

Fiebiger, Brett

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The New Austrian School challenge to Keynesian demand management

Brett Fiebiger*
University of Ottawa, Canada

After the global financial crisis, the Bank for International Settlements emerged as an influential voice in policy debates. Under the rubric of preventing 'financial imbalances', and concerned with the 'illusory' nature of demand management, the Bank has proposed a macro policy framework based on 'finance-neutral' output gaps. This paper critiques the analysis of the New Austrian School, that is, the Bank for International Settlements. The Bank is seeking an operational anchor for a Hayekian version of the Wicksellian 'natural rate of interest' that would obtain a 'sustainable' output level consistent with a long-run 'financial equilibrium' for the private non-financial sector. The fuzzy concept of 'financial imbalances' plays a similar role to that of 'forced saving' in the Old Austrian School framework. Incredibly, the institutional flaws in the eurozone that made sovereigns vulnerable to debt crises, large current-account surpluses, high rates of unemployment and rising inequality are not deemed as 'imbalances' worthy of a public policy response.

Keywords: *financial imbalances, Austrian school, natural rate of interest, fiscal policy*

JEL codes: *B13, B25, B53, E20, E32, E51*

1 INTRODUCTION

And so, at the end of our analysis, we arrive at results which only confirm the old truth that we may perhaps prevent a crisis by checking expansion in time, but that we can do nothing to get out of it before its natural end, once it has come. (Hayek 1935: 99)

The financial cycle also raises first-order policy challenges ... [These include] recognising the limitations of traditional fiscal expansion and of protracted and aggressive monetary easing. (Borio 2012: 23)

In the build-up to the global financial crisis, the mainstream economics profession heralded the state of thinking on macro as complete (Lucas 2003) or good (Blanchard 2008). The era was the *Great Moderation*. An acknowledged downside risk was large global current-account imbalances although the consensus view was for a 'soft landing'. One dissenting voice in officialdom was the Bank for International Settlements (BIS). In mid 2005 the central bank of central banks started advocating a so-called *macrofinancial stabilisation* framework to counteract the risks from what it labelled the 'excessive procyclicality' of liberalised financial systems.

It was the International Monetary Fund (IMF) that led calls for reflationary macro policies, including discretionary fiscal stimuli, in 2008 and 2009. This pragmatic approach was labelled the *New Fiscalism* by Seccareccia (2012). From early 2010 fiscal

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consolidation became the new meme partly as a result of faulty statistics. Another reason was the onset of sovereign debt crises, starting in Greece and then engulfing the GIIPS grouping (Greece, Ireland, Italy, Portugal and Spain), and later Cyprus. The European Monetary Union (EMU) embarked on a *New Austerity* and adopted an array of technocratic reforms to reinforce fiscal discipline. Following the lead of Germany, the EMU sought to rein in budgets amidst declarations that such a policy turn would be pro-growth: this was labelled *expansionary* fiscal austerity. A consequence is that the region had a second recession and a depression worse than the Great Depression of the 1930s.

The reluctance of the EMU to take strong policy actions to resolve its unemployment crisis has the indelible imprint of the Austrian School of Economics.¹ The Old Austrian School took its cues from Knut Wicksell. In the business cycle theory espoused by the young Hayek (1933; 1935), the possibility of monetary disequilibrium was not limited to inflation as in Wicksell (1898 [1936]), but could take the form of a sectoral and intertemporal misallocation of resources. BIS analysts acknowledge Mises and Hayek as inspirations, *ergo* the moniker of the New Austrian School. The aim of this paper is to critically analyse the claims of the New Austrian School on macro policy.

The analysis begins with Section 2, highlighting the consensus on macro policy before and after the crisis. To the extent that BIS analysts were staunch critics of deregulated finance, and of the naïve premises of the *New Consensus Macroeconomics*, such thinking appears fresh. However, as discussed in Section 3, the conclusions drawn by the New Austrian School for macro policy are stale thinking. Notably, the Old Austrian School concepts of ‘forced saving’ and ‘mal-adjustment’ have been repackaged into a fuzzy concept of ‘financial imbalances’, and have served as a rallying call for anti-reflationary macro policies. Section 4 turns to the debate on fiscal multipliers and to the apparent lessons of building ‘fiscal buffers’ and removing the preferential treatment of sovereign debt in bank capital requirements. The concept of ‘financial imbalances’ has evolved from Borio/Lowe’s (2002) study on the capability of broad financial aggregates to provide *ex ante* predictive content on future financial crises, into a far-reaching framework for reconceptualising potential output (Borio et al. 2013). An assumption is that ‘financial imbalances’ and, therefore, mean-reverting tendencies, can be easily identified ahead of time. Such a claim, as argued in Section 5, should be viewed with caution. The most that can be said about a framework where policymakers formulate macro policy in ‘real time’ with zero input from the informational content of employment is that it is Hayekian in inspiration. There are also missing links in the BIS’s story on the crisis, such as the mistaken aim of the EMU’s founders to sever the links between a central bank and sovereigns (on Hayekian inspiration) and the role of rising wealth and income inequalities.

2 THE STATE OF MACRO WAS GOOD?

The state of macro is good. (Blanchard 2008: 2)

Both the New Classical and New Keynesian complete markets macroeconomic theories not only did not allow questions about insolvency and illiquidity to be *answered*. They did not allow such questions to be *asked*. (Buiter 2009, emphasis in original)

1. A case can be made that the intellectual roots guiding the Merkel regime’s policy response are those of the conservative ordo-liberal Freiburg School that arose in the 1930s, led by Walter Eucken. The Freiburg School and Old Austrian School both opposed counter-cyclical macro policy. There are also personal links connecting the two schools, notably that Eucken, Mises and Hayek were members of the infamous Mount Pèlerin Society.

A common view of macroeconomics emerged in the 1990s, developed mainly by the New Keynesians, known as the *New Consensus Macroeconomics* (NCM). Its leanings were more orthodox than the old Keynesian paradigm that dominated the economics profession from the 1940s until the 1970s. An intellectual debt was owed to Milton Friedman for his concept of a non-accelerating inflation rate of unemployment. Friedman's (1968) 'natural rate of employment' was intended to be an extension of Wicksell's (1898 [1936]) 'natural rate of interest'. Wicksell and Friedman were to provide the inspiration for the 'cashless' canonical New Keynesian macro model (Woodford 2003). The NCM's policy advice is simple: all that is needed is an inflation-targeting central bank (that follows a Taylor rule).

The crisis has prompted the profession to rethink macro. Few now believe the naïve NCM view that price stability can guarantee macro stability. A story about what went wrong must include 'regulatory capture'. Former US Federal Reserve Chairperson, Alan Greenspan, went from hero to villain almost overnight.² There was no greater supporter of the *laissez-faire* 'hands off' approach to financial regulation than the US Federal Reserve (Bernanke 2007). BIS analysts are amongst the few voices in officialdom who can claim to have forewarned on *some* of the causal mechanisms in the global financial crisis; specifically, the unwinding of excessive leverage in the private sectors of many advanced economies and the now well-known faults in structured finance.³ Everyone now agrees that policymakers should be concerned with leverage in the financial sector and preventing 'regulatory arbitrage' (that is, the shifting of activities to financial firms subject to less regulation). Borio (2009) was correct to paraphrase Milton Friedman: "we are all macroprudentialists now".

It is also the case that post-Keynesians viewed the deregulatory push in the financial sector from the late 1970s with reservation. Minsky (1975; 1986) urged policymakers to revisit and update the regulatory apparatus, saying that what worked in the past may no longer continue to do so, especially in the case of financial innovations. A Minskyan catchphrase is 'stability is destabilising', by which it is meant that the seeds of financial fragility tend to be sown not merely in a period of macro stability, but because *there is* relative tranquillity.⁴ While some borrowers may be deceptive, and some lenders reckless or gullible, the build-up of leveraged risks is not solely due to irrational behaviour. Instead, as explained by Kregel (2008: 9), it can also be because the 'expansion itself, rather than any change in evaluation on the part of lenders, validates riskier projects'.⁵

Some common ground exists between post-Keynesians and the Austrian Schools (other than the fact that Hyman Minsky's doctoral supervisor was Joseph Schumpeter).

2. Greenspan ignored, amongst other things, the warnings of Fed Governor, Edward Gramlich (2000), on the growth of predatory lending practices in the US subprime residential mortgage market.

3. I refer the reader to a 2009 paper by the IMF's Strategy, Policy, and Review Department that criticised the Fund for its overly optimistic assessments prior to the crisis, such as in its biannual *World Economic Outlook*, while commending the BIS's *Annual Reports* for having outlined downside risks (IMF 2009).

4. Lavoie/Seccareccia (2001) make the point that there need not be an automatic increase in fragility merely because firms expand investment, as some portion of those expenditures will flow back to firms as profits.

5. Kregel (2008) argues that lending standards in subprime mortgage markets did not deteriorate gradually in view of feedbacks between the state of the economy and credit performance, as in the typical Minskyan story; instead, the margins of safety in subprime loans were always insufficient. Nesvetailova (2007) finds relevance in a Minsky-type weakening mechanism, where financial expansion and growth in financial layering give the impression that the financial sector is becoming more liquid, when it is actually becoming more illiquid.

Foremost of these is the need for a more realistic appraisal of the role of the financial sector in the macroeconomy and the potential for financial instability. Borio/Disyatat's (2011; 2015) criticism of the textbook depiction of banks as pure intermediaries of 'loanable funds' echoes the endogenous money approach that has been a pillar of the post-Keynesian tradition since at least Kaldor (1970).⁶ Post-Keynesians can also agree with White (2009) that mainstream economics has been on the wrong track. When the crisis was still mainly a US phenomenon, the BIS (2008: 7) acknowledged that 'Hyman Minsky's work in the 1970s seems of particular relevance to current circumstances'. The BIS picked up the notion of a 'Minsky moment', which is when financial markets recoil all at once from risk and liquidity dries up. The BIS, however, was not interested in Minsky's Keynesianism. By contrast, Minsky (1975; 1986) attributed the prosperity during the post-World War II era to the stabilising roles of Big Government and Big [Central] Bank. He was aware that interventions might validate risky behaviour yet he remained committed to reflationary policies because the alternative of mass impoverishment was unpalatable. Where Minsky and Schumpeter diverge most, as Keynes and Hayek did before them, is about the merits of counter-cyclical macro policy.

3 'FINANCIAL IMBALANCES': THE NEW 'FORCED SAVING'/ 'MAL-ADJUSTMENT'

For any revival which is merely due to artificial stimulus leaves part of the work of depressions undone and adds, to an undigested remnant of maladjustment, new maladjustment of its own which has to be liquidated in turn, thus threatening business with another crisis ahead. (Schumpeter 1951 [2009]: 117)

A number of years ago, the then president of the Deutsche Bundesbank ... asked ... the BIS to prepare a paper on 'short-termism' ... [I]t emerged that a number of puzzling and worrying recent developments seemed to have had earlier historical precedents ... [T]he contribution of the Austrian school of economics seemed to provide some clues as to the origins of these worrisome developments. (White 2006: 6)

When the BIS began advocating its macrofinancial stabilisation framework in mid 2005 the advice ran contrary to the optimistic theme of the Great Moderation (Bernanke 2004). A paper outlining the case by the then Chief Economist of the BIS, William White (2006), began with two quotes. The first, from Keynes (1923: 80), included the passage '*In the long run we are all dead*' (emphasis in original), which is often invoked by advocates of policy activism. It is unfair to depict Keynes as unconcerned with counter-cyclical policy, including prudential regulation, to curb financial excesses during upswings in the business cycle. Keynes (1936) was clearly aware of the ill effects of 'short-termism' as per his disparaging analogy that financial markets make decisions akin to a beauty contest but with market participants guessing the opinions of the judges. He advised that constraints on financial activities were needed, particularly at the international level, to safeguard autonomy over macro policies. Keynes also recommended in his proposal for an International Clearing Union that symmetric obligations be placed on surplus and deficit nations to prohibit sustained external disequilibria.

The second quote was from Mises (1912 [1953]: 14) and included this passage: 'the task of economics is to foretell the remoter effects, and so to allow us to avoid such acts as

6. It is worth pointing out that the explanation given in Borio/Disyatat (2011) for the determination of the set of market rates is analogous to that of the post-Keynesian horizontalist school (Lavoie 1996).

attempts to remedy a present ill by sowing the seeds of a much greater ill for the future'. The BIS's advice was for monetary authorities to 'lean against the wind' to prohibit so-called 'financial imbalances'. Borio/Lowe's (2002) conceptualisation of 'financial imbalances' was deviations, relative to the long-term trend (and above a threshold), in the growth of non-financial private sector credit and real asset prices (with a preference for residential prices over equity prices) scaled against gross domestic product (GDP). The phrase 'imbalances' is also used loosely in reference to sectoral saving rates, investment patterns, current-account positions and various debt and leverage ratios. The phrase is a loaded term, particularly when used analogously for the private and public sectors.

The Austrian School is a fairly sophisticated version of orthodoxy insofar as the tradition recognises that uncertainty and credit – including endogenous money – matter to financial stability. Its proponents are highly sceptical of the 'efficient markets hypothesis' where the underlying 'fundamentals' are always perfectly reflected in market prices. Instead, a concern is the potential for a process of cumulative disequilibria away from the Wicksellian 'natural rate of interest'. Unlike Wicksell (1898 [1936]), as well as Friedman (1968) and Woodford (2003), who theorised monetary disequilibrium as taking the form of inflation, for Hayek (1933; 1935) there was also the potential for a sectoral and intertemporal misallocation of resources (between consumer-good and capital-good-producing firms). Hayek (1933; 1935) bundled his ideas on the causes of crises under the term 'forced saving'. The New Austrian School bundles similar ideas under the fuzzy concept of 'financial imbalances'. For Hayek, the root of monetary disequilibrium *was* endogenous money:

If it is admitted that, in the absence of money, interest would effectively prevent any excessive extension of the production of production goods, by keeping it within the limits of the available supply of savings [and thereby] ... never lead to disproportionate extensions, then it must also necessarily be admitted that disproportional developments in the production of capital goods can arise only through the independence of the supply of free money capital from the accumulation of savings; which in turn arises from the elasticity of the volume of money. (Hayek 1933: 92)

Apparently, if banks could not create money, then the many possible ills that could beset a capitalist economy would be resolved. Members of the Old Austrian School devoted themselves to 'pure theory' and were sceptical of empirical research. That their 'pure theory' was flawed and its proponents were hostile to reflationary policies is why the school all but disappeared from the halls of academia by the end of the 1930s.⁷ For the Old Austrian School, and Hayek in particular, the key issue was price stability at the aggregate-level *and* relative prices. Once the proportionality between consumer-good and capital-good-producing firms was disturbed, the only outcome that Hayek could foresee was a reversal back to the initial equilibrium. Reflationary policies could only further distort relative prices and push the economy further away from equilibrium. Indeed, for Hayek (1935: 98–99), higher consumer spending financed by credit could not mitigate the effects of a recession but only lay the seeds for a bigger crisis through affecting sectoral 'proportionality':

If the proportion [between demand for consumers' goods and producers' goods] as determined by the voluntary decisions of individuals is distorted by the creation of artificial demand, it must mean that part of the available resources is again led into a wrong direction and a definite and lasting adjustment is again postponed. And, even if the absorption of the unemployed resources

7. One fault with the Old Austrian School theory of capital is its marginalist foundations. The 1960s Cambridge capital controversies established that there are no straightforward links between relative prices, the scarcity of capital and its remuneration in a world of heterogeneous goods.

were to be quickened in this way, it would only mean that the seed would already be sown for new disturbances and new crises. The only way permanently to ‘mobilise’ all available resources is, therefore, not to use artificial stimulants – whether during a crisis or thereafter – but to leave it to time to effect a permanent cure by the slow process of adapting the structure of production to the means available for capital purposes.

The passage is reminiscent of Schumpeter’s (1951 [2009]) view as quoted at the beginning of this section. Hayek (1935: 128) adds that his arguments on ‘artificial’ demand can be extended to explain why ‘certain kinds of State action, by causing a shift in demand from producers’ goods to consumers’ goods, may cause a continued shrinking of the capitalist structure of production, and therefore prolonged stagnation’. In other words: there is no role for fiscal stimulus. The concepts of ‘mal-adjustment’ and ‘mal-investment’ occupy a crucial role in Austrian School theories of the business cycle, albeit more explicitly so in the work of earlier contributors. The basic idea is that there is less pain in the long run if the investments – made during a boom (and during a process of cumulative disequilibria) in excess of that justified by the imaginary ‘natural rate of interest’ – were to exit the economy.⁸ The market must be allowed to find some said ‘natural’ bottom.

The standard Keynesian reply is that depressions would occur more often if policy-makers stood idly by. Since the crisis began, the policy advice from the BIS has been consistent with that of the Old Austrian School, which holds that it is less painful at least in the long run to let an economy deflate now (so that ‘mal-investment’ exits the system) than to try a Keynesian-styled reflation. The BIS has consistently advised global policy-makers to curb expansionary monetary and fiscal policies. In its Annual Report published in June 2009, the BIS was already advocating fiscal consolidation in every country *before* any troubles in the GIIPS and even *while* the global economy was enduring its steepest contraction during the post-WWII era:

Perhaps the largest short-term risk associated with the expansionary policies is the possibility of a forced exit ... While their effectiveness remains in doubt, the expansionary policies put in place in 2008 and 2009 will nonetheless have long-term consequences, the most important stemming from the large amount of public debt they will generate ... To return to the case of the US stimulus package, the CBO [Congressional Budget Office] estimates that the package will lower future growth by 0.2% of GDP per year in the long term. Getting public finances in order will therefore be the main task of policymakers for years to come. (BIS 2009: 114–115)

The authors’ doubts about the efficacy of expansionary policies included unconventional monetary policies as well. They would presumably claim prescience in warning of a ‘forced exit’. However, there was no specificity to the EMU or an awareness of the faults that made its members exceptionally vulnerable to sovereign debt crises, as we will discuss in Section 4. In mid 2009 the global economy was still in freefall: the requirement was for pump-priming not ‘some smoothing’. In chapter I of the 2009 BIS *Annual Report* the ‘imbalances’ identified there could apparently all be alleviated by curbing expansionary macro policies in advanced economies. Anti-Keynesianism was enveloped in a rallying call to not impede the inevitable ‘adjustment’ to unsustainable [financial] ‘imbalances’ (that is, a process of cumulative disequilibria away from the Wicksellian ‘natural rate’). The rise in the rates of unemployment and underemployment was not considered an ‘imbalance’.

8. I say ‘imaginary’ here because Wicksell’s (1898 [1936]) ‘natural rate’ is some interest rate that would occur in a barter economy where there is no money.

In 2009 Stephen Cecchetti became the BIS's new Chief Economist and went from a flag bearer of the Great Moderation (Cecchetti et al. 2006) to worrying intensely about levels of public debt. The future fiscal costs of ageing populations, along with Reinhart/Rogoff's (2010) faulty claim (as shown by Herndon et al. 2014) that high levels of public debt hurt growth, made it into the BIS's 2010 *Annual Report*. The BIS is guided by the Old Austrian School idea that if 'prudence' is to exist in the long run then it must also apply to the short run. That the BIS (2011: xvi, 1) has repackaged the Old Austrian School theme of 'forced saving', 'mal-adjustment' and 'mal-investment' is indicated in this passage:

Addressing overindebtedness, private as well as public, is the key to building a solid foundation for high, balanced real growth and a stable financial system. That means both driving up private saving and taking substantial action now to reduce deficits in the countries that were at the core of the crisis ... But we must guard against policies that would slow the inevitable adjustment. The sooner that advanced economies abandon the leverage-led growth that precipitated the Great Recession, the sooner they will shed the destabilising debt accumulated during the last decade and return to sustainable growth. The time for public and private consolidation is now.

The call for the private and public sectors to consolidate 'now', and in no less than *all* advanced economies, was a recipe for stagnation. The advice is subject to fallacy of composition effects akin to Keynes's (1936) 'paradox of thrift'. In the above passage, 'private saving' may refer to the financial component of the sector's saving. The net lending/borrowing of all sectors must sum to zero. If the private and public sectors are both consolidating, with this implying upward shifts in the net lending/borrowing of those sectors, there *must* be a downward shift in the foreign sector's net lending/borrowing (that is, an improvement in the current account of all economies). The BIS sees no contradiction in why a 'beggar-thy-neighbour' path to recovery cannot work for everyone.

Lavoie (2015) discusses the commonalities and differences between Keynes's 1940s plan to create an International Clearing Union and the EMU. One difference is that the latter system lacks procedures that would place symmetric pressures on creditor nations in order to address their role in creating external disequilibria. Borio/Disyatat (2011; 2015) are sceptical that nations with large external surpluses should take any measures to expand domestic demand as doing so may create 'financial imbalances'. The contractionary impetus of Germany's large current-account surpluses on the global economy, and on other EMU members (who are further constrained by an inability to use currency devaluation to regain competitiveness vis-à-vis Germany), is therefore a non-issue. The 'natural' consequences of adhering to the New Austrian School's advice on macro policy seem to be neo-mercantilism (see Germany) and/or anaemic economic growth (see the EMU).

That the BIS (2011: 1) sees itself as a guardian against the policies that 'would slow the inevitable adjustment' is a page from Mises, Hayek and Schumpeter. It must be underlined that Hayek's (1933; 1935) analysis as it concerns inevitable crises of disproportionality arising from 'forced saving', and the objections to 'artificial' demand and *any* money creation, would strike most as impracticable. Within Hayek's framework a crisis of 'disproportionality' can only be resolved by re-establishing proportionality, not at a higher level of output, but by deflating back to the initial equilibrium. An inevitable reversion back to the 'mean' average is what underlies the New Austrian School's fuzzy concept of 'financial imbalances', as we will see in Section 5. First it is necessary to examine the apparent lessons drawn from the crisis by the New Austrian School.

4 AUSTRIAN SCHOOL CRISIS LESSONS: LOW FISCAL MULTIPLIERS, 'FISCAL BUFFERS' AND REMOVING THE SOVEREIGNS' PREFERENTIAL TREATMENT IN PRUDENTIAL REGULATION

Unless we restore a situation in which governments (and other public authorities) find that if they overspend they will, like everyone else, be unable to meet their obligations, there will be no halt to this growth [of government expenditure] ... Nothing can be more welcome than depriving government of its power over money. (Hayek 1976: 91–92)

[T]he sovereign's ability to 'print money' reduces, although does not eliminate, credit risk. But it may do so at the expense of inflation risk ... The euro area debt crisis has reminded us that sovereign defaults are no longer confined to history or less developed economies ... Moving to a more balanced treatment [in prudential regulation] that acknowledges the risky nature of public debt would provide a clear signal that no asset is truly default-free. (BIS 2016: 19, 86, 92)

In 2012 and 2013, with the recovery turning out weaker than expected, the debate turned to the size of the fiscal multipliers. A number of New Keynesians argued that fiscal multipliers were likely to be higher, invoking the old Keynesian concepts of a *liquidity trap* and *secular stagnation*.⁹ The counterview was that fiscal multipliers were normal or more likely *lower than normal* because: (i) public debt is higher *ergo* so is public sector 'crowding out' of private investment; or (ii) the economy is in a balance-sheet recession *ergo* the flipside to higher 'saving' by private agents is lower discretionary spending. An advocate of the second position is the BIS (2012: 62).

Borio (2012) accepts Koo's (2009) concept of a 'balance sheet recession' while rejecting his call for fiscal reflation. The gist of Borio's argument is that traditional fiscal policy is less effective when private agents face a stock problem (debt overhang); hence, fiscal policy would be more effective by directly targeting the stock problem (debt restructuring). There is some merit in that recommendation during the acute phase of a crisis. On closer inspection there is, as Keynes would say, scope for 'many a slip twixt the cup and the lip' in respect of putting the advice into practice. For Minsky (1975; 1986) the state of the economy is itself a determinant of whether a borrower is in good or poor standing (and thereby lenders too). Therein the task becomes more complicated. Policymakers encounter non-linear risks in a financial crisis. Traditional fiscal policy can reduce downside financial risks by sustaining demand, jobs and thus – the processes of income generation – which allow more private agents to remain current on debt servicing. In a balance-sheet recession, as Koo (2009) argues, policymakers may have to rely more on fiscal policy because monetary policy works by inducing private agents to take on debt, which is what private agents do not want to do.

It is difficult to see how failing to deploy traditional fiscal policy to limit and reduce the ranks of the unemployed could assist recovery (and if only because employment is a key determinant of the ability of private agents to remain current on debt servicing). Demand-side constraints can persist beyond the acute phase of the crisis. What should policymakers do when private agents are not deleveraging from debt and are instead reluctant to re-leverage? Under such circumstances a decision to lower public spending means less spending. Without that expenditure and income *flow*, some of which will be saved in net financial terms by private agents (assisting the repair of balance sheets on the *stock* side), the conditions for robust recovery will be delayed or another recession will ensue. Furthermore, as the EMU's 'double-dip' recession attests, the absence of counter-cyclical

9. See Delong/Summers (2012), Eggertsson/Krugman (2012), Blanchard/Leigh (2013) and Summers (2014).

fiscal policy can undermine confidence. The private sector never bought the spurious logic of an *expansionary* fiscal austerity but factored in a reduction in aggregate demand that then became self-fulfilling.

What the New Austrian School instead points to in the EMU is a shortage of 'fiscal buffers'. According to this view, public debt-to-GDP ratios should not be stabilised at post-crisis levels or pre-crisis levels, but at lower levels. Borio (2012: 14–15) puts the rationale this way:

In the case of fiscal policy, there is a need for extra prudence during economic expansions associated with financial booms ... The recent experiences of Spain and Ireland are telling. The fiscal accounts looked strong during the financial boom: the debt-to-GDP ratios were low and falling and fiscal surpluses prevailed. And yet, following the bust and the banking crises, sovereign crises broke out.

What the recent experiences of Spain and Ireland tell us is that the seeds of their crises had nothing at all to do with prior fiscal profligacy. Rather, the funding pressures on the public sector emerged as a result of the unravelling of private debt loads and the costs incurred in rescuing the financial sector. Going into the crisis, the public debt-to-GDP ratios of Ireland and Spain were comparatively low, at 24 and 36 per cent respectively in 2007. It is hard to imagine how Ireland or Spain could have built sufficient 'fiscal buffers' to deal with their crises unless public debt was zero or a negative value: perhaps that is what BIS analysts believe is 'prudent'.

Moreover, the apparent crisis lesson of 'fiscal buffers' misses the mark, insofar as the most consequential fault in the EMU was that its members had a central bank sitting on the sidelines as sovereigns were subject to destabilising financial attacks (Lavoie 2015). The region was made to be vulnerable to sovereign debt crises because of the self-imposed and ultimately harmful prohibitions on central bank monetary financing (Draghi 2014). That structural fault was built into the euro by deliberate design (and is of Hayekian intellectual influence).¹⁰ The BIS (2015: 113) construes the EMU debacle as showing that 'sovereigns' preferential status rests on a misleading argument ... [according to which monetary authorities will] monetise domestic currency sovereign debt in order to prevent defaults on this debt'. Another New Austrian School crisis lesson is that it is no longer tenable or desirable to maintain a preferential treatment for sovereign debt exposures in bank prudential regulation.

Eliminating the present favourable treatment of sovereign exposures would have several benefits. Ex ante, it would discourage the build-up of large bank exposures in domestic sovereign bonds, thus also limiting moral hazard ... Ex post, it would make banks better capitalised ... Critics argue that self-fulfilling liquidity crises may become more likely; and by limiting the room for countercyclical fiscal policy, country risk and hence the health of banks may deteriorate. However, reducing the scope for banks to play this role could improve the ex ante incentives towards sound fiscal policy, thus making market stress less likely in the first place. (BIS 2016: 91)

For metrics to measure sovereign risk the BIS suggests external credit ratings, spreads on credit default swaps and the public debt-to-GDP ratio. For regulatory instruments the BIS suggests 'risk weights' that would increase required capital per unit of holdings, or 'large exposure limits' that would increase required capital beyond some threshold (effectively capping holdings), or both. BIS analysts would presumably see merit in extending such a 'no asset is default-free' approach to capital and liquidity requirements across the entire financial sector. Even if applied only to banks, the policy could have profound

10. See Issing (1999) for a discussion of Hayek's (1960; 1976) influence on the design of the euro.

effects. Counter-cyclical fiscal policy would become a risky venture. If pro-cyclical fiscal policy becomes the norm, downturns will be amplified, accompanied by higher default rates and higher capital losses for banks. Furthermore, with the sovereign's debt no longer functioning as a 'safe' asset in the domestic financial system, investors may flee abroad at the first sign of financial distress because there will no longer be a sovereign entity capable of providing a funding backstop under the financial sector (through deposit insurance and equity injections).

When the euro was on the brink of self-disintegration during 2011 and 2012 the BIS was not amongst the voices calling for the European Central Bank (ECB) to intervene in sovereign bond markets. Monetary financing can lower bond yields and bolster confidence in the sovereign's capacity to service debt. Borio et al. (2016: 7) instead argue that monetary financing threatens fiscal strength:

[Using current debt service ratios in sovereign ratings] may provide an incentive to boost spending and/or cut taxes to sustain aggregate demand at the cost of weakening fiscal strength over the longer term. Large-scale purchases of sovereign debt by central banks add to this vulnerability: from the perspective of the consolidated public sector balance sheet, they amount to issuing liabilities indexed at the very short-term rate (bank reserves) while retiring longer-maturity debt ... This increases the sensitivity of the debt service burden to the eventual normalisation of policy.

Substituting reserves for sovereign debt amounts to the consolidated public sector issuing debt at the lowest rate: the policymaker-determined rate on reserves. The central bank's demand for sovereign debt will also place downward pressures on bill rates and bond yields. Furthermore, as we saw when the President of the ECB belatedly pledged 'to do whatever it takes to preserve the euro' (Draghi 2012), the promise brought down sovereign bond yields. A key policy lesson of the EMU debacle is that central bank intervention should be automatic when there is excessive speculation; for example, Hein (2013) suggests that an intervention could be triggered whenever bond yields exceed the long-run nominal growth rate of the economy.

5 'FINANCE-NEUTRAL' OUTPUT GAPS AND 'SUSTAINABLE' OUTPUT MINUS EMPLOYMENT

Reasonably interpreted ... these two aims [a stable level of prices and of employment] are not necessarily in conflict, provided that the requirements for monetary stability are given first place and the rest of economic policy is adapted to them. (Hayek 1960: 336–337)

Domestic policy regimes have been too narrowly concerned with stabilising short-term output and inflation and have lost sight of slower-moving but more costly financial booms and busts ... Short-term gain risks being bought at the cost of long-term pain. (BIS 2015: 3)

The New Austrian School attack on Keynesian demand management has been advanced in part by querying estimates of potential output. Borio et al. (2013) argue that so-called 'finance-neutral' output gaps provide a more reliable basis to guide macro policymaking than existing approaches. The authors report that their methodology (which involves 'adding economic variables [such as the 'credit gap'¹¹] to the HP [Hodrick–Prescott] filter

11. Borio et al.'s (2013) 'credit gap' refers to statistical deviations in the ratio of private non-financial sector credit to GDP from the long-run 'mean' trend (calculated over some arbitrarily selected time horizon).

observation equation for output and use the Kalman filter to derive new estimates of potential output' (ibid.: 8)) is able to produce more robust 'real time' estimates of output gaps for Spain, the UK and the US. An OECD working group experimented with the methodology for Canada, France, Germany, Greece, Ireland, Italy, Japan, Portugal, Spain, the UK and the US. Their results will be returned to below.

First, and taking a step back, Borio et al.'s (2013) 'finance-neutral' output gap is an extension of Borio/Lowe's (2002) somewhat tentative exploration into the ability of 'financial imbalances' (that is, statistical deviations of broad financial aggregates from the long-run 'mean' trend as a percentage of nominal output) to provide *ex ante* predictive content on the probability of a future financial crisis. Extending that approach to output gaps would have far-reaching consequences. First, the output gap is meant to provide an indicator of slack in the economy in theory, and thus provide an input into decisions on monetary policy and fiscal policy. In the EMU the estimation of potential output takes on additional importance as the region's arbitrary fiscal rules are devised in respect of the cyclically adjusted budget balance. Returning to the OECD working group, they state the overall impression from their experimentation with 'finance-neutral' output gaps as follows:

[T]he estimates of the alternative measures of sustainable output are sensitive to the choice and specification of the imbalance indicators and that the appropriate imbalance indicators are likely to differ between countries. This in turn emphasises that a degree of judgement is required in applying such methods, and also raises a problem that it may only be clear with hindsight (*i.e.* after a major boom/bust episode) which are the most appropriate imbalance indicators to use. (OECD 2013: 21)

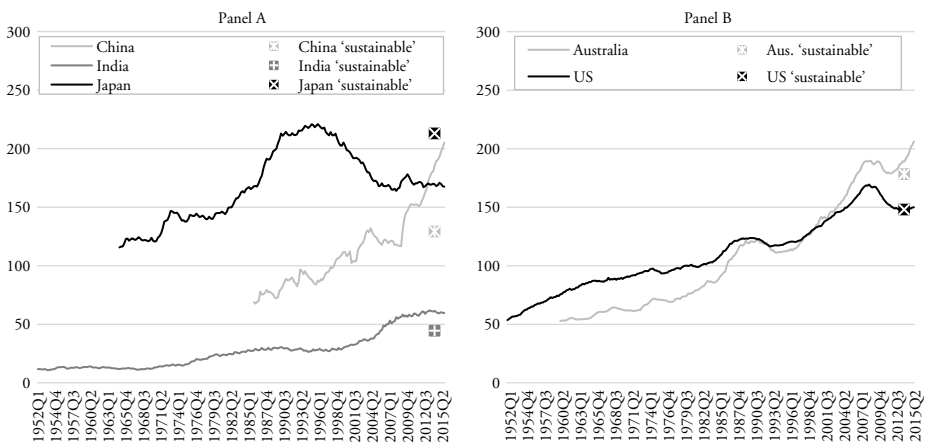
In short, the methodology is no panacea and can produce perverse results. For example, in the case of Canada, the OECD's 'finance-neutral' output gap showed that the economy had been in a constant state of overheating since 2000 (except a few quarters in 2009). Realistically, growth in the Canadian economy was subdued post-crisis, as elsewhere. The OECD working group remarks on Japan that it illustrates 'the sensitivity of the gap estimates to the particular specification of the imbalance indicators' (ibid.: 20). In particular, Japan's 'finance-neutral' output gap is on average 3 percentage points lower since 2000 if the deviation from the long-run 'mean' trend is the average since 1970 compared to that since 1986. Of further interest is the OECD's observation that in 2013 'finance-neutral' output gaps 'could currently be between 2 and 6 percentage points smaller for Greece, Ireland, Italy, Portugal and Spain, although, as previously suggested, these estimates need to be interpreted with particular caution' (ibid.: 24). With particular caution indeed. The EMU emerged very slowly in 2013 from a second recession with very high rates of unemployment in the GIIPS nations (above 25 per cent in Greece and Spain). Only the Austrian School could imagine a framework for 'sustainable' output where policymakers are to formulate policy with zero input from the informational content of employment. One must assume that employment is neither a variable that affects 'debt sustainability' nor of much interest to public policymaking.

Implicit to the fuzzy concept of 'financial imbalances' is that mean-reverting tendencies can be easily identified ahead of time, and reliably so, by some methodology where the future mirrors the past more or less as in the straight lines of Euclidean geometry. The notion of a 'credit gap' is not straightforward, if only because the metric compares the change in a stock to a flow. It is more intuitive to assess *potential* debt vulnerabilities through flow-to-flow or stock-to-stock measures. Perhaps for this reason the BIS (2014) sees merits in calculating 'sustainable' debt-service ratios. Graph IV.8 in the 2014 BIS *Annual Report* heralds that 'debt sustainability requires deleveraging across the globe' (BIS 2014: 80). The data in the graph show the change that is required in the ratio of private non-financial sector

credit-to-GDP (hereafter credit-to-GDP ratio) to obtain the 'sustainable' debt-service ratio calculated as follows: 'Debt service ratios are assumed to be sustainable if they return to country-specific long-run averages. Averages are taken since 1985 or later depending on data availability and when five-year average inflation fell below 10%' (ibid.).

Figure 1 shows the credit-to-GDP ratio for selected countries. Panel A shows data for China, India and Japan. The markers for 'sustainable' show the BIS's calculation of the change that is required in the credit-to-GDP ratios to obtain the said 'sustainable' debt-service ratios at the then prevailing interest rates.¹² Apparently, China needed to *decrease* its credit-to-GDP ratio by 56.3 percentage points, whereas Japan needed to *increase* its ratio by 43.3 percentage points. By the BIS's methodology, the 'sustainable' credit-to-GDP ratio for Japan is 84 percentage points higher than that of China, and 168 percentage points higher than that of India. With different reference years there would be different 'sustainable' debt-service ratios and credit-to-GDP ratios. A noteworthy attribute of an advanced economy is the development of financial markets that thereby enables output growth to be driven more by domestic demand. According to the New Austrian School's mantra of preventing 'financial imbalances' calculated on the basis of long-term historical norms, India should never deepen its credit markets, simply because it has not done so in the past.

Panel B shows data for the Australian and US economies. Those countries had comparable macro patterns prior to the global financial crisis: both had a run-up in private non-financial sector debt, booming residential prices and large external deficits. Yet, whereas the US economy was the epicentre of a global financial market malfunction, the Australian economy has outperformed other advanced economies since the global financial crisis. To understand why, one must look beyond the informational content of broad financial aggregates and consider the 'toxic' financial products (for example,



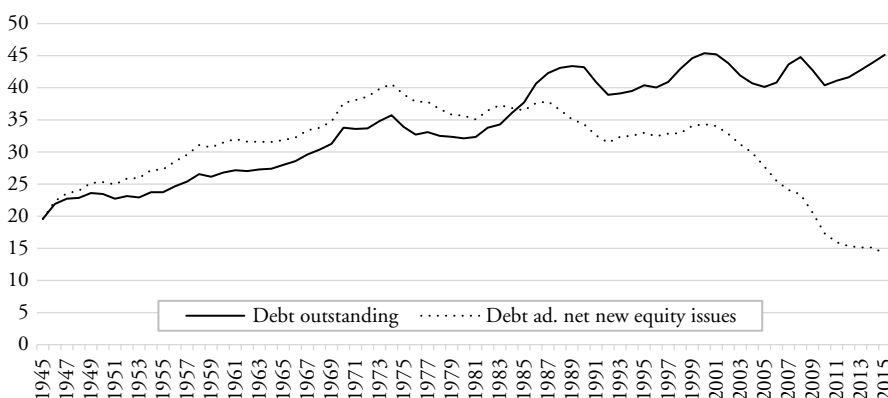
Sources: BIS (2014: 80); BIS, Database Long Series on Total Credit to the Non-Financial Sectors.

Figure 1 Private non-financial sector credit per cent GDP for selected countries

12. The BIS's *Annual Reports* are published in June and cover the period from April in the preceding year to the end of March in the current year. In Figure 1 the 'sustainable' markers add the percentage point change in the data in the BIS's (2014: 80) graph IV.8 to the credit-to-GDP ratios at the end of the first quarter 2014.

subprime residential mortgage securities, collateralised debt obligations) that were issued in the US but not in Australia. At most, looking at broad financial aggregates can only hint vaguely at the potential for disturbances. The specifics matter. As another example, take the prominent role of 'toxic' financial products in the US crisis versus the prominent role of flawed institutions in the EMU's 'self-made' crisis. Godley (1992) presciently warned that there was an 'incredible lacuna' at the heart of the Maastricht programme. Regrettably, the EMU's founders constrained fiscal policy at the national level (for example, arbitrary fiscal targets, excessive deficit procedures and prohibitions on central bank monetary financing), while failing to foresee the need for a centralised fiscal authority that could undertake counter-cyclical fiscal policy at the regional level.¹³

To proclaim that 'debt sustainability requires deleveraging across the globe' (BIS 2014: 80) on the basis of an imprecise methodology is scaremongering. Movements in the credit-to-GDP ratio reflect structural as well as cyclical factors. At least some portion of the rise in China's credit-to-GDP ratio is due to multinational companies relocating production. The BIS's 'sustainability' analysis is myopic on structural changes as well as changes to financial practices, notably non-financial corporations swapping equity for debt liabilities (motivated mainly by tax-minimisation objectives). Figure 2 shows the debt-to-GDP ratio for the US non-financial corporate sector. A second series, shown by the dotted line, adds the cumulative flow of net equity issues to the debt stock outstanding. Net equity issues have been mostly negative since the 1980s, which explains why the dotted line runs below the debt-ratio curve from the 1980s onwards. What is being suggested is that the sector's debt is higher by a non-trivial amount for the arbitrary reason that non-financial corporations have been borrowing to repurchase shares.¹⁴



Sources: US Federal Reserve, *Financial Accounts of the United States*, tables F.102 and L.102.

Figure 2 US non-financial corporate sector debt per cent GDP, 1945–2015

13. The possibility that collective crisis-resolution mechanisms may be required was not so much overlooked by the EMU's founders as explicitly prohibited, through the no-bail-out clause for member states.

14. Note that, whether non-financial firms obtain funds to repurchase shares by borrowing or by drawing on undistributed profits, the effect is to swap equities for debt liabilities. A decision to use undistributed profits to repurchase shares is a decision to *not* use those funds to pay down debt outstanding.

A corollary is that the informational content of that sector's debt is distorted, and not merely because firms do substitute equities for debt liabilities, but because the extent to which they engage in that financial practice varies from year to year (and cycle to cycle).¹⁵

What the New Austrian School hopes to find in a 'finance-neutral' output gap freed from any concerns with employment is an operational anchor for a Hayekian version of the Wicksellian 'natural rate of interest'. Juselius et al. (2016) estimate a 'finance-neutral' output gap and a 'finance-neutral' *natural rate*. The latter is 'associated with *full long-run equilibrium*: output, inflation and financial gaps are all closed' (ibid.: 21, emphasis in original). The financial gaps are threefold: 'credit gap', 'debt service gap' and a 'leverage gap' (for real asset prices). Where does the public sector fit into this story? Borio et al. (2016: 2) argue that the 'finance-neutral' output gap methodology could be developed into 'a more holistic approach to measuring underlying fiscal strength'. A worry is that their approach to potential output 'recognises only slowly the permanent loss of output that appears to be a stylised feature of financial crises' (ibid.: 15). This is a problem because, after a financial bust, 'the size of the output gap is overstated for some time. As a result, so would be the fiscal space' (ibid.). As a solution, the authors suggest 'allowing for more discontinuous (non-linear) adjustments in the statistical properties of GDP' (ibid.). For example,

if a crisis occurs, it should be possible to make adjustments based on the fact that, as the historical record indicates, such episodes have tended to result in permanent output losses. There are many ways in which this could be done, from ad hoc revisions based on the typical historical experience to the inclusion of judgmental elements supported more formally by Bayesian methods. (ibid.)

Countries with cyclically adjusted fiscal rules would have to tighten fiscal policy as a result of the *pre-emptive* non-linear adjustments to potential output. The consequence would be to tie policymaker hands when fiscal actions are needed to counteract the effects of the crisis. In the 'finance-neutral' story one needs a fervent sense of fatalism about permanent output losses and a staunch belief that fiscal policy cannot positively affect the path of output growth. One must thus disregard the possibility that fiscal austerity could amplify initial financial disturbances into an even bigger crisis (through negative feedbacks on output, employment, default rates and buffers in the financial sector). Post-crisis, one must either deny or be willing to overlook the possibility that fiscal austerity could depress the supply-side productive capacity of the economy – and contribute to a protracted stagnation – through 'Kaldor–Verdoorn effects' operating in reverse.¹⁶

Borio et al. (2015) argue that explanations of the post-crisis stagnation have overemphasised aggregate demand effects. They instead point to sectoral-level misallocations of labour resources. Putting the pieces together: (i) the downward revisions to potential growth rates, while alarming, represent a return to 'sustainable' output; and (ii) demand-side policies are a limited and/or superficial way to boost economic growth. It is worth underlining that

15. When we consider that non-financial firms borrow for disparate purposes (for example, fixed capital, inventories, stock repurchases, domestic mergers and acquisitions, direct and portfolio investment abroad), and that those disparate purposes vary from year to year, it is not clear how a broad financial aggregate such as 'private non-financial credit' could give policymakers much clue on 'sustainable' output. The same, with several examples tied to its distribution by income or net wealth groups, could be said about household debt.

16. The Kaldor–Verdoorn law refers to the well-documented positive empirical relation between output growth in manufacturing and aggregate labour productivity. The term 'Kaldor–Verdoorn effects' refers to the broader positive relation between output growth and aggregate labour productivity that Kaldor (1957) first posited in his technical progress function. See Lavoie/Stockhammer (2013) for a discussion.

deflationary policies *aim* to deflate the economy by contracting aggregate demand. Success implies a contraction in output, sales, profits, wages, employment and capacity utilisation across all sectors. The Greek economy provides the stellar example of ‘successful’ deflationary policies. How then do BIS analysts foresee a path to prosperity? They do so through structural reforms such as ‘trimming public sector bloat’ (BIS 2014: 15) and ‘improving the flexibility of product and labour markets’ (BIS 2015: 18). Both reforms could intensify downward pressures on wages and demand. However, the BIS (2014: 15) is optimistic: ‘it is probably no coincidence that the United States, where labour and product markets are quite flexible, has rebounded more strongly than continental Europe’. Might it be that the EMU failed to rebound as strongly because it embraced fiscal austerity more so than elsewhere? Might it also be because the GIIPS sovereigns were allowed to be subjected to destabilising financial attacks?

Another inconsistency is that BIS analysts identify excessive ‘leverage-led growth’ as a fault but not ‘wage-led growth’ as a logical alternative. It is likely that the debt burdens of lower- to middle-income groups would have been far less onerous if their share of national income had not fallen so precipitously over the last 3 decades (Kumhof et al. 2013; Cynamon/Fazzari 2015). Rising income and wealth inequalities are also implicated in the ‘toxic’ financial products at the centre of the global financial crisis, as rich households tend to have a greater appetite for risk (Stockhammer 2015). To my knowledge the New Austrian School has yet to acknowledge inequality as an issue, let alone consider macro linkages, or the policy options to address that ‘imbalance’.

6 CONCLUSION

The global financial crisis and the EMU’s ‘self-made’ fiscal crisis have cast long shadows over the global economy. This paper has analysed the views of BIS staff on macro policy. On the one hand, when we consider that public officials were congratulating themselves on a Great Moderation and lauding an ‘invisible hand’ approach to financial regulation prior to the crisis, the critical view of BIS analysts on deregulated finance may appear as fresh thinking. On the other hand, when we turn to macro policy, the BIS is presenting stale thinking. The fuzzy concept of ‘financial imbalances’ – and fuzzier concept of ‘finance-neutral’ output gaps – are an Hayekian-inspired intellectual attack on the basis for Keynesian public policy interventions. We have seen the deleterious consequences from letting the recession run its course, with the EMU enduring a depression worse than the 1930s’ Great Depression. The lessons drawn by the New Austrian School from the EMU debacle include ‘fiscal buffers’ and prudential regulation to further erode the ‘safe’ asset status of sovereign debt. Additionally, when faced with financial disturbances, policymakers should recognise permanent output losses in a *pre-emptive* and non-linear manner so as to avoid overestimating ‘fiscal space’. More plausibly, the problems in the EMU that were exposed by the crisis had mostly to do with the flawed design of the eurozone that was based on an anti-Keynesian blueprint, and the mislaid push for a New Austerity (for example, the adoption of ‘debt brakes’ under the Fiscal Compact). Another missing macro link in the BIS’s story on the crisis and post-crisis stagnation is rising inequality.

Policymakers need to take seriously the possibility of financial instability. Simplicity may be gained in analysing the global financial crisis as a generic credit boom, but at a cost of relevance. The specifics matter. The New Austrian School’s story is about a generic credit boom that in the bust phase entails an inevitable adjustment that reflationary policies cannot alleviate. It is no coincidence that the region which most embraced deflationary policies fared the worst. It is also no coincidence that the EMU’s existential crisis was

brought under control through the adoption of expansionary monetary policies: large-scale asset purchases and a promise that the central bank's financing umbrella now extended to sovereigns. The political will for expansionary fiscal policy is still lacking in the EMU. An incredible lacuna will remain until the EMU builds the institutions that are necessary for a viable union. A high priority is the establishment of a regional-level capacity to undertake counter-cyclical fiscal policy on a macro-economically significant scale, both across the region, and also for members facing asymmetric shocks (for example, a centralised fiscal authority with borrowing powers). When the next crisis hits there should be no illusion that deflationary policies will *succeed* in deflating the economy and thereby *fail* to stabilise an unstable economy.

REFERENCES

- Bernanke, B. (2004): The great moderation, Remarks at the meetings of the Eastern Economic Association, Washington, DC, 20 February.
- Bernanke, B. (2007): Financial regulation and the invisible hand, Remarks at the New York University Law School, New York, 11 April.
- BIS (Bank for International Settlements) (various years): *Annual Report*, Basel: Bank for International Settlements.
- Blanchard, O.J. (2008): The state of macro, NBER Working Paper Series No 14259, Cambridge, MA: National Bureau of Economic Research.
- Blanchard, O.J., Leigh, D. (2013): Growth forecast errors and fiscal multipliers, IMF Working Paper WP/13/1.
- Borio, C. (2009): The macroprudential approach to regulation and supervision, *VoxEU.org*, 14 April, URL: <http://voxeu.org/article/we-are-all-macroprudentialists-now>.
- Borio, C. (2012): The financial cycle and macroeconomics: what have we learnt?, BIS Working Papers No 395, Basle: Bank for International Settlements.
- Borio, C., Disyatat, P. (2011): Global imbalances and the financial crisis: link or no link?, BIS Working Papers No 346, Basle: Bank for International Settlements.
- Borio, C., Disyatat, P. (2015): Capital flows and the current account: taking financing (more) seriously, BIS Working Papers No 525, Basle: Bank for International Settlements.
- Borio, C., Lowe, P. (2002): Asset prices, financial and monetary stability, BIS Working Papers No 114, Basle: Bank for International Settlements.
- Borio, C., Disyatat, P., Juselius, M. (2013): Rethinking potential output: embedding information about the financial cycle, BIS Working Papers No 404, Basle: Bank for International Settlements.
- Borio, C., Kharroubi, E., Upper, C., Zampolli, F. (2015): Labour reallocation and productivity dynamics: financial causes, real consequences, BIS Working Papers No 534, Basle: Bank for International Settlements.
- Borio, C., Lombardi, M., Zampolli, F. (2016): Fiscal sustainability and the financial cycle, BIS Working Papers No 552, Basle: Bank for International Settlements.
- Buiter, W. (2009): The unfortunate uselessness of most 'state of the art' academic monetary economics, in: *Financial Times*, 3 March.
- Cecchetti, S., Flores-Lagunes, A., Krause, S. (2006): Assessing the sources of changes in the volatility of real growth, NBER Working Paper No 11946, Cambridge, MA: National Bureau of Economic Research.
- Cynamon, B.Z., Fazzari, S.M. (2015): Rising inequality and stagnation in the US economy, in: *European Journal of Economics and Economic Policies: Intervention*, 12(2), 170–182.
- DeLong, B., Summers, L.H. (2012): Fiscal policy in a depressed economy, University of California Berkeley and NBER, Harvard University and NBER, Draft paper.
- Draghi, M. (2012): Speech at the Global Investment Conference, London, 26 July.
- Draghi, M. (2014): Unemployment in the euro area, Speech at annual central bank symposium, Jackson Hole, 22 August.

- Eggertsson, G., Krugman, P. (2012): Debt, deleveraging, and the liquidity trap, in: *The Quarterly Journal of Economics*, 127(3), 1469–1513.
- Friedman, M. (1968): The role of monetary policy, in: *American Economic Review*, 58(1), 1–17.
- Godley, W. (1992): Maastricht and all that, in: *London Review of Books*, 14(19), 3–4.
- Gramlich, E. (2000): Subprime lending, predatory lending, Remarks at the Community and Consumer Affairs Department Conference on Predatory Lending, Philadelphia, 6 December.
- Hayek, F.A. (1933): *Monetary Theory and the Trade Cycle*, New York: Sentry Press.
- Hayek, F.A. (1935): *Prices and Production*, 2nd edn, New York: Augustus M. Kelly.
- Hayek, F.A. (1960): *The Constitution of Liberty*, Chicago: University of Chicago Press.
- Hayek, F.A. (1976): Denationalisation of money, Hobart Paper Special No 70, London: The Institute of Economic Affairs.
- Hein, E. (2013): The crisis of finance-dominated capitalism in the euro area, deficiencies in the economic policy architecture, and deflationary stagnation policies, in: *Journal of Post Keynesian Economics*, 36(2), 325–354.
- Herndon, T., Ash, M., Pollin, R. (2014): Does high public debt consistently stifle economic growth? A critique of Reinhart and Rogoff, in: *Cambridge Journal of Economics*, 38(2), 254–279.
- IMF (International Monetary Fund) (2009): Initial lessons of the crisis for the global architecture and the IMF, Prepared by the Strategy, Policy, and Review Department, Washington, DC: International Monetary Fund.
- Issing, O. (1999): Hayek: currency competition and European Monetary Union, Speech at Annual Hayek Memorial Lecture hosted by the Institute of Economic affairs, London, 27 May.
- Juselius, M., Borio, C., Disyatat, P., Drehmann, M. (2016): Monetary policy, the financial cycle and ultra-low interest rates, BIS Working Papers No 569, Basle: Bank for International Settlements.
- Kaldor, N. (1957): A model of economic growth, in: *The Economic Journal*, 67(268), 591–624.
- Kaldor, N. (1970): The new monetarism, in: *Lloyds Bank Review*, July, 1–17.
- Keynes, J.M. (1923): *A Tract on Monetary Reform*, London: Macmillan.
- Keynes, J.M. (1936): *The General Theory of Employment, Interest, and Money*, London: Macmillan.
- Koo, R.C. (2009): *The Holy Grail of Macroeconomics: Lessons from Japan's Great Recession*, Singapore: Wiley.
- Kregel, J. (2008): Minsky's cushions of safety, Public Policy Brief No 93, Annandale-on-Hudson, NY: Levy Economics Institute.
- Kumhof, M., Rancière, R., Winant, P. (2013): Inequality, leverage and crises, IMF Working Paper WP/13/249.
- Lavoie, M. (1996): Horizontalism, structuralism, liquidity preference and the principle of increasing risk, in: *Scottish Journal of Political Economy*, 43(3), 275–301.
- Lavoie, M. (2015): The eurozone: similarities to and differences from Keynes's plan, in: *International Journal of Political Economy*, 44(1), 3–17.
- Lavoie, M., Seccareccia, M. (2001): Minsky's financial fragility hypothesis: a missing macroeconomic link?, in: Bellofiore, R., Ferri, P. (eds), *Financial Fragility and Investment in the Capitalist Economy: The Economic Legacy of Hyman Minsky, Volume II*, Cheltenham, UK and Northampton, MA: Edward Elgar, 76–96.
- Lavoie, M., Stockhammer, E. (eds) (2013): *Wage-led Growth: An Equitable Strategy for Economic Recovery*, Basingstoke, UK: Palgrave Macmillan.
- Lucas, R. (2003): Macroeconomic priorities, in: *American Economic Review*, 93(1), 1–14.
- Minsky, H.P. (1975): *John Maynard Keynes*, New York: Columbia University Press.
- Minsky, H.P. (1986): *Stabilizing an Unstable Economy*, New Haven, CT: Yale University Press.
- Mises, L. von (1912 [1953]): *The Theory of Money and Credit, New Edition*, New Haven, CT: Yale University Press.
- Nesvetailova, A. (2007): *Fragile Finance: Debt, Speculation and Crisis in the Age of Global Credit*, London: Palgrave Macmillan.
- OECD (2013): Uncertainty about potential output and the implications for underlying fiscal balances, Working Party No 1 on Macroeconomic and Structural Policy Analysis, Economic Policy Committee, ECO/CPE/WP1(2013)18.
- Reinhart, C., Rogoff, K. (2010): Growth in a time of debt, in: *American Economic Review*, 100(2), 573–578.

- Schumpeter, J. (1951 [2009]): *Essays on Entrepreneurs, Innovations, Business Cycles, and the Evolution of Capitalism, Eleventh Edition*, New Brunswick, NJ: Transaction.
- Seccareccia, M. (2012): Understanding fiscal policy and the new fiscalism, in: *International Journal of Political Economy*, 41(2), 61–81.
- Stockhammer, E. (2015): Rising inequality as a cause of the present crisis, in: *Cambridge Journal of Economics*, 39(3), 935–958.
- Summers, L.H. (2014): US economic prospects: secular stagnation, hysteresis, and the zero lower bound, in: *Business Economics*, 49(2), 65–73.
- White, W.R. (2006): Procyclicality in the financial system, BIS Working Papers No 193, Basle: Bank for International Settlements.
- White, W.R. (2009): Modern macroeconomics is on the wrong track, in: *Finance & Development*, IMF, December.
- Wicksell, K. (1898 [1936]): *Interest and Prices*, London: Macmillan.
- Woodford, M. (2003): *Interest and Prices*, Princeton, NJ: Princeton University Press.