

Quantitative Easing and the Quantity Theory of Credit

When the effects of QE continue to be debated, Richard Werner¹ explains the origin of the term (and some misconceptions surrounding it).

‘Quantitative easing’ (QE), has received much publicity in the past five years. However, its effectiveness remains disputed. Moreover, there are different views about what constitutes QE. It is the purpose of this contribution to review the origins and varying applications of QE, using and thereby explaining the macroeconomic model that gave rise to the concept. Called the ‘Quantity Theory of Credit’, this is arguably the simplest empirically-grounded model that incorporates the key macroeconomic role of the banking sector — a task belatedly recognised as crucial by researchers in the aftermath of the 2008 crisis.

1. The Quantity Theory of Credit after 20 years

I presented the Quantity Theory of Credit in April 1993, at the RES Annual Conference at York.² The central argument is a dichotomous equation of exchange distinguishing between money used for GDP-transactions (determining nominal GDP) and money used for non-GDP transactions (determining the value of asset transactions). Money is not defined as bank deposits or other aggregates of private sector savings. Banks are recognised as not being financial intermediaries that lend *existing* money, but creators of new money through the process of lending. Growth requires increased transactions that are part of GDP, which in turn requires a larger amount of money to be used for such transactions. The amount of money used for transactions can only rise if banks create more credit. Banks newly invent the money that they lend by pretending that the borrowers have deposited it and thus crediting their accounts without transferring any money from elsewhere. This expands the money supply and it suggests that the accurate way to measure this money is by *bank credit*.³ It can be disaggregated into credit for GDP transactions (C_R) and credit for non-GDP (i.e. asset) transactions (C_F). The former drives nominal GDP and the latter asset transaction values. Under further conditions, they determine consumer and asset prices:

- (1) $C = C_R + C_F$
- (2) $\Delta(C_R V_R) = \Delta(P_R Y)$
- (3) $\Delta(C_F V_F) = \Delta(P_F Q_F)$

Another feature of the model is that it does not assume perfect information — a fundamental condition for market clearing. As a result, markets cannot be expected to be in equilibrium. Then the ‘short-side principle’ applies. Given steady demand for credit and rationing by banks (due to the issues identified in Stiglitz and Weiss, 1981), the supply of credit is the short side.

This simple model explains a number of empirical anomalies, including the often reported lack of empirical signifi-

cance or the ‘right sign’ of interest rates as explanatory variable of economic activity (rates are not the cause of growth; they do not appear in the model); the ‘velocity decline’, which is due to the neglect of asset transactions in the standard quantity equation; why interest rate reductions and fiscal expansion of historic proportions failed to trigger a sustained recovery in Japan (rates do not cause growth; pure fiscal policy is growth neutral since it does not create credit); what makes banks special and how their activities are related to growth (their creation of money for GDP transactions is the necessary and sufficient condition for nominal GDP growth). It also explains asset price determination and the ‘recurring banking crises’.

So the effect of bank credit depends on its quantity and quality — the latter defined by whether it is used for unproductive transactions (credit for consumption or asset transactions, producing unsustainable consumer or asset inflation, respectively) or productive transactions (delivering non-inflationary growth). Credit used for productive transactions aims at income growth and is sustainable; credit for asset transactions aims at capital gains and is unsustainable. When credit creation slows after an asset bubble driven by credit for asset transactions, the ensuing fall in asset prices, capital losses and non-performing loans can easily trigger a banking crisis (banks have less than 10 per cent of equity; a drop of their asset values by little more than 10 per cent implies bank insolvency).

2. The origin and definition of QE

The QTC suggests that neither interest rate reductions nor fiscal expansion, nor reserve expansion, nor structural reforms would be able to stimulate nominal GDP growth. Based on this model I proposed in 1994 and 1995 that a new type of monetary policy be implemented in Japan, which aimed not at lowering the price of money, or expanding monetary aggregates, but at the expansion of credit creation for GDP transactions.⁴ Since the expression ‘credit creation’ was considered difficult to understand in Japanese, I prefaced the standard Japanese expression for monetary stimulation (‘monetary easing’ or ‘easing’) with the word ‘quantitative’ to declare that ‘Quantitative Easing’, defined as credit creation for GDP transactions, would create a recovery (Werner, 1995). ‘Quantitative easing’, or, in long, ‘quantitative monetary easing’ are literal translations of the Japanese expressions *ryōteki kanwa* or *ryōteki kiny kanwa*, respectively. These expressions had until then not been used to refer to the money supply, bank reserves or deposit aggregates. I suggested in numerous publications that the central bank purchase non-performing assets from

the banks to clean up their balance sheets, that the successful system of ‘guidance’ of bank credit should be re-introduced, that capital adequacy rules should be loosened not tightened, and that the government could kick-start bank credit creation and thus trigger a rapid recovery by stopping the issuance of bonds and instead entering into loan contracts with the commercial banks (e.g. Werner, 1998).

My articles caused consternation among economists of diverging schools of thought. The Keynesians, such as Richard Koo, disputed that further monetary stimulation of any kind was needed and that fiscal policy on its own was going to be ineffective. The government listened to Mr Koo, and Japan continued to expand its national debt in massive spending programmes, while credit growth continued to stagnate. So did the economy. Monetarists, such as Peter Morgan or Alan Meltzer, likewise argued that a lack of bank credit was not a problem and ‘quantitative easing’ in the form of credit creation was not needed. Instead, they argued, an expansion in bank reserves at the central bank would do the job. But massive reserve expansions failed to make any impact and due to stagnating bank credit, economic growth remained well below its potential for most of the following decade and a half. Supply-side economists and proponents of real business cycle models argued that a lack of bank credit could not be the problem — after all, their models did not include banks! I warned during the 1990s that fiscal expansion funded by bond issuance was likely to crowd out private demand, that the expansion of bank reserves would have no impact as idle reserves do not translate into bank credit growth when banks are risk-averse, and that structural reform, if able to increase productivity (which is doubtful) would merely boost potential growth, while Japan’s economy had remained in recession due to a lack of demand.

While my recommendations were not heeded, the label I used caught on. Critics from both the Keynesian and monetarist camps began to redefine QE as an expansion in bank reserves — despite the fact that I had been arguing that such a policy would not work. A new name for an old policy was only likely to cause confusion.

Initially, the Bank of Japan refused to adopt this distorted definition of quantitative easing. It relented in 2002-3, adopting the expression QE to refer to bank reserve expansions and, despite arguing frequently and correctly that such a policy would not work, adopted it for five years, starting in March 2001. Bank reserve targeting had been tried by the Bank of England and the Federal Reserve in the early 1980s but was abandoned as a failure. The puzzle was why the Bank of Japan, despite seconding me in my argument that reserve expansion would not work, chose to adopt it, while giving it the label of a policy I argued *would* be successful. It certainly had the result of tarnishing the idea of QE. In 2006 the Bank of Japan announced that it abandoned ‘QE’ as, predictably, it had not been successful.

3. QE, QTC and how to end post-crisis recessions

This did not stop the Bank of England from adopting a similar policy in March 2009, with the variation that bond pur-

chases would be made from the non-bank private sector (one of the conditions I had mentioned in the 1990s for central bank bond purchases). Better still would have been to boost bank credit by directing any central bank asset purchases to non-performing bank assets. As a result, UK-style QE also failed as bank credit growth continued to stagnate (Lyonnet and Werner, 2012). Meanwhile, Ben Bernanke, who participated in the debates on Japanese policy in the 1990s, seemed to have listened more carefully: In his January 2009 speech at the LSE he insisted that the Fed was not engaging in Bank of Japan-style QE, since reserve expansion would not work, and instead was pursuing a policy more directly targeting credit, which he called ‘credit easing’. This seemed to take us full circle to the original meaning of QE. And the US purchases of non-performing bank assets did seem to do the job of allowing banks to create credit again (with credit growth reaching over 5 per cent by early 2013, and the US economy recovering).

Meanwhile, the Bank of England and HM Treasury began to recognise that policies more directly targeting bank credit creation are more appropriate: the UK ‘Funding for Lending Scheme’ (FLS) cites a key concept from the Quantity Theory of Credit, namely that a successful quantitative monetary stimulation policy needs to be ‘designed to incentivise banks and building societies to boost their lending to UK households and private non-financial corporations — the “real economy”’ or C_R of equation (2).⁵ Further, for FLS the authorities had adopted almost the same definition of bank credit for the real economy that had been presented to the Bank of England in 2011, when the QTC was applied to the UK (published as Lyonnet and Werner, 2012). In this paper we showed that the Bank of England’s ‘quantitative easing’ had failed to make an impact on bank credit creation, although bank credit creation for GDP transactions remained the main determinant of nominal GDP growth. Unfortunately, it is not clear that FLS is going to work. Direct targeting of bank credit by the central bank, relaxation not tightening of capital adequacy rules and, most of all, switching the funding method of the public sector borrowing from bond issuance to borrowing from banks, remain surer bets.

The same applies to Europe. Nominal GDP contractions, record unemployment and widespread corporate bankruptcies in Ireland, Portugal, Spain and Greece are driven by credit contractions. Governments can end this by adopting true quantitative easing, easiest in the form of stopping bond issuance and instead borrowing from the banks in their countries. This should be particularly attractive since bond issuance yields have been pushed far beyond the prime lending rate for bank credit. But perhaps it needs to take Japanese leaders - the well-intentioned new prime minister and central bank governor - to finally show the world how true quantitative easing, suggested twenty years ago, can be made to work. For this, however, the continued emphasis on bank reserves needs to be ditched in favour of direct targeting of bank credit.

Notes:

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2. Werner (1992). This was reviewed favourably by the Economist (Economics Focus, 19 June 1993) and published later as Werner (1997c). I toned down the title from 'quantity theory' to 'quantity theorem' in the bashfulness of my youth - possibly influenced by harsh comments from referees who hardly seemed ready for monetary models based on bank credit creation or the warnings I had been sounding since 1991 about the imminent collapse of the Japanese banking system (Werner, 1991).

3. See Werner, 1997c, 2005, 2012a, b. See also Ryan-Collins *et al.* (2012).

4. E.g. Werner (1997a, 1997b, 1998).

5. See the Bank of England's Churm *et al.* (2012).

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Women's Committee Survey ...continued from p17

As we might reasonably expect more elder male cohorts than female amongst the Professors, this may lead to lower relative numbers of women amongst the Professors in the next few years. As the Women's Committee continues with its annual individual based web surveys, we will be able to monitor both inflow and outflow rates for each grade rank enabling us to more insightfully address concerns including why the relative proportion of female Professors has shown little change since 2008.

Notes:

1. Chair of the Women's Committee (and Professor at the University of York).

A full version of the report can be found on the Womens Committee webpages:

<http://www.res.org.uk/view/womensComm.html>

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