An Accounting Model of the UK Exchequer

Andrew Berkeley, Richard Tye & Neil Wilson

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Preface

Even if you previously believed it was firmly attached, the global pandemic of 2020 has caused the mask of ‘fiscal responsibility’ to slip away completely. Politicians that were previously preaching hair shirts of austerity have been able to find billions of pounds, dollars and euros from somewhere to prop up their economies while the inflation that we were told would run rampant if we were ever to undertake such an action has been noticeable by its absence. Of course, those with knowledge of Japan have understood this for over 30 years, but it has always been dismissed as a one off - down to the peculiarities of the Japanese economy and their ‘way’. Now it turns out that everywhere has turned Japanese and the outcome is much the same as in Japan.

So what precisely is happening on the ground here in the UK? Clearly the prescriptions of the economic elite are incomplete in some way, couched as they are in abstract language and arcane mathematical formulae that are more in keeping with alchemy than science.

The motivation for conducting this study lies in the recognition that there are no extant sources within the economic literature in the public domain that describe and explain the precise legislative, administrative and financial mechanisms that drive the financial operations of the UK Government. Given the scale and important role that government finance plays in the economy, it is perhaps surprising, and some may assert damming, that the economics profession in the UK has, to date, not conducted a study of the UK Exchequer in the interests of public education. As a consequence of this omission, the authors believe that public debate and discourse among academics, politicians, media commentators and the wider public is founded to a large extent on unsubstantiated rhetoric, emotional appeals and simple slogans, whose effect is destructive and results in policy failures. It could be argued that the economics profession itself has been complicit in the obfuscation of economic policy and misdirection of public discourse for their own ends - material or otherwise. We consider that it is therefore critical to cut through this rhetoric, promote understanding and create an informed backdrop upon which to build a constructive public debate focussed on the reality of government financial operations such that future policy decisions lead to beneficial economic outcomes.

This study draws together available information from a broad range of source materials, including parliamentary legislation, and official documentation and communications, in order to develop an accounting framework that incorporates and describes the mechanisms and processes by which the UK Government interacts with the banking system. The primary focus is on the system of accounts, legal provisions and conventions that constitute the Government's banking arrangements under what is known as ‘the Exchequer’. We surmise that much of mainstream debate regarding government finances centres on a number of misconceptions and draw the conclusion that the Consolidated Fund - the central accounting unit within government - is the source of ‘moneyness’ in the UK, not the Bank of England as commonly believed. Throughout this study, we show that UK Government activity underpins the management of the entire UK monetary system, and the UK Government is subject only to the will of Parliament, not any external financial constraints as often purported.
1. Introduction

In the decade between the Global Financial Crisis (GFC; 2007-08) and the Covid-19 pandemic (2020), government finances have been at the forefront of the UK political landscape. Both crises resulted in significant government interventions and have precipitated intense debate regarding the extent to which the Government can or should take a central role within the economy. Much of this debate has centred around the balancing of government finances, a subject which was paramount in the justification for the coalition Government’s policy of “austerity” from 2010. Various factors related to Government’s financial arrangements have (and still are) often referenced by politicians and media commentators but can usually be categorised into two approximate themes.

Firstly is the idea that the Government is simply unable to provision itself with sufficient money to pay for the public services that the electorate may otherwise desire. This can be seen in outgoing Secretary to the Treasury Liam Byrne’s note to his successor in 2010 which read “Dear Chief Secretary, I’m afraid there is no money. Kind regards – and good luck! Liam”, and which was heralded by the incoming Government as “proof” to the electorate of how damning and uncompromising the state of the Government’s finances were. Chancellor George Osborne extended this logic to urge that government budget surpluses should be targeted as preparation “for the next rainy day”. In some cases, these arguments appeal to the independent status of the Bank of England and the implication therefore that for the Government “there is no magic money tree” (as asserted by Theresa May in 2017) or that “the Government is not some entity that has its own money” (claimed by Rishi Sunak as recently as October 2020).

The other main theme relates to government debt, as encapsulated in this speech by David Cameron in 2010: “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”. The quote uses three related but quite distinct arguments about government debt that are

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1 George Osborne: We’ll run a budget surplus (2013), BBC.
2 Theresa May prompts anger after telling nurse who hasn’t had pay rise for eight years: ‘There’s no magic money tree’ (2017), The Independent.
3 Prime Minister’s speech on the economy (2010), Prime Minister’s Office, 10 Downing Street.
often invoked in discussions about government’s fiscal policies, namely: (1) that debt must be repaid; (2) that interest on the debt is related to the risk perceived by lenders, interest payments are a burden and will inevitably get worse; and (3) that Greece (or another country) provides a suitable analogue for the United Kingdom in these respects.

Scrutinising and appraising these types of statements, and government economic policy more generally, is complex and requires several levels of understanding. The suite of metrics usually considered to represent the ‘government finances’ are, to a great extent, influenced by economic activity taking place beyond government in the wider economy, and this is an area of active research, development and analysis by macroeconomists and modellers. It is also necessary, however, to understand the institutional arrangements, policies and procedures by which the Government directly interacts with the banking system so that the fundamental points of control are to be correctly conceptualised. It is worth noting that many macroeconomic models conceptualise Government in ways that are contrary to much of what appears in mainstream debate. A simple example of this is the ‘government budget constraint’ which allows for government spending to be funded by taxation, borrowing or money creation, where the latter is often rejected as a possibility in common discourse. Equally, the Government and central bank may be treated as being completely consolidated or at least highly coordinated in their activities by macroeconomic modellers, though again, common discourse regularly calls this into question.

Therefore, the precise mechanics by which the UK Government interfaces with the wider economy are to some extent, the source of some confusion or dispute. Perhaps adding to this confusion are the number of institutional changes which have occurred over the past several decades in the UK. The Government’s interactions with the banking sector were extensively described and documented in the mid-to-late twentieth century, most prominently by the Bank of England but also other public sector institutions. Since then, the institutional landscape has evolved resulting in a more varied and disaggregated system. Notable changes in this period include the establishment of the National Loans Fund in 1968, the development of the gilt repo market in the mid-1990s, the granting of ‘operational control’ of monetary policy to the Bank of England (1997), the establishment of the Debt Management Office (DMO; 1998) and the associated transfer of government debt (1998) and cash (2000) management away from the Bank of England, and the establishment of the Government Banking Service (GBS) in 2008 and the Asset Purchase Facility in 2009. The system of Government finance (and surrounding apparatus) is now seemingly more complicated than previously, involving a greater number of, sometimes quite opaque, institutions. As a result, Government finance, unfortunately, is associated with a paucity of documentation which describes and synthesises the interlinkages between these parts or the system as a whole.

In the following sections we will seek to clear the confusion that shrouds Government finances, by describing in detail the institutions of the UK Government and the exact relationships, management and direction of control that flows between them. We can then use this understanding as a basis for exploring the relationships between the funds of the UK Exchequer and the operation of the UK financial system. The paper is organised as follows: we will first summarise the public institutions (section 2) and accounting units (section 3) that are most pertinent to government finance. In section 4 we describe some simple features of the UK banking system in order to provide a context within which the activities of the Exchequer can be placed. We also introduce some basic accounting conventions that will be used throughout the study. Sections 5, 6 and 7 describe the nature of the Exchequer’s interactions with the banking sector as related to expenditure, cash management and the receipt of revenue respectively. In section 8 we discuss the two existing sector consolidations in use within the UK and some implications.

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2. Institutions of Government Finance

A number of public sector institutions are fundamental to the functioning of the Exchequer. Here we summarise the most pertinent features of these institutions before describing the Exchequer itself in more detail.

2.1 Her Majesty’s Treasury

Her Majesty’s (HM) Treasury is the economic and finance ministry of the UK Government. It is the oldest commissioned office of HM Government, sits at the head of the government administration, formulating and implementing national economic policy and administering public money. It is responsible for steering the parliamentary processes which govern public expenditure and revenue. Through various acts of Parliament it provides guarantees and undertakes interventions for purposes of economic and financial stability\(^5\). HM Treasury also runs a centralised accounting and reporting system that records and categorises all departmental expenditure and from which it generates the Whole of Government Accounts (WGA). The head of HM Treasury is the Chancellor of the Exchequer.

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<th>Government Securities</th>
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<td>Tradeable</td>
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<td>Gilts</td>
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<td>Treasury Bills</td>
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The Treasury is ultimately responsible for the issuance and management of the monetary instruments with which government interacts with the Bank of England and the wider economy. These include the securities that are usually considered to represent government borrowing: gilts, Treasury bills, National Savings & Investments, along with Ways and Means advances. Gilt-Edged Stock (or ‘gilts’) are tradeable government securities sold initially with maturities exceeding one year and which pay a 6-monthly coupon (analogous to an interest payment). Treasury bills are government securities with a

\(^5\) See for example, the Financial Service Compensation Scheme (FSCS) and the Banking Act 2009.
maturity of less than one year which pay no coupon but may trade to some extent below face value and thereby confer a yield to the holder on redemption. National Savings & Investments (NS&I) is an Executive Agency of HM Treasury which offers savings facilities to individuals. Ways and Means advances (W&M) are liabilities of HM Treasury held by the Bank of England in association with advances provided by the Bank. The latter two forms of government security (NS&I, W&M) are notable for being non-tradeable whereas gilts and Treasury bills are traded widely.

2.2 The Bank of England

The Bank of England (‘the Bank’, or BoE) 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, formalised under the ‘Sterling Monetary Framework’ (SMF), underpin a commercial banking system which is responsible for almost all of the money routinely used by businesses and households in the UK.7 The Bank’s functions are organised across two departments. The Banking Department is concerned with the issuance and management (via monetary policy) of deposits held by SMF participants (i.e. The banking sector), while the Issue Department manages the banknote supply.

HM Treasury is the sole shareholder8 of the Bank of England following nationalisation 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 199810 - commonly understood to represent granting of independence to the Bank - added the clause “except in relation to monetary policy”, with the Financial Services Act 2016 added a similar exemption relating to Prudential Regulation11. HM Treasury retains a public interest power to give directions to the Bank regarding monetary policy12, sets the Bank’s financial stability objectives, appoints or approves all of the members of the Monetary Policy Committee13, and has been closely involved with many prominent monetary policy initiatives since 200814.

The Bank also operates as banker for the Government and wider public sector through the provision of a system of accounts that are informally called ‘the Exchequer’. These accounts include the Account of Her Majesty’s Exchequer that forms part of the ‘Consolidated Fund’ which sits at the centre of government financial flows and will be considered in some detail throughout the rest of this study.

2.3 The Debt Management Office

The Debt Management Office (DMO) is an Executive Agency of HM Treasury. It was established in 1998 in order to assume responsibility for government debt management (1998) and cash management (2000) activities which were previously undertaken by the Issue Department of the Bank of England. The functions of debt and cash management loosely refer to the management of the Government's stock of gilts and Treasury bills. Gilts are typically sold in regular quantities of around

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6 Refer to Appendix B and C for a brief history of the Bank of England and its early note issuance.
7 See the Bank of England’s Sterling Monetary Framework SMF Operating Procedures.
8 See Who owns the Bank of England? (2020), Bank of England. See also the respective HM Treasury (e.g. p.175) and Bank of England Annual Report and Accounts.
11 The Prudential Regulation Authority is a subsidiary of the Bank of England. It is there to make sure UK financial services and products can be provided in a safe and sound way. What is the Prudential Regulation Authority (PRA)?
14 See, for example, the Special Liquidity Scheme (SLS), the Bank of England Asset Purchase Facility Fund (BEAPFF), Quantitative Easing (QE), Funding for Lending Scheme (FLS), Term Funding Scheme (TFS), and Discount Window facility (DW) which have involved government indemnities or loans of government securities to the Bank.
1.5bn to 5bn, via primary dealers known as GEMMs (Gilt-Edged Market Makers), to institutional investors and represent the greater proportion of what is known as the ‘government debt’. The strategic management of this stock over annual timescales is termed ‘debt management’. The shorter-term, reactive trading of securities to smooth daily cash flows constitutes ‘cash management’, and typically involves Treasury bills, gilt repurchase (repo, reverse-repo) agreements and, if other means fail, Ways and Means advances. The Debt Management Office thereby represents the primary interface via which the Government interacts with wholesale financial markets. The Debt Management Office also plays a role in the administration of government loans to public sector bodies via the Public Works Loan Board (PWLB) as well as the investment of funds on behalf of some public bodies (e.g. National Insurance Fund, National Lottery and the Crown Estate).

2.4 Parliament

The UK Parliament is the supreme legislative body of the United Kingdom and is fundamental to the functioning of the Exchequer. Each annual session of Parliament begins with the Queen’s Speech announcing the legislative priorities the Government intends to pass before the House of Commons in the coming year. The speech is normally given in May and, following its delivery, estimates for departmental expenditure are presented to Parliament by HM Treasury. The House of Commons ‘appropriates’ tax revenues for particular spending purposes, grants ‘supplies’ to HM Treasury\(^\text{15}\), and authorises ‘issues’ out of the Consolidated Fund. The Supply Estimates process is the means by which the Government seeks authorisation from Parliament to enact its spending programme for the financial year(s) ahead. It consists of presenting detailed departmental expenditure plans to Parliament and culminates in the passing of a Supply and Appropriation Bill which becomes an Act of Parliament. The requirement for the Government to meet its expenditure commitments is a continuous, ongoing process, which does not coincide or align with the Parliamentary timetable. Moreover, in any financial year, the Government cannot know with precision what its final expenditure will be. Nevertheless, all Government spending must be authorised by parliamentary consent and consequently the Supply Process is a multifaceted affair involving a number of bills being presented to Parliament throughout its annual session.

The Main Estimates are published in a single volume, detailing each government department’s spending requirements for the financial year beginning on 1 April. However, some estimates are presented separately. Main Estimates, which cover about 55% of annual government expenditure, are presented in April and are approved by Parliament in July. Parliamentary approval results in the passing of a Supply and Appropriation (Main Estimates) Act. Supplementary Estimates detail amendments to government spending plans that Parliament previously approved via the Main Estimates. They are presented in February and approved in March, prior to the presentation of the Main Estimates for the following financial year. Votes on Account cover about 45% of annual government expenditure and are a means for the Government to obtain advance authorisation for issues from the Consolidated Fund for the next financial year prior to authorisation via the Main Estimates (i.e. between April and July). Votes on account are presented to Parliament alongside the Supplementary Estimates in February, and Parliamentary approval results in the passing of a Supply and Appropriation (Anticipation and Adjustments) Act.\(^\text{16}\) A Supply and Appropriation Act gives legal authority to HM Treasury to “… issue money out of the Consolidated Fund … and apply it in the year … for expenditure authorised by Parliament”.\(^\text{17}\)

\(^{15}\) Technically, supply is granted by Parliament to the Crown and thus must be placed at HM Treasury’s disposal via a Royal Order.

\(^{16}\) Some other types of bill may also authorise government expenditure. Unlike Supply and Appropriation bills, which appropriate and specifically allocate issues from the Consolidated Fund to the various departments of government, a Consolidated Fund bill simply permits the Government to issue funds from the Consolidated Fund. In any Parliamentary session, several Consolidated Fund bills are passed by the House of Commons. In addition, Excess votes give retrospective authorisation for unauthorised departmental expenditure in the previous financial year.

\(^{17}\) Supply and Appropriation (Main Estimates) Act 2020.
Finance Bills are the means by which the Government obtains the legal right to levy taxes. It is an entirely separate parliamentary process from the process of Supply. The Chancellor of the Exchequer delivers the Budget Statement to the House of Commons each year, laying out the nation’s finances and announcing the Government’s taxation policies for the next financial year. The Budget Statement begins the Parliamentary process through which the Government seeks authorisation for its taxation plans and forms the basis of taxation legislation known as a Finance Bill, which, once passed, gives legal effect to the Government’s taxation policies via a Finance Act.

2.5 The National Audit Office

The principal legislation that governs the functioning of the Exchequer is the Exchequer and Audit Departments Act 1866.\textsuperscript{18} This Act established the role of Comptroller and Auditor General (C&AG) while mandating government departments produce annual accounts. The purpose of the Act was to establish “a cycle of accountability for public funds”\textsuperscript{19} beginning and ending in Parliament. It can be summarised in four steps:

1. the Supply Estimates process initiates the cycle whereby Parliament gives authorisation to the Government’s spending programme and issues from the Consolidated Fund;

2. the Comptroller and Auditor General scrutinises Treasury requisitions for sums demanded from the Consolidated Fund to ensure compliance with Parliamentary authority;

3. at the end of the financial year government departments produce their ‘Appropriation Accounts’, audited by the Comptroller and Auditor General;

4. the conclusions of the audits are investigated in the parliamentary Committee of Public Accounts.

The 1866 Act was amended in 1921\textsuperscript{20} with the requirement to inspect every transaction replaced with the requirement to inspect samples, placing the burden of oversight on departmental internal systems of control. In addition the 1921 Act mandated the Comptroller and Auditor General to report to Parliament that expenditure had taken place commensurate with Parliament’s authorisations.

Some sixty years later the National Audit Act 1983\textsuperscript{21} was signed into law. It replaced the Exchequer and Audit Department with the National Audit Office (NAO) that was to be directed by the Comptroller and Auditor General. By virtue of the Act the Comptroller and Auditor General formally became an officer of the House of Commons. It asserted that the Comptroller and Auditor General have “complete discretion in the discharge of his functions” and gave the right to “access at all reasonable times to all such documents as he may reasonably require, for carrying out any examination”. The Act also established a commission to supervise the work of the National Audit Office, known as the Public Accounts Commission.

\textsuperscript{18} Exchequer and Audit Departments Act 1866.
\textsuperscript{19} History of the NAO (2020), National Audit Office.
\textsuperscript{20} Exchequer and Audit Departments Act 1921.
\textsuperscript{21} National Audit Act 1983
3. The Exchequer

The primary accounts of HM Government are held at the Bank of England within a hierarchical system of accounts known as the Exchequer Pyramid (see Figure 1). At the apex of this system are the ‘central funds’ which comprise the Consolidated Fund, the National Loans Fund and the Contingencies Fund, which can be considered the Government's 'wholesale' bank accounts, dealing with centralised balances and large-sum transactions. Below the central funds sit a large number of intermediate and low-level accounts, the most important of which, in terms of government expenditure and receipts, are grouped within the Government Banking Service (GBS). Alongside the central funds is the Debt Management Account, which is used to transact with financial markets on behalf of the National Loans Fund. The entire system or group of government accounts is considered to be "one general fund" in the books of the Bank of England, originally known as 'The Account of Her Majesty’s Exchequer' - 'the Exchequer' for short.

3.1 The Central Funds

3.1.1 The Consolidated Fund

The Consolidated Fund (CF) was established in 1787 and is the legal centrepiece of UK public revenue and expenditure. As a bank account it was transferred to the Bank of England in 1834, when the ancient office of the Exchequer was abolished, and named, as stated above, the Account of His Majesty’s Exchequer. Payments from this account must be authorised in advance by Parliamentary Acts. The majority of UK public expenditure is made out of the Consolidated Fund, and it is the final destination of the majority of taxes and other public income. As such, it can be conceptualised as the Government’s “current account”. However, it comprises more than just a bank account as it holds assets owned by the Treasury. The Consolidated Fund is administered by the Exchequer Funds and Accounts team (EFA), a department of HM Treasury, such that the Exchequer Account at the Bank ends each working day with a balance of zero. This is because any surpluses or deficits at the conclusion of daily business are balanced by transfers to or from the National Loans Fund Account.

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22 The Exchange and Equalisation Account (EEA) - which holds the UK government's gold and foreign currency reserves, and International Monetary Fund Special Drawing Rights, managed by the Bank of England - is also one of the central funds. The EEA will not be considered in detail here as it is not directly pertinent to the understanding of government financing.

23 Exchequer and Audit Departments Act 1866 s11.

24 Exchequer and Audit Departments Act 1866 s10 (enacted).

25 Refer to Appendix G for a brief history of the Consolidated Fund.
The assets held by the Consolidated Fund include the voted funds distributed to departments by HM Treasury, HMRC funds that haven’t been paid over yet, advances to the Contingencies Fund, as well as income paying subsidiaries like the Bank of England and the Royal Mint.

3.1.2 The National Loans Fund

The National Loans Fund (NLF) was established by the National Loans Act 1968, enabling borrowing and lending activities to be formally separated from the expenditure and the receipt of taxes (and other forms of income) in the Exchequer accounts (previously, these activities were undertaken within the Consolidated Fund). Also managed by the EFA team, it is the principal borrowing and lending account, holding the financial assets and liabilities of the Government. Although its main role is to meet the financial requirements of the Consolidated Fund, it also provides support to other government departments and agencies including, for example, local authorities, the Financial Services Compensation Scheme (FSCS) and Public Works Loan Board (PWLB).

Gilts, and Ways and Means advances from the Bank of England, are formally liabilities of the National Loans Fund, and the National Loans Fund may also issue Treasury bills under some circumstances. Section 19 of the 1968 Act explains that “the net liabilities of the NLF are a liability of the CF”.

3.1.3 The Contingencies Fund

The Contingencies Fund is used to meet the need for urgent payments in excess of quantities already authorised by Parliament. Typically this would be in anticipation of Parliamentary provision or “to meet other temporary cash deficiencies”. Formerly known as the Civil Contingencies Fund (CCF), it was established in 1862 and comprised a fixed capital of £120,000. Nowadays, the Contingencies Fund operates by drawing upon the Consolidated Fund and advancing money to government departments in accordance with the Miscellaneous Financial Provisions Act 1946. These advances are to be paid back to the Consolidated Fund within the same or following financial year out of subsequently authorised expenditure. The Contingencies Fund Act 1974 set a limit on outstanding advances equal to 2% of the previous year’s total authorised expenditure. The Contingencies Fund Act 2020 temporarily increased the amount to 50% until 1 April 2021. The Fund therefore presents HM Treasury a limited degree of flexibility with respect to expenditure authorised by Parliament.

3.1.4 The Debt Management Account

The Debt Management Account (DMA) was established in 1998 by an amendment to the National Loans Act 1968. Its remit is to undertake market activities on behalf of the National Loans Fund with the aim of balancing any daily deficit or surplus on the National Loans Fund. The Debt Management Account is administered by the Debt Management Office, which as explained above is an executive agency of HM Treasury, and conducts both daily cash management and long-term debt management responsibilities. Prior to 1998, both of these activities were undertaken by the Issue Department of the Bank of England. The Debt Management Account is not technically one of the Central Funds but has a close relationship with the National Loans Fund - transfers between the two accounts occurring each day - and conceptually can be considered to sit at the apex of the Exchequer Pyramid. The net liabilities of the Debt Management Account are liabilities of the National Loans Fund.

26 National Loans Act 1968.
27 Contingencies Fund Act 1970 s1
28 Miscellaneous Financial Provisions Act 1946 s3
29 Contingencies Fund Act 1974 s1 (as enacted)
30 Contingencies Fund Act 2020 s1
31 For example see Statement giving notice that the department has drawn advances from the Contingencies Fund to enable expenditure on COVID-19 support packages (18 June 2020).
33 See Schedule 5A, section 11 of the National Loans Act 1968.
Figure 1: A schematic representation of the Exchequer Pyramid. At the top is the Debt Management Account, beneath which are the Central Funds (minus the Exchange Equalisation Account). In the third tier of the Pyramid are Principal accounts managed by Government Banking Service which hold the consolidated working balances of government departments. At the base are accounts provided by commercial partners, Natwest, Barclays and Citibank, which deliver retail-level banking services to departments but are funded by, and operate closely with, the Government Banking Service Principal accounts.

3.2 Government Banking Service

Beneath the Central Funds are a further hierarchy of accounts, mostly managed by the Government Banking Service (GBS) which connects the core Exchequer with the wider banking system. Following a review of government banking services by HM Treasury, and the Bank of England’s decision to withdraw from retail banking transmission services by 2009, the Government Banking Service was established in May 2008 to operate as the “shared banking service across central government”. The founding of the Government Banking Service incorporated the Office of Her Majesty’s Paymaster General (PMG), which had been the principal paying office for the Government for over 170 years.\textsuperscript{34} The HM Paymaster General’s established money administration services were extended across the Government Banking Service to include HM Revenue and Customs (HMRC) and National Savings and Investments (NS&I) accounts, which previously utilised seven commercial banking providers. The Government Banking Service is formally administered as part of HMRC and manages approximately 2,000 such accounts for over 750 government organisations.

The interface that the Government Banking Service presents to the commercial banking sector is complex, owing to the unique activities and institutional relationships that characterise the Government and thereby it’s banking requirements. Services are provided by three commercial partners under seven year contracts that were last awarded in 2015. This arrangement provides resilience against operational failures, discourages supplier fragmentation, and protects the

\textsuperscript{34} Paymaster General Act 1835.
Government’s securities trading activities by ensuring that no single banking counterparty has full visibility over the Government’s real time cash flows\textsuperscript{35}. Barclay’s currently provides services to HMRC and the Driver and Vehicle Licensing Agency (DVLA), ostensibly related to government revenue. NatWest (formerly Royal Bank of Scotland Group) serves all other government departments and public bodies and thereby most public expenditure. Citibank provides foreign exchange services\textsuperscript{36}.

The accounts and services provided by these commercial partners to government or public sector ‘customers’ are mapped onto Government Banking Service accounts held at the Bank of England organised functionally into those associated with HMRC, NS&I, and HM Paymaster General\textsuperscript{37}. These ‘principal’ accounts\textsuperscript{38} facilitate the settlement of payments into, and out of, the banking sector and thereby mitigate the settlement and liquidity risks inherent in a wholly commercial banking solution\textsuperscript{39}. The balances held in these accounts are classified as ‘public deposits’\textsuperscript{40} on the Bank of England’s balance sheet (rather than reserves) and are not included in standard monetary aggregates figures. Such balances are transferred into the central funds each night (as described below) and are therefore “temporary resting places for money drawn from or coming to the CF”\textsuperscript{41}.

HM Revenue and Customs (HMRC) was created in 2005 with the merger of the Inland Revenue and HM Customs and Excise\textsuperscript{42}. This did not affect the two principal accounts used by these bodies - ‘the General Account of the Commissioners of Customs and Excise’ and ‘the General Account of the Commissioners of Inland Revenue’ - which remain active according to current legislation\textsuperscript{43}. Payments to HMRC, received in the first instance into accounts at Barclays, flow into these accounts at the Bank of England regularly through each day\textsuperscript{44}. In the accounting examples set out below we assume a single principal account for HMRC for general receipt purposes for simplicity.

Administration and oversight of the Paymaster General accounts held at the Bank of England was transferred to HMRC in 2006\textsuperscript{45} and subsequently incorporated into Government Banking Service - at which point the Office of the HM Paymaster General was officially closed\textsuperscript{46}. The accounts continue to serve their earlier function of meeting the expenditure requirements of government departments by receiving cash from the Consolidated Fund Account and settling payments into the banking system. Under the Government Banking Service, for example, the accounts of HM Paymaster General at the Bank of England are used to fund payments made by government departments via their front-line resource accounts held with NatWest. Historically, HM Paymaster General has held at least three

\begin{itemize}
\item \textsuperscript{35} Government Banking Project Consultative Paper (2005), HMRC, HM Treasury, NS&I, PMG.
\item \textsuperscript{36} See HMRC Banking Services Contract Notice (2014) and HMRC Banking Service Contract Award Notice (2015).
\item \textsuperscript{37} “Below the central accounts and within the exchequer pyramid we will continue to hold the main departmental accounts. In functional terms these are the HMRC General Account(s), NS&I’s product account(s) and PMG’s concentration accounts. All cash flows arising from customers’ payments and receipts made through accounts at commercial banks will ultimately flow through these accounts”. See Government Banking Project Consultative Paper (2005), HMRC, HM Treasury, NS&I, PMG.
\item \textsuperscript{38} These accounts have their ‘modern’ roots in those held by ‘Principal Accountants’ since at least 1866, including, “the Chief Cashiers of the Banks of England and Ireland (for the service of the debt), the Comptroller-General of the National Debt, the Paymaster-General, and the Accountant-Generals of the Revenue Departments”, and we therefore describe them herein as the “GBS principal accounts”. See Higgs, H. (1914) The Financial System of the United Kingdom; MacMillan and Co. Ltd., 218 pages.
\item \textsuperscript{39} Government Banking Project Consultative Paper (2005), HMRC, HM Treasury, NS&I, PMG.
\item \textsuperscript{40} “Public deposits are the balances on HM Government accounts, including Exchequer, National Loans Fund, Debt Management Office, National Debt Commissioners and dividend accounts”. See Bank of England Annual Report and Accounts (2020), Bank of England.
\item \textsuperscript{42} Commissioners for Revenue and Customs Act 2005.
\item \textsuperscript{43} See, for example section 135 of the Finance Act 1999.
\item \textsuperscript{44} “HMRC’s bank account balances are regularly cleared through the day to move tax receipts to the Bank of England and onward to HM Treasury, in order to protect public money and ensure funds are available to the Exchequer”. See HMRC Freedom of Information response, Ref. FOI2018/00672.
\item \textsuperscript{45} The Transfer of Functions (Office of Her Majesty’s Paymaster General) Order 2006 s3.
\item \textsuperscript{46} Office of HM Paymaster General, GOV.UK.
\end{itemize}
accounts within the Exchequer\textsuperscript{47}, though again, for purposes of simplicity, we model the Paymaster General accounts as a single account covering all activities: Paymaster General Supply Account.

The front-line accounts provided by the Government Banking Service commercial partners to government departments are termed ‘resource’ accounts and these accounts receive ‘Exchequer credits’ from the Consolidated Fund when government departments request drawdown of voted funds from the Treasury. Resource accounts can be considered “pseudo-commercial” accounts in the sense that the underlying flows of money are sourced from, or submitted to, government held accounts at the Bank of England and impact the partners’ balance sheets only transiently or not at all. To a close approximation, the commercial partners deliver “transmission services”, but “do not have access to the deposits”\textsuperscript{48} because “the money itself remains with the Bank of England”\textsuperscript{49}. This arrangement is facilitated by a “service integrator” which provides a unified account ledger system that maps transactions and reconciles balances between the multiple banking entities\textsuperscript{50} and, crucially, informs the market trading activities of the Debt Management Office in real time.

3.3 The National Insurance Fund

The National Insurance Fund (NIF) was established in 1911 but has been reformed by later Acts of Parliament, in particular the National Insurance Act 1946 and the National Assistance Act 1948, which created the modern welfare state. National Insurance Contributions (NICs) are paid into the NIF by HMRC (less deductions for an allocation to the NHS), and expenditure on benefits such as the State Pension, Maternity Allowance, and Contribution-based JobSeeker’s Allowance are drawn out\textsuperscript{51}. The main NIF account is administered by HM Paymaster General within the Government Banking Service and is operated as a ‘current account’ being subject to both receipts and expenditure but holding only daily working balances. Excess receipts are invested in the National Insurance Fund Investment Account (NIFIA) which currently holds its assets in the Debt Management Account Deposit Facility (DMADF), a facility for governmental and other public bodies to deposit funds securely.

3.4 Devolved Administrations

Each of the devolved areas within the UK hold a Consolidated Fund account for use by the elected administration. Money is transferred from the UK Consolidated Fund to the devolved administrations via the Scotland, Wales and Northern Ireland Office departments of the UK government who account for the spending of those administrations within the Estimates they supply to the UK parliament.

The Scottish and Welsh Consolidated Funds are accounts held within the Government Banking Service\textsuperscript{52}. The Northern Ireland Exchequer has been separate since 1920\textsuperscript{53} and the Consolidated Fund of Northern Ireland is unconstrained as to which bank it is held at\textsuperscript{54}. At the current time the

\textsuperscript{47} Sums drawn down from the Consolidated Fund are credited to the ‘Supply’ account and then, as required, transferred to the ‘Drawing’ account from which payments are made into the banking sector in support of departmental spending. The ‘Cash’ account receives sums from all government departments that by law are not required to be surrendered to the Consolidated Fund and for reconciling the transfer of advances and repayments between different government departments. Cash account balances are transferred to the Drawing account as required to meet departmental payment demands, and the balance must be exhausted before the Supply account can have recourse to funds drawn from the Consolidated Fund. See Ulph, C. (1985) 150 Not Out: The story of the Paymaster General’s Office 1836-1986, Her Majesty’s Paymaster General’s Office, 163 pages.

\textsuperscript{48} the Government’s response to the Parliamentary Commission on Banking Standards (2013), HM Treasury.

\textsuperscript{49} Government Cash Management Appendices Two to Eight (2009), National Audit Office.

\textsuperscript{50} “To enable a multi-banked solution to work effectively, some countries such as the UK use a “service integrator” to deliver what is effectively a single unified banking solution to line ministries/ agencies. The service integrator combines transaction data flows from different banks to provide line ministries/agencies with a single view of their accounts and data flows, in effect ensuring that the various services required by them are brought together into a single point of delivery”. See Pattanayak, S. & Fainboim, I. (2011), Treasury Single Account: An Essential Tool for Government Cash Management, International Monetary Fund Technical Notes and Manuals, 20 pages. See also HMRC Treasury Service Contract Notice (2020).

\textsuperscript{51} Other state benefits such as Universal Credit, Child Benefit and Disability Living Allowance are Supply Services - funded by the standard parliamentary annual funding process and paid from the Consolidated Fund.

\textsuperscript{52} Government of Wales Act 2006 s117, Scotland Act 1998 s64(8).

\textsuperscript{53} Government of Ireland Act, 1920 s20.

\textsuperscript{54} Government Resources and Accounts Act (Northern Ireland) 2001 s1(1).
Consolidated Fund of Northern Ireland and the Northern Ireland Banking Pool (the NI equivalent of Government Banking Service) are held at Danske Bank, who are the owners of Northern Bank Limited, one of the banks authorised to issue bank notes in Northern Ireland. Any surplus balances in the Banking Pool are invested with the Debt Management Account Deposit Facility (DMADF) at the Bank of England.

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55 Libraries NI Banking Arrangements.
56 Scottish and Northern Ireland banknotes
57 See Department of Finance Freedom of Information response, Ref. DOF/2020-0379.
58 Northern Ireland Treasury management guidance (2020).
4. A Simple Model of the UK banking system

This study represents an exercise in understanding how the Government interacts with the banking system (both public and private), which represents the dominant infrastructure for financial transactions in the UK. It is therefore useful to begin by describing in basic terms the structure and functioning of the UK banking sector. This will allow us to recognise some accounting features which are seen within the banking system generally and which can then be extended to include transactions with and within the Exchequer.

As explained in 2014 by the Bank of England, the vast majority of money used routinely in the UK takes the form of ‘commercial bank deposits’\(^59\). Such deposits are essentially private records which describe a particular relationship between a commercial bank and their customer: specifically, they represent the extent to which a customer can make claims on the assets of the bank. A commercial bank will allocate a bank deposit to a customer when they receive a corresponding asset, such as a deposit of cash, a transfer of assets from another bank, or a loan agreement. The fact that commercial bank deposits are convertible into a common medium of exchange is what allows the respective ledger records of individual private banks to be considered completely interchangeable and therefore to form a seamless, single type of ‘money’ and functioning payments system\(^60\).

This common medium of exchange is the money issued by the Bank of England. It takes two forms, cash and central bank deposits, called reserves, which together are termed ‘base money’\(^61\). Reserves are deposits held by commercial banks in accounts at the Bank of England termed ‘reserve settlement accounts’\(^62\). These deposits are created solely by the Bank of England and are used by commercial banks to settle transactions with one another. It is at the level of these accounts that the Bank of England conducts monetary policy, setting their own interest rates and influencing the interest rates at which banks borrow and lend reserves deposits to and from each other ensuring financial stability via the provision of ‘liquidity’. Reserves are also used by commercial banks to purchase banknotes from the Bank of England - essentially a swap of one form of base money for another. Commercial banks can then interchange cash with the bank deposits of customers to meet their demand for cash. When a holder of commercial bank deposits - typically a business or individual - chooses to make a transfer


\(^{60}\) By agreeing to convert their liabilities into central bank base money at par, commercial banks are essentially pegging their liabilities to those of the central bank. This only works because the Bank of England provides them with its reserves and cash.

\(^{61}\) Strictly speaking, coins are issued by HM Treasury and banknotes are issued by the Bank of England.

\(^{62}\) The concept of ‘reserves’ is a recent phenomenon in UK banking, only introduced in the sterling market reforms of 2005. Prior to that banks just held clearing accounts at the Bank of England that had to be brought up to zero at the end of the day. Since there was no positive balance there was nothing held ‘in reserve’. See Quarterly Bulletin Summer 2004
of deposits to another bank (to pay a bill, for example) or to withdraw it as cash, the bank will invariably draw on its available holdings of central bank money to honour the transaction.

The Bank of England acts as settlement agent for the financial sector via two payment system models: Real-Time Gross Settlement (RTGS) and Deferred Net Settlement (DNS). RTGS involves the transfer of money in real-time with immediate and irrevocable settlement. There are two principal payment settlement systems within the Bank of England’s RTGS service, CHAPS63 and CREST64, which support the gross settlement of high-value payments and securities transactions respectively. These services are supported by intraday advances of central bank money made available to participants as a cash flow buffer, contingent on the submission to the Bank of appropriate collateral (typically government securities). The main retail grade payment systems operate according to the DNS model, with payments between participants accumulating over set clearing cycles and settled on a net basis. The latter include Bankers’ Automated Clearing Services (BACS) which supports Direct Credit (accounting for 80% of wage payments in the UK) and Debit payments, Faster Payments, and LINK, the largest ATM provider in the UK.

4.1 The simplest bank payment

To develop some accounting conventions, we will inspect what happens to the balance sheets of parties involved when transactions are made via the banking system in the UK. For this purpose, we will ignore cash withdrawals and cash transactions and focus on interbank payments as these are more pertinent to the ultimate goal of understanding government financing. In the scheme that follows, each party may hold assets and liabilities denominated in a range of monetary instruments. The initial balance sheets of each party are introduced, showing their financial assets (left) and financial liabilities (right). Assets and liabilities are balanced by the equity held, with negative equity (an equity asset) shown in parentheses, e.g., “(500)”. Transactions are then described using a sequence of journal entries which specify the associated changes to the balance sheets of each party. The cumulative result of these changes is then shown as a system of final balance sheets. In some cases, interim balance sheets are shown in order to aid the exposition. Balance sheet entries in bold indicate changes with respect to previously shown values.

The first system of balance sheets is shown below and represents the initial conditions (step 0) for our first example. The parties represented are three customers banking with two distinct commercial banks. For the sake of simplicity bank customers are considered to only hold bank deposits as assets and have no liabilities.65 Assets and liabilities of each party are balanced by the equity held, which represents the excess of assets over liabilities. The commercial banks register these bank deposits as their own liabilities and hold an asset in the forms of reserves, alongside gilts and loans.

63 Clearing House Automated Payment System.
64 Certificateless Registry for Electronic Share Transfer CREST is a securities settlement service, operating on a ‘delivery versus payment’ (DvP) model. At the beginning of the business day the CREST settlement banks transfer funds from their primary reserve accounts in RTGS into their RTGS CREST account from which sums are debited to settle on a DvP basis the purchase of securities such as gilts and equities. At the end of the business day residual balances are transferred back into their primary reserve accounts.
65 Bank of England Settlement Accounts
66 We also assume adequate collateral is available to support loans made.
This starting arrangement is indicated in step 0. The loans and deposits shown on the banks’ balance sheets do not necessarily equal the sum of those on the customers’ balance sheets on the presumption that the banks have other customers which are not shown.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

The first scenario to consider is a simple payment between customers of the same bank (Bank A), represented by a transfer of 5 pounds from Customer 1 to Customer 2. The transactions involved are described in step 1 and amount to Bank A reducing the balance of bank deposits of Customer 1 and increasing the balance of Customer 2. From the perspective of Bank A this simply represents a reallocation of already existing bank deposit liabilities between customers and does not affect the bank’s own balance sheet at all.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
</tbody>
</table>
At the end of this trivial example all parties have unchanged balance sheets except for the two customers that have adjusted balances of bank deposits.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A 5</td>
<td>Equity 5</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A 15</td>
<td>Equity 15</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans 75 Deposits 80</td>
<td>Reserves 10 Equity 20 Gilts 15</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans 70 Deposits 70</td>
<td>Reserves 5 Equity 15 Gilts 10</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B 10</td>
<td>Equity 10</td>
</tr>
</tbody>
</table>

A slight nuance to this example is where Customer 1 starts with a balance of zero, which is insufficient to cover the payment which will be made.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A 10</td>
<td>Equity 10</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A 10</td>
<td>Equity 10</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans 75 Deposits 80</td>
<td>Reserves 10 Equity 20 Gilts 15</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans 70 Deposits 70</td>
<td>Reserves 5 Equity 15 Gilts 10</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B 10</td>
<td>Equity 10</td>
</tr>
</tbody>
</table>
In this case, the transfer is nevertheless made and has a different effect on the balance sheets of some of the parties. Whereas a bank deposit is an asset of the customer and a liability of the bank, as soon as the balance of Customer 1 is overdrawn this switches to the liability side of their balance and correspondingly produces an asset on Bank A’s balance sheet in the form of a claim on Customer 1. We can conceptualise this claim as a loan, though it may take the form of either an arranged or unarranged overdraft or may represent a line of credit.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Customer 1</td>
<td>Loan from Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loan to Customer 1</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit of Customer 2</td>
</tr>
</tbody>
</table>

Either way, the bank facilitates the payment (subject to adequate perceived creditworthiness or collateral), and in doing so sees its own balance sheet expand: the allocation of bank deposits to the recipient is matched by a new asset of a loan to the paying customer.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Customer 1</td>
<td>Loan from Bank A</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>
4.2 A simple inter-bank payment

The next scenario is a simple payment from a customer at one bank to a customer at another. The starting balances are as before.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Step 0 Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Entity</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

The initial step in this transaction is similar to before, but now involves two banks. Bank A marks down Customer 1’s bank deposits by the requisite amount. Notice that, as the customer’s deposits are reduced, but no other customer at the same bank is being credited, the bank’s liabilities are also reduced, and this is explicitly shown in step 1a. Correspondingly Bank B marks up Customer 3’s balance of bank deposits and this thereby increases that bank’s liabilities. What has happened here isn’t so much the transfer of bank deposits, but the removal of bank deposits in one system of records and the creation of deposits in another. As far as the customers are concerned this looks like a transfer.

<table>
<thead>
<tr>
<th>Step 1a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Entity</td>
</tr>
<tr>
<td></td>
<td>Customer 1</td>
</tr>
<tr>
<td></td>
<td>Bank A</td>
</tr>
<tr>
<td></td>
<td>Bank B</td>
</tr>
<tr>
<td></td>
<td>Customer 3</td>
</tr>
</tbody>
</table>
At this stage the recipient bank has increased its liabilities but not its assets. Increasing liabilities relative to assets reduces a bank's net worth and therefore it is not in Bank B's interest to leave the situation there. Instead Bank B expects to receive an asset from Bank A and it is only on this basis that it has agreed to increase the deposits of its customer. This situation is recorded as a matching pair of pending obligations in step 1b: a promise to pay which is a liability of Bank A; and an expectation of receipt which counts as an asset for Bank B. Including these pending obligations, we can now see that the paying bank, Bank A, has an unchanged balance sheet in terms of size: it has swapped a liability to a customer for a liability to another bank, and it's assets are unchanged. The recipient bank, Bank B, on the other hand, has increased the size of its balance sheet: it has increased liabilities to its customers and gained a corresponding new asset in the form of a claim on Bank A.

<table>
<thead>
<tr>
<th>Step 1b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td></td>
</tr>
<tr>
<td>Bank B</td>
<td>From Bank A</td>
</tr>
</tbody>
</table>

At some point following the initial transaction and the adjustment of bank deposits, the banks settle their pending obligations via the medium of reserves. Specifically, Bank A's reserve account at the Bank of England is marked down and Bank B's account is marked up (step 2a).

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>Reserves</td>
</tr>
<tr>
<td>Bank B</td>
<td>Reserves</td>
</tr>
</tbody>
</table>

This transfer of reserves represents a loss of assets for Bank A but it does extinguish the pending liability the bank has to Bank B (step 2b).

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td></td>
</tr>
<tr>
<td>Bank B</td>
<td>From Bank A</td>
</tr>
</tbody>
</table>

Therefore, with both assets and liabilities decreasing on this step, Bank A's balance sheet has now contracted. Bank B has now effectively swapped an asset in the form of a claim on Bank A for an asset in the form of central bank money (formally a claim on the Bank of England). During this step, therefore, the recipient bank's balance sheet has not changed in size but only composition.
As a result of the entire transaction cycle, though, Bank A has a smaller balance sheet, having both fewer liabilities to customers in the form of bank deposits and also fewer assets in the form of central bank money. The recipient bank has more assets and more liabilities than before and thus has an expanded balance sheet (step 3). Since both banks have adjusted their assets and liabilities in lockstep, the only changes in equity are between the payer and payee.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

4.3 Net payment settlement

A modification to the scenario above is to consider that the settlement of payments between banks do not occur immediately following each individual transaction but rather occurs at set intervals during the day. This is a feature of the Deferred Net Settlement systems used within the Sterling Monetary Framework of which BACS is a prominent example. Under a Deferred Net Settlement approach, pending settlement obligations between banks are accumulated over a given settlement cycle (e.g. several hours or days) and then settled simultaneously on a net basis only.

To illustrate this we now have multiple payments being made in two directions. The starting positions of all parties are the same as previously.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>
Step 1a describes a payment from Customer 1 of Bank A to Customer 3 of Bank B.

<table>
<thead>
<tr>
<th>Step 1a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Deposits</td>
</tr>
<tr>
<td>Bank B</td>
<td>Deposits</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

Which results, in step 1b, in a liability arising from Bank A to Bank B.

<table>
<thead>
<tr>
<th>Step 1b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>To Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>From Bank A</td>
</tr>
</tbody>
</table>

In step 2a Customer 3 at Bank B makes a payment to Customer 2 at Bank A.

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>Deposits</td>
</tr>
<tr>
<td>Bank A</td>
<td>Deposits</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
</tbody>
</table>

Which results in a liability arising from Bank B to Bank A (step 2b).

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>To Bank A</td>
</tr>
</tbody>
</table>

Finally Customer 3 makes a payment from Bank B to Customer 1 at Bank A (step 3a).

<table>
<thead>
<tr>
<th>Step 3a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>Deposits</td>
</tr>
<tr>
<td>Bank A</td>
<td>Deposits</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
</tbody>
</table>
Step 3b shows this results in a further liability arising from Bank B to Bank A.

<table>
<thead>
<tr>
<th>Step 3b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>To Bank A</td>
</tr>
</tbody>
</table>

In step 4, the pending position from the payments is subtotalled.

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>From Bank B</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>From Bank A</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

In step 5 we have the settlement process. Step 5a is the main modification from the previous example and requires some explanation. During the settlement process the pending obligations between banks are collected and summed. In this case we have Bank A owing Bank B a total of 5 pounds (step 1b) and Bank B owing Bank A 10 pounds (step 2b + step 3b). Since the banks owe each other, they only need to settle the difference between the mutual obligations and this difference is referred to as the ‘net’ settlement obligation. To accommodate this, the smaller amount of the two mutual settlement obligations is subtracted from both party’s balance sheets, and this ‘netting off’ process is what is described in step 5a.

<table>
<thead>
<tr>
<th>Step 5a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>From Bank A</td>
</tr>
</tbody>
</table>
It has the implication of leaving a one-sided ‘net’ settlement obligation that can be settled via a one-way transfer of reserves. This transfer is shown in step 5b.

<table>
<thead>
<tr>
<th>Step 5b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>Reserves</td>
</tr>
<tr>
<td>Bank B</td>
<td>Reserves</td>
</tr>
</tbody>
</table>

With the extinguishing of the remaining net obligation is shown in step 5c.

<table>
<thead>
<tr>
<th>Step 5c</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>To Bank A</td>
</tr>
</tbody>
</table>

Step 6 shows the resulting balance sheets, which - for the banks - are reduced with respect to the intermediate position in step 4.

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Customer 2</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

One advantage of this system is that the banks have a smaller requirement for reserves than if each transaction was settled on a gross basis. For example in this case Bank B was liable for 10 pounds of gross payments to Bank A and this may have exhausted Bank B’s holdings of reserves, at least temporarily, depending on the precise sequence and timing of the payments. The smaller, net amount meant that Bank B’s available liquidity was more secure.

4.4 Intraday credit

A final refinement to this accounting model is to add intraday credit which is provided by the Bank of England for Real-Time Gross Settlement (RTGS) payments under the terms of the Sterling Monetary Framework. This enables banks to settle payments with one another even in cases where they hold insufficient reserves and thereby helps to mitigate against the asynchronicity of payments and ensure the integrity of the payment system. A simple illustration of this is given in the following transaction sequence, which now includes the Bank of England. The Bank’s balance sheet consists of liabilities in
the form of reserves held by commercial banks, and assets in the form of government securities. This is highly simplified and doesn’t include, for example, the bank note issue.

This time the starting balances in step 0 are slightly different, with Bank B holding fewer reserves.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
</tbody>
</table>

A single payment proceeds in the familiar way, but this time from Customer 3 at Bank B to Customer 1 at Bank A. After step 1, Bank B has an obligation to Bank A of 10 pounds but holds only 5 pounds of reserves.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit at Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>Deposits</td>
</tr>
<tr>
<td></td>
<td>To Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>From Bank B</td>
</tr>
<tr>
<td></td>
<td>Deposits</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
</tbody>
</table>

Therefore, in step 2a, the Bank of England extends a credit of reserves to Bank B and this represents an expansion of both Bank B’s and the Bank of England’s balance sheets (at least temporarily)\(^{67}\).

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From Bank B</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
</tbody>
</table>

\(^{67}\) Note that Bank B has sufficient gilts to offer as collateral for the intra-day advance.
In step 2b, the payment is settled and intra-bank obligations extinguished similarly to previous examples.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank A</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Reserves for Bank B</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank A</td>
</tr>
<tr>
<td>Bank B</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>To Bank A</td>
</tr>
</tbody>
</table>

The main difference in this example is that the transaction cycle concludes with an expanded Bank of England balance sheet based upon a central bank claim over Bank B (step 3).

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From Bank B</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer 3</td>
<td></td>
</tr>
</tbody>
</table>

Although the payment was settled between the two commercial banks, in a sense Bank B did not discharge the payment obligation entirely, but rather switched an obligation to another commercial bank for an obligation to the central bank. In the normal functioning of the Sterling Monetary Framework this situation is routine but would be expected to be unwound - that is, the advanced reserves repaid - by the end of the day. This may be achieved if subsequent payments or inter-bank lending cause an inflow of reserves to the borrowing bank.
Step 4 shows a possible process whereby Bank A lends, overnight, the reserves required for Bank B to settle with the Bank of England. In Step 4a Bank A lends to Bank B and settles that loan using its 'excess reserves' (i.e. the additional reserves held due to the day's activities).

### Step 4a

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank A</td>
<td>Reserves</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>From Bank B</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank B</td>
<td>+5</td>
</tr>
</tbody>
</table>

In step 4b Bank B uses its newly acquired reserves to clear its overdraft with the Bank of England.

### Step 4b

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of England</td>
<td>From Bank B</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank B</td>
<td>-5</td>
</tr>
<tr>
<td>Bank B</td>
<td>Reserves</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
<td>-5</td>
</tr>
</tbody>
</table>

In this case the new deposits held by customer 1 are ultimately backed at Bank A by additional reserves held but also a new claim on Bank B, as shown in the final balances of step 5. Bank B essentially settled the payment of its customer by becoming indebted to the recipient bank.

### Step 5

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
<td>25</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>From Bank B</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
<td>15</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank A</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Other Reserves</td>
<td>85</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>To Bank A</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
<td>20</td>
</tr>
<tr>
<td>Customer 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An alternative sequence is also shown where bank B, instead, surrenders to the Bank of England some of the Government securities held and which were pledged as collateral for the advance (step 4a (alt.)).

<table>
<thead>
<tr>
<th>Step 4a (alt)</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Bank of England</td>
<td>From Bank B</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank B</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
</tbody>
</table>

The Bank of England would then hold extra securities as the counterpart to the additional reserves issued, though it may seek to sell them to banks with (now) ‘excess’ reserves (e.g. Bank A) in order to bring reserve balances back in line with earlier levels (step 4b (alt.)).

<table>
<thead>
<tr>
<th>Step 4b (alt)</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Bank A</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank A</td>
</tr>
</tbody>
</table>

In this latter case, the new bank deposits at Bank A are backed by a mixture of reserves and government securities (step 5 (alt.)), and bank B essentially settled the transfer by drawing on its stock of gilts.

<table>
<thead>
<tr>
<th>Step 5 (alt)</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Customer 1</td>
<td>Deposit at Bank A</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Bank A</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Deposits</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Reserves for Bank A</td>
</tr>
<tr>
<td></td>
<td>Other Reserves</td>
</tr>
<tr>
<td>Bank B</td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Deposits</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Customer 3</td>
<td>Deposit</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

Under these types of processes, the Bank of England’s balance sheet - reserves issued and loan assets held - expands during the day with the provision of intraday credit, contracting again by the close of business.
5. Basics of Exchequer Spending

The following three sections will set out an accounting model of the Exchequer using examples relating to spending, cash management and revenue. These three channels are separated, initially, in order to provide focus to the respective underlying concepts and to enable more manageable accounting representations involving a smaller subset of parties in each case. This arrangement also emphasises the fact that these three channels are somewhat independent, though it should be understood that they form a coherent balancing function with respect to one another. The present section focuses on the Government spending channel. Sections 6 and 7 will deal with cash management and revenue, respectively.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>Consolidated Fund</td>
<td>One of the Exchequer pyramid central funds</td>
</tr>
<tr>
<td>NLF</td>
<td>National Loans Fund</td>
<td>One of the Exchequer pyramid central funds</td>
</tr>
<tr>
<td>CCF</td>
<td>(Civil) Contingencies Fund</td>
<td>One of the Exchequer pyramid central funds</td>
</tr>
<tr>
<td>DMA</td>
<td>Debt Management Account</td>
<td>Main trading account of the Debt Management Office</td>
</tr>
<tr>
<td>GBS</td>
<td>Government Banking Service</td>
<td>The centralised banking service for government</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>Office of Paymaster General Account</td>
<td>One of the principal aggregated accounts within GBS at the bank of England used ostensibly for purposes of departmental expenditure</td>
</tr>
<tr>
<td>HMRC-G</td>
<td>Her Majesty’s Revenue and Customs - General</td>
<td>HMRC’s principal aggregated account within GBS at the Bank of England, used for purposes of tax and National Insurance receipt</td>
</tr>
<tr>
<td>HMRC-R</td>
<td>Her Majesty’s Revenue and Customs - Receipt</td>
<td>HMRC’s tax receipt account at its commercial banking partner (Barclays)</td>
</tr>
<tr>
<td>NIF</td>
<td>National Insurance Fund</td>
<td>The National Insurance ‘current account’ held in GBS</td>
</tr>
<tr>
<td>MOD</td>
<td>Ministry of Defence</td>
<td>Used as an example governmental department</td>
</tr>
<tr>
<td>DWP</td>
<td>Department of Work and Pensions</td>
<td>Used as an example governmental department</td>
</tr>
<tr>
<td>BoE</td>
<td>Bank of England</td>
<td>The UK central bank divided into: Banking and Issue Department</td>
</tr>
<tr>
<td>HSBC</td>
<td>Hong Kong and Shanghai Banking Corporation</td>
<td>Used as an example commercial bank</td>
</tr>
</tbody>
</table>

Table 1: List of accounting entities represented within the examples presented below
5.1 Issues from the Consolidated Fund

The basis in legislation for the governance of the Consolidated Fund is the Exchequer and Audit Departments Act 186668. The 1866 Act (Section 10) stipulates that:

“All moneys paid into the Bank of England on account of the Exchequer shall be considered by the Governor and Company of the said Bank as forming one general fund in its books; and all orders directed by the Treasury to the Bank for issues out of credits to be granted by the Comptroller and Auditor General, as herein-after provided for the public service, shall be satisfied out of such general fund”

In this sense the Act represented one of several steps taken in the 19th century to centralise and consolidate government expenditure and income streams into a single account. A crucial condition specified in the Act would be that any expenditure would be limited to that granted by Parliament (section 11):

“... this enactment shall not be construed to empower the Treasury or any authority to direct the payment, by any such principal accountant, 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”.

Issues from the Consolidated Fund are of two types: Supply Services and Standing Services. Supply Services are voted by Parliament on an annual basis via the Supply Estimates process. Standing Services, however, are issues which are permanently authorised by virtue of specific acts of Parliament. Sections 13 and 15 of the 1866 Act specify the mechanisms for the provision of expenditure under Standing and Supply Services respectively:

“...

(2) The Comptroller and Auditor General shall, on receipt of a requisition from the Treasury, grant the Treasury a credit on the Exchequer account at the Bank of England (or on its growing balance).

(3) Where a credit has been granted under subsection (2) issues shall be made to principal accountants from time to time on orders given to the Bank by the Treasury.

...”

A primary responsibility of the Comptroller and Auditor General, therefore, is “to approve the release of funds to HM Treasury and other public bodies, once there is satisfaction that requests for payment are in line with relevant authorities given by Parliament”69. Requisitions from the Treasury typically occur on monthly timescales and result in the Comptroller allocating credits to individual government departments representing their spending allowances for the forthcoming month. These credits are recorded in Government Banking Service against departmental accounts known as ‘resource accounts’. Note that these accounts and the credits held within them represent a simple ledger record of departmental allowances (and subsequent expenditure), showing “how much cash is available to spend”, which arise by virtue of paragraph (2) of sections 13 and 15 of the 1886 Act. In this sense they can be considered ‘Exchequer money’ or ‘Exchequer credit’. These accounts form the basis of the departments’ retail banking services provided by NatWest, but are not commercial bank deposits because NatWest does not hold responsibility for the settlement of payments.

68 Exchequer and Audit Departments Act 1866 (enacted).
69 About us (2020), National Audit Office
With these allowances defined, the Treasury may next order the Bank of England to make issuances to ‘principal accountants’ under paragraph (3) shown above. The pertinent Principal Accountant for purposes herein is the Paymaster General Supply account\textsuperscript{70}. Such issuances are typically made daily and are intended only to approximately cover the forecasted short-term expenditure of particular departments. It follows that the money issued to the account represents only a fraction of the credits available to departments at any given point in time. Recall that the account holds these issuances as a single, aggregated balance, from which spending by all individual departments is settled.

We can illustrate this process with an example. Five entities are shown in the initial balance sheet in step 0: the National Loans Fund (NLF), Consolidated Fund (CF), Paymaster General Supply account (PMG Supply), a departmental Resource Account (represented by the Ministry of Defence (MOD)), and the Bank of England. The Bank is shown holding government securities as assets to back their reserve issuances, and these securities are part of the stock of liabilities of the National Loans Fund. The Consolidated Fund is shown with a liability to the National Loans Fund that represents the statutory balancing item on the National Loans Fund by virtue of the National Loans Act 1968. The corresponding asset in the National Loans Fund can be conceptualised as a ‘deposit’ in the Consolidated Fund. All other parties are shown to start with no assets or liabilities for purposes of simplicity. These features will persist through subsequent examples.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF</td>
</tr>
<tr>
<td>PMG Supply</td>
<td></td>
</tr>
<tr>
<td>MOD</td>
<td></td>
</tr>
<tr>
<td>Resource</td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
</tbody>
</table>

\textsuperscript{70} Technically, following the establishment of GBS, the Office of Paymaster General is formally closed. The statutory instrument which transferred oversight of Office of the Paymaster General Supply account to HMRC in 2006 made no reference to any changes in function and the Office continued to be specified in HMRC’s voted responsibilities under Supply and Appropriation legislation up to 2017 when explicit references to ‘Office of Paymaster General’ or ‘OPG (Government Banking Service)’ were changed to ‘shared services’. The arrangement of paymaster accounts and responsibilities is considered to be unchanged, therefore, as indicated by an HM Treasury Freedom of Information response \texttt{FOI/2019/00205} explaining that issues from the Consolidated Fund are still made, as previously into, accounts at the Bank of England which then facilitate the settlement of Exchequer payments with respect to the banking system. This account is referred herein as the Paymaster General Supply account.
In step 1 (vote funding), a requisition is made by the Treasury for voted expenditure to be allocated to the MOD. This creates an Exchequer credit in the MOD Resource Account which represents a claim on the Consolidated Fund. Equally, the department holds a liability to the Consolidated Fund representing the requirement of the department to discharge the claim in service of voted activities or to relinquish the claim.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD +20</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF +20</td>
</tr>
</tbody>
</table>

In step 2 (cash allocation), an order is made by the Treasury to the Bank of England to make an issuance from the Consolidated Fund to the Paymaster General Supply account in relation to the expenditure approved previously and recorded by the allocation of Exchequer credits. The step results in the Bank of England crediting the account of the Paymaster General Supply account and debiting the Consolidated Fund account. As a result the Paymaster General Supply account now holds as an asset a liability of the Bank of England. This is a central bank money or ‘cash’ deposit, but is differentiated from reserves because government held deposits are not recognised within the Sterling Monetary Framework as ‘reserve’ accounts. Instead it is shown as a simple claim on the Bank of England. Correspondingly, the debit to the Consolidated Fund is shown as a liability for the Exchequer, that is, a claim on the Consolidated Fund by the Bank of England. As with the voted credits, the Paymaster General Supply account holds a liability to the Consolidated Fund which ensures that the cash asset is discharged in service of legislated responsibilities of the Fund or repaid.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply +10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE +10</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF +10</td>
</tr>
</tbody>
</table>
The final positions are shown in step 3.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD 20</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply 10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE 10</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF 20</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 100</td>
</tr>
<tr>
<td></td>
<td>From CF 10</td>
</tr>
</tbody>
</table>

The result of the draw-down from the Consolidated Fund is that both the Exchequer and the Bank of England have expanded their balance sheets. The Paymaster General Supply account holds a balance of central bank money which can be used to deploy expenditure into the banking sector on behalf of governmental departments, and this is matched by a corresponding liability to the Bank of the Consolidated Fund. Typically, this arrangement persists only during the day: the balance sheets of the Bank and Exchequer contract again at the close of business with the Consolidated Fund ending (and starting) each day with a zero balance. This contraction process involves some particular end of day accounting procedures and ‘cash management’ operations undertaken by the Treasury in accordance with policy objectives. These aspects are described below and in section 6.

The 1866 Act has been amended or augmented a number of times since its original assent. The Finance Act 1954 repealed Section 12 of the 1866 Act which had called for a quarterly accounting period to be applied to the Exchequer accounts and over which advances from the Bank of England would be repaid. The National Loans Act 1968 applied the principles of Comptroller credits to the newly created National Loans Fund and established that spending out of the National Loans Fund could be delegated to the Consolidated Fund (by the qualifier “with recourse to”) and thereby implicitly making use of legal provisions relating to the Consolidated Fund. In the Government Resources and Accounts Act 2000\(^\text{71}\), the wording of the spending mechanisms described in sections 13 and 15 of the 1866 Act were simplified (into the form shown above) and provisions were added for enabling Comptroller approval to be modernised, for example, by being undertaken using computerised technology. The Finance Act 2008\(^\text{72}\) reinforced the mechanisms of Comptroller credits as applied to the correction of payments and receipts made in error to the Consolidated Fund or National Loans Fund. Finally, the Budget Responsibility and National Audit Act 2011\(^\text{73}\) updated the conditions upon which the Comptroller and Auditor General is appointed and employed, but reaffirmed the existing responsibilities of the role under the Exchequer and Audit Departments Act 1866.

\(^{71}\) Government Resource and Accounts Act 2000 Schedule 1

\(^{72}\) Finance Act 2008 s158

\(^{73}\) Budget Responsibility and National Audit Act 2011
5.2 End of Day Accounting

The functioning of the Exchequer relies on what is known as an ‘end of day sweep’ which seeks to consolidate the accounts within the Exchequer into the National Loans Fund. The purpose of this sweep is to collect all balances of central bank money across the Exchequer into a single balance so that these can be reconciled with any Bank of England claims on the central funds (due to issuances). A simple representation of the procedures undertaken is described below based on the previous example For the sake of simplicity, this example will unrealistically assume that no further activity has occurred within the Exchequer or across the Exchequer boundary. Here are the balances after step 3.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLF</td>
<td>From CF</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gilts Issued 500</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To MOD 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To BoE 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To NLF 500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (500)</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To CF 10</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To CF 20</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Reserves 100</td>
</tr>
</tbody>
</table>

In step 4a the balance in the Paymaster General Supply account is swept upwards into the National Loans Fund at the close of business. For the Paymaster General Supply account this represents the swapping of a claim on the Bank of England for a claim on the National Loans Fund. For the National Loans Fund it represents a balance sheet expansion with an additional asset held in the form of central bank deposit but a counterpart obligation to (repay) the Paymaster General Supply account. This lending appears on the National Loans Fund accounts as overnight lending from the Government Banking Service and typically amounts to some £20B.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of England</td>
<td></td>
<td>To PMG Supply -10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To NLF +10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
<td>-10</td>
</tr>
<tr>
<td></td>
<td>From NLF</td>
<td>+10</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE</td>
<td>+10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To PMG Supply +10</td>
</tr>
</tbody>
</table>

For example, see the National Loans Fund Accounts 2019-20.
In step 4b, the end of day the balance on the Consolidated Fund is swept into the National Loans Fund which, in this case, is a deficit - a net obligation to the Bank of England.

<table>
<thead>
<tr>
<th>Step 4b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>From NLF</td>
</tr>
<tr>
<td>CF</td>
<td>To BoE</td>
</tr>
<tr>
<td></td>
<td>To NLF</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
</tbody>
</table>

The National Loans Fund now holds both a claim on the Bank and a liability to the Bank, and since these are equal they cancel out completely (step 4c).

<table>
<thead>
<tr>
<th>Step 4c</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From NLF</td>
</tr>
<tr>
<td></td>
<td>To NLF</td>
</tr>
</tbody>
</table>

The net result of this end of day sweeping process is that Bank of England’s balance sheet has contracted back to its original position (step 5).

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>To PMG Supply</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD</td>
</tr>
<tr>
<td></td>
<td>To MOD</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply</td>
</tr>
<tr>
<td></td>
<td>To NLF</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From NLF</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Other Reserves</td>
</tr>
</tbody>
</table>

In the Exchequer, Government Banking Service (via the Paymaster General Supply account) holds a deposit in the National Loans Fund while the Consolidated Fund’s balance of central bank money is zeroed. A series of other claims between the Paymaster General Supply account, the Consolidated Fund and the National Loans Fund also persist overnight in order that the sweep can be unwound the next day. In simple terms, since the issuances made out of the Consolidated Fund Account were not spent into the banking sector, the system of assets and liabilities that arose were able to completely
cancel the cash demand within the Exchequer. This situation is unlikely in reality but serves to illustrate the internal accounting relationships and those the Exchequer shares with the Bank of England. Interactions with the banking system due to net spending or revenue flows would normally be expected to bring the system out of balance to some extent. This will be explored further below.

A noteworthy feature of this accounting is that the MOD sees no change in their front-line account balance. The basis for this balance is the HM Paymaster General departmental ledger which records voted credits allocated by HM Treasury via the Comptroller and Auditor General (and which is mirrored in the ‘commercial’ accounts provided by Government Banking Service commercial partners). The point of the end of day sweep is to reconcile the Exchequer with the Bank of England and therefore it is only necessary to sweep from the Paymaster General Supply account (in this example) since it is that balance that represents a position with respect to the Bank of England. In reality, the balances on other high-level accounts within Government Banking Service and beyond would also be swept into the National Loans Fund (or the Debt Management Account, as we’ll see later) at the close of business, with the Paymaster General Supply account being used here only for illustrative purposes connected to the spending process.

For completeness, it is worth explaining what happens to the Government Banking Service deposit at the National Loans Fund subsequently. By virtue of the section 12(4) of the National Loans Act 1968, any borrowing undertaken by the National Loans Fund is paid back with recourse to the Consolidated Fund. In this sense, a deposit in the National Loans Fund represents a claim on the Consolidated Fund, analogous to those credits held in departmental resource accounts. The following morning, therefore, the Government Banking Service deposit is withdrawn from the National Loans Fund furnishing the Paymaster General Supply account once again with a claim on the Consolidated Fund and this is manifested as a re-issue of the money made the previous day (step 6).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of England</td>
<td>From CF +10</td>
<td>To PMG Supply +10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE +10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From NLF -10</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td>To BoE +10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To NLF -10</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF -10</td>
<td>To PMG Supply -10</td>
</tr>
</tbody>
</table>
In step 7, the state of play from the previous day is restored and the Paymaster General Supply account is, once again, in a position to deliver on the anticipated MOD expenditure.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
</tbody>
</table>

5.3 Payments out of the Exchequer

Payments out of the Exchequer are executed by government departments through their commercial banking service provider which is currently NatWest for most purposes. Public sector guidance describes the preferred methods for such payments, leading with BACS and CHAPS (as well as Faster Payments) transfers. BACS payments are considered best practice because they allow for “settlement directly at the Bank of England which reduces exposure to commercial banks”. CHAPS payments should be made “in a controlled manner with appropriate safeguards to prevent damage to the Exchequer”. As part of good cash management practices, departments are expected to negotiate payment dates with counterparties, conduct large transactions early in the day (before 12 pm), and notify the Exchequer Funds and Accounts (EFA) team in the Treasury of anticipated cash flows so they can “draw cash as they need it within their voted provisions”\(^{75}\). The following examples describe the sequence of transactions that arise due to BACS and CHAPS payments. These payments are shown to have no effect on the balance sheet of NatWest and it is argued that the accounting can be described without explicitly resolving this Government Banking Service commercial partner.

5.3.1 BACS payments

BACS is one of the most common methods of transferring money between banks. There are two principal types of payment: direct debit and direct credit. Direct credit BACS payments are commonly used for bulk, low-value transactions such as wage and salary payments as well as social security benefits payments. The system involves a three day clearing and settlement cycle with instructions submitted on the first day, net payment obligations between respective banking institutions established on day two, and final settlement occurring via the transfer of reserves on day three. Settlement occurs on each business day at 09:30 according to payments initiated two days prior.

There are three protocols used for BACS payments relating to ‘customer’ (Grade 1), ‘bank’ (Grade 2) and ‘government’ (Grade 3) users. The Grade 3 protocol is designed specifically for government users (e.g. departments) and operates by substituting\(^{76}\) the HM Paymaster General Supply account held at the Bank of England for the resource accounts (pseudo-commercial) held by individual government...

\(^{75}\) Managing public money (2019), HM Treasury.

\(^{76}\) Terms and Conditions for Babstel-IP Direct Submitters, Lloyds Bank Plc.
departments provided by NatWest. Payments out of government departments to individual recipients involve several steps, including: (1) the submission of a list of payments to the department's “payment service provider” (i.e. NatWest), (2) the separation of the payments according to the banking institutions of the recipients; (3) a settlement obligation being raised between the Bank of England and each recipient institution; (4) a notification of settlement passed to the Bank of England; and (5) the individual recipients accounts being credited. During this process, a “funds check is not required ... given that settlement will be made against that Government’s account held at the BoE”\(^7\).

This process is outlined in the following example which now includes the Government Banking Service commercial service provider, NatWest, a third-party bank, HSBC, and a payment recipient which is a customer of the latter. The commercial banks begin with nominal assets held as loans, reserves and government securities and the customer holds bank deposits. Step 0 shows the initial positions which includes the department's voted allowance.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD 20</td>
</tr>
<tr>
<td>MOD Supply</td>
<td></td>
</tr>
<tr>
<td>Resource</td>
<td>From CF 20</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 15</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NatWest</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 75</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC 10</td>
</tr>
</tbody>
</table>

In step 1, the department requests a BACS payment. The values are shown in italics as this payment is a pending instruction only and does not contribute to the sequence of transactions (which are additive between initial and final balance sheets).

<table>
<thead>
<tr>
<th>Step 1</th>
<th>BACS Submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
</tr>
<tr>
<td>HSBC</td>
<td>From BoE</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
</tbody>
</table>

The following day an interbank obligation is raised for the Paymaster General Supply account to pay the recipient bank, HSBC (step 2).

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td>HSBC</td>
<td>To HSBC</td>
</tr>
</tbody>
</table>

In step 3, following advance notice to the Exchequer Funds and Accounts Team, the Consolidated Fund is drawn on to enable the settlement of the pending expenditure (as well as other payments).

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td>To BoE</td>
<td>+10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
<tr>
<td>To CF</td>
<td>+10</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF</td>
</tr>
<tr>
<td>To PMG Supply</td>
<td>+10</td>
</tr>
</tbody>
</table>

Settlement occurs in step 4 with the transfer of central bank money, extinguishing the pending obligation to HSBC (4a). HM Paymaster General now has a reduced balance of central bank money but no obligation to the banking sector. The transaction occurs across the Balance sheet of the Bank of England as a reallocation of the Bank’s liabilities. Since the central bank deposit of HM Paymaster General is considered to be ‘public deposits’ rather than ‘reserves’ this is reflected in the journal entries for the Bank’s balance sheet which show public deposits being debited and reserves credited. Therefore, although the Bank of England’s balance sheet has not changed in size during this step, the relative quantity of reserves has increased at the expense of public deposits..

<table>
<thead>
<tr>
<th>Step 4a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
<tr>
<td>To HSBC</td>
<td>-5</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
</tr>
<tr>
<td>To PMG Supply</td>
<td>-5</td>
</tr>
<tr>
<td>Reserves for HSBC</td>
<td>+5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td>From PMG</td>
<td>-5</td>
</tr>
</tbody>
</table>
Next the accounts of the payer and payee are adjusted within their respective banking contexts (4b). In the Exchequer this involves a reduction in the allocated claims on the Consolidated Fund of both the department and HM Paymaster General. It also cancels the liabilities that each has to the Consolidated Fund since they have fulfilled the voted obligations of the requisition and drawdown. In the private sector, the recipient’s account is marked up with quantity paid.

<table>
<thead>
<tr>
<th>Step 4b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td></td>
<td>From MOD</td>
</tr>
<tr>
<td></td>
<td>To MOD</td>
</tr>
<tr>
<td>PMG Supply</td>
<td></td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>HSBC</td>
<td>Deposit for Recipient</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC</td>
</tr>
</tbody>
</table>

As a result of this activity (step 5) there are additional reserves in the banking sector (HSBC) as well as additional bank deposits (held by the recipient of the BACS transfer). The Paymaster General Supply account also still holds some additional central bank money and all of the additional central bank liabilities are matched by a corresponding obligation of the Consolidated Fund to the Bank, representing an intraday advance. The balance sheet of the Government Banking Service commercial partner, Natwest, was entirely unaffected.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>CF</td>
<td>From MOD</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply</td>
</tr>
<tr>
<td></td>
<td>To MOD</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>Reserves For NatWest</td>
</tr>
<tr>
<td></td>
<td>Reserves For HSBC</td>
</tr>
<tr>
<td></td>
<td>To PMG Supply</td>
</tr>
<tr>
<td>NatWest</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Other Deposits</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Deposit for Recipient</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>
5.3.2 CHAPS payments

Unlike BACS grade 3, CHAPS payments are not the subject of a customised protocol for direct settlement from the Exchequer. In line with Real Time Gross Settlement (RTGS) payments infrastructure rules, CHAPS payments must be pre-funded. As envisaged in the consultation prior to the establishment of Government Banking Service, therefore, “Commercial bank accounts used for making payments (e.g. PMG’s CHAPS payments) are funded in day by transfers initiated by departments from the Bank of England”78. HM Treasury have since explained, “As departments make and receive payments through their Government Banking accounts the net credit or debit is settled between the Exchequer and the commercial banks operating Government Banking accounts at set intervals. This is achieved by way of transfers to and from commercial banks’ reserve accounts at the Bank of England”. These, and other payments, therefore pass across the balance sheet of the Government Banking Service commercial partner, Natwest.

The example outlines the sequence of transactions. Again, step 0 shows the initial positions.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD 20</td>
</tr>
<tr>
<td>PMG Supply</td>
<td></td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF 20</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 15</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NatWest</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 75</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC 10</td>
</tr>
</tbody>
</table>

Step 1 shows a draw down from the Consolidated Fund in anticipation of the transaction.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply +10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE +10</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF +10</td>
</tr>
</tbody>
</table>

78 Government Banking Project Consultative Paper (2005), HMRC, HM Treasury, NS&I, PMG.
Step 2 represents the execution of a CHAPS payment resulting in the adjustment of the department’s and the recipients balances (2a). Again, this involves the extinguishing of the liabilities to the Consolidated Fund held by the department and HM Paymaster General.

### Step 2a Journal

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>From PMG Supply</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td>From MOD</td>
<td>-5</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>To CF</td>
<td>-5</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
<td>-5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Deposit for Recipient</td>
<td>+5</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC</td>
<td>+5</td>
</tr>
</tbody>
</table>

Subsequently there is the establishment of a chain of settlement claims involving HSBC, the Paymaster General Supply account and NatWest as an intermediary (2b).

### Step 2b Journal

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMG Supply</td>
<td>To NatWest</td>
<td>+5</td>
</tr>
<tr>
<td>NatWest</td>
<td>From PMG Supply</td>
<td>+5</td>
</tr>
<tr>
<td>HSBC</td>
<td>From NatWest</td>
<td>+5</td>
</tr>
</tbody>
</table>

In step 3, Natwest settles the payment with respect to the recipient bank via the transfer of reserves (3a).

### Step 3a Journal

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>NatWest</td>
<td>Reserves</td>
<td>-5</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Reserves for NatWest</td>
<td>-5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>From NatWest</td>
<td>-5</td>
</tr>
</tbody>
</table>
The Paymaster General Supply account similarly settles its obligation to NatWest (step 3b).

<table>
<thead>
<tr>
<th>Step 3b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE -5</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
</tr>
<tr>
<td>NatWest</td>
<td>Reserves +5</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply -5</td>
</tr>
</tbody>
</table>

The end result (step 4) is identical to the BACS payment outcome.

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From MOD 15</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply 5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE 5</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF 15</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 15</td>
</tr>
<tr>
<td></td>
<td>From CF 10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NatWest</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 75</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC 15</td>
</tr>
</tbody>
</table>

This example transiently affected the balance sheet of the Government Banking Service commercial partner, with NatWest acting as settlement agent in the first instance, but with funds ultimately sourced from the Paymaster General Supply account within the Exchequer. An alternative formulation would involve the Paymaster General supplying the funds first, resulting in a temporary Exchequer deposit at NatWest which is then drawn upon to settle the interbank payment. This distinction might be considered to be important for the introduction of settlement risk, though the provision of intraday liquidity to NatWest by the Bank of England would make this point moot. Though NatWest's balance sheet was engaged in this example the role was simply as a 'pass-through' of central bank money and the overall effect was, again, neutral. The entire transaction can be adequately conceptualised without involving the Government Banking Service partner, as with the BACS payment, and this convention will be taken in subsequent expenditure examples.
5.4 The simplest model of Exchequer spending

We’re now in a position to describe the effect of Exchequer spending in the context of the end of day consolidation. In the example below, the Bank of England has been disaggregated into its Issue and Banking Departments and the other accounts grouped into their functional areas (step 0).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
<td>500</td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td>To NLF 500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (500)</td>
</tr>
<tr>
<td>GBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOD Resource</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issue Department</td>
<td>Gilts</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cash 20</td>
</tr>
<tr>
<td>Banking Department</td>
<td>Gilts</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for HSBC 5</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Other Deposits</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Deposit for Recipient</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
<td>15</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
<td>10</td>
</tr>
</tbody>
</table>

Step 1a represents, as previously, Treasury requisition (vote funding).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Funds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>From MOD</td>
<td>+50</td>
</tr>
<tr>
<td></td>
<td>To MOD</td>
<td>+50</td>
</tr>
<tr>
<td>GBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF</td>
<td>+50</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
<td>+50</td>
</tr>
</tbody>
</table>
Step 1b is once again Bank issuance (cash provision) for voted departmental spending.

<table>
<thead>
<tr>
<th>Step 1b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
</tbody>
</table>

In step 2, the MOD decides to spend out of its allowance. Step 2a represents the adjustment of balances for the payer (MOD) and recipient, the customer of HSBC. The MOD’s Resource Account balance, held within the Government Banking Service, is reduced which represents two entries in the matrix, reducing the vote funding asset the MOD has, and the liability to return unused vote funding to the Consolidated Fund. Similarly, HSBC marks up the account of the recipient with bank deposits resulting in an increase of liabilities for the bank.

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>MOD Resource</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td>HSBC</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC</td>
</tr>
</tbody>
</table>

In 2b this payment is settled across the Bank of England’s balance sheet - the Paymaster General supply account's balance of central bank money is debited and the reserve balance of HSBC is credited.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td>HSBC</td>
</tr>
</tbody>
</table>
Supposing this represents the entirety of activity across the day, the end of day positions are indicated in step 3.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Funds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
<td>Gilts Issued 500</td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply 5</td>
<td>To NLF 500</td>
</tr>
<tr>
<td></td>
<td>From MOD 45</td>
<td>To MOD 45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To BoE Banking 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (505)</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE Banking 5</td>
<td>To CF 5</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issue Department</td>
<td>Gilts 20</td>
<td>Cash 20</td>
</tr>
<tr>
<td>Banking Department</td>
<td>Gilts 5</td>
<td>Reserves for HSBC 10</td>
</tr>
<tr>
<td></td>
<td>From CF 10</td>
<td>To PMG Supply 5</td>
</tr>
<tr>
<td><strong>Commercial Bank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 10</td>
<td>Other Deposits 60</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
<td>Deposit for Recipient 15</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
<td>Equity 15</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC 15</td>
<td>Equity 15</td>
</tr>
</tbody>
</table>

The end of day Exchequer sweep now proceeds with the overnight lending of the remaining Paymaster General Supply account funds to the National Loans Fund (4a).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Funds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE Banking +5</td>
<td>To PMG Supply +5</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE Banking -5</td>
<td>To PMG Supply -5</td>
</tr>
<tr>
<td></td>
<td>From NLF +5</td>
<td>To NLF +5</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking Department</td>
<td>To PMG Supply -5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To NLF +5</td>
<td></td>
</tr>
</tbody>
</table>
Next, the deficit on the Consolidated Fund is swept into the National Loans Fund (4b). Notice that the transfer of a liability from the Consolidated Fund to the National Loans Fund also results in a counterpart asset from the former to the latter due to the relationship between the two accounts defined in the National Loans Act 1968. Essentially, the Consolidated Fund exchanges a liability to the Bank for a liability to the National Loans Fund.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Journal</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Funds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
<td>+10</td>
<td>To BoE Banking</td>
</tr>
<tr>
<td>CF</td>
<td>To BoE Banking</td>
<td>-10</td>
<td>To NLF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
<td>From CF</td>
<td>-10</td>
</tr>
<tr>
<td></td>
<td>To NLF</td>
<td>+10</td>
<td></td>
</tr>
</tbody>
</table>

The National Loans Fund now holds Bank of England deposits as well as a liability to the Bank, though these are not now equal in size due to the activity across the Exchequer boundary which occurred during the day. The liability to the Bank can be partly extinguished by redemption with the deposits held (4c).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Journal</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Funds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE Banking</td>
<td>-5</td>
<td>To BoE Banking</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
<td>From NLF</td>
<td>-5</td>
</tr>
</tbody>
</table>
This step sees a reduction in the balance sheets of the Bank of England and the National Loans Fund, but it still leaves the National Loans Fund with a net position of debt with respect to the Bank (step 5).

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 510</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>From PMG Supply 5</td>
</tr>
<tr>
<td></td>
<td>From MOD 45</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>GBS</td>
<td>From NLF 5</td>
</tr>
<tr>
<td>MOD Resource</td>
<td>From CF 45</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
</tr>
<tr>
<td>Issue Department</td>
<td>Gilts 20</td>
</tr>
<tr>
<td>Banking Department</td>
<td>Gilts 5</td>
</tr>
<tr>
<td></td>
<td>From NLF 5</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Recipient</td>
<td>Deposit at HSBC 15</td>
</tr>
</tbody>
</table>

Once all of the cash accounts across the Exchequer have been consolidated, and the Consolidated Fund cash account has been zeroed, the net effect of the Government activity has been to impact the banking sector by adding reserves (and commercial bank deposits). These additional reserves are backed on the Bank of England’s balance sheet by a claim on the National Loans Fund. Typically, these additional reserves would trigger a policy response by the Debt Management Office (and/or the Bank of England) but such undertakings are described separately in order to aid the exposition and to emphasise their functional and temporal separation from the expenditure process. Also noteworthy is the change in equity positions. The Consolidated Fund has increased its negative equity while the recipient of the spending has their equity positively increased by the same amount. All other entities saw no change in equity held.

5.5 The Ways and Means Account

The remaining steps 6 and 7 in the current example show the final accounting adjustments made in the case that no other policy response is taken. The Bank of England has a permanent facility for holding a claim on the National Loans Fund known as the Ways and Means account. The Ways and Means account represents a ‘book debt’, an automatically adjusting liability of the Government which sits on the Bank of England’s balance sheet as an illiquid, non-marketable government security. Since the Ways and Means account is formally registered on the balance sheet of the Bank’s Issue
Department\textsuperscript{80} (which has the banknote issue as its only liability) then in this example there is an end of day reshuffling of assets between the Issue and Banking Department in order that the new asset of the Bank (the claim on the National Loans Fund) can reside on the Issue Department's balance sheet\textsuperscript{81}. In step 6, liquid government securities are passed from the Issue Department to the Banking Department, with the National Loans Fund debt passed the other way.

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>NLF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Issue Department</td>
</tr>
<tr>
<td></td>
<td>Ways and Means</td>
</tr>
<tr>
<td></td>
<td>Banking Department</td>
</tr>
<tr>
<td></td>
<td>From NLF</td>
</tr>
</tbody>
</table>

---

\textsuperscript{80} Note that since 2008 an increasing proportion of the assets held by the Issue Department to back the note issue comprises a deposit at the Banking Department. Essentially, the Banking Department holds government securities on behalf of the Issue Department. See, for example, the Bank of England Annual Report and Accounts 2008.

\textsuperscript{81} “Some business of this sort takes place almost every day, with the Bank buying or selling in the market, and transferring Bills between the Issue Department and the Banking Department, as may be necessary to achieve both a balance in the Exchequer’s accounts and whatever degree of tightness in the market seems best suited to the policy being pursued on short-term interest rates.” from The Treasury Bill (1964), Bank of England Quarterly Bulletin Q3, Bank of England.
The new money added to the banking sector is now seen as an increase on the Ways and Means account (step 7).

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>NLF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply</td>
</tr>
<tr>
<td></td>
<td>MOD Resource</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Issue Department</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Banking Department</td>
</tr>
<tr>
<td>Commercial Bank</td>
<td>HSBC</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recipient</td>
</tr>
</tbody>
</table>

The Ways and Means account was used routinely up to 2000 but it is now a policy objective to avoid its use. Since the policy change in 2000, the balance of the Ways and Means account was maintained at about £13.4 billion until it was repaid in 2008 in order to “provide the Bank with additional balance sheet flexibility in responding to the demands of the financial crisis” - an acknowledgement of the fact that the Ways and Means balance is an illiquid government security held on the Bank's balance sheet. The facility was subsequently used in December 2008 to support the Financial Services Compensation Scheme (FSCS) and to nationalise the failing Bradford & Bingley banking institution. The Government also announced its intention to make use of the facility in response to the Covid 19 pandemic in April 2020, though at the time of writing it has not been used.

The example, as shown, serves to demonstrate how the Consolidated Fund - by virtue of the Exchequer and Audit Departments Act 1866 - is able to deliver on any spending authorised by Parliament.

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82 DMO Annual Review 2020 KPI1.1 pp35
85 See HM Treasury Debt and reserves management report (2010), and Financial Services Compensation Scheme Annual Report and Accounts (2019).
5.6 The Contingencies Fund and Covid-19

The mechanisms described above explain how expenditure authorised by Parliament is realised in the first instance. An addendum to this process is the use of the Contingencies Fund which, ordinarily, would represent a rather uninteresting exercise in smoothing departmental cash flows but has been utilised more significantly in the wake of the 2020 Covid-19 pandemic. A pandemic was formally declared in the UK on the 11th March 2020, with departmental allowances up to July already in the process of being voted through Parliament. These allowances were deemed insufficient to meet the new priorities of several departments and therefore the Contingencies Fund Act 2020 was passed on the 25th March 2020\(^88\). This act increased the maximum level of possible outstanding contingency advances from two percent of the previous year’s voted expenditure to fifty percent. The amendment is due to expire at the end of March 2021, but for the financial year 2020-21 means that \(~£266B\) can be drawn at any given time from the Contingencies Fund rather than the previous \(~£10B\) limit. Indeed, as of September 2020\(^89\) a total of £121B had been advanced to government departments, of which £90B was repaid following formal Parliamentary authorisation for the expenditure under the Supply and Appropriation (Main Estimates) Act 2020 (July 2020).

The starting position of an accounting model showing the Contingencies Fund, including its permanent capital is shown in step 0.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>CCF</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td>CF</td>
<td>From CCF</td>
</tr>
<tr>
<td>GBS</td>
<td>From CF</td>
</tr>
<tr>
<td>DWP Resource</td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking</td>
</tr>
<tr>
<td>Department</td>
<td>Gilts</td>
</tr>
</tbody>
</table>

In step 1 the Contingencies Fund agrees an advance to, for example, the Department of Work and Pensions (DWP). This provides the department with a new asset but also a liability to repay the Contingencies Fund, with the Fund holding the mirror-image entries.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>CCF</td>
<td>From DWP</td>
</tr>
<tr>
<td>GBS</td>
<td>DWP Resource</td>
</tr>
</tbody>
</table>

\(^88\) Contingencies Fund Act 2020.  
\(^89\) Contingencies Fund Account 2019-20
Next (step 2a) the Contingencies Fund draws upon the Consolidated Fund under Section 3 of the Miscellaneous Financial Provisions Act 1946. This has the effect of swapping out the DWP liability for one directly on the Consolidated Fund, and allows DWP to make a direct claim on the Consolidated Fund.

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td><strong>Central Funds</strong></td>
<td></td>
</tr>
<tr>
<td>CCF</td>
<td>To DWP</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>CF</td>
<td>From CCF</td>
</tr>
<tr>
<td></td>
<td>To DWP</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
<td></td>
</tr>
<tr>
<td>DWP Resource</td>
<td>From CCF</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
</tbody>
</table>

In step 2b the Paymaster General Supply account draws upon the Consolidated Fund in service of the Department of Work and Pensions' claim.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td><strong>Central Funds</strong></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>From PMG</td>
</tr>
<tr>
<td></td>
<td>To BoE Banking</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE Banking</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td></td>
</tr>
<tr>
<td>Banking Department</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>To PMG Supply</td>
</tr>
</tbody>
</table>
Step 3 shows the interim balances after funding. The Department of Work and Pension holds a claim on the Consolidated Fund but also an obligation to the Contingencies Fund. The Contingencies Fund, in turn, has a liability to the Consolidated Fund. In the cash layer, HM Paymaster General holds a balance of central bank money via the usual mechanism of a drawing from the Consolidated Fund and is in a position to settle payments on behalf of the department.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>CCF</td>
<td>From PMG Supply 1.5</td>
</tr>
<tr>
<td></td>
<td>From DWP 50</td>
</tr>
<tr>
<td>CF</td>
<td>From CCF 51.5</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply 50</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>GBS</td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From CF 1.5</td>
</tr>
<tr>
<td></td>
<td>From BoE Banking 50</td>
</tr>
<tr>
<td>DWP</td>
<td>From CF 50</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking</td>
</tr>
<tr>
<td>Department</td>
<td>Gilts 100</td>
</tr>
<tr>
<td></td>
<td>From CF 50</td>
</tr>
</tbody>
</table>

In step 4 this money is spent into the private sector via the Department of Work and Pensions in the familiar way. Note that, since the private sector is not represented in the table, there are some counterpart accounting entries that are not shown. This is considered pragmatic as the focus in this example is on internal Exchequer processes.

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply -50</td>
</tr>
<tr>
<td>GBS</td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE Banking -50</td>
</tr>
<tr>
<td>DWP</td>
<td>Resource</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking</td>
</tr>
<tr>
<td>Department</td>
<td></td>
</tr>
<tr>
<td></td>
<td>To PMG Supply -50</td>
</tr>
<tr>
<td></td>
<td>Other Reserves +50</td>
</tr>
</tbody>
</table>
In step 5, for simplicity, we imagine that the Consolidated Fund position with respect to the Bank of England has been settled, mostly likely according to the cash management processes described in the following section.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
</tbody>
</table>

Step 6, then, describes the interim state of affairs following the expenditure: the Department of Work and Pensions holds a liability to the Contingencies Fund, and the latter holds a liability to the Consolidated Fund.

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td></td>
</tr>
<tr>
<td>CCF</td>
<td>From PMG Supply 1.5</td>
</tr>
<tr>
<td></td>
<td>From DWP 50</td>
</tr>
<tr>
<td>CF</td>
<td>From CCF 51.5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>GBS</td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From CF 1.5</td>
</tr>
<tr>
<td>DWP Resource</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
</tbody>
</table>

Step 7 represents the subsequent passing of the, already discharged, expenditure through Parliament. Recall that Parliamentary Supply Services result in credits being allocated to governmental departments by the Comptroller and Auditor General, and these credits convey a claim on (and liability to) the Consolidated Fund.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>DWP Resource</td>
</tr>
</tbody>
</table>
The Department of Work and Pensions now holds a legitimate, voted claim on the Consolidated Fund, and in step 8 it uses these credits to repay the Contingencies Fund.

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CCF From DWP</td>
<td>-50</td>
</tr>
<tr>
<td>From CF</td>
<td>+50</td>
</tr>
<tr>
<td>CF From DWP</td>
<td>-50</td>
</tr>
<tr>
<td>To DWP</td>
<td>-50</td>
</tr>
<tr>
<td>+50</td>
<td></td>
</tr>
</tbody>
</table>

This has the effect of extinguishing the obligation of the department to the Contingencies Fund and also its obligation to the Consolidated Fund since repaying the Contingencies Fund is a valid use of voted resources. The Contingencies Fund now holds both a liability of, and a claim over, the Consolidated Fund and so, in step 9, these mutual claims cancel and the Consolidated Fund has been repaid.

<table>
<thead>
<tr>
<th>Step 9</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CCF From CF</td>
<td>-50</td>
</tr>
<tr>
<td>To CCF</td>
<td>-50</td>
</tr>
<tr>
<td>CF From CCF</td>
<td>-50</td>
</tr>
</tbody>
</table>

The final position in step 10 shows the funds have returned to their opening positions.

<table>
<thead>
<tr>
<th>Step 10</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CCF From PMG Supply</td>
<td>1.5</td>
</tr>
<tr>
<td>To PMG Supply</td>
<td>1.5</td>
</tr>
<tr>
<td>CF From CCF</td>
<td>51.5</td>
</tr>
<tr>
<td>PMG Supply From CF</td>
<td>1.5</td>
</tr>
<tr>
<td>To CCF</td>
<td>1.5</td>
</tr>
<tr>
<td>DWP Resource</td>
<td></td>
</tr>
<tr>
<td>Bank of England Banking Department</td>
<td>Gilts</td>
</tr>
</tbody>
</table>

The Contingencies Fund is not a source of money per se. It is a source of flexibility over Parliamentary authorisation, with recourse to the Consolidated Fund. Spending arises in the same
manner as previously described, with issues out of the Consolidated Fund, but involving retrospective authorisation. When the Consolidated Fund is eventually repaid, the Exchequer is essentially allocating voted credits to expenditure it has already facilitated.

5.7 National Insurance Benefits

National Insurance Benefits are paid in a similar way to any other Exchequer disbursement but the accounting is a little more complicated due to the interaction between the Exchequer, the National Insurance Fund, and the Debt Management Account. We will provide a full example in 7.1.

5.8 Constraints on spending

A straightforward implication of the examples shown in this section is that the Government has no provisioning requirement that it must satisfy in order to spend. The precise mechanisms underpinning this arise from the Exchequer and Audit Departments Act 1866, sections 13 and 15, whereby HM Treasury orders the Bank of England to issue money on its behalf. This is achieved by way of intraday credit provided by the Bank of England, with recourse to the Ways and Means account overnight®. It is on this basis that the Consolidated Fund is able to serve any expenditure explicitly voted by Parliament as well as other, unspecified sums that are potentially large and unpredictable but are nevertheless pre-authorised by specific Acts of Parliament™. For example, principal and interest payments on government securities are a Consolidated Fund Standing Service by virtue of the National Loans Act 1968. Delivering financial stability interventions due to the Banking Act 2009 are also a legislated, standing responsibility of the Consolidated Fund®. More significantly, the Consolidated Fund is also required to serve the needs of the Contingencies Fund, which exceeded £120B during the first 3 months of the 2020 Covid-19 pandemic.

It's worth reflecting on the Sterling Monetary Framework’s (SMF) provision of intraday liquidity and how this relates to that which is advanced to the Government. Under the terms of the SMF participants must pledge collateral to the Bank in exchange for temporary advances of central bank money held during the day that ensure that payment obligations can be fulfilled on time. The collateral used is typically UK government securities and would be retained by the Bank in the case of a participant failure to repay the credit by close of business. Since the Ways and Means account is an automatically adjusting government security, the provision of intraday credit to the Government, with recourse to the Ways and Means account, is equivalent to the Government being granted the regular privileges of SMF participants. In this context, the notion that the Bank advances credit to the Government should be quite uncontroversial. The Government is, however, the issuer of the ‘Grade A’ collateral used in the SMF and therefore has, in principle, an infinite capacity to deliver in comparison with other participants.

It follows that it is unnecessary - and in fact meaningless - for the Government to hold or accumulate money balances, since no such balance would provide any measure of the money the Government could deploy into the economy at any given point in time. Equally, government balances do not represent a tangible part of the pool of money available for circulation through the economy and

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™ HM Treasury has acknowledged that no aspect of the Government’s banking arrangements can prevent expenditure authorised by Parliament from being executed: Q:“Please can you … Provide any examples of circumstances in which expenditure authorised by Parliament and approved by the Comptroller and Auditor General would be prevented by the Government’s banking arrangements, if such examples existed?; A:“the Government’s banking arrangements … ensure that all expenditure authorised by Parliament can be settled following approval by the Comptroller and Auditor General and any further approval required from departmental officials accountable for that expenditure”. See HMT Freedom of Information response, Ref. FOI/2020/02182.

® An example of the latter occurred in March 2009 when £1.6B was spent out of the Consolidated Fund to “cover deposits transferred from Dunfermline Building Society”. See HM Treasury Resource Accounts 2008-2009.
accordingly are not counted in official measures of the money supply. Instead, the procedures, recording conventions, notional balances and small public deposits that make up the Exchequer can be considered to simply represent an accounting framework for deploying legislated spending power wherever, and whenever, it is required. As the Treasury states:

"Liquidity risk is the risk that an entity will encounter difficulty in meeting obligations associated with financial liabilities... HM Treasury is not exposed to significant liquidity risk because it can apply for Parliamentary approval for additional cover to pay for any liquidity gap."

It follows that expenditure is ultimately determined by Parliament which, according to the mechanisms outlined herein, essentially legislates money into existence.

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93 See, e.g., Lombard Research Ltd. (2000) On the basic principles of debt management; or why the Government should not buy back debt from non-banks in booms, Supplementary memorandum submitted to the Parliamentary Select Committee on Treasury.


95 Instead, the key risks relating to the management of the Consolidated Fund are related to human error, failure of infrastructure or counterparties (Bank of England, GBS), and data security rather than any inadequacy of funds. See Consolidated Fund Account 2017-2018.
6. Cash Management

From the late 1990s several institutional changes occurred, the centrepiece of which was the granting of operational independence for monetary policy to the Bank of England in 1997 (formally under the Bank of England Act 1998). This caused no changes to the spending mechanisms described in the previous section but did precipitate the transfer of ‘cash management’ (and debt management) responsibilities away from the Bank of England to the newly established Debt Management Office. It is instructive to examine the approach to cash management prior to these changes in order to understand what was changed and to place current cash management into the appropriate context.

6.1 Cash management in the late 20th century

The UK government's banking arrangements in the period up to 2000 were succinctly summarised in an HM Treasury memorandum⁶⁶ to the Parliamentary Treasury Select Committee consultation into government cash and debt management (in 2000):

“... The Bank's money market operations are geared towards delivering the Monetary Policy Committee's decisions on the level of short-term interest rates, whilst offsetting the effect of the Government's short-term interest cash transactions with the banking system. If the Government's short-term cash transactions do not of themselves create a daily shortage in the money markets, then the Bank creates a shortage by draining liquidity through the sale of Treasury bills. Hence, although Treasury bills are a government debt instrument, the Bank's monetary considerations determine the level of the weekly tender. Having created the shortage, the Bank is in a position to relieve it by lending money to the market at its chosen interest rates. The Bank, acting as the banker for the Government, provides the market with sufficient funds to cover its daily cash needs, such that any variation in expenditure or revenue not met by longer term debt instruments, results in a change in the level of the Government's Ways and Means borrowing from the Bank.”

There are several noteworthy aspects of this arrangement. Perhaps the most conspicuous feature is that the Government’s financial flows were highly integrated with monetary policy. Under the system described, the Bank of England conducted monetary policy by ensuring that the quantity of bank reserves was generally insufficient to meet the needs of the banking sector. This would require the banking sector to seek the necessary reserves at the Bank's policy interest rate. The Bank would hold

⁶⁶ Memorandum by HM Treasury, UK Debt Management Office, National Savings, and National Investment and Loans Office (1999), Submission to the parliamentary Select Committee on Treasury.
liabilities of the Government (Treasury bills, Ways and Means balances) as assets backing their own reserve and note issuance, and would deal in government securities with the banking sector and other parties in order to manage the reserve balances that were the subject of monetary policy.

The Government’s spending and revenue flows, together with the operations of the central bank itself, would be the primary cause of variations to levels of bank reserves. In cases when taxation exceeded spending this would leave the banking sector short of reserves (ceteris paribus), but an excess of spending over taxation would result in an increase in reserve balances97, at least in the first instance98. The issuance of government securities was done - unequivocally - as an operation of monetary policy and with monetary objectives in mind (“although treasury bills are a government debt instrument, the Bank’s monetary considerations determine the weekly tender”). The quantity sold in weekly auctions was not determined on the basis of the Exchequer’s (projected) financing requirement per se, but, rather, with a view to producing a shortfall in the level of reserves (inclusive of projected government flows) relative to the targeted reserve balances of the banking sector99. Daily fine-tuning adjustments would then be made using additional market operations (sales or purchases of securities).

It can be seen that, in the simplest case, the sale of government securities by the Bank of England was undertaken in order to drain out the additional reserves that were held by the banking system by virtue of net government spending (as described in section 5). This was aimed at ensuring that the Bank of England could exercise its interest rate policy, which the additional reserves might otherwise affect. Two important implications of this are as follows. The sale of government securities was aimed at managing or mitigating the effect that government spending produced on the banking sector. It was not done with the objective of ‘provisioning’ the Government with disposable balances, as is commonly believed. Secondly, the scale of these offsetting operations may not necessarily have precisely matched the size of the Government’s deficit (or surplus) on any given day. Instead, the Bank would consider how the Government’s spending and revenue flows sat within the context of other flows across the Bank’s balance sheet100 and monetary policy more generally, and a single operational response would be taken seeking only to optimise monetary policy objectives. Under some circumstances this may conclude with new reserves being left in the system, accounted for by adjustments to the Ways and Means Account, if this was consistent with monetary policy objectives.

The overall result of net government spending was that the private sector held net additional financial assets in the form of new reserves and/or new government securities. The specific split between reserve deposits and securities was determined entirely by monetary policy seeking to satisfy the reserve balance targets of the banking sector.

97 The operations of the Exchequer were functionally identical to those of the Banking Department of the Bank of England as far as their effect on the banking sector was concerned: “Transactions by the Exchequer or by the Banking Department (including the issue and payment of bank notes) will generally result in a credit or debit to the account of a bank or a discount house at the Head Office of the Bank of England: and these are the main transactions that cause a change in the total of Bankers’ balances”. See The Management of Money Day by Day (1963), Bank of England Quarterly Bulletin Q1, Bank of England.
98 In The Management of Money Day by Day, the Bank detailed the operational arithmetic with which monetary conditions would be assessed daily. Government net flows were considered to implicitly represent additions or subtractions of reserves to or from “banker’s balances” and formed part of the context for judging the necessity and scale of any offsetting operations or accounting adjustments. A similar arithmetical example was given later in The role of the Bank of England in the money market (1982), Bank of England Quarterly Bulletin Q1, Bank of England.
99 “The Bank maintains running forecasts of the cash position of the money market-daily for several weeks ahead, and on a weekly or monthly basis over a longer horizon. In effect, these forecasts estimate the likely level of the London clearing banks’ operational balances at the Bank, after taking into account all transactions between the Bank (on its own behalf or for customers such as the Government) and the banking system (acting for all other sectors), but before any new official money market intervention by the Bank. By relating these projected balances to the aggregate of the targets which the individual clearing banks view at the start of business each day as the central objective for their closing balances, the Bank produces forecasts of expected surpluses or shortages in the money market.”. See The role of the Bank of England in the money market (1982), Bank of England Quarterly Bulletin Q1, Bank of England.
100 Other factors influencing the level of reserves would be fluctuations in demand for cash, government “stock” (i.e. “gift-edged” securities), foreign exchange, tax reserve certificates (up to mid 1970s) and explicit advances to banks. See The Management of Money Day by Day (1963), Bank of England Quarterly Bulletin Q1, Bank of England.
6.2 Cash management policy in the 21st century

On 27th July 1997, the Government consulted on proposals for shifting responsibilities for government debt and cash management from the Bank of England to HM Treasury\textsuperscript{101}. It was explained that, "The Chancellor's decision to transfer debt and cash management policy functions from the Bank to the Treasury did not arise from dissatisfaction with how the current system operates". Rather, the decision was motivated by several areas of potential concern in relation to the newly independent monetary policy framework. Specifically, HM Treasury cited concerns over market perceptions and transparency if government debt markets continued to be managed by the same institution that is responsible for monetary policy.

To a large extent the proposed changes simply represented a shifting of much of the existing functions to a separate institution without any substantive changes in policy or procedure. This would serve to satisfy the "general desirability of clear accountability for policy functions", and provide a "clearer allocation of responsibilities". The main non-trivial change to policy in the proposals was related to cash management. As explained:

"At present, the Bank responds to the Government's daily cash shortfalls or surpluses whilst at the same time exercising responsibility for monetary policy implementation. It fulfils both these tasks as parts of a single operation."

With the granting of operational independence for implementing monetary policy to the Bank of England, it was proposed that 'these tasks' be formally separated.

"... The proposed change to cash management arrangements is that the Bank's monetary policy operations will be separated from operations to manage the Exchequer's day-to-day cash position. This will entail the debt manager being responsible for reacting to the daily forecast net Exchequer position by transacting in the money markets either to borrow to meet a cash shortfall or lending to offset a cash surplus. Any residual shortfall or surplus at close of business would need to be met or dispersed through standing overnight overdraft or borrowing facilities with private sector settlement banks."

The two separated processes would operate under distinct remits. On the one hand, the changes would "... enable the Government's debt manager to present the Bank of England with a net zero change in the Exchequer's accounts at the Bank" on a daily basis. Thus, the new cash management target would be to completely offset any daily spending deficit or surplus such that the effect of government transactions on the banking sector would be neutral. This would, in turn, allow the Bank to "... conduct monetary policy operations on the basis that the day-to-day private sector shortage will entirely be the result of its own operations". Notably, there was no intention, under these reforms, to change the Government's banking arrangements that were described in section 5\textsuperscript{102}.

The Finance Act 1998\textsuperscript{103} amended the National Loans Act 1968 in order to create the Debt Management Account and define its relationship with the National Loans Fund. Cash management was transferred from the Bank of England to the Debt Management Office on 3rd April 2000. The stated objective\textsuperscript{104} for cash management in the present day is:


\textsuperscript{102} "the Government has no plans to change the Exchequer's system of bank accounts at the Bank of England. Hence, it is envisaged that the Bank of England will remain the Government's banker". The Future of UK Government Debt and Cash Management: A Proposal for Consultation by HM Treasury (1997), HM Treasury.

\textsuperscript{103} Finance Act 1998 Schedule 26.

\textsuperscript{104} Exchequer cash management in the United Kingdom: Cash Management Operational Notice & UK Treasury Bills Information Memorandum (2018), Debt management Office.
“... to minimise the cost of offsetting the Government's net cash flows over time, while operating to the Government's risk appetite. In so doing, the DMO will seek to avoid actions or arrangements that would:

a) undermine the efficient functioning of the sterling money markets, or

b) conflict with the operational requirements of the Bank of England for monetary policy implementation”

The clear priority, now as before, is the mitigation of any effect that the Government’s financial flows may have on the monetary system (irrespective of the direction of these flows). To this end, the Debt Management Account undertakes daily operations with a view to offsetting the Government’s daily net spending or revenue flows pound-for-pound. This is achieved ostensibly by the Debt Management Account operating in the Treasury bill and gilt markets105 during the day on behalf of the NLF and settling any net position that the National Loans Fund has with the Bank of England at the end of the day.

One implication of this reflexive and exact offsetting of government flows is that there should be no requirement for the Ways and Means account to be affected. Instead, any change to reserve balances of the banking sector should arise explicitly because of the Bank’s own operations. It should be emphasised that this is a policy objective with respect to routine practice, and the Ways and Means facility remains available106. When the transfer of cash management to the Debt Management Office was being planned, it was described by a Treasury official107 as “a useful tool… not a tool we would want to lose from the armoury”, while the Debt Management Office has explained more recently108 that: "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".

With the addition of cash management operations, a final step in the end of day Exchequer sweep is that the net position of the National Loans Fund is swept into the Debt Management Account. Any resultant change in the balance of the Debt Management Account reflects the net position of the National Loans Fund (and, by extension, the entire Exchequer) with respect to the Bank of England and, correspondingly, the extent to which the activities of the Exchequer have affected the aggregate reserve balances of the banking sector. Since the aim is to leave the banking sector unaffected by the Exchequer’s financial flows, it follows that the Debt Management Office’s objective is to end each day with an unchanged balance on the Debt Management Account. On days that government expenditure exceeds receipts the outcome would be an increase in reserves held by the banking sector and a debit to the Debt Management Account following the end-of-day sweep. The task of the Debt Management Office would therefore be to sell government securities in order to drain the additional reserves from the banking sector and (simultaneously) bring the balance on the Debt Management Account back to target. On days in which the Government spends less than it receives in taxes (and fees, etc.) the banking sector has essentially lost reserves to the Government, and this is reflected in an elevated Debt Management Account balance. As such, the Debt Management Office is required to purchase government securities from the private sector, thus returning the reserve levels of the banking sector and the Debt Management Account to their original positions.

105 Whereas in the mid-late twentieth century, the Bank’s combined monetary policy/cash management operations would typically involve Treasury bills, the establishment of the gilt repo market in the mid-late 1990s has brought gilts into the day to day operations. See, for example, Markets and Operations (1998), Bank of England Quarterly Bulletin Q2, Bank of England.

106 A common source of confusion is the prohibition on central bank lending to governments that has been a feature of recent EU treaties. However, the UK Ways and Means facility was exempted from these proscriptions under the Maastricht Treaty (HC Deb 20 June 1997 vol 296 cc335-6W), and this exemption was carried over into Protocol 15 of the Treaty of Lisbon (with the addition of the clarifying clause “if and so long as the United Kingdom does not adopt the euro”). This position has been cemented by the The European Union Budget, and Economic and Monetary Policy (EU Exit) Regulations 2019 which restates the pertinent EU rules in UK law following the UK departure from the EU. This legislation preserves the status of the Ways and Means account and also clarifies the legality of government borrowing via intraday credit, a fundamental feature of the Government expenditure process.

107 See paragraph 591 of Select Committee on Treasury, Minutes of Evidence (2000), Parliament.

6.3 Provisioning the DMA

Though the new terms of the 1968 Act enabled the Debt Management Account to issue Treasury bills, gilts remain solely a liability of the National Loans Fund. It follows that in order to operate in the gilt market the Debt Management Account must obtain gilts from the National Loans Fund. This is done by way of an advance from the National Loans Fund, though this does not take the form of gilts directly, but is instead denominated in internal Exchequer credits in the first instance.\(^{109}\)

The process is detailed below, which for simplicity assumes that the Debt Management Account holds no assets or liabilities at the outset and that the National Loans Fund has an outstanding stock of gilts (step 0).

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
</tbody>
</table>

The first step is for the National Loans Fund to advance a credit to the Debt Management Account. This takes the form of a quadruple entry record (step 1) which sees both the National Loans Fund and Debt Management Account expand their respective balance sheets. The Debt Management Account now holds a claim on the National Loans Fund as an asset but also a liability to repay to the National Loans Fund. The National Loans Fund holds the mirror-image instruments.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>From NLF +100</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA +100</td>
</tr>
</tbody>
</table>

Next, the Debt Management Account uses its claim to purchase gilts from the National Loans Fund. This is a straightforward swap of one National Loans Fund liability for another, shown in step 2.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>From NLF -100</td>
</tr>
<tr>
<td></td>
<td>Gilts +100</td>
</tr>
<tr>
<td>NLF</td>
<td>To DMA -100</td>
</tr>
<tr>
<td></td>
<td>Gilts Issued +100</td>
</tr>
</tbody>
</table>

\(^{109}\) “The National Loans Fund (NLF) advance to the Debt Management Account (DMA) is an internal transfer between the two Exchequer accounts, both of which are held at the Bank of England. The NLF does not advance gilts to the DMA. When gilts are issued by the NLF they are sold to the DMA from where they are sold on to the market.”. See HM Treasury Freedom of Information response Ref. FOI2020/22118.
The end result is shown in step 3.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 100</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td>From DMA 100</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
</tbody>
</table>

The Debt Management Account now holds a stock of gilts as an asset but has an outstanding liability to the National Loans Fund. The National Loans Fund has increased liabilities in the form of gilts but holds a loan asset representing a claim on the Debt Management Account. This rather convoluted process is equivalent to the National Loans Fund directly advancing gilts to the Debt Management Account.

6.4 End of day contingency

Aside from overall monetary considerations, another reason for the use of the Ways and Means account historically was to accommodate swings in the Government’s daily position occurring late in the day and leaving insufficient time for the requisite offsetting operations. Given the policy to avoid using the Ways and Means account, a number of solutions to this were proposed (and implemented) but by 2006 the established approach was for the Debt Management Account to maintain a positive balance which could be used as a ‘buffer’ to support unforeseen late swings (and which could be quickly unwound the next day). In practice, the balance on the Debt Management Account is targeted as a weekly average level, and therefore some variation (and, by implication, effect on the banking sector) is permitted on a day-to-day basis as long as these are balanced out over the week. It follows that the balance on the Debt Management Account cannot be used routinely to offset ongoing spending by the Exchequer, but only to smooth daily flows.

The target balance on the Debt Management Account is varied from time to time depending on perceived uncertainties in the forecasted position of the Exchequer\(^{110}\). This is done using additional market activity (i.e. over and above that required for Exchequer offsetting purposes) and with the explicit agreement of the Bank of England. Prior to 2009, this agreed adjustment would be accounted for in the Bank of England’s own daily ‘financing’ operations, as shown in the following example.

---

\(^{110}\) The accounts of the Debt Management Account over the last 20 years show varying end of year balances from £125m to £2,175m
In step 0, the Debt Management Account has a stock of government securities but no balance of central bank money, though the Debt Management Office and the Bank of England have agreed that this latter balance can be increased.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 100</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>From CF 500</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 100</td>
</tr>
<tr>
<td></td>
<td>Other Reserves 95</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>

The Debt Management Account sells government securities to the private sector, in this case a commercial bank (HSBC) though it equally could be to a non-bank entity (step 1).

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts -5</td>
</tr>
<tr>
<td></td>
<td>From BoE +5</td>
</tr>
<tr>
<td>Bank of England</td>
<td>To DMA +5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves -5</td>
</tr>
<tr>
<td></td>
<td>Gilts +5</td>
</tr>
</tbody>
</table>
This causes a flow of securities from the Debt Management Account to the private sector and a flow of central bank money to the Debt Management Account, the latter now having an increased balance, as targeted. Since the Bank of England is primarily interested in managing the central bank money held by commercial banks (‘reserves’) this flow constitutes a reduction in such reserves. Therefore, the Bank of England purchases a corresponding quantity of securities in order to bring reserve balances back to parity (step 2)\textsuperscript{111}.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
</tbody>
</table>

The resulting balances are shown in step 3.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts</td>
</tr>
<tr>
<td>From BoE</td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA</td>
</tr>
<tr>
<td>From CF</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>

The upshot is that the Exchequer (via the Debt Management Account) holds an additional balance of central bank money and this is backed on the Bank of England’s balance sheet by additional government securities. The banking sector is left unaffected. Note that the precise order of steps 1 and 2 as described above is unimportant - the activities are agreed between the Debt Management Office and Bank and coordinated.

Under current monetary policy conditions, which involve the banking sector holding historically unprecedented levels of reserves following Quantitative Easing (large scale purchases of long-term government securities by the Bank of England), the offsetting activity of the Bank would most likely not be undertaken\textsuperscript{112} and changes in the size of the Debt Management Account positive balance would simply represent a negligible adjustment of the banking sector’s reserve balances.

\textsuperscript{111} See Bank of England Freedom of Information response, Ref. \texttt{CAS-24437-J7C6Z9}.

\textsuperscript{112} See Bank of England Freedom of Information response, Ref. \texttt{CAS-22630-L9S7W7}.
It is worth contrasting this process with how the Ways and Means account would have been used historically to smooth daily Exchequer flows. Previously, a late negative swing in the Exchequer position (either greater expenditure or fewer receipts than expected) would be expressed as excess reserve balances in the banking sector (relative to the start of day) and a counterpart end of day debt to the Bank of England for the National Loans Fund. This debt would be allocated to the Ways and Means account and thereby the additional reserves would be backed, reflexively, on the Bank’s balance sheet as an increase in (illiquid) government securities held. This is shown in the following example with step 0 representing the day’s starting positions.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 100</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Customer</td>
<td>Deposit at HSBC 10</td>
</tr>
</tbody>
</table>

Step 1 describes the hypothetical deficit position following an Exchequer sweep.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Ways and Means</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td>Customer</td>
<td>Deposit</td>
</tr>
</tbody>
</table>
Step 2 is the final distribution of assets and liabilities, including an overnight Ways and Means advance from the Bank of England to the National Loans Fund.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Balance Sheet</th>
<th>Liabilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td></td>
<td>To NLF 502</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (502)</td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 502</td>
<td>Gilts Issued 500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>To Ways and Means 2</td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 100</td>
<td>Reserves for HSBC 7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ways and Means2</td>
<td>Other Reserves 95</td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 7</td>
<td>Deposit for Customer12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
<td>Other Deposits 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
<td>Equity 15</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>Deposit at HSBC 12</td>
<td>Equity 12</td>
<td></td>
</tr>
</tbody>
</table>

The modern day solution to smoothing daily cash flows is to *pre-allocate* a balance of central bank money to the Exchequer that can be drawn upon in the case of late swing. This pre-allocation of assets to the Debt Management Account occurs with the issuance of additional securities which are ultimately held by the Bank under coordinated Exchequer and Bank operations, as described above.

A scenario involving a late Exchequer swing is described in the following example with the Bank of England now holding additional liquid government securities in comparison to the previous example because of the introduction of the Debt Management Account and the latter’s balance of central bank money (step 0).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Balance Sheet</th>
<th>Liabilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA</td>
<td>Gilts 95</td>
<td>To NLF 100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
<td>Gilts Issued 600</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From CF 500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td>To NLF 500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (500)</td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
<td>Reserves for HSBC 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other Reserves95</td>
<td>To DMA 5</td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
<td>Deposit for Customer 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
<td>Other Deposits 60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
<td>Equity 15</td>
<td></td>
</tr>
<tr>
<td>Customer</td>
<td>Deposit at HSBC 10</td>
<td>Equity 10</td>
<td></td>
</tr>
</tbody>
</table>
As before, step 1 describes an end of day position that arose too late for offsetting action.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Journal</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td></td>
<td>To NLF +2</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF +2</td>
<td>To BoE +2</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td>From NLF +2</td>
<td>Reserves for HSBC +2</td>
</tr>
<tr>
<td><strong>HSBC</strong></td>
<td>Reserves +2</td>
<td>Deposit for Customer +2</td>
</tr>
<tr>
<td><strong>Customer</strong></td>
<td>Deposit +2</td>
<td></td>
</tr>
</tbody>
</table>

In step 2a the Debt Management Account transfers part of its central bank money balance to the National Loans Fund, and this is recorded as a ‘deposit’ by the former in the latter.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Journal</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DMA</strong></td>
<td>From BoE -2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From NLF +2</td>
<td></td>
</tr>
<tr>
<td><strong>NLF</strong></td>
<td>From BoE +2</td>
<td>To DMA +2</td>
</tr>
<tr>
<td></td>
<td>To DMA -2</td>
<td></td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td>To NLF -2</td>
<td></td>
</tr>
</tbody>
</table>

The National Loans Fund now holds both the Exchequer’s net end of day liability to the Bank but also some central bank deposits and these have the effect of cancelling out (step 2b).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Journal</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NLF</strong></td>
<td>From BoE -2</td>
<td>To BoE -2</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td>From NLF -2</td>
<td>To NLF -2</td>
</tr>
</tbody>
</table>
The Exchequer’s late swing and the resultant increase in banking sector reserve balances has ultimately been accommodated by drawing down the Debt Management Account’s balance at the Bank of England (step 3). Thus, the late swing has caused the Debt Management Office to fail to achieve its target balance (although it is a weekly-average target) and has left the banking sector with excess reserves overnight. Unlike the earlier, historical, example, the Ways and Means Account was not used, though.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 95</td>
</tr>
<tr>
<td></td>
<td>From BoE 3</td>
</tr>
<tr>
<td></td>
<td>From NLF 2</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>From CF 502</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity (502)</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 7</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Customer</td>
<td>Deposit at HSBC 12</td>
</tr>
</tbody>
</table>

In any case, in this modern-day example, the Bank of England’s holding of government securities has not changed and therefore by disposing of part of the Debt Management Account balance, the Exchequer has increased its net indebtedness to the Bank, just as if it has used the Ways and Means account. This modern day solution to end of day shortfalls has the appearance of the Exchequer drawing down an asset rather than increasing indebtedness through the Ways and Means account. However, when the full cycle of operations is considered, including the pre-allocation of assets, it is seen to be entirely equivalent. The single difference is that under today’s arrangement the Bank deals only with liquid fixed-rate government securities rather than the illiquid floating rate Ways and Means account. This arrangement has no implications for either the Exchequer or the banking sector when compared with the previous arrangements.

Note that these examples represent the end of day contingencies which allow the balance of the Debt Management Account to vary on the condition that the weekly averaged balance is consistent with the target agreed with the Bank of England. Ordinarily, the Debt Management Office will seek to offset the National Loans Fund’s end of day position by interacting with the financial sector and thereby avoid or minimize changes to its own balance of central bank money.
6.5 Cash management example

We can now develop a full example of cash management in practice. This can be shown using the Debt Management Account, National Loans Fund, Bank of England and a private sector bank (HSBC, as previously). In the example below, step 0 represents the daily starting position of all parties. These are similar to the examples in section 5 with one difference. Since the Debt Management Account is now in scope we can represent the assets and liabilities of the Debt Management Account and their counterparts across the other parties. These include a stock of gilts and the corresponding advance from the National Loans Fund, as well as a notional balance of central bank money to serve as a buffer on end of day shortfalls. The Bank of England has on its books the same quantities of reserve liabilities as before but holds a slightly increased stock of government securities by virtue of the Debt Management Account balance.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>DMA</td>
<td>Gilts 95</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>From CF 500</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td>Other Reserves 95</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>
In step 1 we show the initial end of day positions arising on the basis of the same spending described previously. The National Loans Fund holds a net obligation to the Bank of England as a result of the net flow of spending (and thus banking sector reserve balances) arising out of the daily Exchequer activity. This activity is not explicitly shown here for purposes of brevity.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Balance Sheet</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>DMA</td>
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</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>From CF 505</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Equity (505)</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td>From NLF 5</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>

Step 2 represents the sale of government securities to HSBC by the Debt Management Account. This causes a flow of central bank deposits to the Debt Management Account.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts -5</td>
</tr>
<tr>
<td></td>
<td>From BoE +5</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Reserves for HSBC -5</td>
</tr>
<tr>
<td></td>
<td>To DMA +5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves -5</td>
</tr>
<tr>
<td></td>
<td>Gilts +5</td>
</tr>
</tbody>
</table>
Step 3 summarises the balances following the Debt Management Office's operations. The Debt Management Account now has an inflated balance of central bank deposits (and a depleted stock of government securities) while HSBC has the inverse situation - the additional banking sector reserves have been drained and replaced by gilts. At this stage the Exchequer holds a claim on the central bank via the Debt Management Account's balance but the intraday obligation to the Bank remains on the National Loans Fund.

<table>
<thead>
<tr>
<th>Step 3 Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
</tr>
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<td>DMA</td>
</tr>
<tr>
<td>Gilts</td>
</tr>
<tr>
<td>From BoE</td>
</tr>
<tr>
<td>NLF</td>
</tr>
<tr>
<td>From DMA</td>
</tr>
<tr>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
</tr>
<tr>
<td>To NLF</td>
</tr>
<tr>
<td>Equity</td>
</tr>
<tr>
<td>Bank of England</td>
</tr>
<tr>
<td>Gilts</td>
</tr>
<tr>
<td>From NLF</td>
</tr>
<tr>
<td>Reserves for HSBC</td>
</tr>
<tr>
<td>Other Reserves</td>
</tr>
<tr>
<td>To DMA</td>
</tr>
<tr>
<td>HSBC</td>
</tr>
<tr>
<td>Reserves</td>
</tr>
<tr>
<td>Loans</td>
</tr>
<tr>
<td>Gilts</td>
</tr>
<tr>
<td>Deposits</td>
</tr>
<tr>
<td>Equity</td>
</tr>
</tbody>
</table>

In step 4, the Debt Management Account makes a deposit in the National Loans Fund sufficient to zero the BoE position on the National Loans Fund. This takes the form of a transfer of central bank money accompanied by an offsetting claim on the National Loans Fund representing the fact that this money has essentially been loaned to the National Loans Fund (step 4a).

<table>
<thead>
<tr>
<th>Step 4a Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
</tr>
<tr>
<td>DMA</td>
</tr>
<tr>
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</tr>
<tr>
<td>From NLF</td>
</tr>
<tr>
<td>NLF</td>
</tr>
<tr>
<td>From BoE</td>
</tr>
<tr>
<td>To DMA</td>
</tr>
<tr>
<td>Bank of England</td>
</tr>
<tr>
<td>To DMA</td>
</tr>
<tr>
<td>To NLF</td>
</tr>
</tbody>
</table>
In step 4b, in recognition that the National Loans Fund now holds identical assets and liabilities of the Bank of England, these cancel and the National Loans Fund’s position vis a vis the Bank is squared.

<table>
<thead>
<tr>
<th>Step 4b</th>
<th>Journal</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE -5</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From NLF -5</td>
</tr>
</tbody>
</table>

Note that in step 5, the Bank of England’s balance sheet has been returned to the position that existed at the start of the day.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 90</td>
</tr>
<tr>
<td></td>
<td>From NLF 5</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>From CF 505</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 505</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
</tbody>
</table>

In the private sector, HSBC’s balance has been expanded by the Government spending, manifested as an increase in bank deposits backed on the balance sheet by an increase in government securities held. The Debt Management Account has ultimately ended the day with an unchanged balance of central bank money having satisfied the financing needs of the National Loans Fund, in accordance with its policy objectives. The Debt Management Account does have a depleted stock of government securities, though, corresponding to those that are now held in the private sector.
Although the Debt Management Account registers a deposit each night with the National Loans Fund, this does not rebound the next day as in the case of Government Banking Service overnight lending - a reflection of the fact that the entire purpose of the Debt Management Account is to finance the National Loans Fund. Step 6 represents the reconciling of the Debt Management Account’s advance from the National Loans Fund and its deposit held at the National Loans Fund.

<table>
<thead>
<tr>
<th>Step 6</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
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<td>DMA</td>
<td>From NLF</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA</td>
</tr>
</tbody>
</table>

The final positions following (partial) repayment of the National Loans Fund advance by the Debt Management Account shown in step 7.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From BoE</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Other Reserves</td>
</tr>
<tr>
<td></td>
<td>To DMA</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>

Essentially, the daily transfers made by the Debt Management Account to the National Loans Fund are used to run down the advance which initially furnished the Debt Management Account with gilts. In principle the reduction of the advance in this way could occur each day that a transfer is made, but in practice the deposit is typically left to accumulate through time before being used to reduce the advance perhaps once or twice per year. From time to time the National Loans Fund then makes a new advance to the Debt Management Account and the cycle repeats.

6.6 Interplay with monetary policy

It is useful to consider how the operations of the Bank of England interact with those of the Debt Management Account. Under current monetary conditions, following Quantitative Easing, the Bank does not undertake regular open market operations. Any reserves added to the banking system by net Exchequer spending simply add to the large quantity of reserves already held and have a “macroeconomic effect” which is “probably quite small”\(^\text{113}\). In any case, such reserves are reflexively

drained out of the system by the Debt Management Office. Under the previous, more ‘conventional’, monetary policy framework, the Bank would undertake operations intended to satisfy the targeted reserve levels of the banking sector (relative to a given averaging period). In considering how these operations interplay with the Debt Management Account’s activities there are a myriad of permutations depending on the Bank’s objectives to either tighten or loosen aggregate reserve levels and a net Exchequer position which may be a deficit or surplus on any given day. We’ll consider only the case wherein the Bank seeks to increase aggregate reserve levels in the context of an Exchequer net deficit. These conditions can be considered somewhat typical over the long term given the growing demand for reserve balances in a growing economy and the (not unconnected) tendency for the Exchequer to be in a position of net deficit.

We’ll pick up the previous example and ask what the Bank of England needs to do in order to increase reserve balances. Recall that in the example, the Exchequer ended the day with a net deficit on the National Loans Fund account of 5 pounds with a counterpart increase in the reserve balances of the banking sector in the first instance. This increase in reserve balances was offset by the activity of the Debt Management Account, selling securities in exchange for central bank money, and with the result that the additional assets held in the banking sector by virtue of the Exchequer’s deficit were now securities and with reserve balances back to their original level (step 7).

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 90</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 95</td>
</tr>
<tr>
<td></td>
<td>From CF 505</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 505</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
</tbody>
</table>

In step 8 the Bank purchases securities from the banking sector by issuing the new reserves according to the policy objectives114.

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts +2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves +2</td>
</tr>
<tr>
<td></td>
<td>Gilts -2</td>
</tr>
</tbody>
</table>

114 Note that this is the same basic process involved with the policy known as ‘Quantitative Easing’.
As such, the banking sector actually ends the day holding additional reserves and government securities equivalent to the Exchequer’s net deficit but in a ratio determined by the Bank’s operations. This involved the Bank “undoing” some of the work undertaken by the Debt Management Office - buying back some of the securities sold under the cash management objective (step 9).

<table>
<thead>
<tr>
<th>Step 9</th>
<th><strong>Balance Sheet</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From BoE</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>

Contrast this sequence of operations with that which would have occurred under the same scenario when cash management was undertaken by the Bank as a combined operation with monetary policy. We start with step 0 showing the start of day position.

<table>
<thead>
<tr>
<th>Step 0</th>
<th><strong>Balance Sheet</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
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</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Loans</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>
Step 1 is the end of day positions as previously, reflecting the Exchequer’s initial cash deficit.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Balance Sheet</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
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<tr>
<td>NLF</td>
<td>From CF</td>
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<tr>
<td>CF</td>
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<tr>
<td>Bank of England</td>
<td>Gilts</td>
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<tr>
<td></td>
<td>From NLF</td>
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<tr>
<td>HSBC</td>
<td>Reserves</td>
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<tr>
<td></td>
<td>Loans</td>
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<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>

In step 2, rather than draining away the entire net Exchequer spending (as with Debt Management Office policy), the Bank incorporates the Exchequer’s net position into its daily operational arithmetic and sells only a quantity of government securities needed to achieve its monetary policy objective of increasing aggregate reserves levels. Note that this would affect the Exchequer balance sheet because, though the operations were undertaken by the Bank (Issue Department, specifically), this was on behalf of the Exchequer (step 2a).

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
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<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE</td>
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<tr>
<td>Bank of England</td>
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<td></td>
<td>To NLF</td>
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<tr>
<td>HSBC</td>
<td>Reserves</td>
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<tr>
<td></td>
<td>Gilts</td>
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</tbody>
</table>

In step 2b the proceeds of the securities sale is used to reduce the intraday credit provided to the Exchequer by the Bank.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>NLF</td>
<td>From BoE</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From NLF</td>
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</tbody>
</table>
In step 3, however, there is nevertheless a remaining claim by the Bank on the National Loans Fund and this constitutes a Ways and Means advance. In effect, rather than draining the entire Exchequer net spend through sales of securities and then repurchasing some of these newly issued securities, this approach exploited some of the Exchequer’s net spend to directly achieve the increase of reserves desired, draining only the quantity in excess of that target.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
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<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
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<tr>
<td>NLF</td>
<td>From CF</td>
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<tr>
<td>CF</td>
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<tr>
<td>Bank of England</td>
<td>Gtis 100</td>
</tr>
<tr>
<td></td>
<td>From NLF (W&amp;Ms) 2</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 7</td>
</tr>
<tr>
<td></td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Gilts 13</td>
</tr>
</tbody>
</table>

Note that the final outcomes in these two examples are identical: an increase of reserves backed on the Bank’s balance sheet by new liabilities of the Government. In the modern day case this exclusively involves Treasury bills or gilts (i.e. liquid government securities) rather than a Ways & Means balance (an illiquid government security), and two institutions working alongside one another with distinct operational objectives. As acknowledged in the consultation into the transfer of cash management responsibilities, “[the previous system] allows the Government’s cash needs to be met automatically without the need for a large-scale cash dealing operation run by central government in addition to the Bank’s operation”. The proposal for transferring cash management from the Bank and operating under two, separated objectives, therefore essentially amounted to an intention to run such an additional, large-scale operation which would, in some cases, duplicate work.

6.7 Bank of England capitalisation

With the roles and functions of the Consolidated Fund, National Loans Fund and Debt Management Account delineated, we can resolve another specific form of Exchequer expenditure. In June 2018 the Bank of England and HM Treasury entered into a new Memorandum of Understanding regarding their financial relationship. This involved a capital injection into the Bank of England from HM Treasury in return for a release of indemnity over loans made by the Bank under its Term Funding Scheme. Since HM Treasury indemnities are treated as capital injections by the Bank in any case this is merely a swap by HM Treasury of an open ended contingent liability for a fixed sum. The example in this section shows how this capital injection occurs in exactly the same way as any other form of government spending via a Parliamentary vote, notwithstanding that a central bank is often characterised, incorrectly as it turns out, as the source of all money in an economy.

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116 If it was the source of all money, it would be able to capitalise itself.
Vote funding was obtained by HM Treasury for the capital injection via the Supplementary Estimates for 2018-19\textsuperscript{117}. This was transferred to the bank on the 22nd March 2019\textsuperscript{118}. As the Chancellor’s letter noted: “the injection will stay in the public sector”, and so the example below will show the injection being invested in gilts. Step 0 shows the initial balances. The Debt Management Account has a buffer with the Bank of England as previously described. A new feature in this example, is that the capital relationship between the Consolidated Fund and the Bank of England is shown explicitly at the outset\textsuperscript{119}.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
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<tbody>
<tr>
<td><strong>Entity</strong></td>
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<tr>
<td>DMA</td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 35</td>
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<tr>
<td></td>
<td>From DMA 5</td>
</tr>
<tr>
<td>CF</td>
<td>Capital (BoE) 15</td>
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<tr>
<td>Bank of England</td>
<td>Gilts 30</td>
</tr>
<tr>
<td></td>
<td>Reserves for HSBC 10</td>
</tr>
<tr>
<td></td>
<td>Capital (CF) 15</td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>

In Step 1 the voted funding for the capitalisation is transferred by HM Treasury to the Bank of England in the same manner as outlined in previous examples. The difference is that this step immediately sets up a claim by the Bank over the Consolidated Fund since the Bank is the direct target of the voted expenditure (usually Bank involvement occurs with the formal drawdown from the Consolidated Fund on behalf of the target department).

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
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<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
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<tr>
<td>CF</td>
<td>Capital (BoE) +10</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF +10</td>
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</tbody>
</table>

\textsuperscript{117} Central Government Supply Estimates 2018-19: Supplementary Estimates pp469
\textsuperscript{118} Statement UIN HCWS1472 (2019), Notification of Reduction in Contingent Liability: statement by the Chancellor of the Exchequer, Parliament.
\textsuperscript{119} “The entire capital comprising £14,553,000 of Bank Stock is held by the Treasury Solicitor on behalf of HM Treasury” (Bank of England Annual Report 2020, note 19, p. 118). This capital has a fair value of some £5.5B as of financial year 2019-20 (HM Treasury Annual Report and Accounts, p. 174). The Bank capital stock was shown as an asset of the CF in 1998, though the format of the annual accounts has since been changed (see Consolidated Fund and National Loans Fund Accounts 1998-99, p. 34). See Appendix B for Bank of England capital growth 1694-1816.
In Step 2 the Bank of England purchases gilts from the banking sector, using the same techniques as used in conventional central bank market operations or ‘Quantitative Easing’.

<table>
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<tr>
<th>Step 2</th>
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<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
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<tr>
<td>Bank of England</td>
<td>Gilts</td>
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<tr>
<td>HSBC</td>
<td>Reserves</td>
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</table>

Step 3 shows the intermediate balances before Exchequer cash management, showing an expanded Bank of England balance sheet. Note that the Consolidated Fund has an end of day liability to the Bank, just as with other voted expenditure, and this needs to be addressed in the normal manner.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>From BoE</td>
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<td>NLF</td>
<td>From CF</td>
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<td>From DMA</td>
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<td>CF</td>
<td>Capital (BoE)</td>
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<tr>
<td>Bank of England</td>
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<td>From CF</td>
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<tr>
<td>HSBC</td>
<td>Reserves</td>
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</table>

In Step 4 the Debt Management Office equips itself with a stock of gilts from the National Loans Fund for use in the gilt repo market. This is essentially a condensed version of the process shown in section 6.3.

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Journal</th>
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<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
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<tr>
<td>DMA</td>
<td>Gilts</td>
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<tr>
<td>NLF</td>
<td>From DMA</td>
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</tbody>
</table>
In Step 5 the Debt Management Office undertakes repo activity to add balances to the Debt Management Account based upon forecast cash requirements (i.e. the Consolidated Fund deficit position with respect to the Bank of England).

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Journal</th>
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<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
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<tr>
<td>DMA</td>
<td>Gilts</td>
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<td></td>
<td>From BoE</td>
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<tr>
<td>Bank of England</td>
<td>To DMA</td>
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<td></td>
<td>Reserves for HSBC</td>
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<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
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</table>

Step 6 is the end of day sweep of the Exchequer of which the end of day position of the Consolidated Fund with respect to the Bank is the subject. Step 6a transfers the balance on the Consolidated Fund to the National Loans Fund.

<table>
<thead>
<tr>
<th>Step 6a</th>
<th>Journal</th>
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<tbody>
<tr>
<td><strong>Entity</strong></td>
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<td>From CF</td>
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<td>To BoE</td>
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<tr>
<td>CF</td>
<td>To BoE</td>
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<td>To NLF</td>
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<tr>
<td>Bank of England</td>
<td>From CF</td>
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<td>From NLF</td>
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</table>

In Step 6b, the Debt Management Account offsets the National Loans Fund balance with the receipts of its repo activity. As there is no end of day variation, and actual cash flow matches forecast cash flow, the Debt Management Account buffer remains untouched.

<table>
<thead>
<tr>
<th>Step 6b</th>
<th>Journal</th>
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<tbody>
<tr>
<td><strong>Entity</strong></td>
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<td></td>
<td>To NLF</td>
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<tr>
<td>NLF</td>
<td>From DMA</td>
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<td>To BoE</td>
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<tr>
<td>Bank of England</td>
<td>From NLF</td>
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<td>To DMA</td>
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</table>
Step 7 shows the final balances.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
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<tbody>
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<td></td>
<td>Entity</td>
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<tr>
<td>DMA</td>
<td>From BoE</td>
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<td>NLF</td>
<td>From CF</td>
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<td></td>
<td>From DMA</td>
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<tr>
<td>CF</td>
<td>Capital (BoE)</td>
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<td>Bank of England</td>
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</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
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<td>Gilts</td>
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</table>

The net effect of the capital injection is for the National Loans Fund to issue a quantity of gilts and for the same quantity of gilts to end up to the credit of the Bank of England. The Exchequer, via the Consolidated Fund, holds an equivalent capital (i.e. ownership) claim over the Bank.

6.8 Some caveats

In this section we have made some significant simplifications in relation to the issuance and trading of government securities. For example, we have not differentiated between gilts, Treasury bills and National Savings & Investments. One implication of this is that all securities have been shown as liabilities of the National Loans Fund. In reality most Treasury bills are issued via the Debt Management Account, though accounting conventions within the Exchequer effectively make these liabilities of the National Loans Fund (and in turn, the Consolidated Fund) in any case. In all examples, we have shown securities being traded directly with commercial banks rather than non-banks. This was done simply for reasons of brevity and is not considered to detract from the points being explored. Equally, we have not resolved the role of maturity in the dealings of the Debt Management Office, nor the flows of income arising from holding the various types of assets and government securities shown. Certainly, the nuances inherent in the wide variety of government securities (e.g. type, rate, maturity, strippable, conventional/index-linked, tradable/non-tradable) being traded, held and outstanding at any given point in time merits closer attention, but is beyond the scope of this study, which is intended to present a starting point with which to understand the arrangement, functions and implications of the Exchequer’s accounts.

Similarly, gilt and Treasury bill auctions and redemptions have not been addressed, with all ‘market’ activity being conceptualised in terms of the daily, reactive function of ‘cash management’. This is expedient, since both auctions and redemptions of government securities inevitably become assimilated into cash management activities. On the day gilt auctions settle (typically the day after an auction) the Debt Management Office is likely to find itself with a large excess cash balance relative to its target which must be returned to the banking sector if policy objectives are to be satisfied. The most plausible route for this is via a reverse-repo operation - the Debt Management Office buying back gilts in similar quantities to those auctioned with an agreement for the gilts to be re-purchased by the counterparty on an agreed date. In this manner the Debt Management Office essentially reverses

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120 See Schedule 5A, section 11 of the National Loans Act 1968
the effect of the auction, and introduces a lag over the time at which the sales ultimately become realised (dependent on the duration and any subsequent rolling-over of the repo agreements). The opposite is also possible - that repo arrangements are in place that expire on or shortly after an auction. Gilt redemptions work in a similar fashion, with excess reserves added to the banking system which would end up as a Ways and Means balance at the Bank of England without further intervention by the Debt Management Office121. The Debt Management Office avoids this position by undertaking either balancing repo operations, or by scheduling reverse-repo operations to expire on a redemption day.

In this light, auctions and redemptions simply add a degree of lumpiness into the general cash management objective of smoothing cash flows. At different times in the year, dependent on the redemption schedule, the timing and scale of auctions and the cumulative sequence of daily net Exchequer balances, the Debt Management Office finds itself variously tending to either add money to, or remove money from, the banking sector, and this will be reflected in the concomitant volume of repos, reverse-repos and outright sales of securities. It is argued, therefore, that describing the trading interface of the Exchequer in terms of cash management only is a reasonable and pragmatic approach which conveys the essence of what is ultimately a cash flow smoothing exercise.

6.9 The ‘residual holder’ of government securities

To evaluate the significance and influence of ‘the market’ on the ability of the Exchequer to satisfy its objectives it is useful to consider the context within which the Debt Management Office operates. As explained by the Bank of England several decades ago, the banking sector acts as ‘residual holder’ of government securities.

"There is a difference, important in any analysis of holdings, between those whose decision to increase or decrease their holdings of Bills is quite autonomous ... and the banking system ... whose aggregate holding is initially determined in part by forces beyond their control ... with no cash balance to speak of, the Exchequer's needs have to be met from day to day. As the system works, the banks and discount houses between them find themselves inevitably holding the residual amount of Bills necessary to bring into balance the Exchequer's cash position - and the market's. The banking system fills this gap, however big it may be; but not by any conscious decisions each day to buy the particular amount of government securities needed to produce a balance. Rather it is a reflex action of the system. Government payments that are not financed by government income, or by borrowing from outside the banking system, give rise at once to surplus cash in the banks ... The banks cannot prevent the system working in this way, except by holding on to the surplus cash; this would be unlikely, however, because it would deprive them of earnings."

The Debt Management Office, like the Bank before it, is not, therefore, faced with an entirely indifferent market. Rather, the Debt Management Office deals with a liquid market, holding excess (ceteris paribus) sterling balances with respect to positions at the start of the day. In seeking earnings opportunities, and with government securities the only safe alternative to reserves, commercial banks readily transact with the Debt Management Office. In doing so the short-term rate on government securities converges to the official monetary policy rate. Thus there is little risk that the market will refuse to purchase the securities which the Debt Management Office offers, while the price taken is an expression of monetary policy rather than ‘market sentiment’.

121 Gilt redemptions are just another non-voted payment from the Consolidated Fund and are paid by BACS in the same way.
7. Tax and National Insurance

The UK Government tends to operate with more outgoings than receipts, which is related to the tendency of the private sector to net save and/or net import. For this reason, as well as the emphasis placed on expenditure in mainstream discourse, it is deemed more important to explain how the Government spends than how it accounts for receipts. Thus a description of the Government’s receipts has been postponed until now, though this should not be construed as meaning they are considered unimportant. As we have seen, spending is dependent only on the authorisation of Parliament and subsequent approval of the Comptroller and Auditor General. In that context, cash management operations are seen as offsetting operations intended to mitigate the effect of the spending on the monetary system as defined by monetary policy. Similarly, flows of taxation and other receipts provide a crucial function in offsetting the effect of government spending upon the circulation of money and demand for real resources within the economy.

7.1 Collecting Tax and National Insurance Contributions

We will focus on two types of government receipt: Income Tax on Earnings, and class 1 National Insurance contributions - both of which are charged on the earnings of individuals, but collected by third parties and paid over to HMRC as a single payment via the Pay As You Earn (PAYE) system. Income Tax and National Insurance share a common property which makes accounting for such receipts slightly different to the handling of expenditure: in both cases, the incoming receipts have a legally mandated destination account. For taxation, this is the Consolidated Fund, due to section 10 of the Exchequer and Audit Departments Act 1866\(^\text{123}\) and section 44 of the Commissioners for Revenue and Customs Act 2005\(^\text{124}\). For National Insurance contributions, the target account is the National Insurance Fund, due to section 162 of the Social Security Administration Act 1992\(^\text{125}\). Receipts flowing into the Consolidated Fund contribute simply and directly to the reconciliation that occurs in the central funds each night. Balances in the National Insurance Fund, by contrast, remain under the management of HMRC (within the Government Banking Service) and are handled according to a notionally different suite of accounting arrangements.

\(^{123}\) Exchequer and Audit Departments Act 1866 s10

\(^{124}\) Commissioners for Revenue and Customs Act 2005 s44(2) outlines the forms of payment which are exempt from surrender to the Consolidated Fund and these exceptions are therefore required to be loaned overnight to the NLF under the terms of the Finance Act 1999 s135.

\(^{125}\) See section 162(1) Social Security Administration Act 1992. There is a nuance in that a portion of National Insurance contributions are deducted by HMRC and allocated to the National Health Service and this fraction is surrendered to the Consolidated Fund (section 162(10)). We will ignore this nuance for the sake of simplicity.
Since, the law requires taxation receipts to be paid or transferred into specific accounts, some of which have to be held at the Bank of England\textsuperscript{126}, at some point in the transaction chain they have to be settled on the books of the Bank of England by entities with the capability to hold or obtain sufficient credit at the Bank. The chain of legal liabilities is not settled until the receipts end up to the credit of the specified accounts and the legally required transfers have been undertaken.

The National Insurance Fund receives National Insurance contributions and has a statutory duty to deliver certain forms of social security expenditure including some contributory benefits and the state pension. The main account, held within the Government Banking Service, is therefore involved with both receipt and expenditure. As explained in the most recent annual accounts\textsuperscript{127}, “The National Insurance scheme is financed on a pay as you go basis with contribution rates set at a level broadly necessary to meet the expected benefits expenditure in that year, after taking into account any other payments and receipts, and to maintain a working balance. Changes in contribution levels, in response to the needs of the Fund, take time to implement, therefore a working balance is necessary as the NIF has no borrowing powers”. Current practice is to aim to maintain a balance in the fund of at least 1/6th (~17%) of the projected annual expenditure. In the financial year 2018-19, this target balance would have equalled ~£17B though the end of year balance was, in fact, ~£30B\textsuperscript{128}. Where contributions are insufficient HMRC tops up the National Insurance Fund with a Treasury grant, via the parliamentary Supply Estimates process.

In keeping with the general Exchequer practice of minimising balances of central bank money held, the large sums held in the National Insurance Fund are not held in the Government Banking Service permanently. Before 2007, the National Insurance Fund instead held an appreciable stock of gilts, but since then, balances in the National Insurance Fund are invested in the Debt Management Account Deposit Facility (DMADF) at the Debt Management Office. The DMADF is a facility for governmental and other public bodies to deposit large funds securely. Unlike the Government Banking Service, the DMADF provides the option of longer, fixed-term deposit durations (up to six months) and pays interest to depositors\textsuperscript{129}. The National Insurance Fund transfers money from its account in the Government Banking Service to the Debt Management Account on days when it has a net inflow of cash and draws from its deposit at the Debt Management Account on days when payments exceed receipts\textsuperscript{130}. It follows that almost the entire balance of the National Insurance Fund is represented by a deposit in the Debt Management Account (technically held by the National Insurance Fund Investment Account (NIFIA)\textsuperscript{131} on behalf of the National Insurance Fund) with the main National Insurance Fund account within the Government Banking Service functioning to support daily transfers only.

We can now step through the accounting. This example includes the Consolidated Fund, the National Loans Fund and the Debt Management Account within the core Exchequer and three accounts within the Government Banking Service. Also specified are the Bank of England, two commercial banks, Barclays and HSBC, and a private sector agent paying the taxation who is a customer of HSBC. The ‘agent’ could very well be the taxpayer themselves, but this formulation is used in recognition of the fact that in many cases income tax is paid by a third party (e.g. as with PAYE). The HMRC ‘Receipt’

\textsuperscript{126} National Loans Act 1968 s1(1) requires the National Loans Fund Account to be at the Bank of England and s18(2) of the act requires Treasury to pay excess receipts from the Consolidated Fund into the National Loans Fund.

\textsuperscript{127} Great Britain National Insurance Fund Account - 2018 to 2019

\textsuperscript{128} The end of year balance on the National Insurance Fund has varied between ~£20B and ~£50B through the period 2007-2019. See National Insurance Fund Accounts.

\textsuperscript{129} The Debt Management Account Deposit Facility: Operational Notice (2019) Debt Management Office. It can be noted that the NLF does provide an interest-bearing deposit facility for public body’s to secure money over longer timescales too, National Savings and Investments being an example.

\textsuperscript{130} National Insurance Fund Investment Account (2020). Commissioners for the Reduction of the National Debt, Debt Management Office.

\textsuperscript{131} Section 161(3) of the Social Security Act 1992 provides for the Commissioners for the Reduction of the National Debt to invest any funds held within the NIF as deemed appropriate. The current vehicle for this is the National Insurance Fund Investment Account which invests almost entirely in the DMADF. See National Insurance Fund Investment Account 2018-2019.

\textsuperscript{132} That the National Insurance Fund account is held by GBS is indicated by the banking charges which appear in some accounts (e.g. National Insurance Fund Account 2010-2011). Historical CF accounts indicate that it is held under the auspices of HM Paymaster General (See Consolidated Fund and National Loans Fund Accounts 1998-99).
account records the incoming, aggregated receipts and represents any of several hundred such accounts administered by HMRC. These accounts are provided by Barclays (as commercial partner to the Government Banking Service) and as revenue flows in from taxpayers this initially results in the Barclays account(s) accumulating commercial bank deposits and Barclays accumulating the equivalent amount of credits into its reserve account at the Bank of England. Barclays then cancels these commercial deposits and transfers equal amounts of Bank of England deposits to the credit of the Government Banking Service accounts at the Bank of England regularly throughout each day - as required by its Government Banking Service contract with HM Treasury. As with the expenditure examples shown earlier, settlement from these receipt accounts is made into an aggregated, principal account called the HMRC General account (which is a simplification of two accounts, as mentioned previously).

In step 0 we have the starting positions which are similar to those in the previous cash management example.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 95</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td></td>
<td>From DMA 100</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Loans 75</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
<tr>
<td>Barclays</td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Reserves 5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Gilts 10</td>
</tr>
<tr>
<td>Taxpayer Agent</td>
<td>Deposits 10</td>
</tr>
<tr>
<td></td>
<td>Equity 10</td>
</tr>
</tbody>
</table>
In step 1, a payment is made from the private sector to HMRC. Firstly (step 1a), the taxpayer’s commercial bank deposits are reduced and correspondingly the balance in the HMRC Receipt account at Barclays is credited. Equally, a settlement obligation is established between the two commercial banks. This is a simple commercial bank transaction.

<table>
<thead>
<tr>
<th>Step 1a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>HMRC Receipt</td>
<td>Deposits at Barclays</td>
</tr>
<tr>
<td>Barclays</td>
<td>From HSBC</td>
</tr>
<tr>
<td></td>
<td>Deposits for HMRC-R</td>
</tr>
<tr>
<td>HSBC</td>
<td>Deposits for TA</td>
</tr>
<tr>
<td></td>
<td>To Barclays</td>
</tr>
<tr>
<td>Taxpayer Agent</td>
<td>Deposits</td>
</tr>
</tbody>
</table>

Step 1b adds the requirement for the HMRC to pay these receipts into the Consolidated Fund and the National Insurance Fund. This is expressed as a liability for the receipt account to pay into the HMRC General account, and liabilities for the latter to pay into the target funds. In this example, the split between tax and National Insurance is taken to be a ratio of 4:1, though this is for convenience only.

<table>
<thead>
<tr>
<th>Step 1b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From HMRC General</td>
</tr>
<tr>
<td>HMRC General</td>
<td>From HMRC Receipt</td>
</tr>
<tr>
<td></td>
<td>To NIF</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From HMRC General</td>
</tr>
<tr>
<td>HMRC Receipt</td>
<td>To HMRC General</td>
</tr>
</tbody>
</table>

---

133 Historical CF/NLF accounts show assets of the Consolidated Fund comprising “revenue collected but not yet paid over” (See Consolidated Fund and National Loans Fund Accounts 1998-99). This doesn’t feature in modern accounts, which may reflect a change of format and scope in the accounts, or the fact that taxation is now transferred several times each day.
Step 1c shows the settlement between the commercial banks on the books of the Bank of England by transfer between their reserve accounts.

<table>
<thead>
<tr>
<th>Step 1c</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Barclays</td>
<td>From HSBC</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>To Barclays</td>
</tr>
</tbody>
</table>

At this stage, the Exchequer holds commercial bank deposits as an asset and there is a chain of liabilities within the Exchequer describing the legally required obligations for the transfer of receipts. These deposits are swept from the Government Banking Service commercial banking partner to the Bank of England, a process which occurs multiple times throughout each day<sup>134</sup>. Step 2 shows Barclays deleting the commercial bank deposit from HMRC’s Receipt account at Barclays and crediting the HMRC General account at the Bank of England by transfer from Barclays’ Bank of England Reserve Account. Under the Government Banking Service arrangement it is HM Treasury’s banking agent (Barclays) who converts commercial bank deposits into Bank of England deposits so that tax payments can be transferred to the funds dictated by law. Prior to August 2011, when the HMRC receipt accounts were held at the Bank of England, it would have been the taxpayer’s banking agent (HSBC in this example) that would have undertaken the conversion.

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>HMRC General</td>
<td>From HMRC Receipt</td>
</tr>
<tr>
<td></td>
<td>From BoE</td>
</tr>
<tr>
<td>HMRC Receipt</td>
<td>Deposits at Barclays</td>
</tr>
<tr>
<td></td>
<td>To HMRC General</td>
</tr>
<tr>
<td>Bank of England</td>
<td>To HMRC General</td>
</tr>
<tr>
<td></td>
<td>Reserves for Barclays</td>
</tr>
<tr>
<td>Barclays</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Deposits for HMRC-R</td>
</tr>
</tbody>
</table>

<sup>134</sup> See HMRC Freedom of Information response, Ref. FOI2018/00672.
Step 3 is where HMRC transfers the tax payment to the Consolidated Fund at the Bank of England. The National Insurance Fund transfer is already complete, as the account is a Government Banking Service ledger account rather than a Principal account. Therefore, HMRC holds the cash in its General account with the National Insurance Fund holding a claim over it.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF</td>
<td>From HMRC General</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>From BoE</td>
<td>+4</td>
</tr>
<tr>
<td>HMRC General</td>
<td>From BoE</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
<td>-4</td>
</tr>
<tr>
<td>Bank of England</td>
<td>To HMRC General</td>
<td>-4</td>
</tr>
<tr>
<td></td>
<td>To CF</td>
<td>+4</td>
</tr>
</tbody>
</table>

In Step 4, this underlying money balance is transferred to the Debt Management Office Deposit Facility, representing a deposit on behalf of the National Insurance Fund (Investment Account).

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA</td>
<td>From BoE</td>
<td>+1</td>
</tr>
<tr>
<td></td>
<td>To NIF</td>
<td>+1</td>
</tr>
<tr>
<td>HMRC General</td>
<td>From BoE</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>To NIF</td>
<td>-1</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From HMRC General</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>From DMA</td>
<td>+1</td>
</tr>
<tr>
<td>Bank of England</td>
<td>To HMRC General</td>
<td>-1</td>
</tr>
<tr>
<td></td>
<td>To DMA</td>
<td>+1</td>
</tr>
</tbody>
</table>
Step 5 shows the net result of these transactions. The banking sector has reduced its deposits and its stock of Bank of England reserves, with the corresponding central bank money balances credited to the Consolidated Fund and the Debt Management Account at the Bank of England. Internally, both the Consolidated Fund and the National Insurance Fund are holding a cash asset claim.

### Step 5

**Balance Sheet**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA</td>
<td>Gilts  95</td>
<td>To NLF 100</td>
</tr>
<tr>
<td></td>
<td>From BoE 6</td>
<td>To NIF 1</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
<td>Gilts Issued 600</td>
</tr>
<tr>
<td></td>
<td>From DMA 100</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>From BoE 4</td>
<td>To NLF 500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity (496)</td>
</tr>
<tr>
<td>NIF</td>
<td>From DMA 1</td>
<td>Equity 1</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
<td>To DMA 6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To CF 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for Barclays 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for HSBC 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Reserves 85</td>
</tr>
<tr>
<td>Barclays</td>
<td>Loans 75</td>
<td>Deposits 80</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Equity 20</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Loans 70</td>
<td>Deposits for TA 5</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
<td>Other Deposits 60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity 15</td>
</tr>
<tr>
<td>Taxpayer Agent</td>
<td>Deposits 5</td>
<td>Equity 5</td>
</tr>
</tbody>
</table>

Since the Consolidated Fund has a cash surplus the Exchequer Funds and Accounts Team (EFA) is required to transfer that to the National Loans Fund which, in turn, will transfer it to the Debt Management Account for cash management purposes. Step 6a shows the transfer from the Consolidated Fund to the National Loans Fund.

### Step 6a

**Journal**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLF</td>
<td>From CF -4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From BoE +4</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>From BoE -4</td>
<td>To NLF -4</td>
</tr>
<tr>
<td>Bank of England</td>
<td>To CF -4</td>
<td>to NLF +4</td>
</tr>
</tbody>
</table>
Step 6b shows the transfer from the National Loans Fund to the Debt Management Account, increasing the Debt Management Account’s balance at the Bank of England above its target level.

| Entity         | Journal   |  |  |
|----------------|-----------|  |  |
| DMA            | From BoE  | +4 | To NLF | +4  |
| NLF            | From BoE  | -4 |           |     |
|                | From DMA  | +4 |           |     |
| Bank of England|           |   | To NLF   | -4  |
|                |           |   | To DMA   | +4  |

In step 6c, the Debt Management Office purchases sufficient government securities from the private sector - in this example the banking sector - to return the Debt Management Account cash balance to its target level.

| Entity         | Journal   |  |  |
|----------------|-----------|  |  |
| DMA            | From BoE  | -5 |         |     |
|                | Gilts     | +5 |         |     |
| Bank of England|           |   | To DMA  | -5  |
|                | Reserves  | +5 | Reserves for HSBC | +5  |
| HSBC           | Reserves  | +5 |         |     |
|                | Gilts     | -5 |         |     |
As with earlier examples, the net result of this entire process is a change in outstanding government securities held by the private sector - more specifically, a reduction in securities held, since the net Exchequer position was a daily surplus (step 7).

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 100</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td></td>
<td>From DMA 104</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 496</td>
</tr>
<tr>
<td></td>
<td>From DMA</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA 1</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Barclays</td>
<td>Loans 75</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
</tr>
<tr>
<td>HSBC</td>
<td>Loans 70</td>
</tr>
<tr>
<td></td>
<td>Reserves 5</td>
</tr>
<tr>
<td></td>
<td>Gilts 5</td>
</tr>
<tr>
<td>Taxpayer Agent</td>
<td>Deposits 5</td>
</tr>
</tbody>
</table>

### 7.2 Paying a National Insurance benefit

It is worth elaborating on the formal dynamics of the National Insurance Fund. Given that the fund is involved in both the collection of receipts and the delivery of mandated expenditure it has the appearance of a hypothecated tax, and a capacity to deliver which is dependent on available balances. However, the National Insurance Fund, in fact, functions more or less according to the general system of Parliament-derived government finance described previously. This is evident in the explicit provisions available to HM Treasury to draw on the Consolidated Fund in support of the National Insurance Fund’s responsibilities135, but it even applies where the National Insurance Fund is drawing upon its own assets.

Almost all of the surplus receipts of the National Insurance Fund are held in the DMADF (via the NIFIA) and this has amounted, cumulatively, to a balance of some £30B as of March 2019. Recall that

---

135 The Social Security Act 1993, section 2, enables HM Treasury to pay up to 17% of the estimated annual expenditure of the NIF into the NIF from the Consolidated Fund. This value corresponds to the targeted working balance on the NIF. Section 47 of the Commissioners for Revenue and Customs Act 2005 enables HM Treasury to pay into the NIF from the CF in cases where HMRC receipts are insufficient to make a payment or disbursement into the NIF.
the primary function of the Debt Management Account is offsetting the daily flows between the Exchequer and the banking sector. It follows that any surplus receipts transferred from the National Insurance Fund to the Debt Management Account are, ceteris paribus, not retained, but are used to buy back government securities from the private sector and restore balance to the banking system’s reserve levels\textsuperscript{136}. In doing so, the money is disposed of, the Debt Management Account’s target balance is achieved, and a liability to the National Insurance Fund is registered in the Debt Management Account. Repaying these deposits (and interest) to the National Insurance Fund, on such days as they are required, is then done via the National Loans Fund and the Consolidated Fund under provisions granted to the Debt Management Account by the National Loans Act 1968\textsuperscript{137}. As such, the National Insurance Fund deposit in the Debt Management Account essentially represents an “Exchequer credit” which forms the basis of a claim on the Consolidated Fund, analogous to those held in departmental resource accounts for other voted expenditure. The entire wealth of the National Insurance Fund, therefore, amounts to an accounting construct internal to the Exchequer - a claim on the Debt Management Account, with recourse to the Consolidated Fund - and National Insurance expenditure and receipts are ultimately handled in much the same way as all other flows through the Exchequer\textsuperscript{138}.

\textsuperscript{136} HM Treasury Freedom of Information response, Ref. FOI2018/22809.
\textsuperscript{137} See the National Loans Act 1968 Schedule 5A, paragraph 4(5).
\textsuperscript{138} The contrivance is further highlighted by the deduction of the “NHS allocation” from National Insurance Contributions which is simply paid into the Consolidated Fund like any other tax (Social Security and Contributions Act 1992 s162(10)) and that “Cash paid over to the CF by HMRC in any reporting period may include amounts later identified as National insurance contributions which are then repaid to the National Insurance Fund” as noted in the Consolidated Fund Accounts.
We can now describe how a National Insurance benefit, such as the Retirement Pension, is paid. In the example below the Department of Work and Pensions pays a retiree who holds a bank account at HSBC. Step 0 shows the opening balances.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td></td>
<td>From DMA 100</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
<tr>
<td></td>
<td>Equity (500)</td>
</tr>
</tbody>
</table>

PMG Supply

National Insurance Fund

From DMA 10 | Equity 10

DWP

Bank of England

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilts 105</td>
<td>To DMA 5</td>
<td></td>
</tr>
<tr>
<td>Reserves for NatWest 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserves for HSBC 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Reserves 85</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NatWest

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans 75</td>
<td>Deposits 80</td>
<td></td>
</tr>
<tr>
<td>Reserves 10</td>
<td>Equity 20</td>
<td></td>
</tr>
<tr>
<td>Gilts 15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

HSBC

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loans 70</td>
<td>Deposits for Retiree 10</td>
<td></td>
</tr>
<tr>
<td>Reserves 5</td>
<td>Other Deposits 60</td>
<td></td>
</tr>
<tr>
<td>Gilts 10</td>
<td>Equity 15</td>
<td></td>
</tr>
</tbody>
</table>

Retiree

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposits 10</td>
<td>Equity 10</td>
<td></td>
</tr>
</tbody>
</table>

Step 1 is the Department of Work and Pensions requesting its pension allocation from the National Insurance Fund. The novel feature here is that the allocation comes from the non-voted part of the Supply Estimate that is allocated against the National Insurance Fund. The Department holds a claim over the National Insurance Fund as an asset, but in keeping with the accounting scheme also has a liability to the latter ensuring that it satisfies the legislated responsibilities of the Fund.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DWP +10</td>
</tr>
<tr>
<td>DWP</td>
<td>From NIF +10</td>
</tr>
</tbody>
</table>
In Step 2 the cash funding is allocated to make the payment. Step 2a is the National Insurance Fund drawing out of its deposit with the Debt Management Account and transferring that internally to the credit of the Department of Work and Pensions at the Consolidated Fund.

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA +10 From CF -10</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA -10</td>
</tr>
<tr>
<td>DWP</td>
<td>From NIF -10 From CF +10</td>
</tr>
</tbody>
</table>

Step 2b is where cash is provided to the Paymaster General Supply account from the Consolidated Fund ready to settle the payment in the banking system.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply +10</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE +10</td>
</tr>
<tr>
<td>Bank of England</td>
<td>From CF +10</td>
</tr>
</tbody>
</table>
Step 3 shows the interim balances after funding allocation.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assets</td>
</tr>
<tr>
<td><strong>DMA</strong></td>
<td></td>
</tr>
<tr>
<td>Gilts</td>
<td>105</td>
</tr>
<tr>
<td>From BoE</td>
<td>5</td>
</tr>
<tr>
<td><strong>NLF</strong></td>
<td></td>
</tr>
<tr>
<td>From CF</td>
<td>490</td>
</tr>
<tr>
<td>From DMA</td>
<td>110</td>
</tr>
<tr>
<td><strong>CF</strong></td>
<td></td>
</tr>
<tr>
<td>From PMG Supply</td>
<td>10</td>
</tr>
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<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>PMG Supply</strong></td>
<td></td>
</tr>
<tr>
<td>From BoE</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>National Insurance Fund</strong></td>
<td>From DWP</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td><strong>DWP</strong></td>
<td></td>
</tr>
<tr>
<td>From CF</td>
<td>10</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td></td>
</tr>
<tr>
<td>Gilts</td>
<td>105</td>
</tr>
<tr>
<td>From CF</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NatWest</strong></td>
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</tr>
<tr>
<td>Loans</td>
<td>75</td>
</tr>
<tr>
<td>Reserves</td>
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<tr>
<td>Gilts</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>HSBC</strong></td>
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</tr>
<tr>
<td>Loans</td>
<td>70</td>
</tr>
<tr>
<td>Reserves</td>
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</tr>
<tr>
<td>Gilts</td>
<td>10</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Retiree</strong></td>
<td></td>
</tr>
<tr>
<td>Deposits</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In step 4a the Department of Work and Pensions makes the payment to the retiree.

<table>
<thead>
<tr>
<th>Step 4a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>CF</td>
<td>To DWP</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DWP</td>
</tr>
<tr>
<td>DWP</td>
<td>From CF</td>
</tr>
<tr>
<td>HSBC</td>
<td></td>
</tr>
<tr>
<td>Retiree</td>
<td>Deposits</td>
</tr>
</tbody>
</table>

In step 4b the Paymaster General Supply account has settled the payment via the banking system in the usual way.

<table>
<thead>
<tr>
<th>Step 4b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Reserves</td>
</tr>
</tbody>
</table>
The end result is that within the Exchequer the assets of the National Insurance Fund are reduced, though the Consolidated Fund holds the obligation to the Bank of England for the spending out of the Exchequer, as normal. The changes within the banking system also occur in exactly the same way, and via the same mechanisms, as any other Exchequer payment. Step 5 is the intra-day balances prior to an Exchequer sweep.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>From BoE</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF</td>
</tr>
<tr>
<td></td>
<td>From DMA</td>
</tr>
<tr>
<td>CF</td>
<td>From PMG Supply</td>
</tr>
<tr>
<td></td>
<td>To BoE</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

PMG Supply

National Insurance Fund

DWP

Bank of England

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilts</td>
<td>105</td>
<td>To DMA 5</td>
</tr>
<tr>
<td>From CF</td>
<td>10</td>
<td>Reserves for NatWest 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for HSBC 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other Reserves 85</td>
</tr>
<tr>
<td>NatWest</td>
<td>Loans 75</td>
<td>Deposits 80</td>
</tr>
<tr>
<td></td>
<td>Reserves 10</td>
<td>Equity 20</td>
</tr>
<tr>
<td></td>
<td>Gilts 15</td>
<td></td>
</tr>
<tr>
<td>HSBC</td>
<td>Loans 70</td>
<td>Deposits for Retiree 20</td>
</tr>
<tr>
<td></td>
<td>Reserves 15</td>
<td>Other Deposits 60</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
<td>Equity 15</td>
</tr>
<tr>
<td>Retiree</td>
<td>Deposits 20</td>
<td>Equity 20</td>
</tr>
</tbody>
</table>

7.3 Adjusting the National Insurance Fund Balance

In years where the National Insurance Fund is projected to have a shortfall of contributions, the fund can be topped up by a Treasury grant under Section 2 of the Social Security Act 1993. The National Insurance Fund Accounts 2015-16,\(^{139}\) for example, states in note 3: “For 2015-16 a grant of the maximum for the year (10%) was paid to ensure the Fund balance remains above the minimum necessary and is able to meet future benefit payments”. This £9.6bn amount appears under HMRC’s

\(^{139}\) National Insurance Fund Account 2015-16
Supplementary Estimate for the financial year 2015-16 as ‘non-budget’ voted expenditure. This gives HMRC the authority to draw on the Consolidated Fund and transfer to the National Insurance Fund.

The transfer involves the Central Funds and the National Insurance Fund and is described below. Step 0 is the initial starting balances.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 500</td>
</tr>
<tr>
<td></td>
<td>From DMA 100</td>
</tr>
<tr>
<td>CF</td>
<td>To NLF 500</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA 10</td>
</tr>
</tbody>
</table>

In Step 1, HMRC receives its voted funding into the HMRC General account. As with all voted allowances, this represents an internal claim on the Consolidated Fund.

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>CF</td>
<td>From HMRC General +10</td>
</tr>
<tr>
<td>HMRC General</td>
<td>From CF +10</td>
</tr>
</tbody>
</table>

In Step 2 this is invested via the National Insurance Fund Investment Account in the DMADF. Step 2a creates the deposit with the DMADF increasing the assets of the National Insurance Fund.

<table>
<thead>
<tr>
<th>Step 2a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>DMA</td>
<td>To NIF +10</td>
</tr>
<tr>
<td>CF</td>
<td>From HMRC General -10</td>
</tr>
<tr>
<td>HMRC General</td>
<td>To CF -10</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA +10</td>
</tr>
</tbody>
</table>

140 Central Government Supply Estimates 2015-16: Supplementary Estimates pp614
Step 2b settles the transfer against the Consolidated Fund via the National Loans Fund.

<table>
<thead>
<tr>
<th>Step 2b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td>-10</td>
</tr>
<tr>
<td>NLF</td>
<td>-10</td>
</tr>
<tr>
<td>CF</td>
<td>+10</td>
</tr>
<tr>
<td>HMRC General</td>
<td>-10</td>
</tr>
</tbody>
</table>

Step 3 shows the final balances. The Consolidated Fund increases its liability to the National Loans Fund and there is an equivalent increase in the assets of the National Insurance Fund.

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>DMA</td>
<td>Gilts 105</td>
</tr>
<tr>
<td></td>
<td>From BoE 5</td>
</tr>
<tr>
<td>NLF</td>
<td>From CF 510</td>
</tr>
<tr>
<td></td>
<td>From DMA 90</td>
</tr>
<tr>
<td>CF</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA 20</td>
</tr>
</tbody>
</table>

In principle, therefore, the National Insurance Fund could operate entirely with recourse to the Consolidated Fund. In practice, the (wholly internal) balance on the fund is maintained significantly above its target level through surplus receipts as well as voted drawings upon the Consolidated Fund as described here.\footnote{141}

7.4 The significance of taxation

Most public revenue, in the form of taxes and other receipts (e.g. fines, fees, etc.), must be surrendered to the Consolidated Fund or National Insurance Fund as a matter of law. Since these accounts are currently held at the Bank of England, a straightforward implication is that payments into such accounts must ultimately take the form of Bank of England liabilities. It follows that Exchequer spending is not, and cannot (by law), be served by the recycling of public receipts within the commercial banking system because receipts are not, ultimately, received in the form of commercial bank deposits. Rather, payments to the Exchequer must arise via the transfer of Bank of England

\footnote{141} “A payment of a Treasury Grant is usually made if the balance of the Fund is projected to fall below one-sixth (16.7%) of estimated annual benefit expenditure (including redundancy receipts). A Treasury Grant was last paid in the 2015-2016 financial year.” Report by the Government Actuary on: The draft Social Security Benefits Up-rating Order 2020 p1.9
liabilities from commercial banks, and in providing this form of money in exchange for commercial deposits such banks represent the settlement agents of taxpayers.

As discussed elsewhere, the Consolidated Fund wasn't always held at the Bank of England and there does not appear to be any direct stipulation in legislation that it has to be. Indeed, established in 1787, the Consolidated Fund was moved to the Bank of England only in 1834 when the existing independent ancient Office of the Exchequer was abolished in an explicit act of unification between the Treasury and the Bank of England that seems extraordinary according to the sensibilities of the late twentieth century (see Appendix G). There are, however, indirect references in legislation that do anchor the Consolidated Fund at the Bank of England. For example, the issue of money to ‘principal accountants’ described with reference to sections 2, 13 and 15 of the Exchequer and Audit Departments Act 1866142 makes coherent sense only to the extent that the Consolidated Fund is held at the Bank of England. The National Loans Act 1968 does explicitly require the National Loans Fund to be held at the Bank of England143 and since excess Consolidated Fund receipts must, by law, be transferred to the National Loans Fund this gives further impetus to the legal requirement for receipts to take the form of Bank of England liabilities.

In any case, whether formalised in legislation or simply a consequence of prevailing policy choices, the levying of taxes and other forms of public charge, together with a stipulation that such receipts must be paid into accounts held at a particular bank, necessarily conveys a fundamental significance to the liabilities of that bank. Quite apart from the use of the Bank of England as a more general settlement platform, commercial banks must hold (or have access to) liabilities of the Bank of England if only to settle tax payments on behalf of their customers. Thus taxation exerts a fundamental dynamic on the monetary system.

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142 Exchequer and Audit Departments Act 1866 s2; s13; and s15
143 National Loans Act 1968 s1(1)
8. Consolidation of the Exchequer and Public Sector

The examples shown so far have been rather contrived in that they have included either spending (sections 5 and 6) or receipt (section 7) but not both. In reality, of course, many flows occur in both directions across the Exchequer boundary on any given day, and it is their net effect that constitutes the end of day Exchequer position that is the subject of cash management activities. These bi-directional flows are settled across the Government Banking Service principal accounts and reconciled by the end of day cash management sweep within the Central Funds. Throughout the day the DMO undertakes cash management based upon Treasury supplied cash flow forecasts to maintain a positive buffer across the Exchequer accounts at the Bank of England. Since this involves a very large number of accounting entities and even more individual accounting steps, a fully expanded example is deferred to Appendix A.

Here we will present two simplified versions of the same scenario, based upon the grouping and consolidation of accounts within certain accounting boundaries. This has the effect of removing the transactions and financial positions which are internal to the consolidated group of accounts and emphasises the transactions between groups. The transactions shown are identical to those enumerated earlier in the paper, such as expenditure out of parliamentary voted funding or the receipt of income tax and National Insurance contributions. However, the individual Exchequer accounts are not resolved because the Exchequer (and, eventually, the public sector) is consolidated into a single account.

First we will consolidate the Exchequer - that is, the central funds and Government Banking Service - thus representing the consolidated government sector as a single account. This is consistent with the ‘System of National Accounts’ (SNA) which are collated and published by the Office of National Statistics, and which considers the Bank of England a monetary financial institution and part of the private sector. Subsequently we will combine the Exchequer with the Bank of England. This latter approach is consistent with the ‘Whole of Government Accounts’ (WGA), published annually by HM Treasury, and which includes the Bank of England as part of a wider ‘public sector’ accounting entity. In both cases the rest of the accounts form a consolidated ‘private sector’.

The net effect is to move the Bank of England between the public and private sectors and highlight how the view changes when that happens.

---

144 The Exchequer and Audit Departments Act 1866 s11 requires that all Exchequer accounts held at the Bank of England are treated as one general fund by the Bank.
145 Whole of Government Accounts 2018-2019
The step numbers shown below correspond to the fully expanded example presented in Appendix A, and missing steps represent operations that are entirely internal to the Exchequer or the Private Sector groups and therefore redundant in this formulation. Unlike previous examples, in this example the balance sheets fully balance at each step in order to highlight changes in financial equity.

8.1 National Accounts view

Instead of consolidating the Bank of England into the public sector as a wholly owned subsidiary of HM Treasury, the System of National Accounts (SNA) places the Bank of England in the private financial sector. The effect on the initial balance sheet is shown in Step 0. Note that the Exchequer holds a small public deposit at the Bank of England representing the Exchequer’s daily positive target balance in the Debt Management Account (DMA), and has liabilities in the form of gilts (as before we don’t differentiate Treasury Bills, and in this view cash is an internal matter to the private sector). The Exchequer also holds shareholder capital in the Bank of England, which is shown as an explicit liability of the private sector for purposes of clarity, though it technically represents equity of the private sector. Since gilt liabilities exceed assets held, the Exchequer has negative equity. The quantity of gilts on issue is matched exactly by the gilts held by the private sector.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits 10</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued 10</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Gilts 50</td>
</tr>
<tr>
<td></td>
<td>Bank Capital 10</td>
</tr>
</tbody>
</table>

8.1.1 Funding the National Insurance Fund

This is an internal Exchequer matter and has no impact on this consolidated view.

8.1.2 Payment from Voted Funding

The Exchequer first executes a swap transaction obtaining public deposits at the Bank of England in exchange for credit at the Exchequer.

<table>
<thead>
<tr>
<th>Step 4b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits +20</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer +20</td>
</tr>
</tbody>
</table>
A swap transaction expands the balance sheet of both the Exchequer and the Private Sector while leaving the amount of equity the same.

<table>
<thead>
<tr>
<th>Step 5</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The payment is made merely by reducing the quantity of public deposits held by the Exchequer.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
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</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Deposits for Exchequer</td>
</tr>
</tbody>
</table>

The accounting positions resulting from the Voted payment are shown below. Public Deposits and credit have been expanded and then deposits reduced again, which causes an increase in equity held by the private sector, which is exactly mirrored by an increase in the negative equity of the Exchequer.

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
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</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8.1.3 Intraday Cash Management

From the consolidated viewpoint, we simply consider that the Exchequer has an end of day target balance for public deposits of 10 pounds. At this point, it also has an obligation to the private sector of 20 pounds. Therefore, in anticipation of an end of day shortfall, the Exchequer sells sufficient gilts into the banking system to maintain the positive differential of 10 pounds, and the result is another swap transaction - this time public deposits for gilts.

<table>
<thead>
<tr>
<th>Step 9</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Gilts</td>
</tr>
</tbody>
</table>

Once again the balance sheets of both sectors expand thanks to the swap transaction, and equity remains unaffected.

<table>
<thead>
<tr>
<th>Step 10</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.1.4 Collecting Tax and National Insurance

The Exchequer uses collection agents within the private sector who increase the value of the collection accounts with the tax collected. This increases public deposits at the consolidated level.

<table>
<thead>
<tr>
<th>Step 11a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Deposits for Exchequer</td>
</tr>
</tbody>
</table>
Once the collection agents have moved the money internally within the banking system, some of the daily credit obtained by the Exchequer can be extinguished. This is a reverse swap transaction, reducing balances rather than expanding them. From the perspective of the consolidated Exchequer in this example, this rationalisation could be delayed until the end of the day but is preserved here for consistency with Appendix A.

<table>
<thead>
<tr>
<th>Step 13</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
</tbody>
</table>

The net result after receipt of the tax revenue is shown below, where the amount owed by the Exchequer to the Bank of England is reduced. Private sector equity is reduced by the amount of the tax paid, precisely mirroring the reduction in negative equity of the Exchequer.

<table>
<thead>
<tr>
<th>Step 15</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.1.5 Payment from National Insurance Fund

Next we see non-voted expenditure in the form of a National Insurance benefit being paid. This another swap transaction that in the consolidated view is identical to a non-voted payment.

<table>
<thead>
<tr>
<th>Step 17b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
</tbody>
</table>

Once again, the payment is made merely by reducing the quantity of public deposits held by the Exchequer.

<table>
<thead>
<tr>
<th>Step 18b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td></td>
</tr>
</tbody>
</table>
Public Deposits and credit have been expanded and then deposits reduced again, which causes an increase in equity held by the private sector, which is exactly mirrored by an increase in the negative equity of the Exchequer. There is no operational difference between a voted and non-voted payment from this perspective.

<table>
<thead>
<tr>
<th>Step 19</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits 31</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued 10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer 26</td>
</tr>
<tr>
<td></td>
<td>Gilts 65</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.1.6 Exchequer Sweep

At the end of the day the Exchequer undertakes a sweep operation moving all its internal cash balances to one location in the National Loans Fund account. The effect at the consolidated level is to eliminate some of the daily credit the Exchequer has with the Bank of England. It is another reverse swap transaction - reducing balances rather than expanding them.

<table>
<thead>
<tr>
<th>Step 20c</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer -5</td>
</tr>
</tbody>
</table>

The resulting balance sheet shows the ‘Ways and Means’ position of the Exchequer after the day’s activities.

<table>
<thead>
<tr>
<th>Step 21</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits 26</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued 10</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer 21</td>
</tr>
<tr>
<td></td>
<td>Gilts 65</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
8.1.7 End of Day Cash Management

The Exchequer has a remaining obligation to the Bank of 21 pounds. It has a balance of 26 pounds but a targeted final balance of 10. Therefore it needs to find 5 additional pounds. The Exchequer, therefore, issues and sells additional gilts, which is a swap transaction with the private sector.

<table>
<thead>
<tr>
<th>Step 22</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>Deposits for Exchequer</td>
</tr>
</tbody>
</table>

The Exchequer can now reconcile the entire intra-day obligation to the Bank of England, retaining a balance of central bank money in accordance with its target. This is a reverse swap transaction reducing balances rather than expanding them.

<table>
<thead>
<tr>
<th>Step 23b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Credit for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Owed to Bank of England</td>
</tr>
<tr>
<td></td>
<td>Deposits for Exchequer</td>
</tr>
</tbody>
</table>

The final positions resulting from the day’s activities are shown below. The Exchequer’s net spending was 20 pounds (25 expenditure, 5 revenue) and this is reflected in an identical increase in gilts outstanding and an identical increase in the negative equity of the Exchequer. Equally, the equity of the private sector has increased by the same amount, represented by an increase in gilts held in the private sector.

<table>
<thead>
<tr>
<th>Step 25</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Exchequer</td>
<td>Public Deposits</td>
</tr>
<tr>
<td></td>
<td>Bank Capital Issued</td>
</tr>
<tr>
<td></td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>Bank Capital</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Deposits for Exchequer</td>
</tr>
<tr>
<td></td>
<td>Bank Capital</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

8.2 Whole of Government Accounts view

We now consider the consolidation of the Bank of England accounts together with HM Treasury’s accounts, relocating the Bank in accounting terms from the private financial sector and placing it within the public sector. This approach is consistent with the Whole of Government Accounts (WGA) which originated with the Government Resource and Accounts Act 2000 and consolidates the audited accounts of over 9,000 public sector bodies. The rationale for consolidating the Bank of England into the public sector is that it’s a wholly owned subsidiary of HM Treasury.
As shown in the WGA, gilts, Treasury bills, central bank reserve deposits, banknotes and coins are all liabilities of the UK public sector. As such the public sector in our example begins with liabilities of both gilts and central bank reserves (as before we don't differentiate Treasury bills or resolve cash). Note how in this view the public sector holds no financial assets.

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves 20</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>

8.2.1 Funding the National Insurance Fund
This is an internal Exchequer matter and has no impact on this consolidated view.

8.2.2 Payment from Voted Funding
In this view voted funding payments are simply an issuance of reserve assets to the private sector.

<table>
<thead>
<tr>
<th>Step 7</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves +15</td>
</tr>
</tbody>
</table>

The accounting positions resulting from the Voted payment are shown below. The quantity of reserves held increases which causes an increase in equity held by the private sector, and that is exactly mirrored by an increase in the negative equity of the Exchequer.

<table>
<thead>
<tr>
<th>Step 8</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves 35</td>
</tr>
<tr>
<td></td>
<td>Gilts 10</td>
</tr>
</tbody>
</table>

146 Gilt, Treasury bills and coins are liabilities of the Treasury, whereas reserves and banknotes are liabilities of the Bank of England
8.2.3 Intraday Cash Management

At this point the public sector engages in interim cash management activities which swaps the additional reserve liabilities of the public sector into gilt liabilities. The daily targets of the Exchequer disappear in this consolidated view.

<table>
<thead>
<tr>
<th>Step 9</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
</tbody>
</table>

Cash management results in an exchange of reserves for gilts and both the size of the balance sheets and the amounts of equity remain unaffected.

<table>
<thead>
<tr>
<th>Step 10</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>Reserves Issued</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

8.2.4 Collecting Tax and National Insurance

Tax payments show up when the tax collections agents transfer the money to the WGA sector, and result in a simple reduction in reserves.

<table>
<thead>
<tr>
<th>Step 12</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>WGA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
</tbody>
</table>
The net result after receipt of the tax revenue is shown below, where the amount of reserves held by the private sector is reduced. Private sector equity is reduced by the amount of the tax paid, precisely mirroring the reduction in negative equity of the Exchequer.

<table>
<thead>
<tr>
<th>Step 15</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>WGA</td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>Reserves Issued</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

8.2.5 Payment from National Insurance Fund

Next we see non-voted expenditure in the form of a National Insurance benefit being paid. This another issue of reserves to the private sector that in the consolidated view is identical to a non-voted payment.

<table>
<thead>
<tr>
<th>Step 18b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>WGA</td>
<td>Reserves Issued</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
</tbody>
</table>

The quantity of reserves held increases which causes an increase in equity held by the private sector, and that is exactly mirrored by an increase in the negative equity of the Exchequer. There is no operational difference between a voted and non-voted payment.

<table>
<thead>
<tr>
<th>Step 19</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>WGA</td>
<td>Gilts Issued</td>
</tr>
<tr>
<td></td>
<td>Reserves Issued</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

8.2.6 Exchequer Sweep

This is an internal Exchequer matter and has no impact on this consolidated view.
8.2.7 End of Day Cash Management

The final step is for the public sector to undertake further cash management activities. As before, this involves exchanging reserves for gilts, which changes neither the size of the balance sheet nor the amount of equity held.

<table>
<thead>
<tr>
<th>Step 22</th>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WGA</td>
<td>Reserves</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gilts</td>
<td>+5</td>
</tr>
<tr>
<td></td>
<td>Private Sector</td>
<td>Reserves</td>
<td>-5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gilts</td>
<td>+5</td>
</tr>
</tbody>
</table>

The final, end of day, positions are shown below. The Exchequer’s net spending was 20 pounds (25 expenditure, 5 revenue) and this is reflected in an identical increase in gilts outstanding and an identical increase in the negative equity of the Exchequer. Equally, the equity of the private sector has increased by the same amount, represented by an increase in gilts held in the private sector.

<table>
<thead>
<tr>
<th>Step 25</th>
<th>Balance Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
<td>Assets</td>
</tr>
<tr>
<td>WGA</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
<tr>
<td>Private Sector</td>
<td>Reserves</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
</tr>
<tr>
<td></td>
<td>Equity</td>
</tr>
</tbody>
</table>

8.3 Implications of consolidation

The WGA and SNA accounting perspectives respectively locate the Bank of England as inside or outside of the system of public provision. An immediate observation, in any case, is that they both share some important common features. One feature common to both approaches, for example, is that, under consolidation, the distinction between Voted and non-Voted Funding is not discernible at all. The accounting expressions involved in Voted and non-Voted spending were identical within each example, reinforcing the notion that National Insurance is an internal accounting structure with no distinctive control function or implications relative to other forms of expenditure and receipt. Social benefits are funded in the same way as any other government payment from the perspective of any entity outside of the Exchequer, and different forms of consolidation beyond the Exchequer boundary obviously have no effect on this outcome.

More notably, although the nature of the flows between the sectors look different between the two perspectives, the net flow of financial equity remains the same for each case. In particular, the negative equity of the Exchequer or wider public sector mirrors the positive equity held in the private sector\(^{147}\). Moving the Bank of England from one sector to the other did not change this, which reflects

\(^{147}\) Note that these examples need to balance entirely in order to show this. As such, the quantity of gilts in issue, for example, is precisely matched by those held by counterparties in the examples, and the same rule is employed for other assets/liabilities such as commercial bank loans and corporate stock held. This feature is different to other examples in the study which did not include such complete ‘horizontal’, ‘adding up’ constraints.
the fact that the Bank’s own equity does not change with these transactions\textsuperscript{148}. This means that either the SNA or the WGA viewpoint can be used to recognise purely net financial flows between sectors, and perspectives switched at any point. This generalises the fundamental pattern seen throughout this study whereby a change in the negative equity position of the Consolidated Fund is reflected in an equal and opposite change to the equity position of the private sector. Put another way, the apparent financial ‘indebtedness’ of the Government is the direct counterpart to the net financial wealth of the private sector.

The SNA approach is more complex in various ways. The initial balance sheets are more complicated because the Exchequer holds some private sector assets (public deposits and Bank capital) and these are matched by increased private sector holdings of gilts. Many transactions within the SNA view show up as swap transactions or pairs of transactions that first expand and then contract balance sheets. Government payments, for example, show up as reduced private sector financial liabilities after a mutual balance sheet expansion. Like the disaggregated examples earlier, under the SNA viewpoint government expenditure is essentially seen as a provision of intraday banking credit, though in this case the credit is apparently extended by the private sector banking system. Equally, government revenue is manifested as a receipt of private sector financial liabilities. The emphasis on government borrowing from third parties and government holding of ‘private sector money’ is familiar from conventional narratives regarding the government’s finances.

By contrast, in the WGA approach, the public sector has no financial assets. This arises from the fact that the financial assets held by both HM Treasury and the Bank, according to the model, are financial liabilities of the other and therefore cancel completely on consolidation\textsuperscript{149}. The transactions in the WGA example proceed as simple exchanges and issues which have a more intuitive and direct effect on the balance sheets. Public expenditure and receipt, for example, is seen to be expressed as simple issuance and withdrawal of central bank reserves. Furthermore, reserves and gilts are seen as two forms of liability of the same issuing body which are interchanged according to public sector policy prerogative. The comparative simplicity of the WGA approach perhaps implies that it captures the underlying institutional phenomena more clearly and appropriately.

Both of these examples are valid perspectives on the underlying accounting but they appear to cast the role of government somewhat differently. Under SNA, the government sector issues only gilts. Since these securities are commonly understood as ‘government debt’ this implies that the government is ostensibly a debtor and the user of a private sector monetary system. The WGA approach, however, captures a broader perspective such that the government sector issues both gilts and central bank reserves, and this places ‘government debt’ shoulder to shoulder with the instruments known as ‘base money’. This latter context puts the government sector more into the realm of a monetary authority (i.e. issuer of money) than a borrower or passive user of the monetary system, and it places a question mark over the status of government securities as a ‘debt’ as typically conceived.

Obviously on the basis of ownership, the Bank is firmly within the public sector and one might expect the consideration of consolidation options to end there. It is prudent, however, to ask, irrespective of direct ownership, to what extent the Bank of England functions independently of the Exchequer and HM Treasury more generally, and thereby which perspective may be most instructive for understanding the context in which the government operates in relation to the monetary system. As we have seen, the Bank is intrinsically wedded to the Exchequer by the procedures defined in the Exchequer and Audit Departments Act 1866, and therefore from the perspective of public expenditure the Treasury and the Bank are fundamentally coordinated and act as a single, coherent system.

\textsuperscript{148} Bank of England equity can change as a result of bank profits, such as from regulation fees, or revaluation of floating assets held, like the IMF Special Drawing Rights (SDR), which are not explored in this study.

\textsuperscript{149} In reality the public sector may have some financial assets such as foreign exchange or shares in private sector entities, e.g. the Royal Bank of Scotland. This example (and the study more generally) is essentially focussed on the sterling monetary framework and in that (narrow but highly significant) sense the UK public sector can hold no financial assets.

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Bank has no legal mechanism to refuse HM Treasury’s instructions to undertake expenditure authorised by Parliament (see section 5). Moreover, the legal requirement for government revenue to be paid in Bank of England liabilities defines another fundamental interdependency. From the perspective of monetary policy, however, the relationship is arguably more complicated.

Prior to the Bank of England Act 1998 and the transfer of functions to the Debt Management Office (1998-2000), HM Treasury was the source of authority on monetary policy and the Bank of England conducted its own monetary policy activities as well as the Exchequer’s cash management requirements as a single operation. That arrangement would seem entirely consistent with the WGA perspective. Since then, the Bank has enjoyed ‘operational independence’ for purposes of monetary policy, being able to set interest rates without Treasury direction. Even under these conditions, however, HM Treasury remains fundamentally involved with monetary policy. For example, the Chancellor of the Exchequer appoints or approves all members of the Bank of England’s Monetary Policy Committee (MPC), and defines the MPC’s primary price stability objective, while the secondary objective is to “support the economic policy of Her Majesty’s Government”\(^{150}\). In the final analysis, however, both the Bank and HM Treasury are ultimately accountable to Parliament.

The Bank of England uses government securities in its operations for targeting inflation, principally as part of interest-rate management objectives. Indeed, this can be considered to be the fundamental reason that such securities are issued and, in that light, the Debt Management Office’s operations are a delegation of part of these activities. In consequence, government securities principally back the reserve deposits and banknotes on the Bank of England’s balance sheet\(^ {151}\) and thereby underpin the financial instruments often referred to as ‘base money’. Government securities may also be issued for reasons explicitly related to monetary policy\(^ {152}\) and thus the Debt Management Office has a general standing arrangement with the Bank to make additional issues of government securities on request\(^ {153}\).

The Debt Management Office also loans gilts and Treasury bills to the Bank of England for on-lending to third parties in conjunction with certain monetary policy facilities\(^ {154}\), while the most prominent monetary policy infrastructure of the last decade - the Asset Purchase Facility (APF), used to support the Quantitative Easing and Term Funding Scheme initiatives - is backed by an HM Treasury indemnity and is subject to ultimate oversight by the Chancellor of Exchequer\(^ {155}\). The Bank’s ability to pay interest on its reserve liabilities and operating costs for its monetary policy and financial stability remits are founded on income derived from gilt assets held as part of the Asset Purchase Facility and Cash Ratio Deposit Scheme; though it’s important to grasp that the Bank’s income from its gilt holdings cannot be realised in terms of sterling, as sterling is a liability of the Bank (instead this income is manifest as an entry on the Bank’s Profit and Loss Account). It is very clear that monetary policy is undertaken in a manner which is highly coordinated with - if not outright dependent upon HM Treasury. If ‘operational independence’ is the Wizard of Oz, HM Treasury is the man behind the curtain.

\(^{150}\) Bank of England Act 1998 s11


\(^{152}\) A 1982 amendment to the National Loans Act 1968 provided for securities to be issued explicitly “for the purpose of promoting sound monetary conditions in the United Kingdom”. Another amendment in 1999 gave similar powers to the Debt Management Account.

\(^{153}\) "Previously we had the Treasury bill to do that but we will not have that as the DMO will issue it for their purposes. We have arranged with the DMO—this is another example of co-operation between the two—that on occasions where we think we need to drain liquidity from the market they will issue Treasury bills on our behalf and deposit the money with us at the same rate making clear that is an operation they conduct at our request rather than for their own purposes, so it achieves the same effect as if we were issuing Treasury bills in the first place.” - Treasury Select Committee Minutes of Evidence, 23rd March 2000. See also Exchequer cash management in the United Kingdom (2017), Debt management Office.

\(^{154}\) Examples of such facilities include the Special Liquidity Scheme (SLS), the Funding for Lending Scheme (FLS) and the Discount Window facility (DW).

\(^{155}\) As explained in section 6.7, the Term Funding Scheme (TFS) was brought directly on to the Bank of England’s balance sheet, with the removal of the associated HM Treasury indemnity, following a direct capital injection into the Bank by HM Treasury.
In order to understand the wider significance of HM Treasury in the monetary system, it is worth reflecting on the other functions that government securities serve within the economy. For commercial banks, government securities represent the predominant medium of exchange by which reserves can be purchased, generally via repo processes through the CREST system. In the non-bank private sector the primary holders of tradeable government securities are pension funds and insurance companies. These are institutions that hold large sterling denominated balances that would present a substantial credit risk if held as commercial bank deposits in the event of a bank becoming insolvent. By contrast, the UK Government has never failed to redeem its securities, and they are euphemistically termed ‘safe’ or ‘risk-free’ sterling assets. Government securities therefore represent financial assets that, under the current monetary paradigm, support the functioning of the monetary system and are the subject of demand in much the same way as Bank of England reserves and banknotes. They are essentially an extension of the base money system: a counterpart to reserves relative to any given monetary policy stance, the residual stock of drained reserves, and are a substitute to reserves as assets held by the banking system or in the wider economy.

It follows that the instruments that underpin the payment system and provide a secure store of value to the economy are issued by both the Bank of England and HM Treasury - institutions which, ultimately, do not operate under completely distinct systems of control. This reality is reflected in the WGA categorisation of gilt, Treasury bills, central bank reserves, banknotes and coins as being liabilities of a single public sector entity. It is customary to think of gilt and Treasury bills as constituting the Government ‘debt’, whereas reserves, notes and coins are considered ‘money’. It serves very little analytical purpose to consider liabilities of the same issuing public sector as variously either money or debt and this obfuscates the underlying role of government securities in the economy. They are all liabilities (and therefore, in some sense, debt), but each has certain defining characteristics that place it on a spectrum of ‘moneyness’. All play an interdependent, coherent role in the management and functioning of the monetary system, as defined by current monetary policy approaches. And under this perspective, government expenditure and revenue is manifested simply in terms of the creation and destruction of public monetary instruments.

The accounting model presented in this study suggests there exists, however, a fundamental asymmetry in the roles of HM Treasury and the Bank of England. The model shows that, like any other bank, the Bank of England’s capacity to create money is limited by the assets it can obtain a charge over. When the Bank of England undertakes market operations (e.g Quantitative Easing) it is not creating liabilities in isolation but is discounting a government security in the same way that a commercial bank discounts a loan into its own liabilities. The ownership of the asset leads to the creation of the liabilities, not the other way around, and therefore there is no sui generis asset on the balance sheet of the Bank of England. Commercial bank reserve deposits are functionally loans to the Bank of England (on terms determined by the latter) and in this sense even the issuance of reserves can be construed as ‘borrowing’ from the private banking system. But similarly, the Bank of England’s holding of gilts and Ways and Means advances are effectively deposits at the National Loans Fund  

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156 For more details about repos and reverse repos see FAQs about repos.  
157 Repos and Reverse Repo transactions show up in accounts as ‘borrowing’. Government securities can be posted as collateral with the Bank of England to allow a bank to use the intraday liquidity mechanisms of the payment system, and the overnight Operational Standing Facilities in extremis.  
158 The Financial Services Compensation Scheme (FSCS) guarantees bank deposits up to £85,000 per individual.  
159 From a purely mechanical point of view, this can be explained in terms of the National Loans Act 1968 and the Exchequer and Audit Departments Act 1866 which ensure that principal and interest payments on government securities are issued by the Bank of England as a Consolidated Fund Standing Service. Since government securities (and indemnities, capitalisation, etc.) back the Bank’s money issue in any case, we can question whether ‘redemption of government debt’ is the correct conceptualisation for conversion of government securities into central bank money.  
160 Other approaches to monetary policy are conceivable which would not require the issuance of interest-bearing government securities. Equally, the provision of risk-free facilities to domestic savers (which currently cannot hold Banking Department deposits, only Issue Department liabilities in the form of Bank of England notes) could be achieved by extending National Savings and Investments to pension and saving institutions, or by insuring all commercial bank deposits via the FSCS.  
161 Treasury bills are actually known as ‘government cash’ whereas gilts are termed ‘government debt’, though the distinction is acknowledged as being “not rigid” (simply a matter of maturity). Treasury bills are arguably more “money-like” given that, much like the famous “promise to pay the bearer” declaration on banknotes, the Treasury can exchange maturing Treasury bills for more Treasury bills.
and thereby represent a loan on terms decided by HM Treasury. The National Loans Fund, in turn, has a deposit with the Consolidated Fund on terms decided by law in the National Loans Act 1968.

The Consolidated Fund, however, has no deposit with any other body, and the apparent negative equity is the reflection of the provision of a net money supply to the private sector. Implicitly, the Consolidated Fund does hold a *sui generis* balancing asset, though this is never formally enumerated as the Consolidated Fund does not prepare a balance sheet\(^\text{162}\). In the Whole of Government Accounts, it is described as “liabilities to be funded by future revenues”\(^\text{163}\). Since, as the consolidated view in section 8.2 shows, this asset precisely balances the equity held by individuals, it follows that those private sector equity balances can also be described as “assets to become future government revenues”. In other words, the net financial equity of individuals is merely that which the Exchequer has issued and not yet taxed out of circulation. It also follows that reducing the value of this *sui generis* asset, by pursuing policies of ‘deficit and debt reduction’ via increasing taxation or reducing spending, correspondingly reduces *ceteris paribus* the quantity of government securities in issue, and which necessarily means reducing the private sector’s net financial wealth. This conclusion is completely independent of whether the Bank of England is considered as part of the public sector or otherwise.

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\(^{162}\) The pre-2000 CF/NLF account format, whilst being more detailed than more recent versions, has no formal balance sheet but merely a list of assets and liabilities. See Consolidated Fund and National Loans Fund Accounts 1998-99 pp29 et seq.

\(^{163}\) Whole of Government Accounts 2018-19 pp79
9. Postscript

The models presented in this study are intended to describe the components, processes and policies which characterise the UK Exchequer. Many simplifications have been made but it is argued that these are appropriate for comprehensibility and that the salient characteristics of the way that the Exchequer operates have been captured effectively. The process was guided by a desire to rely as closely as possible on current legislation, and official documentation and communications.

A noteworthy observation is that throughout the Exchequer and surrounding apparatus there is a conceptual separation of expenditure from the collection of revenue. At the policy level, HM Treasury, via distinct departments\textsuperscript{164}, is responsible for setting and developing policy with regards to public spending, including departmental spending, and strategic oversight of the UK tax system. At the legislative level, government expenditure is managed by the Supply process leading to Supply and Appropriation Acts, while the levying of taxation, duties and excise are managed by the Ways and Means process and Finance Acts. Within the Exchequer, outflows are routed via HM Paymaster General’s accounts and inflows via the HMRC general accounts, and these settlement accounts interface with distinct commercial banking partners, currently NatWest and Barclays respectively.

In each of these cases there is minimal coupling between the expenditure and revenue channels and this is exemplified in the activities of the Exchequer, wherein expenditure is realised asynchronously and completely independently of revenue. The Government does not maintain appreciable balances of money out of which spending is issued, nor does it seek to retain and accumulate surplus revenues in order to spend subsequently. Rather, spending arises from an account - the Consolidated Fund - which starts each day with a cash balance of zero\textsuperscript{165}.

The source of money for government expenditure is unequivocally Parliament via its Supply votes and Acts. Quantities arise from accounting entries on the Consolidated Fund and cascade through the monetary system where they are leveraged by commercial banks and the Bank of England. Once Parliament has authorised Supply there is no mechanism within the UK monetary system to stop that spending happening. The Bank has no power to refuse and there is no legal mechanism by which a balance has to be checked for available funds. The Bank accommodates the expenditure by balance

\textsuperscript{164} The Macroeconomic Fiscal Policy Department (EFA) and the Budget, Tax and Welfare Department respectively.

\textsuperscript{165} The Exchequer does maintain an appreciable sterling balance on one account - the Debt Management Account - but this is kept at a stable level by design and does not interact with Government Banking Service or the Central Funds until the end of each day.
sheet expansion and the intraday overdraft with HM Treasury is unsecured - since any security would similarly just be a different type of claim on HM Treasury. Commercial banks are required by the Sterling Monetary Framework to accept the transfers. Parliament effectively legislates money into existence.

From the perspective of a consolidated Exchequer, almost all expenditure proceeds in the same manner, with recourse to the Consolidated Fund by virtue of Parliamentary authority. Some expenditure is associated with more complex accounting structures which are strictly internal to the Exchequer. For example, the Contingencies Fund enables the Government to spend urgently prior to the obtaining of direct Parliamentary permission. The Contingencies Fund effectively operates as a parliamentary overdraft facility, an important component of the system, as the pandemic of 2020 demonstrated. Similarly, the National Insurance Fund is ostensibly an internal ledger balance recorded within the Exchequer, and National Insurance contributions and benefits paid ultimately function identically to all other forms of government expenditure and revenue.

A clear implication of the foregoing analysis is that taxation and the sale of government securities are not required in order for the Government to spend. This notion is firmly to the contrary of familiar discourse and requires some elaboration. To understand the function of both taxes and ‘borrowing’ from the perspective of the Exchequer it is necessary to appeal to the Debt Management Office's cash management objective, which is to end each day with a neutral ‘cash’ position with respect to the banking sector. This objective is motivated by considerations of monetary policy which seeks to mitigate or manage the macroeconomic impact of the Government’s cash flows on the banking sector and wider economy.

As shown in the accounting examples, government expenditure is realised in the first instance as additional reserves in the banking sector. Taxes serve to directly offset this effect by removing reserves from the banking system and thereby contribute significantly to the offsetting objective. Since expenditure and revenue flows cannot be expected to precisely match, the security dealing activities of the Debt Management Office act as an additional, bi-directional balancing component. On days when spending into the banking system exceeds revenue, the Debt Management Office sells securities and thereby removes the remaining additional reserves from the banking sector. When revenue exceeds expenditure, and reserves are therefore lost from the banking sector, securities are purchased by the Debt Management Office and this returns banking sector reserve balances to parity with respect to Exchequer operations.

Ultimately, the functioning of the Exchequer is designed such that net cash flows into and out of the banking system are expressed as changes in the level of government securities outstanding rather than changes in the banking sector’s reserve balances (or, indeed, the Exchequer’s own balances of central bank money). Nevertheless, the Bank of England has the final say in the management of the banking sector and may seek to adjust levels of reserves and, correspondingly, the government securities held due to wider monetary considerations. We can say, therefore, that the activities of the Exchequer determine the aggregate quantity of the net financial assets of the private sector, but that Bank of England monetary policy operations dictate the precise proportions in which these financial assets comprise Bank of England reserves deposits and government securities.

Taxation must be paid into the Consolidated Fund and any surplus forwarded to the National Loans Fund. Those accounts are held at the Bank of England, denominated in Bank of England liabilities. Therefore, ultimately, taxation has to be settled in Bank of England liabilities and nothing else. This restricts ultimate tax settlement to those entities capable of holding or obtaining those liabilities - now

\[166\] Taxes can, of course, be convincingly argued to have quite separate functions from those discussed here, such as adjusting the distribution of income or wealth across the population or providing incentives or disincentives of certain behaviours. However here in the UK we tend to call such taxes by different names such as Levies, Duties, Fees, Fines, Excise, even Tithes.

\[167\] See section 6.6
that paying taxes directly in cash is near impossible. HMRC is a tax collection agent. It is often HMRC and its banking agents that settle taxation into the Consolidated Fund in Bank of England liabilities, not individual taxpayers. The legal and contractual liability is transferred to HMRC and their banking subcontractors when an individual taxpayer settles a tax bill with HMRC via the banking system.

Government securities operate as a form of money used by banks and financial institutions in much the same way as sterling transactions. The main reasons for which they are sought are the highly secure guarantee of payment that is implicit in holding a charge over the Government, and the free income stream. Their functions could be replaced with straightforward sterling transactions, direct supply grant funding of the Bank of England, and a more general government guarantee of the payment system.\textsuperscript{168}

The Bank of England is a subsidiary of HM Treasury, nationalised in 1946 and with the bank stock held as an asset of the Consolidated Fund. It was originally a private joint-stock bank, incorporated by an Act of Parliament in 1694. Its charter has been renewed several times (see appendix D). It remains the bank of HM Treasury and its historical role has been predominantly one of serving the State. It has been recapitalised several times by HM Treasury by Acts of Parliament (see appendix B). The overwhelming majority of its business is to discount HM Treasury securities into its own liabilities. It also maintains the main payment systems within the UK banking system. Despite its role as the Government’s banker, fundamentally it operates like every other bank, discounting assets into its own liabilities. Sterling is the name given to Bank of England liabilities and anything pegged to them (e.g. commercial bank deposits, internal Exchequer balances) - a slightly wider concept than Bank of England liabilities on their own.

The Interest on Reserves paid by the Bank of England comes from income received from government securities held by the Bank of England. Therefore the source of interest income from the Bank of England to the financial sector is ultimately the National Loans Fund with recourse to the Consolidated Fund - the same as gilts and Treasury Bills.

HM Treasury retains a permanent overnight overdraft facility (The Ways and Means(II) account) with the Bank of England that is used by default if nothing else is put in place before close of business. In this context, the trading of gilts and Treasury bills is a policy choice by HM Treasury and it could change that at any time by changing the Debt Management Office’s terms of reference. It could sell fewer gilts, fewer Treasury bills or none at all with no change in financial capacity.

As owner of the Bank and in light of the 2018 agreement that 100% of net profits will be paid over to HM Treasury if the Bank is fully capitalised, it follows that any interest paid by HM Treasury on a Ways and Means advance would return to HM Treasury - less the costs of the Bank, which would include payment of interest on reserves.\textsuperscript{169} The net interest rate on any Ways and Means advance is therefore necessarily the Bank Policy Rate. Since the Ways and Means Advance is charged at the policy rate, it follows that the issuing of gilts and Treasury Bills to the market at any rate higher than the Bank Policy Rate is for monetary policy purposes only, altering the mix of fixed and floating government securities held by the non-government sector. To reduce interest expense the Government need only choose a different policy approach which would leave the market with fewer gilts and Bills and more Bank Reserves. The market has no say in the matter. Banks in the Sterling Monetary Framework are forced to hold whatever quantity of reserves the Bank issues at whatever rate it determines.

The Government Banking Service is the shared banking provider for the public sector. It uses commercial bank partners in the provision of retail banking transmission services to governmental departments and other public bodies. Settlement of payments occurs across Exchequer accounts.

\textsuperscript{168} It may be worth noting at this point that this would swap what is currently a floating rate exchange system (gilts have variable exchange rates with reserves) with a fixed rate exchange system (where gilts and reserves would swap at parity).

\textsuperscript{169} Recall that the Cash Ratio Deposits of commercial banks are unremunerated to cover the running costs of the bank and, of course, HM Treasury receives any tax paid by the Bank of England, i.e HM Treasury would receive 100% of the Bank’s gross profits.
held at the Bank of England, however, and the balance sheets of the commercial partners are affected only transiently if at all. Northern Ireland runs a completely separate Exchequer, whereas Scotland and Wales are required to be subsidiaries of the UK Exchequer. However Northern Ireland has effectively pegged its Exchequer to the UK by continuing to operate in sterling and transferring its surplus funds back to the Bank of England on a daily basis.

There doesn’t appear to be any legal restraint that any of these funds should operate in sterling, or peg themselves to the Bank of England - although the requirement that the Scottish and Welsh funds are with the Government Banking Service may prove a practical restriction. However it is clear from the dynamics that, because HM Treasury holds the Central Funds accounts in (by definition) sterling at the Bank of England and issues payment from these accounts in sterling, then the rest of the monetary system converges on that currency to reduce risk. Payments to the Exchequer end up being in sterling and ultimately have to be delivered in the form of transfers of Bank of England liabilities between accounts at the Bank of England. The accounting linkages within the model described in this study can therefore explain why UK taxes are paid in sterling - HM Treasury’s choice of bank account and denomination in accordance with UK law.

Legal tender has a very narrow definition in the UK, in that you can offer a ‘defence of tender’ against being sued for a debt if you pay the disputed amount into court. Bank notes are only legal tender in England and Wales. Only coins of £1 value or greater are tender everywhere. There is no case law as yet where an individual insists on paying their tax bill with a wheelbarrow full of £1 coins, having HMRC refuse and then paying the coins into court. Legal tender laws therefore offer no help in explaining why UK taxes are paid in sterling.

The Consolidated Fund is the only entity in the monetary system that holds a sui generis asset. It is therefore the ultimate source of moneyness in the UK, not the Bank of England. “Liabilities to be funded by future revenues” in the government sector precisely matches the equity held by the non-government sector. Therefore that equity represents “assets to become future government revenues”. In other words, the net financial equity of individuals is the public money which the Exchequer has issued and not yet taxed out of circulation. Reducing the amount of government securities in issue, via excessive taxation or inadequate government spending, necessarily implies reducing net private sector financial wealth by the same amount; financial wealth that is largely held in pension funds and insurance companies. This is in contradistinction to reducing the amount of private loans in issue which doesn’t alter net private sector financial wealth at all, since it reduces the amount of private deposits held by the same amount.

170 “UK law is typically quirky and illogical in this area”. See Legaleze.
171 Numismatists do occasionally test the edges of the law at Tesco (Pound Coins and Legal Tender Laws) but miss the key point that payment must be made into court to obtain the defence. Cash must be lodged in person at the court where the case is progressing: Civil Procedure Rules Practice Direction 37 1.2(1)
10. Acknowledgments

Our thanks to Sara Holland, Claire Jackson-Prior, David Merrill and Pru Plumridge for their support and encouragement. We also acknowledge and thank Philip Armstrong, Dirk Ehnts, Steve Keen, Warren Mosler and Trevor Pugh for comments, feedback and discussions that have helped to substantially improve this study.

We would also like to thank the public information and freedom of information teams within the UK public authorities whose output has been used extensively in this study.

To the members of the UK Exchequer Lonely Wives group: your forbearance is greatly appreciated.
11. Appendices

A. Complete example of spending, revenue and cash management

This example is a fully expanded view of a sequence of transactions across the balance sheets of the entities used in this study. All the balance sheets fully balance at each balance sheet step and are consistent throughout the example, which helps to highlight the change in financial equity the transactions cause.
(Step 0) The initial starting balances;

<table>
<thead>
<tr>
<th>Step 0</th>
<th>Balance Sheet</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
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</tr>
<tr>
<td><strong>Central Funds</strong></td>
<td></td>
</tr>
<tr>
<td>DMA</td>
<td>Gilds 90</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 100</td>
</tr>
<tr>
<td></td>
<td>Gilts Issued 140</td>
</tr>
<tr>
<td>CF</td>
<td>Bank of England Stock 10</td>
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</tbody>
</table>

| **Bank of England** | Banking Department | |
| Gilt's | 40 | To DMA 10 |
| | | Reserves for Barclays 10 |
| | | Reserves for HSBC 10 |
| | | Bank Capital (CF) 10 |

| **GBS** | PMG Supply | |
| | | |
| | DWP Resource | |
| | | |
| | HMRC General | |
| | | |
| | National Insurance Fund | |
| | | |
| | HMRC Receipt | |

| **Banks** | Barclays | |
| Loan to Person 1 50 | Deposits for Person 2 55 |
| Reserves 10 | Equity (Person 1) 5 |
| Gilds 5 | Equity (Person 2) 5 |
| HSBC | Loan to Person 2 30 | Deposits for Person 1 35 |
| Reserves 10 | Equity (Person 1) 10 |
| Gilds 5 | |

| **Taxpayers** | Person 1 | |
| HSBC Stock 10 | Loan from Barclays 50 |
| Barclays Stock 5 | |
| Deposit at HSBC 35 | |
| Person 2 | Barclays Stock 5 | Loan from HSBC 30 |
| Deposit at Barclays 55 | Equity 30 |
A.1 Funding the National Insurance Fund

(1) Voted funding granted to HMRC following Treasury request;

<table>
<thead>
<tr>
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<th>Journal</th>
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<tbody>
<tr>
<td>Entity</td>
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<tr>
<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>HMRC General</td>
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</table>

(2) HMRC invests voted funding in the DMADF on behalf of the NIF;

<table>
<thead>
<tr>
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<th>Journal</th>
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</thead>
<tbody>
<tr>
<td>Entity</td>
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<tr>
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<td>DMA</td>
</tr>
<tr>
<td></td>
<td>NLF</td>
</tr>
<tr>
<td></td>
<td>From CF</td>
</tr>
<tr>
<td>CF</td>
<td>From HMRC General</td>
</tr>
<tr>
<td></td>
<td>To NLF</td>
</tr>
<tr>
<td>GBS</td>
<td>HMRC General</td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA</td>
</tr>
</tbody>
</table>
(3) Balances after funding National Insurance Fund;

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
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</thead>
<tbody>
<tr>
<td>DMA</td>
<td>Gilt 90</td>
<td>To NLF 90</td>
</tr>
<tr>
<td></td>
<td>From BoE 10</td>
<td>To NIF 10</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA 90</td>
<td>Gilt Issued 140</td>
</tr>
<tr>
<td></td>
<td>From CF 50</td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td>Bank of England Stock 10</td>
<td>To NLF 50</td>
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<td></td>
<td></td>
<td>Equity (40)</td>
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<thead>
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<th>Liabilities</th>
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<tbody>
<tr>
<td>Banking Department</td>
<td>Gilt 40</td>
<td>To DMA 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for Barclays 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for HSBC 10</td>
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<tr>
<td></td>
<td></td>
<td>Bank Capital (CF) 10</td>
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<table>
<thead>
<tr>
<th>Entity</th>
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<th>Liabilities</th>
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<tbody>
<tr>
<td>National Insurance Fund</td>
<td>From DMA 10</td>
<td>Equity 10</td>
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<table>
<thead>
<tr>
<th>Entity</th>
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<th>Liabilities</th>
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<td>Barclays</td>
<td>Loan to Person 1 50</td>
<td>Deposits for Person 2 55</td>
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<tr>
<td></td>
<td>Reserves 10</td>
<td>Equity (Person 1) 5</td>
</tr>
<tr>
<td></td>
<td>Gilt 5</td>
<td>Equity (Person 2) 5</td>
</tr>
<tr>
<td>HSBC</td>
<td>Loan to Person 2 30</td>
<td>Deposits for Person 1 35</td>
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<td>Reserves 10</td>
<td>Equity (Person 1) 10</td>
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<td></td>
<td>Gilt 5</td>
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<table>
<thead>
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<th>Entity</th>
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<th>Liabilities</th>
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<tr>
<td>Person 1</td>
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<td>Loan from Barclays 50</td>
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<td>Barclays Stock 5</td>
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<tr>
<td></td>
<td>Deposit at HSBC 35</td>
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<tr>
<td>Person 2</td>
<td>Barclays Stock 5</td>
<td>Loan from HSBC 30</td>
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<td></td>
<td>Deposit at Barclays 55</td>
<td>Equity 30</td>
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A.2 Payment from Voted Funding

(4a) Allocate voted funding to Department of Works And Pensions;

<table>
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<tr>
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<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>DWP Resource</td>
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</table>

(4b) Issue cash in anticipation of spending at Bank of England;

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<td>Central Funds</td>
<td>CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply</td>
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</table>
(5) Balances after voted funding:

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Funds</strong></td>
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(6a) Voted Payment scheduled for DWP Payee;

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<td>To CF -15</td>
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(6b) Chain of interbank obligations established;

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(7) Settlement of payment obligations;

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<td>To Barclays -15</td>
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<td>Banks Barclays</td>
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<td>Reserves +15</td>
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(8) Balances after payment from voted funding;

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<td>From CF</td>
</tr>
<tr>
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<td>CF</td>
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<td>From DWP</td>
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<td>From PMG Supply</td>
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<td>Banking Department</td>
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(9) Debt Management Office undertakes cash management to return the cash position of the exchequer to its prescribed value;

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<td>Barclays</td>
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(10) Balances after cash management;

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<td>To CF 5</td>
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<td>To CF 5</td>
</tr>
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</tr>
<tr>
<td>National Insurance Fund</td>
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<td>Equity 10</td>
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<td><strong>Deposits</strong></td>
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A.4 Collecting Tax and National Insurance

(11a) Reduce commercial bank deposits;

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(11b) HMRC credits the Consolidated Fund and National Insurance Fund;

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<td>HMRC General</td>
<td>From HMRC-R</td>
<td>+5</td>
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(11c) Commercial banks settle the payment to HMRC Receipt account;

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(12) HMRC transfers the money to the HMRC General Account;

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<td>GBS HMRC General</td>
<td>From HMRC-R -5</td>
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<tr>
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<td>From BoE +5</td>
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(13) Tax is transferred to the Consolidated Fund;

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<td></td>
<td>To HMRC General -4</td>
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<tr>
<td>GBS HMRC General</td>
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(14) HMRC invests the NIF surplus with the DMADF;

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<td>To DMA +1</td>
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<td>GBS HMRC General</td>
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(15) Balances after collecting tax and National Insurance;

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<td>DWP Resource</td>
<td>From CF 5 To CF 5</td>
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</tr>
<tr>
<td>National Insurance Fund</td>
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<td>Barclays Stock 5 Loan from HSBC 30</td>
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A.5 Payment from National Insurance Fund

(16) Funding is allocated from the National Insurance Fund;

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(17a) The National Insurance Fund deposit at the Debt Management Account Deposit Facility is drawn down to the credit of the Department of Work and Pensions at the Consolidated Fund;

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<td>CF</td>
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(17b) Consolidated Fund funds PMG ready for spending;

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<tr>
<td>GBS PMG Supply</td>
<td>From BoE</td>
</tr>
</tbody>
</table>
(18a) Payment of the pension is made;

<table>
<thead>
<tr>
<th>Step 18a</th>
<th>Journal</th>
</tr>
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<tbody>
<tr>
<td>Entity</td>
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<td>CF</td>
</tr>
<tr>
<td>GBS</td>
<td>DWP Resource From CF -10 To NIF -10</td>
</tr>
<tr>
<td></td>
<td>National Insurance Fund From DWP -10</td>
</tr>
<tr>
<td>Banks</td>
<td>Barclays</td>
</tr>
<tr>
<td>Taxpayers</td>
<td>Person 2</td>
</tr>
</tbody>
</table>

(18b) ... and settled via the banking system;

<table>
<thead>
<tr>
<th>Step 18b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entity</td>
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<td>CF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply From BoE -10 To CF -10</td>
</tr>
<tr>
<td>Banks</td>
<td>Barclays</td>
</tr>
</tbody>
</table>
(19) Balances after payment from National Insurance Fund (non-voted funding);

<table>
<thead>
<tr>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA</td>
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<tr>
<td>NLF</td>
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<td></td>
</tr>
<tr>
<td>NLF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td>From BoE</td>
<td>To CF</td>
</tr>
<tr>
<td>DWP Resource</td>
<td>From CF</td>
<td>To CF</td>
</tr>
<tr>
<td>GBS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Insurance Fund</td>
<td>From DMA</td>
<td>Equity</td>
</tr>
<tr>
<td>HMRC General</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barclays</td>
<td>Loan to Person 1</td>
<td>Deposits for Person 2</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
<td>Equity (Person 2)</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
<td>Equity (Person 1)</td>
</tr>
<tr>
<td>HSBC</td>
<td>Loan to Person 2</td>
<td>Deposits for Person 1</td>
</tr>
<tr>
<td></td>
<td>Reserves</td>
<td>Equity (Person 1)</td>
</tr>
<tr>
<td></td>
<td>Gilts</td>
<td>Equity</td>
</tr>
<tr>
<td>Taxpayers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Person 1</td>
<td>HSBC Stock</td>
<td>Loan from Barclays</td>
</tr>
<tr>
<td></td>
<td>Barclays Stock</td>
<td>Equity</td>
</tr>
<tr>
<td></td>
<td>Deposit at HSBC</td>
<td>(5)</td>
</tr>
<tr>
<td>Person 2</td>
<td>Barclays Stock</td>
<td>Loan from HSBC</td>
</tr>
<tr>
<td></td>
<td>Deposit at Barclays</td>
<td>Equity</td>
</tr>
</tbody>
</table>
### A.6 Exchequer Sweep

#### (20a) Treasury sweeps PMG Supply cash position to the National Loans Fund account;

<table>
<thead>
<tr>
<th>Step 20a</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Central Funds</td>
<td>NLF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
<tr>
<td>GBS</td>
<td>PMG Supply</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### (20b) Treasury sweeps Consolidated Fund cash position to the National Loans Fund account;

<table>
<thead>
<tr>
<th>Step 20b</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
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<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
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<tr>
<td>Central Funds</td>
<td>NLF</td>
</tr>
<tr>
<td></td>
<td>CF</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
<tr>
<td></td>
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</table>

#### (20c) The sweep reduces the National Loans Fund balances at the Bank of England;

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<th>Journal</th>
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<tr>
<td>Central Funds</td>
<td>NLF</td>
</tr>
<tr>
<td>Bank of England</td>
<td>Banking Department</td>
</tr>
</tbody>
</table>
### Step 21 Balance Sheet

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<tr>
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<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Funds</strong></td>
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<td></td>
</tr>
<tr>
<td>DMA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From DMA</td>
<td>100</td>
<td>To NLF 100</td>
</tr>
<tr>
<td>From CF</td>
<td>66</td>
<td>To BoE 21</td>
</tr>
<tr>
<td>NLF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From DMA</td>
<td>100</td>
<td>To NLF 66</td>
</tr>
<tr>
<td>From BoE</td>
<td>26</td>
<td>To NIF 1</td>
</tr>
<tr>
<td>From CF</td>
<td>66</td>
<td>To BoE 21</td>
</tr>
<tr>
<td>From PMG Supply</td>
<td>5</td>
<td>To PMG Supply 5</td>
</tr>
<tr>
<td>CF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank of England Stock</td>
<td>10</td>
<td>To NLF 66</td>
</tr>
<tr>
<td>From DWP</td>
<td>5</td>
<td>To DWP 5</td>
</tr>
<tr>
<td>From PMG Supply</td>
<td>5</td>
<td>Equity (51)</td>
</tr>
<tr>
<td><strong>Bank of England</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking Department</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilts</td>
<td>40</td>
<td>To DMA 26</td>
</tr>
<tr>
<td>From NLF</td>
<td>21</td>
<td>Reserves for Barclays 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reserves for HSBC 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bank Capital (CF) 10</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
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<td></td>
</tr>
<tr>
<td>PMG Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From NLF</td>
<td>5</td>
<td>To CF 5</td>
</tr>
<tr>
<td>DWP Resource</td>
<td></td>
<td></td>
</tr>
<tr>
<td>From CF</td>
<td>5</td>
<td>To CF 5</td>
</tr>
<tr>
<td><strong>HMRC General</strong></td>
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<td></td>
</tr>
<tr>
<td><strong>National Insurance Fund</strong></td>
<td></td>
<td>Equity 1</td>
</tr>
<tr>
<td>From DMA</td>
<td>1</td>
<td>Equity 1</td>
</tr>
<tr>
<td><strong>GBS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Banks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barclays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan to Person 1</td>
<td>50</td>
<td>Deposits for Person 2 80</td>
</tr>
<tr>
<td>Reserves</td>
<td>20</td>
<td>Equity (Person 1) 5</td>
</tr>
<tr>
<td>Gilts</td>
<td>20</td>
<td>Equity (Person 2) 5</td>
</tr>
<tr>
<td>HSBC</td>
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<td></td>
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<tr>
<td>Loan to Person 2</td>
<td>30</td>
<td>Deposits for Person 1 30</td>
</tr>
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<td>Reserves</td>
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<td>Equity (Person 1) 10</td>
</tr>
<tr>
<td>Gilts</td>
<td>5</td>
<td>Equity 5</td>
</tr>
<tr>
<td><strong>Taxpayers</strong></td>
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<td></td>
</tr>
<tr>
<td>Person 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HSBC Stock</td>
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<tr>
<td>Barclays Stock</td>
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<tr>
<td>Deposit at HSBC</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Person 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barclays Stock</td>
<td>5</td>
<td>Loan from HSBC 30</td>
</tr>
<tr>
<td>Deposit at Barclays</td>
<td>80</td>
<td>Equity 55</td>
</tr>
</tbody>
</table>
### A.7 End of Day Cash Management

(22) Debt Management Account undertakes market trading, selling securities into private sector in accordance with National Loans Fund funding requirements;

<table>
<thead>
<tr>
<th></th>
<th>Entity</th>
<th>Assets</th>
<th>Liabilities</th>
</tr>
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<tbody>
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<tr>
<td><strong>Entity</strong></td>
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<td>DMA</td>
<td>Gilts -5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>From BoE +5</td>
</tr>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Bank of England</strong></td>
<td>Banking Department</td>
<td>To DMA +5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Reserves for Barclays -5</td>
</tr>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Banks</strong></td>
<td>Barclays</td>
<td>Reserves -5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gilts +5</td>
</tr>
</tbody>
</table>

(23a) Debt Management Account makes deposit in National Loans Fund;

<table>
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<tr>
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<th>Liabilities</th>
</tr>
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<td>DMA</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>From NLF +21</td>
</tr>
<tr>
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<td>From BoE</td>
<td>+21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To DMA +21</td>
</tr>
<tr>
<td><strong>Entity</strong></td>
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<td>Banking Department</td>
<td>To DMA -21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To NLF +21</td>
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</tbody>
</table>

(23b) National Loans Fund uses funds from Debt Management Account to extinguish obligation to the Bank of England;

<table>
<thead>
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<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
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</tr>
<tr>
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<td><strong>Central Funds</strong></td>
<td>NLF</td>
<td>From BoE -21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To BoE -21</td>
</tr>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Bank of England</strong></td>
<td>Banking Department</td>
<td>From NLF -21</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To NLF -21</td>
</tr>
</tbody>
</table>
(24) Debt Management Account uses deposit in National Loans Fund to reduce the level of the outstanding advance from the National Loans Fund;

<table>
<thead>
<tr>
<th>Step 24</th>
<th>Journal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entity</strong></td>
<td><strong>Assets</strong></td>
</tr>
<tr>
<td>Central Funds DMA</td>
<td>From NLF -21 To NLF</td>
</tr>
<tr>
<td>NLF</td>
<td>From DMA -21 To DMA</td>
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</table>
(25) Final balances.

<table>
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<th>Entity</th>
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<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMA</td>
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</tr>
<tr>
<td></td>
<td>Gilts 70</td>
<td>To NLF 79</td>
</tr>
<tr>
<td></td>
<td>From BoE 10</td>
<td>To NIF 1</td>
</tr>
<tr>
<td>DMA</td>
<td>From DMA 79</td>
<td>Gilts Issued 140</td>
</tr>
<tr>
<td></td>
<td>From CF 66</td>
<td>To PMG Supply 5</td>
</tr>
<tr>
<td>CF</td>
<td>Bank of England Stock 10</td>
<td>To NLF 66</td>
</tr>
<tr>
<td></td>
<td>From DWP 5</td>
<td>To DWP 5</td>
</tr>
<tr>
<td></td>
<td>From PMG Supply 5</td>
<td>Equity (51)</td>
</tr>
<tr>
<td>NLF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banking Department</td>
<td>Gilts 40</td>
<td>To DMA 10</td>
</tr>
<tr>
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<td>Reserves for Barclays 15</td>
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<td>Reserves for HSBC 5</td>
<td></td>
</tr>
<tr>
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<td>Bank Capital (CF) 10</td>
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</tr>
<tr>
<td>PMG Supply</td>
<td>From NLF 5</td>
<td>To CF 5</td>
</tr>
<tr>
<td>DWP</td>
<td>From CF 5</td>
<td>To CF 5</td>
</tr>
<tr>
<td>HMC General</td>
<td></td>
<td></td>
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<tr>
<td>National Insurance Fund</td>
<td>From DMA 1</td>
<td>Equity 1</td>
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<td>Loan to Person 1 50</td>
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</tr>
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<td>Reserves 15</td>
<td>Equity (Person 1) 5</td>
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<tr>
<td></td>
<td>Gilts 25</td>
<td>Equity (Person 2) 5</td>
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<tr>
<td>HSBC</td>
<td>Loan to Person 2 30</td>
<td>Deposits for Person 1 30</td>
</tr>
<tr>
<td></td>
<td>Reserves 5</td>
<td>Equity (Person 1) 10</td>
</tr>
<tr>
<td></td>
<td>Gilts 5</td>
<td></td>
</tr>
<tr>
<td>Person 1</td>
<td>HSBC Stock 10</td>
<td>Loan from Barclays 50</td>
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<td>Barclays Stock 5</td>
<td>Equity (5)</td>
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<td>Deposit at HSBC 30</td>
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</tr>
<tr>
<td>Person 2</td>
<td>Barclays Stock 5</td>
<td>Loan from HSBC 30</td>
</tr>
<tr>
<td></td>
<td>Deposit at Barclays 80</td>
<td>Equity 55</td>
</tr>
</tbody>
</table>
B. The Incorporation of the Bank of England

In the late 17th century, during the early years of King William and Queen Mary's reign, many projects to establish a bank were presented to the English Government. They were remarkable in that they proposed that the capital stock of an incorporated bank should constitute a permanent, funded loan to the Government. Incorporation was a prerogative of the Crown, which the sovereign exercised by consent to Acts of Parliament.

Motivated by the urgent need to improve the credit of the Government and raise finance for the war against France (War of the League of Augsburg), Government and Parliament agreed to the proposals of Charles Montagu, who drew from an earlier scheme drawn up by William Patterson in 1691, a Scottish banker, trader and promoter of the failed Darien scheme. The Bank of England was duly authorised and incorporated by a Ways and Means Act of Parliament (5 and 6 Will. & Mary, c.20) on 27 July 1694, forming “The Governor and Company of the Banke of England”. The first Governor of the Bank was Sir John Houblon and the seal of the corporation was chosen as Britannia sitting atop a bank of money.

The Ways and Means Act of 1694 went by the long-winded title of:

"An Act for granting to theire Majesties severall Rates and Duties upon Tunnage of Shipps and Vessells and upon Beere Ale and other Liquors for secureing certaine Recompenses and Advantages in the said Act mentioned to such Persons as shall voluntarily advance the summe of [£1,500,000] towards the carrying on the Warr against France"

Its principal objective was to bring together public creditors to form a limited-liability, joint-stock company. A sum equivalent to the Bank’s total capital stock would be paid into the “Receipte of Exchequer” in Bank of England assignable bills that the Exchequer would then re-assign in order to pay its creditors. The assets that secured the Bank’s issuance of assignable bills would be government long term tallies and their paper orders for repayment. The assignable bills would form a permanent loan to the Government the interest on which would be funded by way of an annuity. A yearly sum of £96,000, 8% interest on the loan, was to be annually appropriated by the levying of certain taxes and duties (Ways and Means) for payment to the company by installment on a quarterly basis. The company also charged an annual management fee of £4,000, bringing the perpetual annuity due to £100,000. In return, the Act was to grant privileges to the company to conduct the business of banking.

A total equity stock subscription of £1,200,000 was sought with individual subscriptions limited to £10,000 each. It was fully subscribed in just twelve days, "less time than could be imagined", with a total of 1,272 subscribers, including King William and Queen Mary. Both natives and foreigners were eligible to subscribe, as were "Bodies Politicke or Corporate". Many companies subscribed too, including water companies, mining companies and the fantastic sounding "The Company for the Sucking-Worm Engines' of Mr John Loftingh that manufactured fire hoses.

The Bank's charter was authorised to run until "First day of August...in the yeare of our Lord One thousand seven hundred and five" after which, given twelve months’ notice, the original loan of £1,200,000 would be repaid in full and "the said Corporac[i]on shall absolutely cease"

In founding a joint-stock company, subscribers were to have no claim on the English State but were to be entitled to a share in the capital stock of the company, which was transferable, and any dividends accrued would be paid by the company. The Bank had no power of control over the loan, which by the Act could only be redeemed and repaid at the request of the Government.
On top of raising £1,200,000 by incorporation of the Bank, the 1694 Act also made provision for the raising of an additional loan of £300,000, whose contributors would receive a lifetime annuity. Annuities were offered at a reducing rate upon one, two or three lives respectively. For one life the contributor was to receive a “Payment of Fourteene pounds of lawfull English money for every Hundred pounds” subscribed. Two lives would receive twelve pounds and three lives would receive ten pounds per one hundred pounds. Annuity payments were to begin from the end of September 1694 and were payable:

“four which yearly Annuities Rents or Payments shall co[m]mence from the said Nine and twentieth day of September and shall be paid and payable quarterly at the four most usuall Feasts of the yeare”

Provision was made that all payments made to subscribers of the Bank and lifetime annuity payments be tax free: “not [to] be charged or chargeable with any Rates Dutyes or Imposic[j]ons whatsoever”.

Details as to how the Bank was to conduct its business were scant. The Act simply prescribed the issuance of bills assignable by endorsement but gave very little detail how they should work in practice. A further clause permitted the Bank to deal in Bills of Exchange, which though not referenced were important in its international dealings for prosecuting the war against France; and the buying and selling of gold and silver bullion.

Two clauses stipulated that the Bank was forbidden to buy and sell lands of the Crown or lend money to the Crown, unless expressly permitted by Parliament; and deal and trade in of “Goods Wares or Merchandizes”. Violations were punishable by hefty fines some three times the financial value of the proscribed activity.

Shortly after incorporation, the Bank began transferring sums into the Receipt of the Exchequer. It paid in ‘sealed bills’ and ‘notes’ and in return received the Government’s promise to repay in the form interest bearing tallies. By 1 January 1695, the entire subscription of £1,200,000 had been paid into the Exchequer.

Where the Act was scant in detail regarding the Bank’s principal business, it made up for in meticulously detailing the levying of taxes and duties upon the “Tunnage of Shippes and Vessells and upon Beere Ale and other Liquors”, which were authorised for four years. It comprehensively set out the taxes to be applied to the tonnage of ships and vessels importing goods and merchandise through English ports and excise duties to be levied on beer, cider, vinegar, brandy and mead.

Taxes due on tonnage were dependent on the origins of the goods and wares being imported. For example: two shillings per ton were charged on goods and wares originating from Ireland and Scotland; whereas for goods and wares originating from Guinea, twenty shillings per ton were charged. Ironically, the Act even prescribed levies on French vessels in the event that peace was declared, despite the whole reasoning of the Act being to raise funds for prosecuting the war against France. Tonnage was payable upon arrival in port and borne proportionately: two thirds by the merchant and one third by the vessel owner.

Several clauses set out duties of excise on the brewing and selling of beer and ale. These were similarly charged at a proportionate rate and payable by “any Co[m]mon Brewer”. The importing of beer, mum, cyder and brandy was also specifically targeted for duties, payable per ton, gallon and hogshead.

The purpose of the way and means was to raise and set aside in the Receipt of the Exchequer an annual sum of £140,000 to pay the Bank’s shareholders and annuity contributors who lent the
Government £1,500,000 in total. A separate weekly Exchequer account book was to be opened in which these revenues were recorded. To cover any deficiency that existed on this annual fund, a clause was inserted into the Act stating the "Treasury to cause Deficiency to be made good", which would be achieved by appropriating other Exchequer revenues.

The Ways and Means Act of 1694 made no reference to the very close financial relationship that would evolve between the Treasury and the Bank. The relationship between the two institutions developed primarily via the medium of Exchequer bills. Provision for the issuance of Exchequer bills was first granted by a clause slipped into the National Land Bank Act of 1696 by Charles Montagu. The intention was to alleviate the shortage of coinage in circulation resulting from the Great Recoinage of 1696 and provide crucially needed credit to the Government. Initially, Exchequer bills were in a currency in their own right circulating as interest bearing promissory notes and rivalling the Bank’s own bills and notes, discussed below. A little later, however, Exchequer bills became a security issued annually to the Bank by Act of Parliament, anticipating the receipt of specific duties and taxes levied by Parliament in return for substantial financial advances. While the Land Bank project failed to get off the ground, the Exchequer bill continued to be of fundamental importance, binding the Treasury and the Bank in ever closer relations over the next 150 years. According to the author of “The Bank of England A History”, Sir John Clapham, the Bank of England “had so much to do with Exchequer bills that the issue is really part of its own story”.

Several Bank charter renewals were voted through Parliament between 1697 and 1855, a period during which the Bank took control of day to day public money management and debt management, and cemented its role as the monopoly issuer of English bank notes. In 1946, the Governor and the Company of the Bank of England was nationalised by Act of Parliament. One hundred percent of Bank of England stock was bought by HM Treasury by issuing £400 of 20 year, 3% Treasury stock for every £100 of Bank stock, valuing the Bank of England at £58,212,000. Bank of England stock is held in trust by the Treasury Solicitor and is today valued at ~£5.5 billion. It is an asset of the Consolidated Fund.
C. Bank of England Promissory Notes

The concept of 'running cash notes', or promissory notes, in England originated from the goldsmiths of London in the mid-seventeenth century, though there is considerable evidence to suggest that paper money in the form of 'Bills Obligatory' a type of 'negotiable note' pre-dates this period considerably by their recognition under the 'Lex Mercatoria', the Law Merchant. Goldsmiths were an extremely important factor in the economic development of England in the post-restoration period. They were much more than aurifabers: they were bailees for deposits of gold and gold jewellery for which they paid depositors interest; they traded bullion and supplied loans; they exchanged foreign coins and dealt in bills of exchange; they discounted Exchequer tallies and circulated promissory notes which passed freely in payment from one to another. It was the well developed system of goldsmith promissory notes that the Bank of England later replicated following its incorporation in July 1694.

The Ways and Means Act of 1694 that authorised the foundation of the Governor and Company of the Bank of England was vague with regards to the detail and types of promissory notes the Bank was permitted to circulate. Article 28 of the Act stated only:

"Provided alwaies and be it enacted by the authority aforesaid That all and every Bill or Bills obligatory and of creditt under the Seale of the said Corporac[i]on made or given to any person or persons shall and may by Indorsement thereon under the hand of such person or persons be assigneable and assigned to any person or persons who shall voluntarily accepte the same and soe by such Assignee toties quoties by indorsement thereupon and that such Assignement and Assignements soe to be made shall absolutely vest and transfere the Right and Property in and unto such Bill or Bills Obligatory and of Creditt and the moneys due upon the same and that the Assignee or Assignees shall and may sue for and maintaine an acc[i]on thereupon in his owne name"

and it appears that the methods chosen to issue bank notes by the Governor and Directors of the Bank simply evolved over time with little legislative steerage and oversight.

The Bank's Governor and Directors discussed at their first meetings various "methods for running cash" and decided upon three different types: endorsed "notes payable to bearer"; "books or sheets of paper, wherein their account to be entered" and "notes to persons to be acceptable". The first method anticipated the modern bank note, the second the modern passbook and the third the modern bank cheque.

The first bearer notes were hand written with blanks for names, amounts and cashier's signature. Later versions were printed. They came principally in two forms: sealed bills and running cash notes. There was a third form called a "lettered note" that was indented on marbled paper that circulated for a very short spell in 1695.

Sealed bills were used exclusively for payments to the Exchequer though latter payments to the Exchequer were paid in running cash notes. The sealed bill was made out to "A.B or his Assignes" and bore interest at 2d. per £100 per day. They were transferred to the tellers of the Exchequer who paid them to creditors and in return the Bank took custody of Exchequer tallies as security. Creditors were able to cash them at the Bank or deposit them from which they could later draw acceptable notes or take running cash notes. Sealed bills were issued for approximately twenty years, after which they were withdrawn from circulation.

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Running cash notes were a certificate of deposit promising to pay "A.B. or the bearer" the whole amount of a deposit or some irregular sum and were designed to be transmitted hand to hand. Shortly after they were made out for round amounts. Running cash notes were not interest bearing and for many decades the minimum value of running cash notes was £20. The earliest surviving note is made out for the sum of £200. Running cash notes were precursors of modern bank notes and the following is an example of how they were worded:

"I promise to pay Mr. A.B. or Bearer on demand the summe of................................................London the 6 day of March 1699. For the Governor and Comp of the Bank of England [cashier signature]"

The 'accomptable note' was also a certificate or receipt of deposit. They were not intended to circulate hand to hand, but instead conferred on the depositor the right to create drawn notes against a deposit at the Bank for himself or third parties. At first withdrawals by drawn notes were endorsed on the note itself, but were subsequently made out on "special forms prepared by the Bank" with a "check pattern running across the paper". These "special forms" were very obviously forerunners to the modern cheque. An accountable note read as follows:

"Received of............................................for which I promise to be accountable to him or Bearer on demand. For the Governor and Comp of the Bank of England [cashier signature]"

A little known Parliamentary Act of 1698, 9 & 10 Will III c.44 s.79, titled:

"An Act for raising the Sum not exceeding two Millions, upon a Fund for Payment of Annuities after the Rate of eight Pounds per Centum Per Annum, and for settling the Trade to the East Indies"

directed the Tellers of the Receipt of the Exchequer to receive from "Commissioners, Receivers, Collectors, or other Persons" from the tenth day of July 1698, for a limited period until the end of the next session of Parliament, "Bills under the Seal of the Governor and Company of the Bank of England, commonly called Bank Bills" in payment of "Aids, Taxes, Revenues or Loans".

The temporary legal authorisation to receive Bank of England bills by the Tellers of Receipt of the Exchequer in payment of "Aids, Taxes, Revenues or Loans" was repeated in 10 & 11 Will III c.22 s.14 beginning the first day of May 1699.

An Act of Parliament passed in 1816 (56 Geo 3 c.96) titled "An Act for establishing an Agreement with the Governor and Company of the Bank of England, for advancing the Sum of Three Millions, for the Service of the Year One thousand eight hundred and sixteen" explicitly included in its provisions that the Bank's notes were to be accepted in payments to the Exchequer. It declared in clause IV,

"Promissory Notes of the said Governor and Company, expressed to be payable to Bearer on Demand (called Bank Notes), shall be received in Payment of all Sums of Money which now are or at any time hereafter shall become payable for or in respect of any Part of the Public Revenue,..."
## D. Growth of Bank of England Nominal Capital 1694-1816

<table>
<thead>
<tr>
<th>Year(s)</th>
<th>Act of Parliament</th>
<th>Capital Add</th>
<th>HM Treasury Annuity for Capital</th>
<th>Capital Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1694</td>
<td>5 &amp; 6 Will. &amp; Mary, c.20</td>
<td>£1,200,000</td>
<td>£96,000 + £4,000 Fees</td>
<td>Original Capital</td>
</tr>
<tr>
<td>1696-1706</td>
<td>8 &amp; 9 Will. III, c.20</td>
<td>£1,100,585 15s - £99,414 5s (dividend payout) = £1,001,171 10s</td>
<td>8% per annum on the tallies subscribed to the Bank</td>
<td>&quot;Ingrafted&quot; subscription of ¾ tallies and ½ Bank bills, paid off, replaced by call 10%, 10%, 10%, 20%, but by bookkeeping i.e dividend payout capped to figure as given.</td>
</tr>
<tr>
<td>1707</td>
<td>7 Anne, c.7</td>
<td>£2,201,171 10s</td>
<td>Advance of £400,000. 6% on £1,600,000</td>
<td>100% call</td>
</tr>
<tr>
<td>1709</td>
<td>N/A</td>
<td>£656,205</td>
<td>N/A</td>
<td>15% call</td>
</tr>
<tr>
<td>1710</td>
<td>N/A</td>
<td>£501,489</td>
<td>N/A</td>
<td>10% call</td>
</tr>
<tr>
<td>1722</td>
<td>8 Geo I, c.21</td>
<td>£3,400,000</td>
<td>£200,000 + £1,898 3s 5d Fees</td>
<td>South Sea Company &quot;ingrafted&quot; stock</td>
</tr>
<tr>
<td>1742</td>
<td>15 Geo. II, c.13</td>
<td>£840,004</td>
<td>Bank advanced a further £1,600,000. Annuity remained at £96,000 + £4,000 Fees. Thus rate of 3%</td>
<td>Authorised</td>
</tr>
<tr>
<td>1746</td>
<td>19 Geo. II, c.6</td>
<td>£980,000</td>
<td>At a rate of 4%. Thus £39,472</td>
<td>10% call</td>
</tr>
<tr>
<td>1781</td>
<td>21 Geo. III, c.60</td>
<td>£862,400</td>
<td>Bank advanced £2,000,000 on Exchequer bills at 3%</td>
<td>8% call</td>
</tr>
<tr>
<td>1816</td>
<td>56 Geo. III, c.96</td>
<td>£2,910,600</td>
<td>Bank advance of £3,000,000. Interest at rate of 3%</td>
<td>25% call</td>
</tr>
<tr>
<td>1946</td>
<td>Total Capital</td>
<td>£14,553,000</td>
<td>3%</td>
<td>Capital stock of Bank of England purchased by HM Treasury in 1946 for £58,212,000 via issuance of 3% stock. £400 govt stock for £100 BoE stock</td>
</tr>
</tbody>
</table>
## E. HM Treasury debt to Bank of England 1694-1834

<table>
<thead>
<tr>
<th>Year</th>
<th>Act of Parliament</th>
<th>Debt Add</th>
<th>Bank Annuity</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1694</td>
<td>5 &amp; 6 Will. &amp; Mary, c.20</td>
<td>£1,200,000</td>
<td>£96,000 + £4,000 Fees = 8%</td>
<td>Original Capital</td>
</tr>
<tr>
<td>1708</td>
<td>7 Anne, c.7</td>
<td>£400,000</td>
<td>As 1694 = 6% on £1,600,000</td>
<td>Add to capital</td>
</tr>
<tr>
<td>1717</td>
<td>N/A</td>
<td>£500,000</td>
<td>N/A</td>
<td>Consolidation of Exchequer Bills</td>
</tr>
<tr>
<td>1722</td>
<td>8 Geo I, c.21</td>
<td>£4,000,000</td>
<td>£200,000 + £1,898 3s 5d Fees</td>
<td>South Sea Company “ingrafted” stock</td>
</tr>
<tr>
<td>1728</td>
<td>1 Geo.II, c.8</td>
<td>£1,750,000</td>
<td>£70,000</td>
<td>Consolidation of Exchequer Bills</td>
</tr>
<tr>
<td>1729</td>
<td>2 Geo.II, c.3</td>
<td>£1,250,000</td>
<td>£50,000</td>
<td>Consolidation of Exchequer Bills</td>
</tr>
<tr>
<td>1742</td>
<td>15 Geo. II, c.13</td>
<td>£1,600,000</td>
<td>Bank advanced a further £1,600,000. Annuity remained at £96,000 + £4,000 Fees Thus rate of 3%</td>
<td>Add to capital</td>
</tr>
<tr>
<td>1746</td>
<td>19 Geo. II, c.6</td>
<td>£986,800</td>
<td>At a rate of 4%. Thus £39,472</td>
<td>Consolidation of Exchequer Bills</td>
</tr>
<tr>
<td>1757</td>
<td>Sub-Total</td>
<td>£11,686,800</td>
<td>£356,502 3s 5d</td>
<td>(3% annuity rate+Fees)</td>
</tr>
<tr>
<td>1816</td>
<td>56 Geo III, c.96</td>
<td>£3,000,000</td>
<td>Interest at rate of 3%</td>
<td>£2,910,600 Add to capital</td>
</tr>
<tr>
<td>1834</td>
<td>4 &amp; 5 Will.IV, c.80</td>
<td>-£3,671,700</td>
<td>N/A</td>
<td>25% repaid</td>
</tr>
<tr>
<td>1834</td>
<td>Total</td>
<td>£11,015,100</td>
<td>3% (plus “house fees” of £4000 and £1579 per annum. Later rescinded by Gladstone in 1861)</td>
<td>Debt transferred in 1844 to newly created Bank of England Issue Department as part backing of £14m fiduciary note issuance. From accounting p.o.v. Issue Department deemed part of the public sector. Issue Department moved to the private sector in 1998.</td>
</tr>
</tbody>
</table>

First Bank of England charter Act 5 & 6 Will & Mary c.20 of 1694 to run until 1705, titled:

"An Act for granting to theire Majesties severall Rates and Duties upon Tunnage of Shipps and Vessells and upon Beere Ale and other Liquors for securing certaine Recompenses and Advantages in the said Act mentioned to such Persons as shall voluntarily advance the summe of £1,500,000 towards the carrying on the Warr against France"

Bank of England charter Act 8 & 9 Will 3 c.20 of 1696 extended the Bank's charter until 1710, titled:

"An Act for making good the Deficiencies of several Funds therein mentioned and for enlarging the Capital Stock of the Bank of England and for raising the Publick Credit"

Bank of England charter Act 7 Anne c.30 of 1708 extended the Bank’s charter until 1732, titled:

"An Act for enlarging the Capital Stock of the Bank of England and for raising a further Supply to Her Majesty for the Service of the Year One thousand seven hundred and nine."

Bank of England charter Act 12 Anne c.11 of 1713 extended the Bank’s charter until 1742, titled:

"An Act to raise Twelve hundred thousand Pounds for publick Uses by circulating a further Sum in Exchequer Bills and for enabling Her Majesty to raise Five hundred thousand Pounds on the Revenues appointed for Uses of Civill Government to be applied for or towards Payment of such Debts and Arrears owing to Her Servants Tradesmen and others as are therein mentioned."

Bank of England charter Act 15 Geo 2 c.13 of 1742 extended the Bank’s charter until 1764, titled:

"An Act for establishing an agreement with the governor and company of the bank of England, for advancing the sum of one million six hundred thousand pounds, towards the supply for service of the year one thousand seven hundred and forty two."

Bank of England charter Act 4 Geo 3 c.25 of 1764 extended the Bank’s charter until 1786, titled:

"An Act for establishing an agreement with the governor and company of the bank of England, for raising certain sums of money towards the supply for the service of the year one thousand seven hundred and sixty four; and for more effectually preventing the forging powers to transfer such stock, or receive such dividends or annuities as are therein mentioned, and the fraudulent personating the owners thereof."

Bank of England charter Act 21 Geo 3 c.60 of 1781 extended the Bank’s charter until 1812, titled:

"An Act for establishing an agreement with the governor and company of the bank of England, for advancing the sum of two millions, towards the supply for the service of the year one thousand seven hundred and eighty-one."

Bank of England charter Act 39 & 40 Geo 3 c.28 of 1800 extended the Bank’s charter until 1833, titled:

"An Act for establishing an agreement with the governor and company of the bank of England, for advancing the sum of three millions, towards the supply for the service of the year one thousand eight hundred."
Receivers-general (tax revenue collectors) roles with respect to the Bank of England were regulated by Acts 46 Geo 3 c.75, 76, 83 and 100 in 1806. For example, receiver-general monies were ordered to be paid into an account titled “The account of the publick monies of the receiver-general of the excise” at the Bank of England by Act 46 Geo 3 c.75, which was titled:

“An Act for the better regulation of the office of receiver-general of the duties of excise in England.”

The Bank’s promissory notes expressed as payable to ‘Bearer on Demand’ to be received in payment of the Public Revenue by Act 56 Geo 3 c.96 1816 titled:

“An Act for establishing an Agreement with the Governor and Company of the Bank of England, for advancing the sum of three millions, towards the supply for the service of the year one thousand eight hundred and sixteen.”

Banking Co-partnership Act 7 Geo 4 c.46 1826, beginning of ‘Joint-Stock Banking’ in England titled:

“An Act for the better regulating Copartnerships of certain Bankers in England; and for amending so much of an Act of the Thirty ninth and Fortieth Years of the Reign of His late Majesty King George the Third, intituled An Act for establishing an Agreement with the Governor and Company of the Bank of England, for advancing the sum of three millions, towards the supply for the service of the year one thousand eight hundred.”

Bank of England charter Act 3 & 4 Will 4 c.98 1833 extended the Bank’s charter for 21 years, but incorporated a ‘break’ clause after 10 years. It also permitted non-issuing (bank notes) joint-stock banks within 65 miles of London. It was titled:

“An Act for giving to the Corporation of the Governor and Company of the bank of England certain privileges for a limited Period, under certain Conditions.”

Abolition of the ancient Exchequer system and the establishment of “The Account of His Majesty’s Exchequer” at the Bank of England by Act 4 & 5 Will 4 c.15 1834, titled:

“An Act to regulate the Office of the Receipt of His Majesty’s Exchequer at Westminster.”

Consolidation of the various Paymasters’ offices to establish the Office of the Paymaster General by Act 5 & 6 Will 4 c.35, titled:

“An Act for consolidating the Offices of Paymaster General, Paymaster and Treasurer of Chelsea Hospital, Treasurer of the Navy, and Treasurer of the Ordnance.”

Bank of England charter Act 7 & 8 Vict c.32 1844 that extended the Bank’s charter to 1855, split the Bank into two departments: the Banking Department and the Issue Department, and extended monopoly power over issuance of English bank notes to the Bank of England making them legal tender in England, titled:

“An Act to regulate the Issue of Bank Notes, and for giving the Governor and Company of the Bank of England Privileges for a limited Period.”

Further consolidation of the Offices of the Paymaster by Act 11 & 12 Vict. c.55 in 1848, titled:

“An Act for consolidating the Offices of Paymasters of Exchequer Bills and Paymaster of Civil Services with the Office of Paymaster General, and making other provisions in regards to the consolidated Offices.”

Various authors assert that the practice of the Exchequer regularly accepting payment in Bank of England bills and notes originated early in the 18th century.
Bank of England charter extended (open ended) until redemption of 3% annuities that were created by Act 18 & 19 Vict. c.18 1855 titled:

"An Act for raising the Sum of Sixteen Millions by way of Annuities."

Exchequer and Audit Departments Act 1866 29 & 30 Vict. c.39, titled:

"An Act to consolidate the Duties of the Exchequer and Audit Departments, to regulate the Receipt, Custody, and Issue of Public Moneys, and to provide for the Audit of the Accounts thereof."

Nationalisation of the Bank of England by Act 9 & 10 Geo 6 c.27 in 1946, titled:

"An Act to bring the capital stock of the bank of England into public ownership and bring the Bank under public control, to make provision with respect to the relations between the Treasury, the bank of england and other banks and for purposes connected with the matters aforesaid."

Monetary Policy Independence Bank of England Act (46 & 47 Eliza. 2) 1998 c.11, (abbreviated) title:

"An Act to make provision about the constitution, regulation, financial arrangements and functions of the Bank of England, including provision for the transfer of supervisory functions;..."
G. The Consolidated Fund: a history

G1. The Consolidated Fund

The Consolidated Fund (CF) was established by a Customs and Excise Act in 1787\(^{174}\) following a drive for reforms of the administration of public money beginning in 1780, led by Edmund Burke. In their thirteenth report\(^{175}\), published on 21st March 1785, the Commissioners of the Public Accounts expressed their opinion that the methods of accounting employed by the Exchequer for the customs and excise duties, which were permanent duties as opposed to annually voted, were unnecessarily complex and “of no use”. The report showed that many branches of duties were paid over to distinct and separate funds, while the proceeds of others were collected together and paid over to a number of compound funds. Each fund was then appropriated and assigned for specific categories of spending, principally the payment of annuities, which formed the historical basis for the existence of several Exchequer funds. In addition, some branches of duties were paid over to funds that remained unappropriated until Parliament voted to direct them. The Commissioners thus recommended that the proceeds of duties and excise paid into compound funds and unappropriated funds should be united and consolidated into one fund in the books of the Receipt of the Exchequer.

G2. Sinking Fund & Commissioners for the Reduction of the National Debt

Annuities\(^{176}\) both terminable and permanent were regularly employed by the Sovereign and government as a means to raise loans. Specific duties and excises, granted by parliament, were levied and set aside in various separate funds to be appropriated only for the purposes of such regular annuity payments. Many annuities were rolled over and consolidated into new debt instruments with reduced interest rates. These were known as consols. Surpluses on the various funds, when they accrued, mainly as a result of debt consolidation and reduced interest payment, were transferred to a Sinking Fund\(^{177}\). The first sinking fund was established in 1717 under Chancellor of the Exchequer Robert Walpole, in order to redeem the underlying principal capital of national debt. However, the Sinking Fund was regularly appropriated after 1733 by Parliament for other expenditures, mainly for military purposes.

As part of the suite of reforms initiated by Burke in 1780, the National Debt Reduction Act of 1786 was passed into law under the leadership of William Pitt the Younger. The Act established the Commissioners for the Reduction of the National Debt (CRND) whose remit was prioritising the managing of the Sinking Fund. Whilst the Commissioners were initially successful in achieving their remit, the exigencies of war put paid to their efforts and the Sinking Fund was again continually appropriated by Parliament for other purposes. It was eventually abandoned. However, the Commissioners for the Reduction of the National Debt remains a functioning office some 230 years later whose task today is the managing of various large government funds within the Debt Management Office as discussed above.

\(^{174}\)The Statutes at Large, Anno Vicesimo Septimo Georgii III Regis: 27 Geo III c.13, p.23:
https://books.google.co.uk/books?id=XrluAAAAIAAJ&printsec=frontcover&source=gbs_summary_r&cad=0#v=onepage&q&f=false

\(^{175}\)Commissioners of the Public Accounts: Thirteenth Report 1785:
https://books.google.co.uk/books?id=qRxUAAAAACAAJ&dq=commissioners+of+public+accounts+reports&hl=en&sa=X&ved=2ahUKEwiMjY3D-MrsAhVTVaAKHRAnD68Q6AEWoEwAqCQAQ#v=onepage&q&f=false

\(^{176}\)As above: the purchaser of an annuity pays over a lump capital sum and in return receives a fixed annual payment until a certain date, upon death or in perpetuity. In 2015, the Conservative led government converted all outstanding perpetuities, including the Slave Owner Compensation Loan of £20,000,000 issued in 1835 under 3 & 4 Will. 4 c.73 to compensate slave owners in the West Indies in the wake of the abolition of slavery. The Slave Owner Compensation Loan remains one of the biggest loans issued by HM Government.

\(^{177}\)A Sinking Fund is revenue set aside specifically to retire debt. When you issue bonds you ‘float’ them. When you retire bonds you ‘sink’ them.
G3. Permanent and Annual Revenue

Permanent and annual charges on the people were for a long time distinguished in the public finance books. The receipts of permanent taxes were paid into the Consolidated Fund and the annually voted taxes, malt and sugar taxes, formed the basis for the Ways and Means appropriated for the annual supply grants.

G4. Consolidated Fund Services

The Customs and Excise Act 1787 united the General Fund (1617-speculative), the Aggregate Fund 175 (1715) and the South Sea Fund (1717) into one fund: the Consolidated Fund. Various permanent customs and excise duties were repealed in the Act and new ones were granted in lieu. William Pitt the Younger, who was both the Prime Minister and the Chancellor of the Exchequer (Dec 1783 to Jan 1801) described the Consolidated Fund as, “one fund into which shall flow every stream of public revenue and from which shall come the supply for every service”. The permanent duties that made up the Consolidated Fund were principally appropriated to make payments of a “permanently recurring type” that were not subject to parliamentary supply votes. The accounting period was quarterly and its primary purpose, like the funds it replaced, was to make quarterly interest payments to the holders of national debt. It was stipulated that no money was to be issued from the fund until sufficient sums were set apart to cover these quarterly charges. Quarterly payments of pensions and expenses for the civil service that were not covered in the civil list were also charged to the Consolidated Fund. These charges were known as Consolidated Fund Services; today they are known as Standing Services.

G5. Supply Services

The establishment of the Consolidated Fund simplified and secured the methods of making good financial deficiencies and dealing with surplus funds. At the end of the quarterly period, the Consolidated Fund account was made up and if funds were insufficient to cover expenditure, then annually voted Aids and Supplies were advanced to make good the deficit. On the other hand, if a surplus of funds existed, then in the first instance they were applied to pay off previous quarterly deficiency advances and thereafter any remaining surplus funds were disposed of by Parliament. The fund’s surplus forms the historical foundation upon which sums were later appropriated for Supply Service grants. Hence, the use of the term today Supply Services that continue to be charged to the Consolidated Fund.

G6. Deficiency Bills

The practice of raising advances for deficiencies on Consolidated Fund Services from annually voted Aids and Supplies was reformed in 1817 by an Act of Parliament179, which empowered the Bank of England to advance money on the security of Exchequer bills, that were charged “on the growing produce of the fund”. The bills were known as ‘Deficiency Bills’ and paid off in the quarter in which they were issued. According to the Act, such Bank of England advances could only be applied to the permanently recurring charges on the Consolidated Fund. Interest charges upon the public debt were by far the greatest quarterly expenditure charged to the fund. To this day interest payments on public debt are booked as Standing Services charges on the Consolidated Fund, along with payments to the European Union and the judiciary, for example.

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178 The Aggregate Fund was established under 1 Geo. 1, c.12 in 1715 consolidating seven separate customs and excise duties. See Pickering, D. (1764), The Statutes at Large from the Twelfth Year of Queen Anne to the Fifth Year of King George I, Cambridge.

179 See 57 Geo. 3, c.48 1817 “An Act to make further Provision for the Adjustment of the Accounts of the Consolidated Fund of the United Kingdom, and for making good any occasional Deficiency which may arise in the said Fund in Great Britain and Ireland respectively; and to direct the Application of Monies by the Commissioners for the Reduction of the National Debt”
G7. Ways and Means Bills

Aids and Supplies that were annually voted in Parliament, derived from duties on malt and sugar, formed a separate fund in the books of the Exchequer. This distinguished them from permanent duties, which were carried to the Consolidated Fund. The former comprised a portion of the ways and means appropriated for Supply Service grants. Land Taxes were also formerly annually voted, but were made permanent in 1797. The annual Acts of Parliament authorising these ways and means similarly authorised the Bank of England to advance sums to make good any temporary deficiency. Again, Exchequer bills were issued to the Bank as security, known as malt and sugar bills. However, under the provisions of a later Act of Parliament passed in 1830, surplus sums on the Consolidated were for the first time assigned towards making good the annually voted Supply Services. This Act also authorised an advance from the Bank of England of £4,000,000 on the security of Exchequer bills, termed Ways and Means bills. These bills were similarly charged “on the growing produce of the fund” but were redeemed out of the revenue of the quarter succeeding that in which they were issued. Ways and Means bills were only applicable to Supply Services. Annually voted malt duties were discontinued in 1822, but sugar duties continued until they were eventually phased out in 1846. “Sugar bills” however ceased being issued many years earlier, in 1832. Since 1846, all annually voted ways and means have been surrendered to the Consolidated Fund and Supply Services charged on the surplus of the fund.

G8. Deficiency and Ways and Means Advances: Book Debt

Following a report by the Commissioners of the Public Accounts published in 1832, the reforms initiated by Burke 50 years earlier culminated, by Act of Parliament in 1834, in the abolition of the various offices of the Exchequer and the opening of “The Account for His Majesty’s Exchequer” in the books of the Bank of England. Despite these improvements further far reaching reforms took place over the next 30 years. Another influential report was commissioned and published in 1857. The report from the Select Committee on Public Monies recommended, among many other reforms, ending the practice of issuing Deficiency bills and Ways and Means bills to the Bank of England as security for advances on temporary deficiencies on the Consolidated Fund. The commissioners proposed that advances of money by the Bank of England were to be granted upon written application by HM Treasury, replacing the bills with simple ‘book debts’. The conclusions of the Select Committee led directly to the Exchequer and Audit Departments Act 1866 that legally set out the administrative methods by which sums were authorised and issued from the Consolidated Fund. The Act also implemented a comprehensive system of audit and accounting, as discussed above. Though it has undergone many amendments since, the Exchequer and Audit Departments Act 1866 still forms the legal basis upon which public spending takes place from the Consolidated Fund. Moreover, the relevance of book debts is crucial to understanding government spending in the modern context with reference to the Ways and Means Account and intra-day credit, which we have extensively analysed in this study.

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180 11 Geo IV c.2 1830 “An Act to apply certain Sums of Money, out of the Consolidated Fund, and Aids granted for the Year One thousand eight hundred and twenty-nine, to the Service of the Year One thousand eight hundred and thirty”


182 Report from the Select Committee on Public Monies (1957), House of Commons.

183 Exchequer and Audit Departments Act 1866 (enacted)

184 Exchequer and Audit Departments Act 1866 (current)
H. Treasury Order to the Bank of England

As referred to in section 5.1, below is an example of a Treasury Order\(^{185}\) that was sent to the Bank of England to request issues from the Consolidated Fund. Treasury Orders are now sent electronically.

TREASURY ORDER FOR ISSUES FROM THE EXCHEQUER ACCOUNT FOR SUPPLY SERVICES

Supply Services year ______

Treasury, Whitehall

_________________________ date

GENTLEMEN: Under the authority of the exchequer and audit departments act, 1866 (29 & 30 Vict. ch.39, sec. 15), and of the credit granted to the lords commissioners of His Majesty’s treasury, by the comptroller and auditor-general, on the account of His Majesty’s exchequer at the bank of England, under the provisions of the said act, I am commanded by the lords commissioners of His Majesty’s treasury to request that you will transfer the following sums, on the ______ instant, from the said account to the “supply account” of ______ ______ in your books, on account of the supply services under-mentioned:

I am to request that when these sums shall have been transferred accordingly, you will transmit this authority to the comptroller and auditor-general.

I am, etc, ______________________________ to be signed by one of the secretaries of the treasury

TO THE GOVERNOR AND COMPANY OF THE BANK OF ENGLAND