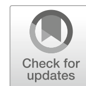
Chapter 3
The History of Money Creation



The previous chapter described how money creation works in our current system. We saw that the lion's share of money today consists of bank deposits – numbers on the balance sheets of commercial banks – while a much smaller proportion consists of cash (banknotes and coins). The dominance of deposit money means commercial banks play a leading role in money creation. This chapter puts this situation in a historical context. The functioning of our financial monetary system and the role of banks have changed fundamentally over time. The chapter reveals that what we take for granted today was often far from self-evident yesterday. Today we consider banknotes to be as secure as coins. But well into the nineteenth century, the Dutch were wary of banknotes issued by the central bank.

The historical perspective also illustrates the path-dependency of the financial monetary system. There was never an opportunity to redesign the system from scratch: reforms and innovations required public and private actors to work within historically given constraints and often came with unintended and unforeseen consequences. We also see the recurrence – albeit in different guises – of fundamental issues and debates about the financial monetary system. The current debate on private money creation, for example, echoes nineteenth-century discussions in the United Kingdom and the United States on whether banks should be allowed to issue their own banknotes. A historical perspective challenges what we now take for granted and allows us to draw lessons from the past. This may help us to better understand contemporary challenges.

We focus on the period from the early nineteenth century. This was when governments advanced explicit strategies to govern their national financial monetary systems and banks began to play greater roles in facilitating economic development. We discuss four periods in turn: (1) the 'long nineteenth century' up to the First World War, with an emphasis on the 1870–1914 period, (2) the interwar period (1918–1939), (3) the Bretton Woods period (1944–1973) and (4) the decades leading up to the latest crisis (1973–2008).

Although our focus is on the Netherlands, we mention developments in other countries as well as global trends that have left their mark on this country. For each

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period, we discuss the importance of various forms of money (coins, banknotes and bank deposits), what they were used for, and how they were created. We also discuss developments in the financial sector, given its close connection to money. Finally, we discuss how policymakers in each period tried to influence the design and developments of the financial monetary system.

3.1 Money and Finance in the Nineteenth Century

The Netherlands was in dire economic straits in the early nineteenth century. Industrial production in the preceding 150 years had hovered between stagnation and contraction, while trade was mostly limited to colonial products and agricultural exports. International conflicts and French rule had left the government in severe debt. Banking remained relatively underdeveloped, partly due to the existence of alternative financing channels. A bewildering variety of Dutch and foreign coins were in circulation. Against this chaotic background, the government sought to rationalize and modernize the financial monetary system. This section recounts the main developments of this period.

3.1.1 Money and Payments

People in the nineteenth century paid mainly with coins. When the Netherlands regained independence from France in 1813, the coins in circulation included guilders, stuivers, duiten and daalders (national currency) as well as numerous provincial and foreign coins. The currency stock was furthermore of dubious quality. King Willem I set out to end the confusion by establishing the decimal guilder (based on the example of the *franc germinal*) as the national currency. Unification with the southern provinces (what later would become Belgium) also made this reform essential.

In the wake of the Coinage Act of 1816, the National Mint in Utrecht obtained the exclusive right to mint coins. Although other coins were not immediately prohibited, they were declared invalid and withdrawn from circulation in several steps. This process accelerated in the 1840s, when the government embarked on a comprehensive conversion of the coin stock. A complete prohibition of all foreign coins only came with the passing of the 1901 Coinage Act.[1]

The nominal value of money was directly linked to that of precious metal – be it silver, gold or a combination thereof. People could exchange banknotes for cash or metal at the central bank. The bulk of Dutch 'standard' coins (rijksdaalder, guilder and half guilder) contained an officially specified amount of silver (see Box 3.1).

[1] Van Renselaar and Stokman (2001); DNB (2001); Jonker (1997)

Box 3.1 Minting of Standard and Token Coins

The Netherlands in the nineteenth century had both ‘standard coins’ and ‘token coins’ in circulation. The former refers to coins whose face value corresponds with their precious metal content; the latter to coins whose metal value is lower than their face value. A silver guilder struck in 1850, for example, was a standard coin: it contained 9.45 grams of silver – the legally specified amount. In contrast, the silver quarter contained only 0.64 grams of silver and was therefore a token coin. Everyone was free to exchange standard coins struck by the National Mint for precious metal. Token coins, however, could only be struck on behalf of the government as these involved seigniorage, meaning that their free minting would have distorting effects.[2]

Paper money (banknotes) was used primarily for payments between large and medium-sized businesses, between financial institutions and for government spending.[3] Initially there were two types of paper money: banknotes issued by the Dutch central bank (De Nederlandsche Bank; DNB) and banknotes and tender paper known as *kassierspapier*.[4] DNB at the time was a private institution, founded in 1814 by Willem I as a circulation bank (a bank that issues paper money) to boost economic development. DNB banknotes entered into circulation when people brought coins or precious metals to DNB to exchange them, and when DNB lent to a business or a bank. The latter involved the creation of money, with DNB increasing the money supply as it granted credit.

The Dutch trading community remained wary of DNB banknotes until long after the founding of the bank in 1814, mainly due its relationship with King Willem I, who imposed compulsory financing through DNB on a number of occasions during his reign. Recipients of DNB banknotes sought to swiftly exchange them for coins at the DNB office in Amsterdam. Outside of the capital, people had no trust in DNB banknotes whatsoever. The circulation of paper money in the Netherlands thus got off to a rocky start.[5] Moreover, there was a trusted alternative in the form of the *kassierspapier* – tender paper issued by the *kassier* (treasurer) as proof of deposit of coinage or securities. This tender paper served as a means of payment within the trading communities of Amsterdam and Rotterdam. Since the reliability of these banknotes was tied to the reliability of the *kassier*, they were mainly used as a local means of payment. There was only a limited degree of money creation: *kassiers* generally held a large part of the entrusted funds in cash.[6]

[2]National Bank of Belgium (1957); Kymmell (1992)

[3]Kymmell (1992: 32–33); DNB (2001)

[4]The Dutch government also occasionally issued paper money (‘coin notes’) when withdrawing obsolete coins from circulation. People received coin notes as proof of deposit and could use them to obtain newly minted coins.

[5]Uittenbogaard (2014)

[6]Jonker (1997)

Over time DNB banknotes began to replace *kassierspapier*, particularly after the currency reform of the late 1840s.[7] They first achieved prominence in Amsterdam, and gradually gained ground elsewhere in the country as DNB opened branches outside of the capital. Nevertheless, it was still many years until the Coinage Act of 1901 when DNB banknotes were officially recognized as legal tender. Their high denominations (between 25 and 1000 guilders) meant that their use was largely confined to companies and financial institutions. In those days, most of the Dutch population would never have held a banknote.[8]

What role did bank deposits play? Although the Netherlands was a pioneer in the seventeenth century (i.e. during the Dutch Republic, 1588–1795), deposit money scarcely played a role following the demise of the Amsterdamse Wisselbank (see Box 3.2). The absence of a well-developed banking system was a key factor in this; as we will see, financing needs were largely met by merchants and through the stock market – a situation that continued until the turn of the twentieth century. The proportion of deposit money within the total money supply then doubled from 20% in 1890 to 40% on the eve of the First World War.[9] Like banknotes, however, this type of money was used primarily by traders, entrepreneurs and companies.[10]

Box 3.2 Amsterdamse Wisselbank

The Netherlands was a pioneer in the use of deposit money in the seventeenth century. Traders could open an account by depositing cash at the Amsterdamse Wisselbank (1609–1820). The Wisselbank had a sound reputation as it held practically all of its money in cash (an example of a full reserve bank comparable to what is sought by proponents of a sovereign money system, discussed in Chap. 5). A bank run in the 'disaster year' of 1672 did not lead to its bankruptcy, a fate that befell many similar institutions. The Wisselbank emerged as a lynchpin of international trade, with traders doing business by transferring balances to each other. The accounting unit – the bank guilder – played a role comparable to that of the pound sterling in the nineteenth century and the dollar after 1945. But with the Republic's economic decline and unsecured lending to the Dutch East India Company and the city of Amsterdam (the Wisselbank was a municipal institution), the Wisselbank had squandered its reputation by the end of the eighteenth century. After continuing as a local bank, it finally went bust in 1820.

[7] Jonker (1997); Uittenbogaard (2014). After independence was restored in 1813, a large number of coins with different values and denominations were in circulation. The currency reform withdrew many old coins and replaced them with paper money ('paper coins'). Although meant to be temporary, this paper money led to a permanent increase in the money supply.

[8] Kymmell (1992: 32); Van Renselaar and Stokman (2001)

[9] DNB (2001)

[10] Van Renselaar and Stokman (2001)

In other countries, for example the United Kingdom, the United States and Switzerland, paper money developed along a different trajectory. In these countries, commercial banks were the first to issue banknotes; their issuance was nationalized only later. Given the parallels with the debate on a sovereign money system, we discuss an example in Box 3.3.[11]

Box 3.3 Dynamics in Money Creation: The Case of the United Kingdom

The United Kingdom pioneered developments in the financial monetary system, with banknotes issued by the Bank of England and merchant banks playing key roles from as early as the seventeenth century. Regional banks (country banks) granted loans in the form of private banknotes: debt certificates issued in fixed denominations which could be used for payment, a case of private money creation. But trust in banknotes issued by merchant banks had a downside: aggregate lending could reach irresponsible levels and lead to financial instability. The UK's suspension of the gold standard between 1797 and 1825 to finance the Napoleonic Wars led to heated debate on the principles underpinning the financial monetary system.

The 1844 Bank Charter Act introduced by Robert Peel's government granted the Bank of England the exclusive right to issue banknotes, which had to be fully backed by gold or government debt.[12] As the government sought to centralize and stabilize the creation of money with the Bank of England, commercial banks had to cease being money-creating institutions. Here we see clear parallels with current plans to nationalize money creation (going back to the Chicago Plan of the 1930s, discussed below).

The fixed limits imposed on the Bank of England, however, limited its ability to support banks in distress. There was, after all, a limit on the amount of money (banknotes) that the Bank of England could lend to institutions in difficulty. This restriction was ill-suited to the rapidly industrializing economy and the pivotal role of the London market in facilitating global trade. The Bank Charter Act had to be suspended three times between 1844 and 1866 as the fixed limit on money creation proved problematic during crises. The idea that central banks should be able to act as a lender of last resort – formulated by Henry Thornton (1802) and Walter Bagehot (1873), among others – gained traction.

(continued)

[11]There is an important difference between private banknotes and bank deposit money. If an account holder at bank A makes a payment with deposit money and the recipient has a payment account with another bank (bank B), bank A must transfer assets to bank B, directly affecting banks A's balance sheet. But if bank A issues banknotes, these can circulate without directly affecting its balance sheet. There is thus greater risk of excessive money creation through the issuance of private banknotes than by issuing deposits (Boonstra 2018).

[12]Exceptions applied to a number of Scottish and Northern Irish banks. These banks are still permitted to issue their own banknotes, but they do so under the control of the Bank of England.

Box 3.3 (continued)

Further challenges to centralised money creation came from developments in the banking sector. After 1844, banks soon discovered an alternative to self-issued banknotes: bank deposits. As bank deposits rapidly grew in popularity, banks continued to play key roles in the creation of money. Around 1913, the proportion of deposit money in the UK's total money supply reached an unprecedented 96%.[13] Other countries where the issuance of banknotes was nationalized (such as Switzerland and the United States) witnessed a similar rapid growth in bank deposit money.

3.1.2 Financing

Well into the nineteenth century, the Dutch economy was based largely on agriculture, small-scale industry, services and international trade. Lending mostly served to facilitate domestic and foreign trade. Companies purchasing goods did not always have cash, but received the goods on credit from the supplier. In exchange, the supplier received a written promise (*promesse*) that he would be paid later. It could also be the case that the supplier resided in another city or country, making it risky and difficult to send cash. A 'bill of exchange' (*wissel*) was used instead, where the customer instructed a financial institution (usually a bank) to pay the supplier. Such transactions usually involved two banks: the supplier's bank and the customer's bank, which then conducted the transactions between themselves. Much of this era's international trade passed through London, which served as a clearing house and the world's financial hub. On the eve of the First World War, over half of all international transactions were settled in pound sterling.[14]

Apart from trade credit, Dutch entrepreneurs could turn to short-term loans backed by collateral in the form of securities (usually Dutch or foreign government bonds). Many entrepreneurs invested their surplus cash and profits in such interest-bearing securities. If an entrepreneur needed short-term finance to cope with unforeseen circumstances, he could use these securities to borrow money on the *prolongatiemarkt* where one- or three-month loans with fixed interest rates were provided by commission agents, bankers and a number of *kassiers*. These loans were often extended ('prolonged') automatically, against the interest rate prevailing on the extension date.

The efficiency of the *prolongatiemarkt* and lacklustre economic development meant that the Dutch banking system remained comparatively small and underdeveloped until the late nineteenth century. Entrepreneurs could finance investments with their own income, savings or money acquired from their social networks. Few

[13] Murau (2017); Knafo (2006); Van Zanden (1997b); Capie et al. (1994)

[14] Williams (1968); Kymmell (1992: 40–48)

large banks existed to grant long- or short-term credit. Among the banks, DNB was by far the most important lender.[15]

The growth of domestic industry as well as international trade after 1860 fuelled the demand for credit, thereby triggering changes in the Dutch banking system.[16] Many of the banks established in this period – Credietvereeniging Amsterdam (1853), Commandietkas te Rotterdam (1861), Rotterdamsche Bank (1863), Twentsche Bank (1861) and Amsterdamsche Bank (1872) – sought to become 'modern banks', raising money specifically to provide long-term finance. Operating on the basis of 'fractional reserves', the deposits on their books exceeded the amount of cash they held. Dutch banks saw British banking and DNB as sources of inspiration. As the board of the Kas-Vereeniging, formed in 1865, put it: "The DNB example shows that a bank can also be sound even if not all its debts are covered by hard cash; after all, it is highly unlikely and indeed almost inconceivable that all banknotes will be presented at the same time".[17] The money supply thus grew as bank deposits could serve as, or be immediately converted into, a means of payment.[18]

The application of these modern ideas to Dutch banking did not proceed smoothly at first. Banks continued to focus on trade credit and were hampered by their unfamiliarity with the risks of long-term financing, companies' scepticism about relying on banks and the sustained popularity of the *prolongatiemarkt*. But by the beginning of the twentieth century developments over the preceding decades began to bear fruit. The banking system now grew rapidly (in total assets, loans and deposits) as banks began to finance large companies, making riskier long-term investments in industry and abandoning their preference for more secure short-term lending. The real breakthrough, however, had to await the First World War, when the *prolongatiemarkt* was closed for an extended period (see Sect. 3.2).[19]

3.1.3 Policy and Regulation

The stability of the national currency is an overarching concern for governments. There are two aspects: the currency's *external* value (in terms of foreign currency) and its *internal* value (in terms of purchasing power or precious metal).[20] In the nineteenth century, most governments tied their currencies to silver, gold or both (the 'bimetal standard'). Since most countries did this, the *internal* link also ensured

[15]Kymmell (1992: 19); Jonker (1997)

[16]Van Goor (2001: 74–79); cf. Van Riel (2016)

[17]Quoted in Kymmell (1996: 200). Our translation.

[18]Van Goor (2001); Jonker (1997)

[19]Van Goor (2001: 124); Jonker (1997: 118)

[20]Capie et al. (1994)

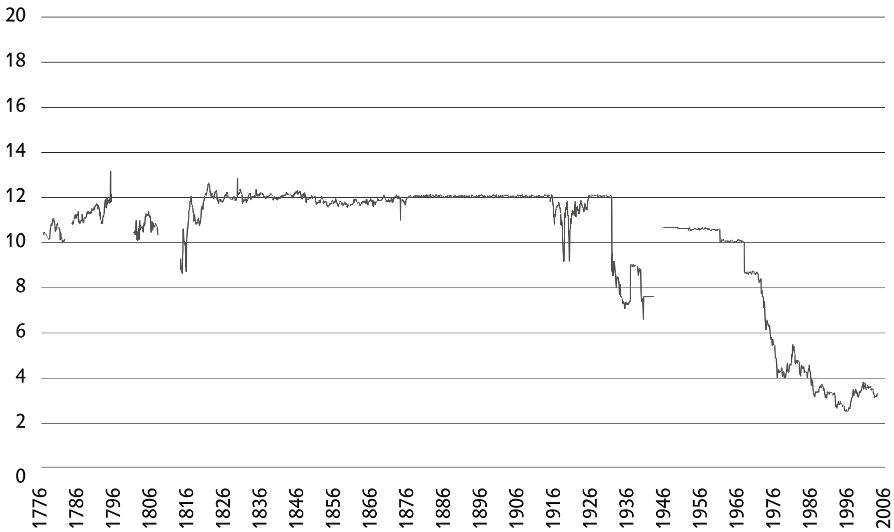

Fig. 3.1 Exchange rate of British pound and Dutch guilder
Guilders per pound
Source: Posthumus/Korthals Altes/Own analysis

an *external* link, with exchange rates between currencies being more or less fixed.[21] Figure 3.1 shows the exchange rate between the British pound and the Dutch guilder and its striking stability over the nineteenth century.

The direct link between currencies and precious metals exposed countries to supply and demand forces. The Netherlands, for example, felt compelled to leave the bimetallic standard when large gold deposits were discovered in California in 1847. The declining international price of gold meant that people in the Netherlands could import gold cheaply and have it struck into gold coins with higher face value, which over time would be unsustainable. Something similar happened in 1875 when the Netherlands switched from silver to gold.[22] Following the Franco-Prussian War of 1871, the new German Empire, like the United States, switched from the bimetallic or silver standard to gold. Many other countries followed suit. It was expected that a glut of silver would lead to inflation in countries that pegged their currencies to silver. Although tying a currency to a precious metal suggests stability, it makes the currency vulnerable to unpredictable factors, as seen in the international dynamics influencing Dutch policy choices.[23]

Linking currencies to precious metals had macroeconomic implications. The global adoption of the gold standard led to a worldwide shortage of gold, leading

[21]Eichengreen (1992)

[22]People spoke of a ‘limping standard’ because silver coins, although they could not be freely minted, were not withdrawn from circulation.

[23]Van Zwet (2001); Van Riel (2018)

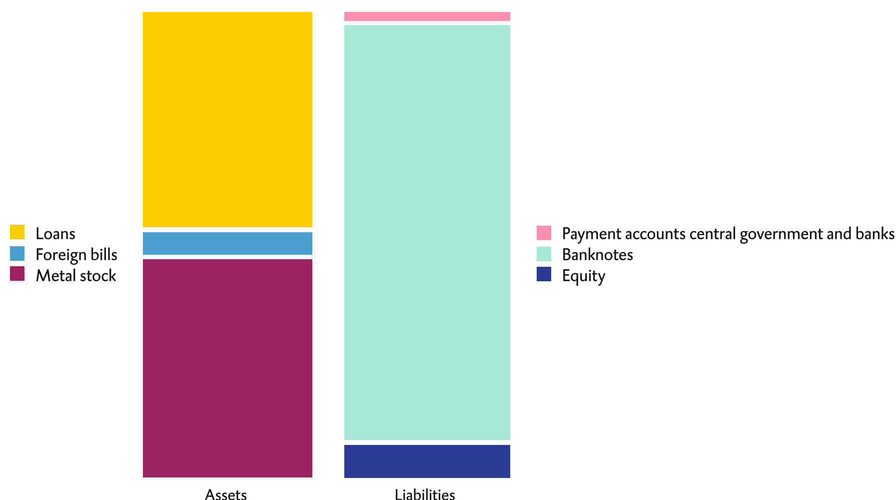

Fig. 3.2 DNB balance sheet in 1914
Source: Kymmell (1996: 65)

to systematic deflation. Between 1880 and the mid-1890s, manufacturing and consumer prices fell by roughly a quarter in the Netherlands.[24] Declining prices were not only tied to the limited availability of gold but also to a surge of cheap agricultural exports from the US and the UK, rapid industrialization and lower transport costs. It was only in the 1890s that deflation halted. This was aided by many governments easing their gold reserve requirements, central banks beginning to hold foreign currency reserves, and merchant banks expanding the money supply through the creation of deposit money.[25]

In the Netherlands DNB was responsible for safeguarding the metallic standard. In practice this meant it had to hold sufficient reserves of precious metal and coins to ensure that DNB banknotes could always be exchanged for silver and, later, gold. In its first 50 years, DNB was thus severely limited in the number of banknotes it could issue, although requirements were eased on a number of occasions. In the Banking Act of 1863, these requirements were replaced by a rule requiring DNB to cover at least 40% of the value of its outstanding banknotes with its stock of metal. From 1888 onwards claims on other central banks also counted as a cover. Figure 3.2 shows DNB's balance sheet in 1914. The coverage ratio (metal plus foreign bills of exchange divided by banknotes) was 57%.

Like many other central banks of the day, DNB had no explicit responsibility for guaranteeing financial stability. But by the end of the nineteenth century it was common for central banks to act as lenders of last resort, supporting banks in distress

[24]Van Zanden and Van Riel (2004)

[25]Van Riel (2018)

by lending reserves (banknotes, coins or metal) – a role also embraced by DNB.[26] DNB had already been presenting itself as the 'bankers' bank' for some time: in 1860 half of all bills of exchange issued by *kassiers* and bankers were owned by DNB. As such, DNB had supported a number of financial actors during the international credit crisis of 1857.[27]

The fixed relationship between currency and precious metals implied potential conflict between monetary policy and financial stability policy. When banks encountered liquidity problems, the central bank as the lender of last resort had to assist them. But this would deteriorate the central bank's position, increasing its balance sheet (more loans on the left side, more issued banknotes on the right side) and lowering its coverage ratio, potentially raising doubts about the exchangeability of banknotes.[28] While DNB did not encounter such problems in this period, acute problems arose in the UK in 1890–1891 with Baring Brothers & Co. incurring such large losses on Argentinian government bonds that the Bank of England had to step in. But the Bank of England lacked sufficient gold and could therefore only grant emergency aid by drawing loans from other central banks.[29]

3.1.4 Summary: Money Creation in the Nineteenth Century

In the nineteenth century people in the Netherlands mainly used coins. Coins were public money: the conditions for their production were set by the government, which specified the metal content of standard coins and had exclusive authority to mint token coins. It was not until midway through the century that the coin stock was standardized.

Up until the Banking Act of 1863 and the opening of branches outside of Amsterdam, DNB banknotes were used primarily to finance trade. Money creation by means of banknotes thus depended on developments in trade. As DNB was then a private, for-profit organization its banknotes were a hybrid public-private form of money. The creation of deposit money (i.e. by banks) was primarily linked to short-term trade credit and only gradually to long-term credit. The structural rise in the share of bank deposits in the total money supply only took place in the early twentieth century.

In this period the main constraint on money creation was the (policy-based) link to precious metal. It applied first and foremost to coins made partly or entirely of precious metals, but also to DNB's creation of money through banknotes linked to its metal stocks. At the same time, growing international trade and the industrialization of key economic sectors required an expansion of the money supply,

[26]Capie et al. (1994).

[27]Kymmell (1992: 71)

[28]Uittenbogaard (2014: 138–9)

[29]Eichengreen (1992)

rendering the link to metal an inflexible constraint. This inflexibility was most keenly felt during financial crises as it undermined the ability of the central bank to act as a lender of last resort. The creation of deposit money and the loosening of the link between metal and banknotes provided a solution to this problem.

Striking the right balance between anchoring the currency and ensuring sufficient flexibility was for many countries a perennial challenge. An overly rigid system led to problems in facilitating economic growth and solving crises. Although the Netherlands was less affected by this problem than the UK, national and international developments compelled the Dutch government to frequently adapt its policies. Beginning in the 1850s, the coverage ratio of DNB banknotes was eased in stages. The guilder's link to metal was also adapted several times under international influence to avoid further problems.

3.2 The Interwar Period and the Great Depression (1918–1939)

The First World War marked the end of the 'first wave of globalisation' which began around 1870, facilitated by the liberalisation of international trade, the structural decline of transport costs and the widespread adoption of the gold standard. The war and its financing rendered the gold standard unsustainable. As international payments were frozen, investors lost income and access to their assets. While the extent to which countries sought refuge in debt or higher taxes varied, several switched to monetary financing (printing more money for government spending) which generally led to rising inflation. The war was followed by a difficult period of adjustment, with the accumulated debt in countries with weak political institutions ultimately leading to hyperinflation. The problem was most extreme in Germany, which was in a state of economic collapse due to untenably high war debt, the Versailles obligations and the occupation of the Ruhr by France and Belgium in 1923. Excessive money creation and rising prices reinforced each other, and it was not until 1924 that the situation stabilized. In response to this chaotic period, governments sought to return to the pre-war 'golden days'.

The Dutch financial monetary system continued to evolve in this period. The foundations were laid for deposit money to spread to 'ordinary people' with the establishment of a national giro institution (the Postcheque- en Girodienst; PCGD) and municipal giro institutions. Cash (coins) nevertheless remained the norm for most people. The financial sector also evolved rapidly as banks began to focus even more on facilitating industrialization; the creation of deposit money was thereby linked to long-term corporate financing. But this development quickly led to a crisis. Between 1921 and 1924 many banks encountered difficulties; some had to be rescued by DNB (backed by the government).

3.2.1 Money and Payments

In the interwar period, coins remained the usual means of payment for most individuals and small businesses; non-cash payments were still in their infancy. Deposit money was used primarily for payments by large companies. These were often payments between customers of the same bank. Transfers to other banks' customers were too difficult and expensive, although from 1937 attempts were made to develop a cheaper and faster alternative by means of a bank giro system for cheque payments.[30] But at a time when there were still 25 clearing banks, the time and cost benefits were minimal. DNB banknotes were therefore preferred to non-cash payments for larger transactions.

Merchant banks catered to companies and wealthy individuals; deposits and payments made through them were primarily for business purposes. Small businesses in particular fell through the cracks: they often had to make payments over greater distances, but the facilities to do so (drawing bills of exchange or sending banknotes by post) were expensive and cumbersome. To allow a wider public to access non-cash payments, the Dutch government established the Postcheque- en Girodienst (PCGD) in 1918, which grew from 33,000 account holders in 1920 to 113,000 in 1925.[31] Paralleling this national initiative, innovation also took place at the municipal level, with the municipality of Amsterdam setting up the municipal giro system to make payments for municipal services more efficient.[32]

The seed for the subsequent widespread popularity of deposit money was thereby sown in this period. Whereas around 1900 only 20% of the money supply consisted of deposit money, by 1920 this figure exceeded 50%. The trend then stalled due to problems in the banking system in the early 1920s and growing concerns about the economic and political situation in the 1930s, with the share of deposit money falling to around 40% of the money supply at the start of the Second World War (see below).[33]

3.2.2 Financing

The Dutch banking system was still small and segmented after the First World War. Merchant banks provided short-term loans and current accounts for businesses and wealthy individuals. A few hundred savings banks (including Rijkspostspaarbank, established by the government in 1881) provided accounts for small savers in urban areas but did not lend to businesses; the assets side of their balance sheets mainly consisted of loans to public agencies (government bonds). In rural areas, savings and

[30] DNB (2002: 15)

[31] Peekel and Veluwenkamp (1984: 14); Van Zanden (1997b: 129)

[32] Lelieveldt (2017)

[33] Van Zanden (1997b)

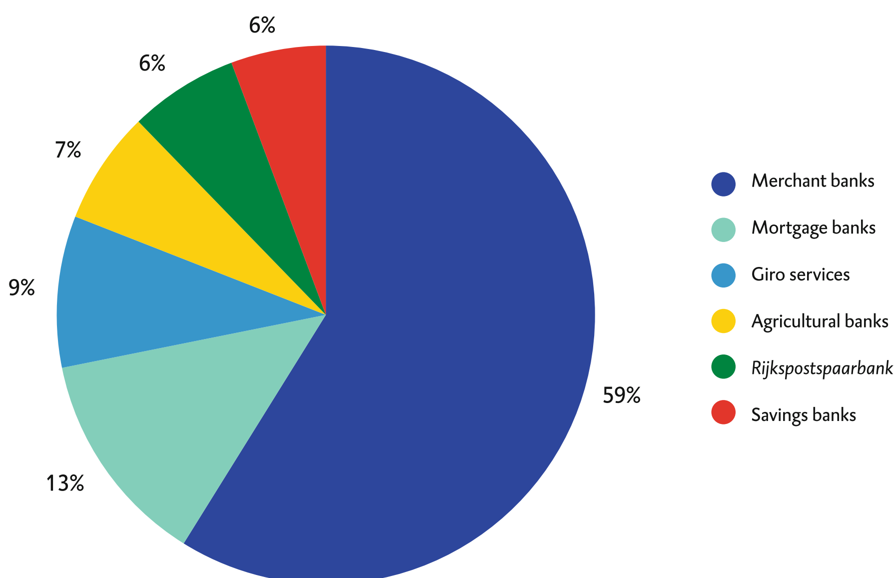

Fig. 3.3 Different types of banks by balance sheet total (1923)
Source: Van Zanden (1997b: 127)

credit facilities were provided by a network of around 1000 cooperative agricultural credit institutions, with the number of account holders more or less equal to the total number of agricultural businesses. Mortgage banks financed property on the basis of 'pandbrieven' (mortgage bonds). Non-cash payment services for individuals and small businesses became the preserve of the PCGD. Figure 3.3 shows the relationship between the different types of Dutch banks (in terms of balance sheet size) in 1923.

But banking was clearly on the rise. The closure of the stock exchange at the outbreak of the First World War forced businesses and lenders to rely more on banks. Economic growth also helped: partly due to neutrality during the war, the Dutch economy grew fairly quickly during the pre- and post-war periods. With 3.4% annual growth between 1913 and 1929, it outperformed the Western European average by more than a percentage point.[34] Industrialization continued, while profits from agriculture and commerce were increasingly deposited in banks. This encouraged (and was encouraged by) the further development of the banking system. Banks expanded to serve larger companies and became even more active in financing industrialization, at times playing key roles in establishing industrial companies. Between 1910 and 1923, banks doubled the number of seats they occupied on the supervisory boards of industrial companies, thereby gaining considerable influence. Banks became more interconnected with business, while many industrial companies,

[34]Van Ark and De Jong (1996: 201).

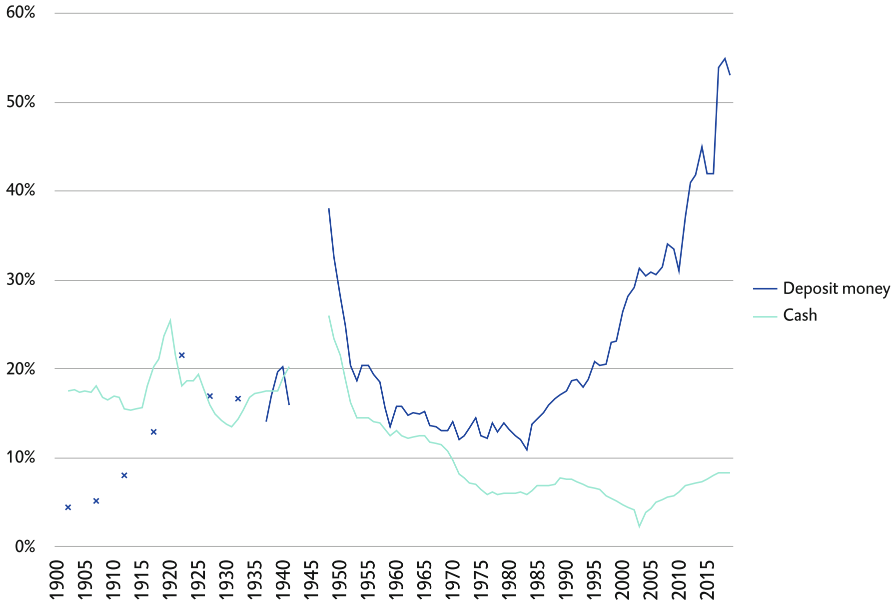

Fig. 3.4 Volume of deposit money and cash
M1, percentage of GDP, 1900-date
Sources for money supply: De Jong (1967); De Vries (1989); Statistics Netherlands Statline; DNB Statistics
Sources for GDP: Smits et al. (2000); Van der Bie (1997); Statistics Netherlands (2001); Statistics Netherlands Statline

SMEs and farms became dependent on (short-term) bank financing. The immediate post-war years witnessed very high demand for long-term finance for large-scale investments.[35]

After peaking in 1920 the Dutch economy stagnated, partly due to problems in Germany. After runs on a number of smaller banks in 1921, in 1922 authorities feared a systemic breakdown. DNB had to support a number of banks, including two medium-sized institutions (Bank-Associatie and Rotterdam-based Marx & Co) and numerous smaller banks. DNB incurred substantial losses, leaving it unable to support the large Rotterdamsche Bankvereeniging and compelling it to seek financial assistance from the government. A similar situation arose a year later in the reorganization of Centrale van Middenstandsbanken.[36]

Despite these problems, the 1921–1923 banking crisis had no major negative economic consequences. The economy even grew between 1922 and 1923. The lack of mass bank failures bolstered public confidence, although the growth of bank deposits as a proportion of the money supply stagnated. As Fig. 3.4 shows, banking

[35]Van Zanden (1997a: 128–131)

[36]Stoffer (1986); Van Zanden (1997b: 143–144)

problems affected the money supply, which rose sharply relative to GDP after 1910, before contracting in the 1920s.

What did change was the readiness of merchant banks to finance industry: close relationships with businesses were severed, the number of directorships held by banks fell sharply and banks' total assets declined as a proportion of national income. There was also a relative decline in the position of merchant banks, while more specialized institutions (agricultural and savings banks) expanded. The caution exercised by both banks and DNB allowed the Dutch banking system to weather the Great Depression of the 1930s. Unlike many other European countries, reserves held by banks and DNB were sufficient to avoid a crisis of confidence. The downside was that the Netherlands was able to remain on the gold standard, keeping the guilder expensive and prolonging its uncompetitive position. This had major negative consequences for the economy, as discussed below.[37]

3.2.3 Policy and Regulation

When the First World War broke out, the Netherlands – like other countries – suspended the exchangeability of money into gold. The statutory coverage ratio of DNB banknotes was reduced, from 40% of the value of issued banknotes in coins or metal to 20% in 1914. After the war, attempts were made to restore the pre-war monetary framework based on the gold standard. Many countries, including the Netherlands, decided to reintroduce the gold standard in 1925. But this subsequently caused a host of problems, eventually contributing to the Great Depression of the 1930s. This crisis started in the United States and spread rapidly around the world (see Box 3.4).[38]

Box 3.4 Crisis in the US: The Banking Act and the Chicago Plan

The US was hit by a severe financial and economic crisis in 1929. In the preceding years millions of Americans had invested their money in shares, often financed by bank borrowings. When the stock market crashed in October 1929 (Black Thursday), countless Americans saw their investments evaporate while many were unable to repay their loans. The banking sector was hit hard. Four waves of bank runs ensued, the fourth (in 1933) being the worst. A total of 7000 banks failed during this period. The Fed bore much of the blame as it was reluctant to support banks in distress. The criteria for providing emergency assistance were so strict that many banks ultimately went bust. This triggered a negative spiral of panic among banks and account holders, a

(continued)

[37] Van Zanden (1997a); Jonker (1999: 69)

[38] Eichengreen (1992)

Box 3.4 (continued)
worsening of economic conditions and corporate bankruptcies. The economic malaise was unprecedented: real national income fell by 30% and unemployment rose to more than 20% of the working population.[39]

The Roosevelt government introduced a wide range of reforms in response to the crisis. Interdependence between stock markets and the banking system was tackled by prohibiting merchant banks from engaging in securities trading.[40] The government also introduced a deposit insurance system, primarily in response to the many bank runs. The Fed was also given wider powers to support the banking system in case of emergency. A number of prominent economists associated with the Chicago School, including Frank Knight and Harry Simons, considered these measures insufficient. They called for even clearer lines of separation within the banking system: bank deposits should be separated from risky assets and backed entirely by cash, central bank reserves or government bonds. This would give the government greater control over the financial monetary system and with bank deposits fully covered, eliminate bank runs. Although these ideas were brought to the attention of the Roosevelt government, they did not carry the day.[41] Nevertheless, they still inspire many of the contemporary calls (including by Stichting Ons Geld) for fundamental reforms to the financial monetary system. We will consider these ideas in detail in Chap. 5.

European countries were deeply affected by the problems in the United States, beginning with crashes in Austria and Germany. American banks that had extended loans to banks in these countries collectively withdrew their money in response to the problems at home. Although Austrian and German central bank gold stocks were insufficient to provide credible support to their banking systems, no international aid was forthcoming. France in particular was sceptical about supporting these countries, for (geo)political reasons. The German and Austrian central banks then tried to convert their balances into gold at British banks, causing problems in the UK. As the Bank of England was powerless to stem the outflow of gold, the UK decided to leave the gold standard in 1931. Many other countries followed. While countries had cooperated to make the gold standard work prior to 1914, in the 1920s there was no willingness to do so. Sticking to the gold standard now contributed to instability.[42]

[39]Konzelmann et al. (2010); Coljé (1988); Romer and Romer (2003).

[40]The Glass-Steagall Act (officially the 1933 Banking Act) imposed four obligations. Banks affiliated with the Federal Reserve were no longer permitted to trade in securities for customers. They were also banned from trading and investing in securities on their own account, and from supporting securities issues. Finally, their staff were not permitted to be involved in financial institutions not subject to these restrictions (Sections 16, 20, 21 and 32).

[41]Benes and Kumhof (2013); Laina (2015)

[42]Temin (1993); Eichengreen and Temin (2000); Moessner and Allen (2010).

The Netherlands saw a strong inflow of gold, partly because DNB participated in the 'run' on the Bank of England. People also saw the Netherlands as a safe haven. DNB and the Ministry of Finance defended the guilder's link to gold in moral terms, portraying devaluation as tantamount to counterfeiting.[43] But as other countries allowed their currencies to depreciate by abandoning the gold standard, the 'remainers' paid a high price as their products became more expensive. Dutch farming in particular suffered badly, and as the economy deteriorated, unemployment climbed to almost 20% of the working population.[44] Calls from Dutch business for devaluation were therefore unsurprising. But it was only in September 1936, five years after the UK, that the Dutch government decided to abandon the gold standard – not because the authorities were persuaded of the benefits of leaving, but because the Dutch position had become untenable after Switzerland and France suspended exchangeability.[45]

The problems of many countries in the 1930s began with a financial crash. Authorities often responded by tightening financial regulation and oversight, splitting up banks, placing limits on international capital flows, imposing much stricter capital and liquidity requirements and introducing tight controls over bank lending. The Netherlands here was an exception. There was less urgency to reform the banking system, which had escaped many of the difficulties experienced in other countries. It was only after the Second World War that policy and oversight in financial regulation and supervision were tightened and formalized. We discuss these developments in the next section.

3.2.4 Summary: Money Creation in the Interwar Period

During the interwar period, most people in the Netherlands still relied on coins to make payments. Banknotes were mostly used by businesses and wealthy people, although the introduction of the ten guilder note and inflation during the First World War made banknotes more widely used. Although non-cash payments gained ground with the introduction of public giro services, it remained beyond the reach of many people. Non-cash payments were common for businesses, but bank services remained expensive and cumbersome. DNB in this period increasingly operated as a 'banker's bank', buying up loans granted by merchant banks. The creation of money was thus increasingly linked to the credit policies of merchant banks. Bank credit policies also saw changes in the interwar period, focusing on long-term industrial finance alongside short-term trade credits.

The reintroduction of the gold standard in 1925 meant that money creation, monetary policy and financial stability policy were once again tied to the supply

[43] Langeveld (2009)

[44] Statistics Netherlands (2009)

[45] Van Zanden (1997a: 148–151)

and demand for gold. The fixed link to gold played a key role in the global financial and economic malaise of the 1930s, preventing central banks from providing liquidity to banks in distress. National governments also had no appetite to support other countries in trouble: everyone wanted to retain gold or reclaim it from others. The result was a global run on gold that ultimately turned out badly for all. As in the nineteenth and early twentieth centuries, the Netherlands proved vulnerable to international trends. This time, however, it adopted a different strategy. While the country had previously chosen to review or abandon the guilder's link to metal when international developments prompted it, in the 1930s the gold standard was considered sacred. The Netherlands only abandoned gold when it was unable to do otherwise.

3.3 The Bretton Woods Period (1945–1973)

The Great Depression had already left the international financial monetary system highly fragmented. The Second World War caused even greater disruption, including in the Netherlands. In the years leading up to the war, people had turned to hoarding coins. In 1938 the Dutch Ministry of Finance ordered the printing of paper guilders and paper 'rijksdaalders', which became known as 'zilverbonnen' ('silver coupons') or 'muntbiljetten' ('coin notes'). The German occupiers continued this practice on a larger scale, dramatically increasing the money supply. The volume of deposit money likewise increased, leading to a structural increase in banks' leverage. Following liberation, the new Dutch government was forced to pursue a currency reform.[46]

After the war, countries sought to shape the international financial monetary system so that they would have more room to manoeuvre and international disruptions would less likely undermine the entire system. Although it was again decided to link money to precious metal – currencies were linked to the US dollar, which in turn was linked to gold – the Bretton Woods Agreement of 1944 amounted to a sea change, both in the formalization of international cooperation on monetary and financial matters and in its specifics, including restrictions on international capital flows. Control over financial markets was now part of broader government policy to ensure the financial sector would contribute to economic recovery and development. With growing prosperity, banks broadened their focus to serve the population as a whole, while changes in the banking sector included the fading of divisions between different types of banks.

[46]In the autumn of 1945 everyone in the Netherlands had to surrender their banknotes. In return they received a blocked account at banks and ten guilders per family member per week to meet living expenses; new banknotes became available afterwards. Known as the 'Lieftinck tenner' after the finance minister who introduced it, the reform sought to remove the excess banknotes that had entered into circulation during the German occupation and to wipe out the profits of those who had exploited the war-time black market.

3.3.1 Money and Payments

Deposit money became dominant in the decades following the Second World War. Until the late 1950s, the ratio of cash to deposit money remained more or less stable; thereafter, cash declined relative to GDP while the growth of deposit money broadly kept pace with economic growth. In 1975, the ratio was roughly 70%–30% in favour of deposit money.

By 1968 the public Postcheque- en Girodienst (PCGD) held over a million accounts.[47] Automation enabled wages to be paid electronically, favoured by employers and the government over the expensive, labour-intensive system of cash payments.[48] The PCGD and the municipal giro services introduced innovations that made electronic payments increasingly attractive. In 1961, Gemeentegiro Amsterdam became the first Dutch bank to issue debit cards that could be used to make payments in shops. In 1969 it became the first bank to install an automated teller machine.[49]

This period witnessed greater competition between different types of banks, which up until the 1960s had their own areas of operation and customer base. But with the growing prosperity of the Dutch population, commercial banks, which had previously focused on business, now tried to entice customers away from the PCGD. They did so by offering interest on payment accounts and by introducing guaranteed cheques that consumers could use in the Netherlands and abroad. The boundaries between different types of banks gradually faded, with many banks turning into universal banks. But despite this blurring of boundaries, there remained two separate payment systems: one operated by the public PCGD and the other by a partnership of commercial (private) banks.[50]

3.3.2 Financing

The Dutch economy was in bad shape after the Second World War. Material damage was extensive, factories lay idle and many businesses were shuttered. No more than 37% of imports were covered by exports, which would be untenable in the long run.[51] The government, which had to take drastic steps to stimulate reconstruction, saw regulating finance as essential to its strategy. As in other European countries, Dutch policymakers regulated the growth, allocation and price of credit. Banks had to obtain prior consent for loans exceeding 50,000 guilders while DNB had to ensure

[47]Peekel and Veluwenkamp (1984: 3)

[48]Lelieveldt (2017: 9)

[49]Van Engelen (2009: 37)

[50]DNB (2002)

[51]Van Zanden (1997a: 174)

that it only granted loans essential for reconstruction.[52] The government thus sought to ensure that credit was used productively (see also Sect. 3.3.3).

As in other European countries, the Dutch government set up financial institutions to promote recovery. A pre-war initiative (Maatschappij voor Industriefinanciering, founded in 1935) had collapsed due to undercapitalization. In contrast, the Nederlandse Herstelbank, established in 1945, successfully financed industrial companies with backing from the government. Another institution, the Export Financieringsmaatschappij established in 1951, helped stimulate Dutch exports.[53]

The financial sector reoriented itself as the economy recovered. Economic growth led to a sharp rise in business demand for loans. Many businesses also found that retained earnings were insufficient to finance investments and growth. With the Nederlandse Herstelbank and Export Financieringsmaatschappij unable to meet the growing demand for credit, merchant banks, after decades of restraint, took renewed interest in long-term lending to Dutch business. But this required a solid base of cash and central bank reserves, which proved problematic.[54]

The growing prosperity of the Dutch population and the more even spread of wealth meant that a fast-growing proportion of the money supply was entering the hands of wage earners. This money was still mostly paid out in cash. To the extent that people deposited this cash in giro and savings accounts, it was generally at PCGD and Rijkspostspaarbank. This meant that when banks granted loans to businesses, thereby creating new bank deposits, an increasingly large proportion of money ended up *outside* of the commercial banking system. The resulting outflow of cash and central bank reserves limited the ability of banks to grant new loans, thereby putting a brake on the creation of deposit money. To prevent the continued leakage of reserves, commercial banks began to focus on providing payment accounts to the general public. Business financing and household savings therefore became increasingly intertwined.[55]

Competition between banks encouraged mergers and consolidations. In 1964 Nederlandsche Handel-Maatschappij and Twentsche Bank merged to become Algemene Bank Nederland (ABN) while Amsterdamsche Bank and Rotterdamsche Bank formed Amsterdam-Rotterdam Bank (AMRO). In 1972 the umbrella bodies for agricultural cooperatives merged to form Coöperatieve Centrale Raiffeisen-Boerenleenbank (Rabobank). The smaller savings banks (there were still 266 in 1960), Rijkspostspaarbank and the giro institutions were hit hard by this competition. Despite the many mergers, savings banks lost their market share. The Amsterdam municipal giro became part of PCGD in 1976. PCGD and Rijkspostspaarbank also increased their collaboration, a prelude to their merger in the 1980s to form Postbank, which subsequently merged into ING in the 1990s.

[52] Barendregt and Visser (1997: 187)

[53] Posthuma (1955); Van Riel (2016)

[54] WRR (2016: 67–68)

[55] Peekel and Veluwenkamp (1984: 22–23)

3.3.3 Policy and Regulation

Many European countries in the post-war period used monetary policy to promote economic growth and employment. Political influence on monetary policy increased as finance ministries took over more control from central banks.[56] Although this trend was less pronounced in the Netherlands, ultimate responsibility for monetary policy lay with the Ministry of Finance, with the central bank operating in the 'shadow of hierarchy'.[57] Many central banks that had been private institutions were nationalized in the post-war period (DNB in 1948) in view of the public interest of monetary policy.[58]

To facilitate the pursuit of national policy goals, governments sought international cooperation. Here the Bretton Woods Agreement was a watershed. Under the Bretton Woods regime, governments linked their currencies to the US dollar, which in turn was linked to gold.[59] Compared to the old gold standard, governments placed much tighter restrictions on international financial transactions. Capital controls – which gave countries more freedom to gear their monetary policies to their domestic economies – were also standard in the newly formed European Economic Community.[60] According to the well-known 'monetary trilemma', countries can choose at most two of the following three policy goals: (1) fixed exchange rates; (2) autonomous monetary policy; and (3) full freedom of capital movements.[61] With the Bretton Woods Agreement, governments chose the former two.

The Bretton Woods regime departed from the preceding period in yet another way. To address temporary deficits in a country's current account, the International Monetary Fund was endowed with substantial capital resources to lend to countries in difficulty. In the event of structurally negative trade balances, countries could adjust exchange rates, thereby postponing real adjustments to wages and prices. The need for such regulated flexibility and international coordination was a crucial lesson from the interwar period.[62] The Netherlands used this option at the end of 1949 (following the example of the UK) and devalued its currency by 30% against the dollar.[63] But despite these changes, the Bretton Woods variant of the gold standard also ultimately proved untenable (see Box 3.5).

[56]Goodhart (2010)

[57]De Greef et al. (1997)

[58]Capie et al. (1994)

[59]Outside the US, households could no longer exchange their banknotes and coins for precious metal. This can be seen as the next step in the decoupling of national currencies and precious metal.

[60]Bakker (1996)

[61]Obstfeld and Taylor (1998)

[62]Feinstein et al. (1997: 204)

[63]Bakker and Van Lent (1989: 170)

Box 3.5 The Demise of the Gold-Dollar Exchange Standard
Although gold still played a role in the Bretton Woods system, the link with national currencies was more indirect, namely through the US dollar. Since the US Federal Reserve could increase international reserves (dollars rather than gold), this standard, unlike the gold standard, did not cause major problems for international economic stability. But as the designated provider of international reserves, the United States enjoyed major advantages over other countries.[64]

The United States' freedom to increase international reserves introduced a weakness into the Bretton Woods system; as identified by the Belgian-American economist Robert Triffin, but also already by Keynes during the Bretton Woods negotiations in 1944. As international reserves grew more 'abundant', the gold-dollar fixed exchange rate would gradually lose credibility. As foreign central banks had increasingly large claims on US gold stocks, a 'run' could ultimately arise, even with the US controlling two-thirds of global gold stocks.

This is precisely what happened in the late 1960s and early 1970s. The rapid rise of global trade and robust European growth led to a structural increase in the demand for international reserves, causing the gold coverage rate to fall from 55% in 1944 to 22% in 1970. Large US capital exports, associated with aid programmes and the Vietnam War, exacerbated the problem. After 1965, France in particular sought to undermine US dominance by converting dollars into gold and arguing for a return to the gold standard. In August 1971 US President Nixon decided to suspend the exchangeability of dollars into gold, severing both the link between money and gold and trans-atlantic monetary ties. The decoupling, which became permanent in 1973, saw previously linked currencies become floating currencies. The Netherlands soon moved to a *de facto* link to the Deutschmark.

The Banking Act of 1948 entrusted DNB with "regulating the value of the Dutch monetary unit in the manner most beneficial for the country's prosperity, while stabilizing its value as far as possible".[65] Monetary policy was thus linked to the public interest (the country's prosperity). Capital controls were originally meant to prevent an *outflow* of capital, to ensure that capital would be used in the Netherlands for reconstruction. But as the economy and trade balance recovered, capital controls were used to prevent excessive *inflows* of finance, which DNB feared would stoke inflation. The Netherlands was among the first countries in Europe to lift controls on capital outflows.[66] DNB also restricted short-term lending and overdrafts to curb

[64]Eichengreen (2011)

[65]Quoted in Renselaar and Stokman (2001: 8). Our translation.

[66]Bakker (1996)

excessive credit growth, which – with the associated growth of the money supply – could fuel inflation.[67]

While price stability was a key rationale for credit controls, they also contributed to financial stability.[68] The Act on the Supervision of the Credit System (1952) had given DNB formal responsibility for the stability of the Dutch banking system.[69] Credit controls, capital requirements and liquidity rules were part of the DNB arsenal. Capital rules addressed banks' equity positions, their ability to absorb losses without becoming insolvent, and stipulated that equity had to be at least 20% of risk-bearing assets.[70] Liquidity rules required banks to hold sufficient central bank reserves or readily saleable assets (such as government bonds). Meant primarily to control money creation,[71] they also sought to limit the mismatch between the term of bank loans and liabilities. Banks had to ensure that long-term loans (of more than 2 years) were fully matched by long-term liabilities (including savings deposits).

Another instrument was the so-called structural policy, which required divisions to be maintained *within* the banking system and *between* banks and other (financial and non-financial) sectors. Structural policy determined the types of activities banks were allowed to pursue and the types of regulation to which they were subject. The purpose was to maintain segmentation within the banking sector. Other goals were to prevent the emergence of excessively large banks or financial conglomerates and banks acquiring shares in non-financial businesses. This would limit banks' power and market dominance and guarantee transparent ownership to enable effective supervision. DNB thus gained influence over competition within the sector: merger and acquisition plans had to be submitted to DNB and could only proceed on the basis of a 'declaration of no objection'.[72]

In practice, however, DNB was highly flexible regarding mergers, as evidenced by the consolidation described above and the formation of universal banks in the 1960s. The idea was that Dutch banks would need to have a certain size to successfully compete in the emerging European market. Universal banks gradually grew dominant in the Netherlands; compared to specialised banks, they faced fewer restrictions on the types of activities they could pursue, thereby generating competitive advantages.

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[67]Barendregt and Visser (1997: 189)

[68]De Greef et al. (1997)

[69]Coljé (1988: 11)

[70]Van Eekelen (1987); Coljé (1988)

[71]From 1954 there was a compulsory cash reserve: banks were required to maintain a certain level of central bank reserves relative to bank deposits. From the 1970s there was also a liquidity reserve requirement, based partly on banks' other liquid assets (Eijffinger 1983: 20–29).

[72]Van Eerden (2001)

3.3.4 Summary: Money Creation in the Bretton Woods Period

The use of deposit money finally became dominant in payments and savings during the post-war period. Automation, increased scale and professionalization made it much easier and cheaper for banks to provide deposit money accounts and process payment instructions. Increasing and more evenly spread prosperity implied that wage earners held a growing share of the money supply. But the continued preference of most people for the public giro system or cash, constrained commercial bank lending and hence money creation. The outflow of deposit money created by banks to the public banks (or its conversion into cash), restrained the commercial banks in the growth of their loan book. In response, commercial banks began to focus on offering payment accounts to consumers, thus gradually becoming all-purpose banks. This was accompanied by a process of increasing scale and a blurring of distinctions between different types of banks.

Government policy heavily affected bank lending. Policy instruments such as credit and interest rate limits and allocation rules sought to bolster the financial sector's economic contribution, curb inflation, limit upward pressure on interest rates, and prevent financial instability. Dutch policies were far from unique here as all Western governments used these types of instruments.[73]

At Bretton Woods, governments agreed to reshape the international financial monetary order, privileging international cooperation, capital controls and adjustable exchange rates. Still, the system maintained an (indirect) link to gold, thereby resembling the pre-war gold standard. But because countries used capital controls and the main international reserve currency (the dollar) was abundantly available, this time the link to gold did not lead to instability. Nevertheless, it was precisely the dollar's abundance that finally undermined the system: as international claims on US gold stocks grew, the dollar-gold link became less credible, encouraging countries to convert their dollars into gold. Ultimately, there was a run on US gold – just as there had been on British gold in the 1930s. And just as Britain was forced to abandon the gold standard in 1931, the US had to close the 'gold window' in 1971. This time, the link between gold and money was severed definitively, again illustrating how a fixed link between money and metal (or any other 'external anchor') ultimately fails to deliver the desired stability.

3.4 The Pre-crisis Period (1973–2008)

Trust in interventionist government policies evaporated in the 1970s when the economy stagnated and inflation rose to high levels. The 1980s thus witnessed the rising popularity of economic theories that embraced market forces and were more sceptical of government intervention. These theories presented the financial sector as

[73]Stellinga (2015)

a largely passive factor in the economy, as a kind of neutral 'intermediary'. Financial markets were not seen as fundamentally different from other markets: stimulating market forces was believed to improve efficiency.[74] Although policymakers did not embrace these pro-market ideas unconditionally, they were definitely inspired by them.

The Netherlands was quick to adopt these pro-market ideas. Restrictions on lending and international capital flows were almost entirely dismantled and the post-war structural policy abandoned. These reforms stimulated bank lending, in particular mortgages, as well as mergers and acquisitions, which ultimately led to the dominance of a small number of large financial institutions. The 'public' giro and savings segment was absorbed by the commercial banking sector through the creation of Postbank in 1986 and its subsequent privatization, while numerous local savings banks were merged into umbrella organizations (chief among them SNS, formed in 1987). As a result, Dutch households became almost entirely dependent on a small number of big, private institutions for all their savings, payments and borrowing needs.

3.4.1 Money and Payments

In the decades leading up to the 2008 financial crisis, the proportion of deposit money in the money supply (M1) rose from 70% in 1975 to 83% at the outbreak of the crisis (see Fig. 3.5).[75] Paying with bank deposits became the norm for a wide range of transactions. In addition to salary and rent or mortgage payments, the introduction of electronic bank payment cards and the PIN system meant that shopping and other retail payments also became electronic. Technological innovations played a key role, for example in the rollout of in-store payment facilities. Automation also cut the costs of giro payments.[76]

Almost everyone gained access to one or more bank accounts. In 1984 there were five million PCGD accounts and six million giro accounts at private banks.[77] By 2002 Dutch consumers collectively held over 20 million accounts (many more than the number of inhabitants), while businesses and government institutions collectively held two million accounts.[78] People of course still used cash for many transactions (from 2002 in euros instead of guilders), but cash payments were gradually dwarfed by giro payments.

The privatization of Postbank – itself the result of the merger of Rijkspostspaarbank and PCGD – after 1986 was a crucial development. Postbank merged with NMB to form NMB-Postbank, which in turn merged with Nationale

[74] Blyth (2002)

[75] The share of deposit money peaked around the time of the introduction of the euro. People held less cash so they would not have to change it into euros.

[76] Lelieveldt (2017)

[77] Peekel and Veluwenkamp (1984: 3)

[78] DNB (2002)

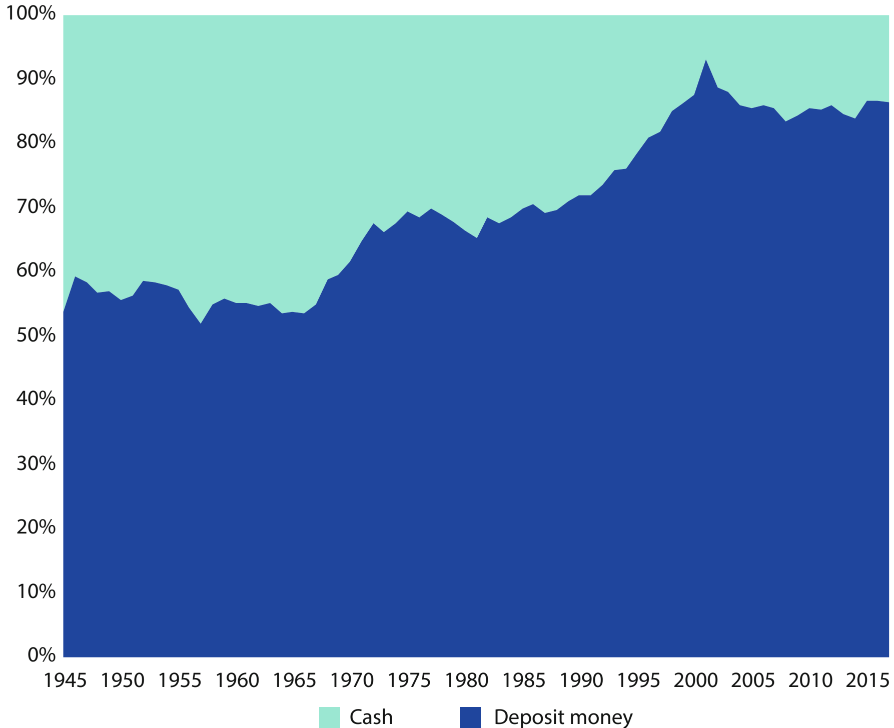

Fig. 3.5 The share of deposit money and cash over time
M1 in the Netherlands (1945–2015)
Source: Statistics Netherlands, Statline; DNB (direct data supply) (Data since 2002 are less reliable as the amount of cash in any euro area country can no longer be observed. In the euro area cash is allocated to different countries by means of a fixed allocation key)

Nederlanden to form the ING Group in 1991. This ended the 'public' part of the payment and giro system; cash was now the only form of 'public money'.[79] The privatization of Postbank took place amid broader consolidation in the Dutch banking sector. Since then, most customer deposits have been with four large universal banks (ING, ABN-AMRO, Rabobank and SNS), which in 2013 had a joint market share of around 89% of bank deposits.[80]

3.4.2 *Financing*

Since the 1980s, many countries have transitioned towards a knowledge-based economy, entailing further expansion of the service sector and greater internationalization and liberalization. Financing requirements changed as service sectors rely

[79]DNB (2002); Uittenbogaard (2017)
[80]DNB (2015: 19)

less on physical capital and more on its intangible counterparts (knowledge and skills). Deindustrialization reduced the need for long-term finance,[81] while economic globalization increased the need for advice and assistance in international expansion – for example when companies wished to grow internationally through mergers and acquisitions.

Banks also sought to internationalize their activities and portfolios, supported by technological developments and changing government policies (see below). International capital transactions grew exponentially as banks expanded their foreign activities. Here the Dutch banking sector followed European trends. Internationalization was achieved partly through mergers and acquisitions, but also involved the purchase of foreign financial products or direct lending to foreign borrowers. At the time of the credit crisis, foreign assets made up around 50% of the total assets of the Dutch banking system, with ING and ABN AMRO leading the way.[82]

Banking also became more closely interwoven with financial markets. Large banks increasingly focused on capital market transactions,[83] for example by offering investment products and assisting companies with stock market flotations.[84] Another important development was the emergence of 'securitization', where banks sold large volumes of loans to special purpose vehicles ('shadow banks' – see Box 4.2). Shadow banks financed these loans by selling securities to other financial participants such as pension funds and insurers. As a result, these parties became more exposed to risks that were previously confined to the banking sector. Banks also grew more dependent on short-term funding, relying on repo markets in which financial participants offer short-term finance against collateral. These developments made banks increasingly susceptible to the short-term dynamics of financial markets.[85]

At the same time, societal developments affected the operation of the financial sector. With growing prosperity and wealth, financial products and services such as facilities for savings, loans and insurance became mass products, no longer the preserve of the most prosperous households. Women's growing participation in the labour market and rising female incomes pushed up the price of housing, while welfare reforms privileged financial self-reliance and the individual contracting of services (savings and insurance) that had previously been organized collectively.[86]

These developments had a major impact on (and were themselves influenced by) the Dutch banking sector. Banks began to focus more on consumer lending, in particular mortgages. In banks' loan books, the proportion of 'loans to households' increased from 43% in 1990 to 57% today. This entailed an enormous rise in

[81] OECD (2000)

[82] WRR (2016: 109–110)

[83] The capital market relates to the supply and demand for longer-term financial resources. The money market relates to the supply and demand for short-term financial resources.

[84] WRR (2016: Chap. 4)

[85] WRR (2016: 96–100)

[86] Schelkle (2012)

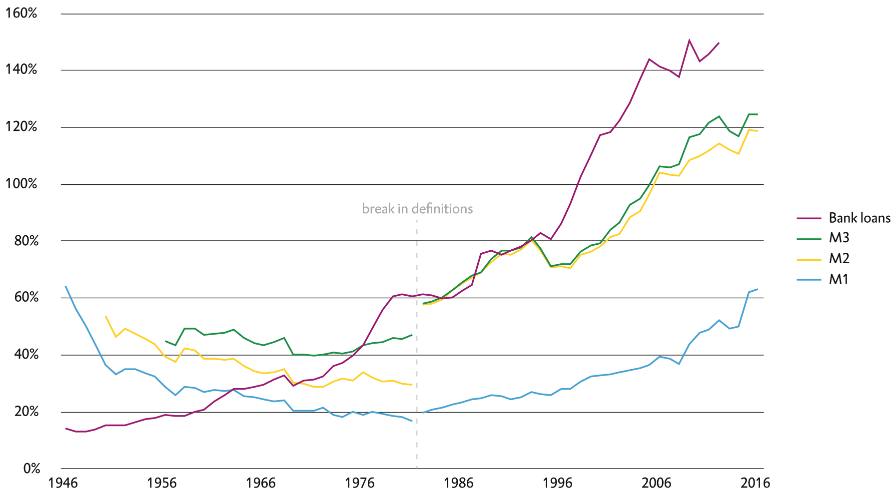

Fig. 3.6 Credit (bank loans) and money in circulation
The Netherlands, percentage of GDP
Source: DNB data (money supply) and Taylor and Schularick (bank loans)

household debt, from 27% of GDP in 1982 to 106% of GDP in 2011.[87] Increased lending and rising house prices reinforced one another, with increased borrowing pushing up property prices which in turn contributed to increased borrowing, and so on.

These developments were facilitated by changes in government policy, consolidation in the banking sector and the growing importance of deposit money. Lending by commercial banks was previously constrained by the leakage of reserves to the public part of the monetary system (cash and deposits at public banks). The increasing popularity of deposit money and the integration of the old PCGD and Rijkspostspaarbank into the commercial banking system effectively removed this constraint. The similarity between large banks further implied that they could be increasingly confident that the inflow and outflow of deposits would match (Fig. 3.6).

3.4.3 *Policy and Regulation*

Government policies facilitated these developments. Governments promoted freedom of movement for financial firms and capital flows, believing this would foster economic growth through more efficient services and financial innovation. As in other Western European countries, Dutch policymakers dismantled a wide range of

[87]WRR (2016: 122)

post-war rules governing the price, growth and allocation of credit.[88] By the late 1980s, practically all restrictions had been lifted, paving the way for the lending boom. Ballooning household debt was also facilitated by socioeconomic policies. Housing market policies in many countries encouraged home ownership; examples in the Netherlands included the National Mortgage Guarantee scheme and (to a lesser extent) the Encouragement of Home Ownership Act. The tax system's preferential treatment of debt finance – such as home mortgage interest deduction – also contributed to the growth of Dutch mortgage debt.[89]

Financial globalization was boosted by the elimination of restrictions on international capital flows. In Europe, the Netherlands, the UK and Germany were the first to lift all restrictions, with all other EU countries following suit in the 1990s. Policy initiatives at the European level also gave impetus to the internal market for financial services. The passporting system gave financial institutions the freedom, once established in one EU member state, to set up branches in all EU countries while being supervised in their home country. Governments harmonized legislation to create a level playing field for financial firms, for example with the 1999 Financial Services Action Plan. The introduction of Economic and Monetary Union further reinforced the Europeanization of financial markets.[90]

Western governments also dismantled their structural policies for the banking sector. The post-war principle that a segmented sector contributes to financial stability was discarded and replaced by a belief that institutions with diversified business models would not only operate more efficiently but would also be better able to spread their risks. Dutch structural policy ended around 1990 with the approval of a series of mergers. ABN and AMRO merged to form ABN-AMRO in 1991; the merger of VSB, AMEV and the Belgian insurer AG Group led to the creation of Fortis in 1990; while Postbank, NMB and Nationale Nederlanden merged to form the ING Group. Partitions and dividing lines between different parts of the financial system – including between insurance and banking – were practically a thing of the past.

While policymakers encouraged financial institutions' freedom of movement, they were aware of the risks. To ensure financial firms' stability, policymakers turned to capital requirements: rules that obliged banks to hold sufficient equity to absorb unforeseen losses. To facilitate integration, European countries harmonized their capital adequacy rules, basing them on the capital requirements advanced by the Basel Committee (established by central banks from ten OECD countries in 1974). The Basel I Accord (1988) was transposed into European rules, and subsequently implemented in European member states.

The Netherlands' formal framework for capital requirements dates back to 1957. As these requirements were eased between 1970 and 1985, Basel I resulted in no

[88]Barendregt and Visser (1997)

[89]Tijdelijke Commissie Huizenprijzen (2013)

[90]OECD (1997); Abdelal (2007); Lane (2013)

substantial changes.[91] Banks were now required to hold capital (equity) equivalent to at least 8% of their risk-weighted assets. Larger changes came with Basel II (2004), which gave banks more freedom to use their own advanced risk management systems to estimate the equity they needed. Supervisors sought to reconcile public and private interests, believing banks, in exchange for more freedoms, would better manage their risks.[92] Compared to post-war structural and credit policies, capital requirements were a much more indirect form of public control, with policymakers viewing them as a market-friendly way of regulating banks.[93]

Much also changed in the domain of (international) monetary policy. The demise of the Bretton Woods fixed exchange rate system in 1971 marked the abandoning of precious metal as the anchor of monetary policy. Whether countries should continue to pursue fixed exchange rates now became a key issue. Many economists called for their abandonment, or at least for regulated flexibility. But within the European Economic Community (subsequently the EU), flexibility was seen as undesirable; the common market, it was thought, would operate best when economic participants had certainty about exchange rates.

Following the demise of the Bretton Woods system, European countries sought to link their currencies as far as possible. From 1973 the Netherlands focused on Germany, not only because of the importance of trade with that country, but also due to its reputation for low and stable inflation.[94] From 1977 onwards there was a *de facto* Deutschmark zone comprising the Netherlands, Denmark, Luxembourg and Belgium – all taking their cues from decisions by the Bundesbank. Although European countries agreed to set margins within which their currencies could fluctuate, this proved difficult to maintain in practice, as seen in the many devaluations. As countries had deregulated cross-border capital flows, they were now susceptible to speculative attacks.

In 1990 France and Germany agreed that France would accept German reunification in exchange for monetary union. This was not the sequence the Netherlands had in mind, as it saw economic integration and convergence as a prerequisite for monetary union. The formal decision to establish a single European currency was taken in 1991 and was enshrined in the Maastricht Treaty in 1992. Economic and Monetary Union was completed in 2002 with the introduction of euro notes and coins.

In addition to fixed exchange rates, European central banks also increasingly focused on guaranteeing price stability – generally defined as inflation of around 2%. Many people saw the high and volatile inflation of the 1970s as proof of the need to overhaul monetary policy. Previously accepted (explicit or implicit) targets – for employment, economic growth and financial stability – were now relegated to the background of monetary policy. Inflation was measured mainly by growth in

[91]Van Eekelen (1987)

[92]Tarullo (2008)

[93]Hellwig (2010)

[94]De Greef et al. (1997)

consumer prices; movements in the price of financial assets such as houses and shares were generally ignored.

With the liberalization of financial markets, central banks saw little point in pursuing mechanisms of direct control and switched to indirect instruments: setting interest rates on short-term loans to banks, coupled with a 'communications strategy' to make their policies predictable for financial market participants. There was also a new consensus that both the development and implementation of monetary policy should be as far removed from politics as possible – reflected in the design of the European Central Bank. Politicians were deemed too fickle and opportunistic to conduct predictable monetary policy and to keep inflation in check.[95]

3.4.4 *Summary: Money Creation in the Pre-crisis Period*

The period before the credit crisis witnessed fundamental changes to the financial monetary system. In the Netherlands deposit money became the norm; virtually everyone had bank and savings accounts while cash payments declined. Banks became an indispensable part of the payment system, while the public institutions PCGD and Rijkspostspaarbank became part of the 'commercial banking system' through privatizations. Whereas before the 1970s two relatively separate worlds had coexisted – the commercial banks served businesses while PCGD, Rijkspostspaarbank and other savings banks served households – these activities became interwoven. There were now few partitions within banking, further witnessed in the emergence of conglomerates of banks and insurance companies.

In the area of financing, numerous constraints on lending were dismantled; policymakers eliminated practically all capital controls, credit ceilings, allocation rules and interest rate limits. The constraints that replaced them – broadly speaking, capital requirements – only functioned as indirect limits on credit creation (see Chap. 2). Bank lending – in the Netherlands particularly mortgage lending – took off. Banks also became more active internationally and began focusing on the capital market. As mergers and acquisitions led to ever larger institutions, a small group of very large banks came to dominate the financial monetary system.

Changes in international monetary policy had consequences for money creation and credit growth. As stated above, central banks abandoned direct control mechanisms and increasingly relied on the 'interest rate instrument' (their ability to vary interest rates charged on loans to banks). Since the main focus was on movements in the price of goods and services, central banks paid less attention to credit growth linked to the financing of financial assets and real estate. Given this paradigm, it is no surprise that the growth of intrafinancial and mortgage lending in the decade prior to the crisis remained largely outside the purview of central banks. How far they had underestimated the importance of these developments only became clear during the crisis.

[95] Forsyth and Notermans (1997); Hilbers (1998); Blyth (2002); Goodhart (2010); OECD (2011)

3.5 Conclusion

The financial monetary system has seen fundamental changes over the past two centuries. From a system dominated by coins (for households) and trade bills and DNB banknotes (for businesses) in the nineteenth century, we have moved to a system in which bank deposit money is by far the most important means of payment. The link between currency and precious metal (gold or silver) remained important for the operation of the system until well into the twentieth century, but no longer plays a role today. Instead, the crucial factors are credit supply and demand, the operation of the banking system and government policy.

Our current system did not develop from any explicit blueprint. The changes mostly came about gradually (in some cases rapidly) with no overall coordination. Numerous factors – international developments, social and economic changes, technological advances and policy developments – all had major impacts. Policymakers and central banks, for example, mostly saw the rise of deposit money as a positive development for efficiency and only gradually discovered that it enabled banks to significantly increase their lending. In short, the current design of our financial monetary system was not planned, let alone set in stone.

One common thread through monetary history is the perennial dilemma between the need to maintain currency stability and the need for monetary flexibility. Flexibility is essential to ensure economic growth and to allow authorities to intervene during crises. The tension between stability and flexibility was acutely felt during periods when money was tied to precious metal. On the one hand, people saw this link as essential to achieve certainty in an inherently uncertain world. On the other hand, the strict link created problems for financing economic activity and for combatting crises. Conversely, excessive flexibility in the monetary system can undermine stability. The flexibility of lending in the 1990s and 2000s ultimately led to the 2007–2009 financial crisis, thereby undermining both financial stability and economic growth. The subsequent debt hangover and economic malaise then threatened price stability – risking deflation rather than inflation.

As a small trading country, the Netherlands is vulnerable to the international environment. Although the country has some scope to chart its own course, the effects of its choices are largely determined by developments beyond the control of its policymakers. Over the decades the Netherlands has had to manage its scope for independent action as strategically as possible – and has not always done so successfully. In the 1930s the Dutch authorities retained the gold standard for too long when major countries were abandoning it, while evidence was mounting that the Netherlands was harming its economic interests. Conversely, the Netherlands has at times been too quick to uncritically follow international trends, for example when policymakers in the 1980s abandoned almost all limits on credit growth, concentration in the banking sector and capital flows. In sum, striking the right balance between a flexible response to international developments and charting a national course remains a constant challenge.

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