‘Quantitative Easing’ –
What you always wanted to know and
What you are not supposed to find out about it

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‘Quantitative Easing’ by the Bank of England

Quantitative easing explained

Putting more money into our economy to boost spending

BANK OF ENGLAND
Stable inflation promotes a healthy economy

Low and stable inflation is crucial to a thriving and prosperous economy. The Bank of England aims to keep inflation at the 2% target set by the Government.

The Bank uses interest rates to control inflation. It sets an interest rate at which it lends to financial institutions – Bank Rate. That influences many other rates available to savers and borrowers, so movements in Bank Rate affect spending by companies and their customers and, over time, the rate of inflation.

Q. Why is low and stable inflation good?
A. Unstable rates of inflation are costly to households and companies. They make it hard to see how prices of individual goods are changing compared with one another. And uncertainty over future prices makes it more difficult to enter into long-term contracts and plan for the future.
‘QE’ by BoE: Interest rates said to be key tool

- The BoE’s pamphlet on ‘QE’ emphasises that it will not create inflation.
- The BoE reconfirms that its main tool for monetary policy implementation is the ‘price of money’ (interest rates). – Why?

If inflation looks set to rise above target, then the Bank raises rates to slow spending and reduce inflation. Similarly, if inflation looks set to fall below 2%, it reduces Bank Rate to boost spending and inflation.

- Because, we are told, interest rates drive the economy:

   “Higher rates lead to lower demand and growth, lower rates lead to higher demand and growth.”
‘QE’ by BoE: A ‘new’ tool?

This raises a number of questions:

- If interest rates are such a good tool to manipulate the economy, why the sudden need to switch to a new tool?
- Why could interest rate policy not prevent a situation where there is a threat of deflation and the need for ‘new’ tools of monetary policy implementation?
- The Bank of England as ‘Lender of Last Resort’ has the task to maintain financial stability. It failed spectacularly.
- Has the Bank of England been conducting the right type of monetary policy?

Quantitative easing explained

**Same target** a new tool

When the Bank is concerned about the risks of very low inflation, it cuts Bank Rate – that is, it reduces the price of central bank money. But interest rates cannot fall below zero.

So if they are almost at zero, and there is still a significant risk of very low inflation, the Bank can increase the quantity of money – in other words, inject money directly into the economy. That process is sometimes known as ‘quantitative easing’.

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‘QE’ by BoE: A ‘new’ tool? How it is said to work
‘QE’ by BoE: A ‘new’ tool?

- How does the BoE ‘inject more money directly into the economy’ through QE?

  “The Bank creates money and uses it to buy assets such as government bonds and high-quality debt from private companies”

- ‘QE’ was said to be introduced in March 2009 as a ‘novel’ policy.
- But injecting money by buying bonds or other assets is nothing new.
- It is standard operating practice for central banks.
- Central banks almost always increase their net asset purchases and thus create money.
‘QE’ by BoE: A ‘new’ tool?

- These are the BoE’s asset purchases over the last 15 years.

- This raises a number of further questions
‘QE’ by BoE: A ‘new’ tool?

• The BoE has always made decisions about injecting more money into the economy or withdrawing money from the economy – it simply never discussed them prominently in public.

• Why did the BoE keep telling us that its only monetary policy tool is the rate of interest (‘Bank Rate’)?

• Why did the BoE not tell us e.g. in 2006 that it was implementing ‘QE’?

• Post-crisis QE seems to have started in late 2008, not March 2009. And ended sometime this year.

• Why the sudden desire to market its regular actions as a new policy, with a new name?

• If central banks always make quantitative money supply decisions, why do they not usually talk about those, and instead only talk about interest rates?
‘QE’ by BoE: A ‘new’ tool?

• To increase bank reserves is a standard monetarist policy recommendation to boost the economy.

• It has been known under half a dozen names already since the 1960s:
  - Reserve expansion
  - High powered money expansion
  - Base money expansion
  - Monetary base expansion
  - M0 expansion
  - Money supply expansion

• So why was there a need for yet another expression for the same thing?
This raises a number of questions:

- Isn’t it the job of the central bank to prevent money from expanding too rapidly?
- Didn’t they tell us that that’s why they use interest rates, to prevent this?
- If we want to expand money further now, don’t we need to understand how money “normally” “grows each year”? **Who creates it and who allocates it?** – The BoE pamphlet remains silent on this. So do most textbooks and central bankers.
- Standard measures of the ‘money supply’ (so-called deposit aggregates such as M0, M1, M2, M3, etc.) don’t measure money used for transactions (not money supply, but savings supply).

- As monetarists admit, there is no clear cut-off point between those private sector assets that should be included in the ‘money supply’ and those that should not

- Textbooks have given up defining money

- So has the Federal Reserve:

  “there is still no definitive answer in terms of all its final uses to the question: What is money?” (Federal Reserve)

- As a result, many economic models do not include monetary factors and feature no financial sector or banks.
The Anomaly of Banks

Fama (1985): banks must have some kind of monopoly power compared to other financial institutions and market participants; banks are ‘special’.

Ashcraft (2003): official intervention to close healthy subsidiary banks had an impact on local area real economic activity; banks are ‘special’

The credit crunch has had a significant negative impact on economic activity. Why could foreign banks, non-banks or capital markets not substitute?


“The notion that there is something about banks that makes them ‘special’ is a recurrent theme.”
The Anomaly of Recurring Banking Crises

- In the 1980s and 1990s alone, systemic financial and banking crises occurred in 93 countries (Caprio and Klingebiel, 1999).

- Latin American crises in 1980s and 1990s (and later)

- Asian financial crisis 97/8: Thailand, Korea, Indonesia (why not Malaysia?)

- Many transition economies (from socialist/communist to capitalist systems)

- The number of financial and banking crises has not declined, and today many countries face such a crisis, including the UK and the US.
The Anomaly of Recurring Banking Crises

- But: the crises recur again and again, even in countries that have implemented the above
- The 2008 crisis originated in the US – which until then had been said to have followed ‘best practice’ in financial market design
- The number and magnitude of financial/banking crises has not decreased but increased in the last 30 years
- The crises seem similar in nature, but the lessons do not seem to get learned
- What is the reason? What are the true lessons that need to get learned?
Unresolved Puzzles in Modern Economics:

1. The Anomaly of the Velocity Decline
2. The Anomaly of Money
3. The Anomaly of Banks
4. The Anomaly of Bank Lending
5. The Anomaly of Recurring Banking Crises
6. The Anomaly of Fiscal Policy Ineffectiveness
7. The Anomaly of Interest Policy Ineffectiveness
8. The Anomaly of Interest Rates and Growth
9. The Anomaly of Ineffectiveness of ‘Quantitative Easing’
10. The Anomaly of Asset Prices
12. The Anomaly of Exchange Rates
13. The Anomaly of the Failure of Deregulation and Liberalisation (Supply Side Policy Ineffectiveness)
14. The Anomaly of the Irrelevance of Central Bank Independence
15. The Anomaly of the Failure of the ‘Credit View’ Argument
16. The Anomaly of Lacking Success of ‘Development Economics’
17. The Anomaly of the East Asian Economic Miracle
18. The Anomaly of surprisingly large income and wealth inequality
19. The Anomaly of environmentally unsustainable growth

One Question:
If there are many ‘anomalies’, then perhaps it is not reality, but the traditional type of economics that is the ‘anomaly’?
The failure of traditional models

“Whether or not our economies manage to avoid a major global depression, economics is in crisis.”

“Understanding how to prevent stability from creating future vulnerability will require us to rethink a great deal about economics and how economies operate.”

Simon Johnson
(MIT, Peterson Institute for International Economics, January 2009)
Banks as mere financial intermediaries in textbooks. Funding from banks is called ‘indirect financing’, while funding from the capital markets is considered ‘direct’, as the buyers of debt or equity papers effectively lend directly to the firms that borrow. An increase in this so-called direct financing is said to constitute ‘disintermediation’, since the alleged intermediary function of banks is not required. See, for instance, Miller and VanHoose (1993).
Conventional macroeconomics has neglected banks

- Most modern macroeconomic models do not include banks.
- One of the leading textbooks in advanced (Master-level) macroeconomics courses at leading British and US universities is David Romer (2006), *Advanced Macroeconomics*, 3rd ed.

It says:

“*Incorporating money in models of [economic] growth would only obscure the analysis*” (p. 3).

- Similarly, the leading textbooks in Master and PhD level monetary economics do not feature banks: Walsh (2003); Woodford (2003)
The Fed is searching for a new kind of economics

- In October 2008, Alan Greenspan said before Congress that his understanding of the banking system and markets has been “partially wrong”.
  Greenspan said he recognised a “flaw” in the free market system and his faith in market forces has been fundamentally “shaken”.

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The Fed is searching for a new kind of economics

The lack of integrating banks into macro models is now lamented:

“It is fair to say ... that the core macroeconomic modelling framework used at the Federal Reserve and other central banks around the world has included, at best, only a limited role for ... credit provision, and financial intermediation.”

“...asset price movements and the feedback among those movements, credit supply, and economic activity were not well captured by the models used at most central banks. “

Donald Kohn, Vice-Chairman, Federal Reserve (October 2009)
Let’s ask some basic questions:

- **Q:** Where does the money supply come from?
- Only about 2% of the money supply comes from the central bank.
- Who creates and allocates the remaining 98% of our money supply?

**A:** The commercial banks

- This explains why banks are special: They have a license to ‘print money’ by creating credit.
- This is the most important feature of banks – yet it is hardly mentioned by the literature.
Some crucial facts that you are not supposed to know

- There is no such thing as a bank loan.
- A loan is when the use of something is handed over to someone else.
- If I lend you my car, I can’t also use it myself.
- When banks ‘lend’ money, they are not extending loans.
- What they do is much more important – the single most important fact about how economies actually work.
Banks create money – out of nothing

**Balance Sheet of Bank A**

**Step 1** New deposit of $100 with Bank A

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
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<tbody>
<tr>
<td>$ 100</td>
<td>$ 100</td>
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**Step 2** Bank A uses the $100 as reserve with the central bank

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
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<tr>
<td>$ 100</td>
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**Schritt 3** With a reserve requirement of 1%, Bank A can now extend $ 9,900 in credits. Where do the $ 9,900 come from? From nowhere.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
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<tr>
<td>$ 100</td>
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<td>+</td>
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<tr>
<td>$ 9,900</td>
<td>$ 9,900</td>
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Not mentioned by textbooks, but admitted by central banks:

“The actual process of money creation takes place primarily in banks.”
(Federal Reserve Bank of Chicago, 1961, p. 3);

“…the fractional reserve system… permits the banking system to create money.”
(Federal Reserve Bank of Kansas City, 2001, p. 57.);

“Over time… Banknotes and commercial bank money became fully interchangeable payment media that customers could use according to their needs”
(ECB, 2000).

“Contemporary monetary systems are based on the mutually reinforcing roles of central bank money and commercial bank monies.” (BIS, 2003).

“In the Eurosystem, money is primarily created through the extension of bank credit…. The commercial banks can create money themselves, the so-called giro money.” (Bundesbank, 2009)
The fundamental cause of banking crises:
The privatised creation and allocation of money

- Banks are profit-seeking institutions.
- They do not consider the macroeconomic or social welfare implications of their creation and allocation of money.
- They do not even consider how their actions might affect themselves in the long-run.
- Banking has been an industry oblivious to sustainability considerations for centuries.
- This system has been put in place by interested parties without any public debate about it.
The Link between money and the economy

money used = value of market transactions
MV = PQ

Financial transactions are not part of GDP. Thus we need to divide the use of money into two streams: \( M = M_R + M_F \)

Money used for GDP transactions, used for the ‘real economy’ ('real circulation') \( (M_R) \)

Money used for non-GDP transactions ('financial circulation') \( (M_F) \)

(Werner, 1992, 1997)
Considering growth:

\[ \Delta nGDP = \text{proportional to growth in ‘real circulation money’} \]

\[ \Delta (P_R Y) = V_R \Delta M_R \]

\[ \Delta (P_F Q_F) = V_F \Delta M_F \]

This explains many ‘puzzles’ in economics:
- velocity decline
- asset price movements
- why interest rate and fiscal policy have been ineffective
- why there are recurring banking crises

But: How can we separate money ‘M’ into two streams in practice?
Fisher, Keynes and Friedman tried, but failed in disaggregating money
Friedman pointed out that unfortunately money (defined as deposits) cannot
be disaggregated by its use.
A Credit Theory of Money: 
The Disaggregated Quantity Equation of Credit

With the credit approach, a disaggregation of the quantity equation is possible (Werner, 1992, 1997):

\[ \Delta(P_R Y) = V_R \Delta C_R \] determination of nominal GDP

\[ \Delta(P_F Q_F) = V_F \Delta C_F \] determination of asset markets
The effect of credit creation depends on the use of money

**Case 1.** Newly created purchasing power is used for transactions that are not part of GDP (financial and real estate transactions). In this case, GDP is not directly affected, but asset prices must rise (asset inflation).

Credit creation for financial transactions $C_F \rightarrow$ Asset Markets

---

**Asset Inflation:**

Credit is used for financial and real estate speculation:

More money circulates in the financial markets

$= \text{speculative credit creation}$
The effect of credit creation depends on the use of money

**Case 2.** The newly created purchasing power is used for transactions that are part of GDP. In this case, nominal GDP will expand:

credit creation for ‘real economy transactions’  $C_R \rightarrow$ nominal growth

two possibilities

(a) Inflation without growth:
Credit creation is used for consumption:
More money, but same amount of goods and services
= consumptive credit creation

(b) Growth without inflation:
Credit creation is used for productive credit creation:
More money, but also more goods and services
= productive credit creation
Solving the ‘Velocity Decline’ puzzle

When splitting credit/money flows into two streams, the GDP-velocity is constant

US $V_R$

Japan

Old and New Velocities $V_M$ and $V_R$

source: Cabinet Office, Government of Japan, Bank of Japan
Explaining Growth: driven by credit creation for GDP transactions ($C_R$), not interest rates or fiscal policy

Japan

Latest: Q4 2000
Credit Explains Asset Prices

More credit used for real estate transactions pushes up land prices

\[ \Delta P_F = \left( \frac{V_F}{Q_F} \right) \Delta C_F \]
Credit explains boom/bust cycles and banking crises

- A significant rise in speculative credit creation $C_F/C$ must lead to:
  - asset bubbles and busts
  - banking and economic crises

- US in 1920s: margin loans rose from 23.8% of all loans in 1919 to over 35%

- Case Study Japan in the 1980s: $C_F/C$ rose from about 15% at the beginning of the 1980s to almost twice this share

$C_F/C = \text{Share of loans to the real estate industry, construction companies and non-bank financial institutions}$
UK bank credit creation for the ‘real’ economy has remained modest

\[ \frac{C_R}{nGDP} \leq 100\% \]

UK bank credit creation for financial speculation has soared

\[ \frac{C_F}{nGDP} > 600\% \]

Result:
Modest GDP growth, and a vast asset bubble that must cause a banking crisis.
Bank credit creation is a public privilege

- It is not a law of nature that commercial banks should be the institutions creating and allocating the money supply.

- It is a public privilege granted to banks, on the implicit understanding that they will not use it against the public interest.

- However, governments and regulators have failed to ask banks to create and allocate credit mainly for productive purposes and transactions that are part of GDP. Only productive credit creation is sustainable.

- Banks have responded by using the privilege to create the money supply for their own short-term (speculative) gains.

- This has vastly boosted profits in the financial sector and has artificially magnified the financial sector to unsustainable and unhealthy proportions --- on the back of a public goods monopoly.

- Where does all the money made in the financial sector come from? It is ultimately a transfer from the rest of society.
The origin of the concept of ‘QE’

- First employed by a central bank in Japan.
- Allegedly first introduced on 19 March 2001.
- But the BoJ announcement of that day does not mention any such expression.
- Previously, for over five years, BoJ economists have argued in numerous publications that a policy with this name is wrong and bound to fail.
- As late as February 2001 a BoJ study argued that QE would not work.
- Already from early 2002 onwards, BoJ economists published reports arguing that QE had failed. It was ‘abandoned’ in 2006.
- The claim that the BoJ introduced QE on 19 March 2001 was made by the Bank of Japan retrospectively in late 2002 and 2003.
The origin of the concept of ‘QE’

- Instead, the policy announced on 19 March 2001 consisted merely of:
  - increasing bank reserves
  - buying government bonds
- This is standard monetarist practice of reserve/base money expansion, for which already half a dozen names existed at the time:
  - Reserve expansion
  - High powered money expansion
  - Base money expansion
  - Monetary base expansion
  - M0 expansion
  - Money supply expansion
- Why was a new, seventh expression needed?
- Who used the expression QE first and what meaning did it have?
The origin of the concept of ‘QE’

- The term was first used by critics of the Bank of Japan and its policies:


- Definition: ‘expand credit creation’ (accurate; too technical); recommended policy to stimulate economic growth.

- New expression needed, in order to achieve

  - differentiation from interest rate policies (‘easing through price reductions’), which Werner (1991, 1994, 1995) predicted would not help (‘even at zero’) ---- over a dozen interest rate reductions during the 1990s, even to zero, did in fact not help. Japan will soon enter its third decade of recession.

  - differentiation from monetarist prescription also heard at the time (‘increase monetary base, or reserves or money supply’, which Werner also predicted would not help). Reserves, M0, M1, M2 did rise, but there was no sustained recovery.
Nihon Keizai Shinbun (Nikkei), 2 September 1995

[Image of the newspaper page]

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The origin of the concept of ‘QE’

- In March 2001, the Bank of Japan announced that it was going to adopt monetarist reserve expansion and bond purchases, the policy that its critic said would be insufficient.

- Meanwhile, until February 2001 the BoJ had said that a policy called ‘quantitative easing’ would not work.

- By the end of that year the BoJ had changed its mind and decided that what it had announced in March 2001 was in fact ‘quantitative easing’ (量的金融緩和策), the policy advocated by one of its fiercest critics.

- High powered money did rise significantly. However, this did not produce the desired recovery of the economy.

- Critics had pointed out that this policy could not possibly be helpful (Werner, 1994, 1995, 1996, 2001), since this did not actually increase the amount of money used for transactions in the non-bank sector.
BoJ High Powered Money

YoY %

84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06

Latest: Jan 2009

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Central banks may not always say what they mean

- **Goal of central bank policy:** Acheson and Chant (1972, 1973a, 1973b), Friedman (1982) and Forder (2002) have argued that CBs are bureaucracies acting as interested parties, prioritising other goals than officially stated ones of price stability or economic stimulation.

- Concerning BoJ, evidence suggests that CB not interested in stimulating the economy:
  - BoJ governor Hayami (2000, p. 8): “When the economy recovers, as is now happening, it might well be the case that efforts for structural reform might be neglected due to a sense of security”. So he tightened policy three months later.

  - Adam Posen (2000, p. 22): “I am led to the conclusion that a desire by the BoJ to promote structural change in the economy is a primary motivation for the Bank’s passive-aggressive acceptance of deflation”. This is a “broadly held view at the bank” (of Japan), whereby “it is clear that ‘creative destruction’, invoked and praised repeatedly in Hayami’s speeches, is the motivating ideology” (p. 206).

  - Okina (1999, p.181): “Couldn’t the current low interest rate policy cause some harm? The answer is yes. . . . Low interest rates as a pain reliever may induce a further delay in the progress of structural adjustment. When the economy recovers, nonperforming loans could become collectable, excess inventories could be sold, and excess equipment could become operational.” According to him, such a ‘harmful’ state of affairs - a recovery - was to be avoided.
Central banks may not always mean what they say

- Intermediary targets and operating tools: CBs are not legally obliged to disclose all tools and targets. Central banks may benefit from opacity (Friedman, 1982; Goodfriend, 1986; Forder, 2002).

- Evidence that CBs are political actors that may mislead the public about monetary policy targets, tools and operational details.
  - Horiuchi (1993): BoJ adoption of a ‘monetarist’ monetary targeting framework in 1978 was “a political tactic” that “should be regarded as the [central] bankers’ ploy to guard their own autonomy in the face of such political pressures” (p. 114).
  - Werner (2002): despite repeated claims by BoJ that ‘window guidance’ credit controls had been abolished in 1982, they continued to operate, until at least 1991.
Empirical Evaluation of the 2001-2006 ‘QE’ Experiment in Japan

*Is there empirical evidence that monetary policy tools or intermediary targets changed significantly in Japan during 2001-2006?*

*Is there evidence that the key explanatory variables of nominal GDP growth changed?*
Methodology

Compare a list of potential central bank tools and instruments with a generally accepted final target variable for monetary policy, to establish empirically which policy tools and instruments are more likely to be useful.

An attractive empirical methodology is the general-to-specific model selection methodology (‘LSE methodology’, aka ‘Hendry method’), which allows competing monetary policy tools, intermediary instruments and transmission variables to be equally represented in the first general model, whose features and statistical characteristics are tested (see Campos, Ericsson and Hendry, 2005).

Then, a sequential procedure of downward reduction to the parsimonious form is adopted, which amounts to a horse-race between the contenders and enables us to assess the relative performance of the competing policy models.

This can then be compared with actions taken by CBs to assess their likely relevance or effectiveness. Theoretical discussions about the usefulness of a particular tool may turn out to be futile if this tool is not significant as an explanatory variable of the target variables.
Methodology

What should the final target variable for monetary policy be?

The government, businesses and the general public are mainly interested in nominal GDP growth, as wages, revenues and profits are in nominal terms (especially obvious during deflation).


The literature on QE in Japan also cited nominal GDP growth as a policy goal.
Empirical Work

*Personae dramatis* (independent variables) in general model:

<table>
<thead>
<tr>
<th>Policy instrument or intermediary target</th>
<th>Relevant variable in Japan</th>
<th>Abbreviation in econometric model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rates</td>
<td>ODR or o/n u/c call rate</td>
<td><em>call</em></td>
</tr>
<tr>
<td>Bank reserves</td>
<td>Reserves</td>
<td><em>Res</em></td>
</tr>
<tr>
<td>Asset purchases</td>
<td>BoJ B/S</td>
<td><em>Total Assets</em></td>
</tr>
<tr>
<td>‘Qualitative easing’/balance sheet composition</td>
<td>Ratio of long-term assets of central bank B/S</td>
<td><em>LTAR</em></td>
</tr>
<tr>
<td>Money supply</td>
<td>M2+CD</td>
<td><em>M2+CD</em></td>
</tr>
<tr>
<td>Bank credit to the ‘real economy’</td>
<td>Bank credit to all sectors except real estate, financial institutions and construction</td>
<td><em>Cr</em></td>
</tr>
</tbody>
</table>
Specific (parsimonious) Model, results

Modelling YoYNGDP by OLS
The estimation sample is: 1984 (1) to 2008 (1)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Std.Error</th>
<th>t-value</th>
<th>t-prob</th>
<th>Part.R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>YoYNGDP_1</td>
<td>0.620707</td>
<td>0.07803</td>
<td>7.95</td>
<td>0.000</td>
<td>0.4075</td>
</tr>
<tr>
<td>YoYNGDP_4</td>
<td>-0.113130</td>
<td>0.06514</td>
<td>-1.74</td>
<td>0.086</td>
<td>0.0317</td>
</tr>
<tr>
<td>Constant</td>
<td>0.517173</td>
<td>0.1819</td>
<td>2.84</td>
<td>0.005</td>
<td>0.0808</td>
</tr>
<tr>
<td>YoYRes_2</td>
<td>0.006884</td>
<td>0.002782</td>
<td>2.48</td>
<td>0.015</td>
<td>0.0624</td>
</tr>
<tr>
<td>YoYCr</td>
<td>0.364538</td>
<td>0.05785</td>
<td>6.30</td>
<td>0.000</td>
<td>0.3015</td>
</tr>
</tbody>
</table>

* sigma = 1.19896 RSS = 132.250598
* R^2 = 0.870681 F(4,92) = 154.9 [0.000]**
* log-likelihood = -152.671 DW = 2.16
* no. of obs. = 97 no. of parameters = 5
* mean(YoYNGDP) = 2.53633 var(YoYNGDP) = 10.5429

AR 1-5 test: F(5,87) = 1.8064 [0.1199]
ARCH 1-4 test: F(4,84) = 0.80851 [0.5232]
Normality test: Chi^2(2) = 5.3159 [0.0701]
hetero test: F(8,83) = 0.71401 [0.6785]
hetero-X test: F(14,77) = 1.3420 [0.2033]
RESET test: F(1,91) = 2.4094 [0.1241]
Specific (parsimonious) Model, results

Fitted and actual, errors

Granger ‘causality’ tests: Autoregressive Distributed Lag Model

<table>
<thead>
<tr>
<th>Test on the significance of independent variable</th>
<th>nGDP dependent Cr independent</th>
<th>nGDP independent Cr dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Analysis:</td>
<td>F(5, 86) = 3.6510 [0.0048]**</td>
<td>F(5, 86) = 0.23255 [0.9473]</td>
</tr>
<tr>
<td>Linear Restriction Test</td>
<td>F(1, 86) = 10.1243 [0.0020]**</td>
<td>F(1, 86) = 0.00355254 [0.9526]</td>
</tr>
</tbody>
</table>

Result: Uni-directional ‘causation’ from credit to nominal GDP growth

Result: No evidence for structural break during period of ‘QE’.
There appears to be a stable relationship between nominal GDP growth and disaggregated credit (credit for GDP transactions) (confirming Werner, 1997).
The BoJ told us (later) that on 19 March 2001, the central bank had decided “to finally discard the orthodox operating framework and adopt a new framework” (Kimura, 2002, p. 4).

But there is no evidence that the true operating instrument of monetary policy had, in fact, been the call rate until 2001: as interest rates are not significant in explaining nominal GDP growth, a rational central bank would not target them, and any statement to that effect would be found to serve rhetorical or other purposes.

For all we know, the BoJ may have always focused on bank credit creation, supported by a suitable provision of bank reserves, as our empirical model suggests.
Conclusions 2

• Until the financial crisis of 2008, the ‘new consensus’ of monetary policy implementation had been the use of nominal short-term interest rates (Woodford, 2003; call rates in the Japanese case). However, we found that interest rates dropped out from the model in the sequential downward reduction as insignificant. It also relegates as irrelevant evaluations of the effectiveness of QE that are based solely on their impact on interest rates.

• The quantity equation relationship: Bank credit growth, appears to be in a stable long-term relationship with nominal GDP growth. The innovations made in the definition of the monetary aggregate are the use of the credit counterparts, and the disaggregation, so that only credit for transactions that are part of GDP is used. Lack of such disaggregation has been identified as the reason for the apparent ‘velocity decline’ (Werner, 1997).

• The BoJ’s announcement of 19 March 2001 claimed that a break with past policy was made and reserves were newly emphasised. However, there is no evidence that monetary policy changed in a meaningful way from March 2001 to March 2006.
Conclusions 3

- The empirical model derived through the ‘gets’ methodology found that reserves have been the only other of two successful explanatory variables throughout the 1984 to 2008 observation period; and therefore, if one ignores the PR aspect of the post March 2001 announcements, the use of reserves would not appear to be a new or ‘unorthodox’ policy. Targeting them together with a disaggregated credit aggregate appears to be a promising avenue for research and policy applications.

- While some studies claimed to have found support for a significant impact of the ‘qualitative easing’ strategy of changing a central bank’s balance sheet composition (by increasing long-term holdings of assets), this particular indicator dropped out from the model.

- Similarly, total central bank asset growth was not found to be empirically relevant as a potential explanatory variable of nominal GDP growth. It is thus less likely to be attractive as a main monetary policy instrument.
Conclusions 4

- Given the importance of credit for GDP transactions in affecting economic growth, all methods that may influence this particular variable need to be considered.

- Suggestions are made in Werner (1995, 2005), and include the substitution of bond issuance with government borrowing from banks. This would boost credit creation which, ironically, was the original meaning of the term ‘quantitative easing’. Another, more controversial method would be the re-introduction of a regime of credit controls (‘window guidance’). Alas, such policies were not adopted and nominal GDP growth remained sub-optimal.

- Concerning central bank performance: it was possible for the Bank of Japan to boost nominal GDP growth during the 1990s and 2000s, via policies that affect bank credit creation. **Central bank performance was therefore unsatisfactory:** it failed to boost bank credit sufficiently to deliver stable growth closer to potential.

- Concerning central bank accountability: **the Bank of Japan has not been held accountable in any way for its failure to deliver acceptable performance.**
Conclusions for the UK

- Central banks are too independent and lack meaningful accountability for their policy blunders.

- Reserve expansion and asset purchases are standard policy fare for central banks.

- There is nothing ‘new’ about what the Bank of England is currently doing, except that the BoE has chosen to highlight this action currently.

- Increasing credit and money supply will be inflationary, if it is used unproductively.

- True Quantitative Easing is the policy to expand total credit creation. The majority of credit is created by banks. Policies need to be stepped up to increase bank credit creation or sufficiently sized substitutes to make up for it and circulate purchasing power in the local economy.

- Britain has a long-term structural problem in the banking sector: its banking sector is highly concentrated and centralised. Virtually no decisions on loans to small firms are made locally.
Conclusions for the UK

- Britain would benefit from moving towards a system that relies on banks that do not engage in the activities that have led to the banking crisis (proprietary speculation; credit to large-scale speculators; oversized bonus payments), namely locally-based, community-owned banks.

Banking in Germany

- 70% of banking sector locally-owned and controlled by small banks
- Local cooperative banks (credit unions) 26.6%
- Regional, foreign, other banks 17.8%
- Large, nationwide Banks 12.5%
- Local gov’t-owned Sparkassen 42.9%
- 70% of banking sector locally-owned and controlled by small banks
Bibliography/Further Reading:

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