



BANK OF ENGLAND

Unconventional Monetary Policy

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Outline: Four Types of Unconventional Policy

1. Asset purchases (quantitative easing)
2. Forward guidance
3. Monetary finance
4. Negative interest rates

Reasons for consideration of 1-3

If negative rates are impractical, then it may be desirable to ease monetary policy even when Bank Rate is already very close to zero. The practical floor for the interest rate may be above zero.



Asset purchases

- Buy in long-dated government debt in exchange for deposits at the Bank of England
- Three possible forms of support for the economy
 1. Portfolio balance: A fall in the yield on medium and long-dated government stocks leads to a more general fall in yields on bonds and shares and associated rises in prices. As a result both consumption and investment rise.
 2. Signalling. Asset purchases indicate the intention of the Committee to keep Bank Rate low. Thus this works like forward guidance.
 3. Judged by the public to signify a commitment by the Bank of England to “do what it takes”. Reduces tail risks.



Existing analysis

- Assumes that policy works through its impact on long rates of interest.
- Uses largely pre-crisis analysis of the effects of changes in the long rate of interest to calculate the effect on GDP and inflation.
- Assumes that policy has an effect on GDP provided some influence can be seen on long interest rate.
- Subject to the Lucas critique: if the structure of the economy has changed since the crisis then the response to movements in long rates of interest will have changed since the crisis.



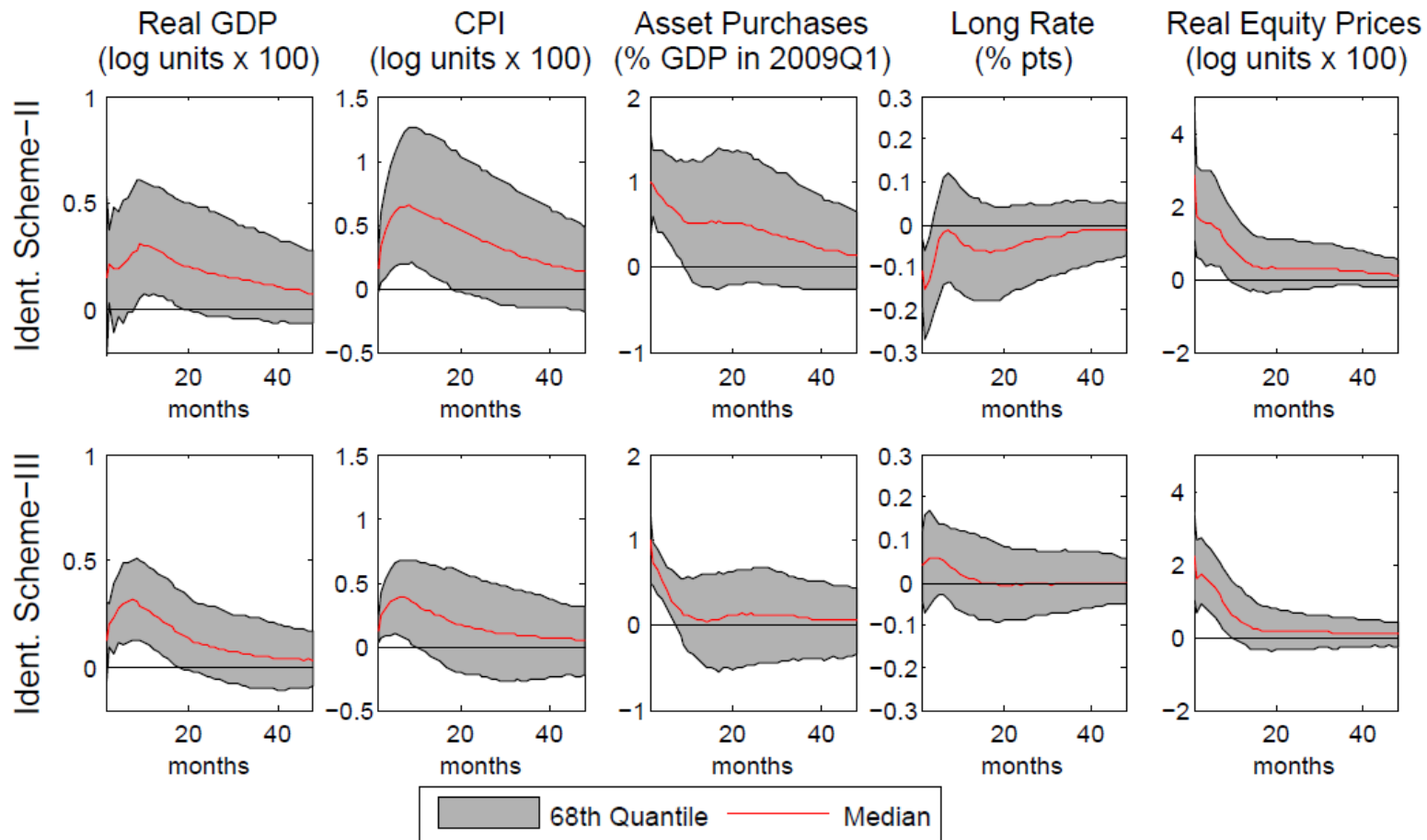
This analysis

- Use only post-crisis monthly data to explore the impact on GDP and inflation.
- Make no assumptions about the impact of asset purchase shocks in trying to establish their magnitude.
- Examine whether the effect of the policy has weakened



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Figure 1: The Effects of an Asset Purchase Shock



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Table 1: Output and Inflation Effects of Monetary Stimulus

Country	Study	CPI Impact	GDP Impact	Ratio
Asset Purchases*	Weale and Wieladek (2015)	4.2	3.1	1.3
	Kapetanios et al (2012)	1.5	2.5	0.6
	Baumeister and Benati (2013)	1.5	1.8	0.8
Interest Rate**	Mumtaz et al (2011)	-1.15	-0.5	2.3
	Cloyne et al (2014)	-1	-0.6	1.7

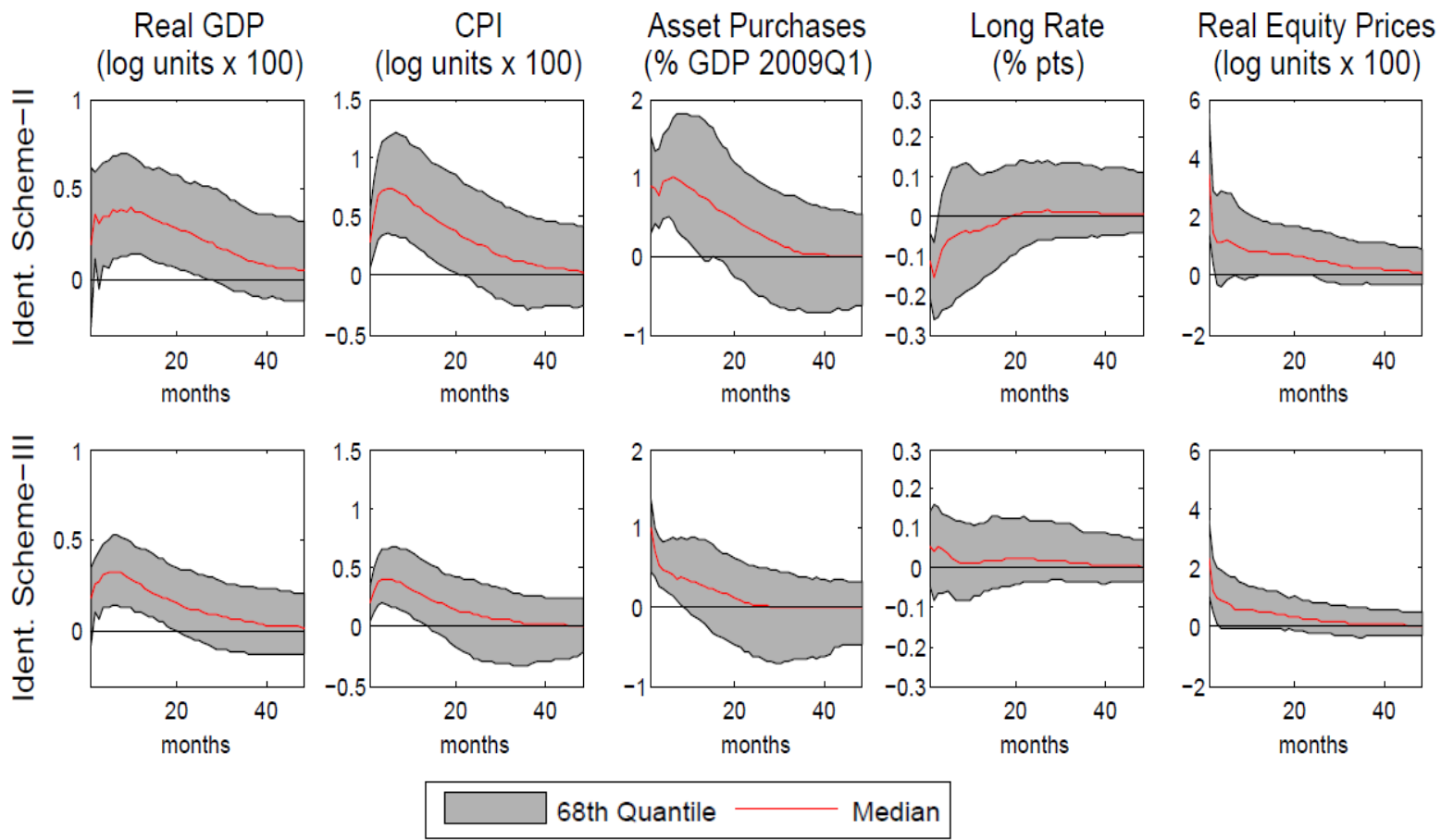
* Asset purchases of fourteen per cent of GDP for Weale and Wieladek. For Baumeister and Benati (2013)/Kapetanios et al (2012) we show the peak response to a one percent decline in the long-term to short-term rate spread. These authors estimated that was the impact of QE1 on long rates and assumed that this was the transmission mechanism.

** An interest rate increase of one percentage point



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Figure 3: The Effects of Asset Purchases estimated over the Period March 2010 to May 2014



Implications

- The best evidence is that asset purchases are still effective and can be used as a tool to provide further monetary easing.
- The impact on inflation may have been larger than Bank analysis suggested.
- It may be desirable to think of purchasing a wider range of assets than last time round
 - Some private-sector assets
 - Indexed gilts



Forward Guidance

- Time-dependent policy. Promise a fixed value of the Bank Rate up to some particular date.
- Theoretical analysis suggests a very powerful effect on inflation and GDP.
- But the policy may not be completely credible. Conditions may change and make the policy untenable.
- State-dependent guidance
- In August 2013 the MPC committed to keeping Bank Rate at $\frac{1}{2}$ per cent at least until unemployment dropped to seven per cent.
- The policy was knocked out if
 1. Inflation eighteen to twenty-four months ahead was expected to average more than $2\frac{1}{2}$ per cent
 2. There was a material increase in inflation expectations
 3. The FPC thought that an increase in Bank Rate was needed for financial stability reasons.



State-dependency

- The guidance depends on developments.
- Assume that this is a normal state of the world- in other words that if the circumstances that make guidance a good idea re-appear, then the guidance is repeated.
- If policy is set by a policy rule linking Bank Rate to economic developments such as output and inflation, then this is a change to the policy rule.
- I assume that the interest rate is set by a linear combination of output, inflation and the lagged interest rate.
- If this points to an interest rate below $1 \frac{1}{4}$ per cent ,the Bank Rate is reduced to its assumed floor of $\frac{1}{2}$ per cent.
- It leaves this only if the rule points to a rate of $1 \frac{1}{4}$ per cent or more.



Unconventional Monetary Policy in a New Keynesian Model

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$$(1) \quad y_t = -\frac{1}{\sigma} (i_t + z_t - E_t \pi_{t+1} - \bar{i} + \bar{\pi}) + E_t y_{t+1}$$

$$(2) \quad \pi_t = \beta \pi_{t+1} + \kappa y_t$$

$$(3) \quad i_t^* = \rho (\varphi^\pi (\pi_t - \bar{\pi}) + \varphi^y y_t + \bar{i} + v) + (1 - \rho) i_{t-1}$$

$$i_t = i_t^* \text{ if } i_t^* > \bar{i}$$

$$i_t = 0.5\% \text{ if } i_t^* \leq \bar{i}$$

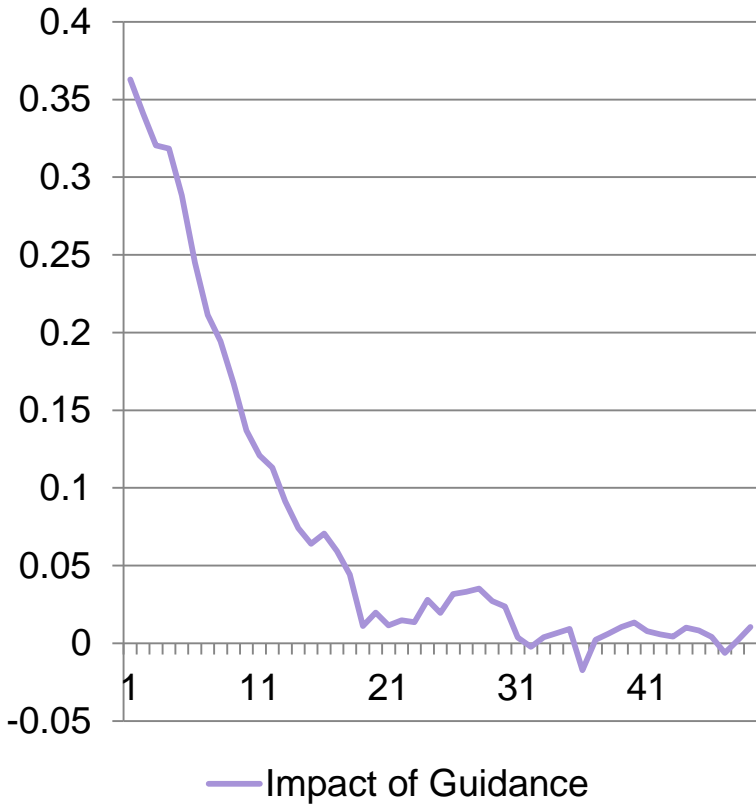
$$(4) \quad z_t = \gamma z_{t-1} + \varepsilon_t^z \quad \varepsilon_t^z \sim N(0, s_z^2)$$



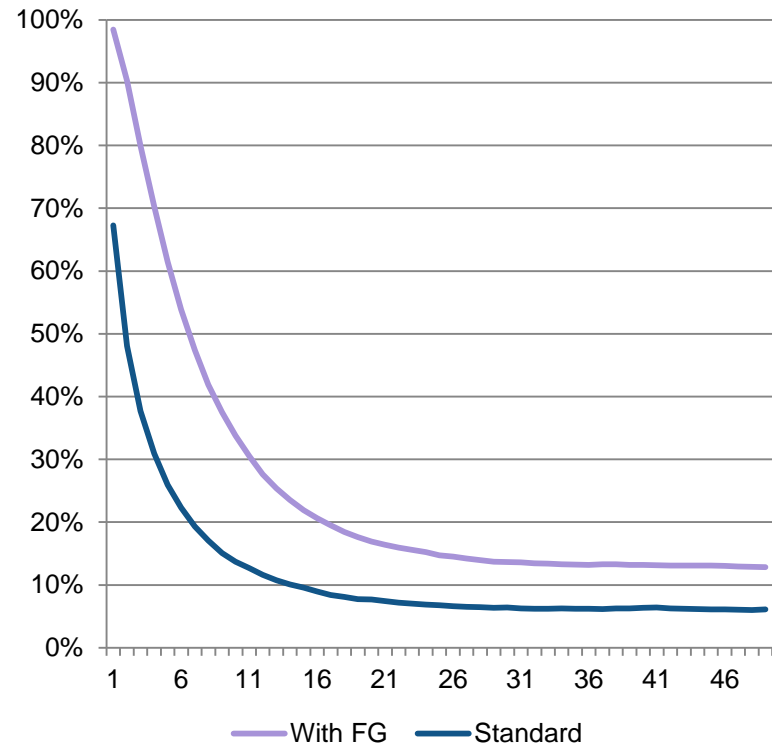
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Unconventional Monetary Policy with a Headwind of 0.12 log units

Impact on GDP (% pts)



Probability that Bank Rate is at Lower Bound



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- These results are dependent on the parameters I have selected
- Other parameter choices might well have more powerful effects
- Actual MPC policy may have had less of a stimulus than this. It was designed to make existing policy more certain, and not to ease policy.



Monetary Finance

- A helicopter drop of money is a fiscal expansion financed by printing currency.
- Buiter identifies three conditions which, taken together, are sufficient for this to be a stimulus.
 1. There are benefits from holding money even when its return is zero.
 2. Money is irredeemable; taxes will not increase in the future to undo the helicopter drop.
 3. Money is valuable- its price is positive.
- Even if these are not met, there will still be a fiscal stimulus.



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Figure 5: Clearing Up in Budapest after Monetary Finance



Will it deliver a modest stimulus?

- If the helicopter money is paid into bank accounts, then banks' interest-bearing deposits at the Bank of England rise.
- These interest charges have to be financed through taxation.
- A reserve requirement could be imposed on the banks obliging them to hold the money interest-free.
- That is like a tax on the banks. Bank dividends are lower and therefore spending is eventually affected.



Monetary Finance

- Is the policy irreversible: a government cannot bind its successors.
- Without a reserve requirement, the policy is like a combination of an increase in government spending, and an increase in Bank asset holdings, except that it is assumed permanent while we have assumed our asset purchases are temporary.
- But the MPC has said that it will not reduce asset holdings until Bank Rate has risen materially, and this is not likely to happen without clearer upward pressure on inflation.
- State-dependent monetary finance?



Negative Interest Rates

- First seen in the 1970s.
- People can withdraw cash to avoid the effects of negative interest rates.
- Banks can hold cash instead of deposits at the Bank of England.
- Otherwise the policy may lead to falls in banks' incomes and risks a tightening of monetary conditions.
- If the domestic economy is protected from the effects of negative interest rates, then it can turn into a form of beggar-my neighbour exchange rate management.



Conclusions

If further monetary stimulus were needed:

My analysis suggests that asset purchases would be effective. It may be possible to buy a wider range of assets than on previous occasions.

The obstacles to a reduction in Bank Rate below $\frac{1}{2}$ per cent are no longer material

Monetary finance may turn out to be not very different from an increase in the budget deficit combined with further asset purchases,

while negative interest rates run the risk of leading to a tightening in monetary conditions and should be adopted only if perverse effects seem very unlikely



Conclusions

- **But**

Wage growth has held up despite a year of zero inflation and weak productivity growth has meant that unit wage cost growth has held up despite the headline figures.

Commodity prices have been firmer recently, and stock markets can go up as well as down.

On balance I do not think it likely that further unconventional measures will be needed. Rather I expect that Bank Rate will rise faster than markets currently suggest.

