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## Fiscal policy after the crisis: What role for fiscal policy in times of crisis, low interest rates and high public debts?

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Arne Heise

**Fiscal Policy After the Crisis:  
What Role for Fiscal Policy in Times of  
Crisis, Low Interest Rates and High  
Public Debts?**

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## **Abstract**

*In 2009, just before the full outbreak of the global financial crisis, Olivier Blanchard (2009) published an article giving a favourable appraisal of the state of macroeconomics. He came to this verdict on the basis that, after a long period of fierce theoretical debate, the discipline had converged on a model known as new consensus macroeconomics (NCM). In the models that made up NCM, fiscal policy played no role – or, to be more precise, fiscal policy had to follow a balanced-budget rule, with the task of stabilising an economy over the business cycle entrusted entirely to monetary policy (following a Taylor rule). And in the midst of the global financial crisis, Carmen Reinhart and Kenneth Rogoff (2010) proposed the figure of 90% of GDP as a threshold level for public debt which, if exceeded, would harm economic growth, leaving fiscal austerity as the best way to trigger economic recovery. Only a decade later, the economics profession now appears to have taken a very different view on fiscal policy: in order to cope with the next economic crisis, resulting from the coronavirus pandemic, most economists recommend an active fiscal policy stance and even a huge increase in debt-to-GDP levels. This paper will shed some light on these developments in economic policymaking and explore the future of fiscal policy.*

**JEL codes:** E62, H30, H62

**Keywords:** Fiscal policy, public debt, stabilisation policy

## ***Introduction***

Post-2007, the global financial crisis sparked a revival of Keynesian economics. On the one hand, the financial instability hypothesis of the post-Keynesian economist Hyman P. Minsky gained considerable prominence well beyond heterodox circles, as it appeared to provide an early prediction (see Minsky 1986) and *ex post* explanation of what mainstream economics found so difficult to reconcile with its postulate of self-regulation: the occurrence of an almost complete economic breakdown. On the other hand, Keynesian economic policy – i.e. expansionary monetary and fiscal measures – not only dominated the immediate governmental responses all over the world but also conquered an institution which was for many decades at the forefront of non-Keynesian policy advice: the International Monetary Fund (IMF; see Ban 2015a and 2015b). Although the policy responses might have been simply pragmatic rather than following a genuine policy reorientation, the revival of Keynesian thinking was only short-lived and the IMF's apparent paradigm shift insubstantial on closer inspection, the discussion about the importance of fiscal policy and its particular stance as a tool of economic management has nonetheless been reopened.

Stabilisation policy as a way to mitigate business cycle fluctuations and a form of macroeconomic demand management is inextricably linked to Keynesian economic thinking: only after the Great Depression of the 1930s did governments assume responsibility for targeted macroeconomic interventions (see e.g. Middleton 1985; Hall 1993) and they did so based on the principles associated with Keynes's new economics as set out in his *General Theory* or, rather, the interpretations put forward by prominent early Keynesians such as John Hicks, Paul Samuelson and Alvin Hansen in the famous IS–LM model. This interpretation of Keynes – commonly known as 'standard Keynesianism' or the 'neoclassical synthesis' – was based on the assumption of price and wage rigidities that explained the distortion of the otherwise fast, perfectly functioning process of self-regulation and readjustment towards a general equilibrium after an exogenous shock had hit the economy. Moreover, it also provided the policy tools to cope with these kinds of disequilibrium states, which were the source of substantial welfare losses to society and, at least potentially, of political unrest: 'easy money' and 'deficit spending' policies could be implemented in an almost hydraulic fashion to readjust the economy. As monetary policy may be caught in a 'liquidity' or 'investment' trap and, perhaps more important, is not always at the indiscriminate disposal of political actors (especially when the central bank is granted autonomy), fiscal policy became the centre of attention and, consequently, standard Keynesian economic demand management was dubbed 'fiscalism' (see e.g. Coddington 1976: 1264).

However, starting in the early 1970s, both Keynesian economics and Keynesian demand management came under pressure and lost much of their appeal: in the 'monetarist counter-revolution', Keynesian models were criticised for their lack of microeconomic foundations for macroeconomic relations, the '*ad hoc*' nature of expectations and the assumed stability of functional relations (e.g. a stable Phillips curve) (see e.g. Lucas and Sargent 1979). Post-Keynesian authors completely rejected the IS–LM model as an

adequate representation of Keynes's new economics (see e.g. Weintraub 1972; Davidson 1972; Chick 1983), yet could not form a coherent alternative. And the co-existence of stagnation and inflation in the 1970s and early 1980s (which led to the coining of the expression 'stagflation') appeared difficult to reconcile with Keynesian 'inflationary' and 'deflationary' gaps and was instead seen as the outcome of Keynesian demand management gone amok (see e.g. Hall 1993: 285). Robert Lucas and Thomas Sargent's paper 'After Keynesian Macroeconomics' (1979) was taken by many economists as the death knoll for Keynesian economics and Keynesian demand management, as it suggested that the business cycle can be an equilibrium process based on rational decisions by the microeconomic actors confronted with unexpected shocks rather than indicating a situation of disequilibrium. This also implies the ineffectiveness of Keynesian stabilisation policies, which on Sargent and Wallace's view can only cause transitory disequilibrium based on unexpected policy measures ('tricking the public'; see Sargent and Wallace 1976: 178). If these policy measures become apparent to the market actors, they will be included in these actors' decisions and equilibrium will be re-established, possibly at higher nominal values (prices and wages) but at unchanged real values (something that came to be known as the 'natural rate hypothesis'<sup>2</sup>). Of course, denying the long-term stabilisation effects of monetary and fiscal policy does not mean that these policies will not be pursued but that they need a certain stance oriented towards reinforcing the economy's self-regulating processes. In order to anchor the expectations of market participants and prevent time-inconsistent policy behaviour, both policy areas should be rule-based: monetary policy should follow a simple, non-feedback rule such as the simple Friedmanian money supply rule ('sound monetary policy') while fiscal policy should follow a balanced-budget rule ('sound fiscal policy').<sup>3</sup>

In his presidential address to the American Economic Association in 2003, Lucas (2003: 12) still rejected macroeconomic stabilisation policies 'that go beyond the general stabilization of spending that characterizes the last 50 years'. With regard to the post-WWII period, which has effectively seen only a short period of 'Keynesian' demand management followed by a long neoliberal era (see e.g. Harvey 2005), it remains unclear whether this claim is entirely in line with the view that emerged after a decade-long dispute between 'new classical' and 'new Keynesian' economists (see e.g. Klammer 1983) and became known as new consensus macroeconomics (NCM). NCM combines the monetarist idea of economic fluctuations being an equilibrium phenomenon ('real business cycles') with the new Keynesians' introduction of market imperfections that mean policy interventions are sometimes nonetheless permitted.

### ***Fiscal policy and new consensus macroeconomics in the Great Moderation period***

NCM is based on general equilibrium theory. This means that both new classical economics (NCE) and new Keynesian economics (NKE) take it for granted that the

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<sup>2</sup> Olivier Blanchard (2018: 98) confirms that the natural rate hypothesis was 'widely accepted, and has been the dominant paradigm in macroeconomics ever since'.

<sup>3</sup> For a comprehensive account of how macroeconomics lost control of stabilisation policy, see Chatelain and Ralf (2020).

'natural' position of an economy – i.e. the position when markets are perfect – is one of full-employment equilibrium. Thus, cyclical fluctuations are either due to external shocks (technological or policy shocks) or transitory due to nominal or real rigidities stemming from imperfect labour, commodity or financial markets which impede quick adjustment and, thus, serve as propagation mechanisms for business cycles. In the former case, shocks that are merely expected pose no problems, as economic agents will adapt to them, while if they are unexpected they cannot be helped. In the latter case, the rigidities cause distortions in the short term (until they are overcome) and hence prompt rule-based stabilisation measures to mitigate welfare losses.

On this theory, stabilisation policy is always designed to reduce aggregate output volatility, i.e. to flatten upturns and downturns, but not to impact on the growth path, which is determined by supply-side factors only. This seems, from a mainstream point of view, quite trivial; however, it means neglecting sustainability issues (for instance in fiscal policy), which may be important once macroeconomic policy intervention becomes permanent. By comparison with the 'we are all Keynesians now' consensus of the IS–LM model, NCM has a far more solid foundation in microeconomic decision rules,<sup>4</sup> incorporates expectations and grossly downplays the role of fiscal policy.<sup>5</sup> While in standard Keynesianism, fiscal policy – for theoretical reasons mentioned above – took the lead in the macroeconomic policy mix, NCM models primarily rely on monetary policy to shoulder stabilisation needs. This emphasis on monetary policy can be explained by reference to its dominant role during the period of relative economic stability between the mid-1980s and 2007, known as the Great Moderation (see e.g. Ahmed, Levin and Wilson 2002; Bernanke 2004), by highlighting the role central banks' research departments played in developing and laying the groundwork for such models (see e.g. Blanchard 2009: 210), by noting that fiscal policy had ever less room to manoeuvre due to rising public indebtedness or by pointing out timing problems for fiscal policy in democratic societies (see e.g. Solow 1999: 286). However, there is also a more theoretical aspect to the neglect of fiscal policy in NCM.

As mentioned above, fiscal policy in NCM is about allocation rather than stabilisation issues (see e.g. Chari and Kehoe 2006: 16–17), a feature it inherited from NCE (see e.g. Lucas 2003: 1ff.). But why did NKE not pass on more of its stabilising genes to NCM? The answer is twofold: on the one hand, why should fiscal policy take all the risks of mistiming, mis-specification due to the democratic process and, possibly, shrinking its own room for manoeuvre if the interest share in public spending increases, when the job can be done by monetary policy, which works more quickly, is less dependent on vested interests and, additionally, keeps fiscal capabilities intact? On the other hand, fiscal policy has a

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<sup>4</sup> Some regard these rules as the principles of the economic theory that is to be followed. For a critique see Solow (2008).

<sup>5</sup> See e.g. Snowdon and Vane (1999: 88) and Fontana (2009). In some articles surveying macroeconomic policy in NCM, fiscal policy is no longer discussed as a stabilising measure but rather in relation to intertemporal distortions; see e.g. Chari and Kehoe (2006). Hall (1993) therefore takes the two as completely different policy paradigms – something I would disagree with, as they are both based on the same economic paradigm.



tendency to drive monetary policy into a policy stance that counteracts fiscal policy intentions: if fiscal policy were successful in increasing effective demand, this would be accompanied by a rise in inflation, which the central bank would have to offset through its monetary reaction function (Taylor 2000: 27). If we presume different inflation–unemployment targets for the fiscal policy actor (the government) and the monetary policy actor (the central bank) – which is not unrealistic if we assume central banks’ independence from governments – there is likely to be a conflict in the pursuit of monetary and fiscal policy, as William Nordhaus (1994) showed. Under these conditions, an optimal policy mix will encumber monetary policy with the dual task of safeguarding price and output stability<sup>6</sup> under a Taylor rule, while fiscal policy is supposed to refrain from any discretionary measure (i.e. keeping the budget structurally balanced) and merely allow for the automatic stabilisers to take effect.

### ***Alternative views on fiscal policy***

NCM emerged after a long, intense debate between ‘freshwater’ and ‘saltwater’ economists.<sup>7</sup> Is there still room today for different perspectives on fiscal policy? Only if an entirely different paradigmatic approach is taken which does not rest on general equilibrium theory. If unrestricted economic action is conceived not as an allocative process by decentralised decision-makers regarding intertemporal markets which, if no market failures occur, will generate optimal welfare results, but instead understood in such a way that the action of a collective actor may increase society’s welfare, it will be possible to develop an alternative conception of fiscal policy. Keynes appears to have had a paradigm shift of this sort in mind when writing the *General Theory*; at any rate, this idea is central to a post-Keynesian school broadly termed ‘fundamental Keynesianism’ (Alan Coddington) or ‘monetary Keynesianism’ (Sidney Weintraub).<sup>8</sup> But before we take a closer look at the fiscal policy implications of this form of post-Keynesianism, we will have to consider Abba Lerner’s concept of ‘functional finance’, which is clearly opposed to the neoclassical concept of ‘sound finance’.

#### *Lerner’s ‘functional finance’*

It is sometimes claimed (see e.g. Colander 2003: 37) that standard Keynesian fiscal policy is actually based on Abba Lerner’s concept of ‘functional finance’. By ‘functional finance’, Lerner meant that fiscal policy – roughly speaking, the balance between public expenditures and revenues – should be set with a view to ensuring full employment and

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<sup>6</sup> According to the Tinbergen rule, there must be as many policy instruments as independent policy targets. To make NCM monetary policy compatible with the Tinbergen rule, both targets (inflation and output stabilisation) must be causally dependent.

<sup>7</sup> This commonly made distinction between new classical and new Keynesian economists is based on the geographic locations of the two theoretical approaches’ proponents: the former being primarily concentrated near the USA’s Great Lakes, the latter on the country’s east and west coasts. This distinction thus reflects the US hegemony in the current development of macroeconomics.

<sup>8</sup> For an introduction to this particular post-Keynesian approach see Heise (2019).

price stability.<sup>9</sup> In line with standard Keynesianism, this implies a public deficit in times of unemployment and a public surplus in times of overemployment and inflation. The size of the public deficit (and, also, the surplus) is supposed to be related to the level of unemployment (or overemployment) and, thus, is ‘functional’ in the sense of being directed solely towards restoring full employment. Any potential conflict between employment stimulation and inflation was ruled out, as Lerner apparently assumed a stable and horizontal Phillips curve (until full employment is reached). Assuming a standard Keynesian framework, all the reservations of monetarists and new classical economists apply, and it seems hard to see how ‘functional finance’ offers any alternative.

However, Lerner did admit the need for permanent fiscal policy interventions (see Lerner 1943: 42ff.), which was not in line with the transitory, anti-cyclical fiscal policy stance of standard Keynesianism. Unfortunately, the theoretical basis for Lerner’s ideas remained unclear. David Colander, a former collaborator of Lerner, suggests that the rejection of a unique (Walrasian) general equilibrium is necessary in order to revive Lerner’s concept of functional finance (Colander 2003: 43ff.). If multiple equilibria are allowed for – depending on the institutionalised, conventionalised agency of individual and collective actors in a complex, adaptive world – fiscal policy will shape the particular position of equilibrium and, thus, could be seen as ‘functional’ in the sense that it contributes to the selection among multiple equilibria according to pre-established goals: ‘The government must establish policies which stabilize the price level and coordinate both the money supply rule and the aggregate total spending rule with this stable price level at the unemployment level it prefers.’ (Colander 2003: 48)

Thus, taking complexity or agent-based computational economics (ACE) as its paradigmatic foundation,<sup>10</sup> ‘functional finance’ may offer an alternative to NCM’s concept of ‘sound finance’. However, in this sense, ‘functional finance’ differs from ‘sound finance’ primarily in being a means (not an end) while the latter has become an end in itself. As long as we do not know what fiscal policy stance follows from ACE, it is impossible to argue that ‘functional finance’ also includes an alternative fiscal policy rule. But why should we not be able to establish such a policy stance? On the one hand, ACE has so far been concerned with theoretical rather than policy issues. On the other, the policy stance is obviously dependent on the targeted equilibrium position – there simply is no ‘general’ rule to be followed. Moreover, even if, as seems reasonable, we aim for a full employment–price stability equilibrium, best fiscal policy to achieve this target crucially depends on the agency assumptions on which the model is built. Although it is always, on any type of model, the case that outcomes depend on inputs (assumptions), agent-based complexity modelling is different from reductionist modelling because it does not accept a general rule for human agency such as the ‘*homo economicus*–representative agent’ assumption of reductionism. Instead, the macroeconomic outcome – and the effect of fiscal policy –

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<sup>9</sup> ‘The central idea is that government fiscal policy, its spending and taxing, its borrowing and repayment of loans ... shall all be undertaken with an eye only on the *results* of these actions on the economy and not to any established traditional doctrine about what is sound or unsound.’ (Lerner 1943: 39; italics in original)

<sup>10</sup> For a detailed description of complexity economics/ACE as a paradigmatic alternative to NCM, see Fagiolo and Roventini (2017).

depends on built-in *ad hoc* algorithms and must, therefore, be rated as highly contingent or difficult to trace, and macroeconomic-oriented ACE in particular must be kept very simple in structural terms.

Taking the *ad hoc* algorithms to be ‘rooted in empirical and experimental micro-economic evidence’ (Fagiolo and Roventini 2017: 5.6), initial attempts to evaluate fiscal policy in ACE models suggest that allowing an unrestricted play of the automatic stabilisers is the best way to dampen economic fluctuations (see Dosi et al. 2015) – something that is, admittedly, entirely compatible with NCM results. A more expansionary fiscal policy stance that goes beyond merely allowing automatic stabilisers to take effect and is more in line with Lerner’s functional finance is not simulated by, but could well be supported on the basis of, ACE modelling as – at least in the Dosi et al. version – there are no negative feedback algorithms (expectations, interest rates, inflation) that could counterbalance targeted growth and employment effects. However, and this is the basic problem with ACE policy modelling, such feedback algorithms could easily be introduced, making ACE models’ virtue of flexibility (see e.g. Fagiolo and Roventini 2017: 7.2) a vice and rendering discretionary fiscal policy in ACE utterly opaque.

### *Keynes’s capital budgeting*

It is interesting to note that there is no chapter on economic policy in general or fiscal policy in particular in Keynes’s magnum opus, *The General Theory*. The concept of ‘deficit spending’ being inextricably linked to ‘Keynesian economic policy’ is actually based on Samuelson’s idea of ‘inflationary’ and ‘deflationary (income) gaps’, as shown in his ‘Keynesian cross’ diagram; fiscal policy is supposed to fill these gaps by means of public deficits and surpluses respectively. Accepting Walras’s law, inflationary and deflationary gaps are only temporary in nature, since the business cycle and public budget deficits and surpluses would, to a certain extent, cancel each other out over the business cycle, leaving no room for sustainability issues. Protracted public budget deficits that increase public indebtedness must, on this mindset, be politically motivated, as the extensive literature on the political economy of fiscal policy suggests.<sup>11</sup>

Keynes’s approach must be different, as he rejected Walras’s law and explained permanent involuntary unemployment either from a static perspective or, from a dynamic perspective, in terms of an equilibrium growth path below full utilisation of production factors without any ‘natural’ tendency for self-correction.<sup>12</sup> Taking this as the

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<sup>11</sup> Nordhaus (1975), Hibbs (1977), Tabellini and Alesina (1990) and Alesina and Perotti (1995), among many others, made significant contributions to this field of research, which describes public deficits and debts not as functional devices of stabilisation policies in the economic sphere but as optimisation behaviours by actors in the political sphere.

<sup>12</sup> In later work after the publication of the *General Theory*, Keynes distinguishes three different stages in the development of modern capitalist economies, characterised by particular constellations of savings and investment (see Keynes 1943a). Stage 1 is characterised by an overshooting of planned investment over the amount of savings that would be generated by a full employment income. At this stage, inflation would be the most pressing problem. Stage 2 is characterised by equality of planned investment and savings out of full employment income – this would be the stage mainstream economics sees as ‘natural’. The third stage is characterised by a lack of planned investment compared with savings out of full employment income, so that permanent unemployment becomes the most pressing problem. In any of these stages, the investment

essence of the ‘Keynesian revolution’, the objective of any fiscal intervention is not to smoothen the business cycle but to raise the growth path until all factors of production – and in particular labour – are fully utilised. There are different measures that could be employed: the average propensity to save could be lowered by redistributing income from higher-income, higher-savings households to lower-income, lower-savings households. Or the incentive to invest could be increased by reducing interest rates – which would involve monetary policy being pursued by the central bank, which is often primarily responsible for price stability but not for employment and economic growth. Therefore, fiscal policy on Keynes’s approach needs to fill the gap between planned private investment and full-employment savings by means of deficit-financed public expenditure – and as the investment–savings gap can be permanent, so must public deficits. Permanent deficit spending must, of course, raise concerns about the sustainability of such a policy stance and draws attention to the composition (i.e. investment or consumption spending) of deficit-financed public expenditure.

In his writings on public finance, Keynes distinguished between current and capital budgets (see Keynes 1945). The current budget comprises all public consumption spending and ought to be balanced by tax income over the business cycle: thus, in order to allow the automatic stabilisers to take effect, the current budget will be in deficit in economic downturns and in surplus in economic upturns. The capital budget, however, comprising all public investment outlays, can and should be deficit-financed to a degree depending on economic circumstances (in stage 1 and 2 of capitalist development, deficits would only crowd out private investment; in stage 3, a balanced capital budget would not do the job) and fiscal sustainability considerations. In order to take the latter into account, fiscal sustainability must be defined. Most commonly, a public budget is considered to be sustainable when all future obligations can be met. However, this is not an operational definition, as future obligations may not only be highly uncertain but the ability to meet future obligations – i.e. to create income and control expenditures – involves a high level of discretion. Therefore, fiscal sustainability is often operationalised as the ability to stabilise a given public debt ratio (debt to GDP) over the business cycle, i.e. ever-increasing debt ratios are regarded as unsustainable.<sup>13</sup> This compels us to determine a (desired, optimal or imposed) debt ratio and makes it possible to specify ‘sustainable’ public deficit and primary budget ratios. The (desired, optimal or imposed) debt ratio to be stabilised over the business cycle can be taken as exogenously given – determined by political considerations as the 60% threshold level of the European Stability and Growth

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and savings that are achieved will always be equal and, therefore, no process to equilibrate the two parameters will be needed.

<sup>13</sup> In a recent paper, Furman and Summers (2020) propose using the share of interest payments on the primary budget balance as a better indicator of fiscal sustainability, as the public debt ratio may lose informative value in times of low interest rates. However, in order to translate the primary budget balance into an operative policy variable (using Domar’s fiscal arithmetic), we need to estimate three determinants – the real interest rate, the real growth rate and the inflation rate – while in the case of the public debt ratio, it is only the real growth rate and the inflation rate (or, in short, the nominal growth rate) which need to be estimated. And, of course, the interest rate is particularly hard to predict in the medium term. I therefore believe the debt ratio to be superior, although the particular threshold level (if determined by time-preference considerations) is likely to increase with lower interest rates.

Pact (ESGP)<sup>14</sup> or as some kind of ‘optimal’ ratio;<sup>15</sup> the ‘sustainable’ deficit and primary budget ratios can thus be derived using Domar’s fiscal arithmetic (see Domar 1944).

As the calculation of functional (in Lerner’s sense, of which Keynes seemingly approved<sup>16</sup>) and sustainable budget deficits<sup>17</sup> not only rests on uncertain expectations (about medium-term growth, inflation and interest rate developments) but also on the fact that both variables – budget deficits and economic growth – are endogenously and recursively determined, the pursuit of fiscal policy in accordance with Keynes’s capital budgeting approach should not be pressed into a sanctionable policy rule (as, for instance, in the case of the ESGP) but rather be taken as what has been termed a ‘fiscal standard’.<sup>18</sup>

### *Contrasting orthodox and heterodox perspectives on fiscal policy*

Orthodox and heterodox fiscal policy perspectives can be neatly contrasted by referring to the ESGP. The ESGP is clearly based on orthodox economic theory and was influenced, firstly, by the neoliberal ideas that dominated at that time and, secondly, by German interests in curtailing fiscal policy space for governments which the Germans<sup>19</sup> expected not to be financially prudent: a balanced-budget rule (structurally or cyclically adjusted fiscal balance) with a sanction-free threshold deficit level of 3% of GDP to allow automatic stabilisers to take effect (cyclically unadjusted fiscal balance) mirrors the insights from NCM; sanctions applied in the event of non-compliance account for the moral hazard behaviour of actors (governments) in the political arena; and the institutionalised pressure to pursue austerity policies after major economic shocks is in line with the dominant literature on ‘non-Keynesian’ effects of fiscal policy<sup>20</sup> and the much-criticised

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<sup>14</sup> There are rumours about the 60% threshold level being either the average debt ratio in the EU at the time of drafting the Maastricht Treaty or the projected debt ratio of Germany and France at the time the Maastricht convergence criteria were expected to be evaluated, so as to guarantee both countries could join the European Monetary Union.

<sup>15</sup> Such ‘optimal’ debt ratios have been studied with respect to GDP growth (see e.g. Reinhart and Rogoff 2010) or the welfare of society (see e.g. Heise 2002).

<sup>16</sup> In a letter to James Meade, he not only mentions Lerner’s famous article of 1943 but also remarks that ‘(h)is argument is impeccable’ (Keynes 1943b: 320).

<sup>17</sup> It is sometimes argued that Modern Monetary Theory (MMT) provides an alternative to ‘sound finance’ based on Lerner’s ‘functional finance’ (see e.g. Forstater 2003) – however, MMT has no definite role for ‘fiscal sustainability’ (see e.g. Ehnts 2017: 127) as governments – in this view – can borrow without clearly definable limits and cannot become insolvent if issuing a sovereign currency. These ideas make MMT interesting to policy-makers, yet have aroused much criticism from proponents of all economic paradigms (see e.g. Davidson 2019, Mankiw 2020, Palley 2015).

<sup>18</sup> ‘Rules and standards are alternative ways of writing down legal norms that regulate behavior. ... The difference between them is in the degree to which legal content is defined ex post, at the point of application, rather than ex ante. The limit case of a rule is a legal norm in which all legal content is defined ex ante, such as “Do not drive faster than 55 miles an hour”. The limit case for a standard is a norm in which all legal content is defined ex post, such as “do not drive at excessive speed”. What “excessive speed” means exactly is left to the driver (and in the event of a dispute, to a court), based on social norms and legal precedent.’ (Blanchard, Leandro and Zettelmeyer 2021: 22–23)

<sup>19</sup> Conservatives led German governments over most of the past thirty years when European fiscal policy regulations were being discussed and enacted. However, the German Social Democrats and Greens can also be seen as fiscally conservative – far more so than their political counterparts elsewhere in Europe; see e.g. Eisl 2020: 14.

<sup>20</sup> These ‘non-Keynesian’ effects pertain to the claim that deficit spending is not only ineffective in the long but also the short run. This view has been championed in particular by Giavazzi and Pagano (1990) and Bertola and Drazen (1993).

claim by Carmen Reinhart and Kenneth Rogoff that economic growth will be harmed if a debt threshold level of about 90% of GDP is exceeded (see Reinhart and Rogoff 2010) – implying that austerity measures to bring public debts quickly below that threshold level after a major economic downturn will be growth-enhancing.<sup>21</sup>

On heterodox grounds that are entirely neglected in the formulation of European fiscal policy, the ESGP would allow the cyclically unadjusted public budget to oscillate around a structural deficit of close to 3% of GDP in order to finance public investment (capital budget). While the 3% deficit ceiling of the ESGP imposed on orthodox reasoning represents a maximum below which no sanctions are imposed and is (if at all) based on empirically measured fiscal elasticities,<sup>22</sup> the 3% threshold level for structural deficits in heterodox, post-Keynesian approaches reflects sustainability considerations based on the assumption of a politically determined ‘desired’ debt ratio of 60% and a cyclically adjusted, long-term nominal GDP growth rate of 5%.<sup>23</sup> While the ‘orthodox’ fiscal policy stance – if applied – would drive down the public debt level in the (very) long run to (close to) zero and violate the ‘golden rule’ according to which public investment should not be paid out of the current budget (and hence should be deficit-financed), the heterodox ‘fiscal standard’ – if applied – would stabilise the debt ratio at the desired 60% and not only comply with the ‘golden rule’ but potentially open fiscal space for the public investment needed to transform economies in the direction of ecological sustainability and digitalisation, as well as keeping them on a higher growth path.<sup>24</sup>

### ***Fiscal policy, the global financial crisis and high public debts***

As mentioned above, the consensus in macroeconomic policy modelling came to an abrupt end in the aftermath of the global financial crisis and the ensuing ‘euro crisis’. Firstly,

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<sup>21</sup> The study has been heavily criticised for its technical and methodological flaws (see Herndon, Ash and Pollin 2014). In the aftermath of the ‘Reinhart–Rogoff controversy’, as it was known, various studies tried to replicate Reinhart and Rogoff’s result, ending up with threshold debt ratios between 20 and 115% of GDP.

<sup>22</sup> The 3% threshold deficit ratio of the ESGP goes back to the convergence criteria of the Maastricht Treaty. It is rumoured to be an ‘invention’ of two French bureaucrats, with no economic significance (see Schubert 2013). However, it can be shown that 3% is just about the margin the Eurozone countries need for the automatic stabilisers to take effect, assuming a balanced budget in a ‘neutral’ position of the business cycle is achieved and the trough of the business cycle does not exceed –2% of GDP (see e.g. Buti, Franco and Ongena 1997; Dalsgaard and de Serres 1999; Mourre, Poissonnier and Lausegger 2019). Once this trough is exceeded (as, for instance, during the global financial crisis or the coronavirus pandemic), the stipulations of the ESGP concerning the deficit cap are suspended.

<sup>23</sup> Both the 60% debt ratio and the 5% nominal GDP growth expectations (a combination of 2% inflation and 3% real GDP growth) were the assumptions of the European Commission in the early 1990s when the Maastricht Treaty was drafted. According to Domar’s fiscal arithmetic, this results in a ‘sustainable’ structural deficit of 3%!

<sup>24</sup> The ‘golden rule’ has undergone something of a revival over the past decade, as there are indications that fiscal conservatism and austerity, which are associated with balanced-budget rules, are a main explanatory factor for the tendency of the public investment share to fall (see e.g. Oxley and Martin 1991; Perée and Väilä 2005; de Haan, Sturm and Sikken 1996). Most simulations and empirical studies (see e.g. Greiner and Semmler 2000; Straub and Tchakarov 2007; Creel, Monperrus-Veroni and Saraceno 2009) hold there to be a positive correlation between the golden rule and economic growth, but Minea and Villieu (2009) show that this is not in line with the predictions of orthodox theory – which, of course, puts this theory in doubt and favours Keynes’s capital budgeting as an alternative theoretical foundation.

monetary policy proved unable to achieve economic stabilisation when interest rates hit zero. Secondly, there was no longer any consensus on whether excessively lax fiscal policy prior to the global financial crisis caused or, at least, contributed to the euro crisis or whether excessively restrictive fiscal policy (due to the regulations of the ESGP) aggravated the economic downturn after the global financial crisis. Thirdly, non-Keynesian effects of fiscal retrenchment were no longer undisputed in academic discussions, and a distinction between 'normal' business cycles and exceptionally deep recessions was proposed that would allow for a strong divergence in terms of fiscal multipliers and, thus, the effects of public spending decisions.

Although all EU and Eurozone governments reacted pragmatically in the wake of the deepest depression in eighty years by enacting huge bank rescue and economic stabilisation programmes in 2008 and 2009, these programmes were not designed to meet the different impacts of the crisis on EU and Eurozone member states but rather to address the different fiscal spaces left under ESGP regulations and the conditions imposed by the IMF, the European Stability Mechanism (ESM) and the European Central Bank (ECB), which were in some cases subject to particular borrowing requirements.<sup>25</sup> The austerity programmes that most EU and Eurozone member states were forced to implement from 2009 onwards procyclically hampered economic recovery, by contrast with the US and the UK, which did not fall under ESGP regulations and allowed fiscal policy to be more expansionary (see e.g. Heise 2012; Gechert et al. 2016). However, this experience was apparently necessary to demonstrate the flaws of the approach, as proponents of fiscal orthodoxy and 'expansionary austerity' were dominant up until empirical evidence to the contrary became overwhelming. For instance, Alberto Alesina, widely-considered a world-leading expert on fiscal policy and fiscal adjustments, wrote in a paper prepared for a meeting of the European Union's Economic and Financial Affairs Council (Ecofin) in April 2010:

The conventional wisdom about the political economy of fiscal adjustments goes more or less as follows. Deficit reduction policies cause recessions which (in addition to the direct political costs of tax increases and spending cuts) create political problems for incumbent governments. The latter therefore see fiscal adjustments as the kiss of death. They postpone them and when they implement them then they pay at the polls. ... This view, which is a combination of textbook Keynesianism with 'conventional' notions of naive voters' behavior, is largely imprecise to say the least. ... Fortunately the accumulated evidence paints a different picture. First of all, not all fiscal adjustments cause recessions. Many even sharp reductions of budget deficits have been accompanied and immediately followed by sustained growth rather than recessions even in the very short run. These are the adjustments which have occurred on the spending side and have been large, credible and decisive. Second and this is most likely a consequence of the first point, it is far from automatic that governments which have reduced deficits have been routinely not reappointed. Governments which have initiated thorough and successful fiscal adjustment policies have not systematically suffered at the polls. (Alesina 2010: 2–3)

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<sup>25</sup> See e.g. Horton (2011) and Schelkle (2012) for a comparison of EU and US fiscal stimulus packages.

Such claims, in combination with Reinhart and Rogoff's aforementioned study recommending a public debt ceiling of around 90% of GDP, did, even if not accepted as absolute consensus,<sup>26</sup> at least lend strong support to those who saw fiscal imprudence as the trigger for the euro crisis, who wanted the ESGP to be strengthened (as happened in the Fiscal Compact) and who called for austerity policies in the aftermath of the global financial crisis, when public debts soared to extraordinarily high levels.

The opposite position of 'contractionary austerity' (see e.g. Delong and Summers 2012; Guajardo, Leigh and Pescatori 2014; Blinder 2016) was based on the belief that fiscal multipliers – their definite magnitude being dependent among other things on the composition (revenue increases versus expenditure cuts, consumption versus investment spending cuts), size and credibility of the austerity measures, the state of public indebtedness at the time of their introduction and general economic circumstances (boom or slump) – are much higher than expected and simulated in many policy models.<sup>27</sup> This led to a new approach to fiscal policy, described by Jason Furman, then chair of the US Council of Economic Advisers, as follows:

1. Fiscal policy is often beneficial for effective countercyclical policy as a complement to monetary policy.
2. Discretionary fiscal stimulus can be very effective and in some circumstances can even crowd in private investment. To the degree that it leads to higher interest rates, that may be a plus, not a minus.
3. Fiscal space is larger than generally appreciated because stimulus may pay for itself or may have a lower cost than headline estimates would suggest; countries have more space today than in the past; and stimulus can be combined with longer-term consolidation.
4. More sustained stimulus, especially if it is in the form of effectively targeted investments that expand aggregate supply, may be desirable in many contexts.
5. There may be larger benefits to undertaking coordinated fiscal action across countries. (Furman 2016: 2–3)

What sounds like a complete reversal of positions when compared with the words of Alesina (and Martin Eichenbaum; see endnote 26) only a few years earlier is merely a shift in perspective, not in theoretical underpinnings: the 'new view' is basically another swing in the pendulum from NCE, with its focus on rational expectations and equilibrium situations, to NKE, which emphasises short-term disequilibria and frictions that can be overcome by governmental interventions. Jason Furman (2016: 1) is thus correct to describe this approach as the "New View" of fiscal policy (with, admittedly, the core of this theory being an "Old Old View" that dates back to John Maynard Keynes and the liquidity trap). As we have seen, the reference to Keynes is misleading, as Keynes's 'capital budgeting approach' is about far more than the use of discretionary fiscal interventions that go beyond the automatic stabilisers in times of severe economic depressions; rather,

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<sup>26</sup> In 1997, Martin Eichenbaum wrote in this vein: 'There is now widespread agreement that countercyclical discretionary fiscal policy is neither desirable nor politically feasible.' (Eichenbaum 1997: 236)

<sup>27</sup> See e.g. Gechert and Rannenberg (2018). Jordà and Taylor (2013) propose a method which may explain the wide-ranging magnitudes of fiscal multipliers that were empirically observed prior to the global financial crisis, and come to the conclusion: 'Generally, in the slump, austerity prolongs the pain, much more so than in the boom.' (Jordà and Taylor 2013: 36)



it combines Lerner's 'functional finance' with the 'golden rule' and sustainability considerations at any moment in the business cycle.

### ***Fiscal policy in times of low interest rates***

One last aspect of modern-day fiscal policy needs to be addressed: does the phenomenon of close-to-zero (and even below-zero in some countries) interest rates on public bonds present any new challenge to the stance and orientation of fiscal policy? Very basically, the answer depends on whether the phenomenon of very low interest rates is assumed to be temporary or permanent. If it is taken as temporary, no challenge would arise for fiscal policy theory based on general attitudes or 'standards' in the sense described above. If, on the other hand, it is taken as permanent or, at least, as a phenomenon that will be with us for the foreseeable future, perspectives on public deficits and debts might change.

As long as we do not know why (real) interest rates are as low as they are at the moment, predictions about future levels become difficult. And although there are some suggestions (see e.g. Bean et al. 2015; Thwaites 2015; Hall 2016), they do not boil down to a common prediction. However, most authors assume (or attribute high likelihood to) low interest rates for the foreseeable future. In that case, not only will the load of interest payments on governmental debts be reduced but, if the interest rate falls below the growth rate (i.e. in the event of a negative interest rate–growth rate differential), the sustainable primary balance may even turn into a deficit, thereby considerably increasing the financial room for manoeuvre.<sup>28</sup> Moreover, if a negative interest rate–growth rate differential were to last permanently independent of the fiscal stance, the trade-off between today's financial room for manoeuvre (determined by the sustainable structural deficit ratio) and tomorrow's (determined by the sustainable primary deficit ratio) would be nullified as any incentive (based on time-preference considerations of the government or public) to restrict deficit spending.<sup>29</sup>

Even if the interest rate–growth rate differential were not independent of the fiscal stance and growing indebtedness would have adverse effects on the interest rate (causing it to increase) and growth rate (causing it to decrease), eventually turning the differential positive with increasing deficits,<sup>30</sup> the 'desired' public debt ratio would certainly increase,

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<sup>28</sup> This is what some southern European countries experienced when they entered the Eurozone and their high (nominal and real) interest rates on governmental bonds quickly converged towards the much lower German federal bonds.

<sup>29</sup> For a model of 'optimal debts' and 'sustainable deficits' based on the time-preference considerations of governments (agents) and voters (principals), see Heise (2002).

<sup>30</sup> Of course, there are good reasons why both interest and growth rates could be adversely affected by growing public (structural) deficits (e.g. expectations of inflation developments and the unsustainability of public debts impacting on the behaviour of private financial market actors and central banks) and it would be risky to assume a negative interest rate–growth rate differential as a normal or even permanent state of affairs. On the basis of data from 1950–2018, Blanchard (2019) takes a negative interest rate–growth rate differential to be the normal position rather than an exception – but this result is driven by the long 'golden era of capitalism' after WWII, which surely cannot be taken as 'normal'. John H. Cochrane (2021: 2), a proponent of NCE, says that the idea of a negative interest rate–growth rate differential as the 'normal' scenario is 'ridiculous' because 'it seems there are no fiscal limits at all. If our government can borrow, and never worry about paying back debts, why should any of us pay back debts? Why should the government not borrow, and repay our student debts, mortgage debts, business debts; bail out state and local pension

as deficits and ensuing debts come virtually without cost.<sup>31</sup>

### ***Fiscal policy – looking to the future***

It appears safe to predict that the ‘old fiscal orthodoxy’, which assigns fiscal policy a passive role in stabilising an unstable economy and arguing for ‘expansionary austerity’, has lost much of its appeal and support in the academic community. With monetary policy becoming less effective in times of low inflation and low interest rates and a higher fiscal multiplier than expected, fiscal policy is back at the heart of stabilisation policy, and with the recognition that major economic crises are part of capitalist development and may be around the corner any time, sanction-based fiscal policy rules primarily inaugurated to tie governments’ hands are seen by ever more economists as outdated and harmful.

Fiscal policy in modern times, can, however, not simply return to a discretionary stance that neglects all insights from the ‘policy games’ and ‘golden rule’ literature and pretends that deficit spending is a ‘free lunch’. Instead, fiscal policy must follow a standard which links deficits to public investment, introduces a sustainability cap and allows coordination with monetary and wage policies to prevent macro conflicts (see Heise 2008). Whether this insight translates into a balanced-budget stance with investment-oriented discretionary leeway for extraordinary circumstances – as authors such as Della Posta and Tamborini (2021) and Furman (2016) appear to be proposing – or a ‘capital budgeting’ stance that functionally relates the deficit-financed capital budget to the medium-term output gap, constrained by a cap on this kind of structural deficit that is determined by growth expectations and a predetermined debt ratio taken as ‘desired’, will depend on which economic paradigm we find most compelling and what the empirical evidence shows.

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promises, and more. Why should we pay taxes? Why should we work? Let the government just send us money and we can order stuff from Amazon.’

<sup>31</sup> Or to put it another way: assuming a certain primary budget balance to be sustainable, the more negative the interest rate–growth rate differential is (or the smaller the interest rate–growth rate differential in the event of interest rates being higher than growth rates), the higher the corresponding (‘optimal’ or ‘desired’) debt ratio will be.

## Bibliography

Ahmed, S., Levin, A., Wilson, B. A. (2002); 'Recent U.S. Macroeconomic Stability: Good Policies, Good Practices, or Good Luck?'; International Finance Discussion Paper 2002-730, Board of Governors of the Federal Reserve System, Washington DC

Alesina, A. (2010); 'Fiscal Adjustments: Lessons from Recent History'; paper prepared for the Ecofin meeting in Madrid, 15 April 2010 (accessible at: [Definition of the episodes \(psu.edu\)](https://psu.edu))

Alesina, A., Perotti, R. (1995); 'The Political Economy of Budget Deficits'; *IMF Staff Papers* 42(1), pp. 1–31

Ban, C. (2015a); 'From Designers to Doctrinaires: Staff Research and Fiscal Policy Change at the IMF'; in Morgan, G., Hirsch, P., Quack, S. (eds); *Elites on Trial* (Research in the Sociology of Organizations, vol. 43); Emerald, Bingley, pp. 337–369

Ban, C. (2015b); 'Austerity versus Stimulus? Explaining Change on Fiscal Policy at the International Monetary Fund since the Great Recession'; *Governance: An International Journal of Policy, Administration, and Institutions* 28(2), pp. 167–183

Bean, C., Broda, C., Ito, T., Kroszner, R. (2015); 'Low for Long? Causes and Consequences of Persistently Low Interest Rates'; Geneva Report on the World Economy 17, Centre for Economic Policy Research, Geneva, and CEPR Press, London

Bertola, G., Drazen, A. (1993); 'Trigger Points and Budget Cuts: Explaining the Effects of Fiscal Austerity'; *American Economic Review* 83(1), pp. 11–26

Blanchard, O. (2009); 'The State of Macro'; *Annual Review of Economics* 1, pp. 201–228

Blanchard, O. (2018); 'Should We Reject the Natural Rate Hypothesis?'; *Journal of Economic Perspectives* 32(1), pp. 97–120

Blanchard, O. (2019); 'Public Debts and Low Interest Rates'; *American Economic Review* 109(4), pp. 1197–1229

Blanchard, O., Leandro, A., Zettelmeyer, J. (2021); 'Redesigning the EU Fiscal Rules: From Rules to Standards'; *Economic Policy* 36(105), pp. 3–42

Blinder, A. (2016); 'Fiscal Policy Reconsidered'; Hamilton Project Policy Proposal 2016-05, Washington DC

Buti, M., Franco, D., Ongena, H. (1997); 'Budgetary Policies during Recessions – Retrospective Application of the Stability and Growth Pact to the Post-War Period in the European Commission'; *Economic Papers* 121

Chari, V. V., Kehoe, P. J. (2006); 'Modern Macroeconomics in Practice: How Theory Is Shaping Policy'; *Journal of Economic Perspectives* 20(4), pp. 3–28

Chatelain, J.-B., Ralf, K. (2020); 'How Macroeconomists Lost Control of Stabilization Policy: Towards Dark Ages'; *European Journal of the History of Economic Thought* 27(6), pp. 938–982

Chick, V. (1983); *Macroeconomics after Keynes: A Reconsideration of the General Theory*; Philip Allan, Oxford

Cochrane, J. H. (2021); 'Comments on "The Constraint on Public Debt when  $r < g$  but  $g < m$ " by Ricardo Reis'; comments delivered at the conference NBER Economic Fluctuations and Growth, 19 February 2021 (accessible at: [cochrane\\_comments.pdf \(nber.org\)](#))

Colander, D. (2003); 'Functional Finance, New Classical Economics and Great-Great Grandsons'; in Nell, E. J., Forstater, M. (eds); *Reinventing Functional Finance: Transformational Growth and Full Employment*; Edward Elgar, Cheltenham, pp. 35–51

Creel, J., Monperrus-Veroni, P., Saraceno, F. (2009); 'On the Long-Term Effects of Fiscal Policy in the United Kingdom: The Case for a Golden Rule'; *Scottish Journal of Political Economy* 56(5), pp. 580–607

Dalsgaard, T., de Serres, A. (1999); 'Estimating Prudent Budgetary Margins for 11 EU Countries: A Simulated SVAR Model Approach'; OECD Economics Department Working Paper No. 216, Paris

Davidson, P. (1972); *Money and the Real World*; Macmillan, London

Davidson, P. (2019); 'What is modern about MMT? A concise note'; *real-world economics review*, 89, pp. 72-74

Della Posta, P., Tamborini, R. (2021); 'The Existential Trilemma of EMU in a Model of Fiscal Target Zone'; EconPol Working Paper No. 65, Munich

DeLong, J. B., Summers, L. H. (2012); 'Fiscal Policy in a Depressed Economy'; *Brookings Papers on Economic Activity* 43(1), pp. 233–297

Domar, E. D. (1944); 'The "Burden of Debt" and the National Income'; *American Economic Review* 34, pp. 798–827

Dosi, G., Fagiolo, G., Napoletano, M., Roventini, A., Treibich, T. (2015); 'Fiscal and Monetary Policies in Complex Evolving Economies'; *Journal of Economic Dynamics & Control* 52, pp. 166–189

Ehnts, D. H. (2017); *Modern Monetary Theory and European Macroeconomics*, Abingdon

Eichenbaum, M. (1997); 'Some Thoughts on Practical Stabilization Policy'; *American Economic Review* 87(2), pp. 236–239

Eisl, A. (2020); 'The Ambiguous Consensus on Fiscal Rules: How Ideational Ambiguity Has Facilitated Social Democratic Parties' Support of Structural Deficit Rules in the Eurozone'; MaxPo Discussion Paper 20/4, Max Planck Science Po Center on Coping with Instability in Market Societies, Paris

Fagiolo, G., Roventini, A. (2017); 'Macroeconomic Policy in DSGE and Agent Based Models Redux: New Developments and Challenges Ahead'; *Journal of Artificial Societies and Social Simulation* 20(1), Article 1

Forstater, M. (2003); Towards a new instrumental macroeconomics: Abba Lerner and Adolph Lowe on economic method, theory, history and policy; in: Nell, E.J., Forstater, M.

(Eds.); *Reinventing Functional Finance. Transformational Growth and Full Employment*, Cheltenham, pp. 52 - 65

Furman, J. (2016); 'The New View of Fiscal Policy and Its Application'; paper given at the conference Global Implications of Europe's Redesign, New York, 5 October 2016

Furman, J., Summers, L. (2020); 'A Reconsideration of Fiscal Policy in the Era of Low Interest Rates'; discussion draft/unpublished manuscript (accessible at: [furman-summers-fiscal-reconsideration-discussion-draft.pdf \(brookings.edu\)](https://www.brookings.edu/papers/2020/04/fiscal-reconsideration/))

Gechert, S., Hughes Hallett, A., Rannenberg, A. (2016); 'Fiscal Multipliers in Downturns and the Effects of Eurozone Consolidation'; *Applied Economics Letters* 23(16), pp. 1138–1140

Gechert, S., Rannenberg, A. (2018); 'Which Fiscal Multipliers Are Regime-Dependent? A Meta-Regression Analysis'; *Journal of Economic Surveys* 32(4), pp. 1160–1182

Giavazzi, F., Pagano, M. (1990); 'Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries'; *NBER Macroeconomics Annual* 5, pp. 75–111

Greiner, A., Semmler, W. (2000); 'Endogenous Growth, Government Debt and Budgetary Regimes'; *Journal of Macroeconomics* 22(3), pp. 363–384

Guajardo, J., Leigh, D., Pescatori, A. (2014); 'Expansionary Austerity: New International Evidence'; *Journal of the European Economic Association* 12(4), pp. 949–968

de Haan, J., Sturm, J.-E., Sikken, B. (1996); 'Government Capital Formation: Explaining the Decline'; *Review of World Economics* 132, pp. 55–74

Hall, P. A. (1993); 'Policy Paradigms, Social Learning, and the State: The Case of Economic Policymaking in Britain'; *Comparative Politics* 25(3), pp. 275–296

Hall, R. E. (2016); 'The Role of the Growth of Risk-Averse Wealth in the Decline of the Safe Real Interest Rate'; NBER Working Paper No. 22196, Washington DC

Harvey, D. (2005); *A Brief History of Neoliberalism*; Oxford University Press, Oxford

Heise, A. (2002); 'Optimal Public Debts, Sustainable Deficits, and Budgetary Consolidation'; *Empirica* 29(4), pp. 317–337

Heise, A. (2008); *Economic Governance and Employment: Policy, Polity and Politics of Economic Rise and Decline*; LIT Verlag, Münster

Heise, A. (2012); 'Governance without Government or, The Euro Crisis and What Went Wrong with European Economy Governance'; *International Journal of Political Economy* 41(2), pp. 42–60

Heise, A. (2019); 'Post-Keynesian Economics – Challenging the Neoclassical Mainstream'; *Efil Journal of Economic Research* 2(8), pp. 8–29

Herndon, T., Ash, M., Pollin, R. (2014); 'Does High Public Debt Consistently Stifle Economic Growth? A Critique of Reinhart and Rogoff'; *Cambridge Journal of Economics* 38(2), pp. 257–279

- Hibbs, D. (1977); 'Political Parties and Macroeconomic Policy'; *American Political Science Review*, December, pp. 1467–1487
- Horton, M. A. (2011); 'Comparing Transatlantic Responses to the Financial Crisis: The Fiscal Policy Response'; in Pisani-Ferry, J., Posen, A., Saccomanni, F. (eds); *An Ocean Apart? Comparing Transatlantic Responses to the Financial Crisis*; Peterson Institute for International Economics, Brussels, pp. 111–145
- Jordà, Ò., Taylor, A. M. (2013); 'The Time for Austerity: Estimating the Average Treatment Effect of Fiscal Policy'; NBER Working Paper No. 19414, Washington DC
- Keynes, J. M. (1943a); 'The Long-Term Problem of Full Employment'; in Moggridge, D. (ed.); *The Collected Writings of John Maynard Keynes*, vol. 27; Macmillan, London, 1980, pp. 320–325
- Keynes, J. M. (1943b); 'Letter to James E. Meade on 25th of April 1943'; in Moggridge, D. (ed.); *The Collected Writings of John Maynard Keynes*, vol. 27; Macmillan, London, 1980, p. 320
- Keynes, J. M. (1945); 'National Debt Inquiry: The Concept of a Capital Budget (Memorandum by Lord Keynes)'; in Moggridge, D. (ed.); *The Collected Writings of John Maynard Keynes*, vol. 27; Macmillan, London, 1980, pp. 405–413
- Klamer, A. (1983); 'A Background for the Conversations'; in Klamer, A.; *Conversations with Economists: New Classical Economics and Their Opponents Speak Out on the Current Controversy in Macroeconomics*; Rowman & Littlefield, Savage, pp. 1–25
- Lerner, A. P. (1943); 'Functional Finance and the Federal Debt'; *Social Research* (10)1, pp. 38–52
- Lucas, R. E., Jr (2003); 'Macroeconomic Priorities'; *American Economic Review* 93(1), pp. 1–14
- Lucas, R. E., Jr, Sargent, T. J. (1979); 'After Keynesian Macroeconomics'; *Federal Reserve Bank of Minneapolis Quarterly Review* 3(2), pp. 1–16
- Mankiw, G. N. (2020); A Skeptic's Guide to Modern Monetary Theory; *American Economic Review*, 110, Papers and Proceedings, pp. 141 - 144
- Middleton, R. (1985); *Towards the Managed Economy: Keynes, the Treasury and the Fiscal Policy Debate of the 1930s*; Methuen, London
- Minea, A., Villieu, P. (2009); 'Borrowing to Finance Public Investment? The "Golden Rule of Public Finance" Reconsidered in an Endogenous Growth Setting'; *Fiscal Studies* 30(1), pp. 103–133
- Minsky, H. P. (1986); *Stabilizing an Unstable Economy*; Yale University Press, New Haven
- Mourre, G., Poissonnier, A., Lausegger, M. (2013); *The Semi-Elasticities Underlying the Cyclically-Adjusted Budget Balance: An Update & Further Analysis*; European Economy Discussion Paper No. 098, Luxembourg
- Nordhaus, W. D. (1975); 'The Political Business Cycle'; *Review of Economic Studies* 42(1), pp. 169–190

- Nordhaus, W. D. (1994); 'Policy Games: Coordination and Independence in Monetary and Fiscal Policies'; *Brookings Papers on Economic Activity* 2, pp. 139–216
- Oxley, H., Martin, J. (1991); 'Controlling Government Spending and Deficits: Trends in the 1980s and Prospects for the 1990s'; *OECD Economic Studies* 17, pp. 145–189
- Palley, T. I. (2015); 'The Critics of Modern Money Theory (MMT) Are Right'; *Review of Political Economy*, 27(1), pp. 45-61
- Perée, E., Väililä, T. (2005); 'Fiscal Rules and Public Investment'; European Investment Bank Economic and Financial Report No. 02-2005, Luxembourg
- Reinhart, C. M., Rogoff, K. S. (2010); 'Growth in a Time of Debt'; *American Economic Review* 100(2), pp. 573–578
- Sargent, T. J., Wallace, N. (1976); 'Rational Expectations and the Theory of Economic Policy'; *Journal of Monetary Economics* 2(1), pp. 169–183
- Schelkle, W. (2012); 'Good Governance in Crisis or a Good Crisis for Governance? A Comparison of the EU and the US'; *Review of International Political Economy* 19(1), pp. 34–58
- Schubert, C. (2013); 'Wie das Maastricht Kriterium im Louvre entstand'; *Frankfurter Allgemeine Zeitung*, 26 September 2013 (accessible at: [3-Prozent-Defizitgrenze: Wie das Maastricht-Kriterium im Louvre entstand – Wirtschaftswissen – FAZ](#))
- Snowdon, B., Vane, H. R. (1999a); 'Interpreting Modern Macroeconomics: From Tobin to Romer'; in Snowdon and Vane (1999b), pp. 1–90
- Snowdon, B., Vane, H. R. (1999b); *Conversations with Leading Economists: Interpreting Modern Macroeconomics*; Edward Elgar, Cheltenham
- Solow, R. M. (1999); 'Robert M. Solow'; in Snowdon and Vane (1999b), pp. 270–291
- Solow, R. M. (2008); 'The State of Macroeconomics'; *Journal of Economic Perspectives* 22(1), pp. 243–246
- Straub, R., Tchakarov, I. (2007); 'Assessing the Impact of a Change in the Composition of Public Spending: A DSGE Approach'; ECB Working Paper No. 795, European Central Bank (ECB), Frankfurt
- Tabellini, G., Alesina, A. (1990); 'Voting on the Budget Deficit'; *American Economic Review* 80(1), pp. 37–49
- Taylor, J. B. (2000); 'Reassessing Discretionary Fiscal Policy'; *Journal of Economic Perspectives* 14(3), pp. 21–36
- Thwaites, G. (2015); 'Why Are Real Interest Rates So Low? Secular Stagnation and the Relative Price of Investment Goods'; Bank of England Working Paper No. 564, London
- Weintraub, S. (1972); *Classical Keynesianism, Monetary Theory, and the Price Level*; Greenwood Press, Westport

