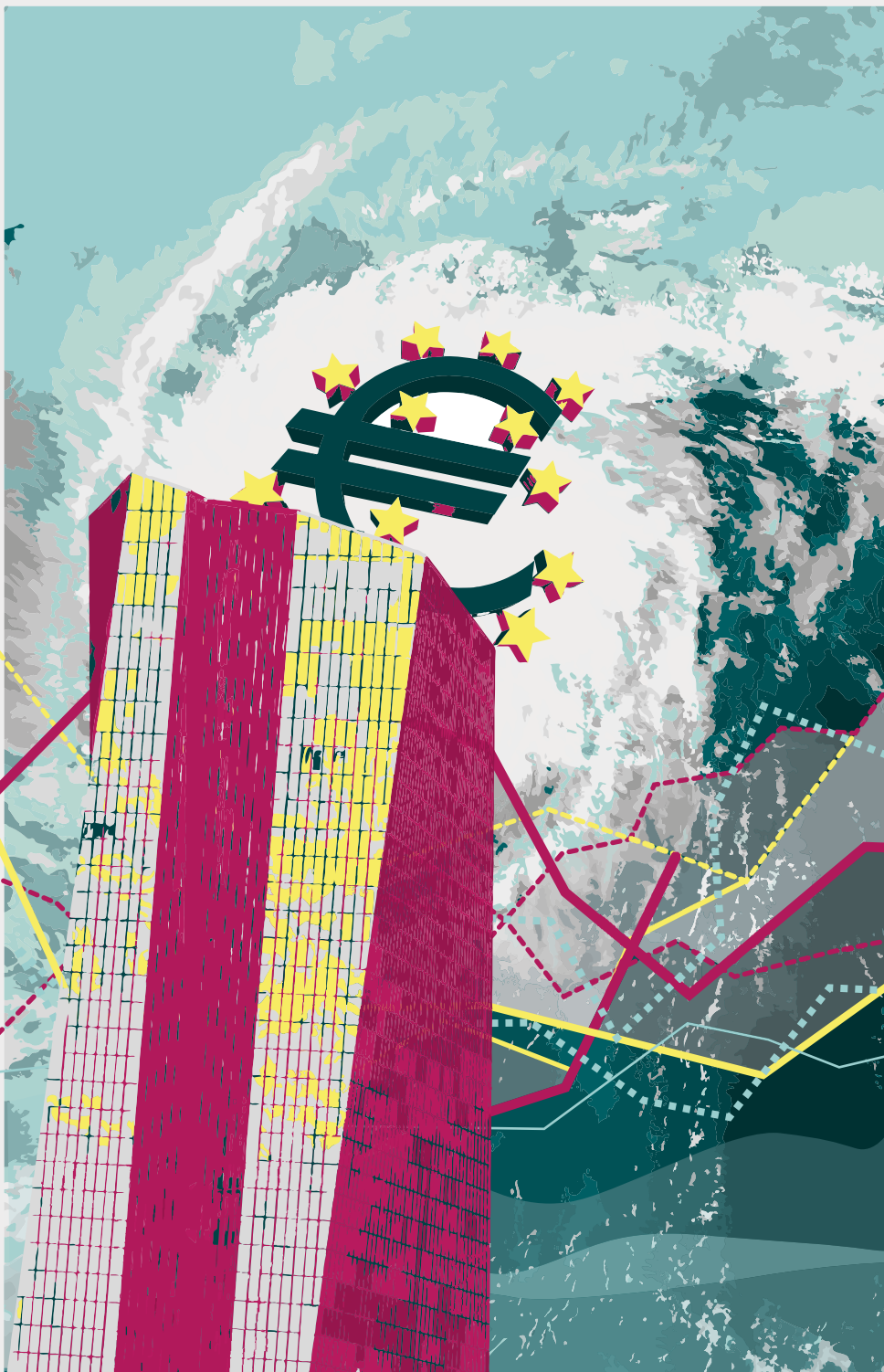


**REVOLUTION WITHOUT REVOLUTIONARIES:  
INTERROGATING THE RETURN  
OF MONETARY FINANCING**

by Daniela Gabor

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# **Revolution without revolutionaries:**

## **Interrogating the return of monetary financing**

### **About the author**

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## Abbreviations

DMO	Debt Management Office
ECB	European Central Bank
LOLR	Lender of Last Resort
MMLR	Market Maker of Last Resort
QE	Quantitative Easing

## Preface

by Michael Peters, Finanzwende

In response to the challenges of the COVID-19 pandemic, central banks have once again massively intervened in government bond markets to stabilise the international financial system. This paper intervenes in the debate around how we should rethink the relationship between monetary and fiscal policy. Do we need to abandon the model of ‘monetary dominance’ on which the Euro was built, and which prescribed activist monetary policies accompanied by sound (read conservative) fiscal policy and low public debt? Is it time to return to the Keynesian age of fiscal dominance, where central banks were subordinated to governments using fiscal levers to pursue the structural transformation of their economies?

This paper argues that monetary financing – central banks buying large amounts of government debt – has returned and is likely here to stay. But why are central banks doing something that ostensibly goes against their independence? The paper distinguishes two regimes of monetary financing. In the subordinate regime, predominant before the 1970s, central banks support governments by keeping borrowing costs low. In the shadow regime, central banks buy sovereign bonds to anchor inflationary expectations and stabilise the inherently fragile market-based financial system, whereby sovereign bonds play a critical macro financial role.

Since the 2008 global financial crisis, we are in the shadow regime. The COVID19 pandemic showed again how crucial it is for central banks to intervene in government bond markets to protect our economies from financial turmoil. But this new regime of monetary financing is ill-suited for the challenges of the climate crisis. Instead, we need a ‘coordination without subordination’ approach to the relationship between governments and central banks to tackle the low-carbon transition.

<sup>1</sup> Nicolas Hercelin, “Why the ECB should go beyond ‘market neutrality’”, Positive Money, 18 September 2019, <https://www.positivemoney.eu/2019/09/ecb-market-neutrality-doctrine/>.

## Introduction: The death of the “never again monetary financing” taboo<sup>1</sup>

Revolutions in central banking do not occur very often. That, it is typically agreed, is a good thing. Central banks are in the confidence game, one that can be easily lost with severe macroeconomic consequences, since they are uniquely powerful capitalist institutions. Central banks create money out of thin air – an ability that makes them vulnerable to political pressures. Yet, since the global financial crisis, we seem to be on the verge of a revolution,<sup>2</sup> as central banks have resorted to increasingly large purchases of government bonds. The monetisation of government debt is no longer a taboo.<sup>3</sup>

The return to monetary financing threatens the common wisdom of the past 40 years, that the monetary and fiscal arm of the state should operate separately from each other to avoid “fiscal dominance”<sup>4</sup>, the Keynesian affliction that subordinates central banks to populist politicians and prevents them from taming inflation.<sup>5</sup> That monetarist wisdom becomes hard to defend when monetary policy rates reach the zero-lower bound. Even its most zealous guardians – central banks – recognise that monetary policy cannot single-handedly address deep economic crises without support from fiscal policies. Others have gone further. The OECD, an erstwhile advocate of fiscal rectitude, recently called for governments to take the macroeconomic reins from central banks and return fiscal policy to its Keynesian roots, whereby governments “take on the primary role of stabilising the economy in the recovery with independent central banks relegated to a supporting role”.<sup>6</sup>

<sup>1</sup> I am grateful to Jon Sindreu, Jens van 't Klooster, Benjamin Braun, and Michael Peters for comments. All errors are mine.

<sup>2</sup> Among the more remarkable promoters of the “revolution” thesis, see Blackrock’s Bartsch, E., J. Boivin, S. Fischer and P. Hildebrand (2020) Policy revolution. SUEF Policy Note [https://www.suerf.org/docx/f\\_c57330a3a53f27a63f881d14065f4c46\\_17903\\_suerf.pdf](https://www.suerf.org/docx/f_c57330a3a53f27a63f881d14065f4c46_17903_suerf.pdf).

<sup>3</sup> M. Wolf, “Monetary Financing Demands Careful and Sober Management”, Financial Times, 10 April 2020, <https://www.ft.com/content/dc233540-798e-11ea-9840-1b8019d9a987>. Also J. Plender, “ECB critics are right to worry about ultra-loose monetary policy”. Financial Times, 15 October 2019 <https://www.ft.com/content/d8ab77a6-ef23-11e9-ad1e-4367d8281195>

<sup>4</sup> Although monetary financing *stricto sensu* means central banks printing money to directly finance government spending, in recent policy discourse it refers to central bank purchases of government bonds. Critics of the European Central Bank’s sovereign bond purchases frame it as a question of monetary financing – see M. Arnold, “Former Central Bankers Attack ECB’s monetary policy”, Financial Times, 04 October 2019. See also J. Ryan-Collins, “Is Monetary Financing Inflationary? A Case Study of the Canadian Economy, 1935–75”, Levy Economics Institute of Bard College Working Papers No. 848 (2014).

<sup>5</sup> For a monetarist view of the Keynesian Revolution, see M. Friedman, “25 Years after the Rediscovery of Money: What Have We Learned?”, American Economic Review 65, no. 2 (1975): 176–81.

<sup>6</sup> C. Giles, “OECD Warns Governments to Rethink Constraints on Public Spending”, Financial Times, 2021, <https://www.ft.com/content/7c721361-37a4-4a44-9117-6043afee0f6b>.

Leading the “revolution”, the Bank of Japan has formally committed to keep interest rates on 10-year government bonds at zero since 2016 – a strategy known as yield targeting.<sup>7</sup> Then, in March 2020, the central bank of Australia announced its commitment to cap the 3-year yield at 0.25%. Even in countries without formal commitments to yield targeting, yields have fallen as public debt issuance increased massively in 2020: Around 75% of sovereign bonds from high-income countries were trading at negative real yields at the end of 2020. According to International Monetary Fund estimates, central banks purchased on average around 75% of public debt issued in 2020.

Even as their footprint in government bond markets grows rapidly, central banks have been at pains to argue that the “inevitable strengthening of the interplay between monetary and fiscal policies”<sup>8</sup> should not be interpreted as a return to fiscal dominance.<sup>9</sup> Rather, “large scale purchases of government bonds can be a legitimate and effective monetary policy tool”,<sup>10</sup> as Jens Weidmann, governor of the German Bundesbank and erstwhile staunch critic of government bond purchases, recognised.

This paper disentangles the claims that we are witnessing a revolution in central banking. It argues that not all central bank purchases of government bonds are alike, but they should be evaluated against the objectives of the interventions and the broader macro-financial<sup>11</sup> setup of the economy.<sup>12</sup> It distinguishes two regimes of monetary financing – *shadow vs subordinated*<sup>13</sup> – across (a) objectives of intervention, (b) targets, (c) institutional hierarchy, (d) macroeconomic paradigm, and (e) accumulation regime/distribution of political power.

From this perspective, we are living through a revolution without revolutionaries, in which large central bank purchases of government bonds should not be interpreted as a return to Keynesian powerful fiscal authorities and emasculated central banks.

<sup>7</sup> M. Higgins and T. Klitgaard, “Japan’s Experience with Yield Curve Control” (New York, NY: Federal Reserve Bank of New York, 2020), <https://libertystreeteconomics.newyorkfed.org/2020/06/japans-experience-with-yield-curve-control.html>.

<sup>8</sup> C. Lagarde, “The Monetary Policy Strategy Review: Some Preliminary Considerations” (Frankfurt am Main: European Central Bank, 2020), <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200930~169abb1202.en.html>.

<sup>9</sup> I. Schnabel, “The Shadow of Fiscal Dominance: Misconceptions, Perceptions and Perspectives” (Frankfurt am Main: European Central Bank, 2020), <https://www.ecb.europa.eu/press/key/date/2020/html/ecb.sp200911~e-a32bd8bb3.en.html>.

<sup>10</sup> Reuters Staff, “ECB’s Weidmann Warns Against Large-scale Bond Buys”, Reuters, <https://www.reuters.com/article/us-ecb-policy-weidmann/ecbs-weidmann-warns-against-large-scale-bond-buys-idUSKBN26L1EA?il=0>.

<sup>11</sup> See D. Gabor, “Critical Macro-finance: A Theoretical Lens”, *Finance and Society* 6, no. 1 (2020) for an elaboration of the macro-financial architectures, and the implications for macroeconomic policies.

<sup>12</sup> For a detailed discussion of the distinction between policy objectives, instruments and targets of monetary policy, see U. Bindseil, “The Operational Target of Monetary Policy and the Rise and Fall of Reserve Position Doctrine”, ECB Working Paper 372 (Frankfurt am Main: European Central Bank, 2004), <https://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp372.pdf>.

<sup>13</sup> I thank Jon Sindreu for the critical input in helping refine this distinction.

Rather, central banks have quietly put in place a *shadow monetary financing* regime since the global financial crisis. This is Minsky without Keynes: Central banks adapted their policy framework to an evolving financial system – defined as shadow banking or market-based finance<sup>14</sup> – without fiscal authorities reclaiming their Keynesian dominance. Rather, central bank purchases reflect the new macro-financial role that government bonds play in this collateral-intensive financial system organised around securities, derivatives, and wholesale money markets.<sup>15</sup> As Alberto Giovannini – the main architect of the Eurozone’s macro-financial architecture – put it, the state has become a collateral factory for modern financial systems.<sup>16</sup> In derisking government bonds for market-based finance, central banks may be simultaneously improving financing conditions for governments, but this is a side-effect, not a policy target as in Keynesian monetary policy.

Indeed, Keynesian subordinated monetary financing involves central bank interventions in government bond markets to keep government financing costs under control, allowing activist fiscal policy to manage aggregate demand, and to engineer, via industrial policy, a structural transformation of the economy. The explicit coordination between central banks and Treasuries follows an institutional logic that subordinates monetary to fiscal policies, views independent central banks as a deflationary threat with severe political consequences, represses cross-border finance, and offers a Big (fiscal) State solution to the inherent instability of capitalism.<sup>17</sup>

In contrast, *shadow monetary financing* is a regime characteristic of financial globalisation. Central banks take a “macro-financial view” of sovereign bonds that stresses their critical role in modern finance. For example, in the largest Eurozone money market, every two out of three euros lent by banks and institutional investors is collateralised by sovereign bonds issued by Eurozone members (Germany and Italy being the largest). Private credit creation – the bread and butter of central banks’ operations – fundamentally relies on the dynamics of sovereign bond markets, the collateral factory for a collateral-intensive financial system.

<sup>14</sup> Financial Stability Board (2015), “Transforming Shadow Banking into Resilient Market-based Finance: An Overview of Progress” (Basel, 2015), <https://www.fsb.org/2015/11/transforming-shadow-banking-into-resilient-market-based-finance-an-overview-of-progress/>; see also Gabor, “Critical Macro-finance” (2020) (see note 10).

<sup>15</sup> B. Cœuré, “Sovereign Debt in the Euro Area: Too Safe or Too Risky?” (Frankfurt am Main: European Central Bank, 2016), <https://www.ecb.europa.eu/press/key/date/2016/html/sp161103.en.html>; see also Gabor, “Critical Macro-finance” (2020) (see note 10).

<sup>16</sup> A. Giovannini, “Risk-free Assets in Financial Markets”, BIS Paper 72 (Basel: Bank for International Settlements, 2013), pp. 73–79.

<sup>17</sup> M. Kalecki, “Political Aspects of Full Employment”, *The Political Quarterly* 14, no. 4 (1943); see also Y. Dafermos, D. Gabor, and J. Michell, “Institutional Supercycles: An Evolutionary Macrofinance Approach” (London: Rebuilding Macroeconomics, 2020), <https://www.rebuildingmacroeconomics.ac.uk/managing-supercycles>.

When sovereign bond prices fall and yields increase, it is not just the cost of private credit creation that increases, but also the threats to financial stability, since collateral-reliant banks and shadow banks are heavily exposed to daily changes in the market value of sovereign bonds.<sup>18</sup> In contrast to the Keynesian “public-sector subordination” channel, shadow monetary financing relies on a “private-sector” channel and has a two-fold objective: (a) *prudential* or market-maker of last resort<sup>19</sup> purchases of government bonds to preserve market liquidity and thus backstop the balance sheets of private financial actors, and (b) *macro-driven* purchases that anchor inflationary expectations by reinforcing the signalling role of central banks’ interest rates (such as quantitative easing – QE). “Coordination” between monetary and fiscal policies is an optical illusion that masks the macro-financial – rather than fiscal – reasons behind the intervention, and that co-exists with central bank independence and inflation-targeting regimes.

In this macro revolution without revolutionaries, central banks have been remarkably successful at breaking the monetary taboos that they have worked hard to construct, without having to specify in detail the boundaries of – and therefore their accountability in – the new policy regime. Take the European Central Bank (ECB): Although Christine Lagarde reluctantly accepted that the ECB was *de facto* targeting spreads between German bunds and other Eurozone sovereign bonds to ease COVID-19 pressures, she has been under no pressure from governments to specify the desired level of the spread, the relationship with the ECB’s policy rate, or the overall inflation-targeting regime. But central banks’ reluctance to specify the parameters of interventions may paradoxically work against a turn to fiscal activism, in a world still committed to fiscal rules that downplay the profound changes that have occurred in modern finance since the 1980s.

This is striking. In practice, shadow monetary financing had by 2021 lasted for longer and involved more systematic central bank interventions in government bond markets than the much-feared subordinated monetary financing under Keynesian fiscal dominance.

Indeed, if this is a revolution, it badly needs revolutionaries. Central banks’ calls for fiscal activism cannot be taken seriously while they remain in practice committed to a shadow monetary financing regime because it preserves their institutional dominance and discretionary power to intervene in sovereign bond markets.

<sup>18</sup> Cœuré, “Sovereign Debt” (2016) (see note 14).

<sup>19</sup> A. Hauser, “From Lender of Last Resort to Market Maker of Last Resort via the Dash for Cash: Why Central Banks Need New Tools for Dealing with Market Dysfunction” (London: Bank of England, 2021), <https://www.bankofengland.co.uk/-/media/boe/files/speech/2021/january/why-central-banks-need-new-tools-for-dealing-with-market-dysfunction-speech-by-andrew-hauser.pdf?la=en&hash=A02A833632782A87D97A1F9EFEB26205B4E8DF13>.

What is needed instead is a framework for coordination with fiscal authorities that re-em-beds money and credit in the pursuit of the common good, and that is tailored to green and health-friendly objectives.<sup>20</sup> But this equally requires Ministries of Finance to reclaim fiscal policy – and public debt management – from the conventional wisdom hardwired into monetary dominance: that fiscal rules can be designed while ignoring the macro-financial role of sovereign bonds.

The need to rethink the framework for coordinating monetary and fiscal policies has never been more urgent. In a post-COVID-19 world with higher public debt/GDP and increasingly controversial central bank support for sovereign bonds, there is a real threat that we sacrifice fiscal support for the low-carbon transition on the altar of central bank independence. Nowhere more than in the Eurozone would this be a more pointless sacrifice, where the refusal of European Union institutions and member states to provide adequate democratic guidance weakens the ECB.<sup>21</sup>

<sup>20</sup> B. Braun, D. Gabor, and B. Lemoine, "Enlarging the ECB Mandate for the Common Good and the Planet", Social Europe (2020), <https://www.socialeurope.eu/enlarging-the-ecb-mandate-for-the-common-good-and-the-planet>; also J. Klooster, "The ECB's Conundrum and 21st-Century Monetary Policy: How European Monetary Policy Can Be Green, Social and Democratic", Transformative Responses Policy Brief (Berlin, 2021).

<sup>21</sup> J. Klooster, "The ECB's Conundrum" (2020)(see note 19).

## Government bond markets: A quick primer

In recent policy discourse, monetary financing is typically understood as central bank purchases of government bonds in secondary markets. This is underpinned by a fiscal view of government bonds.

The fiscal view of government bonds starts from the institutional set-up through which the Treasury has financed its operations since the turn to central bank independence in the 1990s. Typically, Treasury access to central bank money is restricted. For instance, the UK Treasury has an overdraft account at the Bank of England, known as “Ways and Means”, which it only uses in extraordinary circumstances, and even then in relatively low volumes. The Treasury has an operating agent, the Debt Management Office (DMO), tasked with raising money in markets to finance government activity via bond issuance. The DMO issues short-term cash instruments and bonds at 5-, 10-, or 30-year maturities. It pays bondholders a fixed interest rate on the amount borrowed that usually reflects the market interest rate at the time. Although the DMO manages public debt so as to secure continued market access at lowest cost, it does so without any concern for macroeconomic objectives such as fiscal space, price or financial stability.<sup>22</sup>

Bonds also trade in secondary markets, allowing bondholders to sell before maturity. As bond prices change, yields – what investors would gain over the remaining life of the bond if they bought it and held on to it until it matures – also change, in the opposite direction. The concept of market liquidity captures the ability to buy and sell without large price movements.

This fiscal view of bonds entrenches the institutional separation between the central bank and the Treasury, which modern money theory correctly describes as a political choice, along a 3D logic:

### **a. *delink* public spending from central bank money creation:**

by ensuring that the Treasury/debt manager does not use its account at the central bank, but instead “banks” with the private banking system (as for instance in the United Kingdom<sup>23</sup>).

<sup>22</sup> H.J. Blommestein and P. Turner, “Interactions between Sovereign Debt Management and Monetary Policy under Fiscal Dominance and Financial Instability”, BIS Paper 651 (Basel: Bank for International Settlements, 2012).

<sup>23</sup> In contrast, the German DMO continues to bank with the German central bank, <https://www.deutsche-finanz-agentur.de/en/finance-agency/about-us/>.

Where the Treasury operates via an account with the central bank, all fiscal spending is monetary financing, in that spending (e.g. public-sector wages) creates reserves for commercial banks, or interbank liquidity/high-powered money. Indeed, although it is customary to argue that the central bank is the monopoly supplier of reserves to the banking system, the Treasury can also create bank reserves: When it spends, its deposit account at the central bank falls, and commercial bank reserves increase. Then, sovereign bonds are not issued to “finance” spending<sup>24</sup> but to destroy reserves created via fiscal operations that increase interbank market liquidity and thus lower interest rates there beyond the level desired by the central bank.

Without an account at the central bank, the Treasury has to “pre-fund” its spending by issuing, via the DMO, tradable securities. Issuance moves bank deposits in the financial system from private accounts to the Treasury deposit account at commercial banks, but it does not entail additional money creation.

**b. *delegate sovereign bond market liquidity to private repo markets:***

Market liquidity, in this argument, requires fiscal authorities to put the adequate plumbing in place, that is, the repo (securities financing) markets where traders can finance, short, and hedge government bonds.<sup>25</sup> Although the repo market lubricates liquidity, it does not guarantee it: Fiscal fundamentals are the primary driver of demand for government bonds, in a world where public debt managers compete with each other for investors, and consequently, for liquidity.

**c. *deny that central bank purchases of government bonds amount to monetary financing:***

At the zero-lower bound, central banks typically frame their interventions in government bond markets through the dominant macroeconomic theory underpinning inflation-targeting regimes.<sup>26</sup>

<sup>22</sup> H.J. Blommestein and P. Turner, “Interactions between Sovereign Debt Management and Monetary Policy under Fiscal Dominance and Financial Instability”, BIS Paper 65I (Basel: Bank for International Settlements, 2012).

<sup>23</sup> In contrast, the German DMO continues to bank with the German central bank, <https://www.deutsche-finanz-agentur.de/en/finance-agency/about-us/>.

<sup>24</sup> S. Fullwiler, S. Kelton, and L.R. Wray, “Modern Money Theory: A Response to Critics” (Banco Central de la República Argentina, 2012), [http://www.bcra.gov.ar/Pdfs/BCRA/JMB\\_2012\\_Wray.pdf](http://www.bcra.gov.ar/Pdfs/BCRA/JMB_2012_Wray.pdf).

<sup>25</sup> For a historical account of the nexus between repo and sovereign bond markets, see D. Gabor, “The (Impossible) Repo Trinity: The Political Economy of Repo Markets”, *Review of International Political Economy* 23, no. 6 (2016).

<sup>26</sup> See, for instance, A. Berg, P.D. Karam, and D. Laxton, “A Practical Model-based Approach to Monetary Policy Analysis – Overview”, IMF Working Paper (Washington, DC: International Monetary Fund, 2006), [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=901871](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=901871).

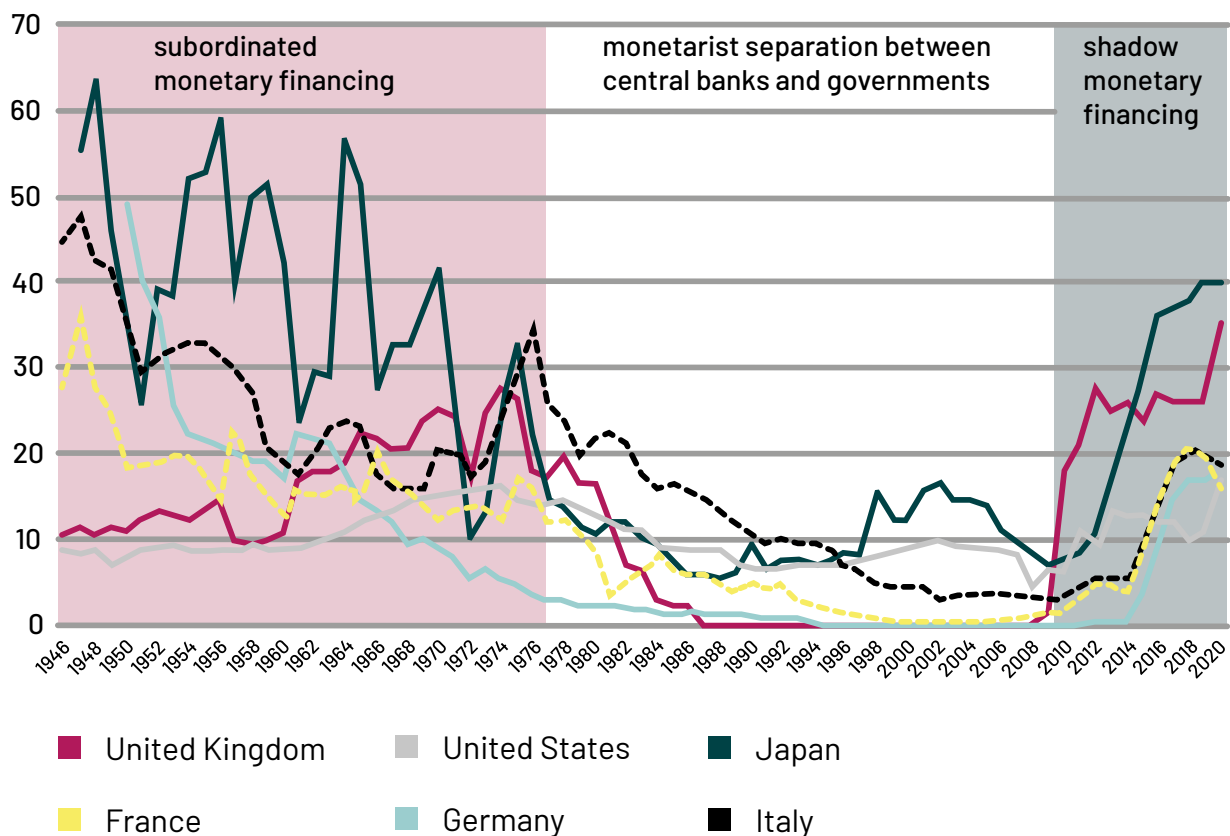
According to this, the choice to pre-announce a quantity of central bank purchases under QE works in several ways: It signals that central banks would continue to keep policy rates at zero, and it encourages portfolio rebalancing away from sovereign bonds to private assets. In practice, neither investors nor central banks have a clear understanding of how these channels work.<sup>27</sup> In turn, fiscal policy should not be used for macro stabilisation purposes (to stabilise aggregate demand).

<sup>27</sup> See, for example, T. Stubbington and C. Giles, "Investors Sceptical over Bank of England's QE Programme", Financial Times, 5 January 2021, <https://www.ft.com/content/f92b6c67-15ef-460f-8655-e458f2fe2487> and C. Giles, "BoE Criticised by Internal Watchdog over Easing Programme", Financial Times, 13 January 2021, <https://www.ft.com/content/e2736009-4b9b-4535-a025-ed48c1eb21a9>.

## A typology of monetary financing regimes

Central banks' footprint in government bond markets has changed markedly over time (see Figure 1). In the post-World War 2 period of Keynesian fiscal dominance, central banks held significant shares of government debt on their balance sheet, often due to their role as debt managers for the sovereign. The growing influence of monetarism, and the turn to central bank independence sees central banks reducing their holdings of government bonds, dramatically so in Europe, where the Bank of England, the German Bundesbank and the Banque de France unwound their holdings of sovereign debt to zero by the mid 1990s. The global financial crisis marks the return of central banks to government bond markets, return accelerated by the COVID19 pandemic.

**Figure 1:**  
**Sovereign debt held by central bank, as % of total central government debt.**



Source: <http://www.imf.org/external/pubs/ft/wp/2014/Data/wp14162.zip>

Yet this simple metric – central bank holdings of government debt – paints a partial story. Instead, the analytical lens of monetary financing regimes captures – beyond the simple mechanics of the central bank’s relationships with fiscal authorities via government bond market interventions – the objectives of interventions, the targets, the distinctive institutional hierarchy that governs the logic of interventions, the macroeconomic paradigm and, critically, the accumulation regime (see Table 1).

**Table 1: Subordinated vs shadow monetary financing**

	Objective	Targets	Institutional hierarchy	Macro paradigm	Political power/ Accumulation regime
<b>Subordinated</b>  monetary financing (public-sector channel)	Industrial policy / <i>government</i> borrowing costs	Yield curve (short & long government borrowing costs)	Fiscal dominance	Keynesian	Industrial capitalism
<b>Shadow</b>  monetary financing (private-sector channel)	<i>private</i> financing conditions	a. prudential backstop of market liquidity (MMLR)  b. macro-driven signalling/port-folio channel (QE)	Monetary dominance	Inflation targeting	Financial capitalism

Note: MMLR (Market Maker of Last Resort)

Source: Author

## Subordinated monetary financing

The standard account of monetary financing – understood as central bank purchases of government bonds – points to its Keynesian roots. It captures the importance that Keynesian macroeconomics attributes to activist fiscal policies to manage the cyclical instability of capitalism. The nation-state “emasculates” central banks into passively accommodating both fiscal policy (by keeping borrowing costs low), and industrial policy via credit policies.<sup>28</sup>

A subordinated monetary financing regime tasks the central bank with keeping public borrowing costs under control. This policy of “cheap money” ensures that yields on short- and long-term government debt stay within a pre-specified range, guided by debt sustainability considerations. Central banks purchase government bonds in secondary markets when private demand falls, pushing prices up and yields down. Fiscal dominance means that central bank money creation is set by the pace of intervention in government bond markets, as increases in central bank assets (government bonds held by central banks) are matched by increased reserves issued to the commercial banking system. Cross-border capital flows are repressed in order to reduce the burden of intervention should private finance test the caps, and to minimise the liquidity effects of central bank interventions in foreign currency markets to preserve exchange rate pegs (prevailing under Bretton Woods).

The overall objective is typically to support public investment that aims to change the structure of the economy under an industrial policy framework, or to support fiscal policy oriented to managing aggregate demand fluctuations. In “stronger” versions, as Keynes proposed, it may also have structural ambitions: to euthanise rentiers by permanently fixing the yield curve at low levels.<sup>29</sup> The overall macroeconomic framework reflects Keynesian views about the dynamic instability of capitalism that requires Big Government.<sup>30</sup>

Historians of central banking point to key differences in central banking during the Bretton Woods era.<sup>31</sup> The US Federal Reserve engaged in yield targeting, capping yields on long-term US Treasuries at 2.5%, and until 1947, at 0.35 % for short-term bills. This policy was later described by Fed officials as a consequence of “Treasury’s increased dominance over the Federal Reserve on interest rate policy” within the context of WW2.<sup>32</sup>

<sup>28</sup> E. Monnet, *Controlling Credit: Central Banking and the Planned Economy in Postwar France, 1948-1973* (Cambridge: Cambridge University Press, 2018).

<sup>29</sup> S. Howson, “The Origins of Cheap Money, 1945–47”, *The Economic History Review* 40, no. 3 (1987): 439–57.

<sup>30</sup> Dafermos et al., “Institutional Supercycles” (2020) (see note 16).

<sup>31</sup> See, for example, E. Monnet, “The Diversity in National Monetary and Credit Policies in Western Europe under Bretton Woods” (2012), <http://piketty.pse.ens.fr/files/Monnet12.pdf>.

<sup>32</sup> For a detailed account of the Federal Reserve’s experiment with yield targeting, see R. Chaurushiya and K. Kuttner, “Targeting the Yield Curve: The Experience of the Federal Reserve, 1942–51” (St. Louis, MO: FRASER, 2003), <https://fraser.stlouisfed.org/files/docs/historical/FOMC/meetingdocuments/memos/fomc20030618memo01.pdf>.

Its peer in Europe, the Bank of England, was the exception rather than the rule of Keynesian fiscal dominance.<sup>33</sup> Thus, Banque de France, Banca d'Italia, and Belgium resorted to heavily steering credit allocation, while the legacy of post-WW2 institutional reform left the Bundesbank – the German central bank – independent and therefore less subject to government pressures to support its spending directly, or its industrial policy via credit controls. Central banks used credit controls not just to support industrial policies, but also for balance of payment purposes under the Bretton Woods system of fixed exchange rates, which created severe constraints for interest rate policies.

The US Federal Reserve was a reluctant actor in the subordinated monetary financing regime. It failed to develop a theoretical framework that would guide the relationship between targeted short-term and long-term yields. Rather, it agreed to set long-term yields at levels that were significantly higher than short-term rates, thus minimising the need for the Fed to intervene to maintain the long-term interest rate peg.<sup>34</sup> The period was characterised by a turf war between the Fed and the Treasury, in which the Fed repeatedly chose to enforce overly contractionary policies in an attempt to undermine its subordinated role. Its annual reports suggest that this was largely due to its commitment to “quantity” or monetarist reasoning: It worried that the increase in bank reserves accompanying the purchase of bills or bonds would, in turn, ease credit conditions, stimulate aggregate demand, and generate inflationary pressures. This view, which Milton Friedman would later synthesise in the well-known “inflation is always and everywhere a monetary phenomenon”, runs contrary to the Keynesian theories of inflation, which emphasise labour and product market institutional dynamics or cost-push pressures.<sup>35</sup> Eventually, the Fed won the turf war. The 1951 Accord freed the Fed from its obligations to cap long-term yields,<sup>36</sup> and thus “minimise the monetization of public debt”.<sup>37</sup>

<sup>33</sup> Monnet, “The Diversity in National Monetary and Credit Policies” (2012) (see note 31).

<sup>34</sup> Chaurushiya and Kuttner, “Targeting the Yield Curve” (2003) (see note 32).

<sup>35</sup> Friedman, “25 Years after the Rediscovery of Money” (1975) (see note 4).

<sup>36</sup> The Korean War increased inflation and market expectations that the Fed would raise rates to combat it. It suggested that long-term yield control requires large central bank interventions if it runs against expectations of short-term policy.

<sup>37</sup> Chaurushiya and Kuttner, “Targeting the Yield Curve” (2003) (see note 32).

The Keynesian revolution in central banking was even more short-lived in Britain. Although the Bank of England pegged the T-Bill rate at 0.5% up to 1951, it was reluctant to target long-term government bond (gilt) rates.<sup>38</sup> It organised its active role in the gilt market<sup>39</sup> to *follow* rather than shape the market,<sup>40</sup> with “no generally-accepted objectives of debt management”.<sup>41</sup> The Treasury welcomed this approach because it viewed Bank of England interventions as a threat to the gilt market, particularly once the Conservative government reactivated monetary policy in 1951, and the Bank of England set out to tighten credit conditions in response to inflationary pressures. The 1958 Radcliffe Report noted that the absence of explicit co-ordination at the long-end of the curve created significant obstacles to tightening monetary policy. The Report called for monetary policy to target “the entire structure of interest rates”, suggesting that the Bank of England expand its operations from setting the Bank Rate to managing public debt for monetary policy purposes.<sup>42</sup> But it provided contradictory advice on what that would imply: Although the Bank of England “should have, and must consciously exercise, a positive policy about interest rates, long as well as short, and about the relationship between them”, the Report advised against manipulations of long-term rates that would harm private bank balance sheets. It thus reinforced the view that monetary policy remained an ineffective tool to manage aggregate demand, even for inflationary pressures.

On the rare occasions when governments tried to impose fiscal dominance, as the Macmillan government attempted during the 1962–1964 period, they were faced with significant resistance from both the Bank of England and the Treasury. The Treasury believed that long-term yields should be allowed to reflect market expectations about the pace of aggregate demand and inflation, and it described interest rate movements in “equilibrium” terms – an orthodox account at odds with the logic of fiscal dominance.

<sup>38</sup> Even at the height of the post-war “cheap money” policy (1945–1947), when the Labour government sought to pursue “social control of long-term credit”, full employment, and low short- and long-term interest rates, the Bank of England was reluctant to intervene in the long-term gilt market, forcing Chancellor Dalton to rely on the National Debt Commission to buy gilts in the market or from the Bank of England. Dalton followed Keynes in wanting to bring about the “euthanasia of the rentier” with permanently low interest rates, but was met with significant resistance from economists and from the Bank of England, which insisted that interest rate policy needed to be flexible in order to allow for interest rate increases in response to inflationary pressures; see Howson, “The Origins of Cheap Money” (1987) (see note 29).

<sup>39</sup> The Bank of England was at that time acting as “issuing house, underwriter and leading market maker in gilts. When a new issue was made, only a small amount was normally sold at the public tender. The remainder was acquired by the Issue Department of the Bank of England, which thus acted as underwriter, and was made available for gradual sale as a ‘tap stock’ in the secondary market”, see W.A. Allen, “The British Attempt to Manage Long-Term Interest Rates” (2015, SSRN 2653568).

<sup>40</sup> W.A. Allen, *The Bank of England and the Government Debt Operations in the Gilt-Edged Market, 1928–1972* (Cambridge: Cambridge University Press, 2019).

<sup>41</sup> Allen, “The British Attempt” (2015), p. 3 (see note 39).

<sup>42</sup> N. Kaldor, “The Radcliffe Report”, *The Review of Economics and Statistics* (1960): 14–19.

Bank of England officials, in turn, responded to government demands that it lower long-term interest rates by arguing that the Bank had no power to move yields lower when the market pressured in the opposite direction. The Treasury and the Bank were at odds over the conceptual framework that would guide a long-term interest rate policy.

By 1969, a Bank of England (1969) paper prepared in consultation with the Treasury noted that the Bank's management of government debt was guided by the imperative of maintaining "market conditions that will maximise, both now and in the future, the desire of investors to hold British government debt", and that "in the last years of the period, as greater weight has been placed on monetary policy, there has been a greater flexibility in policy on interest rates and a greater willingness to allow upward pressures on rates in the market to take effect; and this has given more scope for flexible tactics in debt management".<sup>43</sup> It noted the failure of macroeconomic policy in the decade after the Radcliffe Report to address the problems of the British economy. It also gave a nod to policy coordination, not according to Keynesian logics of subordination, but rather by calling for fiscal and monetary policy to reinforce each other across the business cycle.

If the Bank of England is the historical example of fiscal dominance, a deep dive into its operations throughout the 1950s and 1960s suggests that its subordination to fiscal authorities is largely a historical fiction. The Bank of England maintained that:

- Market expectations were the key driver of long-term yields, against which the central bank had no significant power.
- Its role as debt manager for the government reduced rather than magnified its ability to shape long-term yields, since its primary goal was to ensure sufficient private demand for government bonds. For this, its interventions in the long-term gilt market were guided by a "market-maker of last resort" logic, to
  - a. ensure liquidity (i.e. the ability of private traders to buy and sell) in line with its role as debt manager,
  - b. preserve financial stability: When it raised the short-term rates (Bank Rate), it often chose to provide direct balance sheet support to gilt market-makers if prices of gilts fell (i.e. yields increased) by offering them better prices.

<sup>43</sup> Bank of England <https://www.bankofengland.co.uk/-/media/boe/files/quarterly-bulletin/1969/the-operation-of-monetary-policy-since-the-radcliffe-report.pdf>

- Although it may have subscribed to the Keynesian view of inflation as a consequence of particular institutional dynamics in the labour and product markets, it never fully embraced the Radcliffe Report view that liquidity of a broad range of assets, not money, was the relevant category for monetary analysis.

In sum, the Bank of England and the US Federal Reserve were the rule, rather than the exception, of central banks quite successful at resisting, and eventually defeating, the “assault” of fiscal dominance. Instrumental in this was the central banks’ resistance to formal mechanisms of coordination with the Ministry of Finance that could solve disagreements on policy – particularly in times when central banks sought to tighten credit conditions – through formal process. This was a battle that the Keynesian state fought and lost.

The German Bundesbank encapsulates well what was, and remains, at stake in the political battle over the relationship between the central bank and fiscal authorities. The political negotiations around the post-war Bundesbank law saw conservative politicians call for the central bank to be subject to the direct influence of the German state – for an “absolute coordination” between the central bank and the future state.<sup>44</sup> They argued that politicians, and therefore fiscal policy, had to bear the consequences of a central bank that could act as a “state within a state”, sacrificing employment in pursuit of price (or balance of payment) stability. Yet, the political arithmetic (“dependent central bank = inflation”) quickly gained ground in Germany, and then in countries traditionally viewed as Keynesian, thereby freeing central banks from the pressures of fiscal dominance.

### *Shadow monetary financing: A macro-financial view of bonds*

The fiscal view of bonds does not explain why central banks’ holdings of government bonds have increased rapidly since the global financial crisis, without a change in the underlying macroeconomic policy framework, the logic of accumulation, or the political dominance of the narrative of central bank independence. Indeed, central banks have quietly upgraded the holy trinity of inflation targeting – price stability as the primary *goal* of the central bank; central bank independence as the *institutional arrangement*; and the short-term interest rate as the *operational target*.<sup>45</sup> – with a fourth dimension:

<sup>44</sup> For an account of the post-WWII political struggles around the German central bank, see S. Mee, *Central Bank Independence and the Legacy of the German Past* (Cambridge: Cambridge University Press, 2019).

<sup>45</sup> B. Braun and L. Downey, “Against Amnesia: Re-Imagining Central Banking”, CEP Discussion Note 2020/1 (Zurich: Council on Economic Policies, 2020).

large-scale interventions in government bond markets (or monetary financing). These purchases aim to ease private financing by backstopping sovereign bond market liquidity (a prudential or market-maker of last resort function), and by lowering yields via QE (a macro-driven intervention).

Take the United Kingdom. In 1979, when Margaret Thatcher came to power, the Bank of England held around 17% of all outstanding UK sovereign bonds (gilts). That share fell to zero by 1988, and it stayed at zero until the global financial crisis. Yet, by 2010, the Bank of England's holdings rose to 20%. Then, in 2015, the Bank announced that it would normalise its direct interventions in the UK government bond market as a new "market-maker of last resort" policy tool, directed at preserving the stability of a financial system heavily reliant on liquid gilts. With this, the Bank of England recognised that the public debt issuance has macro-financial consequences that need to be managed actively,<sup>46</sup> followed by the ECB.<sup>47</sup>

A macro-financial view of government bonds is useful to unpack this puzzle. This takes the structural changes in finance as a starting point and notes that, under financial globalisation, government bonds have become the cornerstone of modern financial systems increasingly organised around capital markets, wholesale funding markets, and derivative markets, or what central bankers term "collateralised finance". When Bini Smaghi,<sup>48</sup> then a member of the Executive Board of the ECB, equated modern finance with collateralised finance, he meant finance collateralised with government bonds. Private financial institutions – from pension funds to insurance companies, hedge funds, or banks – hold government bonds for regulatory purposes, demand them for speculative reasons, use them as collateral to get cheap leverage via the repo market or to back derivative transactions, and run to them during bad times because government bonds are viewed, rightfully or not, as the ultimate risk-free asset.<sup>49</sup>

A macro-financial view of government bonds brings the concept of market liquidity to the core of central banking. In financial systems organised around collateral, the distinction between market and funding liquidity becomes critical.<sup>50</sup>

<sup>46</sup> Hauser, "From Lender of Last Resort" (2021) (see note 18); see also Gabor "The (Impossible) Repo Trinity" (2016) (see note 25).

<sup>47</sup> Cœuré, "Sovereign Debt" (2016) (see note 14).

<sup>48</sup> L.B. Smaghi, "Monetary Policy Transmission in a Changing Financial System – Lessons from the Recent Past, Thoughts about the Future", speech delivered 14 June 2010, <https://www.bis.org/review/r100618e.pdf>.

<sup>49</sup> D. Gabor and J. Vestergaard, "Chasing Unicorns: The European Single Safe Asset Project", *Competition & Change* 22, no. 2 (April 2018): 139–64.

<sup>50</sup> See, for instance, P. Mehrling, "Three Principles for Market-Based Credit Regulation", *The American Economic Review* 102, no. 3 (2012): 107–12.

Funding liquidity captures the ability of commercial banks to convert deposits into cash at parity, which is a challenge during times of crisis when depositors lose faith in banks. Historically, this challenge has been solved by deposit guarantees and emergency central bank loans, against collateral, under the lender of last resort umbrella. In contrast, market liquidity refers to the ability of bondholders to buy and sell bonds without generating price volatility. In collateral-based financial systems, market liquidity matters because a fall in bond prices creates funding pressures for financial institutions reliant on those bonds to collateralise their wholesale funding – as prices fall, their lender will call margin, that is, they will ask for additional collateral in order to bring the market value of the collateral portfolio they hold back to the level agreed in the transaction.

Put differently, central banks can only prevent liquidity spirals – where marked to market funding positions deteriorate, leading to firesales of bonds, and further margin calls – if they intervene directly in those bond markets that are an important source of collateral (interventions directed to provide market liquidity of last resort) and prevent prices from falling. Financial stability in shadow banking, or market-based finance, means supporting liquidity in collateral markets in times of stress in addition to supporting banking institutions, as in the traditional lender of last resort (LOLR) model.

Andrew Hauser (2021) of the Bank of England pointed to the COVID-19 pandemic as the end of the period when central banks conducted monetary financing for prudential purposes in the shadows:

*By degrees, these and other actions show a gradual broadening in focus by central banks from backstopping the funding liquidity of banks to backstopping market liquidity, when severe dysfunction threatens financial stability.*

*The review of the Bank's liquidity framework carried out by Bill Winters in 2012 recommended formalising the Bank's approach to MMLR....But in the event, the Bank – in common with other central banks – chose to say relatively little in public. That reflected a number of factors, including the practical challenges of determining in advance the markets in which central banks might operate, the terms on which they would do so, and the consequences for public money<sup>51</sup>[...]. The COVID-19 shock changed all that.*

<sup>51</sup> Hauser, "From Lender of Last Resort" (2021)(see note 18).

The quote recognises that shadow monetary financing is conducted to support market liquidity in government bond markets, and thus financial stability. The safe asset status of government bonds is not sufficient to generate a reliable source of private demand during bad times, as the European sovereign debt crisis first indicated, and the COVID-19-related stress in US Treasury markets<sup>52</sup> confirmed. But there are significant political challenges that central banks have sought to circumvent by downplaying in public the importance of this new regime.

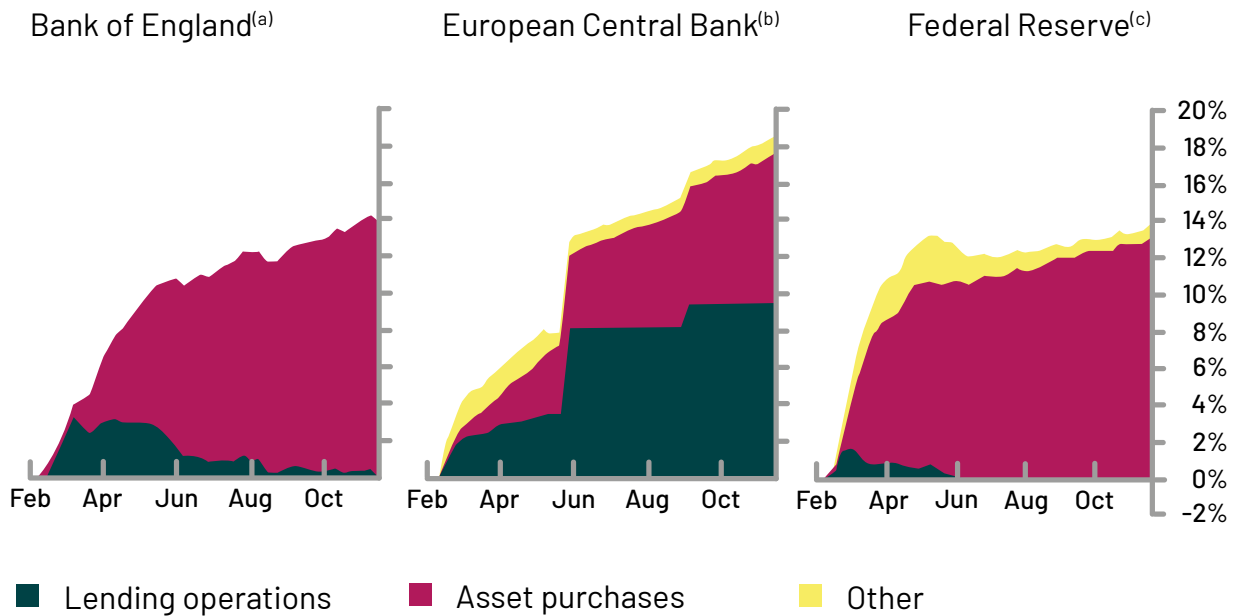
One such challenge is the relationship between lender of last resort and market maker of last resort. Although the potential channels of interaction between the two are not very well understood, the experience of the ECB during the sovereign debt crisis demonstrates that excessive reliance on the LOLR can reinforce liquidity pressures on collateral markets<sup>53</sup> – including sovereign bond markets – and undermine financial stability until MMLR is activated (as Mario Draghi did with his “whatever it takes” commitments). Thus, it is not entirely surprising that central banks have responded to the COVID-19 crisis overwhelmingly through direct bond purchases, with the exception of the ECB (see Figure 2). Even in the ECB case, its long-term refinancing operations have been reinforced by bond purchases, in particular sovereign bonds.

<sup>52</sup> D. Duffie, “Still the World’s Safe Haven? Redesigning the U.S. Treasury Market after the COVID-19 Crisis” (Washington, DC: Brookings, 2020), <https://www.brookings.edu/research/still-the-worlds-safe-haven/>.

<sup>53</sup> This is because LOLR done via repo loans reinforces mark-to-market liquidity pressures on banks that tap central banks using (sovereign) collateral that falls in price. See, for example, D. Gabor and C. Ban, “Banking on Bonds”, *Journal of Common Market Studies* 54, no. 3 (2016): 617–35; see also J. Barthélemy, V. Bignon, and B. Nguyen, “Monetary Policy and Collateral Constraints since the European debt Crisis”, Banque de France Working Paper No. 669 (Paris: Banque de France, 2018).

**Figure 2:**

**LOLR (lending operations) vs asset purchases (including MMLR), as % of 2019 GDP**



Source: Bank of England, Bureau of Economic Analysis, European Central Bank, Eurostat, Federal Reserve Board, ONS and Bank calculations.

**a)** Bank of England lending operations shown here: Indexed long-term repo, Contingent term repo facility, US dollar repo operations, Liquidity Facility in Euros, Term Funding Scheme and Term Funding Scheme with additional incentives for SMEs.

Bank of England asset purchases shown here: Asset Purchase Facility and Covid Corporate Financing Facility.

**b)** ECB lending operations: Lending to euro-area credit institutions related to monetary policy operations denominated in euro.

ECB asset purchases: Securities held for monetary policy and other purposes.

**c)** Federal Reserve lending operations: Repurchase agreements, Loans and Net portfolio holdings of TALF II LLC.

Federal Reserve asset purchases: Securities held outright. Section of chart lying below the zero line from mid-2020 reflects a decline in repo outstanding relative to end-February.

Source: Hauser (2021)

A second challenge is the overlap between financial stability and monetary policy considerations hardwired into central bank purchases of government bonds. Indeed, the macro-financial role of government bonds requires inflation-targeting central banks to recognise that long-term yields play a critical role in the transmission of monetary policy, and that they cannot be benignly neglected, à la Bank of England in the 1950s, under the logic that “expectations” will bring them in line with short-term interest rates. Rather, central bank purchases of government bonds are increasingly viewed as a legitimate monetary policy tool to stimulate aggregate demand and bring inflation up to the target. Yet, this is an “easing financing conditions” for the private financial-sector logic. For central banks, lowering the long-term yield on government bonds matters because it signals its commitment to maintain cheap financing conditions for private finance, not for fiscal authorities. It is not intended to provide an explicit coordination framework with fiscal policy or to reassure fiscal authorities that fiscal activism will be supported by central banks. Commitments to a quantity of sovereign bond purchases under QE – or to preserve market liquidity, as Hauser explains above – should be viewed as a signal to the financial system,<sup>54</sup> not to fiscal authorities.

This points to the third challenge of shadow monetary financing: Central banks have worked hard to construct its consistency with monetary dominance in order to preserve their dominance in the macro-institutional architecture. It is thus entirely possible to argue – as did Benoit Cœuré,<sup>55</sup> then head of ECB market operations – that in a market-based finance “organised around collateralised lending, which creates high demand for safe, and therefore low-price-volatility collateral”, sovereign bonds have moneyiness, providing the financial system with an asset similar to the high-powered money created by central banks, without making the case for a new institutional framework for fiscal-monetary coordination. Instead, the argument goes, central banks should have unrestrained discretion in setting the terms of their purchases, and Treasuries should continue to be disciplined by government bond markets. Yet, taking Cœuré’s argument that sovereign bonds have moneyiness to its logical conclusion would imply that, in market-based financial systems, the fiscal authority and the monetary authority, however “independent” by institutional design, fundamentally play the same role: a central bank to modern, market-based finance.

<sup>54</sup> This commitment further entrenches what Ben Braun terms the infrastructural power of market-based finance, whereby central banks and fiscal authorities rely on private financial institutions as the governance infrastructure for macroeconomic policy; see B. Braun (2020), “Central banking and the infrastructural power of finance: The case of ECB support for repo and securitization markets”, *Socio-Economic Review* 18, no. 2 (2020): 395–418.

<sup>55</sup> Cœuré, “Sovereign Debt” (2016) (see note 14).

This has revolutionary implications, not just because it undermines the institutional hierarchy implied by monetary dominance, but because it implies central banks cannot be successful, even on their own inflation-targeting terms, without new mechanisms of coordination with fiscal authorities. To build these new mechanisms, it is important to recognise the complex institutional conflicts that characterised subordinated monetary financing, rather than hide behind them to reinforce the institutional supremacy of the central bank.

This is particularly necessary in a Eurozone macro-financial architecture that forces Treasuries to compete with each other for market liquidity – a contest Germany always wins and the periphery always loses in bad times, unless the ECB intervenes in its role as MMLR. Put differently, it is time for fiscal authorities to join the revolution, that is, to engage in a political process of specifying the parameters of coordination with the central bank, and their implication for the overdue revision of fiscal rules in the Eurozone.

## Historicising shadow monetary financing before COVID-19

*"Would it be apparent to anyone reading these papers that twenty-five years ago the bulk of professional economists regarded 'money' as simply a five letter word describing an utterly passive magnitude that responded to other economic forces but had negligible independent influence; that they took it for granted that inflation and unemployment alike could be relegated to a benighted historical past, if only policyholders could be persuaded to adopt the new Keynesian insights about fiscal policy; that the only role assigned to monetary policy in this happy scenario was to keep interest rates low; and that the quantity theory was of interest only to historians?"*

Milton Friedman (1975)

The historical record of central banking during the Keynesian era suggests that fiscal dominance was more a successful rhetorical device pushed by Milton Friedman and his followers, rather than actual policy practice. The ghost of fiscal dominance was necessary for monetarism to replace Keynesian macroeconomics and to set in motion the rapid diffusion of ideas about the merits of central bank independence.

At its core, monetarism can be summarised by the post-war German conservative narrative "dependent central bank = inflation". It advocated money growth rules – the strict institutional separation between monetary and fiscal policies – and fiscal rules to discipline governments. In parallel, the Treasury's economic mission shifted from aggregate demand management to "privatisation, labour market reform, and growth policy", which framed growth as a question of "innovation, infrastructure, deregulation and skills".<sup>56</sup> Inflation-targeting central banks, in turn, relied on New Keynesian models that assign no role to fiscal policy plays in the active management of aggregate demand. Rather, the central bank's policy rate, coupled with well-anchored expectations, is sufficient for short-term interest rate decisions to filter across the entire term structure of interest rates, including on government bonds of different maturities. Additionally, governments are to be disciplined by bond markets, and in certain polities, by fiscal rules (such as the Stability and Growth Pact in the Eurozone).

<sup>56</sup> See, for instance, Macpherson, N. (2013) The Origins of Treasury Control <https://www.gov.uk/government/speeches/speech-by-the-permanent-secretary-to-the-treasury-sir-nicholas-macpherson-the-origins-of-treasury-control>

But the strict separation between monetary and fiscal policy turned out to be an illusion. As fiscal authorities delegated public debt management to separate DMOs, the escalating competition for market liquidity prompted states to turn to the repo market in order to capture demand from the growing securities industry. The logic was simple: European and US (investment) banks were rapidly growing their securities trading business, and Ministries of Finance could take advantage of this trend by attracting their business. For this, they would need to encourage the growth of securities financing or repo markets, where banks and other investors could finance their securities portfolios by pledging them as collateral to cash-rich institutional investors. The repo market provided lenders protection against default, since they became legal owners of collateral, and bondholders a cheap source of financing their portfolio positions, since marked to market of collateral portfolios increased their leveraging capacity during periods of buoyant securities prices. It was in the repo market that the macro-financial role of government bonds was forged, first in the United States, and then in Europe.

The 1998 Russian crisis and the default of Long-Term Capital Management (LTCM) further strengthened the macro-financial role of sovereign bonds. Repo markets, central banks agreed, had become systemic to global finance. Central banks connected repo markets to financial instability, since repos provided an “especially cost-effective source of leverage” that could destroy collateral market liquidity during crises. Yet, central banks did not see any need to update their policy framework in order to address the new systemic fragilities. Instead, they argued, the answer was a liquid sovereign bond market as a source of high-quality collateral that would preserve access to repo funding. The consensus was that financial stability in modern finance required one core collateral market – the sovereign bond market – and that sovereign bond liquidity was simply a question of well-functioning repo markets: Repo markets would “lubricate” government bond liquidity.

Put differently, sovereign bonds’ macro-financial role is not a historical accident, but emerged by policy design.<sup>57</sup> It was explicitly hardwired in the design of the euro: Alexandre Lamfalussy, the president of the European Monetary Institute (the forerunner to the ECB) and then the chair of the Committee of the Wise Men on the Regulation of Securities Markets, argued in 1999 that Europe needed to accelerate the shift towards market-based finance, whose stability required liquid government bond markets:

<sup>57</sup> The remainder of this section is based on Gabor, “The (Impossible) Repo Trinity” (2016) (see note 25).

*"We've seen an accelerated move to a market-centric system from the bank-centric system that has tended to prevail in Europe," Lamfalussy said in London last month. "I have no doubt that a market-centric system is more efficient, but there's a question whether it is stable." The key to stability, he concludes, is a liquid and transparent government debt market.<sup>58</sup>*

The key to liquidity, it was argued, was a European repo market, making repurchase agreements "the backbone of the new order after EMU".

For the Giovannini Group, the group convened by the European Commission, the benefits of integrating national repo markets were numerous. A truly European repo market, in which collateral and liquidity would move across borders without impediments from distinctive legal, accounting, or regulatory regimes, would rapidly accelerate financial integration and in doing so, improve the liquidity of government bond markets, financial stability, and the transmission mechanism of monetary policy.<sup>59</sup> The end game would be the establishment of the euro as a reserve currency to match the dollar.

Furthermore, European policy-makers also actively sought to connect monetary policy to repo markets. In order for the euro to compete with the dollar, "it will need to have an active repurchase market joining the money market to the government bond market. Here the operations of the European System of Central Banks can be counted on to homogenise European repurchase markets".<sup>60</sup> The ECB chose repo loans instead of outright purchases of government bonds (open market operations) as the main tool to implement interest rate decisions. With this, the ECB could use its collateral framework, which treated all Eurozone government bonds as equal collateral, as a instrument to accelerate the creation of a truly European repo market. Before Lehman, a European bank could borrow from the ECB's repo operations on identical terms whether it used German or Greek government bonds.

<sup>58</sup> Ibid.

<sup>59</sup> See Gabor and Ban, "Banking on Bonds" (2016) (see note 53) for the history and implications of the policies to promote a European repo market.

<sup>60</sup> R. McCauley, "The Euro and the Liquidity of European Fixed Income Markets", in Part 2.2 of Market Liquidity: Research Findings and Selected Policy Implications, Publications No. 11 (Basel: Committee on the Global Financial System, Bank for International Settlements, May 1999).

In Europe, the Belgian central bank raised concerns about the repo-liquid securities markets assumption just before the collapse of Lehman Brothers. It argued that (shadow) banks that were heavily reliant on repo-based leverage could generate destabilising liquidity pressures for the markets where they sourced collateral, regardless of the creditworthiness of the asset issuer.

*[A]sset liquidity may no longer depend on the characteristics of the asset itself but rather on whether vulnerable counterparts have substantial positions that need liquidating.<sup>61</sup>*

The quote suggests that even issuers with strong fundamentals could come under market pressure if their bonds were used to collateralise repo liabilities of highly leveraged financial institutions. But at the time – and under the conventional wisdom post-LTCM described above – it seemed that this insight would not apply to bonds issued by governments of high-income countries. Then, the ECB’s hesitations to recognise the importance of preserving market liquidity for European banks exposed to the US shadow banking system and the systemic fragilities of the large European repo market prevented the banking crisis from morphing into a sovereign debt crisis. That changed when Mario Draghi promised to do whatever it takes – a promise to assume market-maker of last resort for Eurozone government bonds – to backstop their liquidity, albeit under conditionality. It was with Outright Monetary Transactions (OMT) that the ECB shifted to a shadow monetary financing regime.

However, the prescience of this warning became even more obvious at the beginning of the COVID-19 pandemic shock, when the US Treasury market came under pressure as leveraged investors liquidated positions.<sup>62</sup> It put to rest the widespread belief that if there was one sovereign whose debt would remain safe throughout any market pressure, it was the country at the top of the international currency hierarchy. In a financial system in which balance sheets are continuously marked to market, prudential monetary financing needs to be normalised if financial stability is to be preserved.

<sup>61</sup> Gabor, “The (Impossible) Repo Trinity” (2016) (see note 25).

<sup>62</sup> Duffie, “Still the World’s Safe Haven?” (2020) (see note 52).

## Shadow monetary financing and green transitions

The 2020 COVID-19 shock forced central banks to publicly accept what they had been quietly doing since the global financial crisis: that sovereign bond markets need backstopping for financial stability and monetary policy purposes. Yet, against the ghost of fiscal dominance, central banks have been reluctant to provide a theoretical framework that would guide the size and length of purchases, and that would specify the details of the central-bank led coordination with fiscal authorities. Arguably, central banks' interventions in government bond markets has gone further than in the days of subordinated monetary financing: In stark contrast to the Keynesian era, central banks now openly admit that they have the power to make sovereign yield targets credible. Not even the Bank of England – at the height of its supposedly dominance by fiscal authorities – accepted that it could enforce a desired cap on long-term yields. Neither did the US Federal Reserve.

Since the political economy of shadow monetary financing that has characterised central banking in high-income countries since the global financial crisis is one of increased discretionary power for central banks over fiscal authorities, it is now more open to political contestation. As Adam Tooze put it:

*[I]n 2020 we have what looks like a war finance model, looks like an integration of monetary and fiscal policy, is spoken about that way in the markets. But is, in fact, a haphazard, deniable and denied convergence whose logic is opaque to those supposedly in charge.*<sup>63</sup>

In a sense, central banks have deliberately kept the logic opaque. It allows them to circumvent the inevitable question of coordination with fiscal policy, or, as Andrew Hauser of the Bank of England put it, “the consequence for public money”.

But shadow monetary financing has important political limits, albeit different ones across polities. While inflation-targeting central banks have engaged in a broad range of what Benjamin Braun terms “extracurricular activities” (promoting securitization and repo markets, changing macro-financial architectures, opposing the plans for Financial Transaction Taxes), their large-scale interventions in government bond markets come with unique political challenges, as the German Constitutional Court challenge to the ECB purchases amply demonstrates.

<sup>63</sup> See [https://twitter.com/adam\\_tooze/status/1350453472735457280?s=20](https://twitter.com/adam_tooze/status/1350453472735457280?s=20).

Such political contestations are bound to amplify once the COVID-19 pandemic gets under control, particularly since the old frameworks for evaluating public debt sustainability and fiscal rules have not been updated for the reality of a world with higher public debt/GDP.

Therein lies the danger. If the lesson of the COVID-19 pandemic is that the macro-financial institutional infrastructure needs upgrading so that states can deal better with future shocks, which is inevitable with the climate crisis, then Europe can ill-afford to pretend that a shadow regime of cooperation between central banks and governments is sufficient. The further concentration of political power in unelected, albeit well-intentioned, central banks threatens to sacrifice green fiscal activism – that is, fiscal support for the low-carbon transition – on the altar of central bank independence.

It may also work against Ministries of Finance making the conceptual leap into (green) fiscal activism. Some building blocks for that leap have already been put in place by well-established macroeconomists, often wearing institutional hats that are traditionally associated with fiscal rectitude. For instance, Blanchard, Leandro, and Zettlemeyer argued in 2020<sup>64</sup> that in the era of low interest rates, when interest rates on government debt are lower than the growth rate of the economy (the famous  $r < g$ ), fiscal policy should be used to manage aggregate demand. More radically, they call for the Eurozone fiscal rules – designed in an age dominated by monetarist thinking – to be replaced by fiscal standards that create room for a flexible ex-post judgment on fiscal space in each Eurozone country, thus enabling fiscal activism to stabilise aggregate demand. Fiscal standards would be anchored in a set of criteria that include “constraints on monetary policy, growth expectations, current and expected interest costs, and institutional and political capacity for future fiscal adjustment”. Although this rethink is welcome, it continues to downplay the extent to which central bank’s turn to shadow monetary financing – and the macro-financial role of government bonds – bears heavily on some of those criteria, as for instance current and expected interest costs, institutional capacity, or market expectations. Thus, it does not call on central banks to actively set yields or for a macroeconomic regime, in which fiscal policy plays the primary role in stabilising the economy during a crisis, with the central bank downgraded to a supportive role.

<sup>64</sup> O. Blanchard, A. Leandro, and J. Zettlemeyer, “Revisiting the EU Fiscal Framework in the Era of Low Interest Rates” (Brussels: European Commission, 2020), [https://ec.europa.eu/info/sites/info/files/s3-p\\_blanchard\\_et\\_al\\_0.pdf](https://ec.europa.eu/info/sites/info/files/s3-p_blanchard_et_al_0.pdf).

In other words, if some of the “criteria” for judging the room for fiscal activism are at the discretion of central banks, then the revolution in central banking needs a two-pillar approach to avoid that central banks cripple fiscal authorities:

- Central bank reviews of monetary policy frameworks – ongoing in the Eurozone and the United States – must recognise that the macro-financial role of sovereign debt requires an explicit framework for coordination between the monetary and fiscal authorities. If central banks are reluctant to abandon inflation-targeting regimes, then it is up to them to specify the parameters of coordination, perhaps around green objectives. Green coordination would spell out how central banks and fiscal authorities plan to work together in order to finance public green investment for the green transition, and the conditions under which targeting yields – or spreads in the Eurozone<sup>65</sup> – is a desirable policy option.
- The Ministries of Finance reviews of fiscal frameworks – an urgent task across high-income countries – should upgrade the “flexible fiscal standards” approach to take into account mechanisms of (green) coordination with central banks.

<sup>65</sup> For the Eurozone, yield targeting is constrained by the existence of 19 different yield curves for each member state issuer (since the COVID-19 common issuance by the European Commission is too low). But the ECB could target spreads to German bunds, the de facto benchmark sovereign bond, as it did throughout 2020.

## Conclusion

When examining the growing presence of central banks in government bond markets, it is important to distinguish between subordinated and shadow monetary financing. The first operates through a public-sector channel, whereby central banks keep government borrowing costs under control so that fiscal policy can lead the fight for macroeconomic stability, or for structural transformation of the economy.

Shadow monetary financing operates through a private-sector channel and is required structurally by the growing macro-financial role of government bonds in shadow banking, or market-based finance. It has two components: a prudential component that allows central banks to support sovereign market liquidity in times of crisis (like the Fed, or the ECB did, in March 2020, for example), and a macro-driven component, which allows central banks to engage in QE with the purpose of encouraging private lending. In practice, neither of these goals can, or should be, equated to subordinated monetary financing. Even in the case of macro-driven monetary financing, which is explicitly deployed to lower government debt costs, the parameters of central bank support are established without any coordination with fiscal authorities, but rather guided by opaque criteria that focus on private credit creation. This opaque arrangement is politically unsustainable in countries where both the government and the central bank are increasingly committed to fight the climate crisis, since it encourages political contestation from those sceptical about the return of fiscal dominance, or those that continue to view the world through a monetarist lens. If subordinated monetary finance is to return for green purposes, it needs its own coherent framework that does not confuse instruments with policies.