DEUTSCHE BUNDESBANK
EUROSYSTEM

Getting rid of Cash? Some Monetary Policy Considerations

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Is cash putting a brake on monetary policy?
Abolishing paper currency

A lot has been said already:

Arguments in favour of abolishing paper currency

- Electronic deposits cannot be converted into zero-interest paper currency anymore; i.e. hoarding of paper money is not possible. ZLB in monetary policy would disappear. Discussion about raising inflation targets would be superfluous

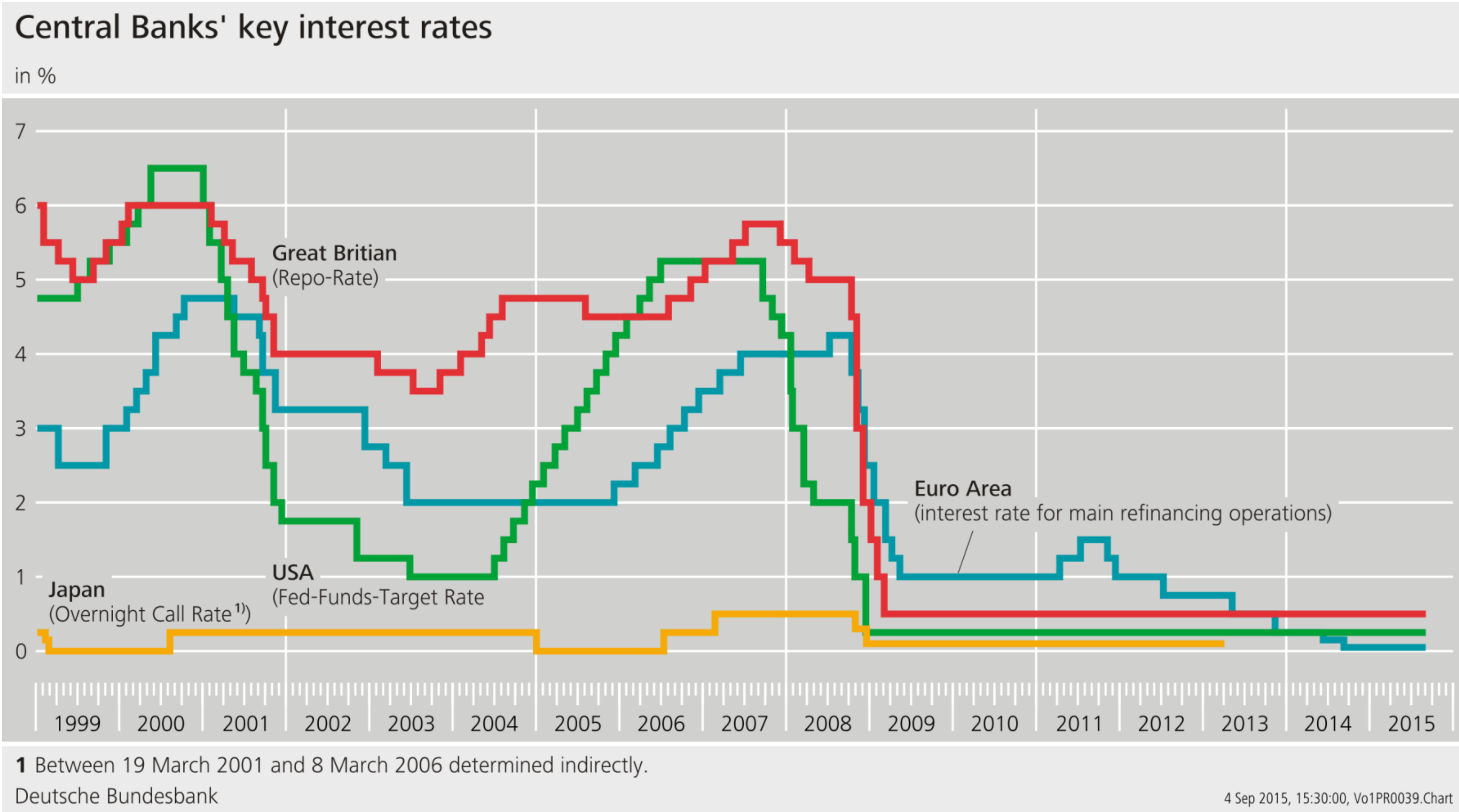
- May help to dampen tax-evading activity

Arguments against abolishing paper currency

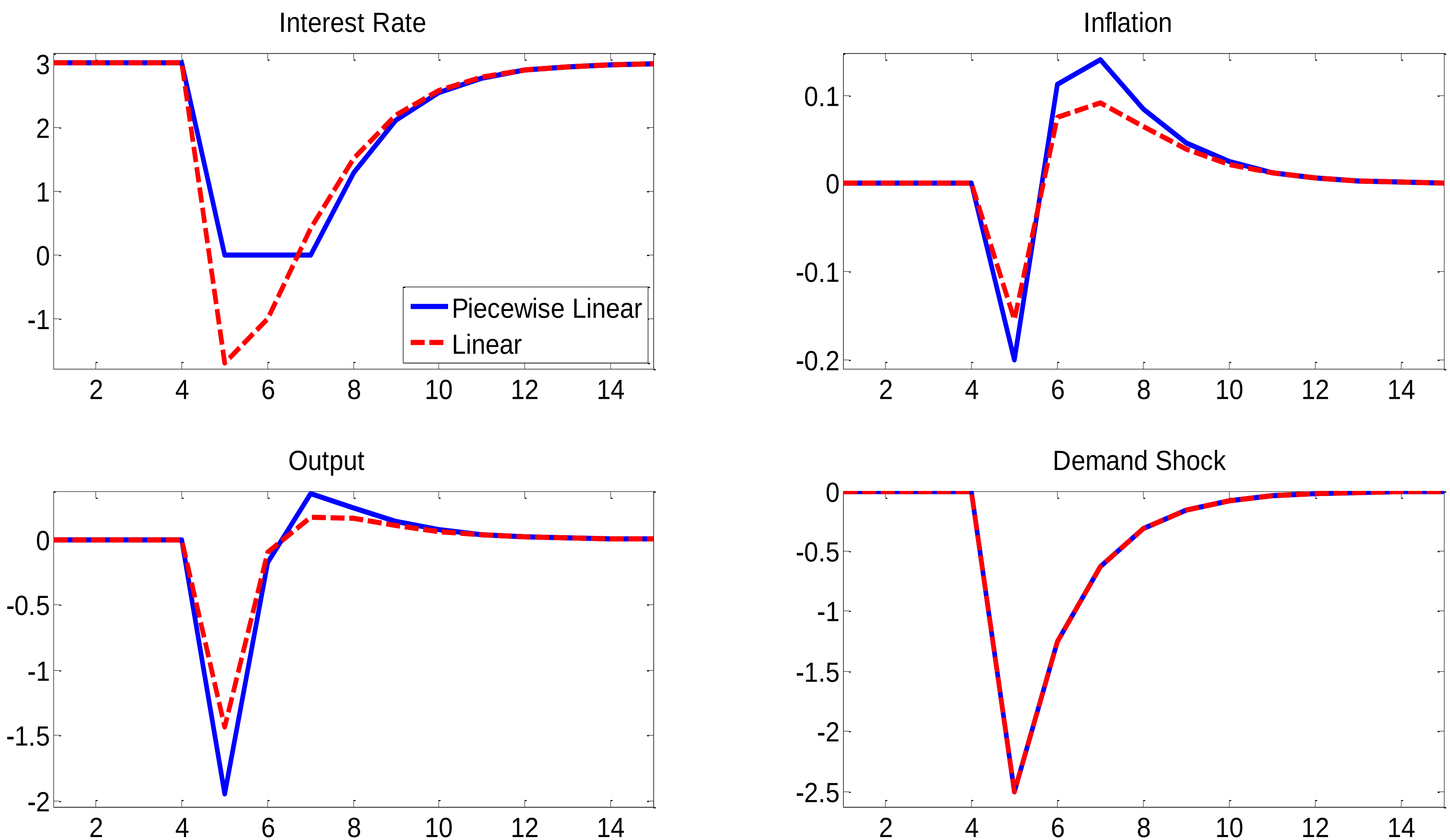
- civil liberty right, confidence in established monetary system, hurting the poor.

The defense of cash is strengthened if monetary policy would not be powerless at the ZLB.

Can monetary policy fulfill its mandate at the effective lower bound?



Can monetary policy fulfill its mandate at the effective lower bound? An illustration



Source: Own calculations based on Occbin (Guerrieri & Iacoviello, 2015)

Is cash putting a brake on monetary policy?

Possibility to **lower the short-term interest rate** to fight deflation is **limited** by the zero lower bound

Various ***proposals*** *to overcome the ZLB issue:*

1. Carry tax on money (*à la Gesell*)

2. Set exchange rate between ‘electronic money‘ (as new unit of account!) and paper currency (*à la Kimball*)

3. Abolish paper currency (*à la Rogoff*)

4. **Open market operations in long-term bonds**
   What do we know? I will stick to QE in the following ….

Is cash putting a brake on monetary policy?
Open market operations in long-term bonds

→Theories of the term structure

Monetary policy at the interest rate floor: Quantitative Easing
(esp. purchase of government bonds)

Goal? Stimulate economic activity through additional channels.

- **Signalling channel**: By implementing an asset purchase program, the central bank sets a signal to pursue an expansionary policy stance **for a longer period of time**.

Market participants can adjust their expectations of the future interest rate path (possibly at the zero lower bound). According to **expectations hypothesis**, this will also **reduce the long-term yields**.

Thus, the signalling channel affects the entire yield curve.

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Open market operations in long-term bonds

→Theories of the term structure

- **Portfolio adjustment channel:** based on the "**preferred habitat**" hypothesis:

- Investors have **heterogeneous preferences** for bonds with different characteristics (e.g. different maturities)

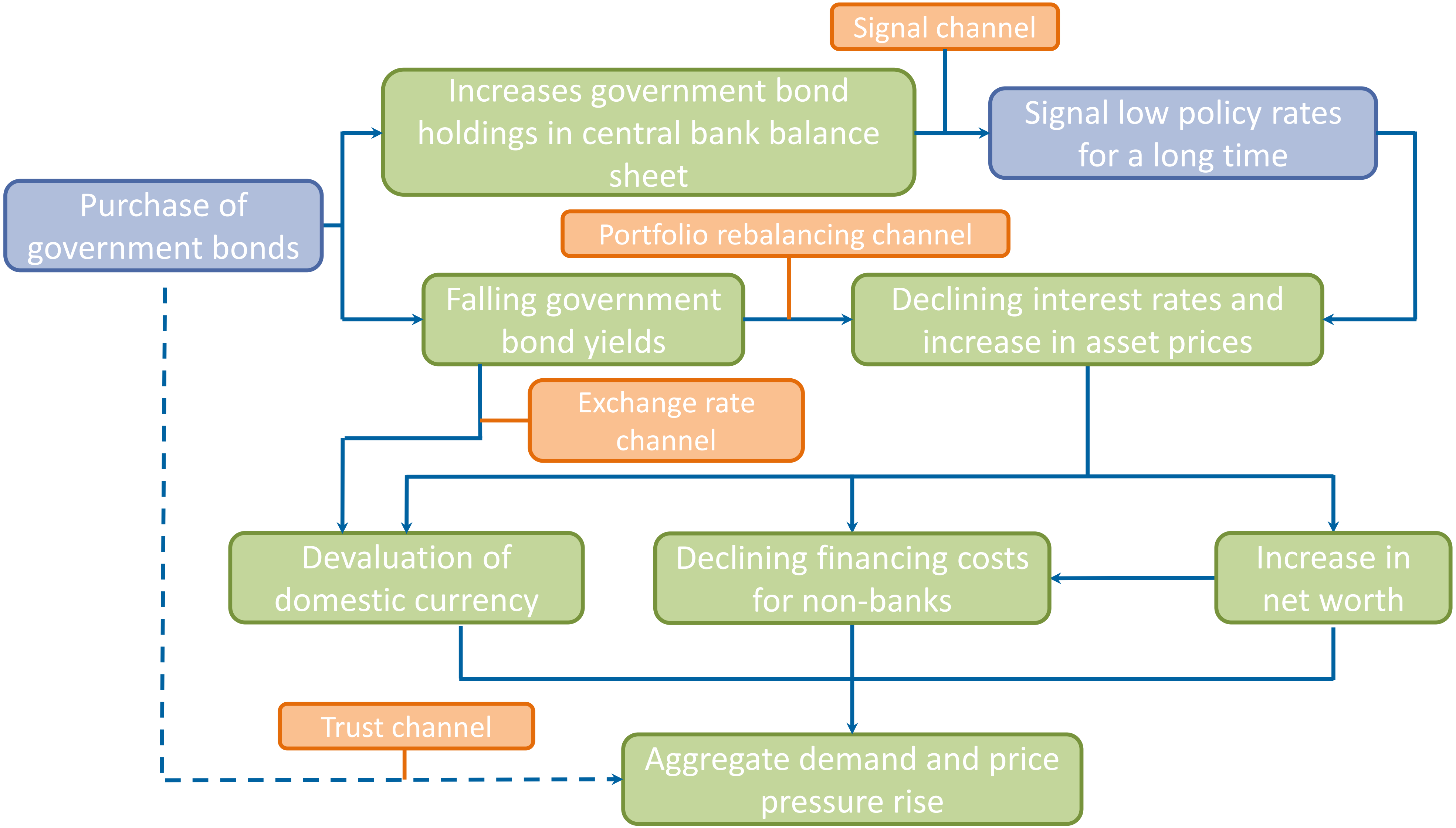
→ Different bonds are therefore only partly substitutable. Purchase of bonds will **affect long-term returns** (more precisely the term premium) via two channels

  - Investors with special preference for these long-term bonds will be willing to pay a higher price. This lowers both the yield on this class of bonds as well as the return on close substitutes (**scarcity channel**)

  - Purchases of bonds will reduce the average maturity of investors' portfolios. As a consequence, the interest rate risk tends to decrease (**duration channel**)

Is cash putting a brake on monetary policy?

Open market operations in long-term bonds



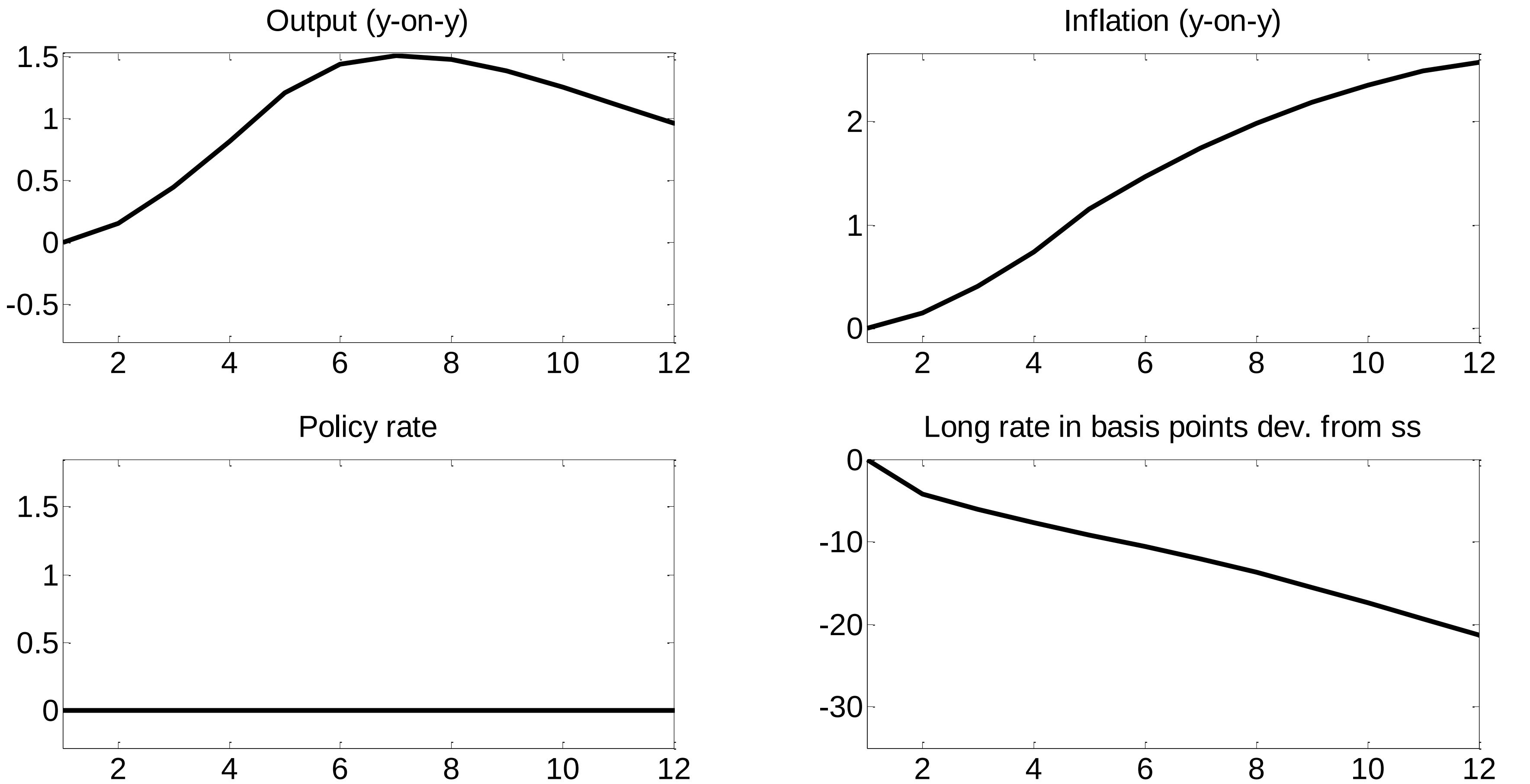
Estimates of QE effects in UK and US

…taken from Haldane (2015)

Study	Episode	Real GDP	CPI
Baumeister and Benati (2012)	UK/US QE1	1.8% / 1.08%	1.5% / 0.84%
Kapetanios et al. (2012)	UK QE1	2.5%	1.5%
Weale and Wieladek (2015)	UK/US QE1	3.08% / 1.12%	4.2% / 1.2%
Schenkelberg and Watzka (2013)	Japan QE1	0.5% in IP	No impact
Bank of Japan (2015)	Japan QE2	1-3%	0.6-1%
Chen, Curdia and Ferrero (2012)	US QE2	0.39%	0.12%
Del Negro et al. (2015)	Fed MBS + Liquidity policies	5%	3%
Gertler and Karadi (2013)	QE1 – Sovereign Purchases	2.2%	3%

Selected BUBA estimates of QE for Eurosystem
QE in an extended NK model (Carlstrom, Fuerst, Paustian, 2014)

……. one of the model variants with large effects



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Source: Gerke, Giesen, Kienzler, Tenhofen (2015)

Possible risks of QE
... at least in long-term perspective

- **Possible disincentives for governments:**
  - **Very low interest rates** (in particular long-term) induce excessive borrowing
  - The pressure to implement necessary structural reforms decreases
- **Reinforced "search for yield" could pose risks to financial stability**:
  - Willingness to take risks could increase excessively
  - Risk bubbles in private / individual asset markets
- **Possible problems of a long-lasting period of low interest rates**:
  - Business models (e.g. insurance companies, ...) and pension funds may come under increased pressure

To sum up

- **Monetary policy is not powerless at the ZLB**
  - Forward Guidance at the short end and QE at the long end of the yield curve have provided additional stimulus.
  - QE for all central banks more terra incognita.
  - Some side effects, especially in a monetary union.

- **But case for abolishing cash for monetary policy reasons can not assume a binding ZLB.**

- **This adds to the other costs of a cashless economy.**