1. How does the government spend? A functional model of the UK Exchequer

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1.1 INTRODUCTION

The last decade began with the Prime Minister of the United Kingdom warning of an impending crisis in government finances. In the wake of the Global Financial Crisis of 2008 and unprecedented interventions to stabilise the financial system by his predecessor, David Cameron announced that:

> the more the Government borrows, the more it has to repay; the more it has to repay, the more lenders worry about getting their money back, and the more lenders start to worry … we run the risk of higher interest rates … Greece stands as a warning of what happens to countries that lose their credibility.[1]

These concerns were paramount in the justification for the incoming coalition government's policy of spending cuts from 2010.

Despite this focus, manifested as sharp and damaging cuts to crucial government services over the subsequent years, UK government debt levels continued to rise steadily, with the absolute value up by 80 per cent on the eve of the Covid-19 pandemic a decade later.[2] That this scale of debt was not only unproblematic but even presented no barrier to the government engaging in another economic intervention of staggering scale was difficult to miss, as was the glaring observation that only the government is in a position to backstop continuing economic activity. Equally clear was that years of underfunding had left the UK ill-prepared for such a health crisis. Regardless, the BBC's most senior reporter stated that a limit had – this time – been reached: 'This is the credit card, the national mortgage, everything absolutely maxed out.'[3]

Government finances have been at the forefront of the UK political landscape for over a decade, but despite attempts from many in the economics profession as well as a burgeoning activist scene, mainstream debates have barely moved

on from concerns raised and prescriptions given in 2010. The concerns raised reveal a poor understanding of the way in which the UK government interacts financially with the rest of the economy, the significance of the government in the monetary system, and the constraints within which the government must operate. These issues are, on the face of it, complicated, obscured perhaps by the many institutions and conventions involved and the absence of any coherent, up-to-date official description of the whole system. But these obstacles are in no way mitigated by the quality of debate in public discussions which often rely on politically motivated tropes rather than well-evidenced research.

In this chapter, we seek to remedy this by presenting a coherent and detailed description of how spending arises from the UK Exchequer according to legislation, banking arrangements and policy conventions. The consequences which flow from this functioning are then examined. Notably, the study of these spending mechanisms helps contextualise the government's other financial activities – taxing and borrowing – which are able to be understood from a different perspective than that usually presented. We explain the crucial role of the government to the UK monetary system and wider economy, and in that context show how alternative policies which support a more equitable society are possible.

1.2 THE UK FINANCIAL SYSTEM

Figure 1.1 gives an overview of the institutional landscape within which the UK government's financial activities are undertaken. The economy is classified into a public sector and a private sector, with the private sector represented by individuals, businesses and other non-bank financial institutions (e.g., pension funds), all connected by a commercial banking system. In the public sector we can differentiate Parliament from what is known as the Exchequer – the system of institutions around which the UK government's financial activities are organised. It will be seen that the role of Parliament is fundamental to the government's finances, though this is often understated. At the interface between the public and private sectors is the Bank of England ('the Bank'). The Bank is wholly owned by the government and so is objectively part of the public sector. It is shown spanning both sectors, however, in order to emphasise its crucial role in connecting and serving each sector. Parliament is connected to the Exchequer in an administrative sense through HM Treasury but from an accounting and legislative perspective via the 'Central Funds'. The Exchequer and private sector interface through two channels – the Government Banking Service and the Debt Management Office – both via accounts at the Bank of England.

The majority of the money used by individuals and businesses in the UK takes the form of commercial bank deposits. These are liabilities of commer-

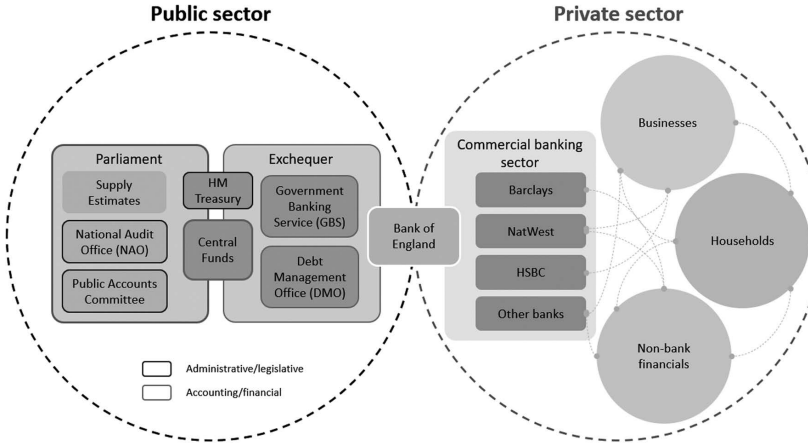


Figure 1.1 *A sketch of the institutions involved in the government's financial activities*

cial banks which are issued to customers when a bank receives a corresponding asset, for example, a loan agreement, and as such, most of the bank deposits held within the UK banking system are the result of private sector borrowing, for example through mortgages, loans and credit cards. The deposits created in this manner by individual commercial banks operate as a single form of money because each bank agrees to deliver a common form of money to their customers on request. This form of money is known as Sterling, is a liability of the Bank of England, and can take the form of banknotes or deposits held by commercial banks in accounts at the Bank. Sterling is thus used to settle transactions made using commercial bank deposits, either by way of a cash withdrawal or transfer between banks using their respective accounts at the Bank of England. As such, banks require sufficient access to central bank money in order to successfully accommodate the business of their customers.

The Bank of England ('the Bank') is the central bank of the United Kingdom. It has a delegated responsibility for conducting monetary policy, regulating the financial services sector, as well as managing the primary payment settlement systems. These activities are formalised under the 'Sterling Monetary Framework' (SMF), which underpins the commercial banking system. The entire capital, comprising £14,553,000 of Bank Stock, is held by the Treasury Solicitor on behalf of HM Treasury following nationalisation of the Bank in 1946. The Bank is therefore part of the public sector, though not central government. Section 4(1) of the Bank of England Act 1946 declared the right of HM Treasury to 'give such directions to the Bank as, after consultation with

the Governor of the Bank, they think necessary in the public interest'. This authority has been qualified by subsequent Acts of Parliament. The Bank of England Act 1998 s10 – commonly understood to represent the granting of 'independence' to the Bank – added the clause 'except in relation to monetary policy', and the Bank of England and Financial Services Act 2016 added a similar exemption relating to Prudential Regulation. HM Treasury retains a public interest power to give directions to the Bank regarding monetary policy,[4] sets the Bank's financial stability objectives, appoints or approves all of the members of the Monetary Policy Committee, and has been closely involved with most prominent monetary policy initiatives since 2008.

Compared to other central banks, the Bank of England facilities are open to a wide range of financial firms[5] including banks, building societies, broker/dealers, central counterparties and International Central Securities Depositories. Each of these can obtain a deposit account at the Bank of England (reserve settlement account) allowing them final and immediate settlement in Sterling with other firms in the framework. In addition, they have access to Operational Standing Facilities where they can retain spare funds in their reserve settlement account, or tender high-quality collateral (typically government securities) with which to borrow funds from the Bank. Banks, building societies and broker-dealers also have access to liquidity upgrade facilities, whereby the Bank of England will lend government securities in exchange for lower-quality collateral such as mortgages and corporate bonds. Since the Bank of England is also the bank supervisory authority, if a bank meets the supervisory threshold conditions to operate and has signed up to the framework, it will be able to use these 'lender of last resort' facilities.[6] Government securities are used widely within the current Sterling Monetary Framework, a feature which will be discussed in detail below.

1.3 THE PARLIAMENTARY BASIS FOR UK GOVERNMENT SPENDING

1.3.1 The Central Funds

The UK government maintains several core accounting structures known as the Central Funds. These sit apart from any specific governmental department and represent the legal entities from which all government expenditure arises, from which all government securities are issued, and to which most[7] government revenue is ultimately surrendered. The Central Funds comprise the Consolidated Fund (CF), the National Loans Fund (NLF), the Contingencies Fund (CCF) and the Exchange Equalisation Account (EEA), and are connected to the banking system via two distinct interfaces: (1) Government Banking Service, which administers government expenditure and the receipt

of revenue; and (2) the Debt Management Office, which deals in the trading of government securities. It will be seen that the balance of flows through these two interfaces represents one of the fundamental organising principles of the Exchequer.

The Central Funds each provide an accounting framework for distinct aspects of the government's financial activities. The Consolidated Fund was established in 1787 as '... one fund into which shall flow every stream of public revenue and from which shall come the supply for every service'.[8] The National Loans Fund was established in 1968[9] in order to account for the government's lending and borrowing activities separately. As such, the Consolidated Fund is, today, sometimes conceptualised as the government's 'current account', dealing ostensibly with the cash flows associated with daily expenditure and revenue, while the National Loans Fund records many of the government's financial assets and liabilities. The Contingencies Fund is used to enable urgent expenditure beyond that which is provided by routine procedures. The Exchange Equalisation Account is used to manage the government's foreign exchange and other financial reserves. An additional account, the Debt Management Account (DMA), is not formally one of the Central Funds, but operates as an agent of the National Loans Fund and exhibits some of the characteristics of the Central Funds. It is useful, therefore, to consider the DMA along with the other Central Funds.

The Central Funds were likened, in a debate in the House of Lords in 1968,[10] to the Holy Trinity – being jointly and severally 'incomprehensible'. They can perhaps be best understood by analogy to a Russian Doll. The Debt Management Account and the Exchange Equalisation Account are both funded, either implicitly or explicitly, by the National Loans Fund, and can therefore be considered to be dependents of the latter. The National Loans Fund is, in turn, automatically funded by the Consolidated Fund, of which it is therefore a dependent. Similarly, the Contingencies Fund draws its provisions exclusively from the Consolidated Fund. It follows that the Consolidated Fund is the accounting entity which is the backstop on all of the others and understanding the nature of the Central Funds system can be somewhat reduced to an exercise in understanding the Consolidated Fund specifically.

1.3.2 The Exchequer and Audit Departments Act 1866

The Consolidated Fund is governed by the Exchequer and Audit Departments Act 1866 (the '1866 Act'),[11] which states the conditions and mechanisms under

which money can be issued out of the Fund for the purposes of public expenditure. Paramount among these conditions is the stipulation in section 11 that

> this enactment shall not be construed to empower the Treasury or any authority to direct the payment … of expenditure not sanctioned by any Act whereby services are or may be charged on the Consolidated Fund, or by a vote of the House of Commons, or by an Act for the appropriation of the supplies annually granted by Parliament.

Sections 13 and 15 of the 1866 Act then specify the mechanism which relates two forms of Parliamentary authorisation explicitly to the provision of money: Standing Services and Supply Services.

Standing Services are forms of government expenditure which are authorised from the Consolidated Fund permanently by virtue of specific Acts of Parliament. For example, the Commissioners for Revenue and Customs Act 2005 permits His Majesty's Revenue and Customs (HMRC) to issue out of the Consolidated Fund when necessary for purposes of making tax repayments or for provisioning the National Insurance Fund. Equally, HM Treasury may issue from the Consolidated Fund in order to make urgent advances to government departments,[12] for making interventions in the banking sector for purposes of financial stability,[13] and for making interest payments on government debt.[14] These are all, therefore, Consolidated Fund Standing Services.

Supply Services, in contrast, are voted annually and result in the passing of Supply and Appropriation Acts[15] by Parliament. There are usually two such Acts each year (in March and July) and they itemise what would typically be considered to be the routine expenditure of government, including allowances for individual government departments and other public bodies (e.g., health, education, defence, etc.). These Acts explicitly authorise the itemised expenditure to be issued from the Consolidated Fund.

Sections 13 (Standing Services) and 15 (Supply Services) of the 1866 Act detail how provisions made in such legislation are discharged within the banking system. In both cases, the mechanism is, for all intents and purposes, identical. The first step is the passing of legislation through Parliament which authorises an issue from the Consolidated Fund. Next is a requisition by the Treasury for funds granted by Parliament to the Comptroller and Auditor General (today, the head of the National Audit Office) whose responsibility it is to verify that the request is consistent with the terms under which Parliament authorised the expenditure. If satisfied, the Comptroller and Auditor General grants 'a credit' on the Consolidated Fund account and this approval permits HM Treasury to order the Bank of England to make an 'issue' to a 'Principal Accountant'.

1.3.3 Principal Accountants

The 'Principal Accountants', to which issues out of the Consolidated Fund are made, are public entities holding accounts at the Bank of England. Today, the most important of these accounts fall under the auspices of the Commissioners for Revenue and Customs due to their specific responsibility for the activities of HMRC but more generally to their oversight of Government Banking Service (GBS). The latter was established in 2008 to consolidate the government's banking arrangements into a single, 'shared service'. Previously, much of the government's banking activities were concentrated in the Office of Her Majesty's Paymaster General (OPG) with the exception of HMRC which had held alternative banking arrangements with commercial partners. The consolidation expanded the existing OPG banking model across the whole of government and parts of the wider public sector.

The Office of HM Paymaster General was established in 1836 as a consolidated payment office for the armed forces and, later, the civil service.[16] The office was responsible for the administration and settlement of payments between government departments and the private sector and functioned analogously to a commercial bank in some respects. For example, the Paymaster would keep detailed ledger records of the Parliamentary allowances granted to departments which, akin to commercial bank deposits, would represent a departmental claim over the Paymaster for future settlement of their expenditure. Equally, the Paymaster would hold, like a commercial bank, cash balances in accounts at the Bank of England which could be drawn upon in order to satisfy such settlement obligations. These accounts were, in turn, provisioned from the Consolidated Fund according to the process described above in conjunction with the 1866 Act. Oversight of these functions was transferred to HMRC in 2006 though the accounts 'remain the property of the Paymaster General'.[17]

With the establishment of the Government Banking Service, the OPG was expanded and rebranded with the accounts and overall banking model remaining in place. The main difference was the introduction of commercial banking partners for the provision of retail banking transmission services previously provided by the Bank of England. Currently, NatWest provides accounts for most government departments, facilitating spending into the banking sector, while Barclays serves HMRC and the Driver and Vehicle Licensing Agency (DVLA) and thus administers the majority of the government's revenue. Settlement on behalf of these accounts is nevertheless provided by accounts held within the Exchequer at the Bank of England and the commercial partner's balance sheets are impacted only transiently or not at all depending on the type of transaction undertaken[18] (Figure 1.2).

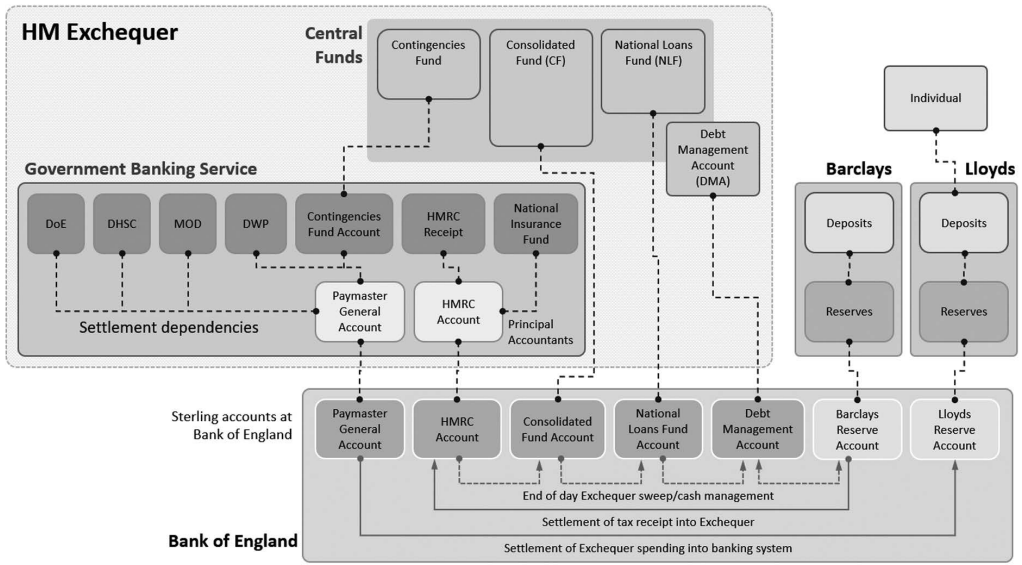
Therefore, the consequence of the 1866 Act is that, following the granting of Parliamentary authorisation for expenditure, a cash balance is credited by the Bank of England to an Exchequer account within the Government Banking Service. These credits are made primarily to the Supply Account[19] of the Paymaster General (PMG) for the purposes of facilitating the spending by most government departments, but may also be made to, amongst others, the General Account of the Commissioners of Inland Revenue and the General Account of the Commissioners of Customs and Excise for purposes relating to tax and National Insurance. Once balances exist in these accounts, they can be deployed into the banking system.

1.3.4 The Consolidated Fund Account

The issue of money by the Bank of England under order of HM Treasury takes the form of a credit being made to the account of a designated public entity (e.g., PMG, HMRC, etc.) and a corresponding debit being charged on the Consolidated Fund. A fundamental design feature of the modern-day Exchequer is that the Consolidated Fund starts every day with a zero cash[20] balance, yet regardless, orders for issues out of the account are nevertheless made and fulfilled.[21] It follows that credits to the Principal Accountants arise as a straightforward balance sheet expansion for both the Bank and the Exchequer, with each granting a new liability to the other. In this manner, spending proceeds as new money under order of the Treasury but with ultimate provenance in Parliament.

The terms under which the Bank of England issues money on behalf of Parliament pre-dates the 1866 Act and has been somewhat simplified in the intervening period. A fundamental aspect of this relationship through the nineteenth and early twentieth centuries was the stipulation of a quarterly accounting period over which debits (expenditure) and credits (receipts) on the Consolidated Fund would accumulate before being reconciled. At the end of each quarter, if it was established that the total revenue was not sufficient to defray the cumulative charges on the account (i.e., the debits representing issues for expenditure), a formal advance was arranged with the Bank of England in order to close the quarterly accounts, and which would be repayable in the subsequent quarter. Prior to 1866 an issue of Exchequer bills to the Bank, known in this context as ‘Deficiency bills’, was made in order to provide the counterpart security for the advance on the Bank’s balance sheet. Following the 1866 Act, this security took the form of a simple accounting memorandum which would later become known as the government’s ‘Ways and Means Account’.

The Bank of England Act 1819 mandated that any lending to the government by the Bank must be explicitly authorised by Parliament. The 1866 Act



Note: The commercial banking sector is represented here by Barclays and Lloyds which hold internal ledger records describing the allocation of deposit liabilities to their customers, and also accounts at the Bank of England for the purpose of settling customer payments with other institutions. The Exchequer also holds a number of accounts at the Bank of England which are used to settle payments with the commercial banking system and make internal transfers within the Exchequer. Government Banking Service resembles the commercial banks by organising a system of ledger deposits representing the allowances of governmental departments and other entities, all serviced by settlement accounts held at the Bank of England. A wide range of transactions occur between the accounts shown at the Bank of England and the 'settlement transfer' arrows shown are not exhaustive.

Figure 1.2 *Schematic diagram showing the banking interrelationships between the Central Funds, Government Banking Service, the Bank of England and the banking sector*

(and the 1834 Exchequer Reform Act before it) granted such authority in the context of the quarterly deficiencies described above. However, the very fact that issues from the Consolidated Fund could exceed receipts over the quarter meant that advances were implicitly being made *during* each quarter and prior to any formal reconciliation and recognition at the end of the quarter. It was therefore possible to differentiate between a routine advance of money *within* the mandated accounting period, and the more formal advancing of money *across* accounting periods. Accordingly, more general authority for advances was typically specified in the Acts that permitted the government to spend annually. Expenditure issued from the Consolidated Fund was, thus, never dependent on the existence of a provisioning balance. Indeed, this feature was codified in each pertinent piece of spending legislation, enacted annually or otherwise, with a reference to the charges being made 'out of the growing produce of the Consolidated Fund'.[22] This phrasing served to connect issuances with 'all the revenues to be received in the future',[23] thereby framing expenditure implicitly as a form of credit advanced on the security of future tax revenues.

Several changes to these arrangements were made from the mid-twentieth century though none changed the overall implications substantively. In 1954, the requirement for the preparation of quarterly accounts and the associated system of quarterly deficiency advances was repealed, leaving advances to be managed simply according to day-to-day requirements. At the same time, a blanket provision was made such that 'Any sum charged by any Act, whenever passed, on the Consolidated Fund shall be charged also on the growing produce of the Fund.'[24] In 1968, the National Loans Act established the National Loans Fund which would adopt responsibility for the government's borrowing and lending activities on behalf of the Consolidated Fund. The Act repealed the Bank of England Act 1819 which required Bank of England advances to be explicitly authorised by Parliament, but nevertheless stipulated a blanket authority for the Bank to lend any sums that HM Treasury is permitted to borrow.[25] As with the 'growing produce' clause, authorisation for the Bank to lend to the government ceased to be explicitly required in individual items of legislation thereafter.

The National Loans Act 1968 also defined a *daily* accounting cycle under which the Consolidated Fund Account would be zeroed each night by transfers to or from the National Loans Fund. This provision explicitly anticipated the possibility of end-of-day deficiencies much as quarter-end deficiencies had been anticipated earlier.[26] As a consequence, money would be advanced in the first instance on an *intraday*, rather than *intra-quarter*, basis and either cleared by the close of business or formalised as a Ways and Means advance[27] overnight. The context at the time was one in which negotiable government securities were managed by the Bank of England on behalf of the government

in conjunction with daily monetary policy operations. In that context, the use of Ways and Means advances was often simply a means of reconciling the objectives of monetary policy with the government's daily net financial flows.[28] This changed in 2000 when responsibility for the government's daily cash management activities was formally transferred to the Debt Management Office (DMO). As a consequence, a policy objective was undertaken to avoid the routine use of the Ways and Means Account, with the implication that any intraday advances would be eliminated by the close of business each day via exchange for other government securities. This effectively completed the historical trend from a quarterly accounting cycle, within which money would be advanced and issued, to a daily one. It can be noted that while the treaties of Maastricht (1993) and Lisbon (2009) prohibited central bank lending to state governments of the signatories, intraday credit and the UK Government's Ways and Means Account were explicitly exempted from any prohibitions. This arrangement was written directly into UK law in 2019 with the UK's departure from the European Union.[29]

1.3.5 The National Loans Fund Account

The daily flows accounted for directly on the Consolidated Fund are those associated with most forms of routine expenditure and revenue. The National Loans Fund is involved with additional forms of financial inflow and outflow and these relate to the government's borrowing activities,[30] such as those associated with the issuance of government securities and the provision of National Savings and Investment products, as well as the provision and repayment of loans to public bodies. On any given day, therefore, the National Loans Fund Account at the Bank of England may be required to make and receive payments in service of these activities. Perhaps the most conspicuous form of expenditure chargeable on the National Loans Fund is the repayment of the principal associated with maturing government securities.

As with the Consolidated Fund, issues for expenditure out of the National Loans Fund proceed via the granting of a credit on the Fund by the Comptroller and Auditor General, in accordance with section 1 of the National Loans Act 1968. Unlike the Consolidated Fund, however, there is no direct provision within the 1968 Act which confers the subsequent right of HM Treasury to order the Bank of England to make an issue in association with such an approved credit. Instead, there is simply a stipulation that any charges on the National Loans Fund have 'recourse to the Consolidated Fund' and, as such, qualify for the provisions of section 13 of the 1866 Act described earlier. As such, expenditure from the National Loans Fund, including the redemption of government debt, proceeds irrefutably, by law, via the issue of money by the

Bank of England, in the same manner as those forms of expenditure charged explicitly on the Consolidated Fund.[31]

1.4 THE FUNCTIONING OF THE UK EXCHEQUER

The reason for emphasising, in some detail, the legislative context in which government expenditure occurs is that a clear understanding of the mechanics and controls under which spending proceeds affects how the government's other financial activities are perceived. Taxation and the sale of government securities are invariably understood as being exercises which are undertaken in order to enable the government to spend. With a clear picture of how spending is actually enacted, the 'money sourcing' motivations of tax revenue and debt sales become redundant and these activities need to be reframed. This section will describe the functioning of the UK Exchequer more holistically.

1.4.1 The Allocation of Money

We're now in a position to describe the money allocation process and this is illustrated in Figure 1.3 which seeks to show the balance sheet impacts of the various entities involved when the government spends. These are the Consolidated Fund, Government Banking Service, a notional government department and the Bank of England. The Bank can be considered to hold a balance sheet in the first instance comprising reserve deposit liabilities to commercial banks and government securities held as the balancing asset. All other entities have, for purposes of illustration, no assets or liabilities at the outset (Figure 1.3, step 1).

The first step is for the Treasury to make a requisition for expenditure, which typically occurs on a monthly basis. As explained previously, should this request be approved by the Comptroller and Auditor General, it results in the granting of a credit on the Consolidated Fund. At this point, although the expenditure has been approved, there is no 'money' available in the form of cash balances at the Bank of England. Indeed, this requires another step, and one that is typically taken only on a daily basis in order to direct cash flows optimally to those government entities whose payments are imminently due for settlement. However, the existence of an authorised 'credit' on the Consolidated Fund means that the Treasury can, at any time subsequently, order such a balance to be realised. The authorised credit thus represents an asset that can be 'cashed' at the Bank. This asset is held by the Government Banking Service and represents a claim on the Consolidated Fund. With this asset in hand, the Government Banking Service can extend ledger credits to the department that is the subject of the requisitioned expenditure. At this point, therefore, a government department has an allowance, granted by Parliament,

and manifested as a balance within the Government Banking Service.[32] The Government Banking Service holds a claim over the Consolidated Fund as an asset, but has a liability to the department in the form of an allowance and an obligation to provide payment settlement when a payment instruction is received. The Consolidated Fund holds a liability to the Government Banking Service for the provision of cash when needed (Figure 1.3, step 2).

From day to day, HM Treasury and the Government Banking Service seek to manage imminent cash flows. The next step, therefore, is for the Treasury to order the Bank to make cash available for the settlement of anticipated expenditure. This is at the discretion of the Treasury to the extent that approved credits on the Consolidated Fund are available and proceeds via the crediting of the account of a Principal Accountant according to the 1866 Act. This account, in the present case, is held by the Government Banking Service at the Bank of England, and in receiving such a credit has essentially swapped a claim on the Consolidated Fund for a cash claim on the Bank of England. Correspondingly, the Consolidated Fund has reduced its liability to the Government Banking Service, but undertaken a new liability to the Bank, that is, a cash debt. As such, the balance sheets of both the Government Banking Service and the Consolidated Fund have changed in composition but not in overall size. The Bank of England, on the other hand, has increased its balance sheet by issuing cash to the Government Banking Service but holds an equal claim over the Consolidated Fund (Figure 1.3, step 3).

There now exists a cash balance in an Exchequer account which can be spent into the banking system. This balance is classified as 'public deposits' on the Bank of England's balance sheet, rather than the 'reserves', which are uniquely held by commercial banks operating within the Sterling Monetary Framework. When a government department elects to spend some of its Parliamentary allowance, this results in the reduction of the ledger credits administered by the Government Banking Service and the transfer of cash from the Government Banking Service account at the Bank of England to the reserve settlement account of the recipient bank. As such, the Government Banking Service sees a reduction in its own balance sheet, having effectively used up some of its Parliamentary credits. The Bank of England's balance remains the same in size at this stage having merely transferred a public deposit liability for a reserve deposit one, while the balancing claim on the Consolidated Fund remains outstanding. In the commercial banking sector (not shown in Figure 1.3), additional central bank reserves held are mirrored by the creation of commercial bank deposits which are allocated to the final recipients of the spending (Figure 1.3, step 4).

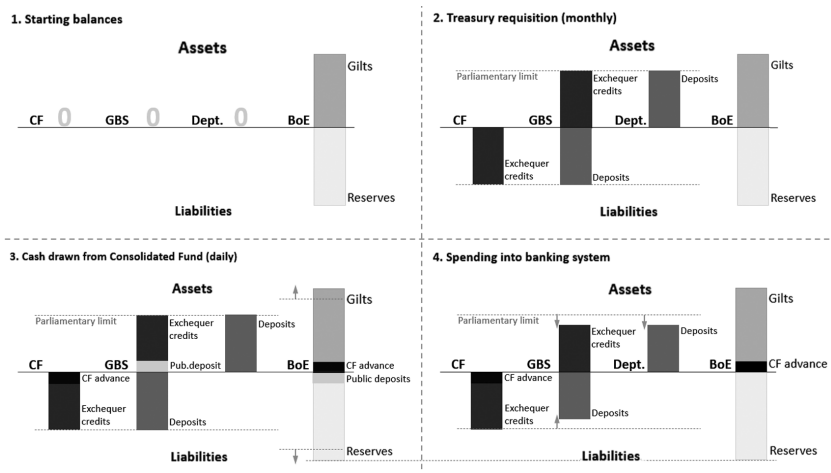


Figure 1.3 *Sequence of balance sheet adjustments in the allocation of money to the Exchequer*

1.4.2 The Receipt of Money

The 1866 Act specified that the gross revenue received by the Commissioners for Inland Revenue and the Commissioners for Customs and Excise should be surrendered to the Consolidated Fund at such times as the Treasury prescribe. The 2005 Commissioners for Revenue and Customs Act combined the responsibilities of each into HM Revenue and Customs but reaffirmed the principle that receipts be transferred to the Consolidated Fund. As such, the Consolidated Fund represents the legally mandated, final destination for most of the government's revenue.

Following the establishment of the Government Banking Service and the current commercial banking partnerships, HMRC is supported in its revenue collection activities by Barclays Bank PLC. Government revenue accumulates in accounts at Barclays and is transferred to HMRC accounts[33] at the Bank of England several times each day. These transfers have the opposite impact on the balance sheets of the Government Banking Service and the commercial banking sector, principally reducing the reserves held by the commercial banking sector and increasing the public deposits held within the Government Banking Service. It can be noted that all money is transferred into the Exchequer via the medium of central bank money. Tax revenue is not received in the form of commercial bank deposits for the simple reason that the destination account(s) are held at the Bank of England and not commercial banks.

1.4.3 The Daily Accounting Cycle

The Exchequer undertakes an end-of-day process that seeks to rationalise all cash balances held, known as the 'sweep'. This does not affect the Exchequer credits held by the Government Banking Service or the GBS deposits held by departments which are entirely internal to the Exchequer. Rather, the consolidation refers only to sterling balances held in accounts at the Bank of England and which are, by definition, liabilities of the Bank. This process culminates in all balances being transferred, ultimately, to the National Loans Fund, and takes place by way of permanent transfers as well as overnight lending. The overarching aim of this consolidation is to rationalise the Exchequer position with respect to balances held at the Bank of England. The result represents the net position of the Exchequer which, by accounting identity, also represents the net position of the banking sector due to the government's activities.

A diagrammatic representation of the end-of-day sweep of Exchequer accounts is shown in Figure 1.4. Represented are the Consolidated Fund and the National Loans Fund, as well as two of the accounts described previously that are administered by the Government Banking Service. These are: the Drawing Account of HM Paymaster General (PMG) which is involved in settling expenditure into the banking system; and (one of) the HMRC General Account(s) which receives incoming revenue. All of these accounts start each day with a nil balance, as shown in step 1.

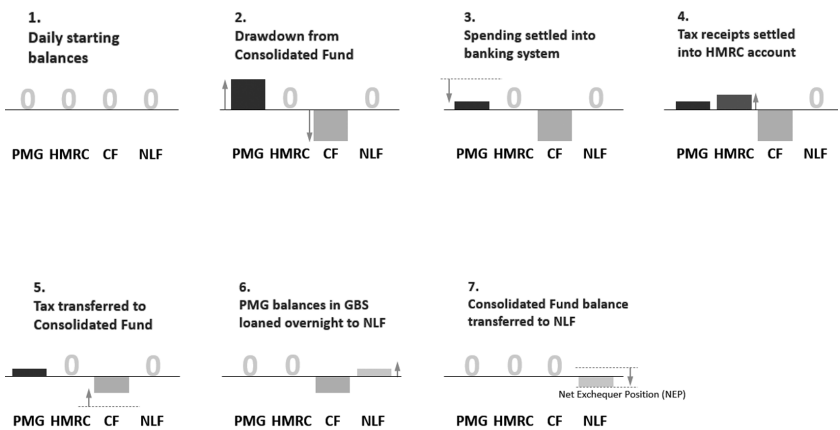


Figure 1.4 Example of the daily activity and end-of-day cycle with which Exchequer accounts held at the Bank of England are involved

The first activity shown is the issuance of money for expenditure purposes which is manifested as a credit to the PMG account and an equal and opposite debit on the Consolidated Fund (step 2). This places the Consolidated Fund into a deficit position. When this spending is deployed into the banking system the PMG account is depleted but the debt on the Consolidated Fund remains (step 3). Transfers of tax from the commercial banking sector during the day result in balances accumulating within the HMRC accounts (step 4). At the end of the day (step 5) tax is transferred from the HMRC account(s) to the Consolidated Fund. This is a direct, permanent transfer as obliged by law. Note that, in the example illustrated, this has the effect of zeroing the HMRC account and reducing the deficit on the Consolidated Fund. Next, the remaining balance in the PMG account is loaned overnight to the National Loans Fund (step 6). This has the effect of zeroing the PMG account and, in the example shown, producing a positive balance on the National Loans Fund. Finally, the remaining balance on the Consolidated Fund is also transferred to the National Loans Fund. This zeroes the Consolidated Fund, as mandated by the National Loans Act 1968 s18.

The upshot is that there is a 'Net Exchequer Position' (NEP) on the National Loans Fund which represents the overall position of the Exchequer with respect to the Bank of England. In the example shown, the positive balances held on some accounts were able to cancel against some of the cash debt on the Consolidated Fund, thereby minimising the end-of-day debt to the Bank of England. In the scenario described the Exchequer has ended the day with a net debt to the Bank of England having spent into the banking system more than it drew out through taxation.

There are a couple of aspects of this process that should be noted. First, spending and revenue are both anchored to the Consolidated Fund but proceed during each day via separate accounts at the Bank of England. These accounts are only reconciled at the end of each day and the Consolidated Fund can therefore only ever have a positive balance – by virtue of receiving a transfer over its initial zero starting position – at the *end* of each day. It follows that any and all expenditure from the Consolidated Fund occurs when the Fund has a nil or negative balance and there is never a situation wherein a deposit of tax revenue furnishes a balance that is subsequently used for spending. In this sense, all spending arises as new money advanced under credit and not 'from taxation'.

Second, as alluded to earlier, there is a formal relationship between the Bank and the National Loans Fund for recording an end-of-day debt known as the Ways and Means Account. Often construed as the government's overdraft facility, the Ways and Means Account also represents a form of government security which backs the Bank's money issuance. The logical consequence of the mechanisms set out in the 1866 Act is for spending – in the absence of any additional undertakings – to be formalised as a Ways and Means advance at

the end of the day. Such an outcome is entirely within the discretion of HM Treasury and explains how and why *any* spending authorised by Parliament can happen without constraint in all circumstances. Under routine circumstances, however, HM Treasury seeks to avoid such an outcome and this *policy objective* is achieved via the practice known as 'cash management'.

1.4.4 Cash Management and the Exchequer's Neutrality Objective

The daily accounting cycle results in a net cash surplus or cash debt being held in the National Loans Fund. Under the current policy framework, this end-of-day position motivates reactive policy undertaken by the DMO known as 'cash management' and which involves the trading of government securities with the private sector. This activity is usually construed as a 'borrowing' exercise where the government has to raise funds in order to spend. As we've seen, though, the government has no requirement to source cash from the private sector in order to be able to spend because cash is made available by the legislative processes described.

This cash management process and associated policy objective is outlined in the DMO Annual Review:[34]

> The DMA [Debt Management Account] is used to manage the Exchequer's net cash position. Balances in central government accounts contained within the Exchequer pyramid are swept on a daily basis into the NLF and the DMA is required to offset the resultant NLF balance through its borrowing and lending in the money markets. The DMA is held at the Bank of England and a positive end-of-day balance must be maintained at all times; it cannot be overdrawn. Automatic transfers from the government Ways and Means (II) account at the Bank of England would offset any negative end-of-day balances, though it is an objective to minimise such transfers. Thus, evidence of meeting this objective is provided by reference to the number of occasions the DMA goes overdrawn.
>
> KPI 1.1: Ways and Means end-of-day transfers for cash management purposes must be avoided by ensuring that there is always a positive DMA balance.

The motivation for cash management activities is that, by accounting identity, the Exchequer's net position also represents a measure of the impact of the government's financial flows *on the banking sector*. Specifically, an end-of-day *positive* balance on the National Loans Fund Account indicates that cash has been drawn *out of* the banking sector overall, whereas an end-of-day *negative* balance indicates that money has been *added to* the banking sector. Such an effect on the banking sector has the possibility of influencing the interest rate policy which is undertaken by the Bank of England (as a form of inflation management) and therefore needs to be considered if monetary policy is to be conducted coherently.

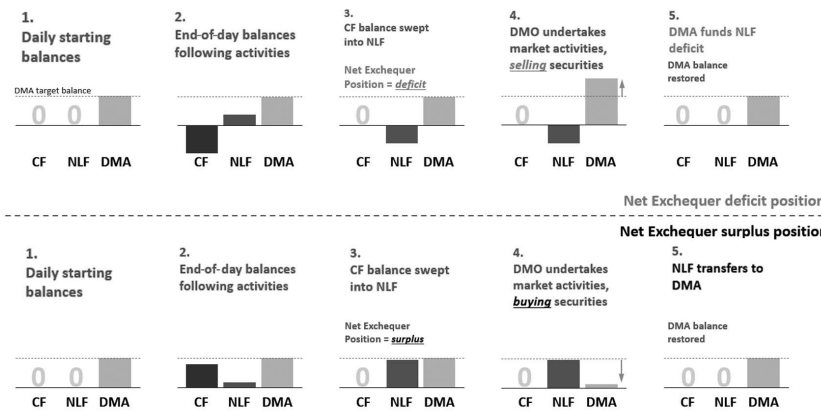
Prior to the establishment of the DMO in 1998, the government's cash management responsibilities were undertaken directly by the Bank of England in conjunction with daily monetary policy operations. These operations were aimed solely at achieving the appropriate level of central bank money held by commercial banks – as defined by monetary policy objectives – in lieu of the various flows across the banks' balance sheets each day. The Bank would typically trade in Treasury bills,[35] selling bills with a view to producing a systemic shortage of central bank money which could then be alleviated at the Bank's monetary policy rate. As explained above, the government's own activities would affect the 'bankers' balances' by adding or removing money from the banking sector. Other factors, such as the demand for foreign exchange, banknotes or advances to the banks, would also influence aggregate reserve levels. As such, the quantity of Treasury bills traded on a daily or weekly basis was not solely a function of the government's net expenditure and revenue flows, but would instead be influenced by the wider monetary context. In cases wherein the level of market operations conducted by the Bank did not exactly match the government's own daily surplus or deficit, simple accounting adjustments between the Exchequer and the Bank would arise, for example as a change to the balance of the Ways and Means Account or the direct repurchase by the government of bills held by the Banking Department of the Bank. Under this process, therefore, the net effect of the government's daily spending and revenue activities on the banking sector would be somewhat unwound on a daily basis through purchases or sales of Treasury bills, though only to the extent that monetary policy objectives required. The overarching concern of the authorities was the bringing about of a perceived balance to the banking system.

This system was changed following the granting of independence for monetary policy to the Bank of England in 1998 when it was felt that perceptions of a conflict of interest may arise if the authority responsible for monetary policy is also involved with the government's securities trading activities. As such, the DMO was established in 1998 and adopted responsibility for government cash management in 2000. This meant that it was no longer possible to deal with the effect of the government's cash flows alongside the management of the wider monetary system as part of a single, overarching objective, and two distinct objectives, to be enacted by two different institutions, were now required in order to coherently arrive at the same result. The solution was that the DMO would be tasked with offsetting any Net Exchequer Position by the end of each day, and this would present a neutral monetary backdrop to the Bank of England which could then undertake its own objective of explicitly managing outcomes in the banking sector without having to consider the government's financial flows.

The principle of neutrality means that, by design, the Exchequer is to accumulate no cash balances or cash debts on its accounts at the Bank of England by the end of each day, as these would reflect an equal and opposite impact on the banking sector. One implication of this aim is that accounting adjustments between the Exchequer and the Bank, such as a change to the Ways and Means Account, are to be avoided. The DMO's remit is therefore, by the close of business each day, to drain any reserves which have been added to the banking system on days of net spending, or to return reserves which have been removed from the banking sector on days of net revenue. This is achieved by way of the trading of government securities in quantities which reflexively match the (anticipated) Net Exchequer Position. Accordingly, the net result of the Exchequer's activities each day is manifested in changes to the quantity of government securities on issue rather than adjustments to reserve (and, by identity, Exchequer) balances.

Cash management operations are undertaken using an account at the Bank of England called the Debt Management Account. Current practice is for the DMA to hold a positive balance which is maintained from day to day.[36] This balance functions identically to a notional target balance of zero in the sense that credits and debits to the account during any day must be equal if the balance is to be maintained. The intention is that the balance provides a contingency for situations in which the Exchequer experiences a swing in expenditure or revenue which is too late in the day for the DMO to react.[37]

The cash management process is illustrated in Figure 1.5 which describes two scenarios: that of a daily Exchequer deficit (above), and a daily Exchequer surplus (below). In the first step illustrated, the Consolidated Fund and the National Loans Fund start the day with a nil balance whereas the DMA has its prescribed target balance. During the day, activity on the Consolidated Fund and National Loans Fund (see Section 1.4.3) causes variations in their respective balances (step 2), and at the end of the day the balance on the Consolidated Fund is swept into the National Loans Fund (step 3). The resulting balance then represents the Net Exchequer position and it is the DMO's task to offset that quantity. In the case of an Exchequer deficit, the DMO achieves its objective by selling government securities which serves to increase its own balance over the mandated target balance (step 4). The DMO then transfers its excess balance to the National Loans Fund which has the effect of zeroing the latter and restoring the Debt Management Account to its target level (step 5). In the case of an Exchequer daily surplus, the process is similar except the DMO needs to *buy* securities from the private sector in order to dispose of the excess cash.



Note: Above, an Exchequer daily net deficit; below, an Exchequer daily net surplus.

Figure 1.5 *Example variations in the balances held at the Bank of England by the Consolidated Fund, the National Loans Fund and the Debt Management Account, describing the end-of-day Net Exchequer Position and the resulting cash management remit*

1.5 SIGNIFICANCE OF THE UK EXCHEQUER IN THE MONETARY SYSTEM

It is commonly claimed, or at least implied, that the UK government is a passive user of sterling with the implication that the government has no agency to create money and must instead obtain existing units of the currency from taxpayers or lenders. This has been belaboured in the era of central bank independence where it is claimed that the UK government has little or no influence over the central bank which it owns. The reality, however, is that the UK government is fundamental to the sterling monetary system, including the creation and issuance of monetary instruments and guarantees that underpin the entire monetary framework.

1.5.1 The UK Government and the Banking System

The primary function of the banking system is to create credit via the issuance of loans against suitable collateral. This essentially transforms the liabilities (the promise of repayment) of individuals, businesses and other entities into

a standard form (commercial bank deposits) that can circulate effectively within the country's payment systems. Bank deposits created in this way by distinct commercial banks can be exchanged seamlessly with one another because they are implicitly pegged to a common medium of exchange – central bank money – which is used to settle interbank transfers or cash withdrawals. If we consider the term 'money' to describe only the deposits that are created by the banking system in this manner, then it is trivial to conclude that the UK government does not literally create money. Such a conclusion would, however, disregard the extent to which the UK government exerts an influence on the banking sector to, amongst other things, create 'money' on its behalf.

As explained previously, UK government spending arises following the granting of central bank deposits to specific Exchequer accounts by the Bank of England, and the establishment of a corresponding debt on the Consolidated Fund. These central bank deposits are then transferred to a commercial bank which in turn grants deposits to the ultimate recipient of the spending. It can be argued that by taking on a debt in exchange for deposits, the government's interaction with the banking system is essentially the same as that wherein private sector entities (e.g., individuals, businesses) take on loans. There are at least two important distinctions, however, both of which are a consequence of the government's unique status with respect to legislation.

First, and most straightforwardly, the government compels the Bank of England to advance central bank deposits by virtue of the 1866 Act. Under these provisions, the Bank of England has no discretion over whether to extend credit (and accept the counterpart debt asset).[38] This legislative privilege is not available to other entities within the economy which must instead be judged as creditworthy by the banking system in order to be the counterparty to money creation. As such, though the government may not literally create money itself (under this definition), it has the power and the mechanisms to delegate this activity to the banking system on its own terms.

Second, and perhaps more fundamentally, the UK government is the only entity within the UK economy which can compel the payment of taxes. This privilege gives the government, uniquely, a guaranteed claim over the resources of the country and as such makes the government the most creditworthy agent in the economy. This uniquely elevated credit standing can be discerned from the various ways in which the government supports the banking sector. For example, almost the entirety of the Bank of England's assets are represented by government securities and therefore the cash and central bank deposits which are collectively known as 'base money' are underpinned by liabilities of the government.[39] Moreover, there are provisions in law for ensuring that the government reflexively provides such securities to back the banknote issue,[40] while additional injections of capital[41] or granting of indemnities[42] to support the Bank's business more generally are also provided

by HM Treasury. It follows that the creditworthiness of the central bank – which manages the currency – derives from the financial security inherent in the government. Equally, HM Treasury stands ready to provide financial assistance for purposes of economic stability in the event of commercial bank failure. Such stabilisation powers include the transfer of banking entities into public ownership[43] and the provision of deposit insurance[44] both of which featured in the response to the Global Financial Crisis from 2008. As the only entity within the economy which is in a position to extend such support, it is clear that the financial security of the government surpasses even that of the banking system which creates the instruments we typically consider to be money. From this perspective, it is clear why the banking sector would be satisfied to advance credit to the government in exchange for the most robust financial promises available, even without explicit compulsion.

This concept of supreme creditworthiness represents the fundamental link between taxation and spending. Taxes *do* allow a government to spend, but not in the way that is usually implied whereby each individual pound must be received before it can be spent. Instead, the guaranteed claim over national resources that the imposition of taxes provides generates the unsurpassed creditworthiness that enables the government to leverage the banking system for its own purposes. This notion is enshrined in UK law with the provision that expenditure from the Consolidated Fund is charged 'on the growing produce of the Fund',[45] explicitly linking *current* spending to *future* tax revenue. The imposition of taxes in the abstract, therefore, regardless of their quantitative or other characteristics, is a sufficient basis for the government to spend and to cause the creation of money in the process.

1.5.2 The Role and Function of Government 'Debt'

The creditworthiness of the UK government derives from the direct linkage between the authority to tax and the authority to spend which is realised in the Consolidated Fund.[46] Given the provisions in legislation which anchor the other Central Funds (and the Debt Management Account) to the Consolidated Fund, it follows that any claim on the Central Funds is ultimately a claim on the Consolidated Fund and inherits the same, paramount creditworthiness. It is instructive to examine the various types of claims on the Central Funds that can be held in order to further understand and characterise the role of government in the monetary system.

The most conspicuous forms of claim over the Central Funds are gilts and Treasury bills which are issued from the National Loans Fund and the Debt Management Account respectively.[47] Gilt-Edged securities ('gilts') are time-limited bonds sold with maturities exceeding one year and which pay a six-monthly 'coupon' (analogous to an interest payment) and principal upon

maturity. Treasury bills are zero-coupon securities with maturities of less than one year and typically sold at discount to their face value whereby they confer a yield to the holder upon maturity. A fundamental feature of gilts and Treasury bills is that they are negotiable instruments and are thus widely traded in financial markets. Other types of claims on the Central Funds are not negotiable. For example, National Savings & Investments (NS&I) is an Executive Agency of HM Treasury which offers personal savings facilities to individuals, while Ways and Means advances (W&M), as explained previously, are held only by the Bank of England. Both of these essentially represent deposits made by counterparties in the National Loans Fund.[48]

These various forms of claim upon the Central Funds serve broadly two functions within the UK economy. First, they are used as fundamental instruments in the management of the monetary system. In this context, gilts (and to a lesser extent today, Treasury bills and Ways and Means advances) represent almost the entirety of the assets held by the Bank of England. This is, at least partly, a reflection of the predominant use of government securities by the Bank in the implementation of monetary policy. For example, the circulating stocks of gilts and Treasury bills are traditionally used as a buffer stock with which to regulate the price of central bank reserve deposits and, by extension, interest rates more generally. More specifically, the Bank may buy or sell these government securities (in exchange for central bank reserves) in order to direct prices in wholesale, interbank lending markets towards the Bank's policy rate.[49] Monetary policy therefore requires a sufficient supply of government securities and the Bank has agreements in place for the DMO to issue such securities on request for this reason. Equally, commercial banks may require additional central bank reserves for settlement purposes at their own discretion and therefore hold government securities for use as collateral or outright trading with the Bank of England (or other banks).

As explained by Monetary Policy Committee member Gertjan Vlieghe, 'When a central bank issues reserves, the main counterpart asset on the central bank balance sheet is generally some form of government financing.'[50] Evidently, government securities share a very close relationship with central bank reserve deposits: they represent the residual stock of reserves drained out of the central bank's reserve settlement account system according to monetary policy objectives, and the medium of exchange with which the banking sector can obtain new reserves. This coupling is exemplified by recent monetary policy initiatives wherein the Bank of England supplied gilts (Discount Window) and Treasury bills (Special Liquidity Scheme, Funding for Lending Scheme) to banks and building societies in exchange for eligible private sector collateral in order to enable access to central bank money more readily.[51]

The second main function for claims upon the Central Funds is that of a highly secure store of value. In this context, HM Treasury holds a contingent

liability to the Financial Services Compensation Scheme for the provision of commercial bank deposit insurance.[52] This effectively associates bank deposits up to a value of £85,000 per person with a claim on the National Loans Fund and the creditworthiness inherent therein. Balances in excess of this threshold amount are therefore vulnerable to the risk of bank failure. NS&I provides an alternative, highly secure way for individual savers to deposit money with the National Loans Fund. Larger institutional investors, such as pension funds and insurance companies, are not eligible for NS&I products and therefore tend to hold negotiable government securities, particularly gilts, for this purpose. In this sense, gilts represent a saving instrument of the same creditworthiness as central bank reserves, but which can be held in large quantities by individuals and non-banking institutions.[53]

The claims upon the Central Funds which are represented by gilts, Treasury bills, NS&I deposits and Ways and Means advances are collectively known as the 'national debt'. This debt is often characterised as being a consequence of government profligacy, with the implication that it should be reduced or eliminated. As explained, however, these instruments play specific roles within the existing monetary system, being fundamental to the implementation of monetary policy and the provision of secure forms of saving. Given these functions, there is an inherent demand for these 'debt' instruments – from individuals, non-banks, and banks including the central bank – much as there is a demand for bank deposits, banknotes and coins. Indeed, government securities exhibit money-like qualities, with negotiable securities being an important medium of exchange (for purchasing or borrowing central bank money), and all exhibiting a store of wealth property which is the most secure in the monetary system. The reduction or elimination of government debt would therefore have significant implications for private sector wealth and the functioning of the monetary system, though these consequences are scarcely referenced by those anxious about government debt.

1.5.3 The Government's Monetary Circuit

From this perspective, we can widen the definition of 'money' and consider claims upon the Central Funds to be, in effect, a form of money. The creation of such claims represents the creation of a monetary asset which can circulate and be held by parties within the economy, in some cases as assets backing other forms of money issuance, but invariably according to demand. In this manner, it is straightforward to see the monetary-asset creating role of the government through the functioning of the Exchequer. These are either held by counterparties or discounted[54] into 'sterling' pounds (a claim on the Bank of England) by the banking system in order to provide access to the sterling

payment clearing systems. A circuit through which such government money originates, circulates and is extinguished can be described.

Claims upon the Central Funds originate with a vote in Parliament granting government expenditure. These claims are then transferred to the Bank of England via the process mandated by the 1866 Act, with the Bank subsequently holding a claim over the Central Funds (specifically an intraday debt of the Consolidated Fund) and granting its own form of money (sterling) to the Exchequer. In effect, the historic use of gold and silver tokens within the UK monetary system still exists. The Exchequer issues 'gold' pounds ('gilt-edged stocks and bills'), and the Bank of England issues 'silver' pounds (sterling). As the entity which facilitates the interchanging of gold and silver pounds,[55] the Bank of England thus sits with both on its balance sheet as asset and liability, respectively. When the government chooses to spend, this simply results in a transfer of the (silver) central bank deposits to a third-party bank, but they remain liabilities on the Bank of England's balance sheet balanced by a (gold) claim on the Consolidated Fund.

Due to cash management policy, the Exchequer seeks to offset central bank money added to the banking system (and correspondingly the Bank's claim on the Consolidated Fund) and creates a new claim on the National Loans Fund in the form of a gilt (or, equally, a Treasury bill or NS&I deposit). This gilt is exchanged for the new central bank money held in the banking system and subsequently the Exchequer holds a claim on the Bank of England equivalent in size to the claim that the Bank holds on the Consolidated Fund. Since the issuers of gold and silver pounds hold one another's liabilities, these mutual claims cancel, leaving only the gilts now held in the private sector. The claim upon the Central Funds held by the Bank of England has effectively been transferred into the private sector, though the form has changed from an intraday central bank claim on the Consolidated Fund to a negotiable claim on the National Loans Fund. The overall effect of the spending operation is that the private sector was paid in gold pounds,[56] albeit facilitated via the payment infrastructure which is enumerated in silver pounds.

Once gold pounds are held by the private sector, they can be exchanged into silver pounds in a variety of ways. Simple trading of gilts and Treasury bills enables the ownership of gold and silver pounds to be switched, though this does not affect the aggregate quantities of each in circulation. More generally, gold pounds can be discounted into silver pounds with the involvement of the Bank of England. For example, the Bank may elect to purchase gilts from the private sector by issuing central bank deposits under monetary policy objectives, as is typified by conventional open market operations or the more recent initiative known as Quantitative Easing. Alternatively, a commercial bank may seek additional liquidity in the form of central bank deposits and submit gilts or Treasury bills to the Bank of England as collateral.[57] Such a process is

routine, for example, in the Bank's provision of intraday credit for Real-Time Gross Settlement (RTGS) transactions. Equally, maturing gilts and Treasury bills, as well as withdrawals from the NS&I, are served under the National Loans Act 1968 'with recourse to the Consolidated Fund'. As such, a new claim on the Consolidated Fund is allocated to the Bank of England under the terms of the 1866 Act, and the Bank duly produces the silver pounds for payment to the holder of the expiring claim over the Central Funds. In each of these cases, a third-party claim over the Central Funds is effectively transferred to the Bank of England.

When tax revenue arrives at the Exchequer – in the form of silver, central bank money – it has the effect of cancelling gold pounds. This arises in one of two ways depending on intraday conditions. If the tax received is less than the Exchequer's spending on any given day, then it directly cancels against some of the Bank of England's outstanding (gold) intraday claim on the Consolidated Fund. If, on the other hand, daily tax receipts exceed daily spending, the Exchequer ends the day with a surplus of central bank money which it then uses to buy back gilts or Treasury bills from the private sector. (When the issuer of gold pounds itself holds gold pounds, they are effectively cancelled.) Either way, taxes received serve to reduce the outstanding claims upon the Central Funds that originated in Parliament.

1.5.4 The Government's Macroeconomic Context

Although monetary conditions and particularly price stability are paramount in the motivation for monetary policy and, by extension, much of the functioning of the Exchequer, the government operates within a context which features several inherently deflationary factors. Among these are the desire of the domestic private sector to *net* save and to *net* import.

A well-known consequence of the decision of private sector individuals or businesses to seek to accumulate financial wealth is for aggregate incomes to fall. This is because the withholding of spending – that is, the choice to spend less than one's income – causes a leakage from the circular flow of money that determines aggregate levels of spending and income. The contractionary effects produced by the saving activities of some in the private sector can be counteracted by others spending *more* than their income – that is, by borrowing. Depending on the balance between saving and borrowing activities, aggregate income may adjust upwards or downwards, but in any case, the private sector can have no *aggregate* financial savings if all of the monetary assets in the sector held are matched by a corresponding debt (e.g., as loans with the banking system).

In general, it is not possible for any whole sector (however defined) to save in *aggregate* unless there is a source of money from *outside* of the sector. This

arises from the simple principle that any financial asset – including those we call 'money' – is also a liability for some counterparty. *Within* a sector, these assets and liabilities invariably sum to zero and therefore the only way for a given sector to accumulate a positive, net quantity of financial assets is to hold those which are issued by another sector. If the government injects money into the private sector, for example, then there exist financial assets which can be accumulated that have no counterpart debt within the private sector. These can be termed *net financial assets* – assets held as financial wealth in excess of liabilities. Such a supply of financial assets enables the private sector to accumulate aggregate savings while maintaining aggregate levels of spending and income.

By accounting identity, the accumulation of net assets by one sector must mean an accumulation of net liabilities by another. Therefore, the cumulative net savings of the private sector – if they exist – must be associated, by definition, with an 'indebted' government. In principle, it would be possible for the domestic private sector to accumulate assets from the rest of the world (the 'external' sector) rather than the government, by exporting more than it imports. Such a scenario could be consistent with a stable economy and increasing private sector savings, but with no requirement for a government debt. However, in recent decades, the UK has tended to import more than it exports. This means that there is typically a net *outflow* of income to people resident abroad rather than an inflow, and this operates as another leakage of demand from the domestic economy, analogous to that of domestic saving. Indeed, net importing can be seen as a generalisation of net saving – the distinction being that the saving is done by foreigners in exporting nations (and who therefore choose to hold gold or silver pounds).

Moreover, in determining the size of the government's debt (and, by identity, the private sector's net savings), the government is subordinate to the private sector. The government can, with a high degree of discretion, set the absolute quantity of its own expenditure. Taxes, on the other hand, are typically set in percentage terms and therefore the government's revenue is effectively proportionate to overall domestic economic activity. It follows that tax revenue – and therefore the government's budget outcome – is determined not only by government policy but also by the spending and saving decisions of the private sector, which contribute to overall activity. Depending on sentiments, the private sector as a whole may seek to net save and/or to net import. In such a case the government will invariably have a budget deficit, irrespective of budgetary aspirations. This is because, within any given time period, not all of the money spent by the government into the domestic private sector will continue to recirculate within that sector, stimulating further economic activity and accrual of tax. Instead, some fraction will be held static (by foreign or domestic savers), fulfilling no taxable activity, and the government will not

recover the entirety of its spending. The government may try to reduce the size of such a budget deficit, but as long as the non-government sectors seek to net save that can only be achieved at the expense of contracting the entire economy, and cannot be eliminated entirely.

This provides the macroeconomic perspective on the demand for gold pounds. The claims upon the Central Funds which are held outside of government represent the provision of a net money supply which supports the non-government sector's (domestic and foreign) desire to accumulate sterling-denominated net financial assets. This net money supply is expressed in two ways. Either the gold pounds are held by the UK banking system (as gilts, Treasury bills, Ways and Means advances or intraday central bank credit), in which case they serve to accommodate a demand for central bank and commercial bank deposits *without* the requirement for a counterpart private sector debt claim. Alternatively, they are held directly by non-bank entities (individuals, businesses, pension funds, etc.) as explicit savings instruments in the form of gilts, Treasury bills and NS&I deposits. This allocation of net financial assets occurs reflexively, according to spending decisions made in the private sector, and serves to mitigate any contractionary or deflationary effects that these decisions would otherwise produce. The *distribution* of gold pounds across the central bank, banking system and non-banks is influenced by monetary policy (which uses gold pounds to control the price of silver pounds), but the total *quantity* is determined by private sector sentiments manifested through successive government budget outcomes.

1.6 THE UK GOVERNMENT'S POLICY SPACE

1.6.1 Constraints on Government

It is tempting, in light of the Exchequer's policy of day-to-day cash neutrality, to understand the role of taxation and the cash management activities of the DMO as 'funding' for the Exchequer's expenditure. After all, on a daily basis, the objective is for receipts from taxation and sales of government securities to be equal to government expenditure, and this therefore presumably presents the Exchequer with a number of apparent constraints. While this 'funding' or 'provisioning' framing is familiar and may be somewhat useful depending on its precise definition and analytical purpose, the constraints on government which emerge from the structure and functioning of the Exchequer deviate from those which are often implied.

For example, it is clear that government expenditure is not dependent on any *pre*-funding activities. That is to say that there is no requirement for a provisioning of money balances through taxation and 'borrowing' activities to occur *before* spending can be undertaken. As such, there are no circum-

stances whereby it can be said that the government has insufficient money for expenditure to be able to take place, or that the government is at risk of 'running out of money'. Indeed, one of the fundamental organising principles of the Exchequer is for cash balances to be minimised, and the accumulation of 'provisioning balances' would be contrary to this objective. Instead, all spending arises via the creation of new money (as intraday credit) in the first instance and this process is independent of tax and securities dealing activities. The upshot, which HM Treasury acknowledges,[58] is that there is no aspect of the government's banking arrangements which can prevent government expenditure from being realised once it has been authorised by Parliament.

The uninhibited discharge of expenditure extends to the payment of principal and interest on government 'borrowing', which is permanently authorised by Parliament by the National Loans Act 1968. As such, default on national debt repayments, for example those associated with maturing gilts and Treasury bills, or NS&I withdrawals, can only occur with an express or implied repeal by Parliament of the relevant legislation. Neither the government nor HM Treasury has any discretion in the matter. From this perspective, government securities function analogously to time-deposits, representing an interest-earning, secure alternative to other forms of money[59] for a fixed or discretionary duration before reverting seamlessly to sterling.

Equally, sales of negotiable securities – typically required to meet end-of-day 'offsetting' objectives – do not present some of the challenges to HM Treasury that are commonly believed. In this context, it is often claimed that the government is at the behest of an investor market which may refuse to purchase the government's securities or otherwise demand punitive terms. However, as explained by the Bank of England half a century ago, the banking sector will purchase by the end of each day any securities which need to be sold in accordance with policy requirements.[60] That is because banks are *already* holding excess[61] central bank deposits that have been injected into the banking system during the day by virtue of the Exchequer's net spending.[62] The quantity of the balances added during the day exactly matches the DMO's offsetting remit – by definition – and the banks will reflexively switch these excess balances for something of the same creditworthiness but a higher rate of return. The DMO is not, therefore, faced with a market holding scarce funds and seeking to bid up the prices charged to the government. Instead, as the monopoly issuer of sterling safe-assets, the DMO needs only to offer terms which are infinitesimally greater than that earned on the excess central bank reserves that the banks already hold. As such, short-term rates on government securities converge to the Bank's policy rate, rather than being determined by market forces. Given the role of government securities in the functioning of monetary policy, interest payments on government debt can be seen simply as an expression of the interest rate targeting monetary framework. Sales of government securities

are not at the discretion of markets, but are simply a routine feature of the functioning of the Exchequer and the Sterling Monetary Framework.[63]

There may be occasions where uncertainty within markets has the potential to disrupt the process described above. In such cases, it should be noted that while the government's spending process is rooted in legislation and is therefore incontrovertible, the cash management activities which seek to trade securities in order to balance any net expenditure flows are motivated by government *policy* and are therefore discretionary. In times of crisis and if the government determines that the conditions and consequences are unfavourable, it can suspend or alter its policy. An example occurred on 9 April 2020 when HM Treasury announced its intention to use the Ways and Means Account in response to the Covid-19 pandemic should it be required. This collapsed the interest rate in three-month money, which was the intention, and the government was able to maintain its cash management policy in any case. The Ways and Means Account remained unused.

It is often claimed that the government should reduce the quantity of outstanding government debt, or that the government budget should be balanced, or even in surplus, rather than in deficit. As explained, however, government securities function as a form of money and the total magnitude of the government's outstanding liabilities in this respect represents the provision of a net money supply to the private sector. Rather than being a burden that must be reduced, it is an important component in the functioning of the current monetary system and private sector net wealth. Moreover, the size of government debt is not even subject to the sole discretion of government policy, but rather is determined by demand in the form of private sector spending and saving decisions. Decreasing the deficit in lieu of private sector net saving/importing objectives can only be achieved at the expense of economic output, and therefore it is not possible for the government to target both deficit reduction and maximise economic activity and participation at the same time.

It follows that the government is not exposed to the alleged risks associated with running out of money, defaulting on debt obligations, the sentiments of bond markets or a need to reduce levels of government debt below those demanded by the economy. Instead, the functioning of the Exchequer, in particular the daily accounting cycle and trading activities, is geared towards the maintenance of monetary policy. Given that the primary objective of monetary policy is macroeconomic price stability, it follows that inflation is the fundamental concern around which Exchequer policy is organised. Inflation remains a valid constraint on the government's activities and the only context within which other government objectives should be weighed.[64]

1.6.2 Achieving Full Employment and Macroeconomic Stability in the UK

The limitations that the UK government is subject to are significantly fewer than those which have motivated official policy in the past decade. Given a clearer understanding of these constraints, we can consider the policy space that is made available to improve domestic economic and social conditions. Paramount in this consideration is the interplay between the government's fiscal policy and price stabilisation mechanisms.

Current approaches to price stability are based on the use of interest rates to adjust aggregate demand. When inflation is above target, the Bank of England increases its benchmark lending rate and this is believed to cascade through the banking system to retail interest rates. The increased price of borrowing allegedly causes a reduction in spending, reducing pressure on aggregate prices. If inflation is below target, rates are reduced, which encourages borrowing and increases demand. This system has several disadvantages when considering the transmission mechanism through which prices are considered to be adjusted.

The use of a baseline interest rate as a calibration parameter for the whole economy may be considered rather blunt for a variety of reasons. For example, adjustments to aggregate demand operate at the national level and cannot reflect or adapt to differences in conditions in different geographic areas. As such, distinct areas of the country may be disproportionately affected. The efficacy and coherency of the approach can also be called into question as it is associated with a substantial time lag (e.g., 18 months to 2 years), and a breakdown of policy space when interest rates are close to zero. Furthermore, the inherent requirement, under interest rate targeting policy, for the government to pay interest on the net financial assets held by the private sector serves as a government transfer payment to holders of financial wealth. Not only is this highly regressive, it may cause contradictory effects when interest rate rises that are intended to suppress spending power cause an elevated flow of income to the private sector.

Perhaps more fundamentally, under the existing monetary policy regime, changes to aggregate demand are used as a proxy for influencing the price level. Invariably, the reduction of aggregate spending causes a reduction of incomes and consequently employment levels and, as such, unemployment represents a systematic component of the policy transmission mechanism. In effect, the quantity of unemployed persons within the economy operates as a buffer stock which can be adjusted in order to optimise aggregate prices. It follows that long-term full employment is a systemic impossibility, and this has obvious negative ramifications for individuals and society in general. Employment policy in the UK also suffers from another inherent bias wherein private sector employment is reflexively preferred to public sector employ-

ment. As such, private sector businesses are treated somewhat like community centres, depended upon and saluted for their provision of jobs. At the same time, however, the firms are expected to increase productivity through competition and innovation, an objective which essentially requires a reduction in labour inputs.[65] Such a viewpoint is obviously incoherent and a disservice to society.

Modern Monetary Theory proponents propose solutions to these deficiencies that include two main components, both of which could be readily implemented in the UK given the political will. The first component is the provision of a guaranteed job, which offers any individual the opportunity to work in their local area for up to 35 hours per week at a fixed, living wage.[66] As such, the Job Guarantee produces genuine full employment at all times. When economic conditions are contractionary and non-government sector employment is reducing, workers can shift from the non-government sector into the Job Guarantee sector. Under more buoyant conditions, workers can transition to the private sector in order to take advantage of higher wage opportunities. In all cases, no person seeking to undertake paid work is unable to find it.

Moreover, the Job Guarantee provides macroeconomic stabilisation via two channels. The first is as a powerful spend-side automatic stabiliser. When an individual moves from the Job Guarantee to the private sector, government spending reduces just as private sector spending increases. Equally, when private sector activity reduces and wages are replaced with the Job Guarantee wage, government spending is accordingly increased as the private sector spending is withdrawn. In this regard, the Job Guarantee provides a more powerful stabilisation effect in comparison with existing Universal Credit support for the unemployed, because the Job Guarantee wage is equivalent to one in the private sector. As such, any swings in aggregate demand caused by increasing or decreasing private sector activity are dampened to a much greater degree than under conventional policy. For example, when a person transitions into a booming private sector, the size of the reduction in government spending through the removal of a Job Guarantee wage is much greater than with the removal of existing out-of-work benefits, and this therefore curbs the potential inflationary conditions to a greater extent. Moreover, the adjustments are spatially targeted precisely where they are required: in an area where private sector employment is increasing, government spending on Job Guarantee wages will reduce, while at the same time increasing in weaker areas elsewhere in the country.

The second stabilisation channel comes via the development of more competitive conditions which ensure that wages and prices more closely track increases in productivity. The Job Guarantee wage represents a floor on the price of labour, and this serves to stifle potential deflationary conditions by limiting any downward pressure on wages and thus overall spending. With

the introduction of a Job Guarantee paying living wages, and because workers can choose to take the guaranteed job, workers no longer have to accept exploitative, low-paid work with poor conditions elsewhere. Instead, firms are required to offer improved terms that reflect the risk and reward of the work in order to attract labour, or deliver their products with fewer labour inputs by increasing productivity. Equally, though, employers have the opportunity of hiring from the pool of labour on a guaranteed job if the demands of workers are judged to exceed their productivity. Again, in comparison to existing policies which maintain a stock of people out of work, often for long periods, the Job Guarantee ensures that the pool of potential private sector workers is industrious and work-ready and thereby compete more effectively with existing private sector workers. Both of these stabilisation channels exert an expectational anchoring effect on the economy-wide wage structure. In turn, prices in general are anchored: if prices outgrow wages, firms will struggle to sell what they produce and the unsold stock will cause prices to fall. The result is that firms are treated like cattle rather than pets: those which drive increases in productivity are favoured; those that don't fail.[67] Firms can shed labour as automation proceeds, safe in the knowledge that the Job Guarantee will support those displaced. At the same time, demand remains high and productivity is driven forward, and this provides the source of sustainable, stable wage growth.

As we've seen, there is no financial constraint on the UK government in providing such a programme. Indeed, the government is the only entity which can divorce the offering of work from the profitability of hiring workers and thereby maintain the infinitely elastic demand for labour required to effectuate a price anchor. Moreover, several components of the necessary infrastructure are already up and running. The National Insurance (NI) system provides a unique reference for all working-age individuals in the UK and records their payment history and eligibility for the UK state pension. All individuals with a NI number would be eligible for the Job Guarantee. The Department for Work and Pensions (DWP) Universal Credit[68] (UC) system is used to assess eligibility for, and to administer, a variety of social security payments including jobseeker's allowance and other benefits. The DWP pays certain 'in-work' benefits on the basis of information relayed to HMRC via the Pay-As-You-Earn (PAYE) wage calculation and tax deduction system. This information details how much an individual has been paid, what their tax deductions are, and an indication of how many hours they have worked in that period, and enables the DWP to pay the right amount of 'top up' Universal Credit to those eligible. Extending this scheme to support the payment of hours worked under a Job Guarantee would be straightforward, as demonstrated by the successfully delivered furlough scheme which was administered by the UK authorities during the Covid-19 pandemic. The difference would be that the

PAYE scheme that the guaranteed job workers would be paid through would be operated by a public authority rather than a private company. The main area of policy development would involve extending the capability of work coaches to establish initiatives to create socially beneficial work, and extending the existing public sector job creation systems to provide a guaranteed job to everybody that wants one.[69]

With a Job Guarantee providing the primary macroeconomic stabilisation function, there is no requirement for an interest rate targeting monetary policy. Therefore, the other main policy proposal would be to peg the silver pound to the gold pound and eliminate the interest rate between them. Under such a framework there is no need for central bank reserves to be reflexively drained from the banking system in order to push rates upwards, and negotiable government securities thereby become obsolete. The DMO would no longer be required and this significantly simplifies the functioning of the Exchequer. The government would have no interest costs, and this would further increase general productivity levels since an equivalent flow of income from the government to the private sector could be associated with useful activity, rather than regressive transfer payments to holders of monetary wealth.

Although the UK government has no need for sterling from anybody, there are entities within the economy that need to save very safely. Individuals, for example, have a justifiable need for growing savings backed by the government, if the society considers that private saving for retirement is the way to deal with pension provision. Pension funds cannot provide that support by private means alone, which is why index-linked gilts were developed.[70] An alternative approach could involve a form of annuity issued by NS&I on a non-negotiable basis, where an individual can build up an annual additional pension by purchasing 'Granny Bonds' directly. These would have limited residual capital value and no capital uplift, but would give a secure additional income in retirement for ordinary people who decide to be thrifty and save. The precise level and nature of the instruments is open to debate.[71] Beyond that, deposit insurance in banks would cover rainy day funds. The current value is £85,000 but unlimited deposit insurance for individuals (directly and on trust – to cover client accounts at solicitors, for example) would be as much as is required. As for everybody else, the market will provide. For corporations, the default option for their cash pile deposit is an involuntary investment in a bank, though society doesn't want them to have a cash pile, it wants them to run their working capital on an overdraft.[72]

Proponents of Modern Monetary Theory understand that a permanent zero per cent policy rate is the base case for analysis of a floating exchange rate currency, since that is the natural rate of interest in such a system.[73] It concludes that it is better to pay government money out to people as wages via a guaranteed job than to banks as interest, and that has far greater automatic

stabilisation effect than any other option. This, in turn, will lead to an economy that can run at a higher real output than it is capable of doing under the current regime of targeting inflation with discretionary interest rate adjustments. It is this capacity to run the economy at a higher output level and yet still maintain stable prices that is the Modern Money Advantage. Thanks to accidents of history and centuries of trial and error, the UK monetary system and legislative framework is uniquely placed to press home that advantage.

NOTES

1. Cameron 2010.
2. Munro 2021.
3. Aldrick 2020.
4. Bank of England Act 1998, s19.
5. Bank of England Market Operations Guide n.d.
6. Carney 2013.
7. Statutorily, National Insurance contributions are not formally surrendered to the Central Funds, as other public receipts are (typically the Consolidated Fund). However, National Insurance receipts are, as a matter of policy, managed in the form of a deposit within the Debt Management Account where they become, implicitly, a liability of the Consolidated Fund. The National Insurance Fund is therefore managed, ultimately, with recourse to the Central Funds.
8. See Berkeley et al. 2020, Appendix H for a short history of the Consolidated Fund.
9. National Loans Act 1968.
10. 'For my own part, I am afraid that the Bill itself and the noble Lord's explanation of it remind me a good deal of the Athanasian creed: the Consolidated Fund is incomprehensible; the National Loans Fund incomprehensible; the Local Loans Fund incomprehensible; and yet there are not three incomprehensibles, but one incomprehensible' (Earl of Dundee 1968).
11. Exchequer and Audit Departments Act 1866.
12. Contingencies Fund Act 1974.
13. Banking Act 2009.
14. National Loans Act 1968.
15. The organisation of these functions in legislation has evolved through time with Supply and Appropriation Acts being the most recent incarnation, in place since 2011. Previously, annually authorised spending would be presented via separate Appropriation Acts and Consolidated Fund Acts, amongst others.
16. Ulph 1985.
17. The Transfer of Functions (Office of Her Majesty's Paymaster General) Order 2006, explanatory memorandum.
18. BACS payments, for example, use the BACS3 'government grade' protocol which substitutes Exchequer accounts for the GBS commercial partners' own reserve accounts in the transaction settlement chain.
19. Parliamentary credits are first allocated to the Paymaster General Supply Account from which they are transferred to the Drawing Account for use in transaction settlement. This is a technical distinction and the activities can be satisfactorily modelled by a single account.

20. 'Cash' in this sense means sterling, that is, a liability of the Bank of England.
21. On a typical working day some £400 million of state pension payments will be settled into the banking system by BACS at 9:30 am, all from an account with a zero balance at the start of the day.
22. Finance Act 1954, s34(3).
23. Brittain 1959.
24. Finance Act 1954, s34(3).
25. National Loans Act 1968, s12(7).
26. National Loans Act 1968, s18.
27. The Ways and Means Account is formally a liability of the National Loans Fund.
28. Equally, the direct purchase of government securities, from the Bank of England's Banking Department, by the government would represent the opposite type of accounting adjustment, in cases where the Bank's monetary operations left the Exchequer with a cash surplus.
29. The European Union Budget, and Economic and Monetary Policy (EU Exit) Regulations 2019, s6.
30. 'Borrow' from the Central Funds' point of view is strictly the Oxford dictionary meaning: 'acquire temporarily with the promise or intention of returning'. There is no further constraint: express or implied.
31. Although the Consolidated Fund provides a backstop on the National Loans Fund, the routine responsibilities of the latter fund such as debt repayments are not formally recognised as Consolidated Fund Standing Services, despite having their roots in a permanently enacted item of legislation. This is because of the unique relationship between the two funds which involves mutual funding activities which wash-out in the end-of-day accounting.
32. These balances are administered by the GBS commercial banking partners (NatWest and Barclays) and can therefore be considered as pseudo-commercial bank deposits. They are not commercial bank deposits proper, however, as they arise directly from Parliament and are supported by settlement responsibilities of Exchequer accounts held at the Bank of England.
33. The General Account of the Commissioners of Inland Revenue and the General Account of the Commissioners of Customs and Excise.
34. DMO Annual Review 2020, p. 35.
35. Gilt repurchases became the primary instrument for the Bank's operations in the mid-1990s.
36. Strictly speaking it represents a weekly average target balance and so can vary from day to day, but not over timescales beyond one week.
37. This function – designed so that use of the Ways and Means Account can be avoided – essentially acts as a pre-funded Ways and Means advance. See Berkeley et al. 2020, section 6.4, p. 69.
38. Equally, under the terms of the Sterling Monetary Framework, commercial banks have no discretion to refuse the receipt of a central bank reserve transfer and the corresponding issuance of their own deposit liabilities to their customers.
39. It is possible for the Bank of England to hold private sector assets on its balance sheet though since the 1990s the major form of security used in Bank operations has been gilts. These may not appear explicitly on the Bank's balance sheet when used as collateral or held by a subsidiary. In the past couple of decades any purchase of private sector securities by the Bank has been accompanied by indemnities against potential losses or capital injections provided by HM Treasury.
40. Currency and Banknotes Act 1928, s3(1) and National Loans Act 1968, s9(3).

41. Financial relationship between the Treasury and the Bank of England 2018, §20, p. 5.
42. Financial relationship between the Treasury and the Bank of England 2018, §9, p. 2.
43. Between 2007 and 2009, four banking institutions were nationalised: the Royal Bank of Scotland, Lloyds, Northern Rock and Bradford & Bingley (Mor 2021).
44. For example, £20 billion was loaned from the National Loans Fund to the Financial Services Compensation Scheme in 2008 in order to compensate four million customers of the failed banks Bradford & Bingley, Heritable Bank plc, Kaupthing Singer & Friedlander Limited (KSF), Landsbanki Islands hf and London Scottish Bank plc (Mor 2021, p. 17).
45. Finance Act 1954, s34(3).
46. Contributions to the National Insurance Fund are dematerialised into claims upon the National Loans Fund via the National Insurance Fund Investment Account and the Debt Management Account, plus the National Insurance Fund is topped up periodically by Parliamentary vote. Transitively these are all backstopped by the Consolidated Fund.
47. The National Loans Fund may also issue Treasury bills though this is not currently routine.
48. In general, deposits made in the National Loans Fund are known as 'Ways and Means borrowing'. Similarly, governmental and other public bodies can place deposits with the Debt Management Account which also represent a (non-negotiable) claim upon the Central Funds. Such deposits in the NLF and DMA are made by public sector entities on a day-to-day basis as part of the Exchequer's cash management cycle.
49. This function is somewhat weakened by the introduction of interest on central bank reserve deposits from 2006 which alone provides a floor to interbank lending rates, leaving Bank interventions via the gilt market to secure only the upper bound on rates. In any case, the Bank's Quantitative Easing programme, from 2009, represents an unprecedented, ongoing purchase of gilts in order to push rates (including long-term rates) down to the policy rate.
50. Vlieghe 2020.
51. These initiatives can be considered as 'collateral upgrade' services whereby the Bank agrees to exchange lower- for higher-quality collateral in an attempt to stimulate banking activity.
52. HM Treasury Annual Report and Accounts 2020, p. 193.
53. Public sector entities such as the National Insurance Fund, National Lottery and local authorities are also permitted to hold gilts as a store of wealth but can additionally access deposit facilities provided by the Debt Management Office which represent an equivalent claim on the Central Funds.
54. 'Discounting' in banking is the practice of taking on an asset in return for issuing one's own liabilities. The discrepancy between the values of the asset and the liabilities is known as a 'haircut'. The difference between the amount of liabilities received and the amount required to repurchase the asset in the future is known as the 'discount' which can be construed as a fee or an interest rate and will convey an income to the issuer.
55. In principle, either of the issuers of gold (DMO) or silver pounds (Bank of England) could fulfil this function as long as they can maintain an adjustable buffer stock of each other's pounds. In practice, the DMO is prevented by policy from varying its balance of silver pounds whereas the Bank has policy freedom

to accommodate demand on its own terms and the DMO guarantees a supply of gold pounds to the Bank if required.

56. This is reminiscent of Michał Kalecki's postulation that the government effectively 'pays its suppliers in government securities'. It can be argued that the current regime of 'gold' pounds and 'silver' pounds are effectively separate currencies with a floating exchange rate between them and that a Zero Interest Policy would merely be Parliament forcing the Bank of England to peg 'silver' pounds to 'gold' pounds at a one-to-one exchange rate.
57. Non-overnight liquidity will show up on the Bank of England balance sheet as loans and advances to banks and other financial institutions.
58. HM Treasury – FOI2020/02182 2020.
59. Sterling balances at the Bank of England currently earn interest though this has not always been policy.
60. Bank of England Quarterly Bulletin 1964.
61. 'Excess' in this case is defined with respect to the start of the day.
62. Not to mention the colossal quantity of excess reserves the banks hold thanks to Quantitative Easing.
63. Note that this represents one important distinction between the UK system and that of the Eurozone. In the Eurozone, national governments also inject money into their national banking systems via intraday credit but the holders of such excess funds have a *choice* of national jurisdictions from which to buy euro-denominated government bonds. As such, the demand for any particular government's bonds does not necessarily match that government's daily net spending (and therefore offsetting objective) and rates on government bonds issued by states across the Eurozone thereby can diverge according to market perception (assuming no intervention by the European Central Bank).
64. 'There is no reason to assume that MMT-inspired policies will cause a depreciation of the domestic currency. Indeed, it is more likely to cause an appreciation' (Harvey, Chapter 6, page 125, this volume).
65. It could be said that the task of the private sector is to fully automate everything and put everybody out of work.
66. Likely at or above the living wage proposed by the Living Wage Foundation, about £10 per hour in 2021, with no London weighting.
67. The 'what about the jobs, can I have a bailout' cries can be ignored, because everybody has an alternative guaranteed job to go to. Anybody paid more than the living wage has an alternative bid in the economy – or they are overpaid – and everybody else has the Job Guarantee.
68. Universal Credit can be considered to be a one-sided job provision system whereby individuals are paid a (much) lower-than-living wage to undertake the full-time job of searching for alternative work which – in aggregate – does not exist. It cannot discipline firms because people cannot choose to take Universal Credit. The contrast of this economically and socially inept mechanism with the Job Guarantee could not be starker.
69. It's interesting that the HM Prison and Probation Service can create jobs on demand to service Unpaid Work Orders ordered by the courts (Brookes 2021), but creating jobs on demand is supposedly impossible anywhere else in the public sector.
70. Oliver and Rutterford 2020.
71. Wilson 2021.
72. Wilson 2021.
73. Forstater and Mosler 2005.

REFERENCES

Aldrick, P. (2020), 'BBC "Misled Viewers" on Scale of National Debt', *The Times*, 30 November, accessed 15 August 2021 at https://www.thetimes.co.uk/article/bbc-misled-viewers-on-scale-of-national-debt-ckvkcwc7j

Bank of England Act (1998), accessed 29 August 2021 at https://www.legislation.gov.uk/ukpga/1998/11/introduction

Bank of England Annual Report and Accounts (2021), Bank of England, 28 February, accessed 15 August 2021 at https://www.bankofengland.co.uk/-/media/boe/files/annual-report/2021/boe-2021.pdf?la=en&hash=965204F6565CB8CAD29A86E595CB7F02E8A54E07#page=129

Bank of England Market Operations Guide (n.d.), accessed 15 August 2021 at https://www.bankofengland.co.uk/markets/bank-of-england-market-operations-guide/our-tools

Bank of England Quarterly Bulletin (1964), 'The Treasury Bill', 3, 186–93, 1 September.

Banking Act 2009 (2009), accessed 26 August 2022 at https://www.legislation.gov.uk/ukpga/2009/1/introduction

Berkeley, A., R. Tye and N. Wilson (2020), United Kingdom: The Gower Initiative for Modern Money Studies, 26 December, accessed 26 December 2020 at https://gimms.org.uk/2020/12/26/accounting-model-uk-exchequer/

Brittain, H. (1959), *The British Budgetary System*, London: Allen & Unwin.

Brookes, A. (2021), 'Offenders Tidy up Barking as Part of Unpaid Work Scheme', *Barking and Dagenham Post*, 28 June, accessed 17 August 2021 at https://www.barkinganddagenhampost.co.uk/news/offenders-do-unpaid-work-to-tidy-up-barking-8092494

Cameron, D. (2010), David Cameron: We Must Tackle Britain's Massive Deficit and Growing Debt: Conservative Party Speeches, Speech, 7 June, accessed 15 August 2021 at http://conservative-speeches.sayit.mysociety.org/speech/601466

Cameron, D. (2010), David Cameron: We Must Tackle Britain's Massive Deficit and Growing Debt: Conservative Party Speeches: Speech, 7 June, accessed 28 September 2022 at https://www.gov.uk/government/speeches/prime-ministers-speech-on-the-economy

Carney, M. (2013), The UK at the Heart of a Renewed Globalisation, Speech presented at the 125th anniversary of the *Financial Times*, London, 24 October, accessed at https://www.bankofengland.co.uk/-/media/boe/files/speech/2013/the-uk-at-the-heart-of-a-renewed-globalisation.pdf

Contingencies Fund Act (1974), accessed 26 August 2022 at https://www.legislation.gov.uk/ukpga/1974/18/introduction

Currency and Banknotes Act (1928), accessed 15 August 2021 at https://www.legislation.gov.uk/ukpga/Geo5/18-19/13/section/3

DMO Annual Review (2020), United Kingdom Debt Management Office, 16 October, accessed 15 August 2021 at https://dmo.gov.uk/media/17019/gar1920.pdf

Earl of Dundee (1968), 'National Loans Bill', in Hansard, vol. 289, UK Parliament, Column 704.

Exchequer and Audit Departments Act 1866 (1866), accessed 17 August 2021 at https://www.legislation.gov.uk/ukpga/Vict/29-30/39/contents

Finance Act (1954), accessed 15 August 2021 at https://www.legislation.gov.uk/ukpga/Eliz2/2-3/44/section/34

Financial Relationship between the Treasury and the Bank of England (2018), accessed 15 August 2021 at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/718481/The_Financial_Relationship_between_the_Treasury_and_the_Bank_of_England_-_MoU_web.pdf

Forstater, M. and W. Mosler (2005), 'The Natural Rate of Interest Is Zero', *Journal of Economic Issues*, 39(2), 535–42.

HM Treasury – FOI2020/02182 (2020), Freedom of Information Response.

HM Treasury Annual Report and Accounts (2020), HM Treasury, 29 September, accessed 15 August 2021 at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/922357/HMT_Group_Annual_Report_and_Accounts_2019-20__003__for_web_accessible.pdf

Mor, F. (2021), Bank Rescues of 2007–09: Outcomes and Cost, 16 August, accessed 16 August 2021 at https://commonslibrary.parliament.uk/research-briefings/sn05748/

Munro, F. (2021), Government Deficit and Debt Return, accessed 16 August 2021 at https://www.ons.gov.uk/file?uri=/economy/governmentpublicsectorandtaxes/publicsectorfinance/datasets/governmentdeficitanddebtreturn/current/previous/v24/rftm19tables1.xls

National Loans Act (1968), accessed 15 August 2021 at https://www.legislation.gov.uk/ukpga/1968/13

Oliver, M. J. and J. Rutterford (2020), '"The Capital Market Is Dead": The Difficult Birth of Index-Linked Gilts in the UK', *The Economic History Review*, 73(1), 258–80.

The European Union Budget, and Economic and Monetary Policy (EU Exit) Regulations (2019), accessed 9 January 2022 at https://www.legislation.gov.uk/uksi/2019/484/introduction

The Transfer of Functions (Office of Her Majesty's Paymaster General) Order (2006), accessed 15 August 2021 at https://www.legislation.gov.uk/uksi/2006/607/memorandum/contents

Ulph, C. (1985), *150 Not Out: The Story of the Paymaster General's Office, 1836–1986*, Crawley, West Sussex: Her Majesty's Paymaster General's Office.

Vlieghe, G. (2020), Monetary Policy and the Bank of England's Balance Sheet, Speech by Gertjan Vlieghe, Bank of England, 23 April, accessed 15 August 2021 at https://www.bankofengland.co.uk/-/media/boe/files/speech/2020/monetary-policy-and-the-boes-balance-sheet-speech-by-gertjan-vlieghe.pdf

Wilson, N. (2021), 'The Only Bonds We Need Are Granny Bonds', accessed 17 August 2021 at https://new-wayland.com/blog/the-only-bonds-we-need-are-granny-bonds/