



# Design and impact of LSAPs

**ECB Bond Market Contact Group**

27 January 2014

## Key themes

---

- (1) Putting numbers into perspective and lessons learned from other Large Scale Asset Purchase Programmes
- (2) Specific issues relating to the calibration of a Large Scale Asset Purchase Programme in the euro area

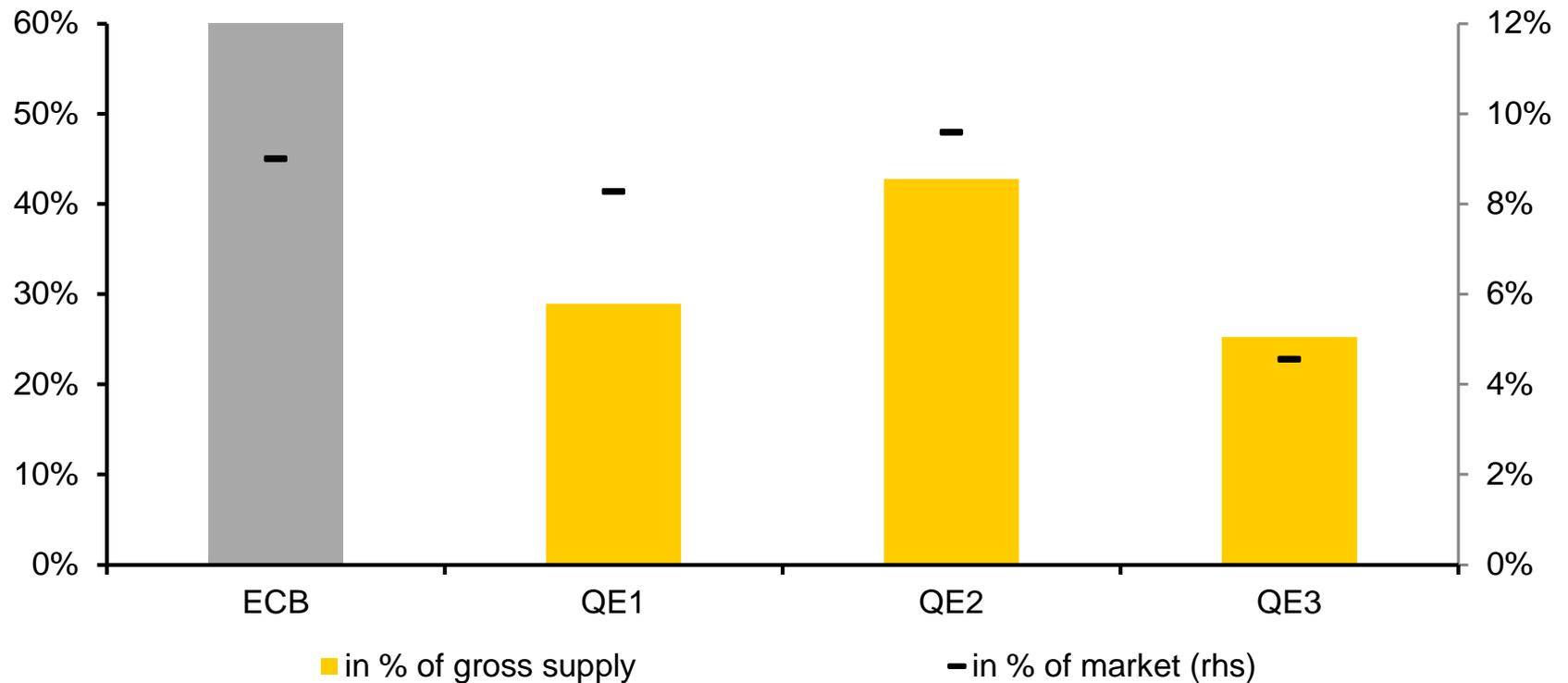
**Appendix:** Nominal yields, inflation breakevens and real yields during different QE-phases in the US, the UK and Japan

---

# Putting volumes into a bond market perspective

## Fed

ECB and Fed\* QE volumes relative to gross issuance and outstanding market, annual averages assuming ECB purchases of €50bn per month



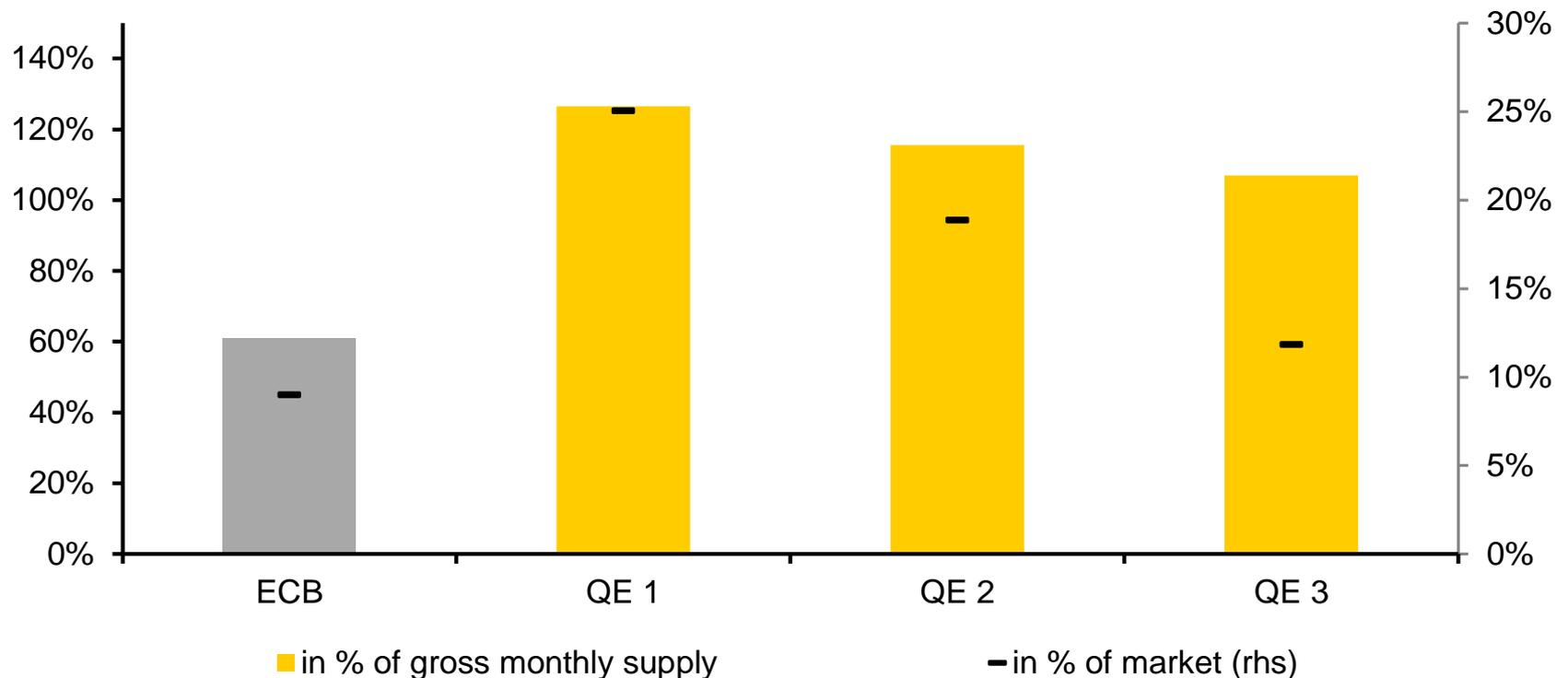
\*QE1: Mar09-Oct09, QE2: Nov10-Jun11, QE3: Jan-13-Oct14

Source: ECB, Fed, SIFMA, Commerzbank Research

# Putting volumes into a bond market perspective

## BoE

ECB and BoE\* QE volumes relative to gross issuance and outstanding market, annual averages assuming ECB purchases of €50bn per month

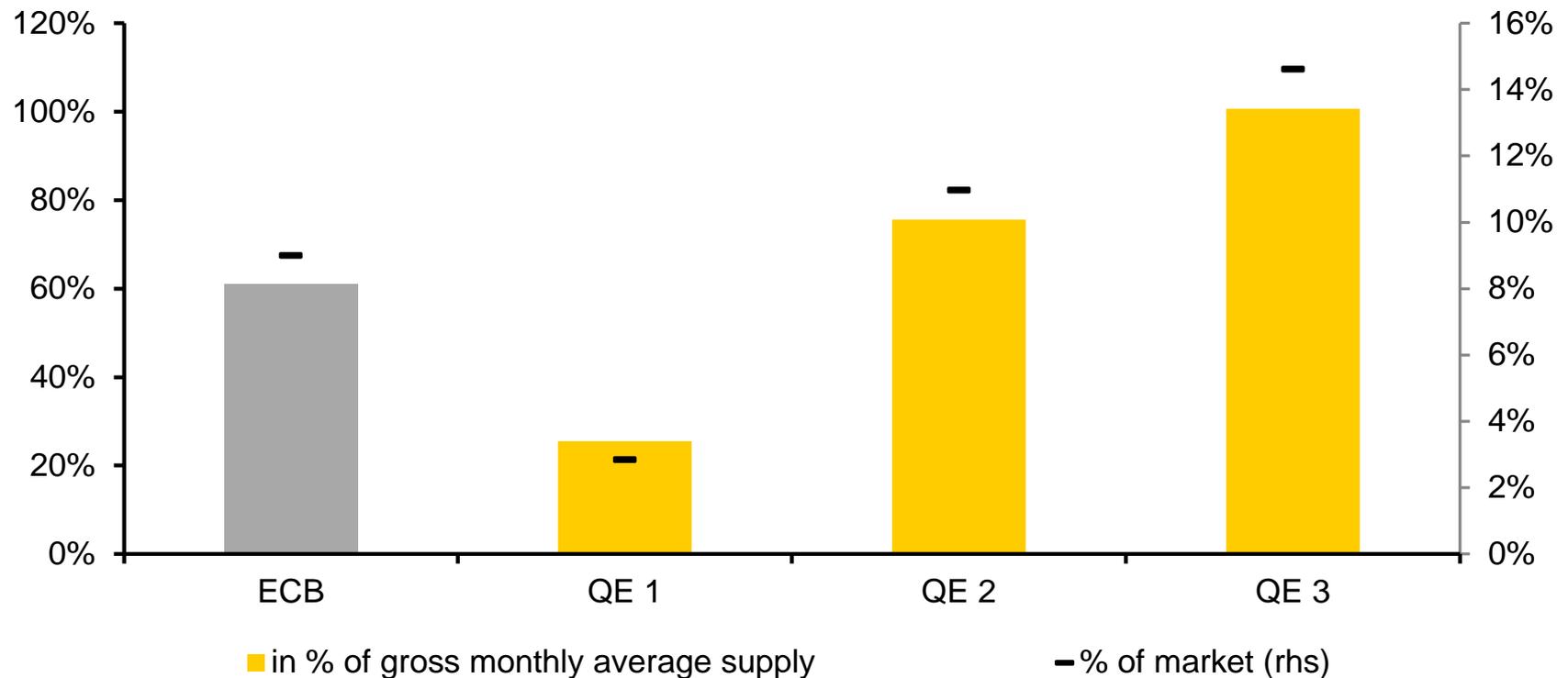


\* QE1: Mar09-Jan10, QE2: Oct11-Mar12, QE3: Jul12-Nov12  
 Source: ECB, BoJ, UK DMO, Commerzbank Research

# Putting volumes into a bond market perspective

## BoJ

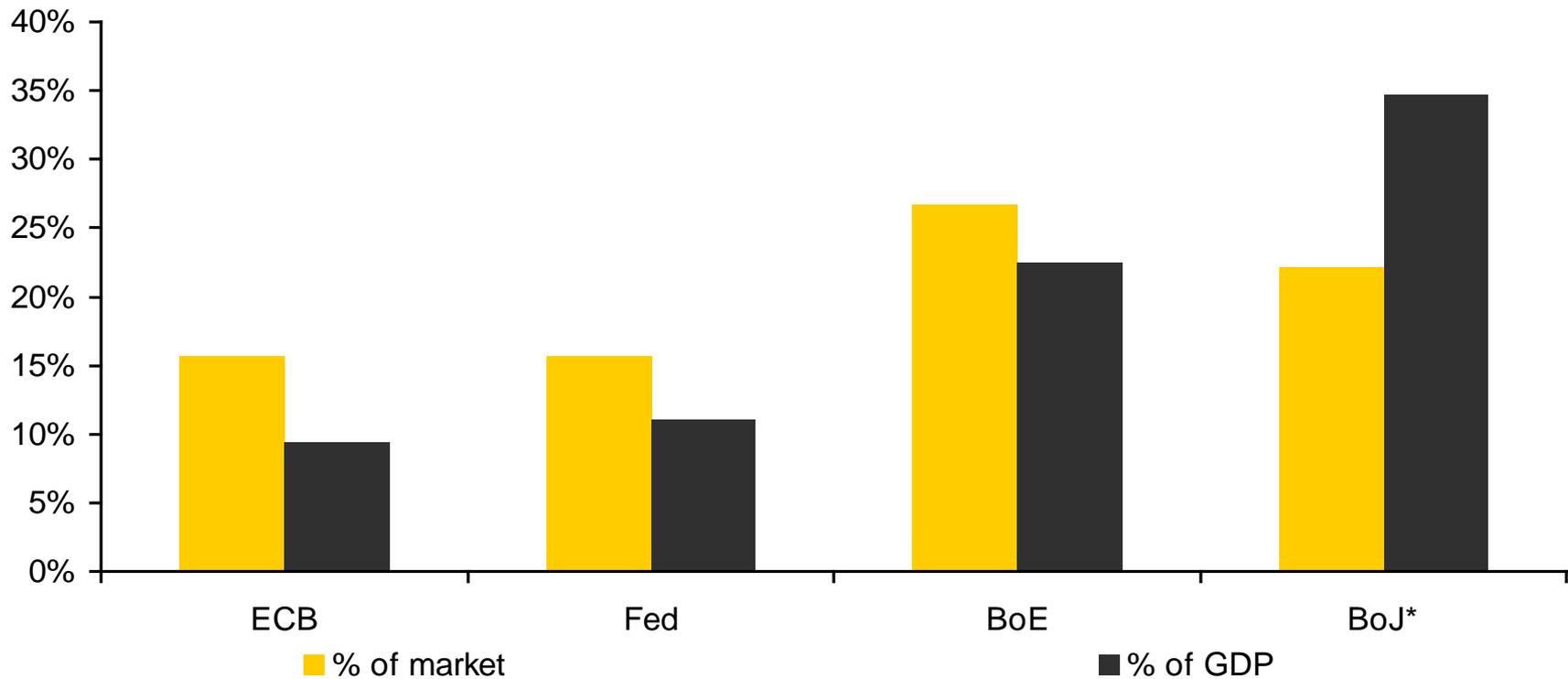
ECB and BoJ\* QE volumes relative to gross issuance and outstanding market, annual averages assuming ECB purchases of €50bn per month



\* QE1: Mar09-Apr13, QE2: Apr13-Oct14, QE3: Oct14-today  
 Source: ECB, BoJ, JP MoF, Commerzbank Research

## Total purchases relative to market size and GDP

Total government bond purchases (monetary policy portfolios) in relation to outstanding market and GDP. ECB shares assume €950bn portfolio.



\* BoJ as of January 2015 (relations for Fed and BoE at termination of the programmes)  
 Source: ECB, Fed, Sifma, BoE, UK DMO, BoJ, JP MoF, Bloomberg, Commerzbank Research

## Lessons learned from LSAPs

---

- › **Fed** purchased a total of US\$1,935bn in US Treasuries during Q1-3. The QE portfolio thus comprises some 16% of the outstanding US Treasury market (19% when including legacy SOMA). **BoE** purchased a total of £375bn in UK Gilts since 2009. The QE portfolio thus comprises some 27% of the outstanding UK Gilt market. **BoJ** purchased a total of ¥168trn of JGBs since 2009. The QE portfolio thus comprises some 22% of the outstanding JGB market.
- › If the **ECB** were to buy €600bn (€50bn per month for one year) in sovereigns it would end up holding some 10% of the outstanding euro area government bond market.
- › ECB WP1587 finds that buying 0.1% of the outstanding market under the **SMP** lowered 5y yields by 7bp in Greece, by about 3bp in Italy and Spain, by 1.5bp in Portugal and by less than 0.5bp in Ireland. Interestingly, the study argues that the effects are lasting (long-run effect to be  $\frac{3}{4}$  of immediate effect).
- › Studies about the **yield impact** from the programmes vary widely. A study by D'Amico and King\* finds that the Fed's QE1 lowered UST yields by about 30bp across the curve. Using the same approach, Meaning and Zhu\*\* find that Fed QE2 lowered yields by 21bp and BoE QE1 lowered yields by 27bp. The yield impact thus appears broadly similar. Adjusting for the size of the programmes, Williams\*\*\* finds that a US\$600bn programme lowered yields by 14-40bp in different studies. Compared to the outstanding market size, however, Fed QE was much more effective.
- › A negative impact on bond market **liquidity** (measured by turnover) could not be found (see BMCG presentations by Carlos Egea and Campbell Gilbert at April 2014 meeting).

---

\* D'Amico and King (2010): Flow and stock effects of large-scale treasury purchases

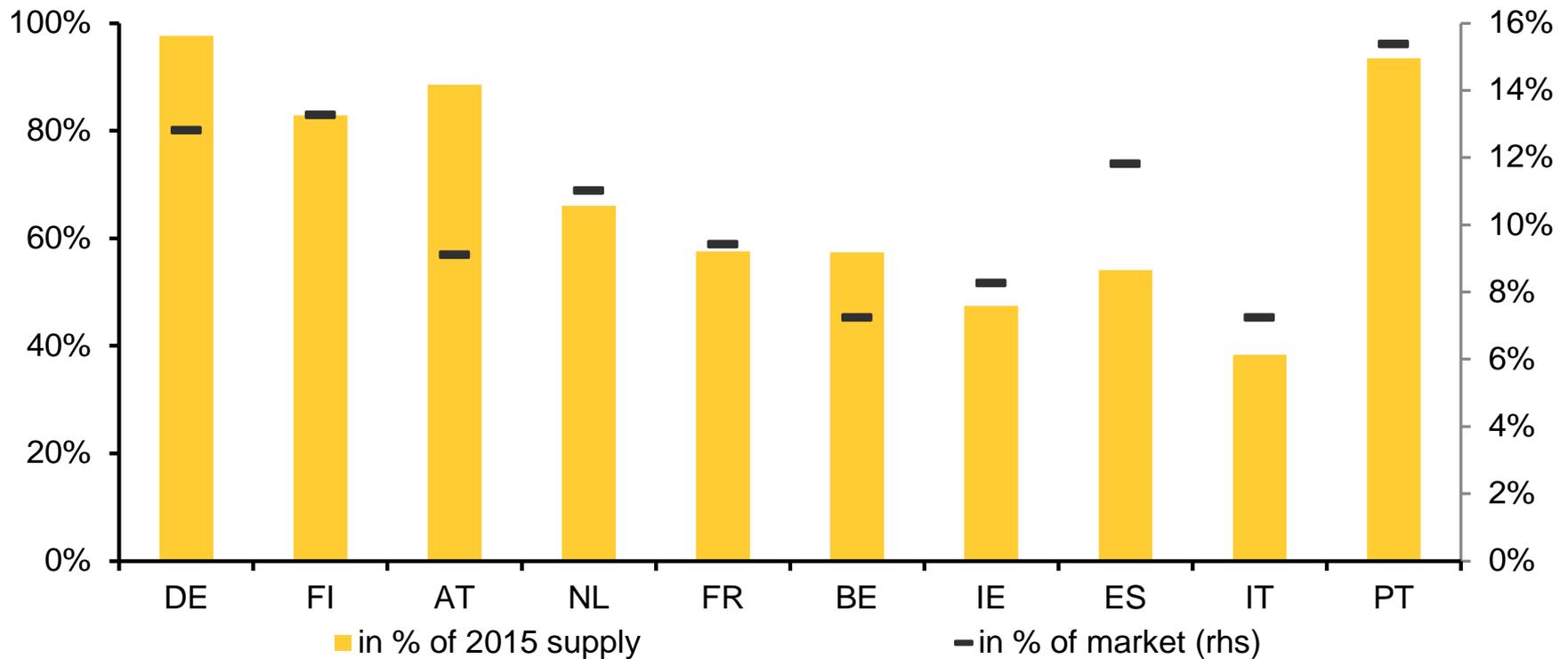
\*\* Meaning and Zhu (2011): The impact of recent central bank asset purchase programmes

\*\*\*Williams (2011): Unconventional monetary policy: lessons from the past three years

# Putting volumes into a bond market perspective

## Euro area countries

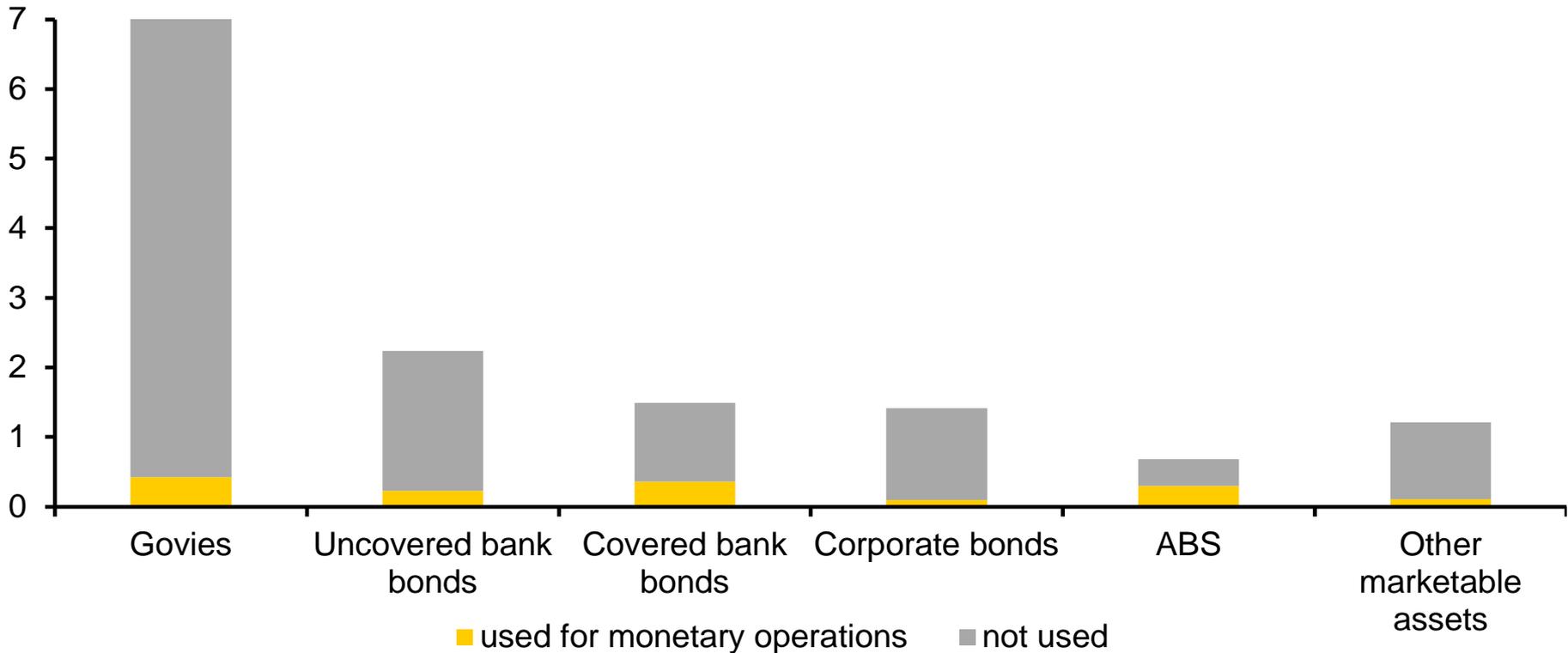
ECB QE volumes relative to gross government bond issuance and outstanding market, annual averages assuming ECB purchases of €50bn per month



Source: Finance Agencies, Bloomberg, Commerzbank Research

## ECB eligible assets for monetary policy operations

ECB eligible marketable assets in €trn (Q2 2014), €15tr in total



Source: ECB, Commerzbank Research

# Calibration of the ECB Expanded Asset Purchase Programme (EAPP)

---

- **Timing:** Purchases to begin in March, intended to last until September 2016 and “in any case” until a sustained adjustment in the inflation path is achieved.
- **Volume:** €60bn/month (total of all asset purchases). The additional purchases on top of the existing CBPP3 and ABSPP should be around €50bn/month. This translates into €1,140bn of total asset purchases until September 2016 (some €950bn of additional purchases).
- **Assets:** Central government bonds, agencies and international or supranational institutions located in the euro area.
- **Country split:** Purchases in government bonds and agencies to be divided according to ECB capital key.
- **Risk split:** 80% of the additional purchases will be held by National Central Banks (NCBs) at their own risk, 20% of the purchases will be subject to loss-sharing, comprising the portfolio of European institutions (12% of additional purchases) and an ECB portfolio of government bonds and agencies (8% of additional purchases).
- **Volume limitations:** 25% issue limit, 33% aggregate holding limit (issuer limit). Limits apply to total of additional purchases plus existing SMP portfolio.
- **Country limitations:** Program countries will be excluded during their program reviews (Greece)
- **Maturities:** 2-30y
- **Seniority:** Eurosystem supposed to accept pari passu treatment.
- **Securities lending:** Yes.
- **Inflation-linked debt, floaters:** Eligible.
- **Reporting:** Weekly reporting of the aggregate monetary policy portfolios, detailed monthly reporting by issuer residence and weighted average maturity.

## Questions for discussion

---

1. **Country/maturity split:** Which guidelines does the Eurosystem apply when deciding which duration to buy in each country (index weights, liquidity, valuations, others)?
  2. **Seniority:** How can investors be sure that the ECB will accept pari passu treatment under restructuring (was not the case in Greece and is still subject to a legal debate under the OMT)?
  3. **CAC bonds:** Should CAC bonds trade different to non-CAC bonds?
  4. **SSAs:** Is the list of “certain agencies” and “certain international or supranational institutions” identical with the ECB lists of recognised agencies and supranational issuers?
  5. **Capital key:** Is this a hard restriction or an orientation? What happens if the ECB is unable to achieve the volume target in a specific country?
  6. **Securities lending:** Will all NCBs participate, and on which terms?
-

## Appendix

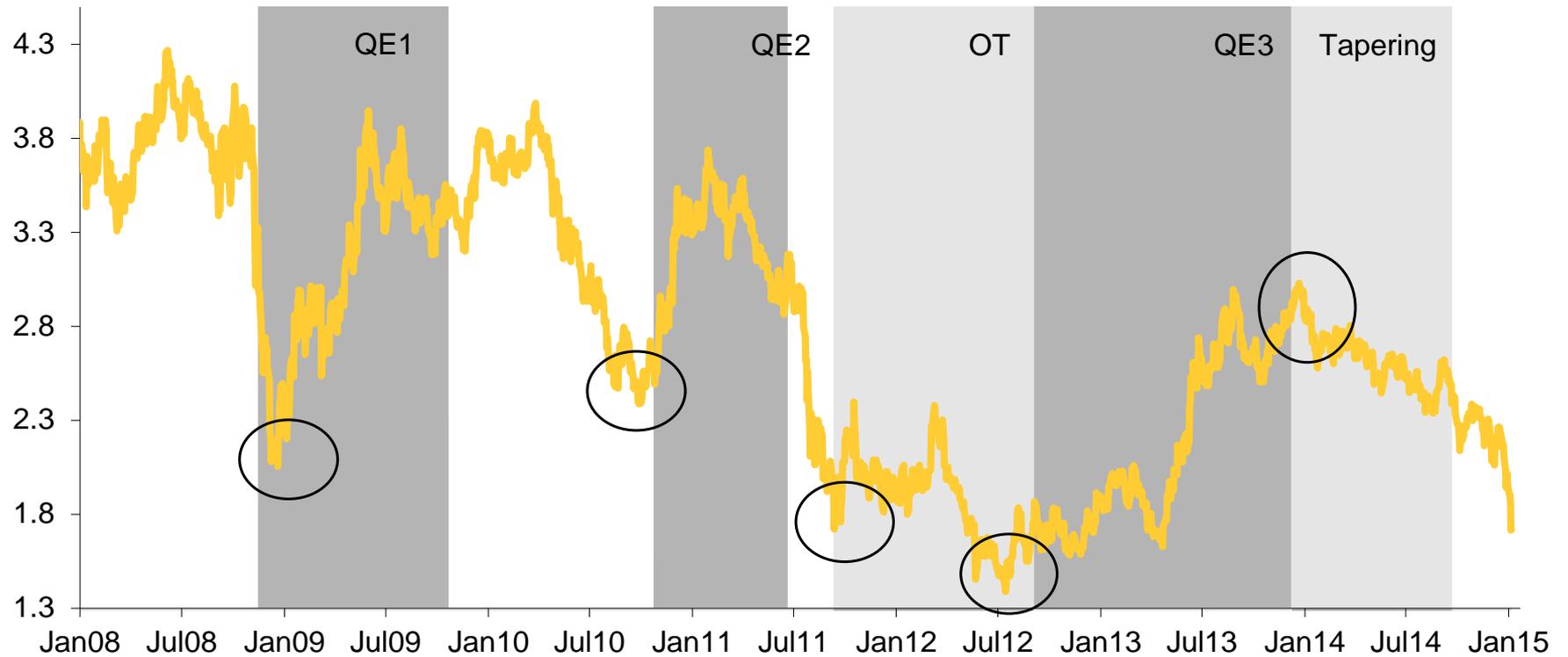
---

# Nominal yields, inflation breakevens and real yields during different QE-phases in the US, the UK and Japan

---

# US: Nominal yield

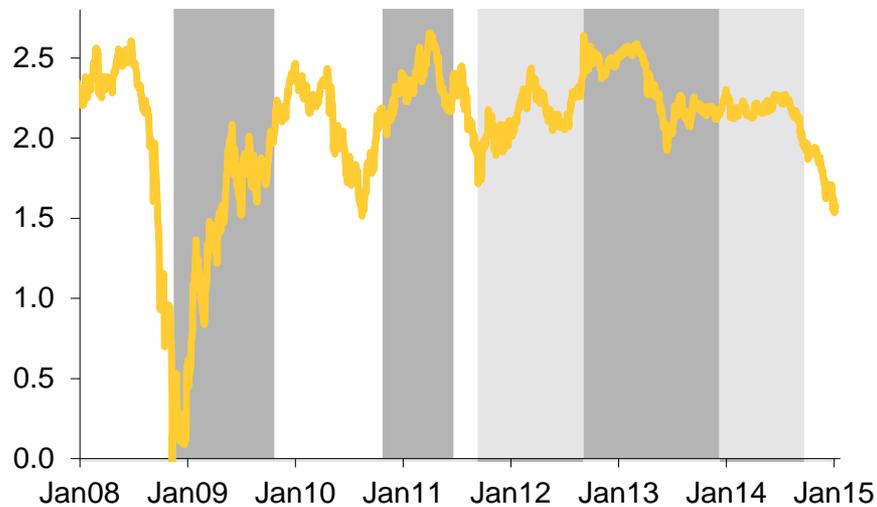
10y nominal US Treasury yield in %



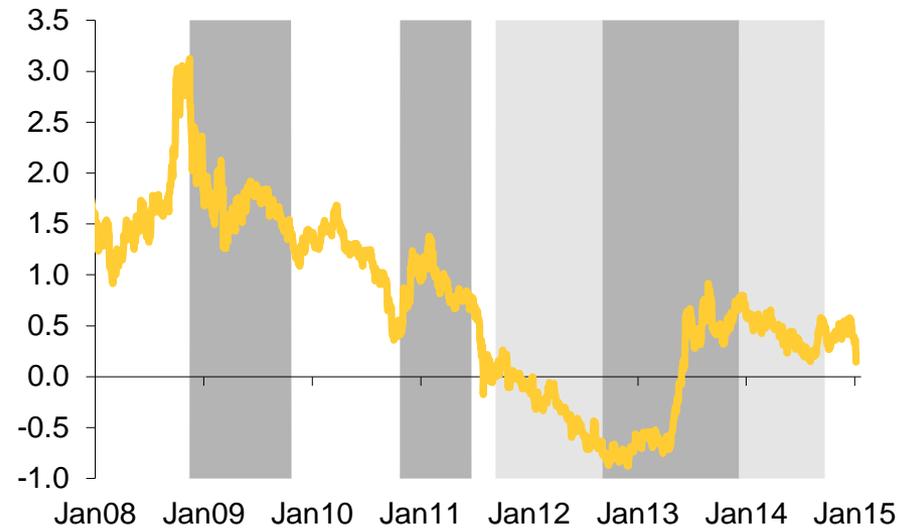
Source: Bloomberg, Commerzbank Research

# US: Inflation and real yield

10y TIPS inflation breakeven in %



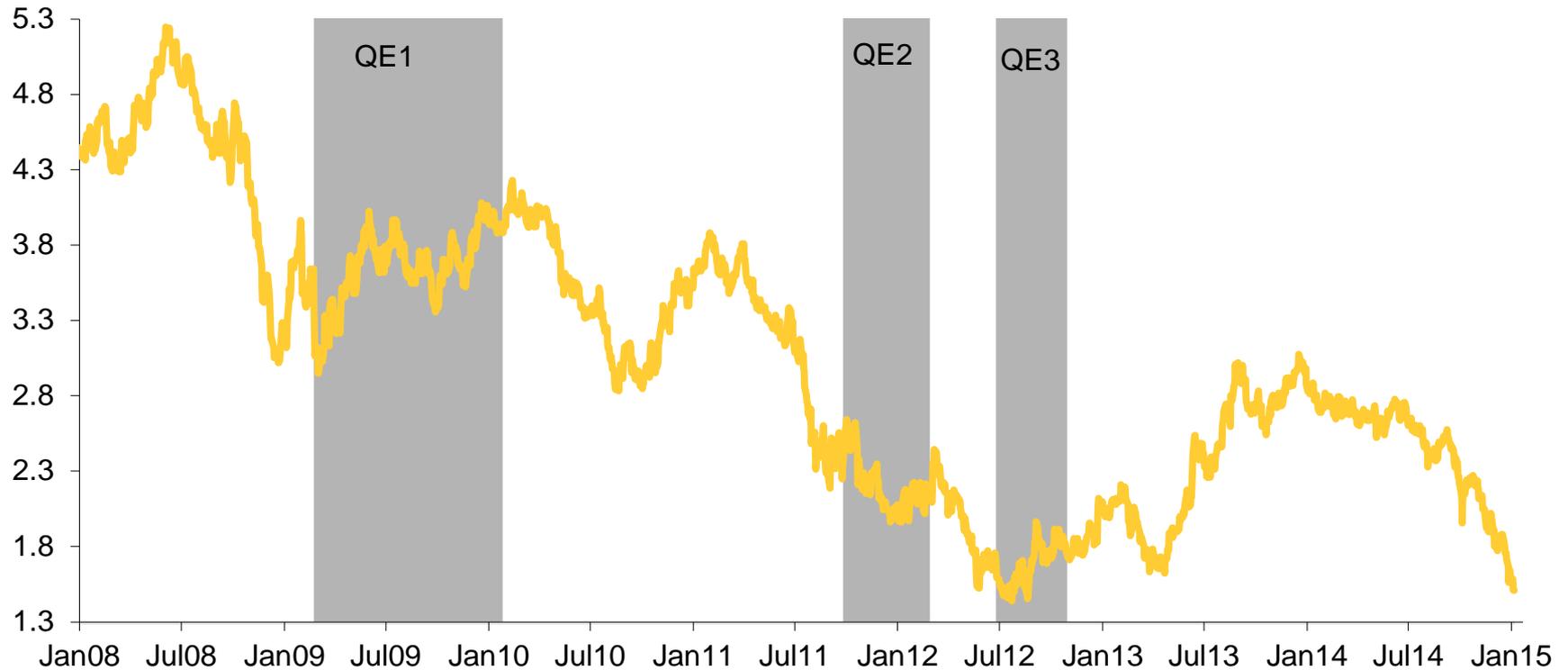
10y TIPS real yield in %



Source: Bloomberg, Commerzbank Research

# UK: Nominal yield

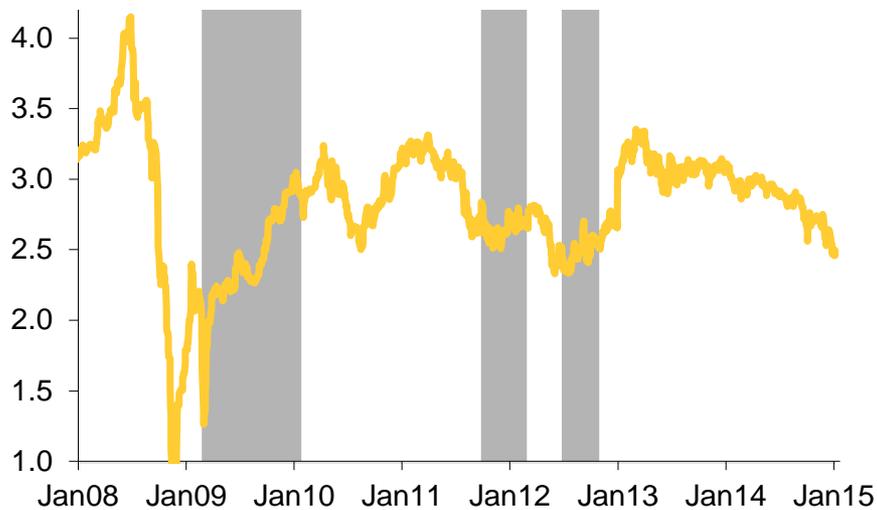
10y nominal UK Gilt yield in %



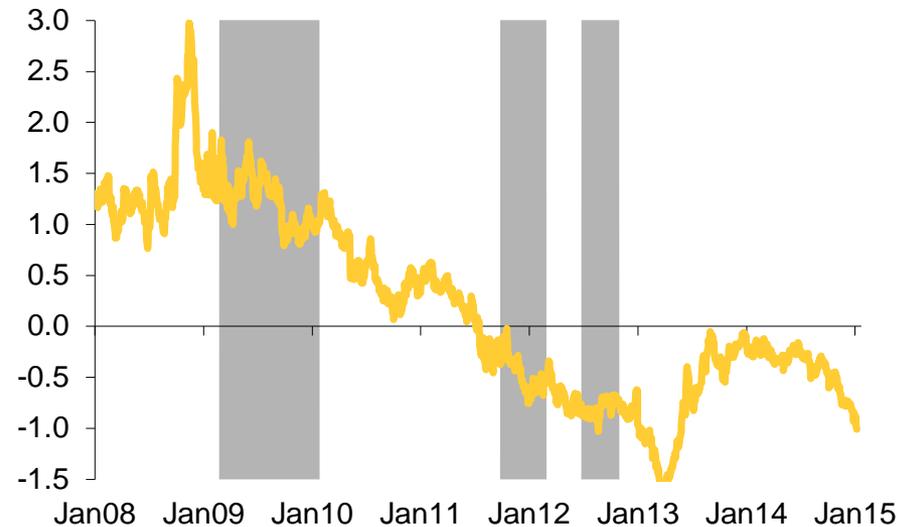
Source: Bloomberg, Commerzbank Research

# UK: Inflation and real yield

10y UK Gilt inflation breakeven in %



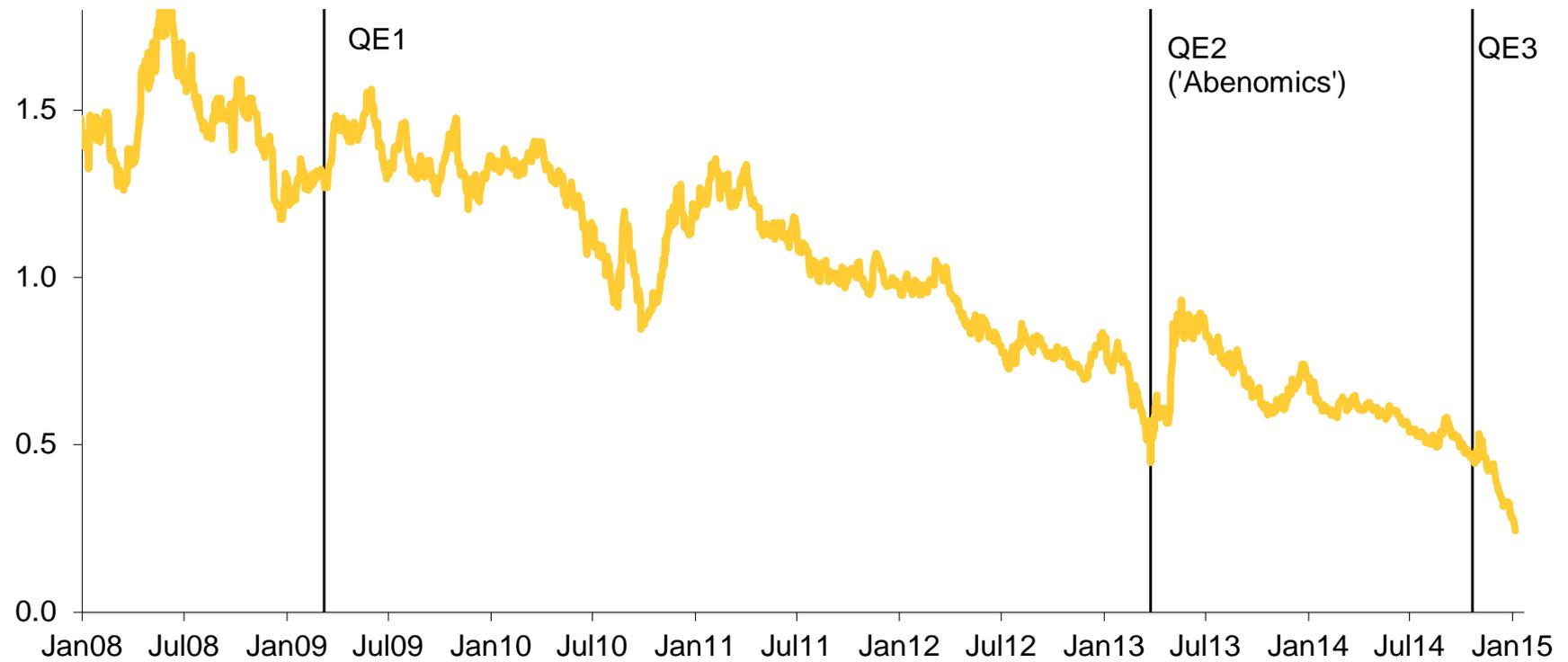
10y UK Gilt real yield in %



Source: Bloomberg, Commerzbank Research

# Japan: Nominal yield

10y nominal JGB yield in %



Source: Bloomberg, Commerzbank Research

# Disclaimer

This document has been created and published by the Corporates & Markets division of Commerzbank AG, Frankfurt/Main or Commerzbank's group companies mentioned in the document. Commerzbank Corporates & Markets is the investment banking division of Commerzbank, integrating research, debt, equities, interest rates and foreign exchange.

The relevant research analyst(s), as named on the front cover of this report, certify that (a) the views expressed in this research report accurately reflect their personal views about the securities and companies mentioned in this document; and (b) no part of their compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or views expressed by them contained in this document. The research analyst(s) named on this report are not registered / qualified as research analysts with FINRA. The research analyst(s) may not be associated persons of Commerz Markets LLC and therefore may not be subject to NASD Rule 2711 and incorporated NYSE Rule 472 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst.

**It has not been determined in advance whether and in what intervals this document will be updated. Unless otherwise stated current prices refer to the most recent trading day's closing price.**

## Conflicts of interest

**Disclosures of potential conflicts of interest relating to Commerzbank AG, its affiliates, subsidiaries (together "Commerzbank") and its relevant employees with respect to the issuers, financial instruments and/or securities forming the subject of this document valid as of the end of the month prior to publication of this document\*:**

Please refer to the following link for disclosures on companies included in compendium reports or disclosures on any company covered by Commerzbank analysts:

[https://research.commerzbank.com/portal/en/site/equity/disclaimer\\_1/index.jsf](https://research.commerzbank.com/portal/en/site/equity/disclaimer_1/index.jsf) \*

\* Updating this information may take up to ten days after month end.

## Ratings & Definitions

Explanation in terms of the ratings used are available at <https://research.commerzbank.com/portal/en/site/equity/ratingsdefinitions/index.jsf>.

## Explanation of valuation parameters and risk assessment

Explanations in terms of the valuation parameters, the valuation system and the associated risks are available at: <https://research.commerzbank.com/portal/en/site/equity/valuationparametersriskassessment/index.jsf>.

## Disclaimer

This document is for information purposes only and does not take account of the specific circumstances of any recipient. The information contained herein does not constitute the provision of investment advice. It is not intended to be and should not be construed as a recommendation, offer or solicitation to acquire, or dispose of, any of the financial instruments and/or securities mentioned in this document and will not form the basis or a part of any contract or commitment whatsoever.

The information in this document is based on data obtained from sources believed by Commerzbank to be reliable and in good faith, but no representations, guarantees or warranties are made by Commerzbank with regard to accuracy, completeness or suitability of the data. The opinions and estimates contained herein reflect the current judgement of the author(s) on the data of this document and are subject to change without notice. The opinions do not necessarily correspond to the opinions of Commerzbank. Commerzbank does not have an obligation to update, modify or amend this document or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

The past performance of financial instruments is not indicative of future results. No assurance can be given that any financial instrument or issuer described herein would yield favourable investment results. Any forecasts or price targets shown for companies and/or securities discussed in this document may not be achieved due to multiple risk factors including without limitation market volatility, sector volatility, corporate actions, the unavailability of complete and accurate information and/or the subsequent transpiration that underlying assumptions made by Commerzbank or by other sources relied upon in the document were inapposite.

Neither Commerzbank nor any of its respective directors, officers or employees accepts any responsibility or liability whatsoever for any expense, loss or damages arising out of or in any way connected with the use of all or any part of this document.

Commerzbank may provide hyperlinks to websites of entities mentioned in this document, however the inclusion of a link does not imply that Commerzbank endorses, recommends or approves any material on the linked page or accessible from it. Commerzbank does not accept responsibility whatsoever for any such material, nor for any consequences of its use.

This document is for the use of the addressees only and may not be reproduced, redistributed or passed on to any other person or published, in whole or in part, for any purpose, without the prior, written consent of Commerzbank. The manner of distributing this document may be restricted by law or regulation in certain countries, including the United States. Persons into whose possession this document may come are required to inform themselves about and to observe such restrictions. By accepting this document, a recipient hereof agrees to be bound by the foregoing limitations.

# Disclaimer (contd.)

## Additional notes to readers in the following countries:

**Germany:** Commerzbank AG is registered in the Commercial Register at Amtsgericht Frankfurt under the number HRB 32000. Commerzbank AG is supervised by the German regulator Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin), Marie-Curie-Strasse 24-28, 60439 Frankfurt am Main, Germany.

**United Kingdom:** This document has been issued or approved for issue in the United Kingdom by Commerzbank AG London Branch. Commerzbank AG, London Branch is authorised by Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) and subject to limited regulation by the Financial Services Authority. Details on the extent of our regulation by the Financial Services Authority are available from us on request. This document is directed exclusively to eligible counterparties and professional clients. It is not directed to retail clients. No persons other than an eligible counterparty or a professional client should read or rely on any information in this document. Commerzbank AG, London Branch does not deal for or advise or otherwise offer any investment services to retail clients.

**United States:** Commerz Markets LLC ("Commerz Markets"): This document has been approved for distribution in the US under applicable US law by Commerz Markets, a wholly owned subsidiary of Commerzbank and a US registered broker-dealer. Any transaction by US persons must be effected with Commerz Markets. Under applicable US law; information regarding clients of Commerz Markets may be distributed to other companies within the Commerzbank group. This research report is intended for distribution in the United States solely to "institutional investors" and "major U.S. institutional investors," as defined in Rule 15a-6 under the Securities Exchange Act of 1934. Commerz Markets is a member of FINRA and SIPC.

**Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. In Canada, the information contained herein is intended solely for distribution to Permitted Clients (as such term is defined in National Instrument 31-103) with whom Commerz Markets LLC deals pursuant to the international dealer exemption. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities may not be conducted through Commerz Markets LLC. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence.

**European Economic Area:** Where this document has been produced by a legal entity outside of the EEA, the document has been re-issued by Commerzbank AG, London Branch for distribution into the EEA.

**Singapore:** This document is furnished in Singapore by Commerzbank AG, Singapore branch. It may only be received in Singapore by an institutional investor as defined in section 4A of the Securities and Futures Act, Chapter 289 of Singapore ("SFA") pursuant to section 274 of the SFA.

**Hong Kong:** This document is furnished in Hong Kong by Commerzbank AG, Hong Kong Branch, and may only be received in Hong Kong by 'professional investors' within the meaning of Schedule 1 of the Securities and Futures Ordinance (Cap.571) of Hong Kong and any rules made there under.

**Japan:** Commerzbank AG, Tokyo Branch is responsible for the distribution of Research in Japan. Commerzbank AG, Tokyo Branch is regulated by the Japanese Financial Services Agency (FSA).

**Australia:** Commerzbank AG does not hold an Australian financial services licence. This document is being distributed in Australia to wholesale customers pursuant to an Australian financial services licence exemption for Commerzbank AG under Class Order 04/1313. Commerzbank AG is regulated by Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) under the laws of Germany which differ from Australian laws.

© Commerzbank AG 2013. All rights reserved. Version 9.15

## Commerzbank Corporates & Markets

Frankfurt	London	New York	Singapore Branch	Hong Kong Branch
Commerzbank AG	Commerzbank AG London Branch	Commerz Markets LLC	Commerzbank AG	Commerzbank AG
DLZ - Gebäude 2, Händlerhaus Mainzer Landstraße 153 60327 Frankfurt	PO BOX 52715 30 Gresham Street London, EC2P 2XY	2 World Financial Center, 31st floor New York, NY 10020-1050	71 Robinson Road, #12-01 Singapore 068895	29/F, Two IFC 8 Finance Street Central Hong Kong
Tel: + 49 69 136 21200	Tel: + 44 207 623 8000	Tel: + 1 212 703 4000	Tel: +65 631 10000	Tel: +852 3988 0988