



**Manchester
Metropolitan
University**

[Bailey, Dan](#) (2018) *Re-thinking the Fiscal and Monetary Political Economy of the Green State*. New Political Economy. ISSN 1356-3467

Downloaded from: <http://e-space.mmu.ac.uk/623405/>

Version: Published Version

Publisher: Taylor & Francis (Routledge)

DOI: <https://doi.org/10.1080/13563467.2018.1526267>

Usage rights: Creative Commons: Attribution-Noncommercial-No Derivative Works 4.0

Please cite the published version

<https://e-space.mmu.ac.uk>



Re-thinking the Fiscal and Monetary Political Economy of the Green State

Dan Bailey

To cite this article: Dan Bailey (2018): Re-thinking the Fiscal and Monetary Political Economy of the Green State, *New Political Economy*, DOI: [10.1080/13563467.2018.1526267](https://doi.org/10.1080/13563467.2018.1526267)

To link to this article: <https://doi.org/10.1080/13563467.2018.1526267>



© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 08 Oct 2018.



Submit your article to this journal [↗](#)



Article views: 613



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

Re-thinking the Fiscal and Monetary Political Economy of the Green State*

Dan Bailey

Faculty of Social Sciences, University of Manchester, Manchester, UK

ABSTRACT

Proponents of the Green State repudiate the historical antipathy to the state from many in the green movement and endorse the pragmatic usage of state capacity and legitimacy to realise environmental protection. This article offers a sympathetic critique of the Green State's fiscal and monetary institutional design in order to refine the concept further. It will investigate an under-theorised contradiction in the political economy of the Green State; centring upon the operationalisation of an interventionist state, moving beyond economic growth, and deference to the *ceteris paribus* conventions of state financing. It is argued that the three cannot co-exist harmoniously, given the ramifications of moving beyond growth for the fiscal capacity of the state. Therefore, there is a need to go further than even Eckersley does in re-politicising and challenging capitalist conventions. Specifically, Eckersley's own critical constructivist approach is invoked to interrogate the capitalist conventions that constitute the constraints surrounding state financing, such as the depoliticised production of money and the viability of debt relations.

KEYWORDS

Green State; moving beyond growth; post-growth; strong ecological modernisation; fiscal policy; monetary policy; environmental sustainability

Introduction

There are many dimensions to the Green State, but its fundamental political economy characteristics can be defined as the fusion between the belief in de-privileging Gross Domestic Product (GDP) growth as a political objective and the utilisation of the state to ensure environmental protection (Eckersley 2004, Christoff 2005). Robyn Eckersley's conception drew upon the strong ecological modernisation school of thought concerning the evident ecological and social issues with GDP growth as well as the pragmatic appeal of employing the state's capacity and legitimacy.

In her seminal work on the Green State, Eckersley stated explicitly that she envisaged it to be largely post-capitalist. She posited that 'a deep and lasting resolution to ecological problems can ... only be anticipated in a post-capitalist economy and postliberal democratic state' (Eckersley 2004, p. 81). Her position on the topic later became more equivocal, as she herself conceded in response to James Meadowcroft, stating that

I do not argue for the abolition of private ownership or wage labour but I do argue that the state should ecologically constrain and discipline capitalism in significant ways ... But how much does public power need to take over from private power before we can describe the green state-society complex as post-capitalist? I'm not sure, and I'm not sure it matters (Eckersley 2006, p. 134).

CONTACT Dan Bailey  daniel.bailey@manchester.ac.uk

*The Author wishes to express his thanks (with the usual provisos) to the reviewers for their helpful comments, as well as his collaborators in this special section.

© 2018 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

However, when pondering whether a ‘full-fledged Green democratic state’ would still be capitalist, she does explicitly designate an area where conventional capitalist practices would continue. Namely, in the area of state financing:

On the one hand, the green state would still be dependent on the wealth produced by private capital accumulation to fund, via taxation, its programmes and in this sense would still be a capitalist state. On the other, securing private capital accumulation would no longer be the defining feature or primary *raison d'être* of the state. The state would be more reflexive and market activity would be disciplined, and in some cases curtailed, by social and ecological norms. The purpose and character of the state would be enlarged and therefore be different. In this respect, the green democratic state may be understood as a postcapitalist state (Eckersley 2004, pp. 83–84).

Growth is often depicted as an addiction, a myth or an unnecessary fixation by the green movement which tends to fix its analytical focus on the private rather than the public sector. Yet the de-privileging or ending of growth will also have ramifications for the fiscal capacity of the state (Bailey 2015). This is because any suppression of economic activity – for that is what GDP is a measurement of – is a suppression of *taxable* economic activity, and there are thus consequences for the ‘tax take’. The end of growth advocated by strong ecological modernisation theorists therefore threatens to circumscribe the capacity of the state whilst simultaneously proposing an ‘enlarged’ interventionist role for the state in protecting the environment. This constitutes a significant paradox for the putative Green State, if we are to insulate the constraints surrounding state financing from reform.

As such, the political economy of the state as we move beyond growth remains theoretically under-developed in the Green State literature. I will argue that we need to go further than even Eckersley does in challenging the *ceteris paribus* assumptions of the capitalist system. Specifically, there is a need to re-politicise the capitalist concepts that constitute the constraints surrounding the Green State. This is necessary if the Green State is going to have the capacity presupposed by Eckersley and also Christoff in spite of de-privileging growth.

This trilemma between moving ‘beyond growth’, the presupposition of a large interventionist state and the constraints of state financing will therefore be the focus of the analysis in this article. I will argue that the notion of building an interventionist Green State is problematic whilst GDP growth is being de-privileged, as long as we remain deferential to the existing constraints surrounding state financing (as Eckersley has suggested). This has been under-theorised in the existing scholarship.

I will begin by outlining the gestation and defining political economy features of the Green State concept. Thereafter, I will deliberate the fiscal ramifications of moving beyond growth. Finally, I will utilise Eckersley’s own ‘critical constructivist’ approach and interrogate the capitalist concepts and practices that constitute the constraints.

The Theoretical Development of the Green State

The historically dominant understanding of the state’s ontology among within the green movement is of a hierarchical mode of domination over both humans and the natural world. The state is perceived to be inextricably bound up with the interests of private capital and ecological destruction (Paterson *et al.* 2006, p. 136). This understanding – influenced by both the anarchist tradition of thought represented by Bookchin (1980, 1982) and Carter (2013) on the one hand, and orthodox and revisionist Marxism which interprets the state as little more than an appended superstructure to the infrastructure of capitalist production on the other (Poulantzas 1969) – has resulted in the tendency of green scholars to renounce the state.

The growing movement to see the state instead as a potential site of environmental protection, given its legitimacy and unparalleled capacity to enact change as the conventional modality of power, has been spearheaded by a cadre of academics including Robyn Eckersley, James Meadowcroft and Carl Death. In recent years, Duit *et al.* (2016, p. 2) in a Special Issue of *Environmental Politics* entitled ‘Green Leviathan? The emergence of the Environmental State’ called for the need to ‘bring the state back in’ to the field of environmental politics. This reflected an earlier period of interest in the mid-2000s when Barry and Eckersley (2005, p. 255) argued that we needed to chart a course

between 'naïve antistatism and naïve statism' which had both failed 'because they lack any sense of context and historical dynamics in the political economy'. Eckersley's normative ideal, which she termed the 'Green State' (2004)¹, combined with Meadowcroft's focus on the actually existing development of the state's environmental management functions, part of an emerging 'Environmental State' (Meadowcroft 2005a, p. 5), sparked a revival of interest in the capacities and limitations of the state as an environmental actor. The inclination to view the state as a potential site of environmental contestation was catalysed by the 'global financial crash' of 2007/8 which instigated debates on 'green new deals' and 'green growth' macroeconomic strategies; shifting the analytical focus in green scholarship away from modernity, industrialisation, globalisation and capitalism (Saurin 1996, Kovel 2007, Smith 2011).

Eckersley proposed a pragmatic and instrumental approach to the state based on an immanent critique of actually existing practices of governance. The utilisation of the state to serve purposes of ecological protection reflects the approach of the German Green Party to 'march through the institutions' or, as Barry (2012, p. 150) puts it, to 'dig where we stand'. The theoretical development of the Green State's central features has been driven by Peter Christoff (2005), James Meadowcroft (2012), John Barry (2012) and Arthur Mol (2016), addressing in particular issues of democratisation, sovereignty and the commitment to internationalism *inter alia*. Emerging from their analysis has been the criteria for environmental performance to which states should aspire and be measured (Christoff and Eckersley 2011).

Peter Christoff (2005) developed the conception by establishing a typology of Green States. At the pinnacle of Christoff's typology were those Green States prioritising green goals, such as mitigation and adaptation policies, over any other governmental imperatives (including economic growth and welfare spending). He wrote that 'Green States, were they to exist, would be characterised by the predominance of types of state activity aimed at strong ecological modernisation' (Christoff 2005, p. 41). As the table below demonstrates, Christoff believed that the 'greener' states were, the higher the budgetary commitment would be to ecological issues and the higher the levels of state capacity (Table 1).

Christoff's benchmarking of high levels of state capacity and prioritisation of green objectives in budgetary decision-making echoes the writings of Eckersley (2004). These state qualities would enable a state to mitigate and adapt to climate change, manage ecological resources, pool socio-

Table 1. Extracted from Peter Christoff's typology of environmental states.

Type of Green State	Defining features	Examples
Green State	Strong eco-modernisation through: <ul style="list-style-type: none"> • High levels of state environmental capacity and intervention, and of integration of economic, social welfare, and environmental welfare policies • Strong cultural and political institutionalisation of ecological values • High commitment to human welfare environmentalism • Strong budgetary commitment to both human welfare environmental and eco-centric issues 	None currently
Environmental welfare state	Weak eco-modernisation through: <ul style="list-style-type: none"> • Moderate state environmental capacity and intervention • Weak institutionalisation of ecological values, with human-orientated (social and environmental) welfare predominant • High commitment to human welfare issues • Moderate budgetary commitment to ecological issues 	Sweden, Netherlands
Environmental neoliberal state	Very weak eco-modernisation through: <ul style="list-style-type: none"> • Weak state environmental capacity and intervention. • Strong market-orientation • Moderate to high commitment to human welfare environmentalism • Weak to moderate budgetary commitment to social and environmental welfare 	Australia, USA

Source: Christoff (2005).

economic and environmental risks, establish means of redistribution aligned to notions of social justice, and be seen as broadly 'green'.

Meanwhile, there are ample reasons for the Green State literature to embrace the strong ecological modernisation commitment to moving beyond economic growth. For Eckersley (2004), this is derived from a political ecology critique of cornucopian assumptions and the fetishisation of material wealth. Even Meadowcroft (2012), who propounds a weaker version of 'Ecological Modernisation', asserts that the future Eco-State must spell the end for economic growth as it becomes seemingly incompatible with 'planetary boundaries'. Barry and Eckersley (2005, pp. 260–263) went further and argue that not only should a Green State de-prioritise growth, but that the ingrained governmental imperative towards economic growth represented the major obstacle to the Green State. The calls to de-prioritise GDP growth are substantiated by the empirical evidence suggesting that the commitment to *ad infinitum* economic growth remains incompatible with environmental sustainability (Jackson 2009, Rockström *et al.* 2009, Anderson and Bows-Larkin 2012, IPCC 2014). In spite of the dominance of politically appealing 'green growth' or 'sustainable development' narratives which purport to offer us sustainability from within the parameters of the economic status quo, these discourses continue to be based on little more than a faith in future technological innovations capable of 'de-coupling' economic output from ecological output to a greater extent than has so far been possible (Jackson 2009, Latouche 2009, Jackson and Webster 2016). This is to say nothing of the evidence which suggests that growth no longer enhances social wellbeing in the post-industrial countries, and may even detract from it (Kasser 2002, Layard 2005, Sen *et al.* 2008, Wilkinson and Pickett 2009). On this basis of this evidence, it is unsurprising that transcending GDP growth has become a central feature of the Green State concept.

However, the presumption of this fusion between large state capacity on the one hand and the de-privileging of growth is contradictory if the *ceteris paribus* the constraints surrounding state financing are to be insulated from critique; something which Eckersley explicitly advocates². Whilst the work of Eckersley (2004) and Christoff (2005) has been pivotal in driving the debate on the extent to which more enlightened forms of governance could hypothetically play a role in facilitating environmentally-conscious behaviour in the citizenry through prioritising ecological goals, the political economy of the Green State nevertheless remains inchoate in the literature. Specifically, the existing literature has paid insufficient attention to the political economy of the state itself and the extent to which the fiscal capacity of the capitalist state – upon which the Green State's mitigation and adaptation projects would supposedly be predicated – would be compromised by moving beyond GDP growth. It is this to which I now turn.

Living without the Fiscal Dividend of Economic Growth

Recognising the environmentally and socially problematic dimensions of economic growth and sensitising policy-making to alternative metrics is not imprudent. However, there are repercussions of de-prioritising GDP growth for the state, as well as for the practices of the private sector. Whilst those in the green movement have been vocal in their opposition to austerity and state retrenchment since the 2008 financial crash (Lucas 2013, European Green Party 2015), moving beyond growth *ceteris paribus* has severe and constricting ramifications for the fiscal capacity of the Green State.

As I have argued elsewhere (Bailey 2015), any move 'beyond growth' entails a suppression of economic activity and thus *taxable* economic activity. The corollary of this is a flat-lining of the 'tax take' in the case of a transition to a 'Steady State Economy' and an incremental decrease in the 'tax take' in the case of a de-growth transition. As Paterson (2016, p. 479) notes, 'if the Green State is dependent on capital for taxes, and capital is dependent on accumulation for profits (out of which taxes would be paid), then how viable is a strategy of limiting overall accumulation?' Such an insight already problematises Eckersley's anticipation of 'enlarged' state capacity.

Yet the calls to move beyond growth come at a moment in time when the state is also facing escalating demands on its resources. This is partly due to the expansion of eco-investment by a Green

State, but primarily due to rising welfare costs. Demographic changes mean that welfare budgets in the post-industrial world – which constitute one of the largest components of state spending as well as a budgetary priority of Green States (Christoff 2005, p. 42) – are set to grow significantly in forthcoming years, particularly because of strains engendered by existing welfare commitments in the areas of healthcare and pensions. The effects of these demographic changes on welfare budgets are manageable as long as growth is maintained, according at least to welfare state scholars (Esping-Andersen 1996, 2002, Hay and Wincott 2011, Taylor-Gooby 2013). However, it is unclear how policy-makers are to meet existing welfare commitments when they demand ever greater monetary resources in a context where the ‘tax take’ is stagnating or diminishing. The post-war social contract ‘was founded upon robust economic growth’ (Esping-Andersen 2002, p. 23), which has led Fitzpatrick (1998, p. 5) to conclude that ‘social justice and ecological sustainability do not necessarily go together’. To compound matters, one could reasonably assume that a post-growth transition would have direct implications for other areas of welfare, such as demands for unemployment insurance, income support and private pension funds. It is important to avoid determinism here, but certainly a post-growth transition would impose severe fiscal constraints on state spending just as existing welfare commitments demand greater expenditure.

A transition to a ‘Steady State Economy’ rather than a de-growth economy would to some extent alleviate the constraints on state capacity, as the tax take would ‘only’ stagnate rather than contract. However, even in a context where growth was stabilised, current levels of state spending could be deemed to be fiscally unsustainable because the budget deficits being run in Europe today demonstrates that even present levels of state spending are not being financed by present levels of tax income. Already, state spending is outstripping tax income in a way that could only be acceptable when it is possible to anticipate future economic expansion. It is tempting to think of these budget deficits as being a post-2008 phenomena but, with the exception of Canada, Norway, Finland and Denmark which have run budget surpluses consistently in recent decades, budget deficits have become remarkably normalised in many post-industrial societies since the 1970s (World Bank 2015). Worse, the capricious reactions of the financial markets to a post-growth transition – should they be insulated from a Green State overhaul too – could also raise the cost of government borrowing and de-value national currencies thereby making the existing fiscal arrangements of the state all the more unsustainable.

This is to say nothing about the repayment of the public debt accumulated by the budget deficits of previous years. Today, the repayment of public debt and the continuation of budget deficits can be justified as temporary counter-cyclical Keynesianism designed to revive the locomotives of growth through re-generating demand and capital investment projects. It is a moderate concern for most progressives as future budget surpluses enabled by growth will ameliorate the borrowing of today. This macroeconomic logic will be discredited by the end of growth (Bailey 2015).³ It is uncontested here that public debt has been fetishised since 2009, but in a post-growth transition the Keynesian macroeconomic logic which allows us to be sanguine about debt repayments and budget deficits no longer holds. With all this in mind, ‘not only is future spending predicated on economic expansion, but current levels of spending are based on assumptions of future expansion as well’ (Bailey 2015, p. 798).

Domestic politics will play a key role in determining where remaining capital is allocated, but the structural fiscal constraints imposed upon Green State policy-makers in a post-growth context are clear. Debt repayments, welfare commitments and other areas of government expenditure will compete with environmental projects for scarce governmental resources in conditions of *pareto optimality* or state atrophy. Some forms of taxation may mitigate the growing gulf between the stagnating tax take – although there are significant limits to even progressive architectures of taxation when the *very point* of a post-growth economy is to circumscribe economic activity – but we could certainly anticipate severe consequences for the fiscal capacity of the state. In all likelihood the level of austerity demanded by a post-growth transition would far exceed the level of austerity experienced already since 2008 (Bailey 2015).

For the Green State to be truly 'green' it may need to accept the strong ecological modernisation impulse to de-prioritise GDP growth (Jackson 2009, Anderson and Bows-Larkin 2012, IPCC 2014, Jackson and Webster 2016). Yet, simultaneously, the Green State will be difficult to operationalise without the fiscal capacity enabled by growth. How are the Green State's institutional mechanisms of effecting environmentally-judicious change to be financed?

This critique complements the scepticism about the state's ability to rid itself of its functional imperative to pursue the interests of private capital given the long-term evolution of the state's institutional set-up, articulated by Hay (1996), Paterson (2016) and Dryzek (1992). Their institutionalist analysis proffered the argument that the ideas embedded into state institutions – which are not immutable but are nevertheless fundamental to what institutions actually are – will continue to peripheralise environmental objectives. Paterson believes that 'detaching a growth imperative from the state is impossible to imagine', as the state and capitalism are co-constitutive, based on his ontological contention of a 'structural relationship between capitalism, growth and the state' (Paterson 2016, p. 479).

As James O'Connor (1973) rightly acknowledged, the state's attempts to redress negative 'market externalities' through welfare expenditure and environmental projects (and secure its own legitimacy in doing so) have formed part of a governance strategy to manage these tensions. The paradox O'Connor identifies between the state's simultaneous commitments to promoting the interests of capital and assuaging the manifestations of its social and environmental consequences does not, however, disappear as much as mutate in the context of moving beyond growth. This analysis thus dovetails with the accusation posed by Paterson (2007, p. 549) that Green State scholarship takes the issues of capitalism very lightly. Certainly this analysis points to the precarious fault lines upon which Green States sit and the limits of capitalist relations.

The political economy of the state as we move beyond growth remains theoretically under-developed in the post-growth as well as the Green State literature. Many authors who depict a post-growth economy continue to posit a large and interventionist role for the state (Victor 2008, Jackson 2009). It is clear, however, that if we adhere to the *ceteris paribus* mechanisms and constraints of state financing, such a transition would have profound consequences for the fiscal capacity of the state. This would have direct effects upon the state's long-held status as being *the* instrument of progressive politics, a position echoed by Eckersley and Christoff.

The Green State, of course, was partly a response to the anti-statist tradition within the Green movement; the most notable exponents being Murray Bookchin (1980, 1982), Giorgos Kallis (2012), Joan Martínez-Alier (2009). In some sense, this critique may be seen as reinforcing their antipathy toward the state. Indeed, although it takes a different analytical route, it may even provoke the same question posed by Thom Kuehls (2014, p. 243): does a truly environmental politics mean the end of the state? Is the very notion of a Green State in some sense oxymoronic? Yet, Eckersley is right that the state – or at least some institutions within it – *is* a crucial vehicle for addressing environmental unsustainability, unrivalled in terms of existing capacity and legitimacy. Some state actors and actions not only can, but do, serve to mitigate ecological problems and facilitate the adaptation of societal structures to a greener age in ways which reflect green values of social justice, redistribution and regulation (Meadowcroft 2005b). As such, it is imperative that moving 'beyond growth' does not entail the fiscal erosion of the state if there is to be an effective Green State as Eckersley envisaged it.

Interrogating the Capitalist Concepts which Constitute the Constraints

This proposition of an interventionist state that is moving beyond growth presents a contradiction for the Green State literature to contemplate. However, a way of transcending such a contradiction may have been signposted by Eckersley herself. Eckersley's 'critical constructivist' approach is relevant here as it shuns functionalist analyses and recognises the 'political and discursive struggles over the contested meanings, purposes and functions of social institutions' (Eckersley 2004, p. 62). It is an approach that provides an open-ended framework for interrogating deep-seated structural

socio-economic conventions, and thus enables us to contemplate a degree of systematic transformation; quite in contrast to the weaker forms of Ecological Modernisation. Critical constructivism, therefore, serves as a useful analytical method of contesting the *ceteris paribus* assumptions made in the prior analysis and rendering the aforementioned fiscal constraints mutable through re-politicisation and contestation. The constraints outlined in this analysis are, after all, not objective or borne of the material world. They are fundamentally ideational, even if they have long been de-politicised and accepted as economic necessities. It is important to insist that what constitutes the constraints in the prior analysis is simply a nexus of capitalist concepts, which can be subject to contestation.

Eckersley's view was that the Green State must be a post-capitalist one if it is to achieve a 'deep and lasting resolution' to ecological problems (Eckersley 2004, p. 81). The analysis presented here reaffirms that view, but it also demands that we go further than Eckersley does in challenging capitalism's established conventions. To reiterate Eckersley's stance, when pondering the question of whether a 'full-fledged Green democratic state' would still be a capitalist one, she stated with clarity that:

On the one hand, the green state would still be dependent on the wealth produced by private capital accumulation to fund, via taxation, its programs and in this sense would still be a capitalist state. On the other, securing private capital accumulation would no longer be the defining feature or primary *raison d'être* of the state. The state would be more reflexive and market activity would be disciplined, and in some cases curtailed, by social and ecological norms. The purpose and character of the state would be enlarged and therefore be different. In this respect, the green democratic state may be understood as a postcapitalist state (Eckersley 2004, p. 83–84).

Eckersley, then, put forward the Green State to be broadly post-capitalist, but she posited that the conventions of state financing were to be elements of the existing capitalist set-up that were to be maintained. In spite of this, the state was to be 'enlarged'. In contrast, I contend that the critical constructivist approach must be applied to an additional sphere of socio-economic relations if the Green State is to fulfil the role that Eckersley propounded. I contend that the conventions of state financing – with the typical practices of money creation and the viability of existing debt relations in particular – must be re-politicised and challenged if we are to operationalise a state which is simultaneously robust enough to enable green change and move beyond GDP growth. De-privileging capital accumulation is a laudable aim of Eckersley's Green State vision and one which is cognisant of the existing empirical evidence on the relationship between growth and environmental sustainability, but without growth and under *ceteris paribus* conditions of state financing the Green State would suffer a fiscal contraction from the moment of its inception.

It is important to avoid drawing any prescriptive conclusions at this juncture, as there are numerous paths – all with differing degrees of post-capitalist radicalism – we can infer from the preceding analysis. I would suggest, though, that the insights of two bodies of scholarship are particularly germane given the analytical focus on state financing, which together constitute a rather minimalist route forward. An engagement with both literatures promises to be fruitful given their potential contribution to a discussion on re-politicising the constraints surrounding the Green State.

The first is the emerging literature known as 'Modern Monetary Theory' (MMT) that provides a quite different account of a modern state's fiscal and policy space than orthodox economic approaches based on a critique of conventional money production. Private banks, contrary to the pervasive misconception, do not simply serve as intermediaries between savers and lenders, but instead create money *ex nihilo* through issuing credit at interest. This has been recognised by Keynes (1930), Hayek (1931), Schumpeter (see Michell 2014), Minsky (1986), Wray (2012) and recently even the Bank of England (2014) and Deutsche Bundesbank (2017). Over 90 per cent of money circulating in advanced capitalist economies today has been created by private banks (Di Muzio and Robbins 2016) and is governed only at arms-length by Central Bank interest base rates which shape the profitability of private banks to lend (Ingham 2004).

MMT has partly grown in popularity because of the banking crash of 2007/8. Scholars such as Wray (2012) and Bell-Kelton (2001) have drawn upon Minsky (1986) to contend that the *modus operandi* of

money production is irrevocably dysfunctional given the destabilising effects of credit cycles in generating financial instability. Drawing on this tradition, as well as the belief that money ought not to be analysed as a commodity with innate value but rather as a ‘social relation of debt and credit denominated in a unit of account’ (Ingham 2004, p. 12), a cadre of scholars has challenged the naturalised understanding of money production and questioned whether it could be reconstituted.

MMT scholars particularly invoked the insights of Knapp’s (1924) ‘state money approach’ to argue that the state could adopt a more prominent role in producing capital to better serve the public good. The injection of money into the economy by state agencies is far from unprecedented, as the recent bouts of Quantitative Easing – the policy of creating new bank reserves from the purchase of (toxic) financial assets – in Europe instantiate. Policy proposals such as ‘People’s Q.E.’ and ‘Green Q.E.’ (Anderson 2015, Blyth *et al.* 2015) both seemingly draw upon MMT ideas to advocate alternative injections of capital into the economy. In sum, the case for re-thinking the balance between the public and private sectors in money production so that it better serves social purposes is compelling.⁴

From a green perspective, re-equipping the state in this way can be seen as instrumental in bolstering investment in low-carbon infrastructure and energy systems, as it has been shown that private capital is tendentially attracted to unsustainable, carbon-intensive industrial sectors (Di Muzio 2012). However, it is just as crucial to transform monetary policy for social purposes. As Martin Wolf (2014) notes,

the new money would be injected into the economy in four possible ways: to finance government spending, in place of taxes or borrowing; to make direct payments to citizens; to redeem outstanding debts, public or private; or to make new loans through banks or other intermediaries.

A greater role for the state in the creation of this Polanyian ‘fictitious commodity’ would unquestionably be conducive to the public good according to eminent green scholar Mary Mellor. She has drawn upon the work of Marx and Veblen to argue that realising an economy which is both democratic and sustainable is predicated upon tackling the inequities of finance (Mellor 2002, 2010).

In light of the fiscal constraints imposed by a post-growth transition upon the state under *ceteris paribus* conditions, the notion of financing public expenditure not through tax receipts or by borrowing from financial institutions (which currently create money *ex nihilo*) but rather by the state itself is of great relevance to the Green State debate. The first option identified by Wolf would do much to address the trilemma explicated. Indeed, this is why Tymoigne and Wray (2014) claim that fiscal constraints are entirely self-imposed by ‘monetarily sovereign’ governments.

A monetary reform of this magnitude would certainly encounter significant political obstacles; the most patent of which would be retracting the independence of, and enforcing a new remit for, Central Banks. Re-politicising the Federal Reserve in the United States and the Bank of England in the UK in this way would prove difficult, but the tackling the power of the inter-governmental European Central Bank in the Eurozone countries more difficult still. However, there is good reason to think that moving beyond growth – as demanded by strong ecological modernisation exponents – requires such a reform. The current theory of debt-based and interest-bearing money creation can be said to be predicated upon future economic growth (Douthwaite 2006, Eisenstein 2012, Farley *et al.* 2013), and, as such, the very existence of a Green State which embodies both of its key political economy characteristics could rest on tackling such institutional arrangements and vested interests.

The primary economic criticism of MMT reforms are that nationalising the means of money production could produce hyper-inflation, with Weimer Germany and Zimbabwe in the 2000s typically cited as examples. Jackson and Dyson (2012, p. 302) contend that it is state corruption, rather than state-led creation, which is the historical common causal driver of hyperinflation and accordingly advocate the establishment of a Money Creation Committee (grounded in monetarist ideas of governmental control of the money supply) and a greater role for tax policy is warding off inflationary pressures. Nonetheless, inflation represents a significant threat to socio-economic stability and living standards particularly in the context of diminished economic output which a post-growth transition would necessarily

entail. Furthermore, national currencies could depreciate because of these changes – raising the cost of imported necessities – making international coordination between Green States all the more important. These threats perhaps signify the limitations of employing MMT ideas to mitigate the fiscally contractionary effects of moving beyond growth on the state.

The second body of scholarship with potential insights for the Green State literature in the light of the above analysis on the fiscal consequences of a post-growth transition concerns the continued viability of debt relations. David Graeber's seminal work, *Debt: The first 5,000 years*, traces the development of money as a means of quantifying and codifying debt. He outlines the varied cultural practices of debt across time, thereby contesting the depictions about the universality, objectivity and non-negotiability of debt in contemporary political discourse. This is a strand of research that has become increasingly germane since 2008 as political discourse has been gripped by debt fetishism.

There is a strong relationship here between the proposals for an alternative system of money creation and the scholarship on the contingencies of debt in the sense that, as Graeber (2011, p. 372) puts it, 'money has no essence. It's not really anything; therefore, its nature has always been and presumably always will be a matter of political contestation'. He notes that it was formerly linked to the limited physical stocks of gold – widely seen as a precious commodity with inherent value – but the last vestige of the linkage between money and gold was eradicated by US President Richard Nixon in 1971 when he terminated the Bretton Woods Agreement (Graeber 2011). Since then money has been backed by nothing but trust – what is known as fiat currency – and the implicit acceptance of the populace that it remains the most optimal method of appropriating resources. Since Nixon de-linked money from gold, 'it has become evident that it's *only* the wizard behind the screen who seems to be maintaining the viability of the whole arrangement' (Graeber 2011, p. 363). As such, Graeber argues that the obligation to repay debts is underpinned primarily by pervasive moral and cultural norms.

Yet, despite the pervasive moral compulsion to re-pay debt, many scholars have understood debt relations as de-politicised mechanisms of exploitation and domination. Coming from the Marxist perspective, Susan Soederberg (2014) argues that the debt and the legal system buttressing it concealed and 'naturalised' the exploitative societal dynamics in the relations of production through monetary abstraction. Soederberg (2014) further contended that since 2008 post-industrial states have transformed into 'debtfare states' in which a new form of governance has utilised credit instruments to keep capitalism on life-support through the provision of additional liquidity.

This body of work challenging the non-negotiability and apolitical depiction of debt is important here because of the pre-existing levels of indebtedness as well as the spectre of further budget deficits accrued by Green States. Ever high levels of government debt afford a greater role for the financial markets in economic governance and subject state finances to the forces of credit ratings, currency fluctuations and 'animal spirits'. This is why it is so important to explicate the constructed nature of this constraint on state action. As Andrew Baker has stated, 'we should think of money as a utility – a collective resource – created by human agency that can help us realise systemic visions of the future, as a response to the choices, values and priorities of society as a whole. This is what money can be for' (Baker 2016). As Graeber (2014) has already stated, the Bank of England's admission (2014) on money creation undermined the very basis of the austerity discourse.

The notion of 'debt audits' have already gained a degree of political attention in Europe in the midst of debt fetishism and the subsequent rise of far-right political parties (Financial Times 2015). Molly Scott Cato (2014) has argued that 'odious debt' – a legal concept denoting sovereign debt which has been incurred in ways which do not serve the best interests of a populace – ought to be repudiated. Sandy Hager meanwhile, using the US as a case study, argued that the owners of public debt constitute the new 'financial aristocracy' who enjoy the upward redistribution of capitalising upon the state's financing of its budget deficits as a profitable revenue stream (Hager 2015). In a post-growth context, public debt levels are posited above as one of the central reasons why even existing levels of state expenditure may be fiscally unsustainable, even as state borrowing is partly financed by commercial banks who create money *ex nihilo* (Hager 2016). However, moving

'beyond growth' demands an even more intensive critical interrogation of existing power relations and inequities of institutionalised socio-economic relations.

We should not under-estimate the profundity of this agenda for change. To challenge monetary policy and debt obligations in such a way is to re-imagine what the state actually is: an institutional ensemble that could be ontologically separable from the capitalist market economy in delivering public goods. The insights of these literatures, therefore, must be connected to the scholarship on the Green State in order to address the tension between the proposition of familiar state capacity alongside the fiscal constraints wrought by moving beyond growth. This offers promisingly fertile ground for future research. However, it must be noted that such a shift – as radical as it is – would not necessarily mark the end of all financial constraints. It can be anticipated for example that policy-makers would still need to be wary of numerous economic variables, including inflation, which could no longer be realistically tempered by interest rate rises. There are no silver bullets, but – whilst being careful not to be too prescriptive – I would suggest that the above represents a minimalist route to challenging the constraints facing a Green State. Alternative and even more radical routes may also be deliberated in the context of this analysis, but the aforementioned constitutes a useful if open-ended starting point.

Many of course believe that moving beyond GDP growth would necessitate the end of all capitalist conventions. Wolfgang Streeck (2014, p. 48), Serge Latouche (2009) and Joan Martínez-Alier (2012) are amongst them. It is important here, though, to strive towards greater specificity given Eckersley's position on state financing. The analysis presented suggests that, if the Green State is to maintain the capacity of the modern capitalist state, then it cannot remain deferential to these particular capitalist concepts in the midst of a post-growth transition.

Conclusion

This analysis – which focuses on the under-theorised implications of moving beyond growth for the political economy of the state – only affirms Robyn Eckersley's contention that a Green State must be post-capitalist rather than one born of 'weak Ecological Modernisation' (Eckersley 2004, p. 81). However, for the institutions of the Green State to fulfil their envisaged role what is required is a deeper re-politicisation of existing capitalist practice than even Eckersley advocated. Specifically, there is a need to interrogate the capitalist concepts that would constitute its constraints in a post-growth era. Such constraints – if left de-politicised – would belie any Green State's ability to enact environmental change as envisaged by its proponents.

The immediate concepts it is necessary to interrogate are those related to state financing; the means of money production and debt relations. Only when re-politicising these foundational capitalist concepts can we begin to discuss a Green State with the fiscal capacity to enact the environmental change envisaged by its proponents. In other words, re-politicising these concepts is the minimalist route to operationalising a Green State that has 'high levels of state environmental capacity and intervention, and of integration of economic, social welfare and environmental welfare policies' (Christoff 2005, p. 42). If the notion of a reformist state acting to protect environmental public goods is to be validated in a post-growth context, then the profundity of the change needs to be recognised and the insights of parallel research agendas concerning the financing of modern states must be engaged with.

Notes

1. Another dimension of the Green State concept is its demand for a transformation in its understanding of sovereignty to encompass a more cosmopolitan responsibility to populations outside of their territorial borders. This article, however, focuses solely on the political economy of the Green State.
2. This duality is posited just as problematically in the post-growth literature by scholars such as Tim Jackson (2009), Peter Victor (2008) and Peter Ferguson (2013) *inter alia*.

3. This may be an unproblematic insight for the exponents of 'weak Ecological Modernisation'. For these authors, 'green growth' is not seen as oxymoronic and can be achieved through technological innovations and a de-coupling of economic output and ecological footprint (Hajer, 1995, Mol, 2002). If we accept the position of techno-optimism as our starting point, as they do, there is little reason to move beyond growth to realise environmental sustainability. For these authors, this analysis will be far less relevant.
4. Others go further and advocate a state adopting a monopoly on money production, thereby eradicating fractional reserve banking and rendering banks simple intermediaries. Fontana and Sawyer (2016) have recently offered a rebuke of these proposals, arguing that the inherent monetarism of 'Full Reserve Banking' will compound existing issues surrounding public expenditure, as well as fail to extinguish the financial crises that are endemic to capitalist economies and additionally shift power away from elected politicians towards unelected Central Bankers.

Acknowledgements

This paper has greatly benefitted from the guidance and advice of John Barry, Andrew Baker, Martin Craig, Ian Gough, Dave Powell and all those who attended the SPERI Workshop entitled 'Towards an Ecological Political Economy of Contemporary Capitalism' on 22 September 2016. Any mistakes are of course my own.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Dan Bailey is a post-doctoral research fellow at the School of Social Sciences at the University of Manchester. He previously worked at the Sheffield Political Economy Research Institute at the University of Sheffield and as an Associate Lecturer in the Politics Department of the University of York. He conducted his ESRC-funded PhD research at the University of Sheffield. He has published in journals such as *New political economy*, *Competition and change*, *Local government studies*, *British politics and renewal*. He has also co-authored reports for the New Economics Foundation, Policy Network and the Foundation of European Progressive Studies.

References

- Anderson, V. 2015. Green money: reclaiming quantitative easing: money creation for the common good. Green/EFA group in the European parliament, published June 2015. Available from: http://mollymep.org.uk/wp-content/uploads/Green-Money_ReclaimingQE_V.Anderson_June-2015.pdf.
- Anderson, K. and Bows-Larkin, A., 2012. A new paradigm for climate change. *Nature climate change*, 2, 639–640.
- Bailey, D., 2015. The environmental paradox of the welfare state: the dynamics of sustainability. *New political economy*, 20 (6), 793–811.
- Bank of England, 2014. Quarterly bulletin 2014 Q1: money creation in the modern economy. In: Michael McLeay, ed. *Amar radia and ryland thomas of the bank's monetary analysis directorate*. Available from: <http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneycreation.pdf>.
- Baker, A. 2016. What is money for? *Speri comment*, 5 April 2016. Available from: <http://speri.dept.shef.ac.uk/2016/04/05/what-is-money-for/>.
- Barry, J., 2012. *The politics of actually existing unsustainability: human flourishing in a climate-changed, carbon constrained world*. Oxford: Oxford University Press.
- Barry, J. and Eckersley, R., 2005. W(h)ither the Green State? In: J. Barry and R. Eckersley, ed. *The state and the ecological crisis*. Cambridge, MA: MIT Press, 255–272.
- Bell-Kelton, S., 2001. The role of the state and the hierarchy of money. *Cambridge journal of economics*, 25 (2), 149–163.
- Blyth, M., Lonergan, E. and Wren-Lewis, S. 2015. Now the Bank of England needs to deliver QE for the people. *The Guardian*, 21 May 2015. Available from: <https://www.theguardian.com/business/economics-blog/2015/may/21/now-the-bank-of-england-needs-to-deliver-qe-for-the-people>.
- Bookchin, M., 1980. *Towards an ecological society*. Montreal, Canada: Black Rose Books.
- Bookchin, M., 1982. *The ecology of freedom: the emergence and dissolution of hierarchy*. Palo Alto, CA: Cheshire Books.
- Carter, A., 2013. *A radical green political theory*. London: Routledge.
- Cato, M.S., 2014. Can't pay? won't pay! debt, the myth of austerity and the failure of green investment. In: J. Blewitt and R. Cunningham, ed. *The post-growth project: How the end of economic growth could bring a fairer and happier society*. London: Green House, 106–123.

- Christoff, P., 2005. Out of chaos, a shining star? toward a typology of green states. In: J. Barry and R. Eckersley, ed. *The state and the global ecological crisis*. Cambridge, Mass: MIT Press, 25–52.
- Christoff, P. and Eckersley, R., 2011. Comparing state responses. In: J. Dryzek, R. B. Norgaard, and D. Schlosberg, ed. *The Oxford handbook of climate change and society*. Oxford: Oxford University Press, 431–448.
- O'Connor, J., 1973. *The fiscal crisis of the state*. New York: St Martin's Press.
- Deutsche Bundesbank. 2017. How money is created, 25 April 2017. Available from: http://www.bundesbank.de/Redaktion/EN/Topics/2017/2017_04_25_how_money_is_created.html.
- Di Muzio, T., 2012. Capitalizing a future unsustainable: finance, energy and the fate of market civilization. *Review of international political economy*, 19 (3), 363–388.
- Di Muzio, T. and Robbins, R., 2016. *Debt as power*. Manchester: Manchester University Press.
- Douthwaite, R., 2006. *The ecology of money*. Cambridge: Green Books.
- Dryzek, J., 1992. Ecology and discursive democracy: beyond liberal capitalism and the administrative state. *Capitalism nature socialism*, 3 (2), 18–42.
- Duit, A., Feindt, P.H., and Meadowcroft, J., 2016. Greening leviathan: the rise of the environmental state? *Environmental politics*, 25 (1), 1–23.
- Eckersley, R., 2004. *The Green State: rethinking democracy and sovereignty*. London: MIT Press.
- Eckersley, R., 2006. The state as gatekeeper. *Journal of international political theory*, 2 (2), 127–138.
- Eisenstein, C. 2012. We can't grow ourselves out of debt, no matter what the Federal reserve does. *The Guardian*, 13 September 2012. Available from: <http://www.theguardian.com/commentisfree/2012/sep/03/debt-federal-reserve-fixation-on-growth>.
- Esping-Andersen, G., 1996. *Welfare states in transition: national adaptations in global economies*. London: Sage.
- Esping-Andersen, G., 2002. *Why we need a new welfare state*. Oxford: Oxford University Press.
- European Green Party. 2015. Green parties of Europe and Austerity. *European green party official website*. Available from: <https://europeangreens.eu/keywords/austerity> [Accessed 16 May 2016].
- Farley, J., et al., 2013. Monetary and fiscal policies for a finite planet. *Sustainability*, 5, 2802–2826.
- Ferguson, P., 2013. Post-growth policy instruments. *International journal of green economics*, 7 (4), 405–421.
- Financial Times. 2015. Offer by the Greeks should not be made refused. 10 July 2015. Available from: <https://www.ft.com/content/699b8ee2-2703-11e5-bd83-71cb60e8f08c>.
- Fitzpatrick, T., 1998. The implications of ecological thought for social welfare. *Critical social policy*, 18, 5–26.
- Fontana, G. and Sawyer, M., 2016. Full reserve banking: more 'cranks' than 'brave heretics'. *Cambridge journal of economics*, 40, 1333–1350.
- Graeber, D., 2011. *Debt: the first 5000 years*. New York: Melville House.
- Graeber, D. 2014. The truth is out: money is just an IOU, and the banks are rolling in it. *The Guardian*, 18 March 2014. Available from: <http://www.theguardian.com/commentisfree/2014/mar/18/truth-money-iou-bank-of-england-austerity>.
- Hager, S.B., 2015. Corporate ownership of the public debt: mapping the new aristocracy of finance. *Socio-economic review*, 13 (3), 505–523.
- Hager, S.B., 2016. *Public debt, inequality, and power: the making of a modern debt state*. Oakland, California: California University Press.
- Hajer, M., 1995. *The politics of environmental discourse: ecological modernisation and the policy process*. Oxford: Oxford University Press.
- Hay, C., 1996. From crisis to catastrophe? The ecological pathologies of the liberal-democratic state. *Innovations*, 9 (4), 421–434.
- Hay, C. and Wincott, D., 2011. *European welfare capitalism in hard times*. Basingstoke: Palgrave Macmillan.
- Hayek, F.A., 1931. *Prices and production*. London: Macmillan.
- Ingham, G., 2004. *The nature of money*. London: Polity Press.
- Intergovernmental Panel on Climate Change [IPCC]. 2014. *Climate change 2014: impacts, adaptation and vulnerability*. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available from: http://ipcc-wg2.gov/AR5/images/uploads/WG2AR5_SPM_FINAL.pdf.
- Jackson, T., 2009. *Prosperity without growth: economics for a finite planet*. London: Earthscan.
- Jackson, A. and Dyson, B., 2012. *Modernising money: why our monetary system is broken and how it can be fixed*. London: Positive Money.
- Jackson, T. and Webster, R. 2016. *Limits revisited: a review of the limits to growth debate*. Report to the All Party Parliamentary Committee on Limits to Growth, April 2016. Available from: <http://limits2growth.org.uk/revisited/>.
- Kallis, G., 2012. In defence of degrowth. *Ecological economics*, 70, 873–880.
- Kasser, T., 2002. *The high price of materialism*. Cambridge, Mass: MIT Press.
- Keynes, J.M., 1930. *A treatise on money*. London: Macmillan.
- Knapp, G., 1924. *The state theory of money*. London: Macmillan & Company Ltd.
- Kovel, J., 2007. *The enemy of nature: The end of capitalism or the end of the world?* London: Zed Books.
- Kuehls, T., 2014. States. In: C. Death, ed. *Critical environmental politics*. Abingdon: Routledge, 238–246.
- Latouche, S., 2009. *Farewell to growth*. Cambridge: Polity Press. English Edition, translated by David Macey.

- Layard, R., 2005. *Happiness*. London: Allen Lane.
- Lucas, C. 2013. "Weak and discredited" austerity chancellor condemns UK to "bleak future" with £11.5bn cuts. *Caroline Lucas Official Website*, published 26 June 2013. Available from: <http://www.carolinelucas.com/latest/%E2%80%98weak-and-discredited%E2%80%99-austerity-chancellor-condemns-uk-to-%E2%80%98bleak-future%E2%80%99-with-%C2%A3115bn-cuts> [Accessed 16 April 2016].
- Martínez-Alier, J., 2009. Socially sustainable economic de-growth. *Development and change*, 40 (6), 1099–1119.
- Martínez-Alier, J., 2012. Environmental justice and economic degrowth: an alliance between two movements. *Capitalism nature socialism*, 23 (1), 51–73.
- Meadowcroft, J., 2005a. From welfare state to Eco-state. In: J. Barry and R. Eckersley, ed. *The state and the ecological crisis*. Cambridge, MA: MIT Press, 3–24.
- Meadowcroft, J., 2005b. Environmental political economy, technological transitions and the state. *New political economy*, 10 (4), 479–498.
- Meadowcroft, J., 2012. Greening the state. In: P. F. Steinberg and S. D. VanDeveer, ed. *Comparative environmental politics: theory, practice and prospects*. Cambridge, MA: MIT Press, 63–87.
- Mellor, M., 2002. *The politics of money: towards sustainability and economic democracy*. London: Pluto Press.
- Mellor, M., 2010. *The future of money: from financial crisis to public resource*. London: Pluto Press.
- Minsky, H., 1986. *Stabilizing an unstable economy*. New Haven: Yale University Press.
- Michell, J., 2014. Book review: "treatise on money" by J. A. Schumpeter. *Economic issues*, 19 (2), 86–88.
- Mol, A.P., 2002. Ecological modernization and the global economy. *Global environmental politics*, 2 (2), 92–115.
- Mol, A.P., 2016. The environmental nation state in decline. *Environmental politics*, 25 (1), 48–68.
- Paterson, M., 2007. Environmental politics: sustainability and the politics of transformation. *International political science review*, 28 (5), 545–556.
- Paterson, M., 2016. Political economy of greening the state. In: T. Gabrielson, C. Hall, J. M. Meyer, and D. Schlosberg, ed. *The Oxford handbook of environmental political theory*. Oxford: OUP, 475–490.
- Paterson, M., Doran, P., and Barry, J., 2006. Green theory. In: C. Hay, M. Lister, and D. Marsh, ed. *The state: theories and issues*. London: Palgrave, 135–154.
- Poulantzas, N., 1969. The problem of the capitalist state. *New left review*, 1 (58), November-December 1969, 67–78.
- Rockström, J., et al., 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and society*, 14 (2), 32.
- Saurin, J., 1996. International relations, social ecology and the globalisation of environmental change. In: J. Vogler, and M. F. Imber, ed. *The environment and international relations*. London: Routledge, 77–98.
- Sen, A., Stiglitz, J., and Fitoussi, J.-P., 2008. *Report by the commission on the measurement of economic performance and social progress*. Paris: Gouvernement de la République française.
- Smith, M., 2011. *Against ecological sovereignty: ethics, biopolitics and saving the natural world*. Minneapolis: University of Minnesota Press.
- Soederberg, S., 2014. *Debtfare states and the poverty industry: money, discipline and the surplus population*. London: Routledge.
- Streeck, W., 2014. How will capitalism end? *New left review*, 87, 35–64.
- Taylor-Gooby, P., 2013. *The double crisis of the welfare state*. London: Palgrave.
- The World Bank. 2015. *Cash surplus/deficit (% of GDP) database*. World Bank Data. Available from: <http://data.worldbank.org/indicator/GC.BAL.CASH.GD.ZS?page=3> [Accessed 6 March 2015].
- Tymoigne, E. and Wray, L.R., 2014. Modern money theory: a reply to Palley. *Review of political economy*, 27 (1), 24–44.
- Victor, P.A., 2008. *Managing without growth: slower by design, not disaster*. Cheltenham: Edward Elgar.
- Wilkinson, R. and Pickett, K., 2009. *The spirit level: why more equal societies almost always Do better*. London: Penguin Publishing.
- Wolf, M. 2014. Strip private banks of their power to create money. *The Financial Times*, 24 April 2014. Available from: <http://www.ft.com/cms/s/0/7f000b18-ca44-11e3-bb92-00144feabdc0.html#axzz2zulkaQ9s>.
- Wray, R., 2012. *Modern money theory: A primer on macroeconomics for sovereign monetary systems*. London: Palgrave Macmillan.