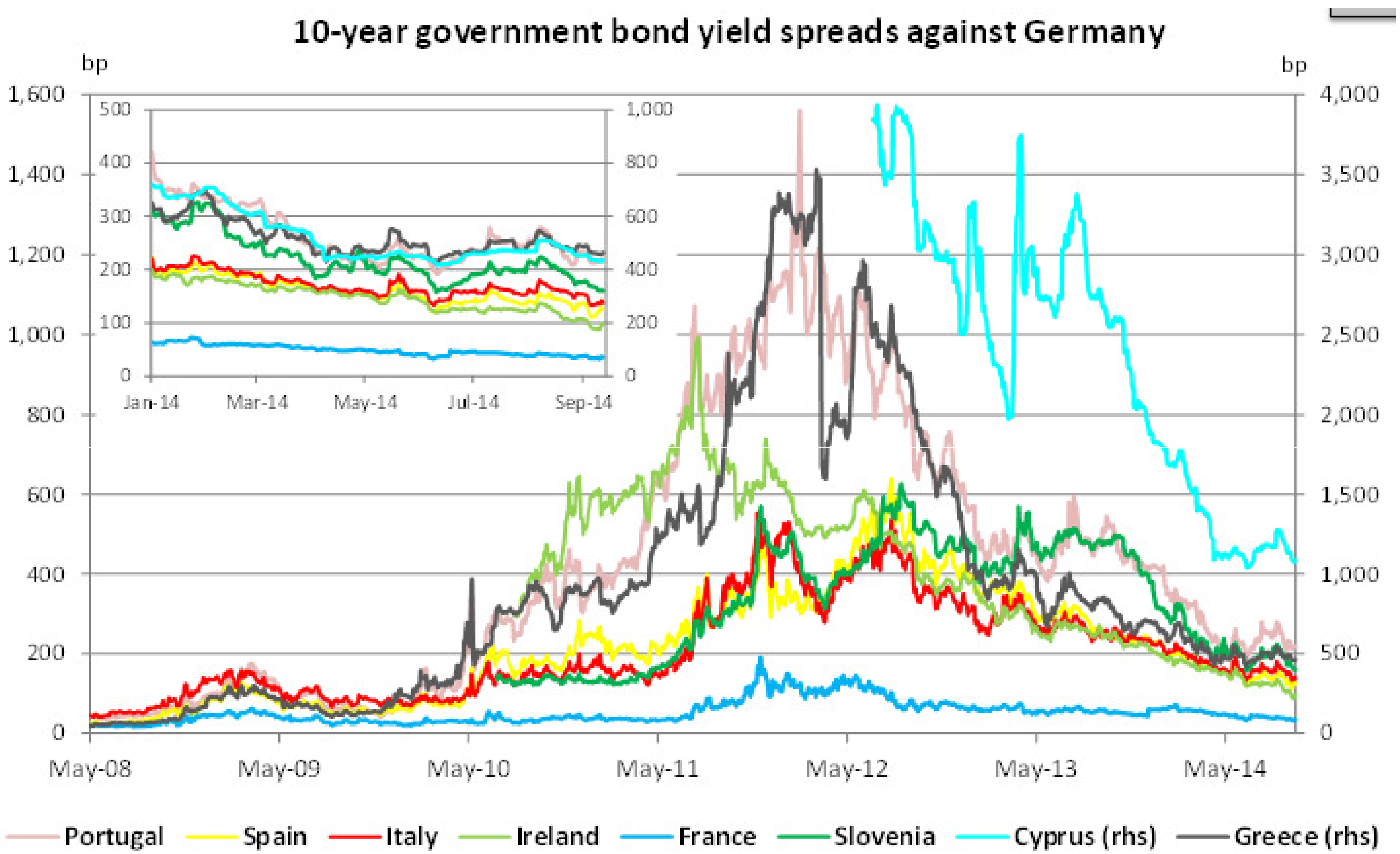
ESM = European Stability Mechanism

European Stability Mechanism

Sovereign debt crisis



Securities Markets Programme (SMP)

- May 2010: SMP purchases of securities in market segments which are dysfunctional in order to ensure depth and liquidity
- Objective: address malfunctioning of markets and restore an appropriate monetary policy transmission
- Purchases of government bonds of in Greece, Ireland, Portugal, and later Spain and Italy; on secondary market only
- No Quantitative Easing: liquidity impact of interventions sterilized through weekly liquidity absorbing operations (*Fixed Term Deposits*)

Further credit easing measures

- Ease *funding* conditions for banks
- Buy time: prevent disorderly deleveraging / credit crunch

- Covered Bond Purchase Programme (CBPP2)
- Very Long-Term Refinancing Operations (VLTROs)
  - *Two 3-year LTROs (gross 489 and 530 bln.)*
  - *Temporary expansion collateral*

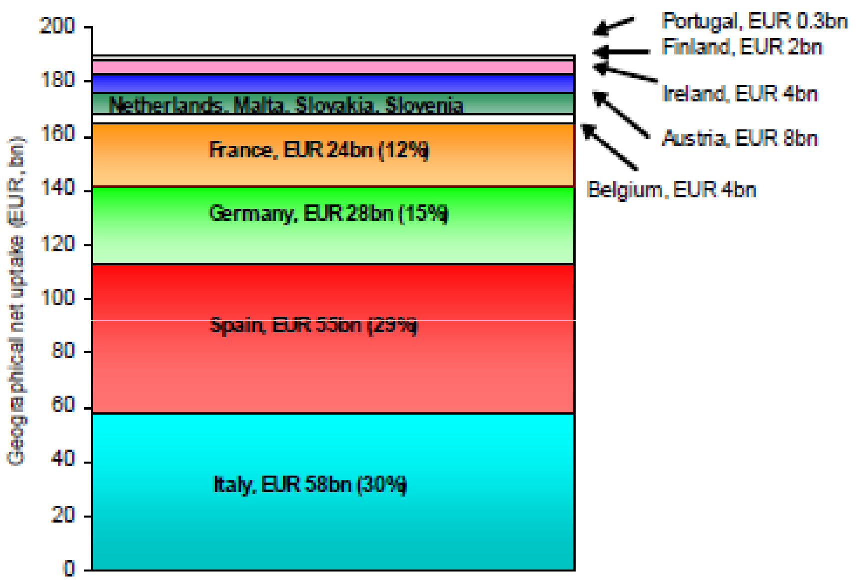
The non-standard measures of the Eurosystem

" … *aim to ensure enhanced access of the banking sector to* ***liquidity*** *and* ***facilitate the functioning of the euro area money market****, thereby avoiding severe limitations to the real economy from a lack of financing possibilities. This also helps ensure that the official interest rates set by the ECB are transmitted in an appropriate way to the economy, and in that way help* ***maintaining price stability*** *in the medium term"*

Mario Draghi, Hearing at the Committee on Economic and Monetary Affairs of the European Parliament, December 2011

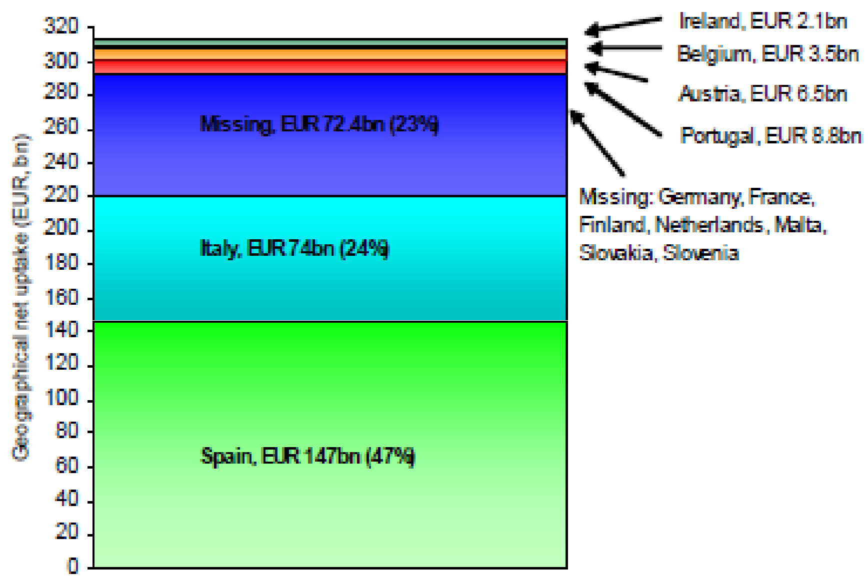
Subscription to 3 years LTROs

Gross take-up was €489 billion



Source: BLOOMBERG NEWS, ECB

Gross take-up was €530 billion



Source: Credit Suisse, ECB

Timely injections (thus saving one another's ass, in the short term)

Unconventional measures

- Can not solve the Eurosystem crisis
- Only "buy time" for structural adjustments
  - *Governments (fiscal, macro-economic, institutional)*
  - *Banks (balance sheet adjustments, business models, recapitalization)*
- Important that time is not wasted. Risks:
  - *Governments laying back when central bank steps in*
  - *Postpone necessary bank restructuring. Keeping alive "zombie banks"*

    → Keep incentives in place !

2012: Draghi's whatever it takes….

- Speech Draghi 26/7/2012*: "Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough"*

- September 2012: Eurosystem may conduct **O**utright **M**onetary **T**ransactions (OMT) to help *"address severe distortions in government bond markets which originate from, in particular, unfounded fears on the part of investors of the reversibility of the euro".*

SMP (securities market programme)	**OMT (outright monetary purchases)**
address malfunctioning of markets and restore an appropriate monetary policy transmission	Provide, under appropriate **conditions**, fully effective backstop to avoid destructive scenarios
purchases of securities in market segments which are dysfunctional	transactions focused on shorter part of the yield curve (1-3 year)
Not unlimited	**No ex ante quantitative limits**
Market perception: seniority status	Eurosystem accepts same (pari passu) treatment as other creditors
Full sterilisation (fixed term deposits)	Full sterilisation

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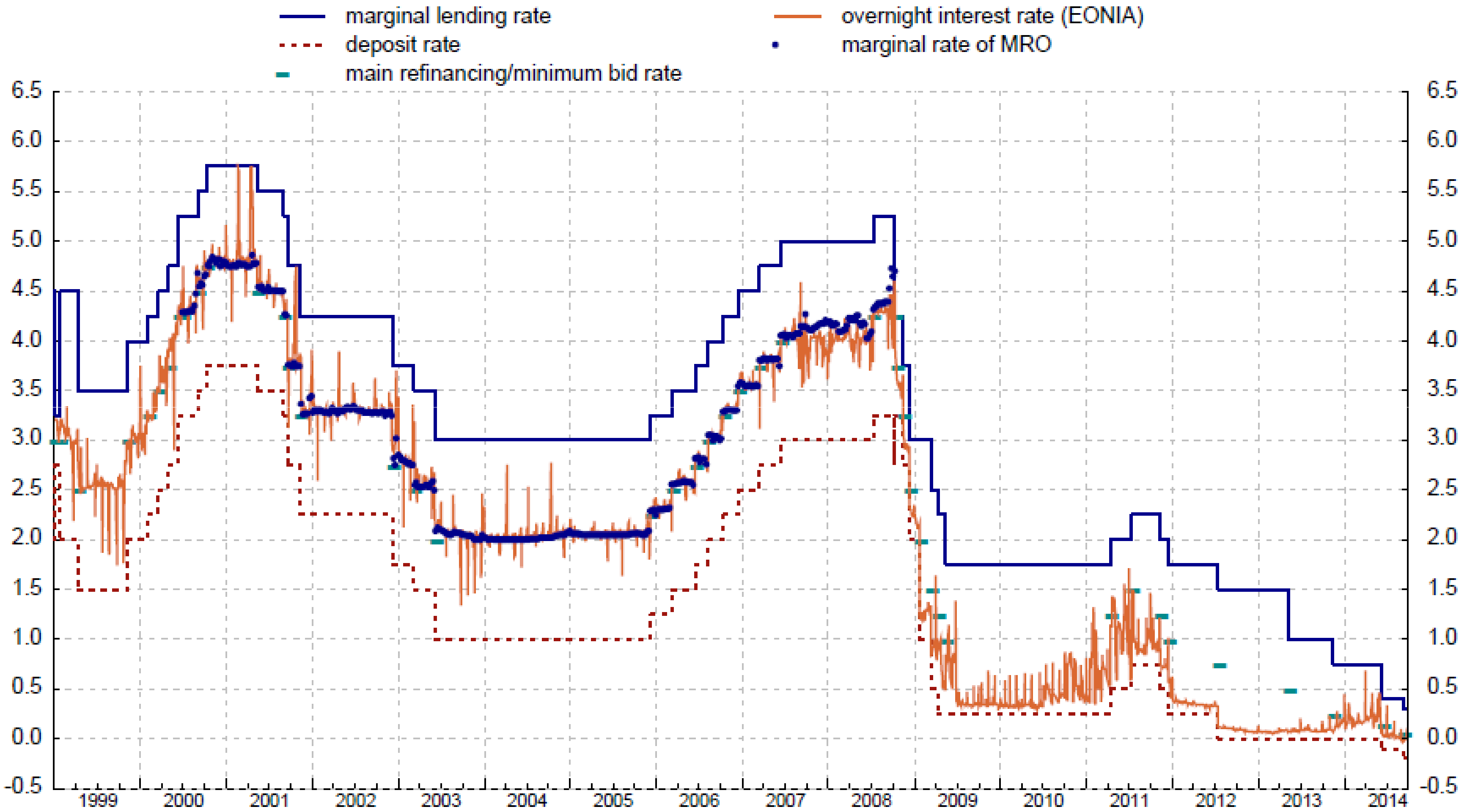
Interest rate at all time low



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Monetary policy at (zero) lower bound

- Forward guidance
- Negative rates
- Quantitative easing

July 2013: *"The Governing Council has taken the unprecedented step of giving* ***forward guidance*** *in a rather more specific way than it ever has done in the past. The Governing Council expects the key ECB interest rates to remain at present or lower levels for an extended period of time. It is the first time that the Governing Council has said something like this".*

Further monetary policy easing

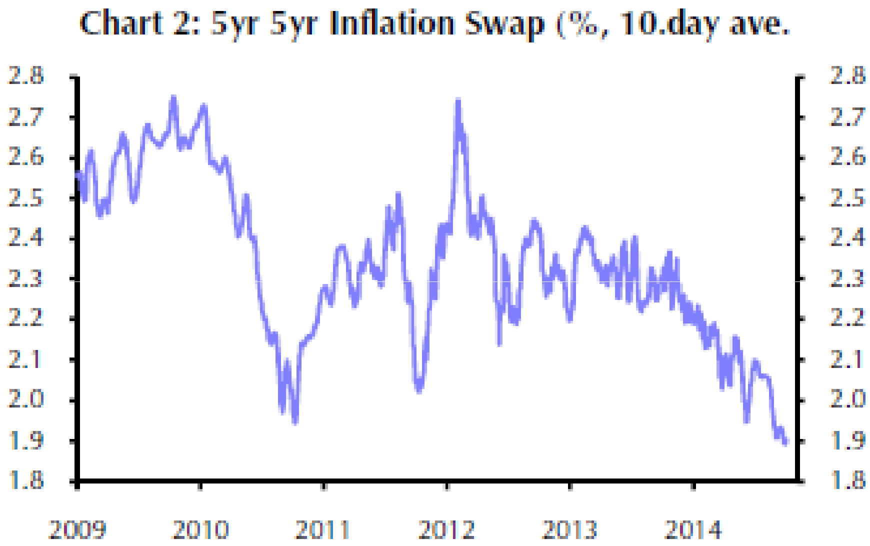
June 2014:

- Interest rate cut (15 bp): negative deposit rate (-10 bp)
- Continue FRFA, suspend SMP-related liquidity absorbing operations
- Targeted-LTRO (TLTRO): 4-year funding for MRO +10 bp increase credit supply to non-financial private sector
- Intensify preparations ABS purchases

Deterioration inflation outlook

22 Aug 2014 - Mario Draghi:

“The 5 year/5 year swap rate declined by 15 basis points to just below 2% - this is the metric that we usually use for defining medium term inflation.”



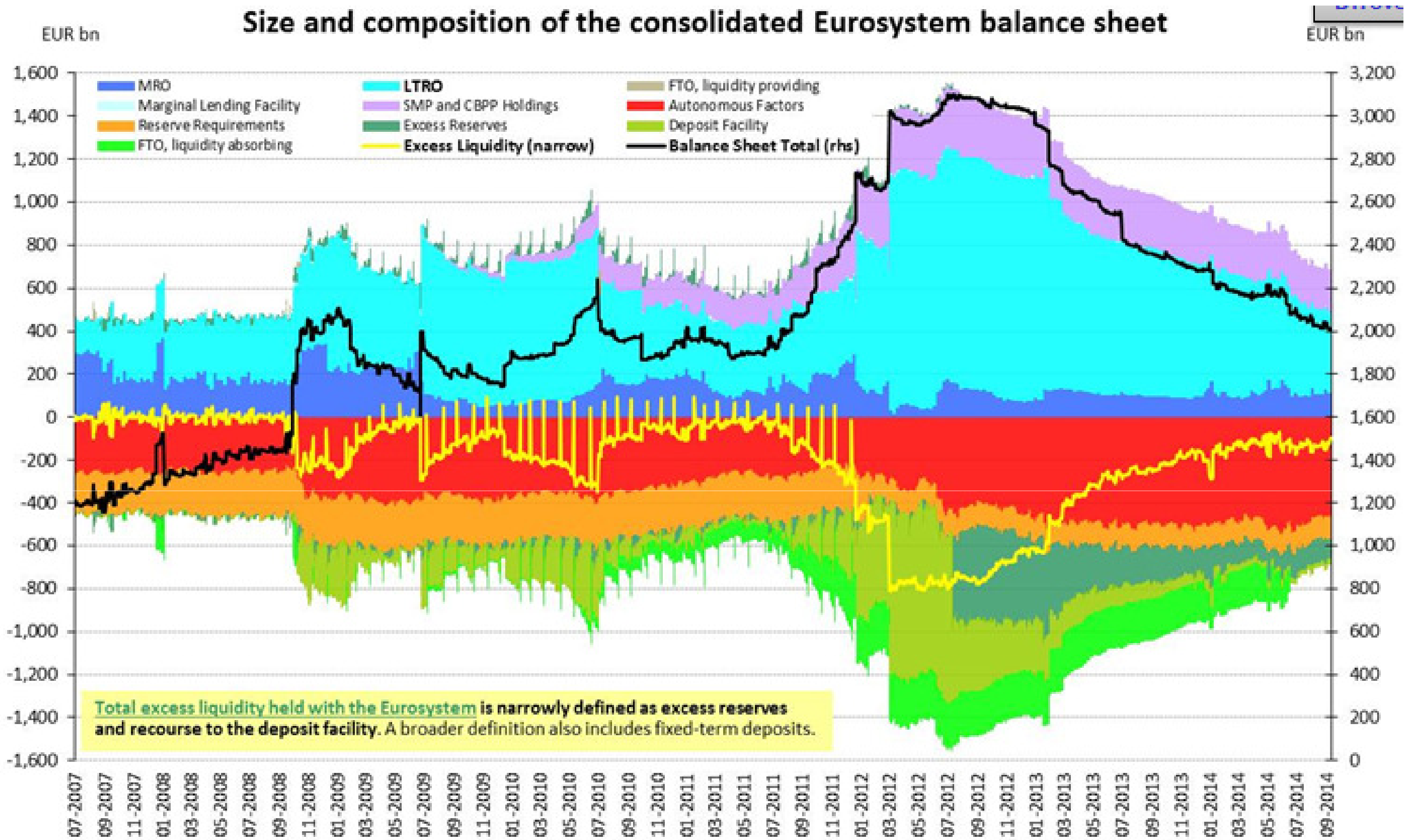
What is Quantitative Easing?

= Buying bonds to stimulate the economy, primarily by boosting inflation

To QE or not to QE?

Mario Draghi (Q&A september 2014):

- *The aim is to increase the measures that produce **credit easing** for the banking industry and banking sector, which as you know represents more than 80% of total intermediation, credit intermediation, in the euro area. The second aim is to steer, significantly steer, the size of our balance sheet towards the dimensions it used to have at the beginning of 2012.*
- *QE was discussed. Some of our Governing Council members were in favour of doing more than I have just presented, and some were in favour of doing less. So our proposal strikes the middle of the road, but to answer your question, yes it was discussed. A broad asset purchase programme was discussed, and some Governors made clear that they would like to do more.*


Size and composition of the consolidated Eurosystem balance sheet
EUR bn
EUR bn
MRO
Marginal Lending Facility
Reserve Requirements
FTO, liquidity absorbing
LTRO
SMP and CBPP Holdings
Excess Reserves
Excess Liquidity (narrow)
FTO, liquidity providing
Autonomous Factors
Deposit Facility
Balance Sheet Total (rhs)
Total excess liquidity held with the Eurosystem is narrowly defined as excess reserves and recourse to the deposit facility. A broader definition also includes fixed-term deposits.

Measures taken in autumn 2014

Against background of:

- overall subdued outlook for inflation
- weakening in the euro area's growth momentum over the recent past
- continued subdued monetary and credit dynamics

September 2014:

- Further rate cut: MRO rate 5 bp, deposit rate -20 bp (floor)
- ABS Purchase Programme and Covered Bond Purchase Programme (CBPP3)

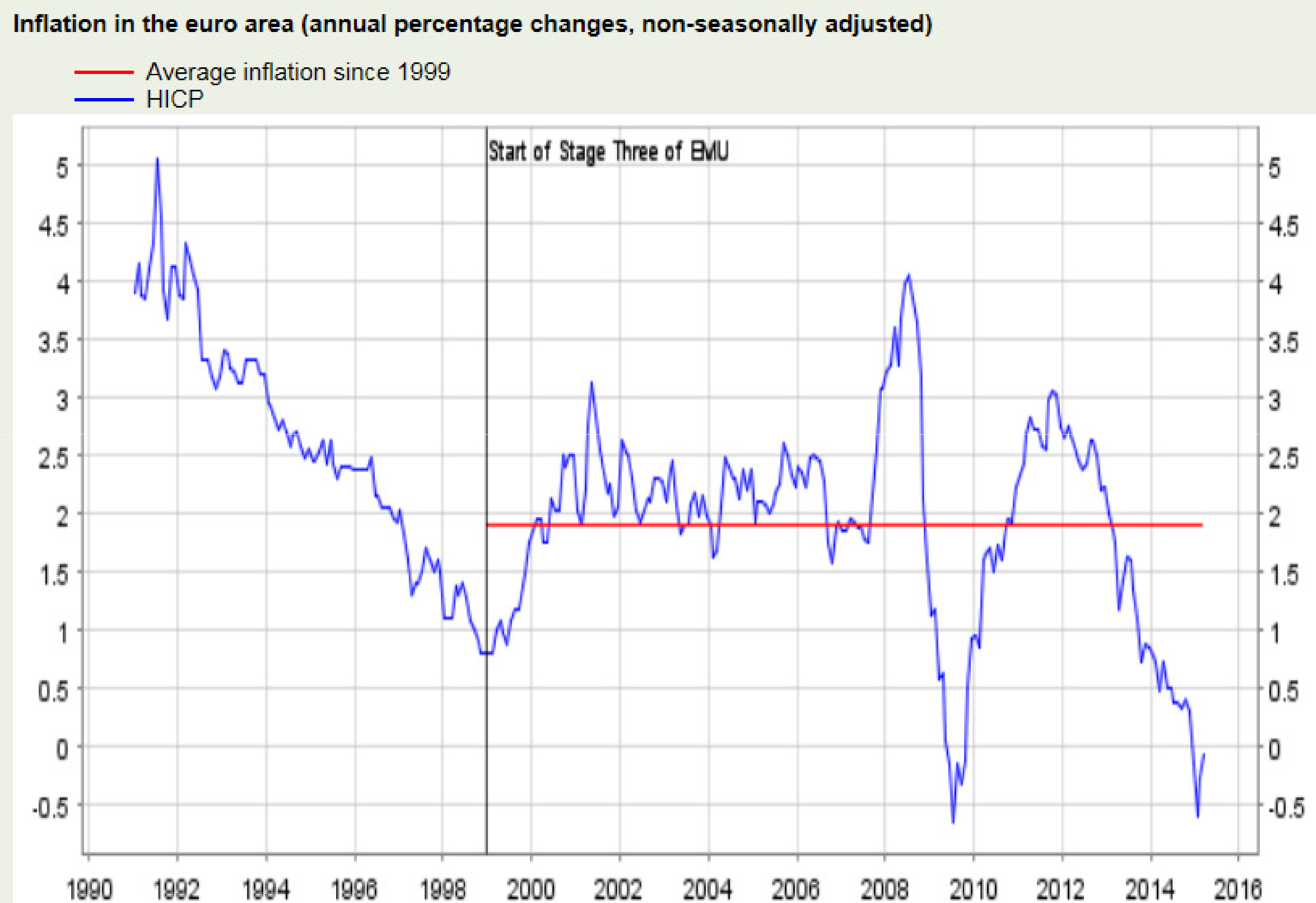
ABS and covered bond purchases

October 2014

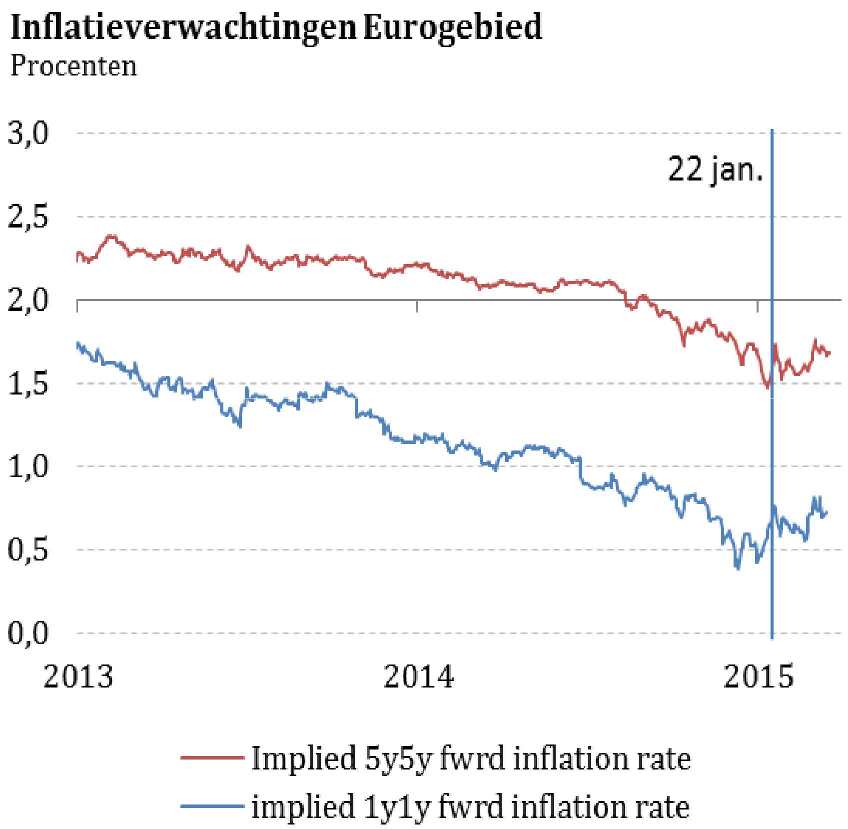
- *Announcement operational details ABS and covered bond purchase programmes*
- *Size not published: "hard to assess a figure, to give a figure on this programme as such, because there are several interactions between the ABS programme, the covered bond programme and the TLTRO programme".*
- *Less emphasis on balance sheet: "I wouldn't want to emphasise the balance sheet size per se. That's very important, but it's only an instrument. The ultimate and the only mandate that we have to comply with is to bring inflation back to a level that is close to but below 2%".*

Inflation Euro area

HICP inflation and core inflation
Annual percentage changes



Inflation expectations euro area



… fall in measures of inflation expectations over all horizons…

… indicators stand at their historical lows.”

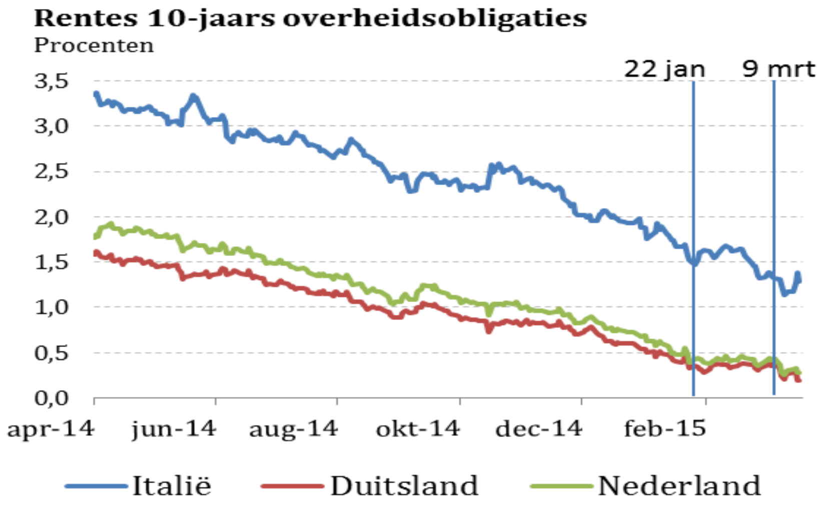
(Draghi, 22 Jan. 2015)

… our monetary policy decisions have stopped a decline in inflation expectations …

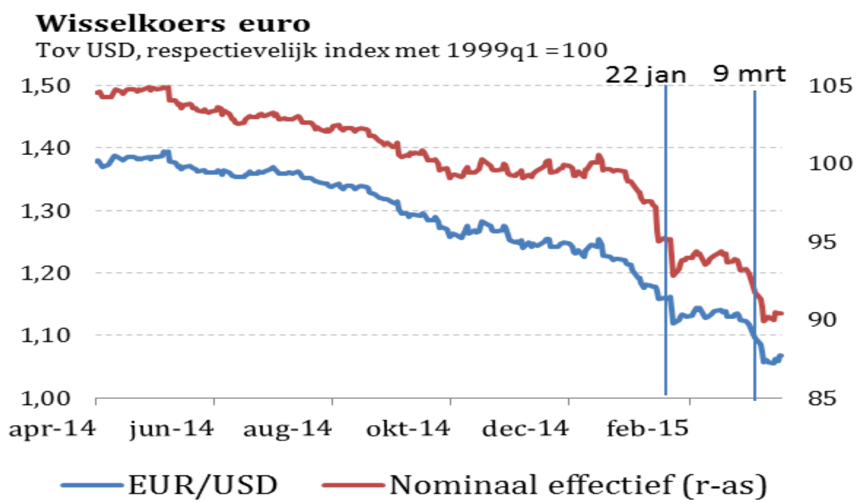
(Draghi, 5 March 2015)

Expectations

- **Interest government bonds**



- **Exchange rate**



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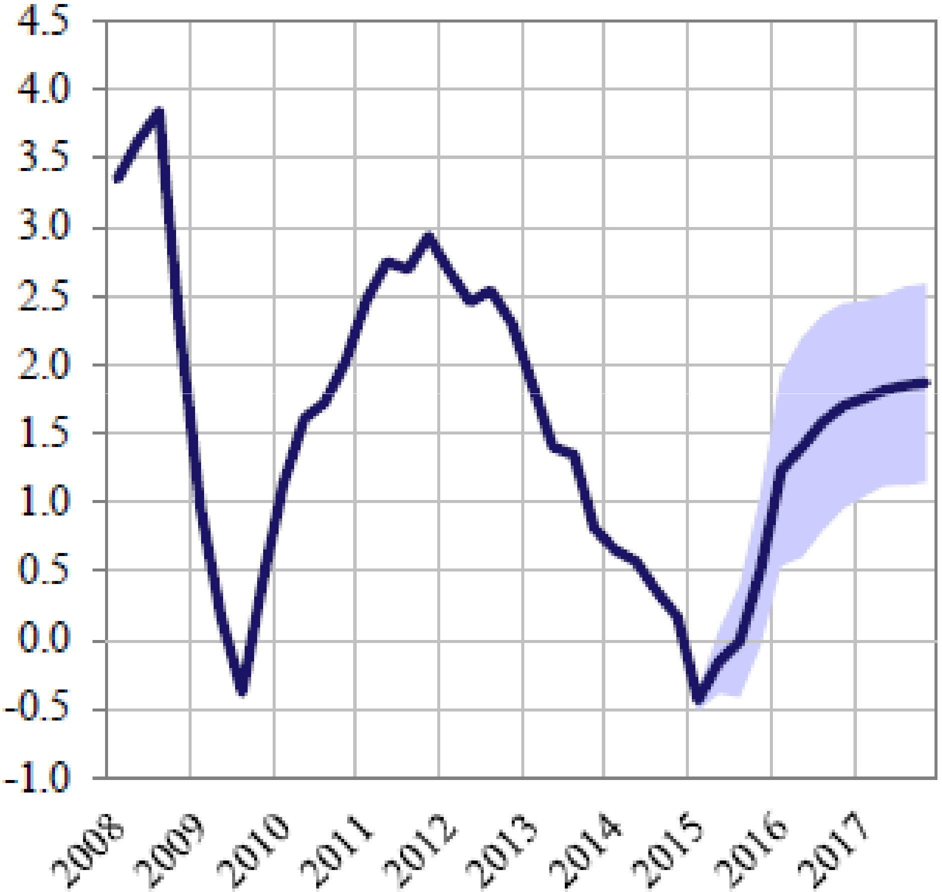
Inflation projections



Including effect T-LTRO's and QE

Source: ECB

Announcement large scale purchases

- January 2015: Purchase programme extended with government bonds and EU institutions
- Intention to buy EUR 60 bln a month until at least September 2016 and in any case till inflation paths are in line with the inflation rate target (close to 2%)

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EAPP Extended Asset Purchase Programme *EUR 60 bln per month*	**ABSPP**	**Asset-backed securities**	**external managers**
	CBPP3	**Covered bonds**	**ECB + NCB's**
	PSPP	**National governments and *agencies*** *(88%)*	**NCB's** *(80%)* *According to capital key*
			ECB *(8%)*
		European Institutions *(12%)*	**some NCB's**

Setup PSPP

- Limited risk sharing PSPP:
  - ✓ No loss sharing via central bank balance
  - ✓ No reductions in incentives for fiscal reforms

↳ NCBs buy own domestic government bonds (pro rata according to capital key)

- Minimum credit quality

Setup PSPP

- Maturities:
  - Remaining maturities: 2-30 year
  - Buy bonds along the curve: preserve market functioning
- Bought securities available for *securities lending*
- Buy max 25% of each issue (issue limit)
  - Distribute purchases
  - No *blocking minority* in CACs

Setup PSPP

- Buy government bonds at secondary market
  - Prohibition of monetary financing:
  - No subscription to primary issuances
  - Embargo-period around auctions

- Outright purchases from ‘own’ counterparties
  - Banks and brokers
  - Active buying: electronically and by phone

Risks (DNB)

- Limited risk sharing
- Interest risk:
  - Buy bonds against low and even negative yields

Implementation QE-PSPP

Decentralised execution:

- NCB's buy bonds
- ECB coordinates (+ own purchases)
- Benchmark
- Some flexibility (capital key, maturities)

→ DNB buys NL government bonds

Implementation QE-PSPP (2)

Purchases by DNB:

- Department Treasury and Monetary buys separated from the management of the own portfolio
- Experience with earlier purchase programmes (SMP, CBPP1/2/3)
- PSPP deviates through volume and length of earlier purchase programmes
- Settlement through the back office at the Payments and Securities department

Implementation QE-PSPP (3)

When is the purchase programme successful?

- Purchases government bonds according to capital key
- Smooth implementation with limited market distortions

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Recent purchases

Instrument	Reference date	Outstanding amount (*)
Covered bond purchase programme 3	20 Mar. 2015	59,998
Asset-backed securities purchase programme	20 Mar. 2015	4,008
Public sector purchase programme	20 Mar. 2015	26,300

N.B. Market value on purchase date (liquidity effect) and already settled purchases

- CBPP3 runs 5 months: purchases ca. EUR 12 bln p/m
- ABSPP runs 4 months: purchases ca. EUR 1 bln p/m
- Start purchases PSPP as off 9 March 2015

The universe

Country	Market Value, EUR bn*	Capital Key Weighting	% of Market Value	% of 2015 Gross Issuance
Germany	956	215	22%	71%
France	1309	169	13%	48%
Italy	1483	147	10%	42%
Spain	671	106	16%	39%
Netherlands	295	48	16%	52%
Belgium **	328	30	9%	48%
Austria	200	23	12%	73%
Finland	78	15	19%	69%
Ireland	113	14	12%	54%
Portugal	95	21	22%	84%
Greece*	22	24	108%	195%
Total	5550	812	14%	54%

** Excluding Bonds with a maturity less than 2y and more than 30y*

*** Excludes Belgian retail bonds.*

Source: research MS, numbers end of January 2015.

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Who are selling bonds?

Banks

- Liquidity- and capital regulation constraints
- Collateral need

Insurers/pension funds

- Regulation constraints
- Experience UK: institutional investors switch partly to corporate bonds

Asset managers

- Partly limited by mandates

Not-Eurozone investors

- Least constraints

First experiences/reactions markets

Willingness to sell

- Purchases so far have been done smoothly, market participants prepared a stock in advance
- No indications of large purchase movements

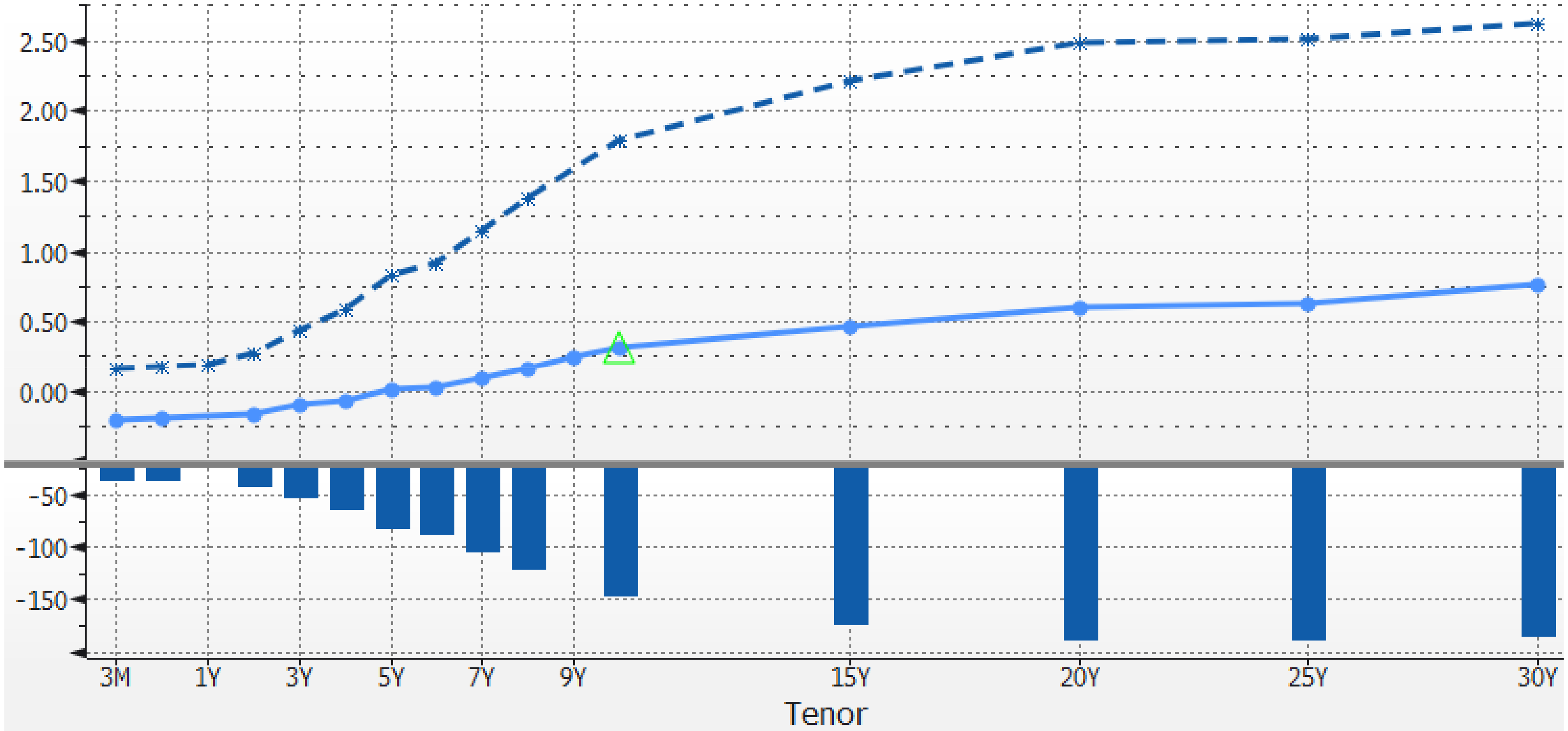
Market reaction

- During 2014 QE was priced in stronger
- Strong effect on interest longer maturities at announcement
- And strong drop in interest longer maturities at purchase date

NL 30 year government bond interest rate after announcement and start QE

N.B. Bond with maturity till January 2042 (longest maturity NL government bond within the programme)

NL interest curve



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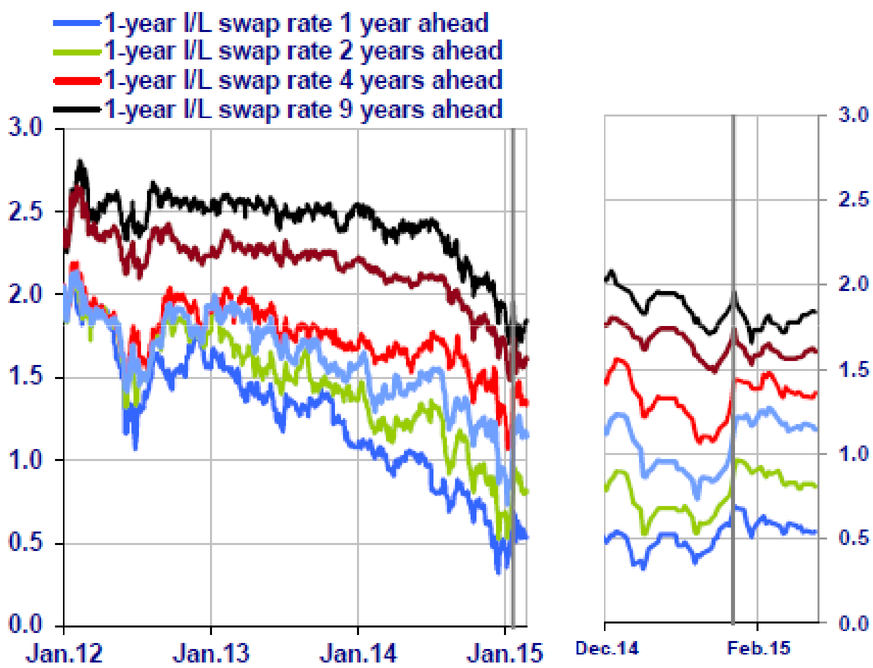
Effect QE on inflation expectations

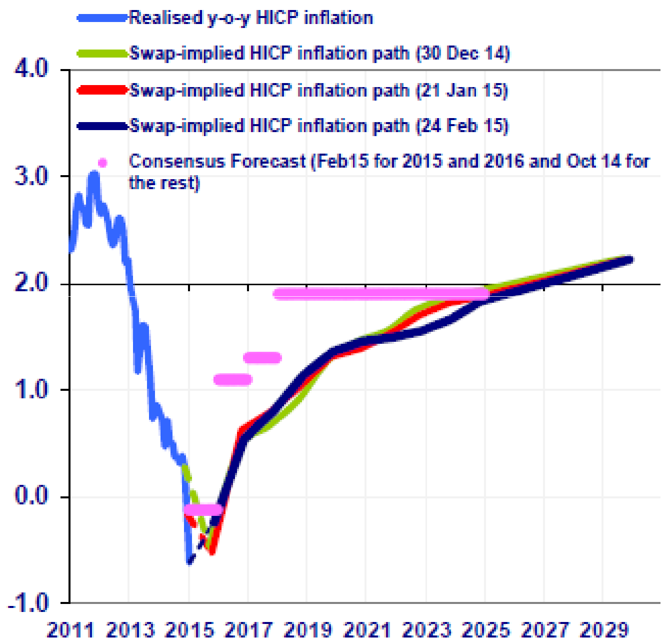
Market-based inflation expectations had an up-tick and stabilised after the announcement of QE. Consensus forecast foresees a quicker normalisation of inflation than IL swap rates in a market without great demand for inflation protection.

Implied forward inflation-linked swap rates
(% p.a., daily)



Source: Reuters data and ECB calculations.
Latest observation: 24 February 2015.
Note: Vertical line denotes 22 January 2015.

Implied inflation paths calculated from IL swap rates (% p.a.)



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Market reactions

	1/1/2014	21/1/2015	24/3/2015
EURUSD	1.38	1.16	1.10
10yrs rentes			
DUI 10YR	1.94	0.52	0.22
NL 10YR	2.23	0.56	0.31
IT 10YR	3.97	1.69	1.32
SWAP 10YR	2.15	0.80	0.57
30yrs rentes			
NL 30YR	2.89	1.27	0.75
IT 30YR	4.82	3.09	2.18
SWAP 30YR	2.73	1.36	0.90

Risks and potential costs of large scale asset purchases

- Medium term inflation risks
- Exit strategy and the possibility of losses incurred by the central bank
- Financial stability risks, stemming from search for yield and higher leverage
- Potential laxity of credit risk management by financial management institutions in a climate of low rates
- Wealth effects and increased inequality

DNB warns on risk of new asset price bubbles

" The present accommodative monetary policy is itself not without risks, not least because it exacerbates the risk of financial market bubbles. The ECB will constantly have to weigh this risk of new financial imbalances against the contribution made by monetary policy to economic recovery and stable prices. It is after all important that the remedy should not be worse than the disease". *DNB, Overview of Financial Stability, http://www.dnb.nl/en/binaries/313281_OFS_najaar2014_EN.pdf*

Do you have any question?

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