

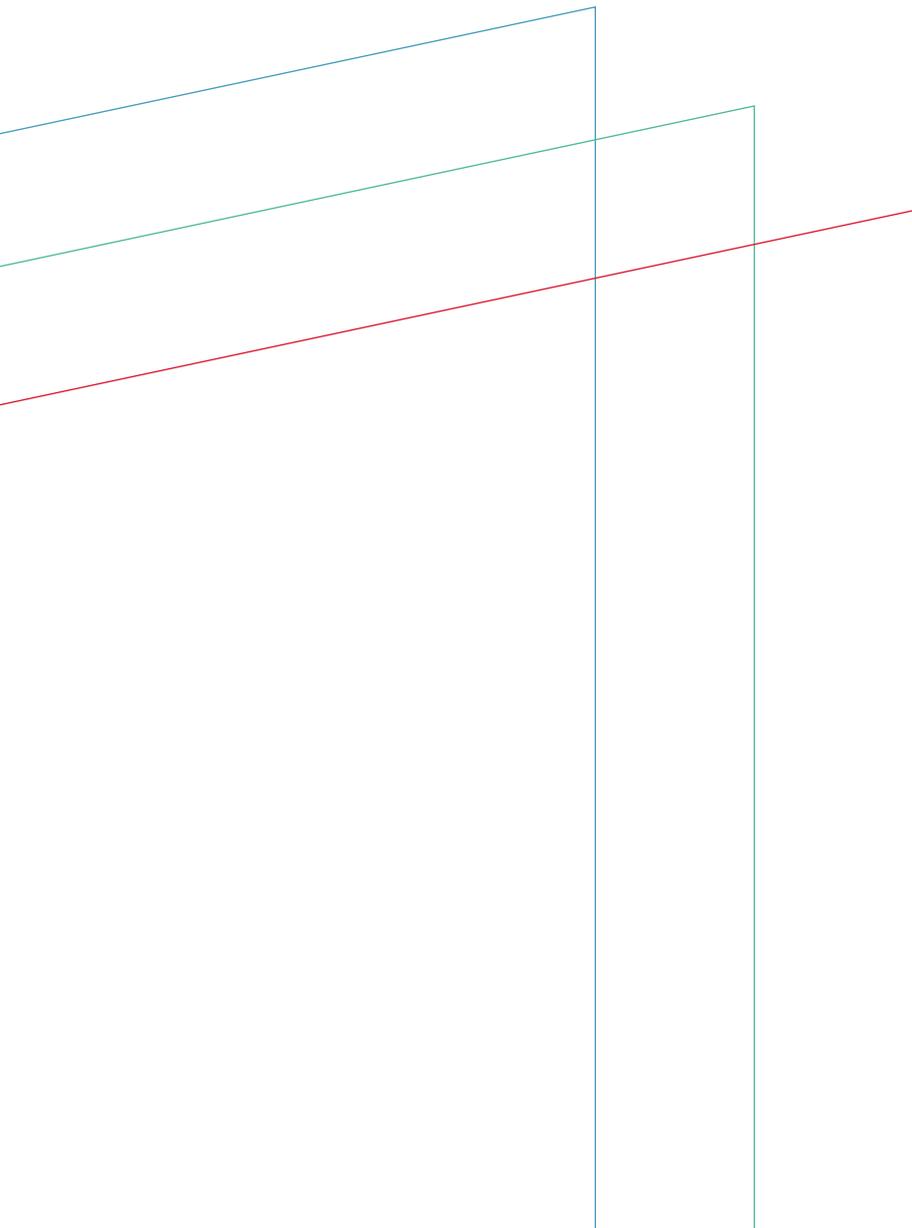


NEW  
**ECONOMICS**  
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# BETWEEN A ROCK AND A HARD PLACE

THE CASE FOR A TIERED RESERVE  
MONETARY POLICY FRAMEWORK

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# CONTENTS

- EXECUTIVE SUMMARY 2**
  
- 1. THE CURRENT MONETARY POLICY FRAMEWORK AND NEW HEADWINDS 5**
  - 1.1 THE FISCAL IMPACT OF QUANTITATIVE EASING 5
  - 1.2 BANK OF ENGLAND MONETARY POLICY 7
  - 1.3 THE NEW FISCAL HEADACHES OF MONETARY POLICY 8
  - 1.4 WHY NOT JUST REVERSE QUANTITATIVE EASING? 14
  
- 2. A TIERED RESERVES PROPOSAL FOR THE UK 16**
  - 2.1 TIERED RESERVES AT THE EUROPEAN CENTRAL BANK 16
  - 2.2 TIERED RESERVES AT THE BANK OF JAPAN 19
  - 2.3 A SYSTEM OF TIERED RESERVES FOR THE UK 20
  
- 3. SIDE EFFECTS AND CRITICISMS OF TIERED RESERVES 25**
  - 3.1 TIERED RESERVES ARE A TAX ON BANKS AND CREDIT INTERMEDIATION 25
  - 3.2 TIERED RESERVES LEAD TO FINANCIAL DISINTERMEDIATION 26
  - 3.3 TIERING RESERVES IS FISCAL POLICY BY THE BANK OF ENGLAND THROUGH THE BACKDOOR 26
  
- 4. CONCLUSION 27**

# EXECUTIVE SUMMARY

As the UK recovers from the economic fallout of the pandemic, we now face a mounting cost of living crisis. Underpinning this crisis is a changing set of macro-economic dynamics giving policymakers a new set of factors that may slow the growth of the economy. After a decade of dangerously low levels of inflation, interest rates at their zero to lower bound, and nearly £1tn in quantitative easing (QE), inflation has risen to its highest rate for 40 years and is set to increase even more. Greater inflation would traditionally prompt the Bank of England (the Bank) to raise interest rates to alter credit conditions and dampen aggregate demand. But policymakers face a colossal problem – the Bank’s monetary policy toolkit is dangerously out of date and not designed to address today’s changing macro-economic circumstances. As a result, while so many families across the UK struggle with a soaring cost of living crisis, interest rate changes mean the Bank will be boosting the profits of banks through billions of pounds worth of payments (income transfers).

An innocuous change to the Bank’s monetary policy framework in 2009 now means commercial banks are remunerated, at the Bank’s policy interest rate, for all of their holdings of central bank money. But paying out interest to the banking sector for holding money in this way is an exception, not a historic norm. Given the lack of policy alternatives at the time, this method of conducting monetary policy may have been expedient in 2009. But with the banking sector now holding nearly £1tn in central bank reserves, higher inflation, and rising interest rates, three traditionally distinct issues have become needlessly conflated at an unnecessarily expensive cost to the government. The adjustment of the Bank’s interest rate – aimed at altering credit conditions – now has enormous repercussions increasing both the amount of government interest payments and the profitability of the banking sector.

The consequences of increased interest rates on government spending are well documented. In his recent 2022 Spring Statement, Chancellor of the Exchequer Rishi Sunak has warned how a further 1% increase in inflation and interest rates could add £18.6bn to the amount of interest the government has to pay on its debt in 2024–25 and £21.1bn by the end of the forecast.<sup>1</sup> These increased costs may threaten to hamper – at least politically, even if not economically – both the government’s attempts to further stimulate the economy given a slowing recovery as well as the transition to net-zero emissions.

Meanwhile, far less attention has been given to the fact that interest rate changes will considerably boost the profits of the banking sector at the government’s expense. Given the Bank controls interest rates by paying out money to the banking sector, rate rises will result in the Bank making significant income transfers to banks, substantially improving their potential profit margins. Looking at different potential ranges for interest rate pathways, even with the Bank’s plans to unwind QE, an average interest rate of between 0.75% and 3% could mean the Bank making an income transfer to banks of between £6.9bn and £27.62bn by March 2023. Over the Office for Budget Responsibility’s (OBR) five-year forecasting horizon, an interest rate of between 0.75% and 4% would mean the banking sector cumulatively receiving between £30.34bn and £161.80bn.

To offer a more precise estimate of the Bank’s income transfers to the banking sector, we cross-reference market expectations for interest rates against a stock of reserves consistent with the Bank’s current plans for unwinding QE. Markets expect interest rates will rise to 2.5% by summer 2023, before gradually falling to 2.0% by January 2025. Based on this implied pathway of interest rates, the Bank would have transferred £15.08bn by FYE 2022–23 to the banking sector – equivalent to reversing all cuts to welfare payments since 2010<sup>2</sup> – and a total of £57.03bn by FYE 2024–25 – enough to fully retrofit over 19 million homes in the UK or to send every household in the UK a cheque of £2,000.<sup>3</sup>

Given current financial conditions, there is good reason to believe that these income transfers will most likely be directly passed on into banks' bottom-line profits, rather than being paid to customers holding bank deposits.<sup>4</sup> Not only will these income transfers boost banks' profits at a time when many families across the UK are struggling with rising costs of living, but they will also go to an already heavily subsidised banking sector that in the last year has seen its pay growth more than treble the wage growth in the rest of the UK economy. The income transfers will be for no extra credit risk taken and arguably for no additional services rendered; they come about by virtue of the banking sector's exclusive ability to hold central bank reserves.

While many organisations, like the OBR and the Treasury, may often refer to central bank reserves as a form of public debt, we show that they are not debt instruments (ie loans from the banks to the Bank). Instead, they are a form of government money, like notes and coins. No money was ever borrowed or needs to be paid back, and therefore the Bank does not need to pay out any interest. Paying out interest and thus making significant transfers to the banking sector, is just one of many policy choices available to the government.

One possibility to avoid making such considerable income transfers to banks would be for the Bank to rapidly sell off its current bond holdings accumulated through its substantial QE programme, which would drastically reduce the amount of central bank reserves held by the banking sector. In addition to jeopardising monetary and financial stability, this would substantially increase the net interest servicing costs of the government and would result in the Bank making significant losses that would have to be covered by the Treasury. Given the Bank bought the majority of government bonds when interest rates were low, selling them when interest rates are higher means the Bank will receive less than what it bought them for. These losses could amount to anywhere between £105bn and £265bn.<sup>5</sup> A rapid sale of government bonds by the Bank would also dramatically increase interest rates while reducing the government's profits from the Bank's holdings of government bonds and thus considerably increase the government's net debt servicing costs.

Under the existing monetary policy framework, the Bank is caught between a rock and a hard place: it can either continue making considerable income transfers to the banking sector or it can dramatically increase the debt- and interest servicing costs to the government. The Bank's monetary policy framework is unnecessarily expensive, politically impalpable, and results in the Bank making fiscal transfers to one specific sector of the economy (to which other sectors are not privy).

There is a policy alternative and precedent, known as 'tiered reserves', which is employed in other countries (in the Eurozone, Japan, and previously in the UK). This permits the distinct separation of the Bank's policy rate from the government's interest servicing costs and the profitability of the banking sector. Importantly, a tiered reserve system would mean the Bank would not have to unwind QE or sell any government bonds at the expense of the taxpayer, and monetary and financial stability.

Grounded in the experience of the Bank of Japan (BoJ) and the European Central Bank (ECB), we offer an illustrative proposal – with three distinct possibilities for remunerating central bank reserves – for how such a framework could work in the UK. Based on market expectations of interest rates, even with QE unwinding a tiered reserve system could save the government between £10bn and £15bn in income transfers to the banking sector by March 2023 and between £25bn and £57bn by March 2025.

Transitioning to such a framework would entail important policy decisions that should not be taken lightly. Given that a tiered reserve system would result in a dramatic reduction of interest costs to the government, the Treasury and the Bank have criticised this reform proposal as fiscal policy through the back door.<sup>6</sup> These censures, however, neglect that the alternative – billions of pounds in income transfers to the banking sector during a cost of living crisis – is a form of fiscal policy that is surely less aligned with the public good and societal interests.

Another issue to consider is that withdrawing these significant income transfers from banks will affect their profit margins, which might lead them to pass on losses to their customers, by raising the cost of borrowing. However, this issue only materialises under conditions that would normally warrant the Bank to raise interest rates and drive up the cost of credit. As noted by a recent IMF (2022) paper that advocates for such a tiered reserve system, passing on the higher cost of borrowing to customers “would be a feature, not a bug, as it would amplify the desired contractionary effect”.<sup>7</sup> The transition and trade-offs would need to be managed carefully, but this problem is hardly insurmountable given that increasing interest rates and raising the costs of borrowing is exactly what the Bank is trying to do.

# 1. THE CURRENT MONETARY POLICY FRAMEWORK AND NEW HEADWINDS

## 1.1 THE FISCAL IMPACT OF QUANTITATIVE EASING

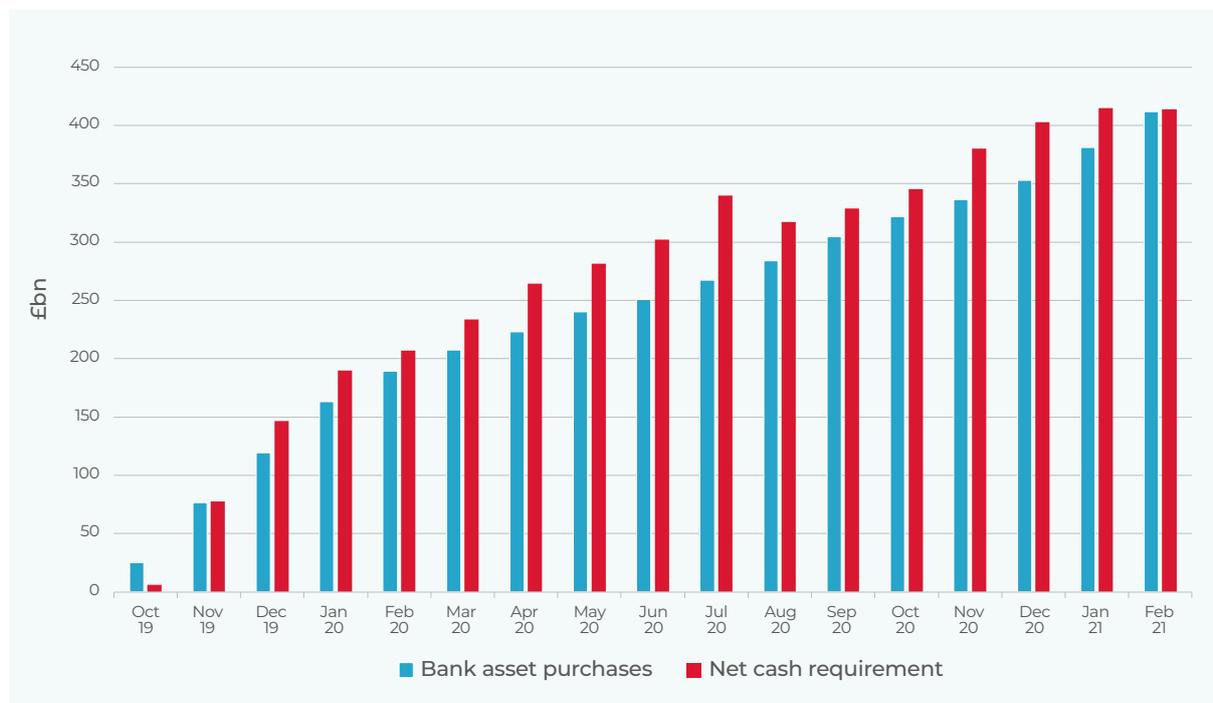
The economic response to the Covid pandemic has seen fiscal and monetary authorities coordinate their activities at a scale not experienced since the Second World War. To protect households, businesses, and public services from the most severe peacetime economic shock the global

economy has seen since the 1930s, the UK government borrowed 15.1% of the gross domestic product (GDP) in 2020–21 – its largest deficit since 1944–45. Consequently, the public debt-to-GDP ratio (excluding Bank of England (Bank) liabilities) rose to 83.8% of GDP in 2020–21 – a level not experienced since the 1960s.<sup>8</sup>

Meanwhile, the Bank ramped up its quantitative easing (QE) programme by £450bn, where it issues newly created money – central bank reserves – to buy pre-existing government debt, in the form of bonds, from financial markets. The post-pandemic expansion of QE means that the Bank will have held £875bn worth of government bonds, 40% of the government’s general gross debt in 2020–21, which to date has reduced the government’s net debt servicing costs. Indeed, since the onset of the pandemic, the Bank’s QE purchases have neatly tracked the government’s borrowing needs (Figure 1).<sup>9</sup>

**FIGURE 1: BANK ASSET PURCHASES TRACK THE GOVERNMENT’S BORROWING NEEDS**

Net cash requirement (exc. PS Banks) (PSNCR exc.): £bn CPNSA and Bank asset; Purchases total allocation (nominal £bn), both cumulative, March 2020–July 2021.



Source: ONS and the Bank of England, authors’ calculations updated from Giles and Stubbington (2020)

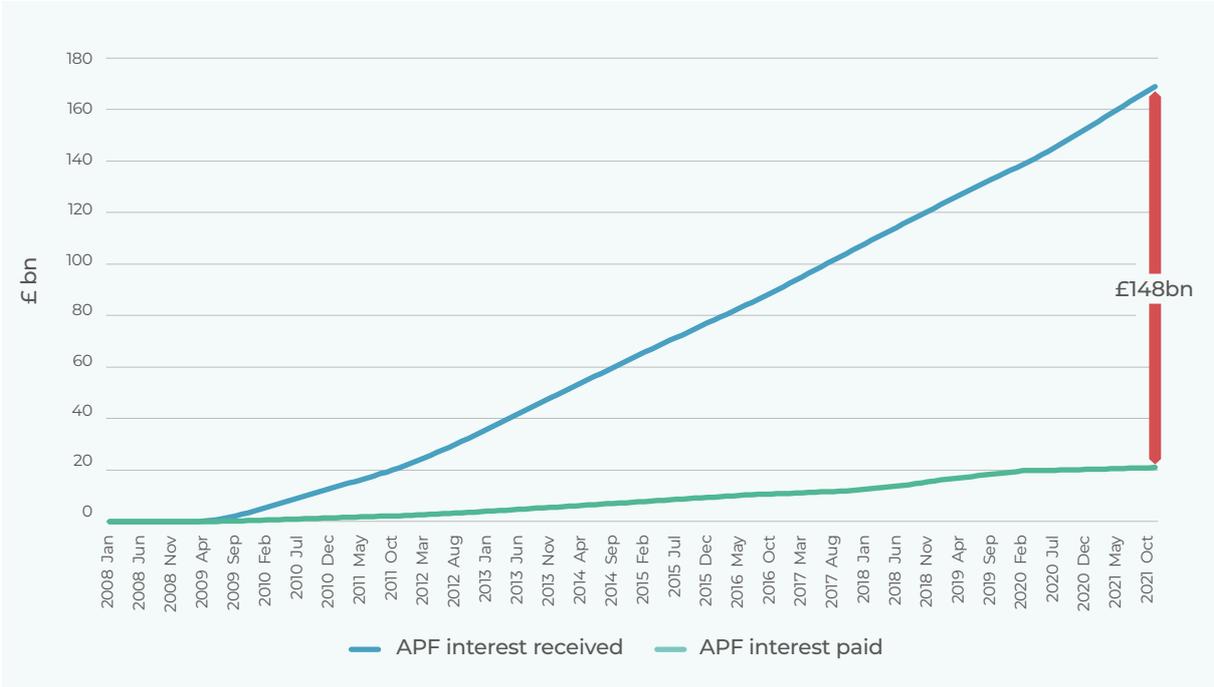
While QE was not designed to indirectly finance the government, this does not preclude it from transpiring in practice. First, by creating significant new demand for government bonds it lowers short- and long-term interest rates, making it cheaper for the government to borrow. Second, because the UK government owns the Bank, and the Bank through its asset purchase facility (APF) owns 40% of government debt, the vast majority of the interest the Bank receives is recycled back to the Treasury (the sum of interest paid on bonds by the Treasury, minus the interest paid out by the Bank on the reserves created to purchase the bonds in the first place). Between March 2009 and December 2021, the Bank’s cumulative profit received from its QE programme was around £148bn (Figure 2). Some of this profit is kept as the Bank’s capital, but the vast majority is transferred back to the Treasury – roughly £120bn between March 2009 and May 2022

(Figure 3).<sup>10</sup> In effect, this ensures that the Treasury pays the Bank’s base interest rate on debt held in the APF, rather than the rate of interest attached to a given bond.

This profit comes about because the Bank’s QE operations currently replace longer-term interest-bearing government debt with shorter-term central bank reserves (money) created out of thin air. At present, the Bank influences monetary policy by paying out interest on central bank reserves overnight to the banking sector (Section 1.2). The Bank’s policy interest rate has been generally much lower than government borrowing costs – which has so far resulted in handsome income transfers from the Bank to the Treasury (which in effect reduced the government’s net debt servicing costs).<sup>11</sup>

**FIGURE 2: NET CUMULATIVE PROFIT OF THE ASSET PURCHASE FACILITY IS £148BN**

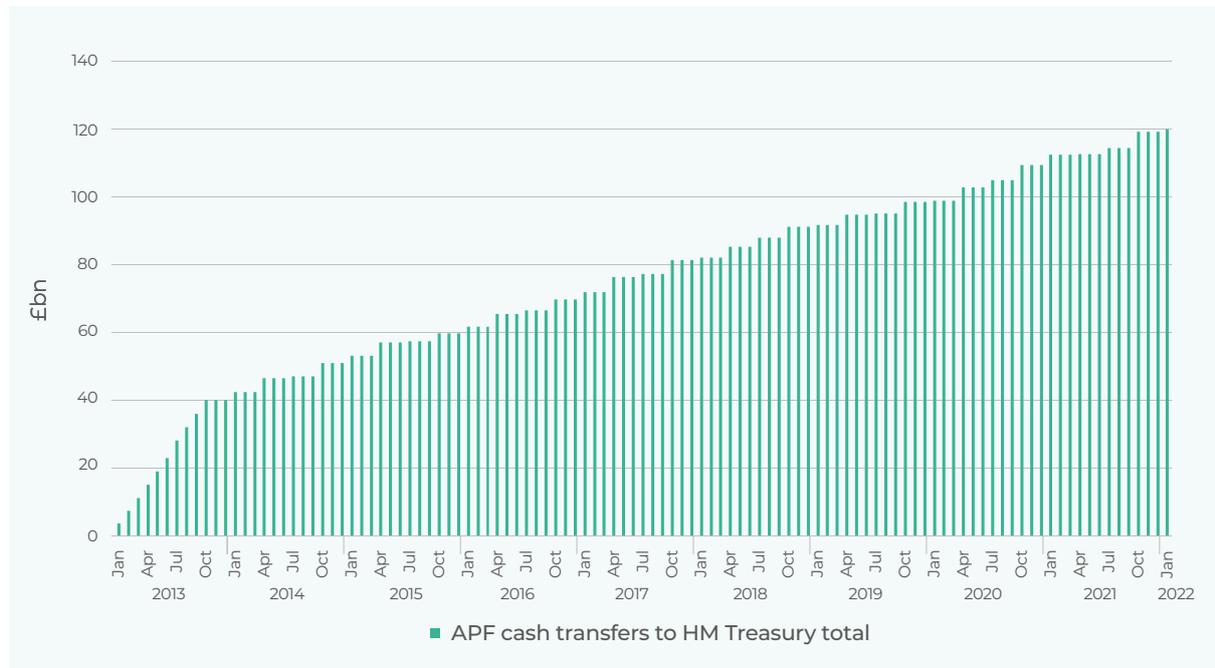
BoE: APF: Interest received on bonds: £bn CPNSA, BoE: APF: Interest paid on reserves: £bn CPNSA – Cumulative, monthly, January 2008 – December 2021



Source: Authors’ calculations based on ONS (2022)

**FIGURE 3: CUMULATIVE CASH TRANSFERS FROM THE ASSET PURCHASE FACILITY TO THE TREASURY HAVE REACHED £120BN**

BoE: APF cash transfers to HM Treasury total: £bn CPNSA – Cumulative, monthly, January 2013 – January 2022



Source: Authors’ calculations based on ONS (2022)

With inflation, further interest rate hikes possibly looming, and the unwinding of QE, the monetary policy regime could present important fiscal dilemmas. The following sections suggest raising interest rates will mean the Bank needs to pay out more interest to the banking sector for holding the reserves acquired through QE – which reduces the Bank’s profit and increases the net interest servicing costs of the consolidated government. Meanwhile, unwinding QE means the private sector will hold more government debt – instead of the Bank, which will further increase the net debt servicing costs of the government. Indeed, as we further explain, if the Bank eventually decided to unwind QE by selling off government bonds, this could result in significant losses to the Bank – forcing the Treasury to bail it out.

**1.2 BANK OF ENGLAND MONETARY POLICY**

The current aim of the Bank’s monetary policy mandate is to alter the price of credit to achieve the government’s target of a low and stable rate of inflation at 2%.<sup>12</sup> To many people, it is rather counter-intuitive that the Bank currently sets its interest rate regime by paying interest on central

bank reserves. In fact, remunerating all central bank reserves at a single interest rate is a relatively new phenomenon: in historical terms, it’s the exception, rather than the rule. In the past, the banking sector’s central bank reserves held as deposits at the Bank generally bore zero net interest – banks were not rewarded for holding reserves.<sup>13</sup>

Just before the 2008 global financial crisis, monetary policy was primarily determined by the Bank adjusting the availability of central bank reserves and setting the overnight interest rate it lent reserves at (for a more in-depth explanation see Fisher (2011)).<sup>14</sup> This operating system was often referred to as a ‘corridor system’ because there was an upper and lower bound on short-term interest rates.<sup>15</sup>

At the end of every day, each bank needed to have a non-negative reserve balance. Throughout the day, the Bank lent reserves at the official Bank rate to help ensure banks had enough reserves to meet their payment obligations. However, if at the end of the day a bank was short of reserves, it could access the additional overnight ‘late lending’ at a penalty rate that was higher than the official Bank

rate. In theory, this upper bound rate acted as a cap on money market rates because, in theory, no bank would look to borrow elsewhere at a more expensive rate than readily available funds from the Bank.

Conversely, throughout the day, banks that had an excess of reserves could lend them out on the inter-bank lending market at a rate less than the daily official Bank rate. Alternatively, banks could park any excess reserves at the Bank's deposit facility, which would pay out interest but at a rate much lower than the official Bank rate. The deposit facility, therefore, acted as a floor for market rates; after all, why would a bank lend money out for an interest rate that was lower than what it could earn from the Bank. Effectively, this corridor of upper and lower bounds was designed to ensure that banks did not need to transact in the market at a rate very different from the Bank rate. This allowed the Bank rate to then transmit through knock-on effects to wider market rates (including the rates banks with surplus reserves would lend to banks with a deficit of reserves).<sup>16</sup>

With the launch of QE, however, the banking sector was flooded with reserves, and the need to borrow reserves at the official Bank rate was greatly diminished.<sup>17</sup> The Bank can be said to have consequently moved to a 'floor system' of setting interest rates, where all reserves are remunerated at the policy rate. With the banking system holding an excess of central bank reserves, the interbank money market rate is permitted to trade at a level that resembles 'the floor rate', earning it the name of a floor system. Paying an interest rate on reserves acts as a floor, as banks will not lend out their reserves for a lower rate and miss the opportunity of a higher profit margin.<sup>18, 19</sup>

Remunerating all reserves is considered favourable in environments with ample reserves because the considerable availability of reserves would push interest rates to zero and give the Bank little influence over interest rates. The floor system, therefore, allowed the Bank to set the interest rate and change the amount of central bank reserves available to the banking system independently of one another.<sup>20</sup> At the same time, the floor system can make the job of the central bank easier because it won't have to intervene multiple times with open market operations to hit its targeted rate.

### 1.3 THE NEW FISCAL HEADACHES OF MONETARY POLICY

While separating the Bank's main interest rate from the amount of central bank reserves in the banking system may have been beneficial in the aftermath of the 2008 Global Financial Crisis (GFC), changing macro-economic circumstances have created a new set of fiscal headaches for policymakers. The Bank's floor system was not originally designed for the possibility of an £895bn QE programme, alongside the threat of higher inflation and rising interest rates. As these circumstances begin to materialise, the floor system will prove unnecessarily expensive for the consolidated government, politically challenging, and lead to the Bank making fiscal transfers to a particular sector of the economy, without the general public being made adequately aware of this.

#### 1.3.1 Interest rates and interest servicing costs

The first dilemma relates to the substantive implications for fiscal sustainability and the government's debt servicing costs.<sup>21</sup> Despite borrowing costs being at all-time lows and a general mainstream consensus that interest rates will stay low over the long term,<sup>22</sup> concerns are emerging that the situation is very fragile. The Treasury, the Office for Budget Responsibility (OBR) and the Bank of International Settlements (BIS) have all warned that QE has made the public finances more sensitive to an increase in interest rates and possible inflation.<sup>23, 24, 25</sup> The Bank pays interest (the policy rate) on the central bank reserves it creates, ie it currently pays 1.0% on the central bank reserves created through its QE programme and additional reserves in circulation, just over £950bn at the time of authoring this report).

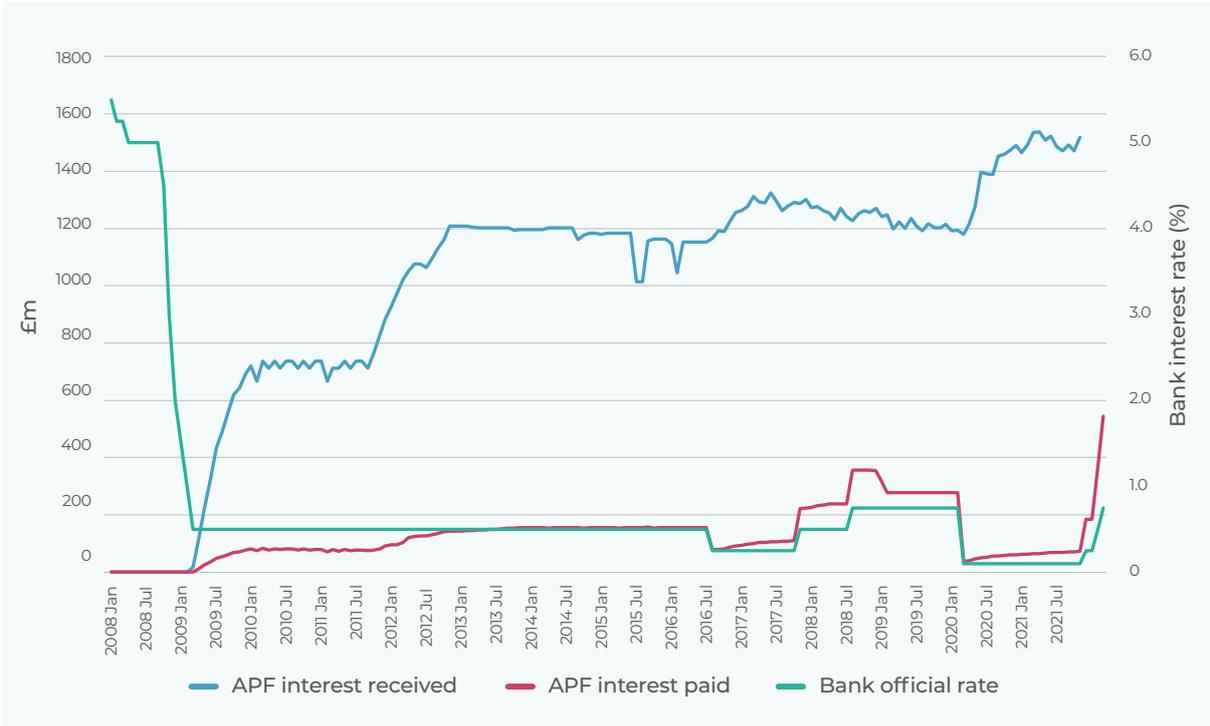
As we discuss later, if the Bank raises interest rates to help control inflation, it would considerably raise these QE interest servicing costs eventually, too. The following simple illustrative example<sup>26, 27</sup> suggests that if interest rates would increase above 2% by the end of the year, then the Bank's APF would start running at a loss (the average interest received from the Treasury on government bonds would be less than the Bank is paying out to banks on the reserves created to buy the bonds in the first place).

In November 2021, the Bank’s APF received £1.51bn in interest payments from the Treasury for the gilts it holds, and it paid out £0.73bn to the banking sector for the central bank reserves held. This left the Bank with a monthly profit of £1.44bn. By March 2022, having unwound the stock of QE to £847bn, the APF received £1.45bn from the Treasury (modestly lower than November, due to the changing stock of central bank reserves). With interest rates rising to 0.75%, however, the Bank had to pay out £545m to the banking sector, leaving it with a much lower monthly profit of £906m (Figure 4).

By January 2023, the Bank’s projected QE holdings will be £837bn. Based on the average interest rate from the earnings it makes from the Treasury the Bank would receive £1.43bn in payments. If interest rates rose to 2%, then the Bank would have to pay out interest of £1.39bn. The Bank’s profit would be all but wiped out and anything much higher than 2% would mean the APF running a loss. Persistent losses of the Bank’s APF would mean it becoming technically insolvent, and because the APF is fully indemnified by the Treasury,<sup>28</sup> the Treasury would have to cover the APF’s losses. In other words, the Treasury would need to start paying the difference between the average gilt rate and the base rate on all government bonds held in the APF.

**FIGURE 4: ASSET PURCHASE FACILITY COULD RUN A TIDY PROFIT FOR NOW**

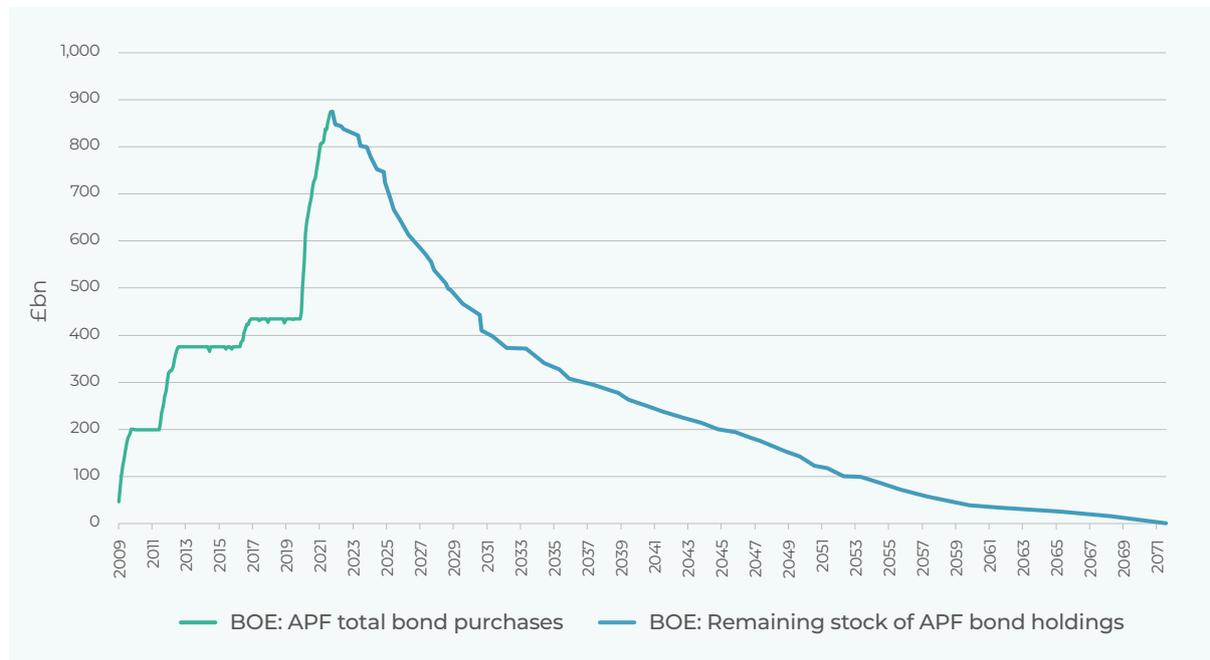
BoE: APF: Interest receivable: £m CPNSA; BoE: APF: Interest payable: £m CPNSA – Cumulative, monthly, January 2008 – March 2022



Source: Updated from Kyriakopoulou et al. (2020)

**FIGURE 5: THE BANK PLANS TO GRADUALLY UNWIND QE BY LATE 2071**

BoE: APF gilt holdings (at nominal value) and BoE: APF: Total gilt purchases, £bn CPNSA, yearly



Source: ONS (2022)

The Bank itself calculates that in the medium to longer term, the base rate may have to stabilise at around the 2%–3% range.<sup>29</sup> However, as Hotham (2021) has argued, if the economy picks up faster and credit needs to be restrained, rates could increase to 5% or 6% or more, which would significantly raise the debt servicing costs of the government.<sup>30</sup>

The fiscal dilemmas presented by the Bank’s QE programme do not just involve the quantity of central bank reserves held by the banking sector, but they also concern timings. QE has considerably increased the average speed at which a change in interest rates affects the interest payments by the government to the private sector. By replacing longer-dated government bonds at fixed interest rates with overnight interest-bearing central bank reserves, the OBR suggests QE reduces the “average maturity of government debt”<sup>31</sup> from 15 years to 4.<sup>32</sup> If the Bank raises interest rates, then central bank reserves will reprice much quicker (overnight) at these higher rates compared to traditional bond markets,<sup>33</sup> which means interest servicing costs will increase faster than otherwise would be the case.

**1.3.2 Income transfers to the banking sector**

While significant attention has been given to the implications of a higher base rate for the debt

financing costs of government, comparatively less attention has been given to the income transfers interest rate rises offered to the banking sector. Given the Bank conducts monetary policy by paying out interest on central bank reserves, and only private banks can hold reserves, increasing interest rates will significantly raise the amount of income the banking sector receives from holding the reserves created via QE.

To our knowledge, no attempt has been made to forecast how much money the Bank will transfer to the banking sector in the event of significant Bank rate rises in a floor monetary system. Such estimates are complicated because they depend on the stock of reserves in circulation and the policy interest rate over a specific period – both of which are subject to periodic changes.

While interest rates might be expected to rise, all else being equal, the stock of bonds held in the APF is expected to reduce in size. At present, the Bank has begun unwinding its stock of government bonds,<sup>34</sup> ie as bonds mature the proceeds will not be re-invested, and the Bank’s balance sheet will gradually shrink. Figure 5 illustrates the Bank’s planned schedule for unwinding its portfolio of government bond holdings. In March 2022, the Bank did not reinvest £27.9bn of the APFs holdings of government bonds, bringing the APF’s current

government bond holdings to £847bn.<sup>35</sup> According to the Bank’s planned schedule for unwinding QE, by the end of FYE 2022, the APF’s remaining stock of government bonds will be £837bn, and £665bn by the end of FYE 2025. The bulk of the value of government bonds bought throughout the pandemic will have been unwound by early 2030, with the rest of the remaining APF holdings gradually declining to zero by late 2071.

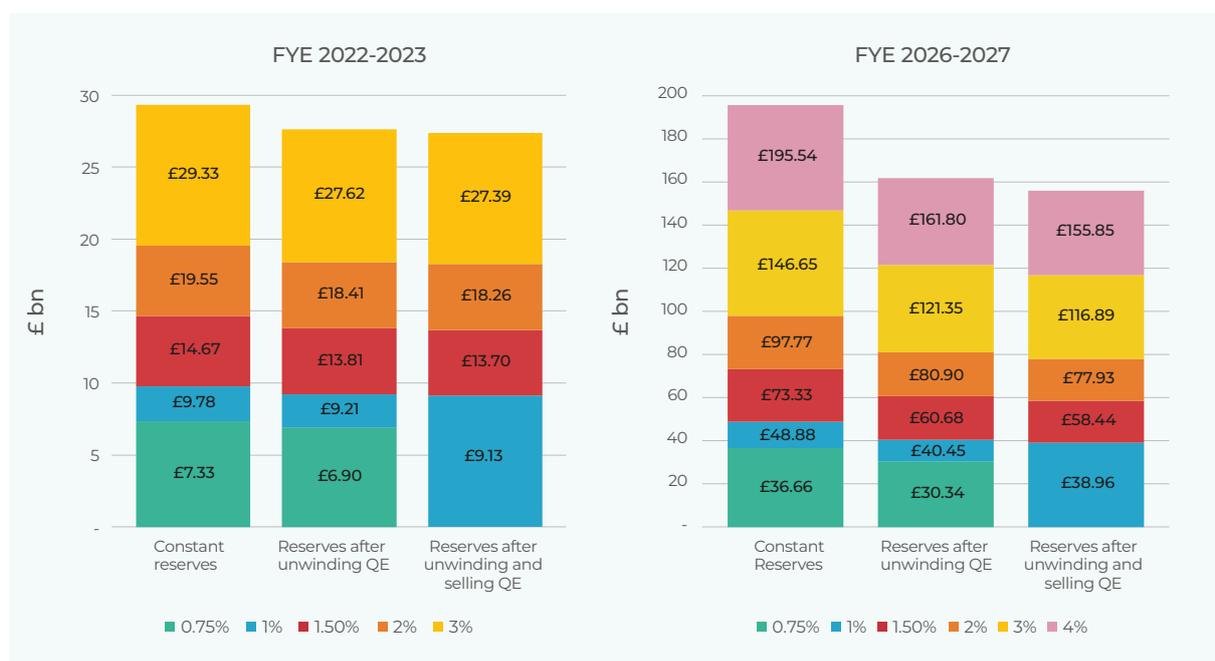
Based on the Bank’s plans to unwind QE, we can make illustrative estimates of the possible income transfers from the Bank to the banking sector. We first consider the income transfer to the banking sector for different interest rates across three different scenarios of central bank reserves in circulation: 1) a baseline scenario that factors in the plans to unwind QE; 2) a scenario that includes passive unwinding, as well as actively selling off additional bonds once interest rates reach 1% (as indicated by the Bank)<sup>36</sup>; and 3) reserves are held constant due to a reversal in the Bank’s decision (either because of prevailing economic conditions or because of an otherwise adverse reaction from the bond market).

Given our goal is to illustrate the range of income transfers across all interest rate change outcomes, we consider the interest change taking place at the beginning of the period (ie a 2% estimate considers a change taking place in April 2022 and remaining there until March 2023). At the same time, to offer a conservative estimate of total income transfers, we base our assumptions on the stock of central bank reserves at the end of the period (ie for FYE 2022–23 estimates are based on the stock of reserves in March 2023).

Starting in April 2022 (the beginning of the financial year), our main scenario, based on the Bank’s plans to unwind QE, suggests that by the end of March 2023, an average interest rate of between 0.75% and 3% would mean the Bank making an income transfer to the banking sector of between £6.90bn and £27.62bn. Over the OBR’s 5-year forecasting horizon, an interest rate of between 0.75% and 4% would mean the banking sector receiving between £30.34bn and £161.80bn cumulatively (Figure 6).

**FIGURE 6: ESTIMATED RANGE OF BANK INCOME TRANSFERS TO THE BANKING SECTOR BY MARCH 2023 AND OVER A 5-YEAR HORIZON, FOR DIFFERENT INTEREST RATES**

Income transfers to the banking sector from BoE, based on different overnight interest rates across different scenarios for the outstanding stock of central bank reserves. FYE 2022–23 and FYE 2026–27, £bn, nominal (colours refer to marginal difference and labels to totals)



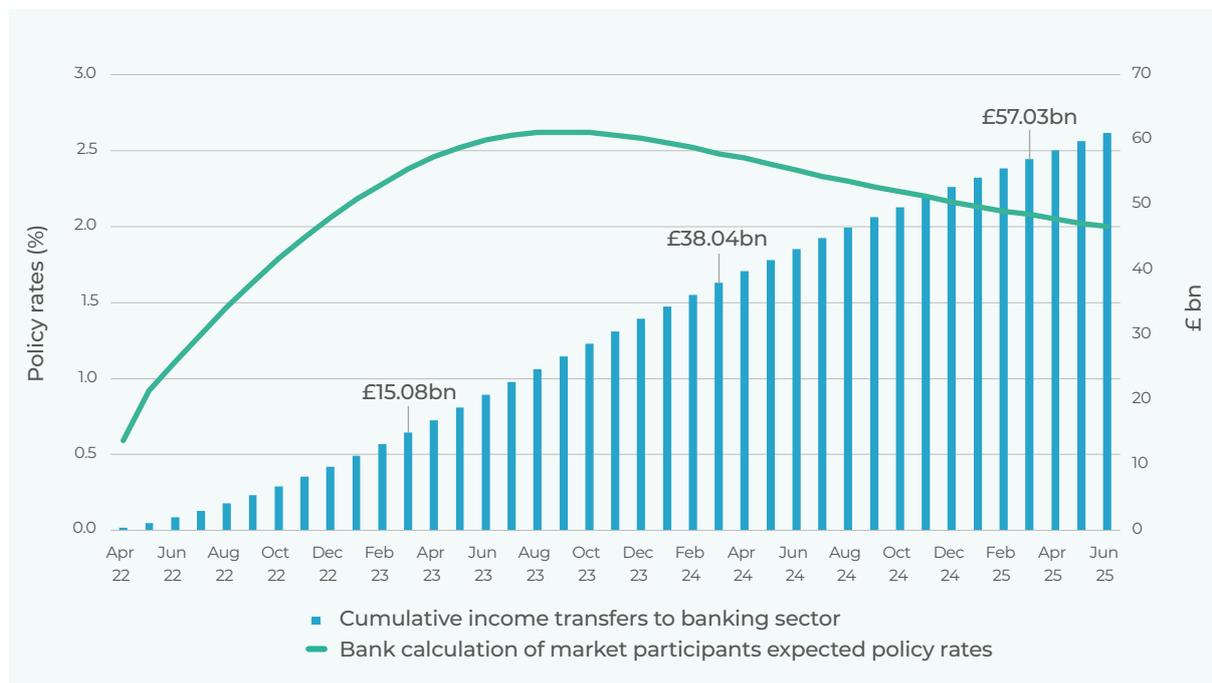
Source: Authors’ calculations based on Bank of England (2022)

Grounded in these scenarios, some indicative findings can be considered. Even if interest rates average 1.5% while QE is unwound over the next 5 years, the banking sector will receive an income transfer of £60.68bn, or just over £12bn a year. Moreover, unwinding or a moderate selling off of bonds won't make a significant difference to the amount of income transferred to banks over the next few years. As illustrated in Figure 7, despite some moderate sales over the next year income transfers for all interest rate percentiles are virtually the same, while an interest rate of between 1% and 4% over the next 5 years would still lead to income transfers so between £38.96bn and £155.85bn.

Based on the Bank's most recent analysis of market forecasts of interest rates, which offers a monthly forecast of the overnight interest rate, we can home in on a more precise indication of the future income transfers to the banking sector (Figure 7). According to the Bank, market participants expect policy rates to increase to just above 2.5% by summer 2023, and then slowly fall again by January 2024 to reach 1.25% by March 2025. Assuming the Bank would unwind its QE holdings as planned (but not sell off any additional bonds held) and raise interest rates according to its analysis of market expectations – the Bank would have transferred £15.98bn FYE 2022–23 and a total of £57.03bn by FYE 2024–25.

**FIGURE 7: BANKING SECTOR TO RECEIVE BETWEEN £15.08BN AND £57.03BN OVER NEXT 1–3 YEARS ACCORDING TO MARKET EXPECTATIONS**

Rolling cumulative income transfers to the banking sector (RHS, £bn nominal) from BoE based on market expectations of interest rate changes (LHS %) for the outstanding stock of central bank reserves according to BoE plans to unwind QE, FYE 2022–23.



Source: Authors' calculations based on Bank of England (2022)

The income transfers to the banking sector would simply come about by virtue of holding central bank reserves, and only banks have exclusive access to such reserves. While central bank reserves may be assets for the banking sector and sit on the liability side of the Bank's balance sheet, they are not debt instruments (ie loans from the banks to the Bank) and therefore the Bank does not necessarily need to pay out interest on them.

While, in their reports, the OBR, Treasury, and ONS often refer to central bank reserves as a form of government 'debt', they are significantly different to government bonds for several reasons.<sup>37</sup>

First, because central bank reserves are not loans (they are electronic versions of notes and coins) they do not mature in the way sovereign bonds do. Like any other loan, the government is obliged to repay bondholders the principal of the loan (the original amount borrowed) at a future date. Central bank reserves carry no future payment obligation to pay banks because no money was ever borrowed. The Bank simply creates new central bank reserves (money) when it buys bonds from banks. Accordingly, unlike a loan, no principal is ever borrowed, nor does it need to be repaid. In this sense, like notes and coins, central bank reserves are perpetual in that they never mature (nothing has to be paid back).

Second, there is no credit risk – the possibility of a loss resulting from a borrower's failure to repay a loan or meet contractual obligations – for holding reserves because they are not loans. Whereas the government may be unable to repay, or it may decide not to repay its loans to bondholders.

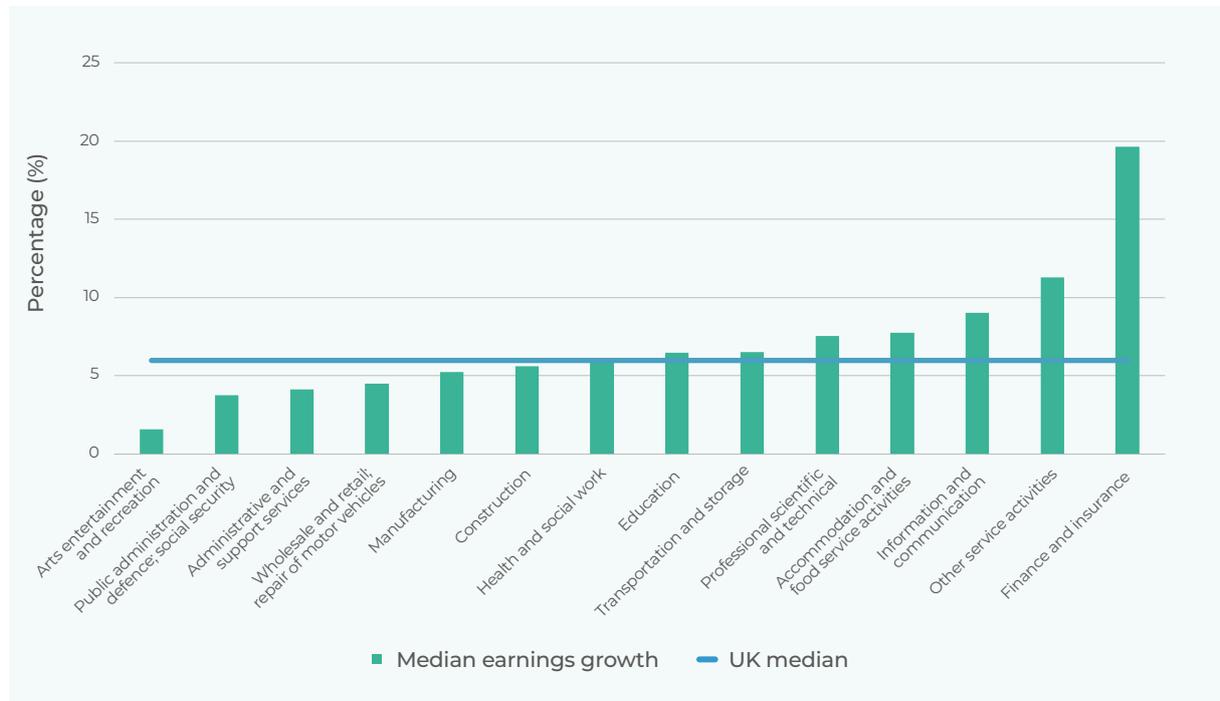
Third, bonds are sold on an open market where virtually all agents in the private sector can own a bond if they have the means. Accordingly, the price of the bond (as well as its yield or interest rate) is generally determined by a wide array of market forces, whereas the rate of interest paid on reserves is a policy decision.

Fourth, market participants can generally choose not to hold government bonds at any given price – they can sell them or refuse to buy them. Whereas the banking sector as a whole must hold the central bank reserves used to pay for asset purchases at whatever price the Bank chooses – they cannot get rid of them (an individual bank may attempt to reduce its reserves, but this would simply increase the reserves at another bank). For these reasons, it is more sensible to consider central bank reserves, "as 'social equity' that confers rights of participation in the economy's payment system and thereby its economy" as argued by researchers at the Bank.<sup>38</sup> In accounting, equity is simply the residual difference between an entity's assets and its liabilities. According to the International Financial Reporting Standards (IFRS), the standard accounting framework adopted by the UK and used across more than 100 countries and two-thirds of the G20: "A financial instrument is an equity instrument only if (a) the instrument includes no contractual obligation to deliver cash or another financial asset." From an accounting perspective, therefore, central bank reserves sit on the liability side of the Bank's balance sheet but because it has no obligation to pay anything to holders of central bank reserves, they are effectively a form of equity.<sup>39</sup>

The income transfers to the banking sector that result from holding reserves is therefore a policy choice. It is not the result of a bank providing any material services to the Bank, and the payment of interest is not the consequence of any financial obligation (ie to pay a future debt). Indeed, as noted by Holtham (2021) it is the Bank that provides services to the banking sector by acting as a clearinghouse for inter-bank payments.<sup>40</sup> Moreover, banks already receive significant indirect subsidies from the Bank and wider government, in the form of credit guarantees (lender of last resort function by the Bank) and liquidity guarantees (deposit insurance).<sup>41</sup> On top of this, the finance sector's pay growth has more than trebled the pay growth in the rest of the UK economy in the last year alone (Figure 8).

**FIGURE 8: FINANCE SECTOR PAY GROWTH HAS MORE THAN TREBLED THE PAY GROWTH IN THE REST OF THE UK IN 2021–2022**

Median earnings growth across UK industrial sectors, compared to UK median, based on percentage change on the same month in the previous year, seasonally adjusted, UK, March 2022.



Source: Based on ONS (2022)

Importantly, by paying interest on all central bank reserves, the Bank is not simply attempting to neutrally impact the credit conditions of the wider economy. Instead, as interest rates rise, by making significant financial transfers to banks, it is significantly increasing the net income of a specific sector of the private economy, at the expense of a government deficit. In effect, the income transfers to the banking sector are public expenditure, and therefore, as these transfers become larger and larger they increasingly resemble a form of fiscal policy.<sup>42,43,44,45,46</sup> This has prompted a law professor specialising in financial sector regulation, Saule Omarova, to suggest that paying interest on reserves is a lucrative “special privilege” that “generates a gratuitous rent for banks” not available to other firms or individuals.<sup>47</sup>

For these reasons, in giving evidence to the UK Treasury Select Committee for Economic Affairs, a former leading member of the Bank’s monetary policy committee, professor Charles Goodhart, has suggested that it would be “politically extraordinarily difficult should interest rates start to go up to have large payments out of the central bank to commercial banks”.<sup>48</sup> This would especially be the case if public spending cuts or higher taxes

were implemented to fund the billions in income transfers to the banking sector that has arguably rendered no extra services to the government, economy and wider society.

**1.4 WHY NOT JUST REVERSE QUANTITATIVE EASING?**

Rather than change the way the monetary policy framework has worked since 2009, an alternative could be to simply reverse QE. Given our estimates suggest the Bank would make significant income transfers to the banking sector even within its current plans to unwind QE, or in a situation where it chooses to make moderate additional bond sales on top (Section 1.3), the Bank would have to sell bonds at an extremely rapid rate pace to avoid making such large income transfers. In this case, the Bank would not necessarily be reversing QE for monetary or fiscal reasons – but primarily for political ones, because it was concerned about the profitability of the banking sector. While this is problematic in itself from the point of view of the current policy framework, there are also monetary, financial stability, and fiscal reasons for why such recourse would be ill-advised.

From a monetary perspective, although facing different inflationary conditions, no central bank has attempted to nor been able to continuously, let alone absolutely, reverse their QE programmes. The world's leading central banks have all proposed or attempted to unwind their QE holdings – only to renew and continue their programmes, or be met with an abrupt increase in yields and falls in equity markets.<sup>49</sup> From an inflationary perspective, the Bank may find it desirable to unwind QE and rapidly sell off its bond holdings; however, it is not clear how bond and money markets will react and whether taper tantrums will materialise. Moreover, too much of an increase in long-term government yields could have severe implications for the transmission mechanism of monetary policy.<sup>50</sup> Indeed, selling government bonds off too quickly could result in such a significant fall in bond price that would reverberate through repo markets and money markets – endangering financial stability. As noted by Gabor (2021), banks and shadow banks are extremely reliant on government bonds as collateral, and thus heavily exposed to daily changes in the market value of government bonds.<sup>51</sup>

At the same time, as Holtham (2021) notes, those bonds which the Bank sells off for less than what it originally paid, ie the amount of reserves drained from the banking system, would only be partial.<sup>52</sup> Furthermore, given the Bank purchased many of these bonds after rates had fallen, paying more than their nominal value, if it was to sell them at a loss it could end up losing a considerable amount. Based on previous Bank analyses, Holtham (2021) suggests losses could total over £200bn.<sup>53</sup> Based on the most recent ONS data,<sup>54</sup> comparing the nominal (market) value bonds held by the Bank's APF in March 2022 (£780bn) to the bond purchases (ie the amount paid for the bonds) held by the APF (£875bn), shows that the Bank would stand loose approximately £105bn all things being equal if it tried to sell its current government bond holdings. However, given the Bank's sale would most likely dramatically reduce the nominal value of bonds, this number would most likely be much higher – an additional 5% to 20% fall in nominal values could mean losses of between £144 and £261bn.

Continuing to hold the value of these government bonds on its balance sheet has helped to substantially reduce the government's net interest payments. Reversing QE would mean the Treasury would no longer receive the profits from the APF.<sup>55</sup> At the same time, in addition to the losses the Bank would incur on the Treasury previously highlighted, the selling off of government bonds would dramatically increase the government's borrowing costs.

Accordingly, under the existing monetary policy framework, the Bank is caught between a rock and a hard place: It can either continue making considerable income transfers to the banking sector or it can dramatically increase the debt and interest servicing costs to the government (while endangering monetary and financial stability). Fortunately, there is a tried and tested policy alternative as the following section suggests.

## 2. A TIERED RESERVES PROPOSAL FOR THE UK

The Bank of England's (the Bank) floor system of setting interest rates may have been pragmatic and low cost in an ultra-low-interest-rate era characterised by disinflationary macro-economic conditions. But with a reversal in these prevailing macro-economic dynamics, the floor system risks several significant and costly distortions. Rising inflation now puts pressure on the Bank to increase its policy rate to dampen credit conditions and demand. But when a significant proportion of government debt is held by the Bank, where the effective interest rate is the policy rate rather than the gilt rate (Section 1.31), the floor system implies a significant unintended cost to the government. Conversely, this also means windfall income transfers to the banking sector (Section 1.32). However, there is a policy alternative to avoid such distortions and costs, and it already has precedent in other countries (as well as the UK's past) that would address these issues – it's called 'tiered reserves'.

A tiered system of reserve remuneration would effectively allow the Bank to apply more than one rate of interest to the reserves held by commercial banks. Importantly, it would also mean the Bank would not have to unwind quantitative easing (QE) or sell any government bonds – at the expense of the taxpayer, and monetary and financial stability. In this system, reserves held by commercial banks are separated into different tiers, with each tier remunerated at a different interest rate and only some reserves possibly remunerated at the policy rate. This would permit the Bank to set the interest on reserves that the banking sector holds

independently of the policy rate that influences the price of credit and wider money market rates of interest. In doing so, the Bank would be able to largely isolate the changes in its policy rate from the debt servicing costs of the government and the profitability of the banking sector. Both the European Central Bank (ECB) and the Bank of Japan (BoJ) have already implemented a system of tiered reserves specifically to ensure that the policy rate has a neutral impact on the profitability of the banking sector.

There are several options for implementing a tiered reserve system. We review the tiered reserve system at the ECB and the BoJ, before offering an illustrative policy example of what a tiered reserve system could look like in the UK. We then estimate how much a tiered reserve system could save the government versus the current monetary framework. Finally, we explain some of the risks and address the main potential criticisms of such a proposal.

### 2.1 TIERED RESERVES AT THE EUROPEAN CENTRAL BANK

In September of 2019, the ECB announced the implementation of a two-tiered reserve system to support and enhance the transmission of monetary policy.<sup>56</sup> The system was originally designed to protect the banking sector's profitability from a negative interest rate regime.<sup>57</sup> But there is no reason that such a system could be implemented for causally opposite reasons – to prevent the banking sector from profiting from significant potential income transfers from the Bank.

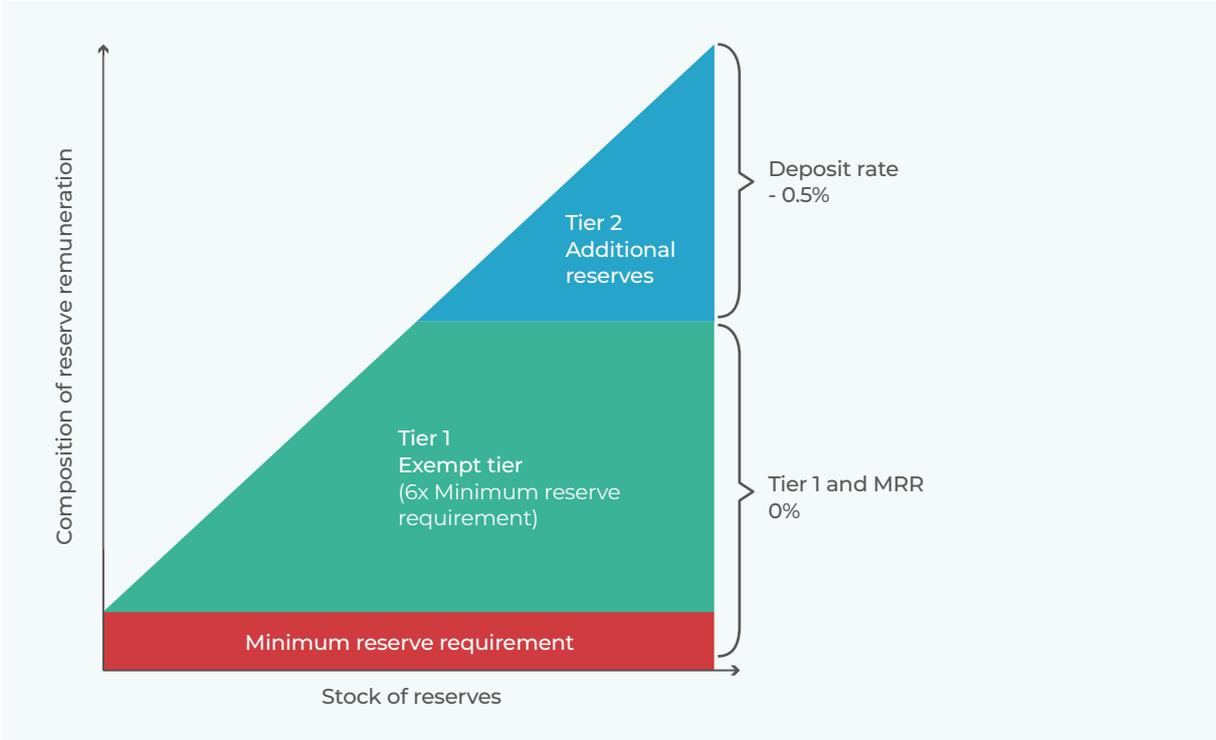
The ECB operates a tiered reserve system where only reserves above six times each individual bank's reserve requirement are remunerated at a punitive negative rate – in this case, called the 'deposit rate', where banks park their excess reserves. Under this system, an individual bank holding fewer reserves than six times the required ratio will not be affected by the deposit rate. However, as banks trade reserves, so long as a large number of banks are affected (ie there are considerable excess reserves in the system) they will lend reserves to others at a rate close to or equal to the deposit rate.

As shown in Figure 9, under the ECB schedule, as a commercial bank increases its stock of reserves over its minimum reserve requirement, it will initially still be in the exempt tier with reserves paid 0% interest (tier 1). But once a bank has reserves over 6 times its minimum reserve requirement, those additional reserves will then be remunerated at the deposit rate, which in this case is -0.5% (tier 2).

In addition to these tiers, it is worth mentioning that the ECB still offers its main refinancing rate to lend reserves to any banks that are short of reserves over the course of a week (currently 0%); and a marginal lending facility rate that lends

reserves overnight (designed to cost more than the main refinancing rate, currently 0.25%). After announcing the launch of its QE programme in January 2015, and flooding the banking system with central bank reserves, the ECB’s lending and refinancing rates were less in demand, and the interbank lending market trended closer to the deposit rate (Figure 10). In effect, while a type of interest rate corridor still exists (Section 1.2 explains interest rate corridors in more detail), in practice the ECB’s monetary policy framework has de facto evolved into a floor system since 2015.

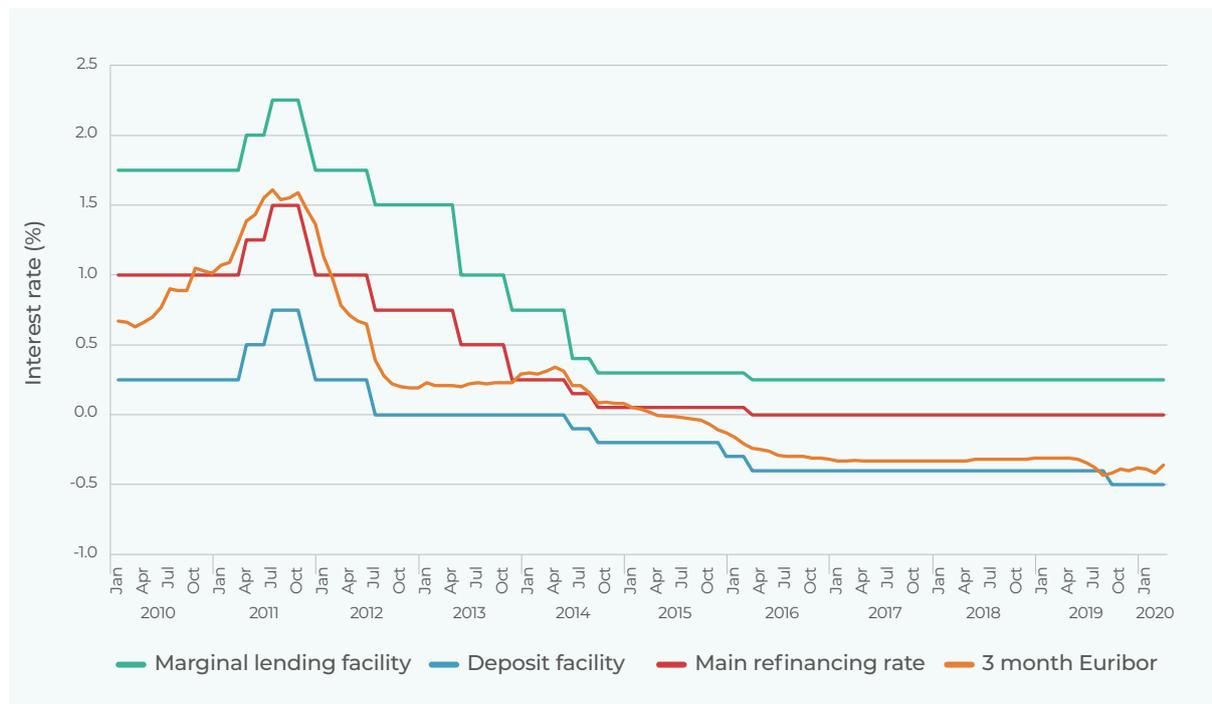
FIGURE 9: GRAPHIC ILLUSTRATION OF THE ECB’S TIERED RESERVE FRAMEWORK



Source: Authors’ diagram based on a Bank of Japan visualisation.

**FIGURE 10: THE EVOLUTION OF THE ECB’S CORRIDOR SYSTEM INTO A FLOOR SYSTEM FROM 2015**

Eurosystem Official Interest Rates: Marginal lending facility, Deposit facility, Main refinancing rate; interbank market rate



Source: Based on the European Money Markets Institute's Euribor rate and the European Central Bank's historic policy rates

The ECB’s approach suggests the Bank could drastically reduce any income transfers to the banking sector and thus reduce the debt servicing costs of the government by establishing a similar monetary policy framework. Under a two-tier system, the Bank could remunerate some reserves at a rate that determines the price of which banks lend to and borrow from each other and apply a lower or even negative rate to the rest of the reserves held in the system thus reducing significantly or completely the total compensation to banks.

In a higher interest rate environment, the Bank could remunerate tier 1 at 0% to minimise distortions and still have a higher positive deposit rate (ie the Bank remunerates a portion of reserves at a positive rate) to curb aggregate demand and the rate of price increases. In this scenario, the Bank would still pay out interest to the banking sector on aggregate (the weighted average between tier 1 and tier 2 remuneration). Thus, the Bank would still be making income transfers to the banking sector incur interest servicing costs to the consolidated government (Section 1.3), but this would be significantly lower than the current system.

If policymakers wanted to net out government debt financing costs on Bank-held reserves at zero instead, they could keep a positive deposit rate and adjust the interest rate to tier 1 to a negative rate – so that on average no net interest is paid to the banking sector. Most likely, as alluded to by the International Monetary Fund (IMF) economist Sascha Buetzer (2022), the Bank would have to adjust minimum reserve requirements upwards to reduce the amount of excess reserves earning the deposit rate.<sup>58</sup> As excess reserves would be reduced over time, interest earned via the deposit rate would fall and banks would eventually become more dependent on the main refinancing rate to ensure they had enough reserves to make their payments. Eventually, the money earned from lending at the main refinancing rate or marginal lending facility would be enough to cover interest paid to banks on deposits and overall no net interest would be paid to the banking sector. In effect, the Bank would have returned to a de facto corridor system of monetary policy implementation.

2.2 TIERED RESERVES AT THE BANK OF JAPAN

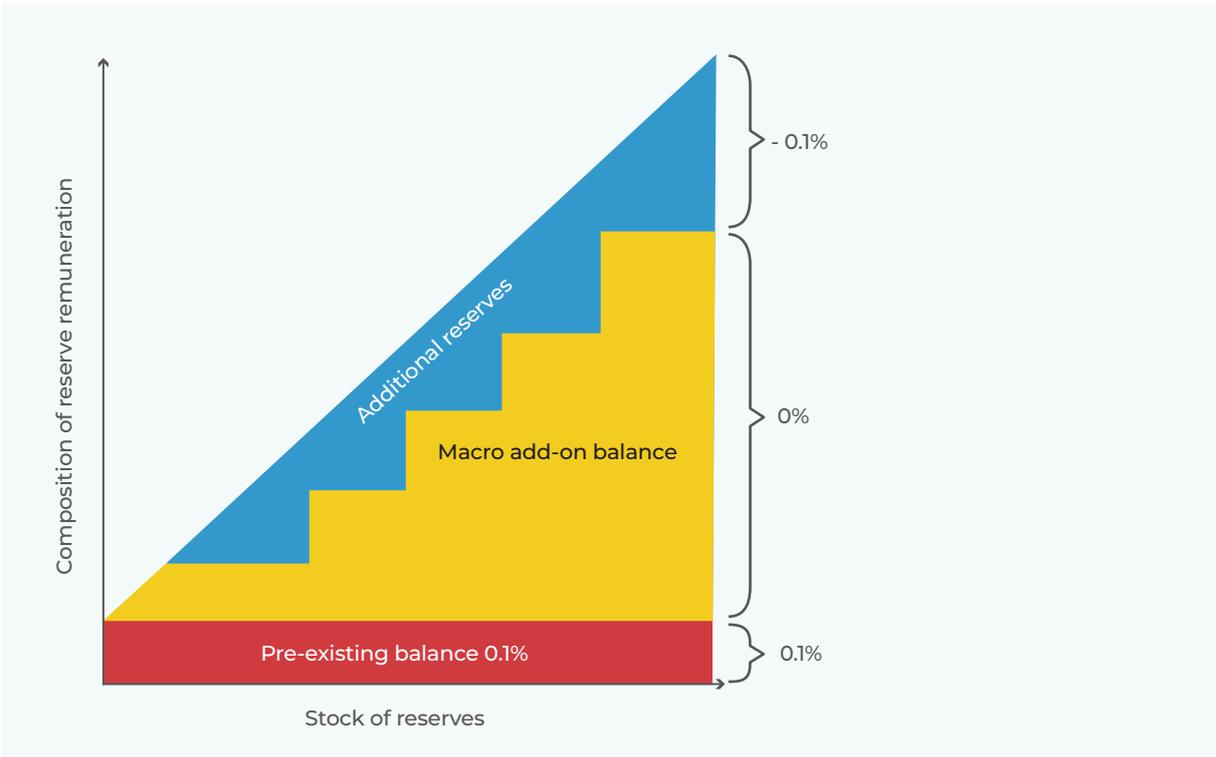
In 2016, the BoJ implemented a tiered reserve system for similar reasons to the ECB, and its system could equally be adapted to fit the UK context. As of January 2022, the BoJ operated a tiered reserve system where reserves are split into three tiers<sup>59</sup>:

- 1) A basic balance tier, which pays 0.1% interest and is made up of reserves less than or equal to the average reserves a bank had during the 2015 calendar year. This was based on the tiered reserve policy being implemented in 2016; the balance tier would act as a benchmark for base reserves and remunerated to avoid problems of profitability.
- 2) A macro add-on balance tier, which pays a 0% interest rate and is made up of reserves equal to the amount needed for a bank to meet its reserve requirement (if this is now more than it held in 2015) plus a multiplier of their basic balance.
- 3) A policy-rate tier, which pays a -0.1% interest and is made up of all additional reserves not covered by the basic balance or macro-add on balance.

The BoJ adjusts the size of the multiplier on their macro add-on tier to adjust the amount of reserves falling into the policy-rate tier. This gives the BoJ more control over how many reserves are affected by negative interest rates. As shown in Figure 11, all reserves above the pre-existing (ie 2015 average) balance would be remunerated at 0.1%. The next slice would then be the macro add-on tier and remunerated at 0%, the amount depending on the BoJ decisions on the multiplier. All remaining reserves will be remunerated at the policy rate, in this case -0.1%

A key lesson from the BoJ system is that it shows how both positive and negative interest rates can be in operation at the same time for different tiers. Moreover, unlike the ECB, it has a built-in mechanism for changing the size of some of its tiers – allowing it to influence the interest servicing costs of the government and profitability of the banking sector without necessarily changing the remuneration of each tier.

FIGURE 11: GRAPHIC ILLUSTRATION OF THE BANK OF JAPAN’S TIERED RESERVE FRAMEWORK



Source: Author’s diagram based on Bank of Japan visualisation

2.3 A SYSTEM OF TIERED RESERVES FOR THE UK

Based on both the BoJ and ECB systems of tiered reserves, we set out an illustrative policy package of tiered reserves for the UK, which could replace the current floor system. The purpose is to offer an indicative demonstration of the benefits of moving towards a tiered reserve system and how a simple model might work in practice.

As discussed in its operating guide, the Bank already has the institutional capacity and authority to implement tiered reserves<sup>60</sup> – albeit envisaged primarily for a scenario of negative interest rates. There are, however, no significant institutional constraints to applying such a policy schedule to a positive interest rate scenario instead. Moreover, as discussed in Section 2.1 and as highlighted by IMF economist Sascha Buetzer (2022), through the use of minimum reserve ratios the implementation of monetary policy could effectively return to the corridor type of a monetary policy framework.<sup>61</sup>

We suggest the Bank could move to a two-tiered reserve system by:

- Creating an exempt tier: As per the BoJ, the Bank may want to set the tier for each bank on a case by case basis.<sup>62</sup> To do so in a structured and non-arbitrary way, the Bank could set the size of the tier for each bank using their average extra reserves accumulated between [chosen

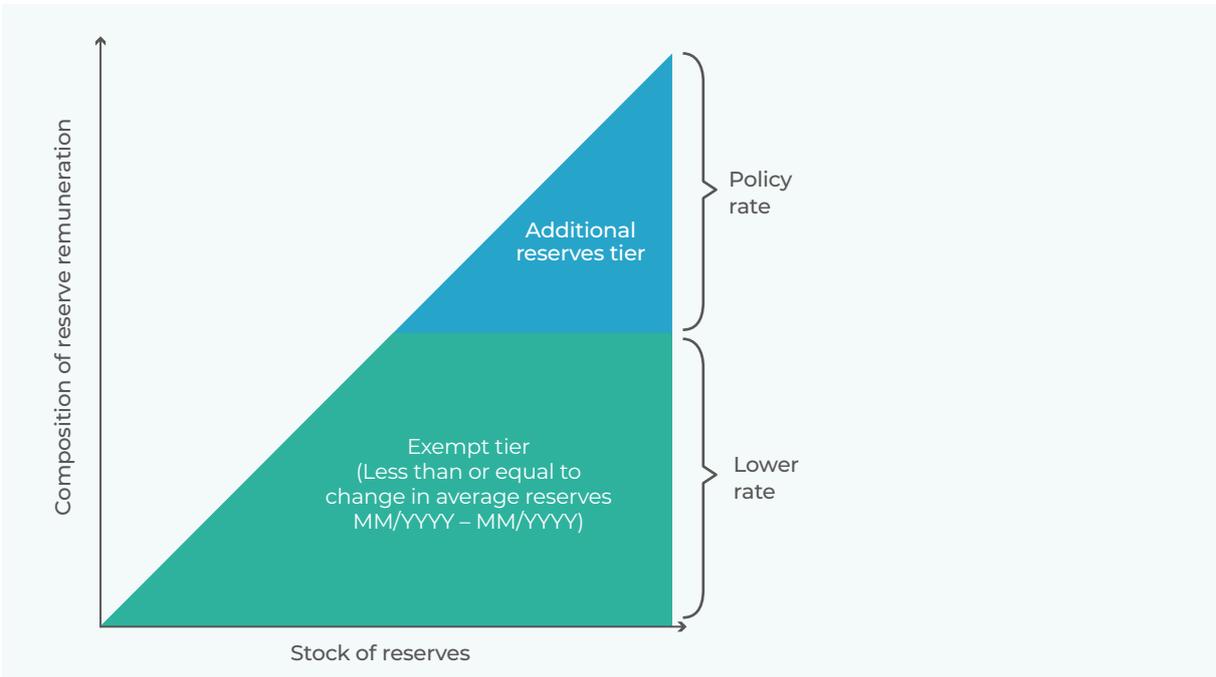
dates – for example March 2020 and November 2020 when QE purchases increased from £445bn to £895bn].<sup>63</sup> Alternatively, an exempt tier could be based on a specifically defined proportion of reserves that applies to each bank equally. Another possibility, as per the ECB, an exempt tier could be created based on a multiplier of minimum reserve requirements that applies across the banking sector. Indeed, the entire tier could be set as a minimum reserve requirement.

- Creating an additional reserves tier: Remunerating all reserves (and new reserves) outside the exempt tier at the policy rate, which would ultimately influence the price of credit and money market rates.

The exempt tier would be remunerated at a lower rate than the policy rate. For example, it could be a small positive interest rate or a zero interest rate or it could be adjusted to be negative so that when combined with a positive policy rate, the average interest paid to the banking sector is zero (similar in this regard to the pre-2007 system).<sup>64</sup>

For illustrative purposes, Figure 12 presents a model where all reserves at or below the exempt tier threshold (based on average reserves gained between [specified period]) would be remunerated at the chosen lower rate. All additional reserves above this threshold would be remunerated at the policy rate.

FIGURE 12: GRAPHIC ILLUSTRATION OF THE UK TIERED RESERVE FRAMEWORK



Source: Authors' calculations

We can consider a hypothetical example to show how a tiered reserve system would be operated in practice. Take a bank that starts with £15bn in average reserves for the year 2015, amasses an average total of £35bn in 2021, and £40bn in 2023, and £45bn in 2025. In this example, we assume policymakers chose the dates to calculate an ‘exempt tier’ between 2015 and 2021, because it accounts for the two most recent rounds of QE (post-Brexit vote and pandemic QE). The exempt tier is made up of the average difference of total reserves between 2015 and 2021 (ie £20bn, the difference between £15bn in 2015 and £35bn in 2021).

The ‘additional reserves tier’ consists of the amount the bank held in 2015 (£15bn) plus the supplementary reserves acquired outside of the 2015–2021 period. By 2023 and 2025, surplus reserves are accumulated through non-QE operations – exactly £5bn and £10bn, respectively, compared to 2021. Therefore, the additional reserves would amount to £20bn for 2023 (£15bn + £5bn) and £25bn for 2025 (£15bn + £10bn).

After tiering is implemented, £20bn worth of the reserves are contained in the exempt tier and therefore remunerated according to the different lower rate options laid out below. The additional reserves tier are remunerated at the policy rate. To manage aggregate demand, we assume the Bank has kept the policy rate at 1% throughout for simplicity purposes. Table 1 records how much interest is paid out under these different options.

- Small positive lower rate for the exempt tier:** At 0.1%, the Bank gets an income transfer of £20m (0.1% interest on £20bn) for the exempt tier, plus the interest on the additional reserves £20bn (in 2023) and £25bn (in 2025) at the 1% policy rate (£0.20bn and £0.25bn, respectively) – amounting to a total of £0.22bn and £0.27bn of interest paid out.
- Zero interest lower rate for the exempt tier:** At 0%, the Bank would not get an income transfer for the exempt tier, and get paid the 1% interest on the additional £20bn and £25bn at the policy rate (£0.20bn and £0.25bn, respectively).
- Negative lower rate for the exempt tier:** At a negative rate that counterbalances any interest paid at the policy rate, the average interest rate across the two tiers is 0%. This means the lower rate for the exempt tiers would have to change in line with the balance of additional reserves held.<sup>65</sup> For the above scenario, in 2023 the commercial bank would be entitled to interest on £20bn at the 1% policy rate for the additional reserves tier but the £20bn in the exempt tier would be paid at a negative rate of -1% to cancel out any interest paid to the banking sector. In 2025, the bank would be entitled to £25bn at the 1% policy rate for the additional reserves tier but the £20bn in the exempt tier would pay a negative rate of -1.25% to cancel out any interest paid to the banking sector.

**TABLE 1: ILLUSTRATIVE EXAMPLE OF RESERVE REMUNERATION AND POSSIBLE EXAMPLES UNDER A TIERED RESERVE SYSTEM**

Year	2015	2021	2023	2025
Total bank reserves	£15bn	£35bn	£40bn	£45bn
Exempt tier	-	-	£20bn	£20bn
Additional reserves tier	-	-	£20bn	£25bn
Interest paid out without tiered reserves	£0.15bn	£0.35bn	£0.40bn	£0.45bn
Small positive lower rate	-	-	£0.22bn	£0.27bn
Zero interest lower rate	-	-	£0.20bn	£0.25bn
Negative lower rate (average interest 0)	-	-	0	0

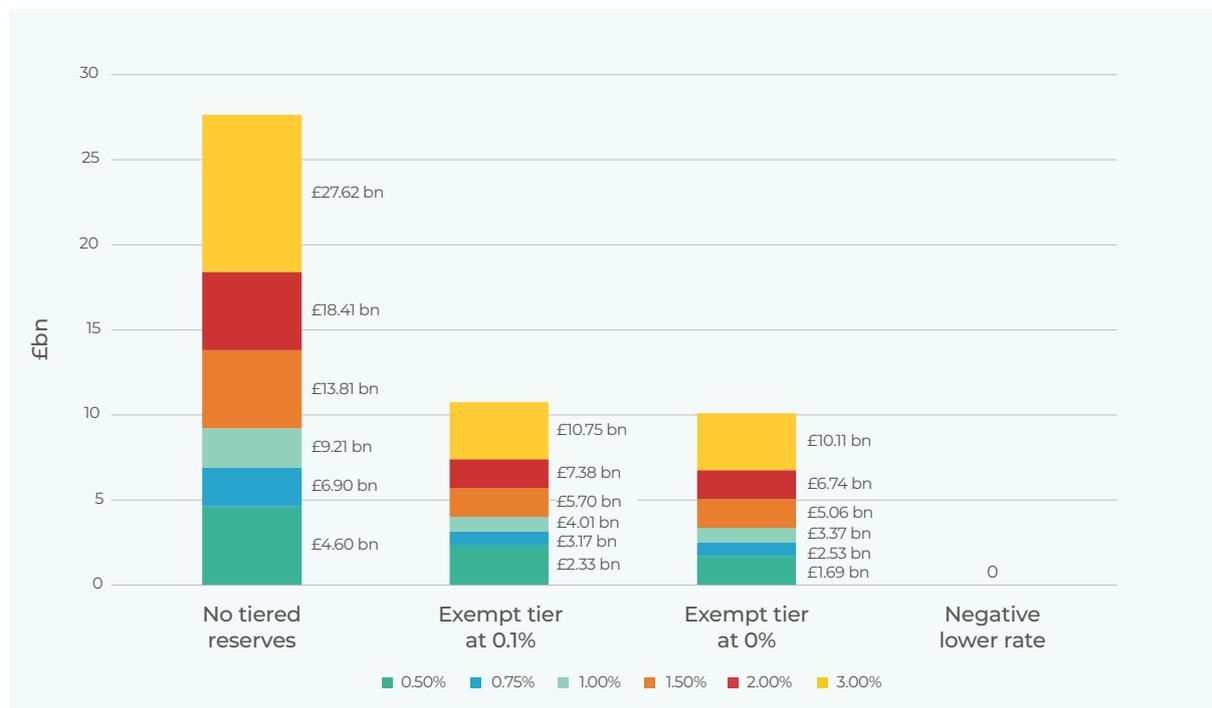
Figure 13 sets out the possible effect of tiered reserves on income transfers to the banking sector. We consider exempting the reserves acquired by the banking system between August 2016 and November 2021, during the last two rounds of QE (amounting to just over £640bn). The banking system held £321bn worth of reserves in August 2016 and acquired another £16bn worth of reserves between November 2021 and February 2022, bringing the additional reserve tier to £337bn (for simplicity's sake we assume no additional reserves were acquired between February 2022 and March 2023). Accordingly, interest payments are calculated at the policy rate on the outstanding stock of reserves after tiering has been taken into account (if applicable). The three tiering policy options

from this section are compared to the range of net income in the banking sector when no tiering takes place but QE is unwound according to the Bank's plans.

The first column shows that under conditions of unwinding QE the Bank would make income transfers to the banking sector of between £6.9bn and £27.62bn by March 2021. In a tiered reserve system, for an interest rate of between 0.75% and 3%, the Bank would pay out between £3.17bn and £10.75bn for an exempt tier 0.1%. These figures would fall to £2.53bn and £10.1bn for an exempt tier at 0%, while the Bank would pay out zero net for a negative lower rate that targeted average income payments to the banking sector at zero.

**FIGURE 13: ESTIMATED RANGE OF BANK INCOME TRANSFERS TO THE BANKING SECTOR BY MARCH 2023 FOR DIFFERENT INTEREST RATES**

Income transfers to the banking sector from BoE, based on different overnight interest rates across different scenarios for the outstanding stock of central bank reserves. FYE 2022–23, £bn, nominal



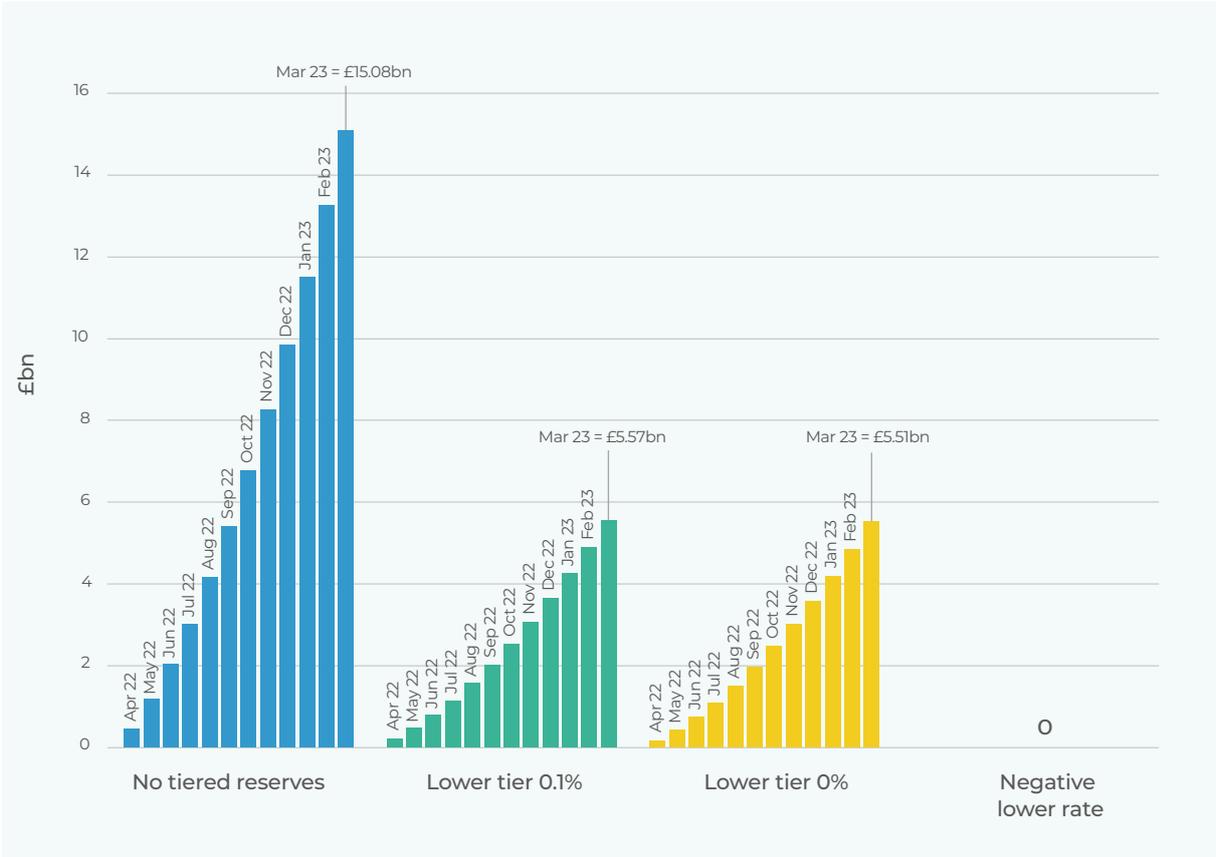
Note: Calculations are based on an exempt tier for central bank reserves accumulated between August 2016 – November 2021. Source: Authors' calculations based on Bank of England (2022)

For a more granular analysis, we can compare the income transfers of the current system to the three tiered reserve system options based on the Bank’s analysis of market participants’ expected rate changes. From April 2022 to March 2023, the market expectations for interest rates increase from 0.59% to 2.38%. For the ‘No Tiered Reserves’ option, we calculate the interest paid to the banking sector for these rate changes based on the Bank’s plans to unwind QE (ie a gradual decline in the stock of central bank reserves). For the tiered reserves system, we make the same assumptions for the

amount of reserves in the exempt and additional reserves as outlined in our example (assuming no changes to the current outstanding central bank reserves for simplicity purposes, ie no unwinding of QE). In the no-tiered reserves option, banks receive £15.08bn in income transfers from the Bank by March 2023, compared to between £0 and £5.57bn in the tiered reserves option – meaning the tiered reserves system could save the government roughly between £10bn and £15bn over the next year (figure 14).

**FIGURE 14: TIERED RESERVES SYSTEM COULD SAVE THE GOVERNMENT BETWEEN £9.51BN AND £15.08BN BY MARCH 2023**

Rolling cumulative income transfers to the banking sector from BoE analysis of market expectations of interest rate changes for the outstanding stock of central bank reserves according to BoE plans to unwind QE, FYE 2022–23, monthly £bn, nominal



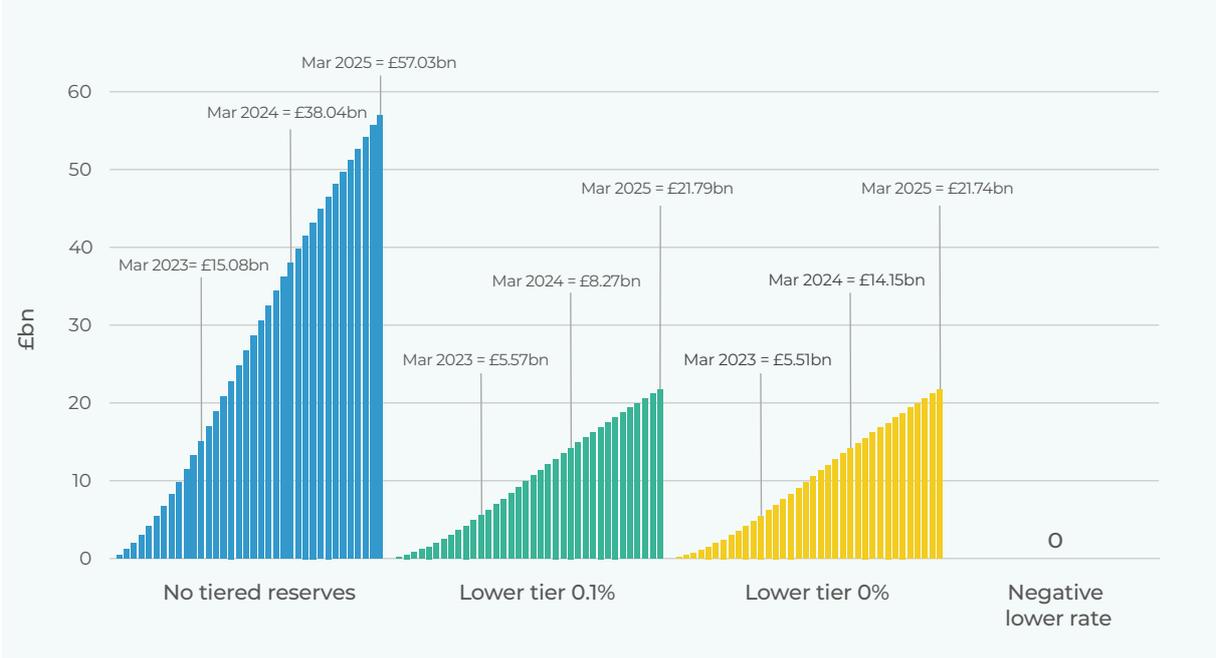
Note: Calculations are based on an exempt tier for central bank reserves accumulated between August 2016 and November 2021.  
Source: Authors’ calculations based on Bank of England (2022)

Based on the market-anticipated path of interest rates, by March 2025, even with QE unwinding, the Bank would make £57.03bn in income transfers to the banking sector compared to between £0 and

£21.79bn. In effect, a tiered reserve system could save the government between £25bn and £57bn for the next three years (Figure 15).

**FIGURE 15: TIERED RESERVES SYSTEM COULD SAVE THE GOVERNMENT BETWEEN £25BN AND £57BN OVER THE NEXT 3 YEARS**

Rolling cumulative income transfers to the banking sector from BoE analysis of market expectations of interest rate changes for the outstanding stock of central bank reserves according to BoE plans to unwind QE, FYE 2022-25, monthly £bn, nominal.



Source: Authors' calculations based on Bank of England (2022)

## 3. SIDE EFFECTS AND CRITICISMS OF TIERED RESERVES

As previously stated, paying interest on all central bank reserves is a relatively new development, an exception rather than the historic norm. It was brought on by a set of circumstances whereby paying interest on reserves was simple and came at a relatively low cost. A tiered reserves system offers a strong alternative. Although no framework for implementing monetary policy comes without trade-offs, different designs will be better suited to different prevailing macroeconomic conditions. Indeed, over time, the design of monetary frameworks has ebbed and flowed in response to economic events and changing monetary theory and practice. Accordingly, a tiered reserve system may not be perfect, but we believe it would be more effective than the existing system (and current possible alternatives). Nevertheless, there are criticisms and possible questions surrounding a tiered reserve system, which we now explore.

### 3.1 TIERED RESERVES ARE A TAX ON BANKS AND CREDIT INTERMEDIATION

If the Bank of England (the Bank) stopped paying interest on a certain portion of (or all) reserves then, when market rates move significantly above zero, commercial banks would have interest-bearing liabilities (customer deposits) but no interest-bearing assets (central bank reserves) to cover the interest owed on such deposits (especially those created via quantitative easing (QE)). This would reduce banks' profits. The losses would effectively amount to what some have called a "tax on credit intermediation", or a "tax on banks".<sup>66</sup>

To compensate for such losses, the banking sector would have to pass on the costs to its customers. The commercial banks could pass the cost on to customers with positive balances with them (savers) through lower interest payments, but at the same time, they would most likely want to still attract positive balances to maintain market share and reduce exposure to deposit migration, which a narrow and undiversified customer base could exacerbate. Banks would, thus, most likely pass the increased cost onto borrowers just as they did in the past when they did not remunerate reserves. This would raise the cost of lending and pass the credit intermediation tax on to debtors.

The credit intermediation tax would become a material factor once market rates rise to significantly positive levels (at which points banks will have non-interest-bearing assets and interest-bearing liabilities), and depositors demand a positive rate of return on their deposits. These market conditions would only begin to emerge once inflation (and thus aggregate demand) started to pick up and a more positive output gap materialised. The credit intermediation tax would only feature significantly under conditions that would normally warrant the Bank to raise interest rates to drive up the cost of credit to reduce aggregate demand.<sup>67</sup> Accordingly, as put by Holtham (2021), "raising rates is the whole point of the exercise anyway."<sup>68</sup> In the existing floor system, banks would be forced to raise interest rates for their customers anyhow, but would still benefit from a significant income transfer from the Bank, at the expense of the government and the taxpayer. Therefore, in some ways, a tiered reserve system can act as a form of automatic stabiliser for price stability – encouraging banks to raise rates for consumers under inflationary conditions, without direct intervention from the Bank. Along the lines of International Monetary Fund (IMF) economist Sascha Buetzer (2022) we, therefore, see this as a potential attribute of a tiered reserve framework, rather than a weakness.<sup>69</sup>

### 3.2 TIERED RESERVES LEAD TO FINANCIAL DISINTERMEDIATION

The credit intermediation tax is criticised for possibly leading to financial disintermediation – the growth of financial flows away from clearing banks into other deposit-taking banks and/or less regulated non-banks that may be able to offer the same services for less.<sup>70</sup> The same criticism was made of credit controls and reserve requirements in the 1970s and 1980s<sup>71</sup> – also considered taxes on banks – which once abandoned, still resulted in disintermediation – otherwise known as the significant and rapid growth of the shadow banking sector. Indeed, the considerable growth of the shadow banking sector after credit controls and reserve requirements were abandoned suggests there might be stronger forces that lead to financial disintermediation.<sup>72</sup> Moreover, a tiered reserves system could be applied to all deposit-taking institutions with access to central bank reserves, not just clearing banks.<sup>73</sup> Other less regulated non-banks would still need indirect access to central bank reserves to clear payments, through either clearing or deposit-taking banks, and thus the higher cost would be passed onto them accordingly.

### 3.3 TIERING RESERVES IS FISCAL POLICY BY THE BANK OF ENGLAND THROUGH THE BACKDOOR

Moving to a tiered reserve system would come with fiscal benefits, and effectively cancel the value of government bonds held by the Bank. As outlined in Section 1, the Bank owns at least £875bn of the government's debt (38%) via its QE programme. If the Bank permanently holds the value of this debt on its balance sheet and continuously recycles the full interest back to the Treasury, it will be as if the government's debt burden would be reduced by this amount.<sup>74</sup> The Bank may be accused of conducting fiscal policy through the back door.

This would seem like a strange, if not slightly duplicitous, reason not to implement tiered reserves – given the alternative is the Bank continues to make large income transfers to the banking sector and, in effect, simply conducts a different form of fiscal policy. QE and paying out interest on reserves in an environment when interest rates are on the up has fundamentally blurred the distinction between monetary and fiscal policy. The more important question is whether the underlying outcome of paying significant income transfers to the banking sector is best aligned with the broader interests of wider society and the public good – in which case, a tiered reserve option seems like the most appropriate option.

## 4. CONCLUSION

The Bank of England's (the Bank's) monetary policy toolkit is clearly out of date and not fit for the changing macro-economic dynamics facing the UK. Our calculations have shown the potential for rising interest rates to increase government costs and create a considerable income transfer to the banking sector. The income transfer to the banking sector would most likely come at the expense of other government spending, such as on public services, easing the transition to a net zero economy, or policies to help relieve the cost-of-living crisis. In the worst-case scenario, it could mean budget and spending cuts similar to those made post-2008, which would most likely endanger the frail recovery from the Covid pandemic, living standards, and the transition to a net zero economy.

In the wake of the devastating effects of the Covid pandemic, the cost-of-living crisis, and UK wages not forecast to reach their pre-2008 levels until 2028, significant income transfers to an already heavily subsidised banking sector seem politically unpalatable. It would also be completely at odds with the government's promises to level up. What's more, the rising fiscal costs that result from income transfers to banks are not the result of a genomic inevitability, but rather a policy choice.

There is a strong case for considering a tried and tested policy solution – moving to a tiered reserve system. The Bank, with approval from the Treasury, has the institutional capacity to make these changes. Such a policy reform would be undertaken for predominantly fiscal reasons. The alternative – significant income transfers to banks – is a form of fiscal policy that is less aligned with the public good and societal interests. As we move towards a higher interest environment, the choice to keep remunerating bank reserves will be a reflection of priorities, not an economic necessity.

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