



Critical macro-finance: An introduction

Sahil Jai Dutta

Goldsmiths, University of London, UK

Ruben Kremers, Fabian Pape, Johannes Petry

University of Warwick, UK

On 12 March 2020, as the Covid-19 virus ripped through the global economy, the Federal Reserve took historic action to stabilise global finance. Market actors, fearing the economic fallout from the virus and the lockdown response, made a run for safety. They pulled investments out of emerging market assets and into the sanctuary of the dollar. Yet the dash for cash was so large that soon even US Treasury bills were being sold off. With prices of the key staple of global financial markets tumbling, the Fed stepped in with a \$1.5 trillion-dollar commitment.

That such an eye-watering sum of public money was promised to steady private financial markets demonstrates the profound political importance of wholesale, interbank financial relations. It also shows that critical analyses of finance must focus not only on the adverse *outcomes* of financialisation,¹ but also on its internal processes: how the payments system works, how economic actors manage liquidity, how monetary policy gets implemented, and how central banks underwrite the whole process.

Critical Macro-Finance (CMF) has become an influential avenue of research because it addresses these questions. It is grounded in a Minskyan study of financial processes that models the world as a series of bank-like institutions which make and take payments from one another. Different economic actors, each with their unique preferences, are represented as interlocking balance sheet entities. What matters is not so much the real-economy activities that lie behind these balance-sheet entries, but the entries themselves: the payments flowing in and out at every moment. Based on this fundamentally *monetary* analysis of economic processes, CMF aims to shed light on how the payments system is governed.

The emergence of CMF has been uneven and its lineages manifold, but the 2008 global financial crisis is key to its current significance. The crisis was first diagnosed in macroeconomic terms: a problem of global current account imbalances. This macroeconomic view was forged around national accounting and the *net* flows of money across the borders of analytically demarcated states. It argued that financial instability stemmed from imbalances in

Corresponding author:

Sahil Jai Dutta, Department of Politics and International Relations, Goldsmiths, University of London, New Cross, London SE14 6NW, UK. Email: s.dutta@gold.ac.uk. <https://doi.org/10.2218/finsoc.v6i1.4407>

the real economy. ‘Excess’ savings in the East had boosted the financial sector in the West (Kalinowski, 2012), incubating a toxic mix of regulatory capture (Baker, 2010), financial innovation (Wade, 2008; Krugman, 2008) and irrational exuberance (Shiller, 2008).

Yet heterodox practitioner economists at the Bank for International Settlements (BIS) and elsewhere developed an alternative, macro-financial view (e.g. Adrian and Shin, 2010; Borio, 2018; Claessens and Kose, 2018; McCauley, 2018; Pozsar, 2011, 2014). This looked not at national accounting between countries, but at *gross* payment flows within global *banking*. It argued that because one bank’s liabilities are another’s assets, creditors faced obvious consequences when their claims could not be realised. When mortgage securities failed in 2007, and uncertainty spread in 2008, banks across the world again made a dash for safety and tried to shed their assets before things got worse. The fire-sale depressed asset prices further and as such banks felt unable to trust the collateral that had previously secured their short-term cash loans to one another. The desperate search for dollar cash was especially acute for European banks, who had built their global business operations on the presumption of unlimited dollar access via wholesale money markets. As soon as these markets froze, they were suddenly unable to access financing as they had no recourse to a dollar-dispensing central bank. The freezing of interbank markets transformed what was a localised problem in real estate into a global financial emergency.

For all the social misery the crisis created for real-economy borrowers, the macro-financial view demonstrated how the explanation for the magnitude of the crisis lay in the wholesale, interbank financial markets. BIS regulators and heterodox economists on the margins of elite academia had recognised this, but many establishment voices had not.

This heterodox position was then further developed through the Rethinking Economics campaign,² the INET group,³ Perry Mehrling’s ‘Economics of Money and Banking’ MOOC,⁴ and the Critical Macro-Finance blog from the Economics Department at the University of West England.⁵ These authors soon found bigger audiences in the outlier spaces of the professional press, in particular the Financial Times’ Alphaville Blog.⁶

At the same time, political economy literature pushed in a similar direction, examining the practices of shadow banking (e.g. Kessler and Wilhelm, 2013; Thiemann, 2012) and the rise of ‘market-based banking’ (Hardie and Howarth, 2013). Notably, the research by Gabor and various co-authors saw a spike in attention to these themes (Boy and Gabor, 2019; Braun et al., 2018; Gabor, 2016; Gabor and Ban, 2016; Gabor and Vestergaard, 2018). Financial ‘plumbing’ – that is, the infrastructural arrangements that enable finance and shape its workings (Bernards and Campbell-Verduyn, 2019) – and its macro implications were established as issues of academic and political importance. Then, the publication of Adam Tooze’s (2018a) definitive history of the crisis, *Crashed*, took macro-finance views out of practitioner and academic circles to broader, non-specialist audiences. Macro-finance had replaced macroeconomics as the “lingua franca of power” (Tooze, 2018b: n.p.).

This forum examines the rise of CMF. The introduction explores three main themes: the intellectual lineage of CMF and its relation to financialisation studies; the policy relevance of CMF; and its ‘critical’ position.

Monetary analysis and the theoretical foundations of critical macro-finance

CMF draws on a lineage of monetary economic analysis that encompasses Keynes, Schumpeter, and most decisively, Minsky. In contrast to textbook economics, this tradition argues that real-world economic agents are profoundly influenced by monetary questions.

Agents uncertain about the future choose to have (liquid) money on hand, rather than locked away in (illiquid) long-term investments. This preference for liquidity is both precautionary – having liquid reserves in case conditions turn sour – and speculative – holding liquidity in the hope that it might one day be lucrative to lend out.

Minsky (1986) adapted this notion to the setting of post-war America, articulating liquidity preference in terms of balancing cash flows. Here, both sides of the balance sheet – the asset and liability positions – matter. The cash that flows in has to balance with the cash that flows out. This inflow/outflow dynamic constitutes a daily “survival constraint” (Mehrling, 1999: 139). Access to liquidity is, therefore, paramount to survival. It is the axiomatic rule of capitalism (Neilson, 2019), the ultimate constraint on economic behaviour and the fundamental organising principle of global finance (Mehrling, 2017).

This focus makes CMF a substantial departure from neoclassical orthodoxy. But it also distinguishes CMF from financialisation studies. Financialisation studies emerged in the 1990s to address how post-Bretton Woods, ‘marketised’ finance was no longer supporting the real economy. Here, the asset side was the main focus. Scholars examined how the ‘capitalisation of everything’ (Leyshon and Thrift, 2007) aided the growing power of creditors who subjugated households (Montgomerie, 2006), corporations (Lazonick and O’Sullivan, 2000) and governments (Streeck, 2014) to the whims of global finance. While this work shed crucial light on the insecurities and inequities of financialisation, it tended to overlook the precise social and technical construction of financial markets (Christophers, 2015; Poovey, 2015). It too often black-boxed finance, treating it in functional terms as an instrument of the dominant creditor class whose hold over the real economy was near absolute.

CMF goes against such reification by forcing attention back onto the processes of finance, especially the way in which institutions manage their liabilities to meet the survival constraint. This matters to the way we conceptualise financialisation. While financialisation studies focused on the social risks that borrowers undertook to curtail the threat of insolvency (Soederberg, 2014), for liability-oriented CMF liquidity is central. This helps demonstrate how liquidity may matter more than solvency. Provided an organization can still fund itself, the quality of its assets may not matter for its survival.

The policy relevance of critical macro-finance

CMF adopts the same categories and language as its object of analysis. This enables it to analyse and criticise finance from within and has helped academic CMF work break into practitioner and policy spaces.

One of the crucial areas in which this can be seen is in the growing scrutiny of central banking in popular political discourse. Conventional International Political Economy (IPE) and financialisation literatures focused on the depoliticisation of inflation-obsessed, rule-bound, independent central banks (Clark, 2009; McNamara, 2002; Palley, 2013; Watson, 2002). CMF, by contrast, has examined the mutual interdependence between states, central banks, and private financial markets (e.g. Hockett and Omarova, 2017; Mehrling, 2011; Pistor, 2013; Ricks, 2018). Because central banks must accommodate banks’ liquidity needs, they have enormous capacity, not merely in simple monetary policy terms, but (whether willingly or not) in credit policy too (Braun, 2018b; van’t Klooster and Fontan, 2019; Wullweber, 2020). A particularly contentious point is that as states seek to govern *through* financial markets, central banks increasingly rely on the reach and scope of financial markets to achieve state policy goals (Braun, 2018c; Krippner, 2011; Walter and Wansleben, 2019).

Far from a technocratic and apolitical question of financial stability, these interactions matter for monetary statecraft and inform evolving norms of monetary and fiscal policy (Beggs, 2016). Recently, for example, central bank collateral frameworks for rediscounting and asset repurchase programmes have become an important point of political contestation (e.g. Braun and Hübner, 2019; van't Klooster, 2020; Volz, 2019). These policies shape credit allocation, with existing frameworks, for example, overwhelmingly favouring fossil-fuel companies (Matikainen et al., 2017).

CMF has also become influential in discussions about the continued vulnerability of emerging market economies to liquidity droughts in the offshore dollar money market. While previously, IPE literature on emerging markets has often focused on hot money, capital controls, and the asset-side of capital flows (Epstein, 2005; Grabel and Gallagher, 2015; Naqvi, 2019; Strange, 1986), a number of scholars have recently pointed towards the complex politics of raising foreign currency denominated funding for local currency lending (Alami, 2019; Bonizzi and Kaltenbrunner, 2019; Bortz and Kaltenbrunner, 2017). Others have pointed out that East Asian pension funds and life insurers have eclipsed European banks as the biggest borrowers in the offshore foreign exchange market. This makes global (non-bank) cash pools as key to financial stability as the established global banks (Pozsar, 2020; Setser, 2019), indicating the global spread of market-based financial systems (Gabor, 2018; Petry, 2020).

Against this backdrop, CMF also contributes to a more nuanced analysis of the growth of asset management, which has seen increasing attention in IPE (Fichtner et al., 2017, Jahnke, 2019, Petry et al., 2019). Since 2008, asset managers have grown into a pervasive political and economic force, not only in terms of ownership but also by accommodating the push of non-banks into the offshore wholesale money markets, and by consulting public authorities and central banks on key policy interventions. This has ushered in a series of clear conflicts of interest. For instance, the world's biggest asset manager, BlackRock, secured a key role in advising the Federal Reserve on its vast asset-purchase programmes in the wake of Covid-19. This means that BlackRock can now advise the Fed to purchase assets from BlackRock itself. Unsurprisingly, in the following month BlackRock's flagship LQD corporate bond ETF received \$4.3 billion investor inflows, while Vanguard and State Street's directly competing products pulled in just \$33 million and \$15 million, respectively (Flood, 2020). Beyond 'regulatory capture', CMF thus points to the new and complex entanglements between private asset managers and public monetary authorities (Braun, 2018b).

By analysing how these interactions shape both market processes and the spaces for policy intervention, CMF allows us to understand more clearly how power operates at the very centre of financial markets, how credit claims are negotiated, and which actors or market segments gain in importance over time.

What is critical about critical macro-finance?

CMF is an economic mode of analysis, rather than a political-economic one. This has the advantage of a clear ontological commitment from which to construct an analysis. But the limitations of a balance sheet-centric view must be questioned.

Politically, it is precisely its economism that grants CMF an audience with expert regulators. Yet it may also bind it to the intellectual frameworks and political horizons of these elites. Methodologically, by rendering all institutions as fundamentally alike, CMF necessarily abstracts them from any specific context. Though each bank-like institution has its unique strategies, the 'payments problem' is nonetheless axiomatic. This makes CMF a fundamentally deductive mode of analysis. Political economy has long struggled to resist deductive

methodologies, which occlude particular lines of inquiry. How, for instance, can CMF explain why a particular approach to managing cash flow through wholesale money markets – liability management – originates from a trading desk at Bankers Trust in the United States and not, say, Barclays Bank in the UK (Knafo, forthcoming)? Or why, for example, German banks struggled to compete with this development, and what consequences this had for the Eurozone crisis (Beck, 2019)? Similarly, it is well established that the loanable funds theory of banking does not hold. Yet, historically, banks in the UK for a long time looked to raise deposits before growing their assets. It was only the introduction of liability management by US banks that saw a gradual shift in lending practices (Dutta, 2019). CMF could struggle to conceptualise how history and geography matter to the way the ‘payments problem’ is met.

So, what work does the ‘critical’ do in critical macro-finance? It is supposed to politicise the plumbing of finance. But without any particular *methodological* procedure that differs from mainstream macro-finance, ‘critical’ remains more a statement of normative commitment than anything else. As such, for all its attention on financial processes, it ends up concerned with precisely the things that trouble financialisation scholars. In particular, the democratic implications of ‘governing through markets’ and the social consequences of ‘impatient’ investment. At base, CMF and financialisation studies share a frustration with the way real economy processes are being undermined by the neoliberal turn in global finance.

The crucial question that animates this forum and the contributions within it is therefore precisely how a *critical* macro-finance might help us explore the unequal political economy of contemporary capitalism.

The forum starts with Daniela Gabor’s pivotal statement on what she understands as the project of critical macro-finance. Though this has been hinted at in different places (e.g. Gabor and Vestergaard, 2018; Tooze, 2018b), it is the first piece dedicated to this end. In her contribution, Gabor (2020) raises four key propositions that delineate what a CMF research programme could look like. She highlights: (a) that the adoption of American financial practices has anchored financial globalisation in market-based finance; (b) that global finance is a set of interconnected, hierarchical balance sheets, increasingly subject to time-critical liquidity; (c) that credit creation in market-based finance involves new forms of money; and (d) that market-based finance structurally requires a derisking state capable both of protecting systemic liabilities and creating new investment opportunities. In her view, CMF advances the financialisation literature by integrating Post Keynesian foundational views on global finance with issues that more traditionally reside in IPE, such as the hegemony of US finance and the way in which epistemic communities constitute the reproduction of market-based banking. Her contribution demonstrates how the very familiar story of financial globalisation can be retold as a return of repo finance.

Following Gabor’s propositions, Steffen Murau and Tobias Pforr present their suggestion for conceptualising money in a CMF research agenda. They stress that CMF has to strictly follow a credit theory of money where money creation takes place endogenously. This implies distinguishing between a unit of account, which is a mere idea, and actual empirical monetary instruments, which are denominated in this unit of account and structurally embedded in a historically contingent hierarchy of money. From their point of view, all credit money instruments are, in a formal sense, a promise to pay a higher-ranking credit money instrument that at the same time promises to maintain par to the unit of account. This definition both applies to ‘traditional’ money, such as central bank money and commercial bank deposits, as

well as to those ‘shadow money’ instruments around which a heated debate has taken place since the global financial crisis. Looking at a multitude of seemingly contradictory positions on shadow money, Murau and Pforr (2020) argue that there is a potential ‘baseline position’ embedded in the discourse, according to which an instrument is shadow money if it substitutes higher-ranking money; is supplied through a credit creation mechanism; and trades at par to the unit of account, which is manufactured and maintained via different techniques such as private guarantees, preferential accounting treatment, or a collateral valuation regime.

CMF’s focus on the plumbing of financial markets also underlines how significant the generation and governance of liquidity is to the everyday working of global finance. Regulators face a tension based on the fact that the need to manage liquidity at a macro-level necessarily entails intervention and public support for specific institutions at a micro-level. With this come questions of risk distribution and credit guidance, things that in theory are supposed to remain outside the purview of formally independent central banks. Addressing this issue, Fabian Pape in his contribution discusses the centrality of liquidity in CMF. Liquidity always matters, but far from financial crises and cycles of stability and instability, the question is why some particular institutions or sectors are supported by the state with seemingly limitless access to liquidity, while others are not. Rather than a purely technical artefact, Pape (2020) emphasises how financial structures require evolving ‘regimes’ of liquidity governance – hybrid, public-private institutional arrangements that sustain the coherence of the global payments system as a whole.

While the Minskyan lineages of CMF analysis are clear, Bruno Bonizzi and Annina Kaltenbrunner argue that much is to be learned from Minsky’s Keynesian foundation. They argue that it is liquidity preference that makes banks face the challenge of the ‘survival constraint’, even where money creation is endogenous. From this base, which centres the liability structure of banks and their associated vulnerabilities, Bonizzi and Kaltenbrunner (2020) demonstrate how this facilitates unique difficulties for financial institutions operating or investing in the Global South. They tilt the story of global imbalances to explore liability mismatches. Foreign investors are happy to grow their asset base in emerging markets but do not issue liabilities in these currencies, a mismatch that builds a structural demand for foreign currency – typically the US dollar. The way this currency hierarchy plays out is integral to the story of global inequality and the continued hegemonic status of the dollar. The rigorous armoury of Post Keynesian economism allows Bonizzi and Kaltenbrunner to shed light on a crucial aspect of US dollar imperialism and the ongoing significance of what Peter Gowan (2009) described as the ‘Dollar Wall Street regime’.

If all these pieces can sit comfortably within the economic register of CMF, Samuel Knafo in the final piece critically examines the pitfalls of critical macro-finance research. Taking his cue from Mehrling’s and Tooze’s work in particular, Knafo explores what questions may be raised through CMF, which he reads as an attempt to financialise economic policy, moving away from the more productivist framework of macroeconomics. CMF aims to recognise the necessarily global condition of finance, rather than maintaining a model of separate nation states. Yet Knafo (2020) argues this makes it hard to explore how financial practices are situated in a specific time and place. This poses the danger of a depoliticising CMF analysis that too readily adopts a conceptual lens borrowed from the macro-financial policy discourse. Knafo instead advocates framing CMF more tightly around a banking view of finance that places its emphasis on the agency and leveraging practices of (specific) financial institutions, rather than (apolitical) liquidity constraints. This, he argues, would bring power back in and help ground the new analysis of finance more firmly in a critical political economy.

Concluding remarks

The 2008 financial crisis demonstrated the need for researchers to pay closer heed to the technical aspects of financial markets. Part of the great intellectual and political challenge for political economy and financialisation scholarship is to take finance seriously on its own terms, and not in the terms of production. Shifting the analytical focus from solvency to liquidity and from outcomes of financial markets to their constitutive processes is a promising line of inquiry that CMF may help prise open. To build on that promise may involve thinking through the ways in which financial processes of leverage, liquidity provision, liability, and collateral management are facilitated, disseminated, and reproduced within global capitalism.

Acknowledgments

This forum has its origins in a workshop on 'Critical Macro-Finance' jointly organised by the Warwick Critical Finance (WCF) Group and the Goldsmiths Political Economy Research Centre (PERC), held at Goldsmiths, University of London in September 2019. We would like to thank all the workshop participants for their stimulating comments and in particular, Nina Boy, for helping to develop and improve this forum. We gratefully acknowledge Goldsmith's Political Economy Research Centre and the Department of Politics and International Studies at Warwick for providing funding support for the workshop.

Notes

1. Such as on labour (Bernards, 2020), inequality (Godechot, 2016), welfare (Crouch, 2009; Soederberg, 2014), the environment (Bracking, 2020) or international development (Bonizzi et al., 2020; Lavinias, 2020).
2. <<http://www.rethinkeconomics.org/>>.
3. <<https://www.ineteconomics.org/>>.
4. <<https://www.youtube.com/playlist?list=PLSuwqsAnJMtWZEwkJgHZCod2xP9b7skF5/>>.
5. <<https://criticalfinance.org/>>.
6. For example, see Braun (2018a), Gabor (2019) and van't Klooster (2020).

References

- Adrian, T. and Shin, H.S. (2010) Liquidity and leverage. *Journal of Financial Intermediation*, 19(3): 418-37.
- Alami, I. (2019) *Money Power and Financial Capital in Emerging Markets: Facing the Liquidity Tsunami*. London: Routledge.
- Baker, A. (2010) Restraining regulatory capture? Anglo-America, crisis politics and trajectories of change in global financial governance. *International Affairs*, 86(3): 647-63.
- Beck, M. (2019) *German Banking and the Rise of Financial Capitalism*. Doctoral thesis (PhD), University of Sussex.
- Beck, M. and Knafo, S. (2020) Financialization and the uses of history. In: P. Mader, D. Mertens, and van der Zwan, N. (eds.) *The Routledge International Handbook of Financialization*. London: Routledge, 136-46.
- Bernards, N. (2020) Centring labour in financialization. *Globalizations*, 17(4): 714-29.

- Bernards, N. and Campbell-Verduyn, M. (2019) Understanding technological change in global finance through infrastructures. *Review of International Political Economy*, 26(5): 773-89.
- Beggs, M. (2016) The state as a creature of money. *New Political Economy*, 22(5): 463-77.
- Bonizzi, B. and Kaltenbrunner, A. (2019) Liability-driven investment and pension fund exposure to emerging markets: A Minskyan analysis. *Environment and Planning A*, 51(2): 420-39.
- Bonizzi, B. and Kaltenbrunner, A. (2020) Critical macro-finance, Post Keynesian monetary theory and emerging economies. *Finance and Society*, 6(1): 76-86.
- Bonizzi, B., Kaltenbrunner, A. and Powell, J. (2020) Subordinate financialization in emerging capitalist economies. In: Mader, P., Mertens, D. and van der Zwan, N. (eds.) *The Routledge International Handbook of Financialization*. London: Routledge, 177-87.
- Borio, C. (2018) On money, debt, trust and central banking. Paper presented at the Cato Institute for the 36th Annual Monetary Conference. Washington DC, 15 November.
- Bortz, P. and Kaltenbrunner, A. (2017) The international dimension of financialization in developing and emerging economies. *Development and Change*, 49(2): 375-93.
- Boy, N. and Gabor, D. (2019) Collateral times. *Economy and Society*, 48(3): 295-314.
- Bracking, S. (2020) Financialization and the environmental frontier. In: Mader, P., Mertens, D. and van der Zwan, N. (eds.) *The Routledge International Handbook of Financialization*. London: Routledge, 213-23.
- Braun, B. (2018a) How central bankers shape financial markets. *FT Alphaville*, 23 August.
- Braun, B. (2018b) Central banking and the infrastructural power of finance: The case of ECB support for repo and securitization markets. *Socio-Economic Review*, <https://doi.org/10.1093/ser/mwy008>.
- Braun, B. (2018c) Central bank planning? Unconventional monetary policy and the price of bending the yield curve. In: Beckert, J. and Bronk, R. (eds.) *Uncertain Futures: Imaginaries, Narratives, and Calculation in the Economy*. Oxford: Oxford University Press, 194-216.
- Braun, B., Gabor, D. and Hübner, M. (2018) Governing through financial markets: Towards a critical political economy of capital markets union. *Competition & Change*, 22(2): 101-16.
- Braun, B. and Hübner, M. (2019) *Vanishing Act: The Eurogroup's Accountability*. Brussels: Transparency International EU.
- Christophers, B. (2015) The limits to financialization. *Dialogues in Human Geography*, 5(2): 183-200.
- Claessens, S. and Kose, M.A. (2018) Frontiers of macrofinancial linkages. BIS Paper No. 95. Basel: Bank for International Settlements.
- Clark, W.R. (2009) *Capitalism, Not Globalism: Capital Mobility, Central Bank Independence, and the Political Control of the Economy*. Ann Arbor, MI: University of Michigan Press.
- Crouch, C. (2009) Privatised Keynesianism: An unacknowledged policy regime. *British Journal of Politics and International Relations*, 11(3): 382-99.
- Dutta, S.J. (2019) Sovereign debt management and the transformation from Keynesian to neoliberal monetary governance in Britain. *New Political Economy*, <https://doi.org/10.1080/13563467.2019.1680961>.
- Epstein, G. (ed.) (2005) *Capital Controls in Developing Countries*. Cheltenham: Edward Elgar.
- Fichtner, J., Heemskerk, E.M. and Garcia-Bernardo, J. (2017) Hidden power of the big three? Passive index funds, re-concentration of corporate ownership, and new financial risk. *Business and Politics*, 19(2): 298-326.
- Flood, C. (2020) BlackRock trounces ETF rivals after Fed appointment. *Financial Times*, 20 May.
- Gabor, D. (2016) The (impossible) repo trinity: The political economy of repo markets. *Review of International Political Economy*, 23(6): 967-1000.
- Gabor, D. (2018) Goodbye (Chinese) shadow banking, hello market-based finance. *Development and Change*, 49(2): 394-419.

- Gabor, D. (2019) How RTGS killed liquidity: US tri-party repo edition. *FT Alphaville*, 11 October.
- Gabor, D. (2020) Critical macro-finance: A theoretical lens. *Finance and Society*, 6(1): 45-55.
- Gabor, D. and Ban, C. (2016) Banking on bonds: The new links between states and markets. *Journal of Common Market Studies*, 54(3): 617-35.
- Gabor, D. and Vestergaard, J. (2018) Chasing unicorns: The European single safe asset project. *Competition & Change*, 22(2): 139-64.
- Godechot, O. (2016) Financialization is marketization! A study of the respective impacts of various dimensions of financialization on the increase in global inequality. *Sociological Science*, 3: 495-519.
- Gowan, P. (2009) Crisis in the heartland: Consequences of the new Wall Street system. *New Left Review*, 55(Jan-Feb): 5-29.
- Grabel, I. and Gallagher, K.P. (2015) Capital controls and the global financial crisis: An introduction. *Review of International Political Economy*, 22(1): 1-6.
- Hardie, I. and Howarth, D. (eds.) (2013) *Market-Based Banking and the International Financial Crisis*. Oxford: Oxford University Press.
- Hockett, R.C. and Omarova, S.T. (2017) The finance franchise. *Cornell Law Review*, 102(5): 1143-218.
- Jahnke, P. (2019) Ownership concentration and institutional investors' governance through voice and exit. *Business and Politics*, 21(3): 327-50.
- Kalinowski, T. (2012) Regulating international finance and the diversity of capitalism. *Socio-Economic Review*, 11(3): 471-96.
- Kessler, O. and Wilhelm, B. (2013) Financialization and the three utopias of shadow banking. *Competition & Change*, 17(3): 248-64.
- Knafo, S. (2020) Macro-finance and the financialisation of economic policy. *Finance and Society*, 6(1): 87-94.
- Knafo, S. (Forthcoming) Power of finance in the age of market-based banking.
- Krippner, G.R. (2011) *Capitalizing on Crisis: The Political Origins of the Rise of Finance*. Cambridge, MA: Harvard University Press.
- Krugman, P. (2008) *The Return of Depression Economics and the Crisis of 2008*. London: Allen Lane.
- Lavinas, L. (2020) The collateralization of social policy by financial markets in the Global South. In: Mader, P., Mertens, D. and van der Zwan, N. (eds.) *The Routledge International Handbook of Financialization*. London: Routledge, 312-23.
- Lazonick, W. and O'Sullivan, M. (2000) Maximizing shareholder value: A new ideology for corporate governance. *Economy and Society*, 29(1): 13-35.
- Leyshon, A. and Thrift, N. (2007) The capitalization of almost everything: The future of finance and capitalism. *Theory, Culture & Society*, 24(7-8): 97-115.
- Matikainen, S., Campiglio, E. and Zenghelis, D. (2017) The climate impact of quantitative easing. Policy paper from the Grantham Research Institute on Climate Change and the Environment.
- McCauley, R. (2018) The 2008 crisis: Transpacific or transatlantic? *BIS Quarterly Review*, December: 39-58.
- McNamara, K. (2002) Rational fictions: Central bank independence and the social logic of delegation. *West European Politics*, 25(1): 47-76.
- Mehrling, P. (1999) The vision of Hyman P. Minsky. *Journal of Economic Behavior & Organization*, 39(2): 129-58.
- Mehrling, P. (2011) *The New Lombard Street: How the Fed Became the Dealer of Last Resort*. Princeton, NJ: Princeton University Press.
- Mehrling, P. (2017) Financialization and its discontents. *Finance and Society*, 3(1): 1-10.
- Minsky, H.P. (2008/1986) *Stabilizing an Unstable Economy*. New York: McGraw Hill.

- Montgomerie, J. (2006) The financialization of the American credit card industry. *Competition & Change*, 10(3): 301-19.
- Naqvi, N. (2019) Manias, panics and crashes in emerging markets: An empirical investigation of the post-2008 crisis period. *New Political Economy*, 24(6): 759-79.
- Murau, S. and Pforr, T. (2020) What is money in a critical macro-finance framework? *Finance and Society*, 6(1): 56-66.
- Neilson, D.H. (2019) *Minsky*. Cambridge: Polity Press.
- Palley, T. (2013) Monetary policy and central banking after the crisis: The implications of rethinking macroeconomic theory. In: Palley, T. (ed.) *Financialization: The Economics of Finance Capital Domination*. London: Palgrave Macmillan, 182-200.
- Pape, F. (2020) Rethinking liquidity: A critical macro-finance view. *Finance and Society*, 6(1): 67-75.
- Petry, J. (2020) Financialization with Chinese characteristics? Exchanges, control and capital markets in authoritarian capitalism. *Economy and Society*, 49(2): 213-38.
- Petry, J., Fichtner, J. and Heemskerk, E.M. (2019) Steering capital: The growing private authority of index providers in the age of passive asset management. *Review of International Political Economy*, <https://doi.org/10.1080/09692290.2019.1699147>.
- Pistor, K. (2013) A legal theory of finance. *Journal of Comparative Economics*, 41(2): 315-30.
- Poovey, M. (2015) On 'the limits to financialization'. *Dialogues in Human Geography*, 5(2): 220-24.
- Pozsar, Z. (2011) Institutional cash pools and the Triffin dilemma of the US banking system. IMF Working Paper 190. Washington, DC: International Monetary Fund.
- Pozsar, Z. (2014) Shadow banking: The money view. OFR Working Paper. Washington, DC: Office of Financial Research.
- Pozsar, Z. (2020) Lombard street and pandemics. Global Money Notes #28. New York: Credit Suisse.
- Ricks, M. (2018) Money as infrastructure. *Columbia Business Law Review*, 2018(3): 757-851.
- Setser, B. (2019) Are Asian insurers the new European banks? *Council on Foreign Relations Blog*, 11 September. Available at: <<https://www.cfr.org/blog/are-asian-insurers-new-european-banks/>>. Accessed 18 May 2020.
- Shiller, R. (2008) *The Subprime Solution: How Today's Global Financial Crisis Happened and What to Do about It*. Princeton, NJ: Princeton University Press.
- Skidelsky, R. (2009) *Keynes: The Return of the Master*. New York: Public Affairs.
- Soederberg, S. (2014) Student loans, debtfare and the commodification of debt: The politics of securitization and the displacement of risk. *Critical Sociology*, 40(5): 689-709.
- Strange, S. (1986) *Casino Capitalism*. Manchester: Manchester University Press.
- Streeck, W. (2014) *Buying Time: The Delayed Crisis of Democratic Capitalism*. London: Verso.
- Thiemann, M. (2012) 'Out of the shadows?' Accounting for Special Purpose Entities in European banking systems. *Competition & Change*, 16(1): 37-55.
- Tooze, A. (2018a) *Crashed: How a Decade of Financial Crises Changed the World*. London: Allen Lane.
- Tooze, A. (2018b) Framing *Crashed* II: 2008, the crisis of the national macroeconomics and the revolution of macrofinance. Blog post. Available at: <<https://adamtooze.com/2018/07/05/framing-crashed-ii-2008-the-crisis-of-the-national-macroeconomics-and-the-revolution-of-macrofinance/>>. Accessed 5 March 2020.
- van 't Klooster, J. (2020) The ECB must shift to a wholesale acceptance of junk bonds. *FT Alphaville*, 15 May.
- van't Klooster, J. and Fontan, C. (2019) The myth of market neutrality: A comparative study of the European Central Bank's and the Swiss National Bank's corporate security purchases. *New Political Economy*, <https://doi.org/10.1080/13563467.2019.1657077>.
- Volz, U. (2019) Central bankers who ignore climate change are not doing their job. *Financial Times*, 30 October.

- Wade, R. (2008) Financial regime change? *New Left Review*, 53(Sep/Oct): 5-21.
- Walter, T. and Wansleben, L. (2019) How central bankers learned to love financialization: The FED, the Bank, and the enlisting of unfettered markets in the conduct of monetary policy. *Socio-Economic Review*, <https://doi.org/10.1093/ser/mwz011>
- Watson, M. (2002) The institutional paradoxes of monetary orthodoxy: Reflections on the political economy of central bank independence. *Review of International Political Economy*, 9(1): 183-96.
- Wullweber, J. (2020) The politics of shadow money: Security structures, money creation and unconventional central banking. *New Political Economy*, <https://doi.org/10.1080/13563467.2019.1708878>.