

# **SOUND MONEY**

**An Austrian proposal  
for free banking, NGDP  
targets, and OMO reforms**

Anthony J. Evans



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# Executive summary

- This paper applies a free market approach to monetary theory to critically assess recent UK monetary policy. In particular, it advocates the following reforms:
  - i) punitive but open access OMO,
  - ii) a NGDP average growth target of 2%, and
  - iii) free banking.
- Although each of these steps is progressively less feasible (both politically and technically), it is argued that they are progressively more desirable.
- Instead of viewing this as a trade off, the three proposals are designed to lead into each other.
- Hence improvements to how QE is conducted is a stepping-stone to NGDP targeting: whilst NGDP targets are a second best improvement on the status quo, they are primarily advocated as an intermediate step towards the ultimate goal of free banking.



# Foreword

“First, second, and third best policy prescriptions: An Austrian proposal for free banking, NGDP targets, and OMO reforms” makes major contributions to a profound but much misunderstood subject – the nature of our monetary order. More precisely, it addresses the role of the central bank and whether we should even have a central bank in the first place. As such, it offers a major challenge to the failed conventional wisdom that takes central banking and Keynesian economics for granted, but fails to see that these are not the solutions to our current economic malaise, but are actually its root causes.

The author, Dr Anthony Evans, is ideally suited to make such a challenge. Anthony is, without a doubt, one of the best of the up-and-coming generation of free market economists: a highly original and much regarded thinker with an remarkably wide range of interests including money and banking, political economy, managerial and cultural economics, and much else besides. He is a faculty member of the ESCP Europe Business School and a member of the Shadow Monetary Policy Committee run by the Institute of Economic Affairs.

Anthony’s monograph consists of three key sections and an appendix. These can be read as independent proposals, but are better read as components of a broader reform strategy designed to achieve a free

banking system. In this context, free banking is not charge-less personal banking, as a casual web search might suggest, but something much more profound: a system of financial and monetary laissez-faire with no central bank. As Anthony points out, such a system would be much more stable than the system we have today; indeed, perhaps the strongest argument for free banking is that it would have made the Global Financial Crisis (GFC) impossible. Had we had free banking, there is no question that we would now be living in a much safer and much more prosperous world.

The first section provides a critique of Quantitative Easing (QE) and offers suggestions on how to improve open market operations (OMO) – essentially proposing punitive open-access OMO. You can regard this as a third-best solution to improve the operation of monetary policy – and a very welcome one it is too.

The second section proposes to move to a Nominal Gross Domestic Product (NGDP) average growth target of 2% - a target that would also deliver an outcome close to price stability over the longer run, but offer some short-run countercyclical offsets – as a replacement for the current policy ‘rule’ that ostensibly aims for a 2% inflation target, but in reality merely provides a smokescreen for unbridled monetary policy discretion, i.e., no monetary policy rule at all. You can regard this proposal as a second-best solution that would produce a superior monetary policy.

The third section then discusses the first-best solution, free banking, and the appendix outlines a plan to implement free banking in a realistic time frame.

Thus, each step is designed to lead to the next, i.e., Anthony offers not just another proposal for free banking but also, more helpfully, a transition strategy to get us from ‘here’ to ‘there’.

Of course, advocates of the Keynesian central banking conventional wisdom will be quick to dismiss such radical thinking as ‘unrealistic’ and so forth: they always do. These are the same people whose quack medicine – in effect, just give the patient more stimulus, however over-stimulated the patient already is, like a doctor telling an alcoholic patient to drink a lot more. The problem is that it is exactly this thinking that got us into this mess in the first place.

Well, faced with a choice between faking an alien space invasion to boost spending even more and equally silly proposals to implement negative interest rates and abolish cash, or adopting a sensible proposal that would make the financial system safe and rule out another GFC in the future, I think we have a no-brainer. But one thing is for sure: the conventional wisdom is well and truly discredited and any solution must be a radical one well beyond its limited mindset.

I am immensely grateful to Anthony for a highly original contribution to the growing literature on free banking. I hope his work will stimulate further work on this most important but neglected of subjects – and I look forward to much more from him in the future.

I used to joke to my students that I was the only academic in the UK to advocate free banking. This was true for a painfully long time, but no longer. UK central bankers be warned: there are now two of us.

*Kevin Dowd  
Professor of Finance and Economics  
Durham University  
November 24 2015*



There is no economic reason why the determination of a unit of account linked with a medium of exchange and the provision of outside money cannot be left to the market.

*Milton Friedman and Anna Schwartz<sup>1</sup>*

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**1** Friedman & Schwartz (1986, p.49).



# Introduction

By the end of his career, theory and evidence (not to mention the influence of his co-author) had led Milton Friedman to give serious consideration to radical monetary economics.<sup>2</sup> Since his death in 2006 we have experienced a global financial crisis, and unprecedented interventions from central banks. Sadly, the ideas Friedman was coming round to adopt have been far from the top table of debate. This policy paper presents three different proposals as part of a general strategy to liberalise the monetary system. In particular it will advocate reforms to open market operations (OMO); an NGDP target; and outright Free Banking.

Monetary policy matters because errors in either direction will lead to recessions. If monetary policy is too loose there will be an inflationary boom followed by a correction. If monetary policy is too tight there will be a slowdown in growth and jobs.<sup>3</sup> To look at this in more detail consider a dynamic form of the famous equation of exchange:

$$M + V = P + Y$$

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<sup>2</sup> On Anna Schwartz's influence on Friedman see Selgin (2012d).

<sup>3</sup> I am assuming that prices are not perfectly flexible. The former situation is the standard Austrian theory of the trade cycle, whilst the latter holds for Keynesian and Monetarists as well.

Here, the variables are growth rates and this is why we use their sum, as opposed to the more traditional version of the equation in which we use the product.<sup>4</sup>

Y is the growth rate of output. Over time it will reflect the potential growth rate of the economy, which is determined by real factors (i.e. by anything that affects the productivity of labour or capital). Therefore a positive real shock will cause Y to increase, and a negative real shock will cause Y to fall. Y is typically measured by real GDP.<sup>5</sup>

P is inflation, and whilst we're employing aggregate variables it's important (as we shall see) to still pay attention to changes in relative prices. Since Y is equal to real GDP, P+Y is therefore nominal GDP growth.

M corresponds to the growth rate of the money supply, and we can split this into narrow money (that which is controlled directly by the central bank) and broad money (which is also determined by the activities of the private banking system). This distinction is important because it is possible that even if central banks take efforts to increase the money supply, this action can be offset by bigger declines in what private banks are doing. In other words it is possible that alternative measures of the money supply will give a conflicting

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**4** This version will closely follow the one presented by Cowen and Tabarrok (2012). In terms of notation it would be more accurate to use the following:  
 $M + V = P + Y$

For simplicity, however, we will simply define each variable as a growth rate. For more details on an Austrian interpretation of the equation of exchange see Evans and Thorpe (2013).

**5** We will look at the difference between actual GDP growth and potential GDP growth in a later section, and indeed alternative ways to measure output.

message as to what is happening to “M”. In the UK M0 is the traditional measure of narrow money, and M4 of broad money.<sup>6</sup>

V stands for (the change in) the velocity of circulation, and shows how quickly money turns over. Another way to view it is as the inverse of the demand for money. If the demand for money rises, people choose to hold onto it, and thus velocity falls.

As already mentioned, the right hand side of the equation is equal to nominal GDP. The left hand side (i.e.  $M+V$ ) is also known as “aggregate demand”, and reflects the total spending in the entire economy. The equation is indeed a tautology, and merely tells us that total spending must equal total receipts. But tautologies can be useful, as we shall see.<sup>7</sup>

This paper will provide a critical assessment of some of the key policy responses to the 2008 financial crisis. It is common for advocates of radical policy reform to be criticised for taking central bank actions on their own terms. Therefore economists who favour “free banking” are often careful about the language they use when commenting on policies such as quantitative easing (QE) or NGDP targeting. Or they avoid doing so altogether.<sup>8</sup> Whilst I favour free banking as the ideal (or first best) system, this paper will offer partial support for an

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**6** Recently M0 has been replaced by “Notes and Coin”, and M4 has been superseded by M4ex.

**7** For a good overview of the Quantity Theory and the equation of exchange see Friedman (1956) and Blaug et al. (1995).

**8** Selgin provides a typically thoughtful clarification of how to approach caveating what could be misconstrued as an endorsement of central banking. He says, “For better or worse, we are forced to rely on the Fed to prevent such a collapse in demand, so the Fed should do what it is supposed to do. But the Fed is a deeply flawed system and continuing to rely on it is asking for trouble. There are better alternatives, and now is as good a time as any to start taking them seriously” Selgin (2013b).

NGDP target as an intermediate step, and as a (second best) improvement on the status quo. It will also contribute to the discussion about QE by advocating ways in which it could be improved. This section should not be read as an endorsement of central banking, but as Scott Sumner has said, “we live in a fiat-money world, and we need to figure out a way of managing paper money that does the least damage”.<sup>9</sup> The key underlying point is that the culpability for business cycles lies with the central bank. But we can order solutions in various degrees.

This paper will be organised as follows:

- Section 1 will provide a critique of QE and suggestions on how to improve open market operations (OMO).
- Section 2 will discuss NGDP targets, and propose one for the UK.
- Section 3 will provide a thorough introduction to free banking (and a proposal for transitioning to free banking is included in an Appendix).
- Section 4 concludes.

It should be clear that each of these steps is progressively less feasible (both politically and technically). But they are progressively more desirable. The argument is not that we should be willing to trade off feasibility and desirability. On the contrary, the three ideas being proposed (i.e. (i) punitive but open access OMO, (ii) a NGDP average growth target of 2%, and (iii) free banking) can be viewed as part of the same strategy. They are advocated on their own merits as being preferential to the status quo. But they are also designed to lead into

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<sup>9</sup> Sumner (2010). I agree with Beckworth (2011), “my case for QE2 boils down to a pragmatic desire to fix the excess money demand problem with existing institutions we have”.

each other. Hence better QE is a stepping-stone to NGDP targeting. And NGDP targets are a stepping-stone towards the ultimate goal of free banking.<sup>10</sup>

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**10** Murphy (2013) argues that a central bank targeting NGDP has several advantages over free banking. Namely, (i) it is easier to offset non neutral injections from foreign central banks; (ii) it allows for a positive NGDP growth rate which deals with pathological wage stickiness; and (iii) can respond to the emergence of market demand for confounding forms of money and banking. Undoubtedly there are pros and cons to all systems, and even if free banking is theoretically preferential to a central bank administered NGDP target, it may be the case that we would understand more about free banking if we had the experience of alternative NGDP targeting regimes. For the purpose of this article I am ignoring the impact of non-free banking countries and assuming that free banking emerges as the dominant banking system.



# 1. Open Market Operations

When the Bank of England launched quantitative easing in January 2009 it was presented as a form of emergency monetary policy. Once Bank rate had approached the so-called “Zero Lower Bound” (ZLB), the Bank turned to another policy tool.<sup>1</sup> The main website began reporting not only the “current bank rate” but also the scale of the “quantitative easing asset purchase programme”. Commentators fretted about the inflationary impact and the extension of central bank powers. However the basic principle of quantitative easing is entirely conventional. If we define it as the use of open market operations to expand the monetary base, we can see that it is more of a change in focus - from trying to influence the demand for reserves via changes in their price, to directly controlling the supply. Indeed the Bank of England has come under criticism for simultaneously attempting to influence both sides of the market for reserves,

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**1** The ZLB refers to the claim that nominal interest rates cannot be pushed below zero, because people could escape a tax on (nominal) money balances by switching to cash.

*Instead of setting a price (an interest rate) and accommodating whatever the demand for or supply of reserves is at that rate, the Bank of England falls victim to the ultimate vanity in market economics: the desire to set both price and quantity and the belief that it has found a way to do this reliably (Buiter 2008)*

David Laidler has argued that the ZLB is only really an issue to the extent that central banks are targeting short-term interest rates, and that when interest rates are low OMO become more relevant, “it is precisely in such circumstances that open market operations should be promoted from the technical fringes of monetary policy to its very centre”.<sup>2</sup> The argument being made here is that now OMO have been brought back into the centre of monetary policy, they should stay there.

## 1.1 THE STERLING MONETARY FRAMEWORK

This section will explore how the Bank of England conducts monetary policy, and show how this has developed since 2008. The Red Book outlines the Bank’s “Sterling Monetary Framework” (SMF). Given that this gets tweaked on a regular basis the aim here is to provide a broad overview rather than a detailed description. But it is a good starting point to understand how monetary policy is conducted. The SMF comprises of lending facilities that can be split into two types: (i) liquidity insurance, and (ii) the implementation of monetary policy. Liquidity insurance is intended to be used by commercial banks to “upgrade” various forms of collateral. The three components of liquidity insurance are long-term repurchase agreements; the discount window facility (DWF); and the contingent loan repurchase facility (CLRF). Each of these serves as a way for banks to

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<sup>2</sup> Laidler (2007, p.28).

generate liquidity by borrowing reserves (or in some cases gilts) from the central bank.<sup>3</sup>

The discount window is traditionally published with a lag to avoid stigma for those banks that seek to use it, and is focused on liquidity provisions for individual institutions on a case-by-case basis.<sup>4</sup> Indeed one of the problems with the Federal Reserve's early actions in 2008 was that despite being done in the name of "increasing liquidity" they were focused on helping specific banks. The use of the discount window facility implies nothing about the liquidity of the market as a whole, because it doesn't involve an increase in the money supply. It is essentially a shuffling act, where the central bank alters the composition of its balance sheet, and the recipient gets a targeted bailout.

The second main aim of the SMF is to implement monetary policy, and this focuses more on the conversion of high quality liquid assets to reserves. Bank rate (the interest rate paid on reserve balances at the Bank of England) is the policy focus, but we can think of their actions (i.e. the "reserves average scheme") as having two elements: demand and supply. In terms of demand, this is managed through "Operational Standing Facilities" (OSF). Up until March 2009 participating banks would set a target amount of reserves, and received Bank rate on those. If, at the end of the day, their actual reserves were above this amount they could use the deposit facility and earn below bank rate, and if their reserves were below target they can borrow from the bank above Bank rate.

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**3** Gilts (as in "gilt-edged") are the conventional term for UK government bonds.

**4** As of September 2014 the Bank of England stopped publishing some of the support provided entirely, see Wallace (2014).

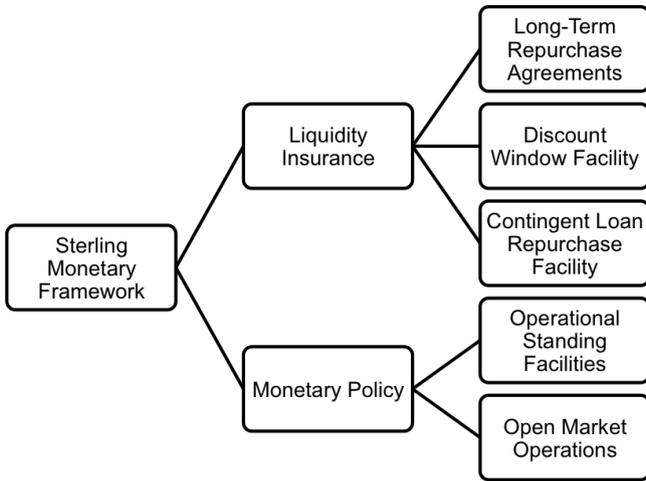
This is a corridor system that is intended to create an arbitrage mechanism that keeps money market rates close to Bank rate, and help to manage payments shocks. If the transmission mechanism is working effectively Bank Rate will feed its way through to money market rates; the rates banks charge on deposits and loans with customers, and on to financial asset prices.

However, the second element of the reserves average scheme focuses on supply. The Bank of England can affect the monetary base by altering reserve requirements, but the more common method is to simply change the amount of reserves (i.e. the stock of central bank money) using open market operations (OMO). This involves the purchase of securities and also lending against collateral. The Asset Purchase Facility (APF) was set up in 2009 to conduct the quantitative easing programme, and involves the Bank of England buying assets from the non-bank private sector with newly created reserves. The assets being bought are typically gilts and are done so through a competitive auction with discriminatory prices. Initially, the APF was engaged in buying commercial paper and bonds, but once OMO are in operation there are several margins on which they can be tweaked. In particular, the scale of OMO (i.e. quantitative easing); the maturity of the assets bought (e.g. Operation Twist); the quality of assets bought (sometimes referred to as “qualitative”, or credit easing); and also the types of institution assets are bought from.<sup>5 6</sup> Figure 1 shows a simplified summary of the SMF.

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5 “Operation Twist” refers to the Federal Reserve’s attempt to alter the shape of the Yield curve buy changing the composition of their bonds in terms of their duration. In September 2011 the Fed sold short and bought long to try to push down long term yields. It was pioneered in 1961 by John F. Kennedy.

6 For more on this framework see Evans (2014).

**FIGURE 1: STERLING MONETARY FRAMEWORK**

The first thing to criticise is the arbitrary separation of liquidity provisions and monetary policy. The former is really a means to transfer liquidity, rather than to increase the provision, and this can therefore be misleading when used in a crisis. Indeed it is a false distinction to make because “liquidity insurance” is a form of monetary policy, and “monetary policy implementation” involves liquidity provision.<sup>7</sup>

<sup>7</sup> An alternative way to view things is to see two pillars of money market operations - short term interest rates (the rate set by the central bank in its cash operations with commercial banks) and the monetary base. Separately, we can consider debt market operations, which seek to directly alter the quantity of (broad) money. This involves large-scale asset purchases from non-banks by the state, financed by issuing liability to the commercial banking system. This directly increases the quantity of bank deposits (see Congdon 2011). Indeed this explains why Congdon is sceptical of monetary base management. His support for QE is on the grounds that by using debt market operations the Bank of England directly affects the broad money supply. Congdon is critical of the idea that by controlling the monetary base, the money multiplier will ensure that this feeds into changes in broad money aggregates.

This section intends to outline a proposal for improving the Bank of England’s Sterling Monetary Framework and follows the guiding principles of Bagehot’s dictum:

1. Lend freely
2. At a high rate of interest
3. On good banking securities.<sup>8</sup>

The key recommendation is to merge the special liquidity provisions with standard monetary policy to create a system that has clear rules and eliminates the distinction between “conventional” and “emergency” policy. It closely resembles Selgin’s suggestion for how the Federal Reserve can, “rely on one and the same operating framework to both implement normal monetary policy and meet extraordinary liquidity needs during times of financial distress”.<sup>9</sup>

## 1.2 MERGING LIQUIDITY PROVISION AND MONETARY POLICY

There are at least two downsides of having a conventional vs. emergency distinction. One is that policymakers only utilise the latter in times of crisis, which are characterised by elevated uncertainty. Switching to a different type of monetary policy can contribute to that uncertainty. Secondly, an ideal monetary system would allow insolvent institutions to fail without triggering a wider crisis. Therefore elements of “emergency” policy should be being used on a routine basis. Having said this, the distinction between liquidity

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<sup>8</sup> I take “Bagehot’s dictum” to refer to Goodhart’s summary of his main proposals from Bagehot (1873, p.196-197) - see Goodhart 1999, p.340. Selgin uses a simpler version, “lend freely at high rates on good collateral” (Selgin 2012, p.303). This section also draws heavily on Selgin (2012c).

<sup>9</sup> Selgin (2012c p.305).

insurance and monetary policy isn't really a distinction between conventional and emergency policy. Liquidity insurance is aimed at providing help for individual firms, whilst monetary policy is about setting the prevailing conditions. When there's a systemic crisis this becomes blurred, especially if there are concerns about favouritism.<sup>10</sup> Even if one treats this as primarily a communication problem, that still supports the aim of having one set of rules to be used at all times. This would also mean that market participants would be used to how policy operated and could predict the central bank response to a given situation. One of the big downsides of how QE was utilised was that it took time to be effective. A Bank of England working paper argued that,

*the peak gilt market response to the Bank's QE policy may not have occurred until the auction purchases began and the market learnt about the effects of the policy<sup>11</sup>*

The main thrust of the proposal considered here is to switch from using interest rates as the policy tool and directly control the monetary base using OMO. This may seem as if we're taking an emergency policy (i.e. QE) and making it routine. For those who were sceptical about the introduction of QE this would obviously be a concern. Indeed there are valid reasons to distrust and oppose QE. For example, from a free banking perspective central banks are already too large, and so there is always a reason for opposing actions that increase its size further.<sup>12</sup> But opposing QE on the grounds of impending hyperinflation, or the necessity for a purging of capital is

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**10** For example liquidity support for an individual bank might be provided on the grounds that the stability of the system as a whole is under threat.

**11** Daines, Joyce and Tong (2012, p.41)

**12** As Selgin (2012) has argued, "The bigger the Fed gets, the dimmer the prospects for either getting rid of it or limiting its potential for doing mischief".

economically erroneous. We need to consider the positive economic argument, and the normative implications, without letting the latter disrupt the former.

Integrating QE into the standard monetary policy framework is not as radical as it may seem. It is only radical if one believed that it was a fundamentally new way of conducting monetary policy when it was launched in January 2009, and if one is confused about whether it is interest rates or control of the monetary base that serves as the central banks current policy tool.<sup>13</sup> Therefore part of this proposal is that the communication strategy should be switched from talking about interest rates and focus instead on the monetary base.<sup>14</sup> The goal is the following:

*allow the [central bank] to perform its last-resort lending duties during such crises without departing substantially from “business as usual”, and especially without allowing the performance of those duties to interfere with the conduct of monetary policy.*<sup>15</sup>

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**13** Consider the following explanation from a 1981 Bank of England article, That involved the setting, and periodic variation, of an official discount or lending rate, which, when necessary, is ‘made effective’ by open market operations in the money market. ‘Making Bank rate effective’ means restraining a decline in market rates from an unchanged Bank rate, or bringing them up to a newly established and higher Bank rate; it is accomplished by limiting the availability of cash to the banking system so as to ‘force the market into the Bank’ to borrow at the somewhat penal level of Bank rate.” (Coleby 1983, p.213).

**14** Mayes and Toporowski (2007) point out that a downside of OMO is that it implies a more variable short-term interest rate, and this creates a risk of “people thinking that variations in the rate reflect a policy signal by the central bank” (p.7). Now that the Bank of England reports Bank Rate and QE changes there is already a potential for these to give conflicting signals about the policy stance. Hence it creates an opportunity to switch and to ensure that future policy decisions are communicated in such a way that interest rates are not interpreted to be a signal of the policy stance.

**15** Selgin, 2012c p.319.

Some have argued that the decline of OMO is the result of an increased attention to a “New Consensus” in monetary policy that focused on overnight interest rates. This neglects the fact that longer term rates play a more important role in the transmission mechanism, and OMO are better suited to affecting them.<sup>16</sup>

### 1.3 FIVE REFORMS FOR OMO

The following recommendations intend to bring central banks back to their original, intended function. Lending to specific financial institutions is back door fiscal policy, and the central bank should focus solely on transparent monetary policy. This echoes Haltom and Lacker’s calls to “limit the Fed’s balance sheet activities to its primary function of providing monetary stability to the economy and financial system”.<sup>17</sup> In particular, OMO should be reformed to meet the following criteria.

1. They should be tied to a specified nominal target.
2. They should be punitive (rather than a subsidy).
3. They should be open access (i.e. allow a diversification of counterparties).
4. They should be standalone (central bank intervention should be restricted purely to managing the money supply).
5. They should be neutral (and focus on gilts first).

We can look at each of these points in more detail. The first suggestion is to tie OMO to a specified nominal target. According to David Beckworth, “QE2 was not implemented in an optimal fashion. It should have been enacted in a rule-based fashion, with a clear, explicit

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**16** See Toporowski (2006)

**17** Haltom and Lacker (2014, p.1).

objective”.<sup>18</sup> Rather than a completely arbitrary amount of QE that was tied to a relatively token inflation target, it should be a predictable and routine response to conditions.

Section 2 will advocate an NGDP average growth rate as being the target. But even a specified inflation expectations or nominal earnings indicator would be better than nothing (and it would also be better than an unemployment threshold). A specified nominal target has the benefit of making monetary policy automatic (and therefore doesn't risk being too late) and also permanent (if required).

This deals with two of the biggest objections to QE as practised: there is a concern that it was initiated too late; and that subsequent rounds of QE were counterproductive. As Simon Ward says, “QE1 wasn't inflationary, it was anti-deflationary, but QE2 would be very dangerous, because there is no shortage of liquidity and the banking system is stronger”.<sup>19</sup> Instead of the central bank playing catch up to correct for previous failures, OMO would be automatically tied to when they are needed. And secondly, the fact that QE was temporary impacted its effectiveness. According to David Romer's classic macroeconomics textbook, “agents may reasonably believe that the central bank will largely undo the increase in the money stock as soon as it starts to have an important effect on aggregate demand. As a result, expected inflation may not rise, and the open-market purchase may have little effect”.<sup>20</sup> Indeed back in the day Thomas Sargent and Neil Wallace provided an explanation for why the stated aim that QE would be temporary causes it to fail.<sup>21</sup>

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**18** Beckworth (2011).

**19** Quoted by Islam (2010).

**20** Romer (2001).

**21** Sargent and Wallace (1973).

The second suggestion is to make OMO punitive. There should be a penalty fee to borrow from the central bank, and the central bank should sit on the low end of the bid-ask spread (i.e. only buy securities at below market prices), rather than the upper end (which provides a subsidy rather than a penalty).<sup>22</sup> The main argument in favour of Bagehot's dictum is that the penalty rate is a market mechanism to determine whether there is a liquidity problem or a solvency problem. When the rate is a subsidy it becomes an exercise for the judgment of a central planner. As Haltom and Lacker say,

*expansion of the central banks monetary liabilities through open market operations is pure monetary policy because markets are left to direct credit to worthy borrowers.*<sup>23</sup>

The third suggestion is to make OMO open access. George Selgin has criticised the Federal Reserve for being “top heavy”, and relying on just 21 primary dealers and 2 clearing banks to conduct monetary policy. As he claims, “The Fed’s primary dealer-based operating system takes primary dealers’ financial health for granted. If the dealers themselves are in danger of failing, the system can break down”.<sup>24</sup> Therefore this creates a real problem if those primary dealers enter financial difficulties, because private lenders will be less inclined to lend to them, and the dealers may hoard liquidity.<sup>25</sup>

According to Selgin, in 2008 not only did these primary dealers reduce their lending, they sucked up a lot of the liquidity that the Federal Reserve was trying to introduce. He argues that it was Bear Sterns’ involvement in the tri-party repo market that was a greater

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**22** See comments by Koning (2011).

**23** Haltom and Lacker (2014, p.2).

**24** Selgin (2012c, p.308).

**25** Selgin (2012c, p.309).

reason for its rescue than its exposure to mortgage backed securities.<sup>26</sup> When the Federal Reserve argued that it need to fix the system, it wasn't the system of capitalism that was proving to be vulnerable, but an archaic system that used a small number of privileged, private firms to get money to market. He continues by saying "the primary dealer system is, at best, an anachronism"<sup>27</sup> and there are no technological barriers preventing the Federal Reserve from conducting open market operations with a far larger number of counterparties.<sup>28</sup> He points to the ECB, which has 500 counterparties for its OMO and could expand this further.

In the UK, the Bank of England acts as a settlements agent using a Real-Time Gross Settlement (RTGS) system. When a member of the public makes a payment from a current account this will lead to their bank transferring reserves to the recipient's bank. Historically central banks would keep track of payments and settle the net differences at the end of the day.

Since 1996, this has been done in real time such that all payments generate the exchange of central bank reserves. Prior to 2009 reserves were provided via Indexed Long-Term Repo operations, and since then from the asset purchases conducted through QE as well. All settlement banks (i.e. participants in the reserve averaging scheme) have access to the operational standing facility. They also have access to the DWF and contingent term repo facility (CTRF). However there are additional financial institutions that are not part of the reserves average scheme but can also access DWF and CTRF.

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**26** Selgin (2012c, p.312).

**27** Selgin (2012c, p.313).

**28** Indeed Selgin (2012) argues, "such improvements... would supply a rationale for doing away with the primary dealer system even if primary dealers' soundness were never in doubt" (p.314).

On top of this, there are “non-bank active intermediaries” that can access short-term repos in addition to the above.

One option would be to open participation to any financial institution that has a CAMEL score of 1 or 2 (and since the Federal Reserve needn’t publicise the list of participants it wouldn’t affect the confidentiality of those ratings).<sup>29</sup> Going even further, Lars Christensen advocates that, “access to pound liquidity should be open to everyone – bank or not, UK based or not”.<sup>30</sup> The main point is to circumvent primary dealers and interact with the whole market.

The fourth suggestion is to make OMO stand-alone. The introduction of QE has duplicated the provision of reserves. Previously this was done through repurchase agreements (Repos). Selgin argues that these are suited to temporary OMO since the central bank has the option of not renewing them (as opposed to having to sell them). He says that this is useful when there are seasonal fluctuations in demand (such as at Christmas) and that it is also suited to implementing its Federal Funds rate target (since they are close substitutes).<sup>31</sup> But the market for all maturities of government debt is reasonably deep, and under the proposal being outlined there will be less emphasis on interest rates anyway. Therefore following Milton Friedman we could dispense with all repos.<sup>32</sup>

We could also close the DWF. The theory of the discount window is to provide direct lending to illiquid institutions. The practice is that it

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**29** See Selgin (2012c p.315). A “CAMEL” score is a rating system that measures a bank based on their capital adequacy; assets; management capability; earnings; liquidity; and sensitivity.

**30** Christensen (2013).

**31** Selgin (2012c, p.306).

**32** Friedman (1982).

tends to go to insolvent firms and serves as a means of providing bail-outs.<sup>33</sup> But it is only necessary to the extent that OMO isn't getting liquidity to where it is needed; if OMO are improved, the discount window is irrelevant. Indeed, one can argue it's irrelevant anyway, given that one of the reasons for launching the Term Auction Facility was that many firms were too concerned about stigma to use the discount window.<sup>34</sup> Certainly for the Federal Reserve there is evidence that the "use of the discount window... seems to be connected with the use of secrecy and ambiguity in monetary policy", and therefore focusing on OMO helps move towards a regime of transparency and clarity.<sup>35</sup>

Jeffrey Rogers Hummel argues that the discount window, operations of subsidiary structured investment vehicles, reserve requirements, monopoly on hand-to hand currency and intervention in foreign exchange markets are all unnecessary since the main task of monetary policy is controlling the monetary base. He says, "Confine the Fed exclusively to open market operations using Treasury securities".<sup>36</sup> UK schemes such as Funding for Lending (which is a subsidy for home buying) should be phased out. Credit allocation is a matter of fiscal policy and can be engaged in by the government. It should not be a part of monetary policy.

The fifth suggestion is to be as neutral as possible, and therefore focus on gilts only. One of the negative unintended consequences of QE is that it has reduced some of the fiscal constraints facing

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**33** Kaufman (1999, p.4).

**34** See Selgin (2012c, p.310). Hence the TAF can be seen as a sort of hybrid between OMO and discount lending that did the exact opposite of Bagehot's dictum by offering a subsidy rather than a penalty! (See Selgin 2012c p.324).

**35** Goodfriend and King (1988).

**36** Hummel (2009).

government. The central banks have become a major purchaser of government debt and this has political economy ramifications. The argument in favour of sticking to government debt is that it is a relatively neutral asset class. However it does create a major problem because for OMO to be a credible commitment it needs to be potentially limitless in scope. If the central bank is constrained to only purchase government bonds it puts a limit on the volume of OMO it can engage in.

One way in which it could be expanded is to focus on other countries. Lars Christensen advocates, “2-year Treasury bonds from risk and GDP weighted basket of G7 countries”, whilst Selgin has suggested ways in which it could extend into private sector debt without becoming arbitrary and subject to crony capitalism.<sup>37 38</sup> Indeed under the current proposal OMO would replace almost all other central bank activity, and central banks currently purchase private sector securities in a number of circumstances. Therefore in keeping with the goal of having clear policy rules for good times and bad, there needs to be guidelines so that market participants understand how OMO would branch out into private sector assets if required.

At this stage something as vague as “once central bank holdings reach 20% of the gilt market for any given maturity” they would transition towards private sector assets along the lines mentioned by George Selgin.<sup>39</sup> Maybe we should call this Selgin’s dictum:

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**37** Christensen (2013).

**38** Selgin (2012c).

**39** Selgin (2012c). It is important to acknowledge that this would introduce risk onto the balance sheet, and therefore it matters whether the central bank in question is publicly owned or comprised of private shareholders.

*The Fed should at all times be prepared to buy good securities freely, outright or subject to repurchase, at competitively determined prices that reflect, but are not generally lower than, the values those securities would normally command in the private marketplace.<sup>40</sup>*

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**40** Selgin (2012c, p.323).





## 2. NGDP targets

Recall the dynamic version of the equation of exchange.

$$M + V = P + Y$$

If  $V$  and  $Y$  are stable, then any increase in  $M$  must lead to a corresponding increase in  $P$ . This is the standard monetarist position that “inflation is always and everywhere a monetary phenomenon”. Also, if money is “neutral” (i.e. nominal variables only affect other nominal variables) then an increase in  $M$  will also manifest itself entirely with an increase in  $P$ . As we shall see though, in reality we might expect to see changes to both  $P$  and  $Y$ , implying some real effects to monetary expansion (if only for as long as it takes prices to adjust fully).

Let’s assume that the potential growth rate for the economy is 3%, and there is an inflation target of 2%. This could be because of “economic” reasons (such as the fact that inflation makes real wages adjustments less costly) or “political” reasons (since inflation erodes the real value of government debt). Regardless, if  $Y=3\%$  and  $P=2\%$  we can contrast three main methods of monetary policy:

**i) Money growth**

If you want  $P+Y$  to equal 5%, perhaps the easiest way to attempt this is to set  $M$  equal to 5%. You simply need to tell a computer to maintain a constant growth in the money supply. No Monetary Policy Committee, no team of forecasters, no public communications. Provided the central bank can directly control  $M$ , and provided  $V$  is stable this is ideal. However the central bank can only directly control the monetary base, and  $V$  isn't stable. During the height of monetarism in the 1970s and 1980s targeting the money supply was popular. The main debate would be which measure of the money supply to target. But in the early 1990s it was widely considered that banking innovation was causing  $V$  to become less stable, and thus central bankers looked for alternatives.<sup>41</sup>

**ii) Inflation target**

Pioneered in the early 1990s and still popular today, inflation targets were a way of simplifying the message given by a central bank. Instead of using multiple tools to hit multiple targets, the basic idea was that if inflation expectations were (i) low; and (ii) stable, then everything else would fall into line. This is why communication became such an important part of central bank operations. If monetary policy will only affect prices in the long run, it may make sense to target them alone.

**iii) NGDP target**

If the potential growth rate of the economy is 3%, and the inflation target is 2%, then the equivalent NGDP target would be 5%. This has

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<sup>41</sup> For a typical example see Mankiw (1997).

several big advantages over inflation targeting, which we can look at in more detail.

Prior to the 2008 financial crisis NGDP grew by about 5% per year in the UK, but hit 7.3% in 2006 Q1.<sup>42</sup> Some have suggested that this may even have been an implicit target adopted by the Bank of England.<sup>43</sup> It began to drop in 2008 Q2, when it fell by £605m.<sup>44</sup> This drop constitutes a slowdown in the quarterly growth rate from 5.5% in 2008 Q1 (compared to the same quarter of the previous year) to 4.2% in Q2. It continued in this direction, dropping to 1.5% in Q3 and turning negative in Q4 at -1.5%. As figure 2 shows, the trough came in 2009 Q1 with a -4% growth rate, and didn't become positive again until 2009 Q4. We should expect such sudden, and unanticipated contractions of NGDP growth to cause widespread economic problems.

As Scott Sumner says, “because nominal income is the total funds people and business have available to repay nominal debts, a sharp decline in NGDP growth often leads to financial distress”.<sup>45</sup>

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**42** As of November 2015 the average NGDP growth rate from 1998 – 2008 was 5.34%.

**43** See Giles (2011).

**44** The data in this section was updated on November 27th 2015. A spreadsheet containing raw data and calculations can be downloaded from: <http://econ.anthonyjevans.com/policy/>. Accessed November 27th 2015.

**45** Sumner (2011, p.11).

**FIGURE 2: NGDP GROWTH (%) FROM 1998-2015 (QUARTER ON SAME QUARTER OF PREVIOUS YEAR). SOURCE: ONS.**

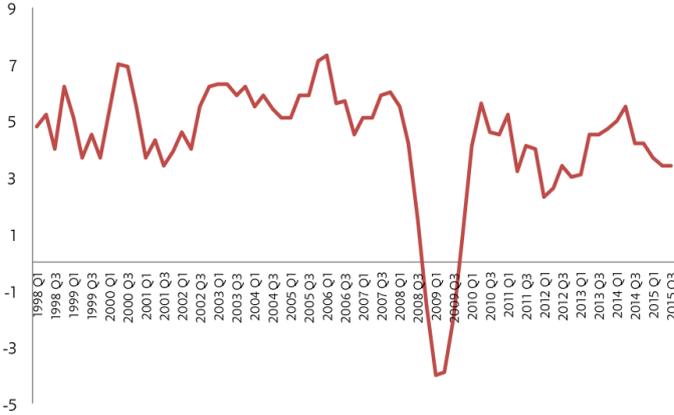
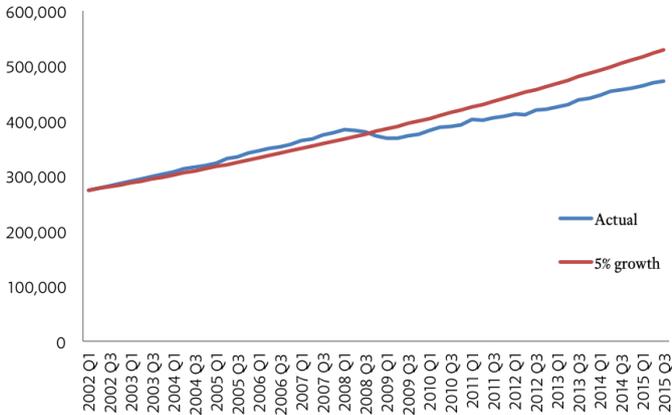


Figure 3 shows actual UK NGDP from 2002-2015. It also shows the amount of NGDP had it grown at a constant 5% quarterly growth rate. Three things jump out. Firstly, the actual growth rate was running ahead of 5% all the way until 2008 Q4. Secondly, it then fell significantly below this path. And thirdly, when growth did return it was muted and lags behind the 5% path. The proposal considered here is to conduct monetary policy such that deviations from a specified growth path don't happen.

**FIGURE 3: ACTUAL NGDP (£M) 2002-2015 RELATIVE TO 5% GROWTH. SOURCE: ONS, AUTHOR'S CALCULATIONS.**



## 2.1 AUSTRIAN FOUNDATIONS

Although James Meade is commonly attributed as having started the idea of nominal income targets, F.A. Hayek deserves recognition as a pioneer. In 1937 he argued that central banks should “offset... as far as possible the effects of changes in the demand for liquid assets on the total quantity of the circulating medium.”<sup>46 47</sup> Hayek conceded that monetary policy can be an effective way to reduce unemployment in the rare situation of there being “unused resources of all kinds”.<sup>48</sup> This is a sophisticated argument for explaining how it should be directed at remedying an AD deficiency, but not as a means to engineer growth; Hayek’s monetary theory requires that expectations should be formed around a constant “stream of money

<sup>46</sup> Meade (1978).

<sup>47</sup> See White (2008).

<sup>48</sup> Hayek (1950).

expenditure.”<sup>49 50</sup> Several scholars of Austrian economics have linked the concept of nominal income stabilization with Hayek. According to Tyler Cowen, Hayek “advocated freezing the nominal money supply, save to adjust for changes in velocity.”<sup>51</sup> According to Lawrence H. White,

*Hayek’s business cycle theory led him to the conclusion that intertemporal price equilibrium is best maintained in a monetary economy by constancy of “the total income stream,” or in Fisherian terms the money stock times its velocity of circulation,  $M[+]V$ . Hayek was clear about his policy recommendation: the money stock  $M$  should vary to offset changes in the velocity of money,  $V$ , but should be constant in the absence of changes in  $V$ .<sup>52</sup>*

In terms of policy, Hayek supported the general idea that central banks should intervene to stop deflations.<sup>53</sup> Indeed in the 1970s he made several explicit references to the central banks obligation to keep  $M+V$  stable.

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**49** See As Glasner (2011) for more details.

**50** “Stable monetary conditions require that the stream of money expenditure is the fixed datum to which prices and wages have to adapt themselves, and not the other way around” (Hayek 1972 p.72)

**51** Cowen (1997, p.56). The citation Cowen provides is Hayek (1967, pp.122-4).

**52** White (2008).

**53** For example, he said, “It does not follow [from the fact that a disequilibrium generating inflation cannot be allowed to expand forever] that we should not endeavour to stop a real deflation when it threatens to set in. Although I do not regard deflation as the original cause of a decline in business activity, a disappointment of expectations has unquestionably tended to induce a process of deflation — what more than 40 years ago I called a ‘secondary deflation’ — the effect of which may be worse, and in the 1930s certainly was worse, than what the original cause of the reaction made necessary, and which has no steering function to perform.” (Hayek 1975).

*I agree with Milton Friedman that once the Crash had occurred, the Federal Reserve System pursued a silly deflationary policy. I am not only against inflation but I am also against deflation. So, once again, a badly programmed monetary policy prolonged the depression.<sup>54</sup>*

*The moment there is any sign that the total income stream may actually shrink [during a post-bust deflationary crash], I should certainly not only try everything in my power to prevent it from dwindling, but I should announce beforehand that I would do so in the event the problem arose.<sup>55</sup>*

*If I were responsible for the monetary policy of a country I would certainly try to prevent a threatening deflation, that is, an absolute decrease in the stream of incomes, by all suitable means, and would announce that I intended to do so. This alone would probably be sufficient to prevent a degeneration of the recession into a long-lasting depression.<sup>56</sup>*

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**54** F. A. Hayek, interviewed in 1979, from *Conversations with Great Economists: Friedrich A. Hayek, John Hicks, Nicholas Kaldor, Leonid V. Kantorovich, Joan Robinson, Paul A. Samuelson, Jan Tinbergen* by Diego Pizano.

**55** F. A. Hayek in 1975, in reply to a question from Gottfried Haberler in a talk given at the American Enterprise Institute. See Ransom (2012)

**56** Hayek (1975)

In more contemporary terms, this means preventing contractions in NGDP. Indeed Gustavson (2010) refers to the policy goal of keeping nominal spending constant as a “Hayek Rule”.<sup>57</sup>

## 2.2 THE PROS AND CONS

Whilst having Hayekian roots, NGDP targets are hardly an Austrian idea. Indeed the seminal contributions are from James Tobin, Charles Bean, Robert Hall & N. Gregory Mankiw; and Bennett McCallum & Edward Nelson.<sup>58</sup> And they have several important benefits.

Firstly, if you have a positive real shock (i.e. productivity rises) this will put downward pressure on prices. Under an inflation target central banks would respond by easing policy, but this could generate asset bubbles. An NGDP target would allow prices to fall to reflect the increased productivity. Indeed according to George Selgin’s “productivity norm” prices should be allowed to fall. Maintaining an inflation target of 2% would not only generate loose monetary conditions but also deprive us of a benign price deflation.

Secondly, if there is a negative real shock (e.g. a natural disaster) then prices should rise, because the price system is supposed to reflect real scarcities. But an inflation-targeting regime would have to respond to the inflationary pressure by tightening policy, and reducing growth.

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**57** It isn’t just Hayek that we can draw upon. Selgin (1999) argues that “Mises’ ideal of a money with a constant inner objective exchange value (but with an outer exchange value that varied directly with changes in real output) was this, in essence, equivalence to the modern idea of a nominal income (GDP) target” (p.262). He suggests that it was Mises’ aversion to the equation of exchange that prevented him from recognizing “the equivalence of a stable inner objective exchange value of money and stable nominal income” (p.262).

**58** Tobin (1983), Bean (1983), Hall & Mankiw (1994), McCallum & Nelson (1998).

Taken together these examples show that NGDP targets are better at responding to supply shocks than inflation targets.

Another advantage of NGDP targets builds upon the previous section. As *The Economist* pointed out, an NGDP target would be operationalised using OMOs.<sup>59</sup> And as Lars Christensen says, NGDP target would also help to distinguish between liquidity and solvency problems,

*Under NGDP targeting the central bank would only provide liquidity to “the market” against proper collateral and the central bank would not be in the business of saving banks (or governments). There is a strict no-bail out clause in NGDP targeting.<sup>60</sup>*

Finally, according to Scott Sumner, “Since most debts are nominal... nominal income is the best measure of a person’s ability to repay their debts”.<sup>61</sup> Therefore NGDP targets are suited to providing “a stable policy environment for the negotiation of wage and debt contracts”.<sup>62</sup> Ultimately, the problem with monetary expansion is if it generates a change in relative prices, and moves interest rates away from their natural rate. However if the monetary expansion is done in response to an increase in the demand for real balances, the natural rate will be maintained. Therefore the biggest argument in favour of NGDP targets is that it approximates a “neutral” monetary policy. In other words, changes in the money supply will minimise relative price distortions, the demand for money would be equal to the supply

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**59** *The Economist* (2011).

**60** Christensen (2012).

**61** Sumner (2010).

**62** Sumner (2010).

of money, and real interest rates would be at their natural rate (i.e. reflecting the demand for and supply of loanable funds).<sup>63</sup>

NGDP targets are not new, and there are important reasons why they've not caught on so far. One problem is that they generate greater inflation volatility. Although a NGDP target would stabilise output, this comes at the cost of permitting greater inflation variability.<sup>64</sup> A second problem is inertia. According to Simon Wren-Lewis "if inflation depends on past inflation rather than expected inflation" it would be better to let bygones be bygones.<sup>65</sup> A third problem is that many of the criticism of inflation targeting are actually a result of poor quality GDP forecasts. Chris Dillow has pointed out that in August 2008 economists believed that real GDP would grow at 0.6% the next year. However it actually fell by 3.7%. It wasn't the inflation target that caused the Bank's policy to be too tight, it was the fact that they didn't appreciate the severity of the problem in real time.<sup>66</sup> As he says, "an NGDP target would not solve the problem that forecasts are inaccurate". Fourthly, we need to be careful about whether the Bank is truly following an inflation target currently. Given that they "see through" temporary inflation shocks this resembles an average inflation target. And there's a fine line between an average inflation target and a price level target. Indeed when the Bank allowed inflation to go above target because of low real GDP growth this suggested there may even have been a closet NGDP targeting at play.<sup>67</sup> A fur-

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**63** For a discussion on the difference between minimizing relative price distortions and eliminating them, see Southwood (2014).

**64** But as Sumner (2011) points out, "many of the problems generally associated with inflation are actually linked to NGDP volatility" (p.7).

**65** Wren-Lewis (2013).

**66** See Dillow (2012).

**67** See Dillow (2012).

ther problem is that NGDP reflects government spending.<sup>68</sup> Lars Christensen has argued that an NGDP target would fully offset any impact of fiscal policy on AD.<sup>69</sup> If the government were to engage in a large fiscal stimulus, the Bank of England would have to engage in a corresponding reduction in AD to leave NGDP growth at its previous amount. The downside of this however is that if policymakers wanted to increase the size of the state (as opposed to the economy) you could see some changes in the composition of GDP within a stable growth rate. The biggest criticism of NGDP targets, however, is the reliability of GDP figures. Whilst CPI is produced on a monthly basis with minimal revisions, GDP comes out quarterly, and is revised heavily.

### 2.3 MARKET MONETARISM

These downsides are important, but they are also well known. Therefore it is possible to implement NGDP targets in such a way that mitigates them. In particular, Scott Sumner provides two very important components to his NGDP target proposal.<sup>70</sup>

Firstly, target the level, not the growth rate. It's desirable to prevent sharp fluctuations, and to correct past errors by maintaining a publicly known trend. Level targets are better equipped to deal with liquidity traps because by increasing NGDP and inflation expectations this will cause long term real interest rates to fall even if nominal rates cannot be cut any lower. This would also imply that fluctuations will be relatively smooth because if NGDP growth begins to dip below the assigned trajectory it would cause people to anticipate more

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**68** This ties into a broader point about how NGDP targets might downplay the importance of the composition of NGDP.

**69** Christensen (2013).

**70** Sumner (2011).

rapid NGDP growth to compensate, and “those expectations would boost current aggregate demand”.<sup>71</sup>

Sumner’s second point is to target forecasts, not historical data. Policy needs to be forward looking, and based on market rules as opposed to bureaucratic discretion. This also circumvents one of the key objections to NGDP targets, namely that NGDP figures are only released on a quarterly basis and subject to large revisions. If you target expectations of NGDP this doesn’t matter. Sumner explains how it would work:

*The Bank of England might promise to buy and sell unlimited amounts of NGDP futures at the target price (say 5% higher than current NGDP), thus making the policy goal equal to the equilibrium market price. Each purchase of an NGDP futures contract by speculators would trigger a parallel open market sale by the Bank of England. Alternatively, if investors expected sub-par nominal growth they would sell NGDP futures short, and this would trigger offsetting open market purchases by the Bank of England. In essence, the NGDP futures market would be forecasting the setting of the monetary base that was most consistent with on-target nominal growth. The monetary base would respond endogenously to changes in money demand, keeping NGDP growth expectations on target.*<sup>72</sup>

It’s important to stress that this latter point is what puts the “market” into “market monetarism”. It is a direct response to the biggest and most important criticism of NGDP targeting, namely the availability of timely and dependable GDP data. In the first instant NGDP expectations could be inferred from various market indicators. But

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**71** Sumner (2011, p.16).

**72** Sumner (2011, p.18).

ultimately the idea would be to establish a market in NGDP futures. Steven Horwitz has praised the McCallum rule on the grounds that it removes discretion from monetary authorities and is focused on achieving monetary equilibrium.<sup>73</sup> His criticism is that central banks are faced with a knowledge problem. But as Lars Christensen points out, an NGDP futures target is a forward-looking McCallum rule.<sup>74</sup>

The term “market monetarism” was quickly adopted as a means to describe a growing and influential group of bloggers and economists; and it has been defined as the linkage of the level of NGDP as the policy target with the creation of an NGDP futures market to assess the policy stance.<sup>75 76</sup> This argument may not appear to be very Austrian, but we can distinguish between three separate arguments:

- According to monetarists the 2008 collapse occurred during a period of healthy growth and was the result of central bank incompetence.
- According to the Austrian-Rothbardians the 2008 collapse came at the end of a policy induced boom that was unsustainable
- According to the Austrian-Hayekians the 2008 collapse came at the end of a policy induced boom that was unsustainable...

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**73** Horwitz (2000). The McCallum rule allows policymakers to plug values for velocity, inflation, and output growth into a simple equation and generate a target for the monetary base.

**74** Christensen (2011a).

**75** It was coined by Christensen (2011c).

**76** This definition comes from Nunes and Cole (2013). According to Salter (2013) market monetarism refers to “any theorist whose first-best monetary institution involves a central bank with an NGDP target”. I’m not sure the definition needs to be that normative. I view market monetarism as the combination of NGDP targets and the use of market data to hit those targets.

and was then made even worse by subsequent central bank incompetence!<sup>77</sup>

Despite NGDP targets being associated with those advocating AD stimulus, it is not a Keynesian business cycle policy. It is incidental that its rise has coincided with a severe recession, leading to market monetarists advocating inflation as a solution. But ultimately, market monetarism doesn't seek to stabilise real GDP growth, rather to hit monetary equilibrium.<sup>78</sup>

## 2.4 LIMITS OF NGDP TARGETS

We've already seen how an NGDP target can build on improved OMO's. But it also has the potential to move us closer our "first best" policy solution - a free banking system. The claim made by free banking economists such as George Selgin, Lawrence H. White and Steven Horwitz is that a private, competitive banking system would exhibit a flexible  $M$  that offsets changes in  $V$ .<sup>79</sup> Therefore the stability that is important is not NGDP, but  $M+V$ . Since we cannot measure  $M+V$ , we can use the dynamic equation of exchange as a method by which we can make an inference. But this depends on which version of the equation of exchange is the most appropriate.

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**77** I'm borrowing this distinction between monetarists and Austrians from Garrison (2000).

**78** A point made by as Christensen (2011b). He also argues that this is because unlike Keynesian policy (which rests on the Phillips Curve) market monetarism is built on Say's Law and the equation of exchange. He says, "in a world without money Say's Law holds – supply creates its own demand. Said in another way in a barter economy business cycles do not exist. It therefore follows logically that recession always and everywhere is a monetary phenomenon. Monetary policy can therefore "create a business cycle by creating monetary disequilibrium" (Christensen 2011b).

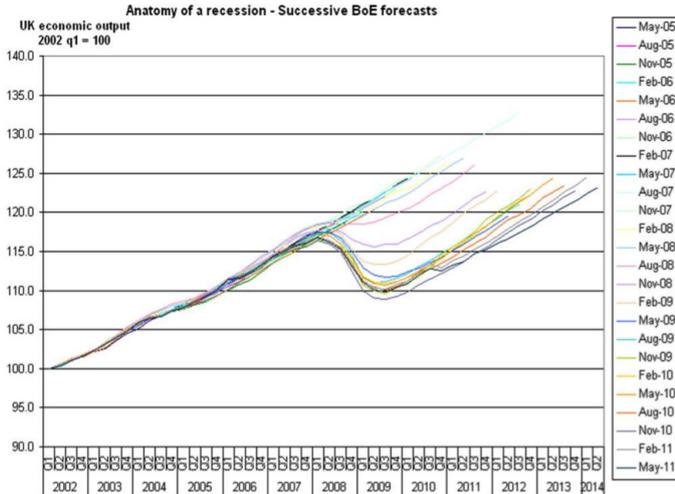
**79** Selgin (1988), White (1999) and Horwitz (2000).

Therefore even if free banking and NGDP targets would both automatically use  $M$  to offset changes in  $V$ , this does not necessarily mean that NGDP targets are desirable. We can consider four important concerns. The first one is to be cautious about trying to close an output gap. An NGDP target should be based on prevailing expectations. Secondly, any semblance of an NGDP target that can be found within the traditional Austrian literature relates to the total income stream being kept constant. This implies a growth rate of 0%. The third point is that there's an important difference between what should be kept stable – should it be  $P+Y$  or something else? And fourthly, whilst an NGDP target may approximate free banking the important institutional differences still need to be recognised. We can look at each in turn.

In May 2011 the Financial Times published a chart showing the “output gap” of the UK economy following the 2008/09 recession.<sup>80</sup> It displayed a series of Bank of England growth forecasts running from May 2005 through May 2011. The forecasts made prior to the financial crisis show a smooth upward trend line, however more recent ones show the impact of the recession with a significant drop in output.

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**80** See Giles (2011b).

**FIGURE 4: BANK OF ENGLAND FORECASTS.****SOURCE: FINANCIAL TIMES, SEE GILES (2011B)**

The key revelation is that this drop in output does not catch up to the previous rate of growth, returning instead to a growth path that is substantially lower than the pre-recession forecast. This analysis is consistent with estimates for the US economy, suggesting a gap of about 5% between the pre-crisis growth rate and the post-crisis growth rate.<sup>81</sup> However there are pragmatic and theoretical limitations to the concept of the output gap.

Economists have a notoriously bad track record at forecasting, therefore any discussion of “trend levels” or “potential” must make a distinction between the theoretically valid (and underlying values), and the observable ones that statistical agencies publish. Not only should we treat forecasts with scepticism, but output figures are subject to continual revisions casting doubt on our ability to observe history, let alone the future.

<sup>81</sup> See The Economist 2011

The theoretical limitations are that the “output gap” is a calculation made between the observed growth rate of economic output ( $Y$ ), relative to a perceived “potential” ( $Y^*$ ). There are (at least) two ways to consider this “potential”. The first is based on simple extrapolation – to say that if the economy is growing at approximately 2-3% pa, we would expect it to continue to do so (i.e. that this is some sort of “natural” level). Note how this is tied into an aggregate demand view of the causes of the recession – it implies that the economy would be growing at this rate absent exogenous shocks.

One implication is that if monetary policy and fiscal policy were effectively managed, we should expect a 2.5% growth rate.<sup>82</sup> Real-business cycle approaches would reject the notion that the economy has a “trend line”, arguing instead that the current rate of output is always an equilibrium level. However you don’t need to believe in a natural rate of output to believe in an output gap, since the “potential” output is always a counterfactual. Economists tend to have little training in explicit counterfactual reasoning, however this is an area where Austrians have expertise.<sup>83</sup>

The key point is that any counterfactual reasoning must to some extent rely on a subjective projection – there is a lot of epistemic content in what constitutes the \* aspect of  $Y^*$ . An extrapolation can hardly count as a counterfactual, because by assumption no other events can occur (it is simply a mechanical projection of past growth into the future). Conventional monetarists and Keynesians make implicit counterfactuals when they talk about the trend line of output. However the trend line is not the only way to build counterfactuals.

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**82** The average growth rate of GDP from May 2005 to May 2008 is approximately 2.5%. Notice how supply side issues are effectively ignored – output is deemed to be determined solely by aggregate demand.

**83** See Aligica and Evans (2009).

Real business cycle theorists are still able to make counterfactuals based on alternative exogenous shocks (for example output growth with and without an oil shock). Their limitation is that an overreliance on the concept of equilibrium restricts the list of potential sources for alternative histories.

The opportunity for Austrians is twofold:

- i) to show that “potential” output is a rich counterfactual that must derive from the subjective opinions of individual researchers (thus making a lot of implicit assumptions explicit);
- ii) to uncover the policy decisions that can indeed take the path of the economy away from what it would otherwise be.

In terms of “rich” counterfactuals the challenge is to improve the quality of counterfactual analysis without lapsing into the perils of prediction that Austrians are the first to point out.

“Potential” output (i.e.  $Y^*$ ) is generally considered to be the amount of output that delivers full employment and stable inflation. On Wikipedia the definition is “the highest level of real Gross Domestic Product output that can be sustained over the long term”.<sup>84</sup> But this just begs the question - what constitutes sustainable output?

The irony of the Bank of England analysis is that they use August 2007 forecasts to determine the trend line, or “potential output” for May 2011. However these forecasts were proven to be inaccurate; and the reason was that the pre-crisis growth rates were not sustainable. They reflected an inflationary boom that ultimately led to a recession.

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<sup>84</sup> For example, see [http://en.wikipedia.org/wiki/Potential\\_output](http://en.wikipedia.org/wiki/Potential_output) accessed June 28, 2011

Picking the height of the boom as the baseline is similar to saying that because Usain Bolt can run the 100 meters in under 10 seconds, he can therefore run 400 meters in under 40. Some of the growth in 2007 came to the detriment of 2011 growth— if the boom was unsustainable it makes little sense to use it as the basis for extrapolation. If anything the 2007 growth rate should be updated in light of what's since occurred, or at the very least the trend line updated to reflect the information that has since come to light.

Consider the following quote from Christina Romer as part of her advocating an NGDP target:

*It would work like this: The Fed would start from some normal year – like 2007 – and say that nominal G.D.P should have grown at 4 ½ percent annual since then, and should keep growing at that pace<sup>85</sup>*

Ha! Barclays Capital have also argued that output gap calculations shouldn't extrapolate the boom,

*the CBO estimates that output was at potential during the housing bubble years and that any deviation from the trend established during those years represents an output gap. In contrast, our view is that the housing bubble pushed the economy above its potential; thus, we believe the output gap is much smaller.<sup>86</sup>*

Extrapolating from the peak of the boom will guarantee an output gap but not because of a problem with real GDP growth, but with the benchmark being used. Some economists acknowledge these problems, and say that the output gap can only be measured indirectly. But if we rely on inflation measures to judge the output gap, the

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**85** Romer (2011).

**86** See Sober Look (2011).

concept cannot be used for monetary policy, because by the time the gap is revealed in consumer prices it would be too late to act.

Therefore, though the concept of the output gap is something economists shouldn't shy away from discussing, an epistemically sophisticated attention to "potential" is essential. We must pay attention to what's driving the productivity of labour and capital on the supply-side. Following Tyler Cowen and Alex Tabarrok's influential textbook we can use real business cycle theory to define  $Y^*$  as the growth rate that would occur if prices were perfectly flexible, with the existing real factors of production.<sup>87</sup> That is the relevant counterfactual. Tim Congdon et al list several reasons for why the UK sustainable growth rate (i.e.  $Y^*$ ) may have fallen recently.<sup>88</sup> These include:

- Increases in public spending and taxation as a proportion of GDP
- Increases in government, household and corporate debt as a proportion of GDP
- Ageing population
- Increased regulation in energy and financial services
- Depletion of North Sea oil
- Immigration (in particular the introduction of systemically below average marginal productivity workers)
- Damage caused by preceding years of high credit growth

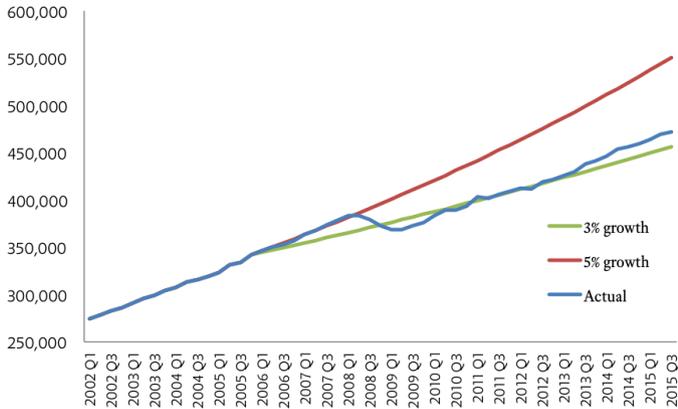
Figure 5 shows actual UK NGDP from 2002-2015 (the y axis has been modified to make the differences easier to see):

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**87** See Cowen and Tabarrok (2011).

**88** Congdon et al (2013).

**FIGURE 5: ACTUAL NGDP (£M) 2002-2015 RELATIVE TO 5% GROWTH AND TO 3% GROWTH PROJECTED FROM 2006. SOURCE: ONS AND AUTHOR'S CALCULATIONS.**



The red line shows a 5% NGDP growth rate applied from 2007 (note that this completely masks the possibility that actual NGDP was rising at an unsustainable rate prior to this point). However consider the green line, which shows 3% NGDP growth from 2006. This isn't intended to be a plausible depiction of what might have happened, but simply a tool to think about alternative growth rates.

Whilst the 5% projection from the peak of the boom reveals a large output gap, a 3% projection from a year earlier shows a small output gap open up in 2008 Q4 but one that was closed by 2010 Q4 and then turned into another boom. The difference between a “perfect landing” and “a new bubble” is therefore a function of the growth rate chosen and the point at which you apply it. Of course in reality events would be dependent on those choices, so we cannot compare them in a vacuum. But it is plausible that the output gap is an illusion based on erroneous assumptions. An attempt to steer the economy from the green line (as of 2015 Q3) to the red line as quickly as possible could

cause significantly more harm than allowing expectations to adjust to the green line (or even lower).

Ultimately monetarists tend to take  $Y^*$  as given (i.e. real GDP growth is reflecting potential growth), see the boom and then a return to path. But when Austrians see NGDP growth that's too high (even if it's in line with expectations) they mentally picture a divergence between the actual real GDP growth rate and  $Y^*$ . Indeed the reduction in  $Y^*$  as a result of the boom is the type of output gap Austrians are concerned about. Trying to close that will only lead to further problems. Hence the proposal here is to think of the nominal output gap in terms of  $Y - Y^*$  rather than  $Y$  relative to  $Y_{2007}$

+5% per year. Indeed, the target should reflect prevailing expectations rather than unsustainable extrapolations.

A major advantage of a level target is that bygones are not bygones. But this needn't apply to the choice about adoption. In other words let bygones be bygones for previous mistakes, and accept that monetary expansion is unable to "catch" up with lost growth. It is true that prior to the crisis there was an implicit expectation of 5% NGDP growth, but the longer that actual growth deviates from this path the less important it is to get back to it. The adjustment in expectations is painful but it is happening. It's like arranging to meet someone at a famous landmark but you're running late. After an hour or so your friend goes out looking for you and finds you en route. There's no point going back to where you were originally supposed to meet. You just need to align expectations going forward, and ensure that you turn up on time in future.

The 2008 horse has bolted, and even if the central bank made an error by letting NGDP contract, it doesn't mean it can redeem itself by allowing it to grow quickly in future. George Selgin has pointed out

that US NGDP returned to the pre crisis level in 2010, but the growth rate of average hourly earnings has seen far more muted growth. He says, “*at some point, surely, these adjustments should have sufficed to eliminate unemployment in so far as unemployment might be attributed to a mere lack of spending*”.<sup>89</sup> The UK has seen a lengthy reduction in real wages as inflation has outpaced nominal earnings. The fact that central banks have decided against a strong commitment to retaining the previous level path presents an opportunity to set a new rate that is consistent with whatever is theoretically ideal, rather than a counterfactual history of what should have happened.

In 2010 Scott Sumner wrote that, “even if a 3 percent nominal growth is preferable, a financial crisis is the worst possible time to lower the NGDP trend growth rate... if we are to move to a 3 percent NGDP growth path, it should be down gradually, and during a period when we aren’t dealing with banking problems that were partly caused by falling nominal income”.<sup>90</sup> But the more time that passes, the lower the costs of moving the target to reflect expectations, relative to the cost of trying to use the target to change expectations.<sup>91</sup>

In future crises a central bank would need to close an output gap, but since we haven’t had an NGDP level target there’s no need to try to maintain one retrospectively. The goal of monetary policy should not be to stimulate a recovery. It should only ever be to prevent contractions in NGDP. Think of monetary policy like a goalkeeper. When it

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**89** Selgin (2012).

**90** Sumner (2010).

**91** Due to prevailing expectations if NGDP targeting was adopted in 2008 the rate should probably have been 5%. By 2010 perhaps 4% would have been optimal. If we believe that a 2% rate may be optimal overall, then the fact that it is over 6 years from the end of the recession, and NGDP is running above 3% (but with no clear guidance on why) it becomes legitimate to start worrying about overly easy monetary policy.

is doing its job we barely notice it. However any errors can be incredibly costly, and once an error is made it's very hard for goalkeepers to make up for it. They can't go and score an equalizer. All they can ever do is try even harder not to make future errors (i.e. dropping to a lower NGDP growth path than the market has come to expect). Given that expectations have been forming around a lower growth path of NGDP, policy makers should respond to that rather than engineering a dramatic increase.

The second consideration about a potential NGDP target is that the Hayekian position is that  $P+Y$  should be stable. In other words the optimal growth rate is 0%.<sup>92</sup> Most economists would probably agree that 500% NGDP growth (even if fully anticipated) would be too high. For Austrians, who emphasise capital theory and Cantillon effects, even 5% would be high enough to generate malinvestment.

In an incredibly important paper Lawrence H. White demolishes the conventional wisdom that treats Hayek as a “liquidationist”.<sup>93</sup> White shows that the logic of Hayek's argument did not imply that the central bank should allow the money supply to contract, and even if he

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**92** If  $M+V$  is positive, it is too high (i.e. the money supply is increasing at a faster rate than the desire to hold it) then since money isn't neutral this will manifest itself in an increase in  $P$  and an increase in  $Y$ . Higher real GDP may sound good but this is an unsustainable increase. (It might seem a contradiction to imply that real GDP goes “beyond” potential, since I defined  $Y$  as potential GDP. That's only because I've glossed over the existence of a SRAS, which allows deviations from the  $Y$  presented in the equation of exchange. Without a SRAS curve money would be neutral and so there wouldn't be any change in  $Y$  at all.) Since you can't go beyond potential forever at some point there will be a correction, and this would cause an inevitable recession. This is the standard Austrian theory of the business cycle.

**If**  $M+V$  is negative it is too low (i.e. the money supply is growing at a smaller rate than the desire to hold it, or is falling at a faster rate) then you wouldn't only have deflation (a fall in  $P$ ) but also a recession (fall in  $Y$ ). This is just the reverse of the Austrian theory.

**93** White (2008).

did, he didn't have direct policy influence. If prices were perfectly flexible, then changes in the money supply wouldn't generate changes in real output. Crucially, Hayek recognised that price flexibility isn't a given and is a function of how much epistemic weight is put on them. In other words the flexibility of prices isn't given, it's a function of macroeconomic coordination. He recognised that price rigidities would turn monetary shocks into real ones, and that this is not advantageous. However he also believed that keeping the money supply constant, in the event of a reduction in velocity, would force prices to adjust. Early in his career, his policy advice treated the reduction of wage rigidities as being more important than nominal stability. Later in his career, he seemed to change his view and believe that the costs weren't worth it. There's no inconsistency in terms of his framework, rather his judgment about which type of costs to bear.

Scott Sumner has provided a helpful summary of the debate about what rate to choose.<sup>94</sup> Two key benefits from having a low target growth rate is that the "optimal quantity of money" argument implies that mild deflation is ideal.<sup>95</sup> He also adds that there would be "less distortion from our taxes on capital, which are not indexed to inflation". However these come at a cost. A low rate would shift more of the burden of adjustment onto nominal, rather than real wages. In a world of money illusion this would generate negative employment effects. A low rate would also place an important burden on the ability of the central bank to act at the zero lower bound, because it would be more likely to lead to liquidity trap situations. Ultimately this is a matter of judgment and preference. There's a strong intellectual foundation for a 0% rule, but this could generate some problems that a

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**94** Sumner (2009).

**95** The main advantage of permitting mild deflation in response to positive productivity shocks is that generate an increase in purchasing power and reduce monetary misperceptions (see Selgin 1997).

mild positive rate would avoid. But even if you deem money to be neutral in the long run, and even if the commitment to the growth rate is credible, a high rate would cause harm.

The third Austrian consideration is that NGDP isn't the right measure. Traditionally, Austrians tended to focus on the Fisher version of the equation of exchange ( $M+V=P+T$ ) when it comes to the type of economic activity under analysis.<sup>96</sup> For them whether or not spending is part of GDP accounting doesn't really matter. You need to look at all transactions, or the "total income stream". The reason we focus on NGDP is because GDP is easier to measure than T. But we need to be very careful when we adopt policy targets based on measurability, rather than theoretical validity.

*The equivalence of MV stabilisation to Py stabilisation follows from the income version of the equation of exchange,  $MV=Py$ , so far as changes in income velocity match changes in total transactions velocity. The turnover of its liabilities a bank must worry about is not only from spending on final goods and services, but from all transactions. Thus, the theory really applies better to transactions velocity, and indicates a stabilization not of nominal income ( $Py$  or nominal GDP) but of total transactions volume ( $PT$ ).<sup>97</sup>*

According to Selgin market monetarists tend to "downplay the extent to which central banks can cause or aggravate unsustainable asset price movements" and this is because "measures of nominal income, including nominal GDP, do not measure financial activity or activity at early stages of production".<sup>98</sup> In other words total nominal spending ( $P+T$ ) is likely to be rising by more than measured nominal

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<sup>96</sup> For more see Evans and Thorpe (2013).

<sup>97</sup> White (1999 p.67).

<sup>98</sup> Selgin (2012b).

income (P+Y), and this can sow the seeds of an Austrian style cycle.<sup>99</sup> Indeed the Austrian theory of the trade cycle is based on explaining how in a boom Y will not be a good approximation of T. This implies that you would ideally focus on P+T rather than P+Y, and indeed utilise an inflation measure that incorporates asset prices. An additional point of consideration, as Cachanosky has emphasised, is whether the NGDP growth target should be calculated in terms of total value, or in terms of per factor of production.<sup>100</sup>

And finally, the fourth consideration is to recognise that it is only an approximation of free banking. George Selgin makes the point that whilst “free banking” is a banking regime in which there is freedom to choose base money, a specific NGDP target is a money base regime.<sup>101</sup> However, as he points out, “the complementarity here arises from the fact that free banking makes for an especially stable relationship between the stock of base money on the one hand and the level of spending (NGDP) on the other”.<sup>102</sup> As Alex Salter has said, “stable nominal spending is not the cause of economic prosperity, it is

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**99** Cowen criticises nominal GNP rules on the grounds that, “changes in the supply of loanable funds have an especially large effect on capital goods and long-term investments and, as a result, stabilizing nominal aggregate demand may increase the volatility of sectoral demands” (Cowen 1997 p.56).

**100** He argues, “Hayek’s Rule of constant nominal income can be understood in total values or as per factor of production. In the former, Hayek’s Rule is a notable case of the productivity norm in which the quantity of factors of production is assumed to be constant. In the latter case, Hayek’s rule becomes the productivity norm. However, for NGDP Targeting to be interpreted as an application that does not deviate from the productivity norm, it should be understood as a target of total NGDP, with an assumption of a 5% increase in the factors of production. In terms of per factor of production, however, NGDP Targeting implies a deviation of 5% from equilibrium in the money market.” (Cachanosky 2014, p.2).

**101** Selgin (2013).

**102** Selgin (2013).

the consequence of the same institutions that provide prosperity”.<sup>103</sup> In other words a healthy economy might exhibit stable NGDP, but stable NGDP will not necessarily create a healthy economy.

In particular the way in which  $V$  is accommodated will be different – the knowledge and incentive mechanisms are vastly different in OMO conducted by a central bank, as compared to the law of adverse clearings within a competitive banking system. The reforms mentioned previously intend to make OMO operate in a more market like way, but it would be naïve to think that all moves towards market mechanisms will necessarily improve outcomes. Indeed “It is important to distinguish between NGDP as an emergent order and NGDP as a designed outcome”.<sup>104</sup> That said, even if we can’t treat free banking generated  $M+V$  stability as being the same thing as a central bank induced  $P+Y$  target, it seems reasonable that the latter is preferable to a central bank induced  $P$  target. As the next section of this paper makes clear, an NGDP target is not being advocated as a first best solution.

We can think of a preference ordering that goes into great detail. For example consider the judgments below:

- Growth target or level target?
- NGDP, final sales of domestic goods, total transactions?
- Per capita or per unit of production?
- What rate?

One might argue that the most theoretically pure form of NGDP target would be to keep  $P+T$  at 0%. However there is a trade-off in terms of data availability, political feasibility, and also ease of

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**103** Salter (2013, p.7).

**104** Cachanosky (2014, p.3).

communication. A major temptation is to adopt a 5% NGDPLT and align fully with market monetarists.<sup>105</sup> But I think the middle ground between Austrians, Market monetarists, and pragmatists, would be a 2% average growth of NGDP expectations (over a 5 year rolling period).<sup>106</sup>

This has the following benefits:

- Retains the public's understanding of real GDP and inflation in terms of growth rates, not levels
- Long enough period to be a de facto level target
- Short enough period to fit into the political cycle and generate short term accountability
- Hedges against central bank incompetence at the zero lower bound
- Provides a cushion against deflation (which rightly or wrongly is politically dangerous)
- Permits mild deflation whenever productivity grows above 2%
- Avoids the need to set up complicated futures market<sup>107</sup>

Although monetary policy wouldn't be automatically tied to a new futures market, there would be a need to create an appropriate indicator for NGDP expectations. Ideally this would be done by issuing NGDP-linked bonds, but other alternatives exist.

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**105** Selgin (2009) advocates a 2-3% target based on final sales of domestic product.

**106** For a crude attempt to update actual NGDP data relative to this benchmark see <http://www.kaleidic.org/data/#ngdp>. Accessed November 27, 2015.

**107** Note that Sumner's proposal is somewhere between what I list as a second best and first best option. I'm basically saying if you are going as far as having a total money rule automatically linked to market expectations you may as well push on for free banking!

## 2.5 UK NGDP PREDICTION MARKETS

Kaleidic Economics set up an NGDP prediction market using Inkling.com. The main aim was to get people to start thinking about the expected path of NGDP. The HM Treasury’s “poll of forecasters” surveys opinion about real GDP and CPI but not nominal GDP. NGDP is also released a quarter after the first real GDP estimate by the ONS. There is a dearth of NGDP attention, and the Kaleidic markets were intended to spark some interest.

The first market was a simple yes/no question as to whether NGDP growth would beat a specified rate. The question read:

*Will UK NGDP be above 5% for Q4 2012?*

There was a prediction of 1.33% and it turned out that NGDP did not reach this rate. It ended on January 25th 2013. The second market was to predict the 2012 level of NGDP. It asked:

*What will the 2012 level of NGDP be for the UK economy?*

The market generated the following probability values:

< 99.99	0%
100 – 104.99	0.02%
105 – 109.99	1.14%
110 – 114.99	98.2%
> 115	0.01%

A major problem with this was the choice of the thresholds. On February 27th 2013 the second estimate of 2012 Q4 put the answer

as 109.8. But then in on March 27th the final estimate revised this to 110.0.<sup>108</sup> That market ended on June 28th 2013.

Another issue is that in order to have any real value the prediction market should refer to the first release. But since this will be updated in the second and final estimates the market will be rewarding forecasts that are quickly established to have been wrong. Hence the third question tried to draw attention to the fact that it was a prediction market about the preliminarily estimate, as opposed to “NGDP”. The question was:

*What will the quarterly growth rate of NGDP be for the UK economy in Q1 2014?*

This ended on April 25th 2014 and delivered a prediction of 3.25%. The actual rate was 4.4% but this was only revealed in the second estimate, released on May 22nd 2014. This was very much a case of trial and (mostly) error. In December 2015 Inkling Markets closed down having been bought by Cultivate Labs, who have released prediction market software called “Alphacast”.<sup>109</sup> In conjunction with Kaleidic Economics they created a market for UK NGDP for Q3 2015.<sup>110</sup> The market assigned the following probability estimates:

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**108** The use of levels is also problematic because it gets routinely rebased by the ONS.

**109** See <http://alphacast.cultivateforecasts.com/>. Accessed November 27, 2015.

**110** See <http://alphacast.cultivateforecasts.com/questions/397-what-will-be-the-quarterly-growth-rate-of-ngdp-for-the-uk-economy-for-q3-2015>. Accessed November 27, 2015

RANGE	PREDICTION
Less than 2%	8.67%
Between 2% and 3%	54.82%-
Between 3% and 4%	15.77%
Between 4% and 5%	17.34%
5% or more	3.41%

The correct answer was 3.4%.<sup>111</sup> The market had only 10 trades and so it remains a work in progress. But the lessons are helpful to the case for NGDP targets.

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**111** See "Second Estimate of GDP, Quarter 3 (July to Sept) 2015", Office for National Statistics, 27th November 2015.





# 3. Free banking

The Austrian theory of the trade cycle explains why a recession is an inevitable consequence of a policy induced boom, and that the recession is what constitutes the recovery. But just because “a” recession is inevitable, it doesn’t mean that additional central bank errors can’t make things even worse. Although the Austrian criticism of “hair of the dog” monetary policy is valid, this doesn’t mean you want central bankers to permit a shortage of liquidity (i.e. water)!

Whilst you can’t ignore the primary recession, secondary (and indeed thirdly, fourthly, etc) recession are not inevitable. Indeed a major advantage of NGDP targets is that it might have prevented the “secondary recession” of 2008. But it wouldn’t have prevented the primary one. Ultimately it comes down to how much of the recession can be attributed to primary and secondary causes. It is plausible that for large catastrophes – such as the Great Depression and the Great Recession – most of it comes from secondary causes. And therefore NGDP targets would be a significant improvement on the status quo. But that still leaves us with primary recessions. We should strive for a monetary system that eliminates them as well. This is the prime argument in favour of free banking.

The financial crisis has made taming the business cycle and the instability of the banking system a priority for research once more. But

attention tends to focus on variations in monetary policy. The lack of imagination is striking. Debates about rules versus discretion, or floating versus fixed exchange rate rest on the assumption of a government controlled fiat currency. Free banking scholars take a step back to look at alternative institutional and constitutional orders, and question why the same market principles we rely on for all manner of goods and services should not be extended to money. As Lawrence H. White has observed, free banking is “an obvious and simple idea”.<sup>112</sup>

The modern literature on Free Banking was pioneered by Lawrence H. White, George Selgin, Kevin Dowd, and Larry Sechrest and might be traced to two key influences.<sup>113</sup>

The first was Hayek’s proposal for competing fiat currencies, published in 1976 as the ‘Denationalisation of Money’. Hayek’s standing as a Nobel Laureate and his support from the Institute of Economic Affairs meant that he was an influential and inspirational figure. That pamphlet provided an intellectual foundation for the serious study of stripping government from the money supply, creating a vista for subsequent economists to explore.

The second contributing factor was the clear and present failure of government’s management of the money supply: an era of rampant inflation and declining national output that led any reasonable observer to wonder if there were alternatives. Indeed this period of economic woe generated serious attention to alternative monetary orders, from prominent mainstream economists such as Milton

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**112** White (1989, p.1).

**113** The pioneering works were White (1984), Selgin (1988), White (1989), Dowd (1992), Dowd (1993), and Sechrest (1993).

Friedman, Eugene Fama, Thomas Sargent, Neil Wallace and Leland Yeager.<sup>114</sup>

The 2008 financial crisis, global recessions, and sovereign debt crises, have led to renewed consideration to the monetary system. Pundits and commentators compete to create the most radical alternative, and no doubt there will be a resurgence in academic attention to monetary regimes. Indeed it offers a rich opportunity for scholars to elucidate the rationale of Free Banking, and set out the arguments within the context of present conditions. The stakes are high - if Free Bankers are right, then no amount of “tinkering” can solve the problems in the money and banking system.

There are essentially three schools of thought as to how to respond to the menace of the business cycle. The first is to regulate it through government, and this is the intellectual justification for central banks and the apparatus of state involvement that necessarily follows. The trend for making central banks operationally independent of politicians might have duped economists into deeming this a separation of monetary policy from the government, but (i) subsequent events have shown that to be an illusion; and (ii) it is at best tweaking in comparison to the alternative approaches. Still, there is little doubt that the dominant view amongst the economics profession is that a monopoly production of the supply of base money is a necessary component of a macroeconomic policy.

The second way is to highlight the special role that demand deposits play in the banking system. Some economists have concerns that if bank customers have a legal right to redeem their deposits at any

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**114** See Friedman (1982), Fama (1980), Sargent and Wallace (1983) and Yeager (1997). And indeed Milton Friedman and Charles Goodhart deemed Free Banking important enough to warrant critiques (see Friedman and Schwartz 1986) and Goodhart (1988).

time, and that these deposits are not backed fully by assets of the same maturity, this generates an inherent instability and risk of bank runs.<sup>115</sup> There is a spectrum of ways in which to deal with this problem. Murray Rothbard advocated the mandatory holding of 100% reserves for all demand deposits, a position echoed by Jesus Heurta De Soto and others.<sup>116 117</sup> A similar approach is to separate various banking services, such that depositor's money are legally protected or ring fenced from other accounts. Laurence Kotlikoff proposal for "Limited Purpose Banking" and increased attention to "Narrow Banks" echo the original Glass-Steagall legislation to split retail and investment banks entirely.<sup>118</sup> Indeed concerns about elastic currency motivated the likes of Irving Fisher, Henry C. Simons and Milton Friedman to advocate 100 reserve type plans.<sup>119</sup>

In contrast to these two approaches, the focus of this literature review will be those Free Bankers that see nothing wrong with fractional reserve banking per se, but everything wrong with the fatal conceit of attempting to centrally plan a monetary system. Since free banking is the farthest of the three proposals from the status quo, it requires a more extensive literature review. This will be undertaken

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**115** Broadly speaking, we can view the above-mentioned traditions through the lens of the early to mid 19th century Bullionist controversy and the debate over the 1844 Bank Charter Act. The Banking school thought that elastic currency was essentially benign because redeemability would restrict overissue (and that the demand to hold bank notes was governed by the "needs of trade"). The Currency school warned that unbacked notes were a license for inflation, and needed to be fully backed by holdings of gold. Whilst the Banking school argued that no banks can over issue, the Currency school argued that all banks can. In this regard the "Free Banking" school emerged as a counter view, that central banks would over issue, but private banks (operating in a competitive market) would not. (See Smith, 1936 and White, 1984).

**116** Rothbard (1962).

**117** Heurta De Soto (2006).

**118** Kotlikoff (2010).

**119** See Fisher (1936), Simons (1933), Friedman (1960).

by answering the following common questions: what is a free bank? Is there a limit on credit creation under free banks? Are private banks prone to bank runs? Are central banks necessary? Are central banks a natural consequence of the market? And finally, would a free banking system improve macroeconomic stabilization?

### 3.1 WHAT IS A “FREE” BANK?

A “Free Banking” system is nothing mysterious, it is simply “open competition among private firms” – a *laissez faire* regime.<sup>120 121</sup> Following Kurt Schuler we can list three determining features: (i) competitive note issue; (ii) low legal barriers to entry; and (iii) no central control of reserves.<sup>122</sup>

Free Banking can also be defined in terms of what it is not, and the existing ways in which governments intervene in the banking system can be used as a contrast. For example, legal tender laws help to influence what can be used as money and drive non-government money out of circulation. A government monopoly of the mint generates a source of revenue and stymies private competition. Bank regulation generates barriers to entry and opportunities for collusion between

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**120** White (1989, p.1)

**121** The classic definition comes from Vera Smith: “A regime where note-issuing banks are allowed to set up in the same way as any other type of business enterprise, so long as they comply with the general company law” Smith (1936, p.169)

**122** Schuler (2002). Sechrest (1993, p.3) defines Free Banking as “total deregulation of the banking industry” and lists 9 points of detail. These are: (i) free entry and exit; (ii) freedom to issue notes and deposit accounts; (iii) no lender of last resort function by a central bank; (iv) no government deposit insurance; (v) no statutory reserve requirements; (vi) no minimum capital requirements; (vii) no restrictions on branching; (viii) no restrictions on activities such as underwriting corporate stock or bond issues; and (ix) no controls on interest rates.

banks and government. A government-supported lender of last resort reduces the threat of bankruptcy as a conditioning device on poorly run banks. And taxpayer funded deposit insurance generates moral hazard and reduces the public incentives to oversee their savings. All five of these measures demonstrate how far from a “deregulated” banking system we have at present, since none would exist in a Free Banking regime.

There are typically two main economic arguments invoked to justify government involvement in money, but both have flaws. The first is that the provision of base money is a public good, and thus would be under-supplied by a free market. This seems to ignore the historical evidence of how private mints and banks have supplied money, and indeed most concerns are that they’d provide too much.

Although a stable purchasing power has public good characteristics, free bankers argue that this a quality characteristic of a money good as opposed to being a good itself.<sup>123</sup> Since there is no divergence between private and social benefits when choosing a medium of exchange, it is not a public good. Whilst it is true that one cannot exclude people from using money as a medium of account, there is no supply shortage. In this regard it’s important to remember that money is a social institution, and like other cultural phenomena (such as measuring systems, time zones, etc) they tend to pre-date state involvement and exist without materialistic businessmen needing ways to charge for their use. Furthermore, to argue that the only reasonable case for public good arguments is in terms of the pure information provided by money, then by this criterion all goods are public goods. And finally, it is also important to point out that these arguments tend to focus on the adoption of a currency, and therefore are not valid justification for government to supply one.

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**123** For example, White (1999, p.91).

The second argument is that money is a type of network good that generates a natural monopoly. Again, free bankers have discussed this claim but question how we can tell which “network” goods are best absent a market process.<sup>124</sup> After all, there are plenty of examples of people that switch between currencies when the benefits outweigh the costs (for example during periods of dollarization in Latin America). Critics have failed to demonstrate that minting has the continually declining average costs that natural monopolies are supposed to exhibit, and note that it is economies of scale in production (as opposed to social economies of scale in use) that characterize a natural monopoly. Indeed even if these did exist they would provide a rationale for subsidizing competing mints, not creating legal barriers to entry.

### 3.2 IS THERE A LIMIT ON CREDIT CREATION UNDER FREE BANKS?

One of the common misconceptions about Free Banking systems – specifically in that they permit fractional reserve banking – is that they are inflationary. However this fear is misplaced and there are two different ways to approach it.<sup>125</sup> One is to focus on the actual mechanisms that would occur should a bank issue more currency than the public demands to hold. Under a redeemable commodity system an individual has three options when in receipt of more notes than they wish to hold. Firstly they could redeem it directly from the bank that issued it. Or, they could deposit it at another bank, and leave that other bank to redeem it through their clearing process. Or, they could spend it such that a different individual holds it. If they want to keep it, there’s no problem. If they don’t, they can redeem it

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**124** See White (1999, p.95).

**125** This section draws upon Selgin (1988) and White (1999).

or deposit it as mentioned above. In short, adverse clearings provide the mechanism through which the supply of money remains tied to demand.

What about the system as a whole? There are two sources of external drain. A direct drain would result from increased spending on imports, which would suck domestic bank reserves overseas to pay for it. An indirect drain results from extra spending on domestic goods, which increases domestic inflation, resulting in a balance of payments deficit. Provided the economy is open to trade, a system wide monetary expansion will be offset through the specie-flow mechanism.<sup>126</sup>

Consequently the claims that fractional reserve banks will simply inflate the money supply to gain a larger share of the banking market rests on the view that somehow all the banks in the world form a collusive agreement to over-issue. In this case the principle of adverse clearings and the external drain mechanism fail to hold, and the logic (however unlikely) is valid.<sup>127</sup> Having said that, banks would still have a demand for reserves based on the risks of reserve depletion that they face.<sup>128</sup> Expanding beyond this point would not be consistent with optimization, and so there would be an upper limit on bank expansion even under this extreme scenario:

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**126** See White (1999, p.62).

**127** Note that in terms of the feasibility of a cartel forming we must maintain symmetry of assumptions with the study of industrial organisation, implying that such cartels are hard to form and likely break down. After all, as Murray Rothbard said, "the economist who sees the free market working splendidly in all other fields should hesitate for a long time before dismissing it in the sphere of money" (Rothbard, 1962, p.138). We can also look to the empirical evidence of periods of free banking, where such collusive activity was indeed unstable (White, 1984, p.16).

**128** See White (1999, p.63), and Selgin (1988).

*Routine clearings do limit the overall extent of money creation in a free-banking system, by forcing banks to maintain some definitive ratio of precautionary reserves of outside money relative to their note and deposit liabilities*<sup>129</sup>

A second way to approach the potential problem of over-issuance is to think in terms of the banks supply curve: as Lawrence H. White says, “the desired currency circulation for an issuing bank is limited by the rising marginal cost of keeping currency in circulation”.<sup>130</sup> White goes on to give examples of the types of costs that banks face when supplying currency, including: recruiting more retailers to accept it; making redemption easier for customers; advertising costs that promote public confidence; anti-counterfeiting measures; and investment in the physical attraction of the notes themselves. The bottom line is an argument for consumer sovereignty and the network value of money. The costs of physical production are low, but fiduciary media circulates based on trust, not supposed “intrinsic” value. It is important to point out that empirical studies of various free banking periods tend to support these claims.<sup>131</sup>

### 3.3 ARE PRIVATE BANKS PRONE TO BANK RUNS?

The myth of “wildcat” banking is an enduring one, but the idea that fractional reserve banking is only one false rumour away from a panic is built on academic foundations. The seminal Diamond/Dybvig model claims to make an important insight – that runs can cause a bank to default that otherwise wouldn’t - but it is staggering that such

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**129** Selgin (1993, p.345).

**130** White (1999, p.59).

**131** See Dowd (1992).

a flawed model has been used as the definitive justification for taxpayer funded deposit insurance.<sup>132</sup>

The “banks” in the Diamond/Dybvig model do not issue banknotes, checking accounts, or make loans. It spans three time periods: at  $t=0$  takes in deposits and invests them in a production plan that matures at  $t=2$ ; at  $t=1$  those depositors discover whether they are Type 1 (and will die before  $t=2$ ), or Type 2 (and must choose whether to keep their deposit in the bank until  $t=2$  or withdraw it in  $t=1$  and store it themselves); finally, at  $t=2$  the investments that remain mature and lingering depositors receive a share of the total value of the bank.

There are two crucial issues that show how this fails to apply to the real world. Firstly, banks will typically have residual claimants that hold equity, and thus provide a cushion if depositors want their funds. The Diamond/Dybvig model has no equity capital, and therefore no cushion.<sup>133</sup> Secondly, a sequential constraint is imposed on banks but not on the government that provides deposit insurance. What this means is that the argument that government is required to “protect” depositors rests on an assumption that government has access to technology that the private sector does not. This arbitrary technological advantage is what drives the model’s results. Perhaps an even bigger argument against the Diamond/Dybvig model is that it completely ignores the fact that the threat of bankruptcy can be a useful discipline on bank behaviour – in the exact same way that the threat

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**132** See Diamond and Dybvig (1983). The analysis in this section follows White (1999, Ch. 6), Dowd (1989, 1992b), and lecture notes from Jeffrey Rogers Hummel. Also see Selgin (1993), p.349-350

**133** Note that those who withdraw their deposit at  $t=1$  hold de facto debt contracts, whereas those who withdraw at  $t=2$  are de facto equity holders. It is because every shareholder has the right to convert their shareholding into a debt contract that demonstrates the lack of any equity cushion.

of bankruptcy disciplines any business. Private markets are perfectly capable of providing insurance products.

Indeed there are other ways to make banks run proof. Following Lawrence H. White we can group them into three main categories.<sup>134</sup> Firstly, contracts can be written similar to Money Market Mutual Funds so that they are technically treated as equity share claims, rather than debt-deposit ones.<sup>135</sup>

The second mechanism is option clauses and notices of withdrawal. The former were utilized by Scottish free banks to give banks the right to suspend payments with compensation provided to depositors. Kevin Dowd argues that they were in the mutual interest of banks and their customers, and that speculation restored both the face value of the notes and the interest rate paid on them to their market values.<sup>136</sup> Notices of withdrawal are often applied to time deposits to give banks time to liquidate capital should they face an unexpected increase in redemption requests. If banks routinely and publicly relaxed their right to invoke this notice period, it would operate as a reverse option clause.

White's third mechanism focuses on the asset side of the balance sheet – that banks would have adequate capital and safe assets. White points to two historical precedents for this, firstly that shareholders would retain extended liability on the firms debts, and secondly that “demand-debt customers can be given first claim on a group of safe

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**134** White (1999).

**135** Goodhart (1988), Glasner (1989) and Cowen and Kroszner (1990) all provide examples of such systems.

**136** Dowd (1988a).

and easily monitored assets that are segregated on the bank's balance sheet".<sup>137</sup>

### 3.4 ARE CENTRAL BANKS NECESSARY?

It is hard to objectively define what constitutes a "central" bank, because in reality there is a spectrum in terms of the way government intervenes in particular banking institutions. Charles Goodhart views government chartered banks as merely a privileged but competitive commercial bank, as opposed to a modern day non-competitive central bank.<sup>138</sup> A general definition is that a central bank is one that has a number of government privileges that no other bank has.<sup>139</sup> With this in mind the question is whether banking systems need a central bank. Lawrence H. White argues that they do not, and lists five major roles of a typical central bank.<sup>140</sup>

Firstly, they act as a bankers' bank - a central clearinghouse to be used for interbank transfers. Tim Congdon argued that governments must choose a commercial bank for their own business, and this inevitably becomes the banker's bank.<sup>141</sup> Charles Goodhart provides historical evidence to support the idea central banks tend to be inevitable evolutions of the "natural" tendency for bank reserves to become centralized in a dominant "bankers bank".<sup>142</sup>

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**137** White (1999, p.131).

**138** Goodhart (1988, p.417).

**139** This definition originates from Jeffrey Rogers Hummel.

**140** White (1999).

**141** Congdon (2009).

**142** Goodhart (1988).

However George Selgin points out that such “bankers banks” receive legal privileges from the governments that adopt them. He argues that it was “advantages endowed by legislation” that was the source of the Bank of England’s superior credit.<sup>143</sup> He also points to the countervailing empirical evidence that shows it wasn’t natural for one bank to become the custodian of other banks’ reserves in Free Banking systems, since clearinghouses tended not to be banks. It might be a historically regular occurrence, but regulatory capture is little evidence for the efficiency of intervention! Lawrence H. White argues that such privileges are neither “inevitable” nor “compelled by market forces”.<sup>144</sup>

A second role is as lender of last resort, or the ability to prevent an internal drain through the supply of high-powered money. In a modern fiat regime this stems from the central banks control of the printing press, but this doesn’t mean lenders of last resort cannot exist privately. It makes sense for clearinghouses to provide these sorts of services as a coinsurance scheme for their members. To be sure poorly run banks may find it harder to secure emergency liquidity support from their private insurer than through a central bank, but this merely underlines the problems of when a lender of “last” resort turns into lender of first resort.

A third role is as a source of regulation for commercial banks. Again, there’s theoretical and empirical evidence to suggest that it is in banks’ own interests to develop their own genuine self-regulation. Banks would not want their rivals to abuse the lender of last resort, and the interdependency of reputation in terms of the threat of systemic runs shows why it is in each banks own interests to monitor the solvency and liquidity of their fellow members. This does not imply

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**143** Selgin (1993).

**144** White (1999, p.72).

that cartels would form – one bank may wish to expose the fragility of their rivals rather than cover it up. Indeed this is the normal process of competition and cooperation that characterizes any industry.

Fourthly, a central bank is a monopoly of currency issue, and indeed some argue that all other functions stem from this.<sup>145</sup> This is even more clearly a consequence of government legislation, and historical evidence suggests that Free Banking regimes had competing mints.

And finally, the fifth role of a central bank is to conduct monetary policy. In a Free Banking regime there is no monetary policy per se, and thus no need for a central bank to conduct it. Short-term inter-bank or discount interest rates would not be policy tools and therefore not politicized.

It should be clear when listing these roles how the first three can be expected to be functions of private clearinghouses. It is true that the final two can only exist under a government-sponsored institution, but unless there is a plausible argument that they must exist, there is nothing to say that a government sponsored monetary authority needs is necessary.

### **3.5 ARE CENTRAL BANKS THE NATURAL CONSEQUENCE OF THE MARKET?**

Bank reserves are used for two different purposes by commercial banks.<sup>146</sup> Firstly, they serve as the source of interbank payments to provide final settlement for a range of transactions. Secondly, the reserves they keep at the central bank form part of their regulatory

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**145** See Smith (1936).

**146** This section follows Keister, Martin and McAndrews (2008).

obligations.<sup>147</sup> In most countries central banks have taken over the function of clearinghouses and have replaced traditional “Deferred Net Settlement” (DNS) systems (where net obligations are settled at the end of the day) with “Real Time Gross Settlement” (RTGS), which, as the name suggests, provide settlement in real time. By taking over the management of this system the central bank needs to provide sufficient liquidity to allow ongoing transactions, even though banks seek to keep their reserve holdings at a minimum (due to the opportunity cost of holding non interest bearing assets). Therefore under the RTGS system central banks drastically increase the amount of reserves available for “daylight credit”, and then shrink the quantity back at night to remain consistent with the desired policy rate. Because the reports apply to the end of day balances this “bull-frog” balancing act does not show up in the data.<sup>148</sup>

It is the difficulty in finding this balance, and the risks that are placed onto the central banks whilst credit is being expanded, that undermines the “corridor” system of interest rate targeting, and the paying of interest on reserves. Many economists have pointed to the Federal Reserve’s decision to pay interest on reserves as a crucial reason for why what appeared to be a dramatic increase in the monetary base was in fact contractionary, and one of the monetary causes of the Great Recession. This policy development is highly relevant to the Free Banking debate, since it serves as an example of the negative unintended consequences of government intervention.

The first policy mistake is the idea that DNS systems are market failures and thus RTGS should be managed by the central bank. George Selgin argues that the perceived problems with DNS systems were

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**147** Not all countries have legally set reserve requirements – the UK for instance has a regime where banks voluntarily set their own reserve targets.

**148** I believe Alex Tabarrok (2008) is the first person to refer to it as a bullfrog.

largely the result of government interference, and thus monetary authorities were only responding to systemic risks that they themselves created.<sup>149</sup> He argues that private sector DNS payment systems (i) did not rely on underpriced intraday credits; (ii) that receiving banks were only granting credits to their own customers; and (iii) settlement risks were only shifted to third parties when “backed by extra-market finality guarantees”.<sup>150</sup>

So interest on reserves is a “solution” to a problem that primarily came about because central banks institutionalized the management of daylight credit through the final clearinghouse. And this in turn is based on the policy mistake of central banks taking over clearinghouse responsibilities. Kevin Dowd shows how clearing houses spontaneously developed without government involvement, generally as bankers’ associations or other types of club.<sup>151</sup>

Indeed Selgin points out that unlike central banks they did not tend to hold account balances for members (and thus take on credit risk) - instead of providing intra day credit, they were involved in non-binding pledges.<sup>152</sup> Thus when central banks took over traditional clearinghouse activity they generated new sources of systemic risk, and their justification for modifying the daylight settlement system, and subsequent justification for paying interest on reserves, are all a result of problems of their making.

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**149** “Monetary authorities have tended, in other words, to argue in a circle, appealing to systemic risk problems originating in their own implicit guarantees as reason for providing those guarantees, whilst disguising the circularity of their arguments by interpreting DNS problems as market failures” (Selgin 2004, p.346)

**150** Selgin (2004, p.348).

**151** Dowd (1994).

**152** Selgin (2004).

### 3.6 WOULD A FREE BANKING SYSTEM IMPROVE MACROECONOMIC STABILIZATION?

There are three mechanisms that are inherent parts of a Free Banking system and provide stabilization.<sup>153</sup> They are

- i) multiple note issuers issuing redeemable currency;
- ii) a regular note exchange;
- iii) option clauses (which reduce the demand for widespread redemption).

In addition to this free bankers have used the lens of the equation of exchange to argue that an unregulated banking system automatically stabilizes nominal income. This returns us to our original concerns for business cycle policy, because the money supply and velocity tend to be pro cyclical. However Free Banking theory suggests that the clearing system will spontaneously balance the demand for and supply of money such that  $M+V$  is stable.

This is an important claim, since it incorporates Keynesian fears about volatile changes in autonomous expenditure (i.e.  $V$ ), rather than letting them wreak havoc on a money supply that is either fixed (as a 100% reserve rules would mandate) or set by fallible individuals (as central bank proponents would have).<sup>154</sup>

It is this debate that thrusts Free Banking into one of the biggest policy debates to emerge from the Great Recession; whether central banks should replace inflation targeting with targeting the growth rate (or the expected level path) of nominal income.

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**153** See Dowd (1988b).

**154** See Selgin and White (1994, p.1724-25) and Selgin (1994)

Whilst Free Banking theory is, at its core, a warning about the fatal conceit of attempting to centrally plan the money supply, the claim that policy makers would do better to try and replicate how a *laissez faire* system would behave is an intriguing one. David Henderson and Jeffrey Rogers Hummel claim that Alan Greenspan operated a *de facto* Free Banking system in that he froze the monetary base and allowed commercial banks to expand and supply broader measures of the money supply according to market conditions.<sup>155</sup> Indeed they attribute the Great Moderation to this inadvertent policy success.

In their critique of Free Banking, Milton Friedman and Anna Schwartz argue that resource costs, contract enforcement costs, the monopoly character or fiduciary currency and the “special character” of money justify a role for government.<sup>156</sup> However they acknowledge – as many central bankers do – that government intervention has ultimately done more harm than good. It is widely accepted that monetary mismanagement caused the Great Depression, leading Ben Bernanke to say the following:

*“Let me end my talk by abusing slightly my status as an official representative of the Federal Reserve. I would like to say to Milton and Anna: Regarding the Great Depression. You’re right, we did it. We’re very sorry. But thanks to you, we won’t do it again.”*<sup>157</sup>

Following the Great Recession he should be quoting Britney Spears, “Oops!... I Did It Again”. But as the opening quote of this paper

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**155** Technically they argue that he froze reserves. See Henderson and Hummel (2008).

**156** Friedman and Schwartz (1986).

**157** See Kupelian (2008).

demonstrates there is no economic reason why Free Banking cannot function as its advocates suggest.<sup>158</sup>

The Federal Reserve's response to the financial crisis has led to a massive expansion of their powers, turning them into genuine central planners.<sup>159</sup> Central banks are increasingly taking a decisive role in the allocation of resources, as opposed to their traditional role of managing the money supply. This is a classic and tragic example of the dynamics of intervention. By taking the existing regime for granted tired policies such as quantitative easing are presented as something new or exotic and each policy failure begets deeper intervention and inevitable unintended consequences. As James Buchanan and Geoffrey Brennan tried to stress, "it is the monetary regime, not monetary policy, that must be modified".<sup>160</sup>

For those who are unfamiliar with the arguments of Free Banking it often appears to be a utopian ideal. Once the scale of historical attention in both theory and practice has been presented, it can appear archaic. But two of the biggest policy debates following the Great Recession – paying interest on reserves and NGDP targeting demonstrate the continued practical insights and relevance of the school.

We can identify three broad lessons gleaned from the various experiments of Free Banking systems throughout history.<sup>161</sup> Firstly, they are not prone to inflation. They typically involve privately created notes and deposits that are redeemable for some form of commodity money, and therefore price level changes tend to be due to changing

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**158** Indeed it is ironic that they reject Free Banking on the grounds of political expediency, given that it is ideas that ultimately dictate policy.

**159** For more see White (2010) and Hummel (2011).

**160** Buchanan and Brennan (1981, p.65).

**161** See Dowd (1992)

market conditions for that commodity rather than the monetary regime. Secondly, they are not prone to instability. When over-issuing did occur this tended to be disciplined by the banks clearing systems, and crises were either the result of neighbouring countries that were non Free Banking, or government intervention. And thirdly, they were not prone to monopolies. To be sure, banks can find ways to exploit economies of scale, but provided this is within a competitive environment such efficiencies tend to benefit consumers.

Once the rich intellectual history of Free Banking is traced out, and the sheer volume of successful episodes are grasped (spanning many centuries and across the globe), it is government money that appears odd and unworkable.

The Appendix includes a proposal for moving towards a free banking system. It was written on the assumption that there was a major crisis, and therefore scope for quick action. It is applicable to the present situation. As previously mentioned, the passage towards free banking from an NGDP target may be significantly less radical and more convenient than from the status quo.





## 4. Conclusion

A reason for emphasising open market operations is that they are a tool that central banks currently use to conduct ZLB monetary policy. Whilst the Federal Reserve targets the Federal Funds Rate (an inter-bank rate) the Bank of England's policy rate is more similar to a discount rate. Even still, the Bank of England's operations can be split into attempts to control the demand for money (using Bank rate) and attempts to control the supply of money (using OMO). Even if the former is the focus, it's the latter that does the heavy lifting.

It's conventional to think in terms of the “One Target One Tool” framework, whereby the central bank uses interest rates to target inflation.<sup>162</sup> But this framework is a simplification. In the case of the Fed the Federal Funds rate is really an intermediate target, and the monetary base is the tool. Indeed most schools of thought use the monetary base as their tool (or instrument).

Where they differ is their intermediate target (or variable). We can define this as something that is not directly controlled by the central bank, but adjusts quickly and relatively predictably to central bank action. In the case of monetarists the target is a monetary aggregate

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<sup>162</sup> This is how I explain monetary policy in my textbook, see Evans (2014).

(e.g. M2). For New Keynesians the target is the Federal Funds rate. For market monetarists it is NGDP futures contracts.

This paper contends that it is a useful exercise to try to improve the present monetary system. Monetary policy can be improved, because the costs of attempting to “do nothing” may well be higher than the costs of attempting to (even partially) draw upon the institutions of a free banking system. And whilst it’s tempting to deem the whole task as being futile, here are some considerations. Central banks are always doing “something”. Therefore doing “nothing” is simply not an option. If we lack the knowledge to know when a central bank should increase M, how can we be confident that any boom period is central bank induced? The plausibility of the Austrian theory of the trade cycle rests on the identification of monetary policy being too loose. We must know something about the monetary stance, even if our knowledge is limited.

Both in the build up to and then during the financial crisis the most commonly used measures of the monetary policy stance failed badly. The monetary base was increasing dramatically due to asset purchases, and although interest rates were low this could be the result of declining real interest rates as a result of reduced growth expectations. However NGDP growth demonstrated that policy was too tight. In fact we can claim that central banks created two recessions in recent years. From 2002-2008 NGDP growth was too high, relative to the free banking ideal. If  $P+Y=0\%$  then real GDP growth of 3% should lead to 3% deflation. The commitment to 2% inflation meant an expansionary monetary policy. But then in 2008 NGDP growth was too low. Because central bankers were worried about inflation going significantly above the 2% target, they ignored the fact that Y was falling by such a large amount that  $P+Y$  was negative. This meant a contractionary monetary policy.

Thinking in terms of NGDP expectations is a better way to judge the policy stance than alternatives such as consumer prices, or real GDP. It also beats narrow money supply measures and short-term benchmark nominal interest rates. Targeting NGDP expectations eliminates a great amount of discretion and can therefore be seen as a contemporary version of a Friedman rule. Advantages of using NGDP targets as a step toward free banking also include the fact that they focus attention on what constitutes a neutral monetary policy, permitting prices to adjust to productivity shocks, and distinguishing between the prevention of contractions in AD versus attempts to stimulate it. As Miller (2013) says, “Money creation designed to offset the destruction of money by the banks was indeed desirable. But Hayek would firmly oppose QE as a means of stimulating economic growth”. The rate is crucial.

As the first section pointed out, even if you believe there is a case for QE, there are multiple ways in which it can be carried out. The way in which QE has been delivered has dramatically increased central bank discretion and there’s an important argument to say that increases in the size and scope of the central banks should be opposed whenever and wherever they occur. But it is also valid to take as given policy-makers desire to use OMO to increase AD and question whether QE could have been more effective.

If central banks had done nothing in the summer of 2008 there would have been a catastrophe and faith in central banking would have been destroyed. Unemployment would skyrocket and monetary calculation would break down. But can it be taken for granted that free banking would have emerged, like a phoenix from the ashes? Is it more likely to believe that such a meltdown would have led to an increase in demand for government oversight and even more central planning?

If we take the work of Robert Higgs seriously we should expect economic crises to result in an even larger state.<sup>163</sup> Of course this is all speculative, but economists should carry the same epistemic confidence that they have regarding central bank errors, and use this as a basis for constructive advice. If we have a clear understanding of how central banks cause monetary mischief, we may not know how they can make things better, but we do know how they can make things worse. And if central banks can always be making things worse, this implies that we can contribute to policy debate.

Roger Koppl has made the analogy of central banks being a blind person trying to steer out of a skid on an icy road.<sup>164</sup> He points out that the type of advice economists should give depends on who you are attempting to communicate with. If you're talking directly to the driver you can make reasonable suggestions on what to do. You could certainly advise them against actions that would make things worse. But as a commentator, speaking to the broader public, it would be better to take a step back and point out that this situation is a disaster, and a consequence of a bad regime. This paper has intended to make both points. It should be clear as to where the ultimate goal should be. But also how we can use our understanding of that goal to slightly lessen the damage that is being caused by policy based on wrong theory and bad data.

Monetary policy would be improved if the Bank of England reformed OMO such that they were tied to an explicit nominal target, were punitive, pen access, standalone and neutral. Better still, that nominal target should be a 2% average growth of NGDP expectations (over a 5 year rolling period). And, if we can go that far, why not push on to the ultimate goal of competitive note issue, low legal barriers to entry,

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**163** Higgs (1987).

**164** Facebook conversation – no stable URL.

and no central control of reserves. Placing OMO as the centrepiece of monetary policy might open the door to a NGDP target. And a NGDP target could lead us towards free banking. That is a path for monetary stability.



# Appendix

**2 DAYS, 2 WEEKS, 2 MONTHS.<sup>165</sup>**

## **OVER 2 DAYS - ENSURE ALL OPERATING BANKS ARE SOLVENT**

1. Deposit insurance is removed – banks will not be able to rely on government support to gain the public’s confidence
2. The Bank of England closes its discount window
3. Any company can freely enter the UK banking industry
4. Banks will be able to merge and consolidate as desired
5. Bankruptcy proceedings will be undertaken on all insolvent banks
  - a. Suspend withdrawals to prevent a run
  - b. Ensure deposits up to £50,000 are ring fenced
  - c. Write down bank’s assets
  - d. Perform a debt-for-equity swap on remaining deposits
  - e. Re open with an exemption on capital gains tax

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**165** This proposal is based on Dowd (2009) and Salsman (1990) and was first published by The Cobden Centre as pamphlet in April 2010. [<http://www.cobdencentre.org/2013/03/2-days/>accessed July 22, 14].

## OVER 2 WEEKS - MONITOR THE EMERGENCE OF FREE BANKING

6. Permanently freeze the current monetary base
7. Allow private banks to issue their own notes (similar to commercial paper)
8. Mandate that banks allow depositors to opt into 100% reserve accounts free of charge
9. Mandate that banks offering fractional-reserve accounts make public key information<sup>166</sup>
10. Government sells all gold reserves and allows banks to issue notes backed by gold (or any other commodity)
11. Government rescinds all taxes on the use of gold as a medium of exchange
12. Repeal legal tender laws so people can choose which currencies to accept as payment

## OVER 2 MONTHS - THE END OF CENTRAL BANKING

13. The Bank of England ceases its open-market operations and no longer finances government debt
14. The Bank of England is privatised (it may well remain as a central clearing house)

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**166** These might include: (i) reserve rates; (ii) asset classes being used to back deposits; (iii) compensation offered in the event of a suspension of payment; but could be decided by an appointed panel





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