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# ‘The Chicago Plan revisited’: a friendly critique

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*This paper offers a constructive critique of ‘The Chicago Plan revisited’ published by Jaromir Benes and Michael Kumhof (2012) as an IMF working paper. On the one hand, there are reasons to query the exact details of the proposed reform, including claims of large steady-state output gains. On the other hand, the authors deserve kudos for bringing into the foreground issues which are typically ignored or inferred otherwise by neoliberal academics and those who oversee the monetary system, including the empirical validity of the endogenous money approach and the insight that ‘money’ is a societal construct. The paper concludes that there is merit in revisiting ‘100% Reserves’ as part of the theoretical rationale to expand policymaking space in debt-constrained economies.*

**Keywords:** *endogenous money, credit, banking reform, financial stability*

**JEL codes:** *E50, E52, E62*

## 1 INTRODUCTION

An IMF working paper published in August 2012 by Jaromir Benes and Michael Kumhof has caught the attention of the blogging community and many post-Keynesians. In the paper, the authors revisit the reform approach known as the ‘Chicago Plan’ or ‘100% Money’ and associated with the work of Henry Simons, Frank Knight, Irving Fisher and Milton Friedman. There is much to commend in the analysis of Benes/Kumhof (2012) relative to standard orthodoxy; specifically, the affirmation of endogenous money, the recognition that new public sector money issues need not be inflationary and that large-scale ‘debt relief’ could be afforded if policymakers desired so. At the same time, there are also reasons to query the claimed benefits from adopting the reform, which must be taken into consideration when assessing whether reforms of this type offer a viable agenda.

The analysis begins in Section 2 with a discussion of the analysis in Benes/Kumhof (2012) which resonates with the post-Keynesian tradition (albeit unacknowledged). Section 2.1 queries the authors’ justification for the reform which is derived mainly from Fisher (1936). In Section 3 the various banking reforms that can be traced to Soddy (1926) are discussed. Section 3.1 underlines difficulties in Benes/Kumhof’s (2012) formal model, said to be based on US data; in particular, that the authors invent values (especially the stock positions of ‘banks’) raises doubts about the feasibility of a smooth transition and the benefits claimed from the modelling results. Sections 3.2 and 3.3 further analyse the benefits that Benes/Kumhof (2012) claim the reform would deliver, which are additional to those foreseen by Fisher (1936). The anticipation of large steady-state output gains is uncertain, being attributable partly to a large-scale ‘debt jubilee’ rather than the reform,

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and to debatable assumptions about bank ‘technology’ and the ability of a monetarist money-growth rule to eliminate inflation. One ‘knowledge gap’ is the general lack of information on the so-called ‘investment trusts’ and their omission from the formal model. It is also difficult to agree with the authors that a consumption boom will not take place, post-transition. The paper concludes in Section 4 by clarifying the limited support that Fiebigger (2011) gave to ‘100% Reserves’-styled reforms.

## 2 BACKGROUND TO ‘100% MONEY’ AND ‘THE CHICAGO PLAN REVISITED’

The critical feature of our theoretical model is that it exhibits the key function of banks in modern economies ... as creators and destroyers of money. A realistic model needs to reflect the fact that under the present system banks do not have to wait for depositors to appear and make funds available before they can on-lend, or intermediate, those funds. Rather, they create their own funds, deposits, in the act of lending ... [Hence], bank liabilities are not macroeconomic savings, even though at the microeconomic level they can appear as such. (Benes/Kumhof 2012: 9)

The first thing that strikes the analyst when reading Benes/Kumhof (2012), hereafter B/K, is that the authors are implicitly aware of post-Keynesian literature. That there is no citation of papers on the endogenous money approach is disappointing (perhaps even more so given that Kumhof has presented at heterodox conferences such as the Berlin INET conference in April 2012).<sup>1</sup> In any event, B/K (2012: 9–10) relay facts on the monetary system often disputed by the orthodoxy, such as ‘loans create deposits’ and reserves ‘do not play any meaningful role in the determination of wider monetary aggregates ... [In present institutional arrangements] the central bank controls an interest rate and must be willing to supply as many reserves as banks demand at that rate’. To those familiar with the post-Keynesian ‘horizontalist’ school (for example, Moore 1979; 1983; Lavoie 1984; 2010), the last quote could do with a citation. Moving on, B/K (2012: 9) do well to highlight that public sector money issues need not be any more ‘inflationary’ than those of the private sector. Such remarks are refreshing when neoliberal orthodoxy usually muddles itself by worrying excessively about the possible inflationary effects of budget deficits let alone public sector money creation.

B/K (2012: 1) claim their plan will provide a ‘dramatic reduction of the (net) public debt’ and a ‘dramatic reduction of private debt’. One reason given is that, after the reform, ‘money creation no longer requires simultaneous debt creation’. In the transition phase, the authors foresee a buyback of government debt equal to 20 per cent of GDP and a generous buyback of private debt equal to 100 per cent of GDP that ‘covers all private bank debt except loans that finance investment in physical capital’ (B/K 2012: 6). IMF economists are not known for being generous with ‘debt relief’ (for example, the terribly protracted Heavily-Indebted Poor Countries initiative). A ‘debt jubilee’ sounds exactly like the tonic a debt-constrained economy needs. The claim that ‘The Chicago Plan revisited’ will reduce reliance on debt must be distinguished into that attending: (1) debt relief; and

1. A footnote citation of a paper by Steve Keen disputing Friedman and Schwartz’s claims on the causes of the Great Depression is the only reference to a post-Keynesian text. Mainstream economists tend to pinch heterodox ideas without accreditation. As one example, the ‘financial accelerator’ of Bernanke et al. (1999) borrowed Minsky’s (1975) financial weakening mechanisms (that is, balance sheet congestion), while omitting his Keynesianism by way of modelling the business cycle as pivoting on aggregate supply considerations.

(2) the issuance of money as 'equity' rather than backed by private debt. As there is only politics stopping the former, that aspect must be considered as an aside rather than an intrinsic merit of the reform.

The authors deserve some credit for highlighting that the monetary system can be reformed if so desired and that public sector money issues need not be inflationary. The extensive reforms to the financial sector (for example, the purging of various forms of financial institutions, financial instruments and business models) and to the public sector's accounts (that is, the consolidation of the Treasury with the central bank) make 'The Chicago Plan revisited' fairly ambitious in terms of political feasibility. My own view is that reforms should be assessed on theoretical merit and so that will be the focus. B/K (2012: 4) summarise the claims of Fisher (1936) on 100% Money as follows:

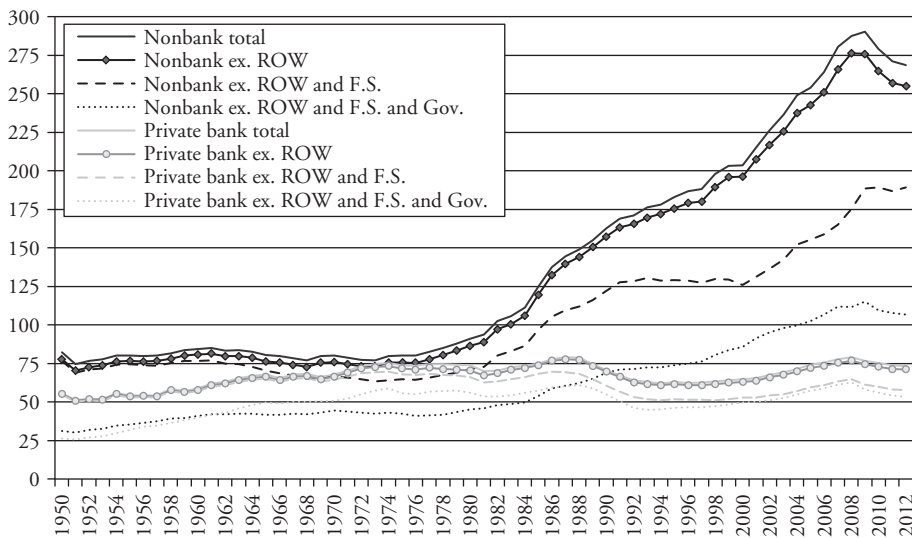
First, preventing banks from creating their own funds during credit booms, and then destroying these funds during subsequent contractions, would allow for a much better control of credit cycles, which were perceived to be the major source of business cycle fluctuations. Second, 100% reserve backing would completely eliminate bank runs. Third, allowing the government to issue money directly at zero interest, rather than borrowing that same money from banks at interest, would lead to a reduction in the interest burden on government finances and to a dramatic reduction of (net) government debt, given that irredeemable government-issued money represents equity in the commonwealth rather than debt. Fourth, given that money creation would no longer require the simultaneous creation of mostly private debts on bank balance sheets, the economy could see a dramatic reduction not only of government debt but also of private debt levels.

The authors claim to verify all of these advantages in a formal model and conclude that the benefits of the Chicago Plan are grander than thought by Fisher (1936); notably, steady-state output gains up to 10 per cent and the elimination of 'liquidity traps'. Through the course of the paper I will contest some of those claims, beginning here with initial assessments of Fisher's (1936) claims.

## 2.1 Structural problems with endogenous money or shadow banking?

When assessing Fisher's first advantage, it is important to note that the original Chicago Plan was never adopted and seemingly at no detriment. Impetus for the reform subsided as the US economy rebounded from the Great Depression, aided initially by militant Keynesianism in the 1940s, and then followed by the 'long boom'. The mix of 'New Deal' reforms, Glass–Steagall financial regulation and countercyclical Keynesian macro policy management served the United States well at least until the mid 1970s.<sup>2</sup> After 1980, the US financial system became 'excessively procyclical', requiring ever larger government interventions into financial markets. B/K's (2012) justification for the reform relies mainly on Fisher's (1936) analysis developed in view of a different financial landscape. As the traditional business model of depository banks (understood as creating deposits when making loans and pocketing the interest rate differentiation) did not seem to present any insoluble contradictions during the 'Golden Age', the question arises of what happened after 1980? Did endogenous money suddenly become intrinsically problematic or were other factors at play? Many in heterodoxy might have far fewer reservations about

2. The recurrent waves of financial instability and financial crises that have occurred since the unleashing of global capital in the mid 1970s would seem to strongly support an agenda of keeping global finance within collar.



Note: F.S. stands for the financial sector.

Source: US Federal Reserve, *Flow of Funds*, various tables.

Figure 1 US lending by type and borrower percentage of GDP, 1950–2012

depository banks creating money as a debt than the expansion of ‘shadow banks’ and ‘shadow credit intermediation’ in a deficient neoliberal regulatory regime.

It is useful to distinguish the ‘shadow banking system’ from ‘shadow credit intermediation’. There is no widely agreed-upon definition of the former, other than that it refers to some grouping of nonbank financial institutions (for example, money market intermediaries, monoline insurers, hedge funds, issuers of asset-backed securities (ABS), government sponsored enterprises (GSEs), agency- and GSE-backed mortgage pools, finance companies). The term ‘shadow credit intermediation’ is defined by Pozsar et al. (2010: 6) as ‘all credit intermediation activities that are implicitly enhanced, indirectly enhanced or unenhanced by official guarantees’ – that is, as any credit activities without *direct* and *explicit* deposit insurance.

Prior to the Great Recession, neoliberal orthodoxy put their faith in a ‘Great Moderation’; where the mix of an omnipotent inflation-targeting central banker plus an array of ‘sophisticated’ financial innovations had supposedly permanently dampened the business cycle. The reality was that the US financial system became excessively procyclical and increasingly ‘fragile’ after 1980, for reasons beyond endogenous money. Notably, the rise of nonbank financial intermediaries (NBFIs) in the processes of credit allocation, and the growth of ‘shadow credit intermediation’ including by depository banks related mainly but not solely to securitisation activities.<sup>3</sup> When disaggregating US debt statistics by type and borrower, it is apparent that NBFIs played a crucial part in the post-1980 ‘debt explosion’ until the Great Recession; as both lenders and borrowers (see Figure 1).

3. In the Pozsar et al. (2010) categorisation, depository banks undertake ‘shadow credit intermediation’ via ‘indirect public enhances’; both *explicitly* through loans to ‘shadow banks’ (given as finance companies, various special purpose vehicles and standalone credit hedge funds), and *implicitly* through trust activities, tri-party clearing, asset management and affiliate borrowing.

Neoliberal orthodoxy presumed that the expanding role of NBFIs had enhanced the durability of the US financial system by dispersing credit risks to a broader assortment of lenders. That view rested on the belief that bank 'capital crunches' were less likely; however, the implosion of 2008 produced a dual crisis in the traditional and shadow banking systems. The rise of shadow credit intermediation was spurred by 'regulatory arbitrage' and the profits gained from bypassing capital requirements and other prudential regulation which constrain the ability of banks to lend. The result was 'loan pushing' and credit oversupply. The crisis may not support a view that endogenous money became abruptly problematic but may instead point to more complex changes.

B/K (2012) do give some consideration to 'shadow banks' and thus to 'near-monies' though, as we will see in Section 3.1, somewhat vaguely. There is no debate that the ability of depository banks to create their own funding *ex nihilo*, having counterparts as deposits as well as 'near-monies' (for example, repos and credit default swaps), facilitated the expansion of securitisation. Consider, for example, the links between a sponsor bank and ABS issuer in the process of originating and distributing a mortgage-backed security. The sponsor bank extends a mortgage and creates a new deposit in the system along the way. It then sells the mortgage to the ABS issuer, destroying a bank deposit and re-establishing balance sheet 'slack' for the securitisation 'pipeline'. The ABS issuer raises funds to buy the mortgages in short-term asset-backed commercial paper markets and also receives funds when it on-sells the debt security to end-investors. Matters can be more complicated (for example, synthetic collateral debt obligations and the use of credit default swaps to retain exposure by sponsoring banks), but to the extent that private banks were involved in securitisation, using their power to acquire financial claims (for example, mortgages) by *ex nihilo* financing and on-selling those claims (receiving fees and commissions), these were matters for prudential regulation. US regulators should not have permitted banks' 'special purpose vehicles' to be considered as separate entities subject to less lenient capital and regulatory requirements (and tax codes).

B/K (2012) make no explicit arguments as to why their reform agenda is preferable to one which returns finance to a 'plain vanilla' variety while allowing endogenous money. That expansions and contractions of bank credit impact directly on the money supply entails that fluctuations in the attitudes of bankers towards risk are a key driver of the business cycle. Fisher (1936) was correct in that respect; still, all financial systems are procyclical. It is excessive procyclicality that matters and we know that in the contemporary experience US policymakers choose to whittle rather than update countercyclical prudential tools due to belief in 'invisible hand' regulation (Bernanke 2007); and that monetary authorities did not 'lean against the wind' due to belief in the 'Greenspan Doctrine'.<sup>4</sup> In short, the crisis exposed structural problems with the shift away from traditional 'plain vanilla' financial activities within the deficient neoliberal mode of regulation, though other factors were involved, including external imbalances and adverse trends in wealth and income inequalities.

To the extent that 'non-vanilla' financial activities gained prominence in the traditional and 'shadow' banks, and some had 'toxic' flavours (for example, collateralised debt obligations referencing subprime residential mortgages), that may require a case-by-case approach

4. Bernanke (2002) and Greenspan (2004) encouraged complacency by arguing that the Fed could be relied on to 'mop up' the fallout from asset bubbles. Greenspan also brushed aside the concerns of Fed Governor Edward Gramlich (2000) about predatory lending practices in the 'subprime' residential mortgage market. One should not overemphasise the personal culpability of Greenspan and that of his successor for the crisis; instead, criticism should be reserved for the flawed *laissez-faire* ideology that those individuals supported. Note also that, had the US Fed 'leaned against wind' by raising the federal funds rate, doing so might have undermined the mid 2000s expansion, which points to the need for additional macroprudential tools.

to reform rather than a system-wide purge. Kregel (2012: 6) relays that Minsky eventually abandoned his support for ‘narrow banking’-styled reforms, on the basis that they would not eliminate financial instability but could impede legitimate flexibility, as in such a system it would be impossible for ‘banks to act as the handmaidens to innovation and creative destruction by providing entrepreneurs the purchasing power necessary for them to appropriate the assets required for their innovative investments’.<sup>5</sup> There is a role-reversal when heterodoxy is arguing vis-à-vis IMF authors for allowing banks scope for leverage, but the choice is three-fold between ‘extreme leverage’ (neoliberal regulatory regime), ‘no leverage’ (‘The Chicago Plan revisited’) and ‘prudent leverage’ (Keynesian regulatory regime).

Turning to Fisher’s second advantage, as deposit insurance has made runs on bank deposits into cash a matter of yesteryear, the potential benefit of ‘The Chicago Plan revisited’ would come from eliminating modern ‘bank runs’ in the form of runs on the deposits of one or more banks into other financial claims (perhaps deposits of ‘safer’ banks) and on non-deposit liabilities (for example, debt) again into other financial claims. That potential benefit must be weighed against the other aspects of the reform (and would of course not prohibit banks from going insolvent due to failed loans).

Recall that B/K (2012: 4) state the third advantage of Fisher’s (1936) plan as ‘allowing the government to issue money directly at zero interest, rather than borrowing that same money from banks at interest’. At year-end 1945, the volume of US Treasury securities held on the books of private depository banks was 46.9 per cent compared to 1.7 per cent of GDP at year-end 2011. In Fisher’s time there was empirical support for a theoretical position that the federal government was forced to borrow money *from* private banks, but not in the modern era.<sup>6</sup> Note that B/K (2012) foresee during the transition phase a government bond buyback equal to 20 per cent of GDP with federal debt stabilising at 60 per cent of GDP along with ongoing seigniorage revenues equal to 3.6 per cent of GDP (to be dispensed as tax cuts). Hence, even in ‘The Chicago Plan revisited’, the Treasury will still be paying interest on borrowed funds (though it would have the explicit option of debt-free seigniorage money issues). Additionally, as discussed in Sections 3.1 and 3.2, there are reasons to query the authors’ claim that the Treasury will be able to issue new money at a zero rate of interest in the post-transition setting.

Fisher’s (1936) fourth advantage, concerning lower levels of debt, is reasoned in view of money creation no longer requiring simultaneous creation of private debt on bank balance sheets (and not the ‘debt jubilee’). That is a complex argument that will be discussed in Section 3.3.

### 3 SODDY-INFLUENCED ‘CHICAGO PLAN’ STYLED REFORMS

Many serious problems are raised by the proposal [from Frederick Soddy] to prohibit banks from following the ‘reasonable practice of uttering false money’ (Knight 1927: 732).

The origins of the phrase ‘Chicago Plan’ arise from a March 1933 memorandum that was signed and circulated by several University of Chicago professors. Soddy (1926) was the first to present the reform for 100% Reserves, however, the influence of the 1921 Nobel

5. A referee points out that Minsky did not retract his support in published writing. Kregel and Minsky were colleagues at the Levy Economics Institute, though this author cannot qualify whether they discussed the reform.

6. It could be more satisfactorily argued that the federal government, in vesting the power to issue the public’s money supply mainly to private depository banks, is forced to borrow money from the broader public.

Prize winner for chemistry on the Chicago economists remains contested. The Chicago economists gave Soddy little kudos and that seems to have been continued by 'narrow banking' authors. Phillips (1992; 1995) leaves Soddy out of the storyline in his discussion of the calls for 100% Reserve backing of deposits. Phillips (1994) and Allen (1993: 705) present a view that the Chicago economists crafted the reform 'evidently with little if any influence from Soddy'. Knight's (1927) rejection of Soddy's (1926) 100% Reserves reform, taken with the similarity of Fisher's (1933) theory of 'debt-deflation' to arguably more informative passages in Soddy (1926: 157–158, 174–175), would indicate an influence (albeit unacknowledged).<sup>7</sup>

Calls for 'narrow banking' developed in response to the 1980s US Savings and Loans crisis. This approach to banking reform recommends dissolving the business of depository institutions into two distinct institutional types. Specifically, the reform would create so-called 'narrow banks' or 'monetary service companies' which provision payment services and hold government-supplied 'safe' assets against transaction deposits; and also 'financial service companies' which provision private credit (see, for example, Litan 1987; Spong 1993; Kay 2009). The literature takes its cues from the 'firewalling' transaction deposits aspect of the March 1933 memorandum, but with a strong accent on eliminating 'flawed' deposit insurance, the existence of which is thought to be a major cause of default and financial crises (for example, Phillips 1995: 17; Spong 1993: 2).

B/K (2012: 19) provide one sentence on, and one citation of, the narrow banking literature. That thrifty treatment is an indicator of how different their envisaged reform is to 'narrow banks'. Several reservations about 'narrow banking' proposals can briefly be made here. First, the notion that removing federal deposit insurance (presumed to follow uncomplicatedly from 'firewalling' transaction deposits) would enhance financial stability because '*caveat emptor* could apply to the uninsured and less regulated business' (Phillips 1995: 27) is a line of analysis in the *laissez-faire* orthodox tradition. It presumes that 'market discipline' by investors (heightened by the *explicit* absence of deposit insurance and a 'lender of last resort') offers a sufficient means to scrutinise the lending activities of financial firms; yet the current crisis showed that even sophisticated investors can get caught out with dire consequences. The Basel II provisions towards greater market discipline were dead on arrival. Bossone (2002) finds 'narrow banking' proposals unworkable, due partly to the questionable assumptions about not needing government 'safety nets',<sup>8</sup> and also notes the curious lack of attention by advocates of what the reform bodes for the financing of production.

Second, as a related point, there is much discussion in the literature of deposit-taking but not the deposit-*making* aspect of banking (for example, Phillips 1995; Pennacchi 2012).

7. Allen (1993) points to a letter from Simons written in March 1933 to support his claim that Soddy had 'little if any influence' on the Chicago economists; however, he did not mention the review of Soddy's reform by Knight (1927), who was a working colleague of Simons's and a co-signer of the 1933 'Chicago Plan'. In that letter, Simons claims he 'got started toward this scheme' 10 years earlier. It is tenuous to deny a direct influence on the basis of a claim to retrospective interest written in a letter many years after Soddy (1926): there is no record of Simons working on the reform before 1933. Knight's (1927: 732) remarks on Soddy's 1921 pamphlet *Cartesian Economics*, 'which we read some years ago', shows that even his early critical views of banking drew attention. Soddy traced the idea that the State should be the sole issuer of money to ancient Athens (for example, Aristotle's *nomisma*) and was the first to consider 100% Reserves for deposits.

8. Eliminating deposit insurance and central bank 'lender of last resort' activities may serve only to escalate self-defeating 'flights to safety' and thus drastically amplify the procyclicality of downturns.



Third, the accent in authors like Kay (2009) on separating the ‘utility’ functions of depository banks (payment services) from ‘casino’ functions (everything else), is out of sorts with the consensus towards building a macroprudential regulatory framework to extend across the entire financial sector. The idea that regulation should focus on what financial firms do, rather than their institutional classification, informed the Dodd–Frank Act of 2010, albeit there is a case that improvements could be made especially regarding the weight given to procyclical capital adequacy requirements (D’Arista 2011). That consensus reflects that the collapse of Lehman Brothers (an investment bank with no deposit functions), and the inability of the insurance company AIG to pay out on its credit default swaps, sparked so much upheaval.

Simons (1946) and B/K (2012) envisage more extensive reforms to the financial landscape than those of the narrow-banking authors.<sup>9</sup> The 1933 Chicago Plan foresaw that ‘investment trusts’ would assume the role played by depository banks in provisioning private credit, and they would do so by raising equity, or issuing debt securities. Simons (1946) was concerned about the potential for debt securities to become near-monies subject to investor runs. In his reform, all ‘private property eventually takes the form of either government currency, government bonds, corporate stock, or real assets’ (B/K 2012: 18). As Simons’s (1946) ‘financial goods society’ would purge all business and mortgage debts from financial landscape it is labelled here as a ‘narrow financial sector’ reform in order to better distinguish it from the ‘narrow banking’-styled reforms.

B/K (2012: 18) identify the government versions of the plan in Means (1933), Currie (1934) and Angell (1935) as offering more guidance than Simons (1946) for two reasons. As ‘banks’ would be able to finance loans by raising equity or by selling debt to the Treasury, then there exists in this reform variant a more direct channel for policymakers to influence credit aggregates post-transition. Allowing financial firms to borrow from the public sector to purchase reserves is also thought to enable an immediate transition. The authors thus modernise reform variants and transition plans designed for the 1930s. It is vital to B/K’s (2012) analysis that ‘treasury-funded banks’ first become and then remain the dominant financial institution type, yet it is not clear whether they establish as much.

### 3.1 The transition of the ambiguous ‘banks’

The new stock items in the transition period need to be discussed carefully. (B/K 2012: 41)

B/K’s (2012: 6) formal model is introduced as a ‘state-of-the-art monetary DSGE [dynamic stochastic general equilibrium] model of the U.S. economy’. The authors provide a number of modelling scenarios with the one of most interest, the transition to the reform, for two reasons. First, while a model can only aim to provide a rough approximation, the uniqueness and attention given to B/K (2012) is partly related to their claim that the reform transition could occur smoothly. The effort at explaining why and how is obviously motivated to assure other academics and policymakers about the feasibility of their reform agenda. Second, as the transition establishes the institutional nature of the financial landscape, what B/K (2012) deem as possible in the transition determines the parameters of their subsequent analysis. Some attention on the formal model, including its calibration, is required to assess the authors’ theoretical claims and policy advice.

9. Consider as one aspect that Spong (1993) would require backing for transaction deposits, which is 5–10 per cent of US GDP, whereas B/K (2012) envisage reserve backing equal to 185 per cent of US GDP or higher (see Section 3.1).

On p. 7, the authors refer to a balance sheet of the 'consolidated financial system' while their figure refers to 'banks'. When specifying the pre-transition assets and liabilities of the 'consolidated financial system / banks', B/K (2012: 45) cite various sources ranging from as low as 100 per cent of US GDP to as high as 350 per cent of GDP, and then inform us that 'we adopt the compromise calibration of approximately 185% of GDP' which we are told 'also turns out to be approximately consistent with Flow of Funds information on the size of borrowing exposures of the U.S. corporate and household sectors'. The values seem to have been selected in view of the level of the debt relief deemed desirable. The authors admit their values are a 'compromise' without questioning whether that undermines their claim that a 'smooth' transition to the reform is likely or possible. B/K (2012: 44) remark that 'we include all financial institutions that offer liquid liabilities, including the shadow banking system', which would presumably exclude both life insurance and pension fund reserves, although no exact information is forthcoming.<sup>10</sup> Readers must remind themselves that when the authors use the word 'banks' it includes private depository banks plus an undefined portion of the 'shadow banking system', and that the word 'deposits' includes the deposits of private depository banks plus an undefined portion of liquid liabilities issued by 'shadow banks'.

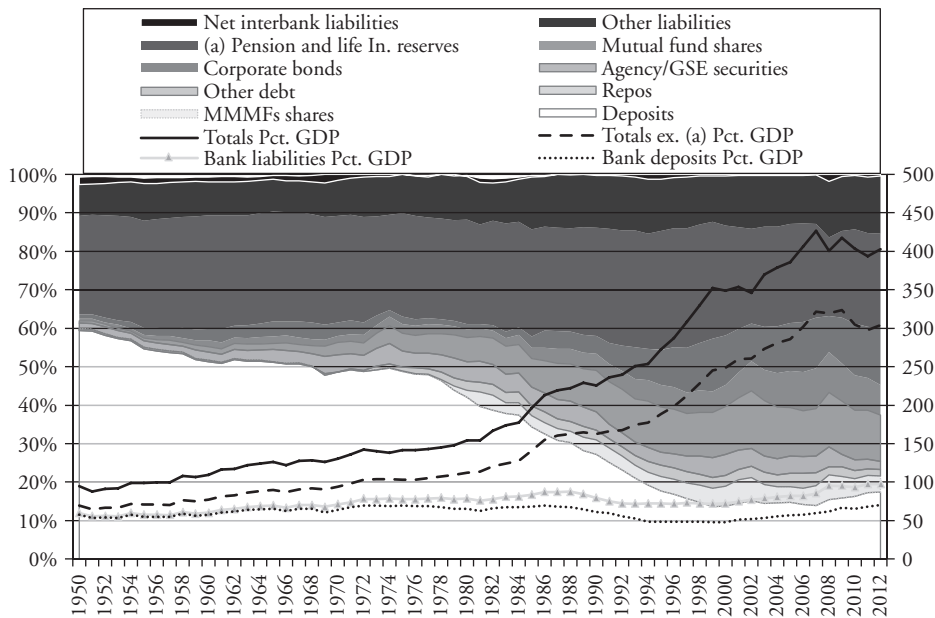
The values given for the balance sheet of the 'consolidated government' are also puzzling. First, B/K (2012) pay no attention to a consolidation of the public sector's accounts,<sup>11</sup> which is an odd omission, not least because policymakers would likely take steps after consolidation to reduce the volume of Treasury debt held previously on the books of the central bank (equal at year-end 2011 to 11 per cent of US GDP). Second, despite claiming accordance with US economic data, the authors give the 'net worth' of the government sector a value of zero, listing only two items pre-transition: 'other nets assets' and government bonds, both equal to 80 per cent of GDP. According to the US BEA's *Integrated Macroeconomic Accounts* which provides estimates of nonfinancial assets, the net worth of the US federal government was -58 per cent of GDP at year-end 2011, which, added to the net worth of Federal Reserve Banks (0 per cent of GDP), is a negative value for the 'consolidated government'. The value given for government bonds at 80 per cent of US GDP was around the mark for 2011, but would presumably have been less so after a consolidation of the public sector's accounts (for the reasons noted above).

There are other doubtful aspects of the calibration,<sup>12</sup> though the most consequential is the simplification of the US private financial business sector's balance sheets. When B/K (2012) report pre-transition values for 'bank' assets and liabilities equal to 200 per cent of GDP and 'deposits' equal to 184 per cent of GDP, the data suggests a murkier picture belying any straightforwardness that the terms 'banks' and 'deposits' might connote (Figure 2). B/K (2012: 45) are aware of these issues, acknowledging for example that the US repo market is likely closer to \$12 trillion (79.6 per cent of GDP) than the net position recorded in the US Federal Reserve's *Flow of Funds* accounts of \$1.1 trillion (7.3 per cent of GDP).

10. Perhaps that information is detailed in the technical appendix referred to at several points in the paper but which does not appear at the end of paper.

11. That the authors just refer to the Treasury as if the central bank does not already exist is also unusual given that most of their IMF colleagues herald the purported merits of a private/independent central bank.

12. B/K (2012) add a new item 'Treasury credit', but exclude existing credit to private agents extended by the 'consolidated government' (around 10 per cent of US GDP in 2011). It is also not apparent why B/K (2012: 46) assigned an initial value for US government bonds held by 'banks' of 20 per cent of GDP when, in 2011, the data was 1.7 per cent for private banks and 10.3 per cent for private financial businesses excluding life insurance and pension funds.



Source: US Federal Reserve, *Flow of Funds*, Tables F.6, L.107 and L.109.

Figure 2 Financial liabilities of US private financial businesses by type percentage of totals (LHS) and financial liabilities of various institutional groups percentage of GDP (RHS), 1950–2012

Repos are liquid liabilities and if treated as such would require the public sector to issue even more reserves as ‘equity’ than the \$27.7 trillion envisaged. One must presume that the authors desire an unwinding of intra-financial sector financial claims which may be quite difficult to do and turbulent. B/K (2012) do admit that their figures for ‘banks’ and ‘deposits’ are a compromise and certainly are a mystery.

In addition to the ‘conceptual’ nature of stock positions assigned to the financial sector and consolidated government, a series of ‘one-off’ transactions are described for the transition period, which appear to be irreconcilable in a coherent accounting framework. B/K’s (2012: 7–8, 41–42, 49) transition phase has ‘partially-transferable’ reserve accounting; where the newly-issued reserves always reside on the balance sheet of ‘banks’, while being transferable somehow on and off the government’s books. After the transition phase, ‘banks’ books have reserves (assets) equal to 184 per cent of GDP while the government’s books have reserves (equity) equal to 91 per cent of GDP. One difficulty is that the authors have the government paying interest (eventually at a rate of zero) on all of the reserves created to back up ‘deposits’ even though, according to their balance sheet tabulation, reserves equal to 93 per cent of GDP would not reside anywhere on the government’s books.

It is worth taking a closer look at the transition steps, given that their modelling is novel and also assigned importance as an exercise to convince everyone that the reform could be implemented fairly ‘smoothly’. B/K’s (2012) transition supposes the following series of conceptual transactions: (1) reserves and Treasury credit both grow by 184 per cent of GDP as ‘banks’ borrow to back up ‘deposits’; (2) a government debt buyback and Treasury credit cancellation both equal to 20 per cent of GDP (with no changes to the record of

Table 1 Benes/Kumhof's 'conceptual' transition (percentage of GDP)

'Banks'	Initial	1. Borrowing for reserves	2. Government debt buyback	3. Private debt buyback	4. Bank equity payout	Final
<b>Assets</b>	<b>200</b>	<b>+184</b>	<b>-20</b>	<b>-100</b>	–	<b>264</b>
Reserves	0	+184	–	–	–	184
Inv. loans	80	–	–	–	–	80
Other loans	100	–	–	-100	–	0
Gov. bonds	20	–	-20	–	–	0
<b>Liabilities</b>	<b>200</b>	<b>+184</b>	<b>-20</b>	<b>-100</b>	–	<b>264</b>
Deposits	184	–	–	–	–	184
Treasury credit	0	+184	-20	-100	+7	71
Equity	16	–	–	–	+7	9
<b>Net worth</b>	<b>0</b>	–	–	–	–	<b>0</b>
<b>'Government'</b>	<b>(0)</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
<b>Assets</b>	<b>80</b>	<b>+184</b>	<b>-20</b>	<b>-100</b>	<b>+7</b>	<b>151</b>
Other net assets	80	–	–	–	–	80
Treasury credit	0	+184	-20	-100	+7	71
<b>Liabilities</b>	<b>80</b>	<b>+184</b>	<b>-20</b>	<b>-100</b>	<b>+7</b>	<b>151</b>
Gov. bonds (debt)	80	–	-20	–	–	60
Reserves	0	+184	–	-100	+7	91
<b>Net worth</b>	<b>0</b>	–	–	–	–	<b>0</b>

reserves for 'banks' or government); (3) a private sector debt buyback<sup>13</sup> and Treasury credit cancellation both equal to 100 per cent of GDP (with an equal minus change in reserves recorded as 'equity' for the government but not reserves recorded as assets for 'banks'); and (4) an expansion in Treasury credit to enable 'banks' to pay out equity investors equal to 7 per cent of GDP (with an equal positive change in reserves recorded as 'equity' for government but not in reserves recorded as assets for 'banks'). The 'one-off' transactions, including the content placed in brackets, are inconsistent in cash flow and stock dimensions.

Table 1 puts the steps into balance-sheet form (note that the dashes denote no change to the item). It is not clear how the authors arrive at a post-transition value for 'Treasury credit' equal to 71 per cent of GDP or whether the large issuance of reserves as 'equity' can be viewed as 'own funds' for the government in terms of acquiring something in exchange for the money creation.<sup>14</sup> The transition can be viewed as one big 'temporary

13. B/K's (2012: 7) specification of restricted private accounts, which could only 'be used for the purpose of repaying outstanding bank loans', is similar to a plan by Keen (2012). It is also different as their 'debt relief' occurs in a context where intra-financial sector liabilities have already been simplified somehow. Another issue lacking clarity is whether the Treasury-'bank' transition transactions will be settled using the reserve accounts of depository banks at the (defunct) Fed and/or the Treasury's deposit accounts held at depository banks.

14. Only the portion of transition-created reserves used for debt buybacks can be viewed as 'own funds'.

nationalisation of financial system' *step* after which the end balance-sheet positions are those simply stated by B/K (2012).

In concluding this section it must be noted that the 'conceptual' nature of stock positions both pre-transition and after the 'one-off' asset-swap transactions raise doubts about the feasibility of a 'smooth' transition at least in the terms outlined by B/K (2012). As we will see in Section 3.2, which discusses the conclusions derived from the formal model, it is important when assessing the authors' claims to keep in mind that the formal model uses invented values for Treasury credit and net government debt which are not derivable from a set of coherent asset-swaps. It must also be accepted that the method by which the authors establish their 'treasury-funded banks' at the centre of the reformed financial landscape is rather opaque.

### 3.2 Assessing the output gains of 'The Chicago Plan revisited'

We find that the advantages of the Chicago Plan go even beyond those claimed by Fisher. One additional advantage is large steady state output gains due to the removal or reduction of multiple distortions, including interest rate risk spreads, distortionary taxes, and costly monitoring of macroeconomically unnecessary credit risks. Another advantage is the ability to drive steady state inflation to zero in an environment where liquidity traps do not exist, and where monetarism becomes feasible and desirable because the government does in fact control broad monetary aggregates. (B/K 2012: 55–56)

B/K (2012) argue that the Chicago Plan will deliver two advantages in addition to those foreseen by Fisher (1936). This section will focus first on the large output gains attributed to the reform, starting with some context on the post-transition setting. With the lending portfolio of 'banks' limited to 'investment loans' (at a spread of 1.5 per cent over 3-month Treasury bill rates) and encumbered with a balance sheet where reserves comprise over two-thirds of assets (said to pay a zero interest rate in the steady state), the analyst can deduce that the 'golden age' of big profitability for 'banks' is over. It is worth discussing the substantial changes to the transmission mechanism of monetary policy.

Currently, monetary policy works mainly via the central bank's short-term interest rate, which is the rate at which private depository institutions lend reserves to one another. In 'The Chicago Plan revisited', monetary policy will work mainly via the interest rate on Treasury credit, which is the rate at which 'banks' will be able to borrow in order to fund lending. In October 2008, the US Federal Reserve acquired the power to pay interest on reserves (IOR). Why is the IOR option retained in 'The Chicago Plan revisited', given that its present usage is to allow policymakers to hit the overnight target rate with some independence from its reserve supply policy? B/K (2012: 34) anticipate that the spread on the wholesale 'bank' lending rate will be set post-transition in view of the government-determined Treasury credit rate rather than the deposit rate. The spread on 'bank' lending activities depends on liability-side costs and business expenses (for example, wages and taxes) plus desired profit rates (given competition). Presumably, the foreseen role of IOR is as a 'bank' subsidy (at least until IOR falls to a zero rate in the steady state); to keep the new spread on the wholesale lending rate in line with policymaker expectations. Why that spread might depart from expectations includes, but is not limited to, the costs of depositor services being greater than zero, or if 'banks' either decide or are forced to offer deposit rates above zero for some reason.

As 'banks' could only fund investment loans by Treasury credit or by raising equity, it follows that deposit rates would not be set or adjusted competitively to acquire funding. B/K's (2012: 38) 'technology' assumption, that 'banks' will charitably pass all interest paid on reserves to depositors one-for-one, is unrealistic; and is a pointer to political economy

naiveté on the behaviour of 'banks'. A realistic appraisal of the potentials of 'technology' would not lower the costs of depositor services to absolute zero;<sup>15</sup> subsequently, there would have to be an interest rate differential between reserves and deposits in favour of 'banks' or else 'banks' would recoup costs by charging higher rates on investment loans (which may occur regardless as a way for disgruntled 'banks' to regain some of their lost profitability).<sup>16</sup> It is doubtful that the public sector will issue money at zero interest.

A realistic appraisal of 'bank' behaviour would suggest the potential for a lobby group to pressure the government into using that interest rate differential channel as a means to recoup lost profitability *beyond* the costs of providing depositor services. The option for a negative interest rate on Treasury credit (which the authors admit is a likely feature in the steady state) may offer another channel through which 'banks' seek to recoup lost profitability.<sup>17</sup> There is therefore a potential for serious operational difficulties with 'The Chicago Plan revisited' and perhaps outright unworkability; either conflict-ridden with 'banks' complaining that ongoing government money issues are costly (due to depositor services), or, at the other end of the spectrum of possibilities, moral hazard laden with 'banks' receiving excessive State subsidisation (and more explicitly so if the authors' policy option to use quantitative credit targets is adopted and forces 'banks' to lend to uncreditworthy borrowers).

Other scenarios are also possible, though the omission of 'investment trusts' from the formal model provides a major 'knowledge gap' regarding the functioning of credit markets after the transition. The stipulation of homogenous borrowers (that is, private agents within the sectoral classifications who do not have different borrowing requirements) simplifies the formal model. But the footnote statements that investment trusts could supply 'intertemporal smoothing' credit to suit the borrowing needs of heterogeneous agents raise questions to which there are no answers. We are told that investment trusts could fund their activities by debt or by equity. There is no guidance on which financial firms would be allowed to transform into investment trusts. As investment trusts will provision all credit aside from 'investment loans' (for example, consumer credit, mortgages and short-term working capital loans to manufacturers) and not be required to freely dispense depositor services, they may be the most profitable institutional type. If so, then many if not most 'banks' would surely transform into an investment trust. The authors proffer in footnotes that investment trusts could be subject to the same stringent regulation as 'banks'. It may be rather difficult for such 'banks' to flourish alongside 'shadow banks' if profitability is allowed to be the arbiter of institutional type.

Even assuming that investment trusts funded their activities by equity (which is the authors' preferred option, as it would impede their debt liabilities from becoming near-monies subject to investor runs), there is no compelling reason to accept one of B/K's (2012: 20) vital contentions that 'treasury-funded banks [would] remain at the core of the financial system'. The information allowing one to discern this is not provided because investment trusts are omitted from the formal model but because there are no estimates given for the balance sheet size of this sector, pre- or post-transition, nor any guidelines

15. Supposing that the growing digitalisation of 'money' enabled 'banks' to eliminate some costs involved in providing facilities that allow the public to convert deposits into cash and, vice versa, there would still be information technology costs (for example, provisioning of electronic funds transfer system, maintenance of databases, ensuring the safety of client data). The costs of providing depositor services will never be zero.

16. 'Banks' may become indifferent to 'deposit-taking' unless they receive a net return on reserves vis-à-vis deposit liabilities either by an interest rate differentiation or by deposit account charges (see footnote 20).

17. A referee points out that banks might also recoup their costs by increasing commissions and fees.

that designate which financial firms could become 'banks' or investment trusts. If, as appears likely, the investment trusts will be comparatively more profitable 'shadow banks' (being allowed to provision all credit types both domestically and externally as well as collect fees and commissions from activities such as brokering and dealing new issues of corporate equity and debt securities, insurance services and portfolio management), 'The Chicago Plan revisited' may not enhance financial stability and may thus be hard to justify even in the authors' own terms.

B/K's (2012: 52) claim that Fisher's proposal does 'not imply any increase in the stock of money held by the private sector [and] ... by construction no increase in nominal spending power' is unconvincing partly because of the generous 'debt relief' to previously-constrained households. Taking the 2012Q1 US homeowner financial obligation ratio of 14.2 per cent of disposable income, then, that ratio may fall post-transition to zero or 2.8 per cent (with the uncertainty due to inconsistency in the authors' position).<sup>18</sup> When considering that the debt servicing of net debtor households is also an income source for net creditor households (intermediated by financial businesses) and the former have a higher propensity to consume out of income than the latter, there is reason to anticipate a large consumption boom attending large-scale debt relief.<sup>19</sup> That boom could be amplified by an investment trust credit expansion to households (who have either no debt or much less so).

What will households and nonfinancial firms do with their 'deposits' equal to 184 per cent of GDP that in the post-transition 'steady state' setting pay zero interest? At year-end 2011, the volume of deposits issued by US depository banks equalled 67.9 per cent of GDP, with households the main holders (around 49.5 per cent of GDP), and those of nonfinancial business also significant (around 12.1 per cent of GDP). Nonfinancial firms retain low-yielding deposits instead of paying down higher-yielding debt liabilities principally as a cost for having sufficient liquidity ready at call. Household deposit holdings can be explained mainly as a by-product of transaction purposes but also for the store of wealth function, including portfolio diversification, especially savings and time deposits (and possibly an element of 'non-savvy investors' reluctant to invest in higher-yielding, riskier asset forms). So it is not a simple matter of asking what private agents will do with sterile 'deposits' equal to 184 per cent of GDP; instead, the more relevant question is: what will private agents do in order to avoid having their 'wealth' now stored in interest-paying deposits (particularly in small-time and large-time *savings* accounts) *plus* the array of 'shadow bank'-issued liabilities from being seized and converted into an asset form that has no nominal yield (and potentially a negative real yield). There is a distinct prospect for a wide-ranging domestic and global investor exodus plus large migration of financial firms to less stringent regulatory havens immediately prior to 'The Chicago Plan revisited' passing into law.

A reform that requires either universal adoption or immediate imposition of capital controls may be a factor in viability. Even supposing that financial investors took a positive

18. B/K (2012: 3) state that all household debt owed to 'banks' will be voided. In the calibration section, it is specified that three-quarters of residential real estate loans will be counted as mortgages (60 per cent of GDP) and the rest as 'investment loans' (20 per cent of GDP). As the authors' figures 1 and 3 do not show any cancellation of 'investment loans', households may have some debt owing to 'banks'. Note that policymakers might also decide to lower the financial obligation ratio of renters by a similar amount to owner-occupied homeowners.

19. According to Dynan et al. (2004), the top 1 per cent of households tend to save a high proportion of their income (as much as 50 per cent), whereas lower-income households tend to consume almost all of their income.

view about the potential benefits of the reform (say, weighing the prospect for wealth acquisitions and lower profits against the possibility of enhanced financial stability and durability of cycle-over-cycle inflation- and risk-adjusted returns) or policymakers found a way to implement it (without enduring pre-transition 'capital flight'), there is still the non-trivial matter that the total absence of a 'reflux' mechanism for bank money could engender chronic macro instability in the newly-created macro environment characterised by an (over-) abundance of sterile deposits. In post-Keynesian literature, the Kaldorian 'reflux principle' denotes the primary mechanism through which the supply of bank deposits is reconciled with the demand for bank deposits (Lavoie 1999). Essentially, low-yielding bank deposits shift from agent to agent (subsuming spending on current output and business-side wage expenses as well as new financial claims including equity issuance and nonbank credit) until they find their way to being a debtor to the banking system, culminating in the 'destruction' of bank money. Logically, debtors to the banking system would use any deposits received in excess of any other current financing commitments to pay down bank loan principals, while other agents generally do not desire to hold low-yielding bank deposits (allowing a modest role for liquidity preferences).

It is difficult to agree with B/K (2012: 50) that consumption levels will eventually increase after the transition by around 5 per cent relative to the pre-transition levels, while initially 'dropping' as the 'very rapid increase in investment initially crowds out some consumption'. The large reduction in household debt servicing (recalling that net debtor households have a much higher propensity to consume out of disposable income vis-à-vis net creditor households and that all households will be totally unconstrained or appreciably less so, post-transition) plus the possibility of an amplifying credit boom intermediated by investment trusts (accepting the sterile deposits of some agents and lending them to other agents) suggests the opposite. Indeed, in the absence of a reflux mechanism and (over-) abundance of sterile deposits, the most likely macro outlook is a consumption boom plus a financial asset *price* boom as unconstrained households and unconstrained nonfinancial businesses (manufacturers but not capital investment funds) bid up asset prices with otherwise superfluous holdings of 'money' (most likely investing in countries where deposits and 'shadow bank' liabilities are not sterile and available to serve as stores of wealth and sources of portfolio income).

B/K (2012) seek to transform bank money and 'near-monies' into sterile cash suitable only for transaction purposes (that is, the medium of exchange and unit of account functions). In doing so, they neglect the role of those assets as stores of wealth and sources of portfolio income; and that, in a banking system with an (over-) abundance of sterile deposits far in excess of debtor obligations and no 'reflux mechanism', there is a risk of intense financial volatility and various macro excesses.<sup>20</sup>

Against the backdrop of the above discussion, B/K's (2012) claims of output gains of up to 10 per cent in the steady state are anything but certain. The authors' reasoning for these large gains is attributed to: (1) a fall in monitoring costs on debt equal to 1.3 per cent

20. A lesser level of debt relief could allay some concerns, though as a banking system with no reflux mechanism is uncharted territory, other complications may arise. One concern is the waning of incentives to manage 'deposit' liabilities. Client transfers would shift reserves and 'deposits' from one 'bank' to another rather than *expand* interest-bearing interbank liability positions. The incentive to lift deposit rates to obtain a cheaper liability-side component vis-à-vis interbank borrowing would vanish. Further, with 'banks' unable to fund lending via 'deposit-taking' and reserves yielding no income (IOR is zero or paid to depositors), 'banks' could become indifferent to intermediating 'deposits'. Without incentives to manage/retain two-thirds of liabilities (and counterpart sterile reserves on the asset side), 'banks' might actively seek to profit from 'capital flight'.



of GDP; (2) a 1.9 per cent fall in real bond rates and deposit rates attributed to a large fall in the government's net debt position; (3) an extra 3 per cent fall in nominal interest rates due to the elimination of steady-state inflation attributed to the adoption of a monetarist money-growth rule eliminating inflation; and (4) the ability of government to offer tax breaks through its ongoing seigniorage issuance equal to 3.6 per cent of GDP.

To the extent that there is a reduction in monitoring costs, that speaks volumes about the merits of debt relief rather than the reform itself. It cannot be discerned if debt loads will always remain low, post-transition, due in part to the lack of information on investment funds and on residential real estate loans (as well as commercial real estate loans). In their calibration section, B/K (2012) segment residential real estate loan into 'mortgages' (land value) and 'investments loans' (current output related investment), which informs their determination of debt relief. As 'banks' are forbidden from lending against the security of land, post-transition, then all real-estate loans minus legacy assets not cancelled in the transition would soon become the sole domain of investment trusts.<sup>21</sup>

By a similar token the output gains attributed to a large fall in the government's net debt position speaks volumes mainly about the merits of the debt relief. B/K (2012: 48, 50) have the net government debt-to-GDP ratio determining equilibrium real interest rates, and give the steady-state rate charged on Treasury credit a value of half that paid on government bonds (also equal to banks' wholesale rate), at 0.49 per cent and 1.07 per cent respectively. In the transition phase, a manufactured government debt buyback equal to 20 per cent of GDP and an equally manufactured rise in Treasury credit to 71 per cent of GDP (initially to 184 per cent of GDP) generates a momentous improvement in the government's net debt position from -80 per cent of GDP to 11 per cent of GDP. That the authors assign a coefficient value of 0.5 to Treasury credit produces an 'adjusted' net government debt-to-GDP ratio equal to -16 per cent of GDP, which explains why they record a 1.3 per cent fall in real bond rates and deposit rates. A difficulty is that the series of transactions during the transition phase, including 'banks' borrowing to buy reserves and 'one-off' asset-swap exchanges, are 'conceptual' insofar as they cannot be made sense of in a coherent accounting framework (indeed, as detailed in Section 3.1, the stock positions referenced both before and after the transition are in key respects effectively those desired by the authors).

The 3 per cent extra fall in nominal interest rates sourced to the elimination of inflation is also not particularly persuasive. B/K (2012) do well to reject the 'natural rate', though the potential for a monetarist money supply growth rule to not merely tame but eradicate inflation, is an unobservable postulate of theory. Such a rule demands strong assumptions about what a constant percentage of money-supply growth entails for output and inflation, which seems unlikely on the empirical front; suffice it to ask, for what purposes will the newly issued money be spent, and how will that relate to the spending of existing money stocks as well as any 'bottle-necks'? There is no magical formula to tame inflation, let alone reduce it to a permanent zero value. Vesting absolute power in the hands of Treasury officials to control the public's money supply (price *plus* quantity) seems liable to magnify any policymaking errors. Many post-Keynesians would of course have reservations about a reform 'where monetarism becomes feasible and desirable' (B/K 2012: 56), and would also caution against a monetary framework that targeted zero inflation due to concerns about debt-deflation.<sup>22</sup>

21. B/K (2012: 34) do not foresee 'banks' lending to households or manufacturers, stating that after the transition 'bank' credit will only be 'extended to capital investment funds'.

22. The debt-deflation concept is associated with Fisher (1933) but was given prior thought in Soddy (1926) and again in Soddy (1934). Fisher (1933) did not grasp endogenous money. His

Turning to the final component of B/K's (2012) claim that their reform will generate large steady-state output gains, the ability of government to offer tax breaks via ongoing money issuances equal to 3.6 per cent of GDP is based on the assumptions of monetarist procedures eliminating inflation and that 'technology' will see (charitable) 'banks' pass any reserve interest on to depositors on a one-for-one basis; but neither of these is convincing and may in fact be misleading.

### 3.3 Assessing the 'liquidity trap' and 'red herring' of bank money destruction

One critical implication of this different monetary environment is that liquidity traps cannot exist, for two reasons. First, the aggregate quantity of broad money in private agents' hands can be directly increased by the policymaker, without depending on banks' willingness to lend. And second, because the interest rate on treasury credit is not an opportunity cost of money for asset investors, but rather a borrowing rate for a credit facility that is only accessible to banks for the specific purpose of funding physical investment projects, it can become negative without any practical problems. (B/K 2012: 7)

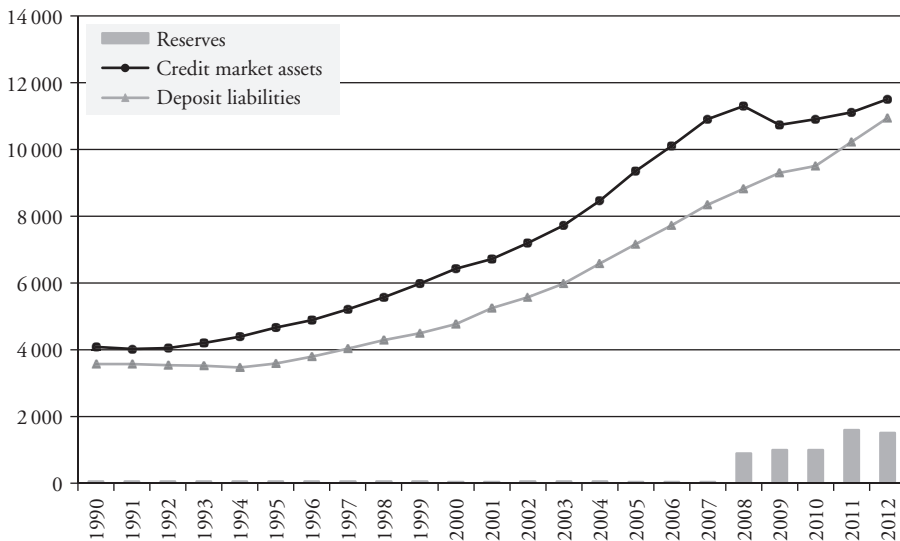
The second advantage 'The Chicago Plan revisited' may deliver, in addition to the four claimed by Fisher (1935; 1936), is stated as the elimination of 'liquidity traps'. The policy option of a negative interest rate on Treasury credit is a subsidy that would function by paying 'banks' to lend.<sup>23</sup> It is therefore counterintuitive in terms of how the business of banking customarily works. The dangers are moral hazard and mal-investment, though other policy options to counteract a curtailment of private credit activity also raise similar issues (for example, enlarging the role of government as a loan guarantor). There are no easy answers on this matter, though the key is to restrain the expansion of leverage during the upturn so as to make the policymaking task more manageable during the inevitable downturn.

The post-Keynesian theory of endogenous money emphasises that the creation of bank money requires dual willingness by lenders and borrowers. Paying banks to lend may not induce borrowers to go further into debt. As Treasury credit is 'only accessible to banks for the specific purpose of funding investment loans' (B/K 2012: 38), policymakers will not have the option of paying investment funds (which may in fact dominate credit market activities) to sustain lending via a negative interest rate on Treasury credit provisions. The capacity of 'The Chicago Plan revisited' to eliminate 'liquidity traps' may depend on government increasing the 'aggregate quantity of broad money in private agents' hands ... without depending on banks' willingness to lend' (B/K 2012: 7), which presumably means policymakers *spending* new money into existence.

If, in a downturn, there is a pool of funds (accumulated savings) which private agents cannot put to productive use, there is nothing objectionable about the Treasury borrowing existing money. The option of spending by 'debt-free' seigniorage money issuance may be required only if there is tepid demand for government bonds. Under existing operational procedures in the United States, the central bank can provide *ex nihilo* financing for the Treasury with the mechanics working through open market purchases. Two points are worth making here. First, it is the job of policymakers to sustain sufficient

version was inferior as it omitted bank money and its destruction from the story (he had vague 'dollars' repaid, not destroyed); and he did not identify the role of *ex nihilo* expansions in bank credit (and bank money) during cyclical upswings.

23. Note that after the transition the authors envisage that the government will pay for new provisions of Treasury credit (and interest costs) out of existing funds and not by issuing new money.



Source: Federal Reserve, *Flow of Funds*, Table L.109.

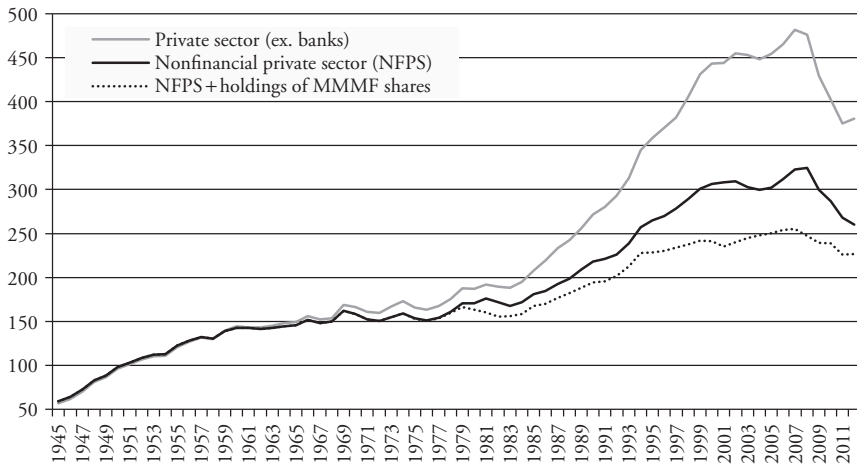
Figure 3 US private banks selected assets and liabilities (\$US billions), 1990–2012

levels of aggregate demand, with new money issuance ('debt-free' or otherwise) not necessarily a superior option to borrowing otherwise idle funds. It is not the absolute stock of money in the hands of private agents that matters *per se* in mitigating the fallout from a recession, but that the right amount of money finds its way into the hands of private agents who duly need it.<sup>24</sup> Second, as can be seen in Figure 3, it seems that the central bank can maintain money supply growth even when banks are reluctant to sustain lending, albeit to do so it must pursue 'quantitative easing'. US banks played a mostly intermediating role in 'quantitative easing', emitting deposits to clients who sold securities to the central bank, while getting reserves in exchange from the central bank.

What B/K (2012) have in mind for the accounting of transactions on balance sheets after the transition falls into the category of 'implicit' theorising is not stated. As 'banks' will no longer be able to create or destroy money, then what will happen when a 'bank' receives a loan principal repayment? Presumably they will pay down Treasury credit, which suggests the 'deposits' will end up recorded somehow on the books of the Treasury. If during downturns the 'deposits' from bank loan principal repayments end up as idle funds somewhere, it is difficult to see how that is much different from bank money destruction. While contractions in the money supply matter for economic activity, so do declines in the velocity of money: if a 'deposit' is destroyed or counted as part of the money supply not circulating, the effects on economic activity are similar.<sup>25</sup>

24. If the Treasury were to issue new money instead of borrowing funds made idle *because* of a downswing, then that could portend for higher inflation in the medium run, as the idle funds get reactivated in the upswing alongside a new money balance. A constant money-supply growth rule runs counter to the flexibility that is surely required by policymakers to stabilise dynamic and often unstable capitalist economies.

25. To imply that bank money destruction is a 'red herring' along these lines is not to deny the benefits that would occur if more money were spent rather than lent into the economy by a public authority.



Source: Federal Reserve, *Flow of Funds*, Tables L.1, L.109–115 and L.204–206.

Figure 4 US private debt percentage of private money balances (ex. banks), 1945–2012

On a technical point, while it was suggested that the absolute stock of money matters less than getting money into the hands of private agents who duly need it when mitigating the fallout from a recession, there can be imbalances in aggregate money stocks. To explain: when considering that the vast growth of nonbank credit after 1980 created debts in the macro system but without additional liquidity (money stocks), a case could be made that one reason why debt loads seem endemic in advanced economies is the waning role of bank credit-money vis-à-vis nonbank credit.

Figure 1 showed that a large share of nonbank credit is extended to the US financial sector. The expanding role of GSEs, ABS issuers and GSE-backed mortgage pools which collectively issue debt securities to originate or purchase loans (and which will, for simplicity of expression, be referred to as the ‘securitisers’) was the main factor in the swelling of financial sector debt after 1980. Figure 4 shows the ratio of private sector debt to private sector ‘money’ holdings (currency plus bank deposits) excluding those of private banks. Palpably, when payment streams on the pooled loans are disrupted, the debts of ‘securitisers’ do not net out to nothing. As most financial sector debt is part of the intermediation process to supply credit to the nonfinancial private sector, it makes sense to focus on the latter when understanding the effects of nonbank credit on aggregate liquidity and debt-servicing vulnerabilities.<sup>26</sup> The data in Figure 4 show a widening gap between debt stocks and money holdings of the US nonfinancial private sector from 1980 until the crisis, and are suggestive of a decrease in aggregate liquidity. Note that including money market mutual fund (MMMFs) shares as ‘quasi-deposits’ lessens the measure but that these liquid assets are still ‘near-monies’.<sup>27</sup>

26. This is to say that during normal times the debts of ‘securitisers’ and other financial entities, which to varying extents borrow short to invest long in debt instruments, do not represent additional debt servicing (and a prey of national income). Instead, as these financial entities channel income streams from debtors (minus fees and commissions) to end investors (creditors), to include their debts would be to ‘double count’.

27. Investor allocations to, and redemptions from, MMMFs do not ‘create’ or ‘destroy’ bank money (with a sidenote for any repos with private banks), but increase or decrease MMMFs holdings of bank deposits.

As a proper exploration of the effects of nonbank credit on aggregate liquidity would require a paper in itself, I will limit myself to one observation. If the stock of money holdings declines in proportion to the stock of debt outstanding, then that may increase the chances of net debtor private agents being unable to remain current on debt-servicing commitments. Obviously, while there is a range of other variables relevant in assessing debt-servicing vulnerabilities (many of which are much more important),<sup>28</sup> it is surely a non-trivial issue that a rising macro role for NBFIs entails a rising role for credit in the macro system without additional monetary liquidity. The relevance to this discourse is as follows.

When B/K (2012) argue that a greater role for ‘debt-free’ public sector money would decrease net debt levels for the government and private sector, the reasons why should be obvious. To the extent that the public sector *spends* ‘debt-free’ money, it will save itself a debt issue, and, as the money balance enters the flow of national income, it may also save a private agent from taking on a debt to enable desired expenditures. It would seem straightforward to suppose that debt problems could be a structural facet of a monetary system where new money requires simultaneous creation of private debt on bank balance sheets. Yet, when looking at the US economy, it is correct to say that most money is created alongside a debt *while* most debt is extended without creating any money. The latter may be the bigger problem. A heterodox economist could indeed argue that there is a need to reverse the relative decline of endogenous money vis-à-vis ‘shadow (non-)bank’ credit and also to give policymakers discretion to *spend* new money into the economy without a debt issue. The growing role of NBFIs vis-à-vis depository banks after 1980 underlines the need to scrutinise the ‘investment funds’ in B/K’s (2012) narrow institutional landscape along with the monetarist claim that separating money creation from credit creation necessarily enhances macro stability.

#### 4 CONCLUSION

It is perhaps time also to revisit the positions of Soddy (1926), Fisher (1935), Friedman (1948) and Minsky (1994) ... Soddy (1926) defined fiat ‘money’ as an abstract symbol for real wealth. From this perspective it is absurd to argue that society cannot afford to do XYZ due to a shortage of virtual wealth tokens that private banks are able to create ‘out of nothing’. MMT does not pursue this line of analysis because ‘money’ is apparently already a public monopoly. (Fiebigler 2011: 12)

In the concluding section of a paper on Modern Monetary Theory (MMT) I suggested revisiting the Soddy-influenced literature on 100% Reserves (Fiebigler 2011). It was unexpected that two IMF authors would reach similar conclusions. The context for my revisiting is that MMTers often misconstrue the existing US monetary system as a ‘public monopoly’ rather than a near-virtual monopoly of private banks and private interests. Much MMT literature seems to suppose that something like ‘The Chicago Plan revisited’ protocols already exist for the financing of spending by ‘sovereign’ Treasuries in countries like the United States, to the extent that there is no need for reforms.<sup>29</sup>

28. To list but a few: the central bank’s interest rate; the distribution of debt burdens; trends in the distribution of income and wealth; the extent to which debts finance productive economic activity (as opposed to asset price inflation); whether or not the government is gearing macro policy to full employment; and so forth.

29. MMTers argue that fiscal receipts are incapable of financing federal government spending. Fullwiler et al. (2012) defended that claim on the basis that the central bank can buy T-bonds in the open market; yet that only indicates that the Treasury previously raised and then spent the funds from debt issuance.

My suggestion for revisiting 100% Reserves was as part of the theoretical rationale to expand policymaking space in debt-constrained economies. Perhaps the most admirable aspect of 'The Chicago Plan revisited' is the directness with which the authors identify the essence of money: as a societal construct malleable to meet certain objectives. Any shortages of 'virtual wealth' for a collective society must in some sense be an artificial inducement reflecting the vested interests and power dimensions that shape society. In Washington, the congressional 'debt ceiling' has surfaced time and time again as a destabilising political constraint. If government debt volumes are thought 'too high', then why not give policymakers discretion to weaken the institutional links between deficit-spending and debt issuance. Put simply: if private banks can create money *ex nihilo* for whatever purposes (that is, productive or otherwise), the public sector should be able to do so as the conditions demand, in order to serve the public purpose with due oversight.<sup>30</sup> An enhanced role for 'debt-free' public sector money issues could be grafted onto the existing system and useful in several respects. It would surely assuage concerns about sovereign default on domestic-currency issued debts (which is a curious omission in B/K's (2012) rationale given that it is implicit to 'The Chicago Plan revisited' where the Treasury is the monopoly supplier of money).

In concluding, B/K's (2012) effort to update the Chicago Plan runs into difficulties on how to consolidate the financial sector, and the prospect for macro instability, post-transition, due partly to an abundance of sterile deposits. Perhaps the message of 'The Chicago Plan revisited' that resonates most with the heterodoxy is that policymakers and academics need to dispense with the phony pleading of 'monetary poverty' as an excuse for not addressing pressing socio-economic challenges. In 2012 the European Central Bank found a circuit breaker for the region's fiscal crisis by belatedly promising to do whatever it takes to stand behind the debts of member governments. Eurozone policymakers should consider taking the next step and commence a money-financed fiscal stimulus to bring unemployment down from record levels.<sup>31</sup> The path out of the crisis can only be Keynesian policies that seek to restore full employment and shift distribution back towards ordinary labour.

30. If banks cannot tolerate policymakers using the monetary system for legitimate public purposes then this author would have no objection to banks conceding their privilege to issue the public's money supply.

31. Such a policy would need to be in addition to projected budgets and adapted for the heterogeneity of individual countries. The magnitude and duration of bond purchases by the European Central Bank could be designed so that individual countries that are further from a 6 per cent unemployment rate would receive more stimulus and for longer. A provision obligating countries with external surpluses to undertake stimulus in proportion to how far from balance they are could be added to forbid free-riding. The policy could be adapted in time so that the European Central Bank would continue to assume an ongoing financing role for member governments.

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