

**PART I**

**WHAT IS MONEY?**

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# 1

## Money's Puzzles

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The modern world without money is unimaginable. Most probably originating with literacy and numeracy, it is one of our most vital 'social technologies' (Ingham, 2004). Obviously, money is essential for the vast number of increasingly global economic transactions that take place; but it is much more than the economists' medium of exchange. Money is the link between the present and possible futures. A confident expectation that next week's money will be the same as today's allows us to map and secure society's myriad social, economic, and political linkages, including our individual positions, plotted by income, taxes, debts, insurance, pensions, and so on. Without money to record, facilitate, and plan, it would be impossible to create and maintain large-scale societies. In Felix Martin's apt analogy, money is the modern world's 'operating system' (Martin, 2013).

However, despite money's pivotal role in modern life, it is notoriously puzzling and the subject of unresolved – often rancorous – intellectual and political disputes that can be traced at least as far back as Aristotle and Plato in Classical Greece and the third century BCE in China (von Glahn, 1996). Many of the innumerable tracts and treatises on money begin with lists of quotations to illustrate people's bewilderment (see the fine selection in Kevin Jackson's *The Oxford Book of Money* [Jackson, 1995]). With characteristic whimsy, the great economist John Maynard Keynes (who knew a great

deal about money) said that he was aware of only three people who understood it: one of his students; a professor at a foreign university; and a junior clerk at the Bank of England. The banker Baron Rothschild had made a similar observation a century earlier (quoted in Ingham, 2005, xi), adding that all three disagreed!

We shall see that one of the most puzzling and counterintuitive conceptions of money lies at the core of mainstream economics. We experience money as a powerful force; it ‘makes the world go around’ – and sometimes almost ‘stop’. Governments stand in awe of monetary instability, constantly monitoring rates of inflation and foreign exchange, and levels of state and personal debt. Central banks strive to assure us that they can deliver ‘sound money’ and stability; but – like their predecessors – they are constantly thwarted. Paradoxically, however, from the standpoint of mainstream economic *theory*, money is not very important. In mathematical models of the economy, money is a ‘neutral’, or passive, element – a ‘constant’ not a ‘variable’. Money is not an active force; it does no more than facilitate the process of production and exchange. Here, the sources of economic value are the ‘real’ factors of production: raw material, energy, labour, and especially technology; money does no more than measure these values and enable their exchange. This conception, which can be traced to Aristotle, had become the established orthodoxy by the eighteenth century. David Hume could confidently declare in his tract ‘Of Money’ (1752) that ‘it is none of the wheels of trade. It is the oil which renders the motion of the wheels more smooth and easy’ (quoted in Jackson, 1995, 3). A little later, in *The Wealth of Nations* (1776), Adam Smith consolidated the place of ‘neutral money’ in what became known as ‘classical economics’.

Joseph Schumpeter’s mid-twentieth-century identification of the differences between ‘real’ and ‘monetary’ analysis and his summary of the latter’s assumptions has never been bettered:

Real analysis proceeds from the principle that all essential phenomena of economic life are capable of being described in terms of goods and services, of decisions about them, and of relations between them. Money enters into the picture only in the modest role of a

technical device . . . in order to facilitate transactions. . . . [S]o long as it functions normally, it does not affect the economic process, which behaves in the same way as it would in a barter economy: this is essentially what the concept of Neutral Money implies. Thus, money has been called a ‘garb’ or ‘veil’ over the things that really matter. . . . Not only *can* it be discarded whenever we are analyzing the fundamental features of the economic process but it *must* be discarded just as a veil must be drawn aside if we are to see the face behind it. Accordingly, money prices must give way to the ratios between the commodities that are the really important thing ‘behind’ money prices. (Schumpeter 1994 [1954], 277, original emphasis)

This view remains at the core of modern mainstream macroeconomics, which argues that money does not influence ‘real’ factors in the long run: that is, productive forces – especially advances in *material* technology – are ultimately the source of economic value. Therefore, ‘[f]or many purposes . . . monetary neutrality is approximately correct’ (Mankiw and Taylor, 2008, 126, which is a representative text). However, there is an alternative view: ‘monetary analysis’ follows a view of money which prevailed in the practical world of business before the classical economists’ theoretical intervention (Hodgson, 2015). Here money is money-*capital* – a dynamic independent economic force. Money is not merely Hume’s ‘oil’ for economic ‘wheels’; it is, rather, the ‘social technology’ without which the ‘classical’ economists’ *physical* capital cannot be set in motion and developed. This distinction, between ‘real’ analysis and ‘monetary’ analysis, is known as the ‘Classical Dichotomy’.

Money itself cannot create value; but in capitalism the wheels are not set in motion and production is not consumed without the necessary prior creation of money for investment, production, and consumption (see Smithin, 1918). In the ‘classical’ view, the ‘real’ economy is in fact an ‘unreal’ model of a pure *exchange*, or *market*, economy in which money is the medium for the exchange of commodities: that is, Commodity–Money–Commodity (C–M–C). Here, money enables individuals to gain *utility*: that is, satisfaction from the commodity. In ‘real-world’ capitalism, money is the goal of production – the realization of *money-profit* from the employment of money-capital and wage-labour: that is,

Money (capital)–Commodity–Money (profit) (M–C–M). As Marx and Keynes stressed, depressions and unemployment are not caused by the failure of ‘real’ productive forces. These can lie idle for want of money for investment and consumption not only in the immediate short term but also in the long run. And as Keynes scathingly remarked, the ‘*long run* is a misleading guide to current affairs. *In the long run* we are all dead. Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again’ (Keynes, 1971 [1923], 65, original emphasis).

For economic orthodoxy, the proponents of monetary analysis were ‘cranks’ who were banished to an academic and intellectual ‘underground’ (Keynes, 1973 [1936], 3, 32, 355; Goodhart, 2009). But, for Keynes, they were ‘brave heretics’ whose analysis was revived and greatly elaborated in his *The General Theory of Employment, Interest and Money* (1936). A late nineteenth-century American ‘crank’, Alexander Del Mar – unknown to Keynes – has only recently come to light (Zarlenga, 2002). He anticipated Keynes’s general position on monetary theory and policy:

Money is a Measure . . . the Unit of money is All Money within a given legal jurisdiction. . . . The wheels of Industry are at this moment clogged, and what clogs them is that materialistic conception which mistakes a piece of metal for the measure of an ideal relation, a measure that resides not at all in the metal, but in the numerical relation of the piece to the set of pieces to which it is legally related, whether of metal, or paper, or both combined. (Del Mar, 1901, 8)

Keynes sought theoretically to convince his ‘classical’ orthodox mentors and colleagues that government expenditure, financed by money created in advance of tax revenue, could solve chronic unemployment in the 1930s. Money created by government spending would increase production and employment, which, in turn, would increase ‘effective aggregate demand’: that is, real ‘purchasing power’. As opposed to the subjective ‘wants’ and ‘preferences’ of orthodox economic theory, demand created by expenditure was both ‘effective’ and ‘aggregate’, inaugurating a positive cycle of growth and tax revenue to fund the original deficit. For a while during and after the Second World War, Keynesian

versions of ‘monetary analysis’ gained acceptance in theory and policy. However, as we shall see, the 1970s crises were held to have discredited Keynesian economics, leading to a revival of the old orthodoxy of ‘neutral’ money and the ‘real’ economy.

The two kinds of economic analysis and their respective theories of money lie behind arguably this most contested question in the governance of capitalism. On the one hand, mainstream economics believes that the supply of money may have a *short-run* positive effect, but cannot and therefore should not exceed the economy’s productive capacity in the *long run*. Only ‘real’ forces of production – technology, labour – create new value, and their input cannot be increased simply by injections of money. Consequently, if monetary expansion runs ahead of these ‘real’ forces, inflation inevitably follows. On the other hand, the broadly Keynesian and heterodox tradition continues to argue that money is the vital productive resource – a ‘social technology’ – that can be used to create non-inflationary economic growth and employment.

However, it is of the utmost importance that the theoretical dispute is not seen exclusively as an ‘academic’ question; theories of money are also ideological. Our understanding of money’s nature – what it is and how it is produced – is intimately bound up with conflict over who should control its creation and, by implication, how it is used. Insisting that money is nothing more than a ‘neutral’ element in the economy implies that it can be safely removed from politics. If money were merely a passive instrument for measuring pre-existing values of commodities and enabling their exchange, then disputes over its use would be misguided. All we need to do is ensure that there is enough money for it to fulfil its functions and ensure the smooth operation of the economic system – which is precisely how the money question is most frequently posed. The retired Governor of the Bank of England, Mervyn King, wrote in his recent memoirs that “[in essence] . . . the role of a central bank is extremely simple: to ensure that the right amount of money is created in both good and bad times” (King, 2017, xxi). The quantity of money should be calibrated to enable the consumption of what has been produced. Too little money will depress

activity as goods cannot be bought; and too much money will do no more than inflate prices.

Here we encounter another of money's many puzzles. From a *theoretical* standpoint, it might be a simple matter to supply the right amount of money, but *in practice* it is not. We shall see that the experiment with 'monetarist' policy to control the money supply in the 1980s was beset by two related problems (see chapter 4). Confronted by the complexity of different forms of money in modern capitalism, the monetary authorities were unsure about what should count as money and how it should be counted. Notes and coins – cash – were an insignificant component of the money supply. But which of the other forms of money – bank accounts, deposits – and forms of credit – credit cards and private IOUs used in financial networks – should be included? Furthermore, many of the non-cash forms were beyond the control of the monetary authorities (see chapter 6).

Despite monetary authorities' many obvious practical and technical problems in conducting 'monetary policy' – essentially, attempting to control inflation – the *long-run neutrality* of money remains a core assumption of most mainstream economics. To believe otherwise – that money can be used as an independent creative force – is to suffer from the 'money illusion'. As we shall see, the 'illusion' is to think that money has powers beyond its function as a simple instrument that only measures existing value and enables economic exchange. However, the centuries-old persistence and intensity of the unresolved disputes tells us that money is not merely this technical device to be managed by economic experts. Rather, it is also a source of social power to get things done ('infrastructural power') and to control people ('despotic power') (Ingham, 2004, 4). The 'money question' lies at the centre of all political struggles about the kind of society we want and how it might be achieved.

In the late nineteenth and early twentieth centuries, the longstanding intellectual, ideological, and political debates on money became embroiled in an acrimonious academic dispute about the most appropriate methods for the study of society, which ultimately led to the formation of the distinct disciplines of economics and sociology (Ingham, 2004). In 1878, exasperated by the endless wrangling, American

economist Francis Amasa Walker decided on a deceptively simple solution (see Schumpeter, 1994 [1954], 1086): 'money is what money does', which he described in terms of four functions:

- 1 *money of account/measure of value*: a numerical measure of value and for economic calculation; pricing offers of goods and debt contracts; recording income and wealth;
- 2 *a means of payment*: for settling all debts that are denominated in the same money of account;
- 3 *a medium of exchange*: something that can be exchanged for all other commodities;
- 4 *a store of value*: a repository of purchasing and debt settling power, enabling deferment of consumption and investment or simply saving 'for a rainy day'.

This list is still found almost without exception in today's textbooks. Its longevity gives the impression that the money question has been settled, but this is far from the case. Although it is obvious that money does these things, matters are not quite as simple as Walker had hoped. His solution masked the difficulties and confusions that had caused his and many others' exasperation. Schumpeter correctly saw that the main reason for the unresolved disagreements was that the *commodity* and *claim (credit)* theories of money, including their respective 'real' and 'monetary' analyses, were by their very nature 'incompatible' (Schumpeter, 1917, 649). We should add that he also saw that the two theories were often inconsistent and contradictory, obscuring their differences and making 'views on money as difficult to describe as shifting clouds' (Schumpeter, 1994 [1954], 289). These theories are examined in the following chapter; here we need only note the basic differences.

In the simplest terms, the main points of contention reflect two longstanding general intellectual positions: *materialism* and *naturalism* versus *nominalism* and *social constructionism*. On the one hand, did money, as a *medium of exchange*, originate in barter as the intrinsically valuable *material commodity* that could be exchanged for all others? For example, during the debate on the reform of the monetary system in the late nineteenth century, the US Monetary Commission in

1877 concluded that value ‘inheres in the quality of the material thing, and not in mental estimation’ (quoted in Carruthers and Babb, 1996, 550). The Commission favoured following the British ‘gold standard’, in which currency comprised the issue of gold coins, such as the £1 sovereign, and the promise that all paper notes with a face value of £1 were ‘convertible’: that is, exchangeable in an officially declared weight of gold. (Present-day British paper currency carries the anachronistic pledge ‘I promise to pay the bearer on demand the sum of [x] pounds’: that is, the sum in gold at a rate declared by the Bank of England; see chapter 4.) By the end of the nineteenth century, an increasing number of countries adopted the gold standard, which linked their currency’s exchange rates to the common standard and facilitated participation in the international trading system based in London.

On the other hand, a minority rejected the view of the US Commission and held that money was precisely a ‘mental estimation’: that is, a *socially and politically* constructed *abstract value* (Del Mar, 1901). Soon after, in a critique of the dominant materialist conception of commodity money at the zenith of the gold standard era, Alfred Mitchell Innes concurred, declaring that “[t]he eye has never seen, nor the hand touched a dollar. All that we can touch or see is a promise to pay or satisfy a debt due for an amount called a dollar [which is] intangible, immaterial, abstract” (Mitchell Innes, 1914, 358). The dollar debt was settled by a *token credit*: that is, a *means of payment* which constituted a *claim* on goods offered for sale in a dollar monetary system. *The existence of a debt gives money its value*. As Georg Simmel explained, around the same time, in his sociological classic *The Philosophy of Money*, ‘[M]oney is only a claim upon society . . . the owner of money possesses such a claim and by transferring it to whoever performs the service, he directs him to an anonymous producer who, on the basis of his membership of the community, offers the required service in exchange for the money’ (Simmel, 1978 [1907], 177–8).

Furthermore, ‘claim’ (or ‘credit’) theory and ‘commodity-exchange’ offered diametrically opposed analyses of banking. ‘Commodity-exchange’ theorists saw bankers as intermediaries collecting small pools of money from savers and lending it from the accumulated reservoirs to borrowers. Nothing was

added to the supply of money; banks enabled it to be used more efficiently (see Schumpeter, 1994 [1954], 1110–17). However, it was obvious that something more mysterious was at work in banking. How could savers and borrowers still have use of the same fixed and finite quantity of money? As we will see in chapters 3 and 4, claim (or credit) theory was more closely associated with the view that ‘the banker is not so much primarily a middleman in the commodity “purchasing power” as a *producer* of this commodity’ (Schumpeter, 1934, 74, emphasis added). We shall see in chapter 4 that capitalist banking originated in early modern Europe and other commercially developed regions from use of ‘bills of exchange’ and other acknowledgements of debt (IOUs) issued by merchants as means of payment within their trading networks. Gradually, these evolved into interdependent banking *giros*: that is, networks in which the banks borrowed from each other and extended loans to clients – especially to the emerging states. Unlike money-lending, where loans depleted the stock of coined money, the bankers’ loans comprised newly *created* credit money based on trust and confidence in their business. A *deposit* would be created in the borrower’s account by a stroke of the banker’s pen from which the borrower could draw banknotes (IOUs) in payment to third parties. Their acceptance was based on the issuing bank’s promise to accept them in payment of any debt owed. In their double-entry bookkeeping, the loan (deposit in the borrower’s account) was the bank’s *asset* (debt owed by the borrower) balanced by the borrower’s *liability* (debt owed to the bank). Banks also borrowed from each other in the *giro* to balance their books. In this way, money could be produced by the *expansion of debt and the promise of repayment* as represented in double-entry bookkeeping, which, in turn, represents the *social relation of credit and debt*. In modern economics, this is referred to as ‘endogenous’ money creation as opposed to the ‘exogenous’ production of currency outside the market by governments and central banks.

Walker merely sidestepped the ‘incompatibility’ by smuggling the two antithetical conceptions of money into the list as different ‘functions’ of the *same* thing: money. After a century in textbooks, it is now widely assumed – if even given a second thought – that the differences between *medium of*

*exchange* and *means of payment* and *money* and *credit* are semantic. Are they not different terms for the same thing? Surely, common sense dictates that handing over a coin for goods is simultaneously *exchange* and *payment*. This imagery of physical – minted or printed – money persists in the era of ‘virtual’ money transmitted through cyberspace. We shall see that digital money causes much common sense and academic confusion. Bitcoins, for example, are represented by the image of precisely what they are not: a material ‘coin’. What will be the consequences if digital money replaces cash? If money is a medium of exchange, what is ‘exchanged’ when a card is ‘swiped’ across a terminal as a means of payment? Doesn’t this rather involve the use of a token ‘credit’, carried or transmitted by the card – which is retained – to cancel a debt incurred briefly by the purchaser?

Finally, defining money by its functions raises further questions: does something have to perform *all* the functions to be money? In other words, is ‘moneyness’ constituted by all the functions? For example, there are better stores of value than money. If not all the functions are necessary to confer ‘moneyness’, do any take primacy? In commodity theory, money is essentially a *medium of exchange* on which all other functions depend. We shall see in the following chapter that two of the functions in Walker’s list – *medium of exchange* and *means of payment* – are integral parts of two radically different theories of money. On the one hand, intrinsically valuable material commodities can become widely used *media of exchange* in bilateral trades: that is, bartered. On the other hand, *means of payment* refers to a token of credit that can settle a debt incurred by the purchase of something because the value of both credit and debt is denominated in the same *money of account*. The numismatist Philip Grierson illustrates the difference between *medium of exchange* and *means of payment*, which he takes to be ‘money’, with the example of fur trappers in eighteenth-century Virginia who carried twists of tobacco to be exchanged for food and lodging on their journeys. The ratio of tobacco and food and lodging varied considerably in different exchanges and the tobacco only became ‘money’ when its value was denominated in a *money of account*: that is, at 5 shillings an ounce (Grierson, 1977).

We shall see in the following chapter that the two theories – ‘commodity-exchange’ and ‘credit theory’ – contain irreconcilable explanations of how the denomination of nominal face value of money – *money of account/measure of value* – originates. In this regard, Keynes was intrigued by the fact that circa 4000 BCE, Babylon did not have a circulating currency of material ‘things’, but used a nominal *money of account* to measure the value of stocks of commodities and to denominate contracts and wages. The first known circulation of *material* forms of coined *commodity* money came some 3,000 years later in Lydia around 700 BCE. One of the questions to be explored in the following chapters is whether ‘moneyness’ – that is, the specific and distinctive quality of money – is conferred *nominally* by its designation in the money of account or *materially* by the precious metals’ ‘intrinsic’ value or the pre-existing value of commodities in the ‘real’ economy. The era of precious metal money has gone; none the less, we shall see that the opposition between ‘nominalist’ and ‘materialist’ theories continues to lie behind academic disputes on the nature of money.

A preoccupation with narrow economic functions diverts attention from a range of important questions for which the two theories also provide further ‘incompatible’ answers. First, how can money perform its functions? Orthodox economics infers that the rational individual uses money for the self-evident advantages of the functions in Walker’s list. However, these functions are only fulfilled if *everyone else* simultaneously sees the advantage, but this cannot be explained in terms of individual rationality. It may be rational to hold the things that fulfil the functions if they are *intrinsically valuable commodities* but not *token* credits. As we shall see, money’s functions require a different explanation.

Second, money is not only a ‘social technology’; it is also a source of power – ‘infrastructural’ and ‘despotic’ power. Obviously, the *accumulation* of money confers power; but the power to *create* money is of more fundamental importance. Money-creating power is an essential element of state sovereignty; yet we shall see that in modern capitalism this power is shared with the banking system. Here, the dual nature of money’s power as an ‘infrastructural’ public resource and a means of ‘despotic’ domination becomes apparent. We have

noted that modern money can be produced by the creation of debt, which necessarily entails an inequality of power between creditors and debtors (Graeber, 2011; Hager 2016). A central theme of the book will follow the lead given by the great sociologist Max Weber, who interpreted modern capitalism as ‘the struggle for economic existence’, in which money is a ‘weapon’ wielded by conflicting interests to achieve their aims and strengthen their position as much as it is a public good for pursuing our collective welfare (Weber, 1978, 93).

Today, we are encouraged to believe that the questions of who creates money and for what ends and in what quantities are technical matters to be decided by experts; but they are political questions. As we have noted, the control of money creation lies behind major political struggles in the representative democracies. Those in favour of monetary expansion to finance employment and consumption – the broad Keynesian camp – are opposed by those who place the avoidance of inflation as the main priority of monetary policy. Furthermore, there is no single definitive rational means of deciding between them. Whichever route is taken depends on which school of economic theory and conception of money is chosen, which, in turn, is related to different interests in society: for example, debtors versus creditors; possessors of accumulated money wealth (rentiers) versus those dependent on the employment of their intellectual and physical labour – ‘Wall Street’ versus ‘Main Street’, as the question was posed during the Great Financial Crisis in 2008. Most academic theories of money – especially those held in most orthodox and mainstream schools of economics – fail entirely to address the question of money and power: that is, to register that money is a question of *political economy*.

The following chapter explores these astonishingly persistent intellectual disputes and their impact on the conflict over who should create money and control how it is used. Chapter 3 draws the theoretical discussion together in a summary of a social theory of money which is used to frame a brief account of Weimar Germany’s severe hyperinflationary crisis, where money’s social and political foundations are ‘unveiled’ (Orléan, 2008). Chapter 4 continues the twin themes – theories of money and struggle for its control – in an account of the development from the sixteenth century

onwards in western Europe of the distinctive system of shared money creation in capitalism created ‘exogenously’ by states and ‘endogenously’ by private banks.

Chapters 5 and 6 examine how this dual monetary sovereignty and capitalism’s private contract law have resulted in complex and fragmented monetary systems comprising state-issued currency and bank credit money mediated by central banks; myriad ‘near’ moneys issued as IOUs by financial institutions; local community ‘complementary’ and ‘alternative’ currencies; and crypto-currencies such as Bitcoin. In chapter 7, we see that proposals for monetary reform raised by the Great Financial Crisis of 2008 remain informed by the unresolved intellectual disputes which mask and obfuscate the essentials of *the* money question: who should control its creation and how it is to be used. Some tentative observations are offered in the concluding chapter.



## 2

## The 'Incompatibles': Commodity and Credit Theories

As we noted in the previous chapter, the earliest known coined form of money was minted in Lydia (now western Turkey) around 700 BCE. This was minted from a naturally occurring alloy of silver and gold (electrum) and spread quickly to Classical Greece. Here we find the first accounts of the dispute about the nature of money in the observations of Plato (428–348 BCE) and Aristotle (384–322 BCE). (See Peacock, 2013, for the most accessible, comprehensive account of early coinage and money.) In a critique of coined money's social and political impact, Aristotle contended that the pursuit of money as a means of power was unethical. Barter, which he believed had previously been the routine way of making transactions, was based on a mutually agreed exchange of commodities; but money could now be accumulated and used as a means for disruptive and corrupt political domination. Money, Aristotle argued, *should* be no more than a 'neutral' instrument: that is, a commodity used as a medium of exchange for transactions that increase the welfare of those involved. Plato's later criticism of the wasteful unnecessary use of precious metal as coins strongly implies that he believed that the value of money was not 'intrinsic'. In this regard, he appears an early advocate of the nominalist and social constructionist tradition in which money is a matter of law and convention; it does what we agree it should do (Schumpeter, 1994 [1954], 56). However,

over the centuries, the Aristotelian version has had a greater – if indirect – influence via eighteenth- and nineteenth-century 'classical economics', in which the concepts of 'neutral' money, commodity money, and 'real' value were established.

### Commodity Theory and 'Metallism'

Adam Smith's *The Wealth of Nations* (1776) followed Aristotle's derivation of money's origins and functions from assumptions about the nature of society and human motivation. Smith explained that the advantages of the division of labour increased production but removed self-sufficiency. Henceforth, specialized producers could only satisfy their wants by the barter exchange of their respective produce. Eventually, it was found that they could maximize their exchange opportunities by holding stocks of the most tradable commodities as media of exchange – iron nails and dried cod in Smith's account. In other words, money as a *medium of exchange* is the *commodity* that 'buys' all other commodities.

Although Smith's sternest critic, Karl Marx, saw the importance of the new forms of capitalist bank-credit paper money, which we shall discuss shortly, he also focused on commodity money. Marx's 'labour theory of value' – in which the value of commodities is determined by the labour time necessary for their production – led him to present a version of the commodity theory of money. The value of the labour involved in mining and minting gold is embodied in the coin. Therefore, the commodity gold can become the instrument for the measurement and exchange of other values in relation to 'the quantity of any other commodity in which the same amount of labour time is congealed' (Marx, 1976 [1867], 186; for a comprehensive orthodox Marxist analysis of money, see Lapavistas, 2016). Nevertheless, Marx dismissed the 'classical economics' of Adam Smith and his early nineteenth-century followers for its inability to see that 'capital' was not simply the material means of production: technology and other physical resources. Rather, capital entailed a *social relation* between those who owned the material means of production – capitalist entrepreneurs – and those who operated them – the workers. However, Marx

failed to apply the same analysis to money and fully to grasp that *all* money is credit in the sense that its value is given by the existence of debts that it can cancel (Ingham, 2004; 63–6; Smithin, 2018).

For ‘classical economics’, money is a spontaneous unintended consequence of what Smith called rational individuals’ ‘propensity to truck, barter, and exchange’ in seeking to maximize self-interest. Their individual strategies culminate in the ‘wisdom’ of the market – the ‘invisible hand’ – which ‘chooses’ the most tradable commodity. Commodities are held in the first instance for their ‘intrinsic’ value and/or usefulness – Smith’s nails and cod, or gold. However, as trade in some commodities increases, their potential is recognized, setting in train a momentum that culminates in the transition from barter to money as the most exchangeable commodity. This ‘creation myth’ was firmly established by the Cambridge economist William Stanley Jevons in his *Money and the Mechanism of Exchange* (1875): money emerges spontaneously to avoid the ‘inconvenience’ of the ‘absence of a double coincidence of wants’ in barter. This was illustrated with the example of how the naturalist Alfred Russel Wallace went hungry on an expedition to the Malay Peninsula in the 1850s because, although food was abundantly available, his party did not have any commodities that were acceptable at the time for which it could be bartered.

The development of coinage was easily explained by commodity-exchange theory with the further conjecture that precious metal commodities have the additional advantages of portability, divisibility, and durability, which enable the minting of commodity money into convenient uniform pieces of equal weight and fineness. Consequently, this theory of money is also known as ‘metallism’. Endorsed by the leading constitutional scholar and philosopher John Locke during a dispute in the late seventeenth century, ‘metallism’ became the accepted basis for monetary practice and policy (see Martin, 2013, chap. 8). At that time, the price of silver on the European markets was greater than the London price offered by the mint for coinage. Consequently, silver was held as a non-monetary store of value and not taken to the mint for coinage. The London financier William Lowndes proposed a 20 per cent reduction of the silver content of English crowns

(5 shillings) to increase the nominal value of coins above the price of silver and so discourage the export of silver with a higher market price than its face value as coin. Locke dismissed the proposal for being based on a false theory of money. Silver, he argued in 1695, is the ‘instrument and measure of commerce by its quantity, which is the measure also of its intrinsic value’ (quoted in Martin, 2013, 126). He argued that measures of economic and physical phenomena should be constructed on the same principle: both values being measured were given in ‘nature’. For Lowndes to claim that a coin would retain its value despite losing 20 per cent of its silver was as mistaken as lengthening a foot by dividing it into fifteen parts instead of twelve and calling them both inches (Martin, 2013, 127).

‘Metallism’ became closely related to economics’ ‘quantity theory’ of money, in which price levels are determined by the exchange ratio of quantities of commodities: precious metal and goods. Using mathematics, the theory was formalized by Irving Fisher at the height of the gold standard era (Fisher 1911). In its simplest form, his equation holds that the price level (P) is a direct function of the quantity (M) and velocity (V) of circulation of money in relation to the number of transactions (T): that is,  $MV = PT$ . Although the equation is a logical identity in which each side equals the other, it was generally assumed that MV determines PT: that is, the quantity of money is the *causal* factor in price inflation. In chapter 4, we will see that ‘quantity theory’ lay behind the ‘monetarist’ attempts in the 1970s and 1980s to control inflation.

### The Essentials of ‘Classical’ Theory: ‘Neutral’ Money and ‘Real’ Value

By the late nineteenth century, commodity-exchange theory – money’s neutrality and the concept of the ‘real’ economy – was the accepted orthodoxy. As John Stuart Mill put it in his *Principles of Political Economy* (1871), money’s existence ‘does not interfere with the operation of any laws of value’ (quoted in Ingham, 2004, 19); it enables us to do more efficiently what had been done before without it. As we outlined in chapter 1, value in this theory derives from the utility or

functional contribution of factors of production, which is determined independently of the use of money. Money merely measures the value of the pre-existing 'real' values which exchange at ratios which express the relative contributions/utility of 'real' factors of production. 'Capital' was seen in terms of the contribution of machinery, land and buildings, and other physical assets to production. Modern mainstream economics has continued to view capital in essentially the same way as 'stocks' of factors that can be expected to generate profits over time. As we have noted, this conception of capital was at odds with business usage. From Italy from the thirteenth century to Britain in the eighteenth, the word 'capital' was used mostly to refer to money advanced by owners or shareholders to establish a business, as it is by and large today by those who deal with balance sheets (Hodgson, 2015).

The theory of the 'real' economy reached its most refined expression in the 1870s in French economist Léon Walras's mathematical model of the market economy as a series of simultaneous equations with which he demonstrated the ultimate theoretical equilibrium (see Orléan, 2014b). At this equilibrium point, the twin forces of supply and demand have produced prices at which all demand has been satisfied and all supply is exhausted. But to solve the equations, Walras had to arbitrarily assign a numerical value to one of the commodities – the *numeraire* – enabling price formation but making no contribution to the value of commodities. Elaborated by Kenneth Arrow and Gérard Debreu in 1954 as 'general equilibrium theory', it became the cornerstone of prestigious mathematical economic theory. None the less, one of the theory's most eminent practitioners found it puzzling and disconcerting that 'the best model of the economy [Arrow-Debreu] cannot find room for ... [money]' (Hahn, 1987, 1).

### Coming to Terms with Modern Capitalist Money

Throughout history, everyday transactions had been mainly conducted with base metal and highly debased silver coins

(Davies, 1996). Full-weight precious metal coins were used infrequently, and by the end of the nineteenth century, even in countries on the gold standard, they were only a very small part of the money supply, bearing little relationship to the vast increase in transactions. Paper banknotes circulated without being converted into the gold that they represented, and, as we shall see in chapter 4, capitalist enterprise was conducted with credit – 'promissory notes' and 'bills of exchange' (IOUs) – that could ultimately, but not necessarily, be redeemed in currency. In everyday life in politically stable countries, there was widespread, but objectively unwarranted, confidence that all these forms of money were backed by gold. But, of course, there simply wasn't enough to fulfil the promise to 'pay the bearer on demand' the sum of gold denominated on the banknote or to redeem the merchant's 'bill of exchange'.

As we have noted, these developments contradicted academic economics' fundamental explanatory tenet: rational maximization of self-interest by *homo economicus*. It was rational in the first instance to hold commodities that became media of exchange because they had 'intrinsic' value and/or 'utility': Smith's iron nails and dried cod served two purposes – *use-value* and *exchange-value*. But why, as the Austrian economist Carl Menger famously asked, should rational individuals be willing to exchange goods for 'little metal disks apparently useless as such, or for documents representing the latter' (Menger, 1892, 239). The question was an entirely unnecessary, self-inflicted consequence of the 'creation myth' of money's emergence from 'intrinsic' value or 'utility'. Striving to maintain the integrity of orthodoxy in the face of 'incompatible' credit theory's growing relevance in the era of non-commodity money, Menger simply reiterated the rational self-interest axiom. But it is a circular argument to say that individuals accept 'useless' discs and paper because they are advantageous media of exchange. As we noted in the previous chapter, it is advantageous for the rational individual only if all others do likewise, which cannot be explained by the same axiom. None the less, efforts were made to cling to the established academic orthodoxy, and Menger's restatement of it remains a canonical text for some schools of modern economics. We shall see, however, that money's introduction and acceptance require a different explanation.

One way to maintain the relevance of commodity/quantity theory was to insist on a sharp distinction between ‘money’ and ‘credit’, which was, in fact, increasingly blurred both in principle and in practice. As we shall see in chapter 4, ‘promissory notes’ and other forms of credit – that is, ‘claims’ to money – had circulated in late medieval commerce without being redeemed in precious metal currency. But by the nineteenth century, capitalism was based almost entirely on these means of payment. Joseph Schumpeter remarked that one could not ride a claim to a horse, but now one could pay with a claim to money (Schumpeter, 1994 [1954], 321). In another strategy, the concept of the *velocity* of money gained greater prominence in the commodity/quantity theory to explain the growing disparity between quantities of money and the number of goods and transactions. If the same quantity of money moved faster from hand to hand, this increase in velocity could finance more transactions. In his textbook *Money* (1928), reprinted many times over thirty years, the Cambridge economist Dennis Robertson illustrated the velocity of money with the story of Bob and Joe’s journey to Derby Day at Epsom races to sell a barrel of beer (Robertson, 1948 [1928], 33). As the June day got hotter and the two men grew thirstier, Bob asked if he could buy a pint of Joe’s share with his only 3 penny coin. Joe agreed, and soon after, to quench his own thirst, he bought a pint of Bob’s share with the *same* 3 penny coin. Thirst and transactions continued until they arrived at Epsom with an empty barrel. Had the beer been sold at the races, they would have made a good profit, but they were left with only one 3 penny coin, which was now back in Joe’s pocket.

The story was intended to illustrate how economics explained the satisfaction of Bob and Joe’s ‘utilities’ by the velocity of a single neutral medium of exchange – the relevance of the business failure was not mentioned. However, the story also exposes the vacuity of the concept of the ‘velocity’ of a ‘quantity’ of a physical medium of exchange. Schumpeter again quipped: money could have ‘a velocity so great that it enables things to be in different places at the same time’ (Schumpeter, 1994 [1954], 320). In fact, the parable of Bob and Joe could just as easily illustrate the alternative ‘credit’ theory of money. They didn’t need to *exchange* a coin for beer to meet their needs. Using *money of account*, they could

have recorded the credit and debit transactions, to be settled later if they had consumed different amounts of beer.

Despite technological changes in forms of transmitting money – from coins handed over in exchange to electronic impulses travelling through cyberspace – the concepts ‘quantity’ and ‘velocity’ continue to inform the analysis of money in many modern economics textbooks (for example, Mankiw and Taylor, 2008). To Robertson and many others, these concepts appeared appropriate for circulating coinage; but do they make sense of electronic credit-transmitting impulses passing through cyberspace? We will pursue this question shortly in the discussion of the ‘credit’ and ‘state’ theories of money and again in chapter 4; but first we should note the most important flaws in commodity-exchange theory.

### Commodity-Exchange Theory: History and Logic

In the absence of an historical record of money’s emergence from barter, the late nineteenth-century commodity-exchange theorists correctly pointed out that we could only rely on a conjectural account of money’s ‘logical’ origins. This was derived from the conception of society as a web of economic exchanges driven by individual utility-maximization. Repeated over the years in textbooks, ‘conjecture’ became ‘fact’; but there is no historical evidence that barter was ever the most prevalent means for the exchange of goods and that money evolved spontaneously to remedy its inefficiencies (see Graeber, 2011). Before markets with money prices, the distribution of goods in society was governed either by norms of reciprocity – for example, allocation according to age, sex, and status in tribal or clan society; or by rationed distribution controlled by centralized command systems such as in ancient Egypt (Polanyi et al., 1957).

Chapter 1 introduced a distinction between two functions of money – *medium of exchange* and *means of payment* – which has not been generally observed since they were conflated in Walker’s list. Following Grierson and Keynes, it was argued that the function of *money of account/measure/standard of value* was the key to the distinction. *Means of*

*payment* are the credits that can settle the debt incurred in a purchase or a loan because credit and debt are denominated in the same *money of account*. Commodities priced in money of account are the signals to which myriad unconnected individuals can respond anonymously in large multilateral markets. (Recall that to solve the equations in his mathematical model of market equilibrium, Walras had arbitrarily to assign a constant value [*numeraire*] to one of the commodities which could act as a money of account.) However, in ‘real’ barter, it is implausible that bilateral bargaining, based on the individual traders’ preferences, could lead to the emergence of a universal money of account. In barter, the ratios (relative values) of commodities would be specific to each exchange. The ratio of, say, ducks and chickens will vary from trade to trade: that is, ducks and chickens do not have a market ‘price’ denominated in money of account. Rather, bartered commodities have countless different exchange ratios; 100 goods could yield 4,950 exchange ratios (Davies, 1996, 15). The theory of the barter origins of commodity money maintains that constant ‘higgling and haggling’ transforms the numerous potential barter exchange ratios into a market ‘price’. But, [t]here are as many valuations as there are goods and circumstances of exchange, with no possibility of being able to deduce anything whatever from them’ (Orléan, 2014a, 127). We shall see that an important ‘incompatibility’ of the alternative credit theory is the reversal of the causal link between money and the market. Commodity theory contends that money of account emerges from ‘higgling and haggling’ in barter, whereas, for credit theory, genuine markets in which price signals are posted *presuppose* the existence of money of account (Ingham, 2004; Orléan 2014a, 2014b).

None the less, R.A. Radford’s (1945) personal account of the use of cigarettes as media of exchange in a POW camp in the Second World War has been widely used in economics textbooks as an example of the spontaneous emergence of commodity money (for example, Mankiw and Taylor, 2008, 126). To be sure, cigarettes were used in exchange, but, as to be expected in the transit camps, the barter exchange ratio of cigarettes varied widely. A more stable cigarette standard did occur in the atypical conditions of the permanent camps: small-scale, repeated exchanges between a stable population

of ‘traders’ who were known to each other. More importantly, ‘the highest level of commercial organisation’ in camp shops, ‘controlled by representatives of the Senior British Officer’, prohibited barter, posted price lists, and accepted only cigarettes as payment. Eventually, a camp paper currency (‘Bully Mark’), backed by a fixed exchange rate with food (‘bully’), was organized by the shops (Radford, 1945, 192, 197–8). In other words, the camp monetary system was based on the officers’ authority and control of the shops: that is, it did not emerge spontaneously and exclusively from individuals engaged in barter.

### Credit and State Theories of Money

The ‘credit theory’ of money, ‘monetary nominalism’, and the ‘state theory’ of money have elements in common in their opposition to commodity theory.

#### *Nominalism and Credit Money*

The departure from ‘classical’ orthodox monetary theory in the first sentence of Keynes’s *A Treatise on Money* (1930) provides an answer to our earlier query about the relative importance of the functions in Walker’s list: ‘Money of Account, namely that in which Debts and Prices and General Purchasing Power are expressed, is the *primary concept* of a Theory of Money’ (Keynes, 1930, 3, emphasis added). Keynes continues with a distinction between money and media of exchange. Money of account defines ‘money proper’, which, consequently, can settle debt because both are denominated in the same unit. Money ‘proper’ is to be distinguished from ‘something which is merely used as a convenient medium of exchange on the spot . . . which may approach to being Money. . . . But if this is all, we have scarcely emerged from the stage of Barter. Money proper in the full sense of the term *can only exist* in relation to money of account’ (Keynes, 1930, 3 emphasis added). In other words, Keynes offers a nominalist conception of money as something ‘which answers the description’ of money rather than being an exchangeable commodity.

His ideas had germinated during the early 1920s in research on money, weights, and measures in the ancient Near East, referred to as his 'Babylonian madness' in a letter to his fiancée Lydia Lopokova (Ingham, 2004). Over 5,000 years ago, these bureaucratic states did not issue currency but used units of account to measure the value of stocks of commodities; to denominate taxes and loans; and to set wages and rents. Credits and debits, recorded in cuneiform on clay tablets, were netted out and any outstanding debt was paid in barley or silver by weight. The debts were denominated in the money of account/standard of value comprising a fixed ratio of quantities of barley (*gur*) and silver by weight (*shekel*).

Critics of the nominalist theory that 'moneyness' is assigned by money of account have taken the existence of barley and silver in Babylon as evidence of the material commodity origins of money (Lapavistas, 2005; and the reply in Ingham, 2006). However, the money of account was not merely barley or silver as material things, but an *invariant value ratio* between the two: that is, an *abstraction* produced by human consciousness ('existing in thought rather than matter', *Concise Oxford English Dictionary*). Moreover, the barley side of the ratio was also an abstraction: the notional quantity required to feed a family for a month.

Unlike phenomena whose functions follow from their material properties – for example, glass and windows – it is necessary *intentionally* to assign money's functions (Searle, 1995). If a nominal value is assigned and accepted, anything can serve as the token credit to bear and transmit it. Contrary to commodity theory, the assigning of a nominal value (money of account) is accomplished not in the process of exchange but by the authority of the state or community (Keynes, 1930, 3). The repeated objection that the value of money cannot be intentionally assigned is based on one or other of two misconceptions of money's value. The first follows from the assumption that money must have 'intrinsic' value for it to be held as a medium of exchange – Menger's problem of 'useless' discs and paper. The second is that money measures and represents the *pre-existing* values that are generated by the material factors in the 'real' economy. Max Weber's conception of money as a 'weapon' can be used to elaborate an implication of 'credit theory' and to clarify

the difficulties (Ingham, 2019). 'Useless' discs and paper are *nominal* but *prospective* values with which *actual substantive* values (prices) are produced in the struggles between possessors of the *nominal prospective* 'credits' and possessors of goods. 'Purchasing power' is not 'possessed' by money but is produced in a social and economic relation in which 'sale and purchase is the exchange of a commodity for credit' (Mitchell Innes, 1914, 355).

### *'Imaginary Money' and Promises to Pay*

The explanatory value of monetary nominalism and credit theory can be shown in the analysis of two critical developments in medieval European money which presaged modern capitalism. First, Charlemagne's (c. 742–814) attempt to unify the monetary fragmentation of the Holy Roman Empire led to what the great French historian Marc Bloch called the '*décrochement*' (de-linking) of money of account and coined currency (Bloch, 1954 [1936]). Second, the circulation of private credits, or promises to pay (IOUs), became widely used as payment in merchant networks. Both examples illustrate Keynes's astute observation that if the same 'thing' always answered the same 'description' of money, then the distinction between money as *money of account* and a money thing that is a *means of payment* would not be significant (Keynes 1930, 3).

To bring coherence to the large number of mints and coinages which had sprung up after the collapse of the Roman empire, Charlemagne imposed a single money of account of a pound weight of silver divided into 20 shillings and 240 pennies. All three were used for the denomination of debts and prices, but pound and shilling silver coins were not minted. Pounds and shillings were *nominal values* and the *coinage* consisted of silver pennies. All the diverse existing coins were to become commensurable by having an exchange rate with the new money of account. There were two significant consequences. First, unminted units of account encouraged a conception of money as an abstract rather than a material intrinsic value – 'imaginary' or 'ghost' money entered European consciousness (Einaudi, 1936; Fantacci,

2008). Second, the separation of money's two components – nominal unit of value and material precious metal coinage – gave rulers an additional way to advantageously manipulate the value of money and use it as a 'weapon'.

Monarchs were adept at increasing their spending power by debasement: reducing precious metal content to produce more coins of the same nominal value. The de-linking of actual coins and money of account gave them a much easier way to profit from their monetary power. Monarchs could now replace their unminted virtual, or 'imaginary', coin, used as money of account for denominating tax debts, with another one that was nominally valued to be worth more of the coins in circulation. For example, in the fourteenth century, Charles VI of France replaced the 'imaginary' cheval à franc, nominally valued at 20 circulating sous coins, with an écu à la couronne worth 22 sous. Wealthy aristocratic and ecclesiastical landowners were disadvantaged as it now required more circulating coins to discharge tax debts denominated in the revised money of account. They commissioned Nicolas Oresme, Grand Master of the College of Navarre in Paris, to address the problem and to recommend an acceptable monetary policy (the following account is from Martin, 2013, 91–5). Oresme's *A Treatise on the Origin, Nature, Law, and Alterations of Money* (1360) challenged the medieval idea of absolute and divinely sanctioned royal power. As Aristotle had similarly argued, Oresme insisted that money was an instrument for the mutual benefit of all and should not be controlled and used to the advantage of any interest.

Oresme's analysis inadvertently revealed the unresolved dilemmas and contradictions that remain at the heart of monetary power and policy to the present day. One solution to France's problems would have been to negotiate a ratio between a money of account and a quantity of precious metal fixed in a standard coin at a value acceptable to all interests: creditors, debtors, the wealthy, and the king. But, of course, the dispute itself was evidence that there was no such consensual interest. And how could any standard be enforced if it were not in the interest of the sovereign to do so? Moreover, Oresme noted that a rigidly fixed precious metal standard might not be able to meet the demand for currency in an expanding economy – as later monetary authorities came

to realize. On the other hand, it was unthinkable that the sovereign's right to issue coin could be challenged. None the less, Oresme declared that if the monarch could not be trusted, then the 'community alone has the right to decide' on the supply and nominal value of money. But, of course, the idea of a 'community' with a single interest was a fiction; in an unequal society, alterations in the value of money affected classes and interests differently – especially debtors and creditors.

The late medieval European 'commercial revolution' led to the increased use of promissory notes, or bills of exchange, among merchants in lieu of direct payment. Such acknowledgements of personal debt (IOUs) had been used for millennia alongside coined currency. But in medieval Europe they gradually became *transferable (negotiable)*: that is, an acknowledgement of debt (IOU) issued by a person of known wealth to his creditor was accepted by a third party in the expectation that it could be passed on as payment to someone else. A's signed note (IOU) held by B as a promise of A's future payment might be accepted by C as an acknowledgement of a debt owed to him by B and thence might be transferred by D, E, and so on. Any acceptor of the IOU had a 'claim' on issuer A that the debt would be settled currency; but in some commercial networks, the chain of acceptances could be very extensive.

By the sixteenth century, bills and promissory notes were widely established in law as a contract of payment which was legally transferable beyond the original signatories. This opened the way for the banknotes which were issued as the legal liability of the issuing bank (Ingham, 2004, 121–4). As we shall see, states also became issuers of IOUs as payment for goods and services which were redeemed, in turn, by their acceptance as payment of taxes imposed by the state. Both developments replaced the fragile *personal* trust in the IOUs, based on the viability of the merchants in the networks, with *impersonal* trust in the issuing bank and state authority.

*Money: 'Real' or 'Imaginary'?*

Like the de-linking of the money account and coined currency, the circulation of bills and notes had an impact on the conception of money. If *accepting* a promise was all that was necessary for it to function as money, was *all* money a 'claim' on goods or a 'credit' that could settle a debt? Was money an *abstract* rather than *material* force? 'Credit gives Motion, yet it cannot be said to exist . . . it is the essential Shadow of Something that it is Not', Daniel Defoe pondered in 1710 (cited in Ingham, 2004, 41). In a penetrating anticipation of later thinking, Sir James Stueart (1767) not only made a distinction between 'money coin' and 'money of accompt', but also inverted the logic of the commodity theory of money: money is that 'which purely in itself is of no material use to man but which acquires such an estimation from his opinion of it as to become the universal measure of what is called value' (quoted in Schumpeter, 1994 [1954], 297). The 'reality' of material money was ultimately dependent on acceptance of the 'imaginary'. Despite the official 'metallist' doctrine and the existence of precious metal coinage, notes and bills had become a large indispensable part of the money supply by the late eighteenth century. As we have noted, however, commodity theory sidestepped the contradiction by holding to a distinction between 'money' and 'credit' that is still widely accepted in modern economics.

The intellectual dispute was sharpened by the Bank of England's suspension of note convertibility into gold during the Napoleonic Wars (1797). The economy continued to operate as before, adding support to the view that 'intrinsically' precious metal was not necessary for the functions and value of money. Capitalist entrepreneurs saw the advantages of a flexible supply of money no longer constrained by convertibility. Typically, the most powerful governing class of wealthy creditors and landowners defended 'sound' gold-backed money, which was reinstated after the war. The government's return to 'metallist' policy was supported by a body of opinion known as the 'Currency School', including the eminent economist David Ricardo. But in an early expression of industrial capitalist interests, the establishment's position

was confronted by coherent opposition. The 'Banking School' advocated a more flexible monetary policy, based on credit money, that could respond to the need to stimulate production and consumption. The Birmingham capitalist banker and Member of Parliament Thomas Attwood advocated a proto-Keynesian prescription that the supply of credit should be allowed to increase to the point at which 'the general demand for labour, in all the great departments of industry, becomes greater than its supply' (quoted in Ingham, 2004, 108). Members of the Banking School advanced a 'credit theory' of money: a monetary transaction was not an *exchange* of commodities – precious metal for goods; but, rather, the *settlement of the debt* with a credit. 'The real question then to be considered is not whether this or that particular form of credit be entitled to the designation of "money", but whether, without a perversion of terms and an outrage of principle, that denomination can be applied to credit in any shape' (John Fullarton, cited in Ingham, 2004, 42).

Two intertwined meanings of *neutral* money are evident in Ricardo's support for the Currency School concept of *natural* metallic money: '[W]ithout a standard [money] would be exposed to all the fluctuations to which the *ignorance* and *interests* of the issuers might subject it . . . there can be no unerring measure of either length, of weight, of time, or of *value* unless there be some *object in nature* to which the standard itself can be referred' (Ricardo, quoted in Ingham, 2004, 15, emphasis added). If money were a 'neutral' measure of values produced in the 'real' economy, it followed that it was 'neutral' in the sense that it *should* not be controlled by any interest because, in the final analysis, it *could* not be effectively controlled. As only 'real' factors of production create wealth, the 'illusionary' bank credit money would eventually lead to an oversupply and inevitable inflation.

These antithetical theoretical positions persisted without resolution because they represented two opposed economic interests in which money was a 'weapon'. Flexible bank credit money for production and consumption conflicted with creditors' demands for 'sound money' to prevent an inflationary erosion of the value of their wealth. We shall see that matters came to a head a century later in the 1930s with Keynes's rejection of the 'barbarous relic' of the gold standard and his



reiteration of the view that money was essentially a public utility to be used for the common good.

### *The State Theory of Money*

There is a long tradition in which money is understood as a legal construct, devised and enforced by the state. During the late seventeenth century, opponents of John Locke's 'metallism', such as Nicholas Barbon, argued that all money, including coinage, was legally established credit (for an account of money and law, see Desan, 2014, chapters 7, 8, and 9; Fox and Ernst, 2016).

However, the recent revival of state theory follows Georg Knapp's *State Theory of Money*, which arose in the context of the politics of creating the unified German state in the nineteenth century. In his polemical retort to those who believed that economic market exchange was a reliable foundation for stable money and stable social order, Knapp thought it 'absurd to understand money without the idea of the state' (1973 [1905], vii–viii).

The establishment of both a monopoly of coercion in territorial space and a monetary space, based on control of the money of account, occurred concurrently as essential elements of state formation. The unit of account and the form of money declared by the state for denominating and settling debts owed by the state to suppliers and employees is, in turn, the only one which the state will accept as payment of the taxes that it imposes. Following Knapp's use of the Latin word *charta* (token) for the definition of money as a *chartal* means of payment, the 'state theory' of money is also known as 'chartalism'. The state need not be the only issuer of money, but Knapp argued that privately issued banknotes only become valid money (*valuata* money) if they are denominated in the state's money of account and accepted in payment of debts owed to the state. (Today, taxes are paid by the electronic transfer of money from private bank deposits denominated in the state's money of account.)

Keynes's *The General Theory of Employment, Interest and Money* was strongly influenced by Knapp's state theory, which he combined with the 'credit theory' of the 'brave

army of heretics' from the Banking School. This challenged the Ricardian 'classical' orthodoxy, which 'had conquered England as completely as the Holy Inquisition had conquered Spain' (Keynes, 1973 [1936], 32–3, 370–1). It was, Keynes believed, 'something of a curiosity and a mystery' that 'classical' economics 'had reached conclusions quite different from what the ordinary uninstructed person would expect'. But with typical lucidity that resonates to this day, he saw that the 'logical beauty of classical economics [which] could explain much social injustice and apparent cruelty . . . afforded a measure of justification to the free activities of the individual capitalist, attracted it to the support of the dominant social force behind authority' (Keynes 1997 [1936], 33). Keynes believed that his orthodox colleagues and politicians were theoretically oblivious to the 'outstanding problem' of unemployment caused by deficient effective demand (for a clear, concise account, see Skidelsky, 2018).

During the political and economic crises of the inter-war years, the major countries were unable to maintain the gold standard; they had insufficient gold confidently to promise and to be believed that their currency was backed by gold. In the absence of this self-imposed constraint on the money supply, governments were free to follow Keynes by increasing their expenditure if private investment in production were insufficient to create full employment and income for consumption. The state should make good the shortfall with expenditure to bring 'aggregate demand' to the necessary level to stimulate production. Monetary orthodoxy agreed that government spending could be effective as a short-term measure but continued to insist that this would inevitably lead to inflation in the long run.

Similar prescriptions were put forward elsewhere in the mid-twentieth century: for example, Abba Lerner's 'functional finance' in the USA, which argued that the level of government spending should be set at a level which enables the purchase of all goods that it is possible to produce at a given time (Lerner, 1943, 39). Following Lerner, Knapp, Keynes, and the earlier 'credit' theorists, Randall Wray and associates in the USA have produced Modern Monetary Theory (MMT) (Wray, 2012). Its main thrust is directed against what they believe are the erroneous assumptions and implications in the

mainstream economic theory which currently frames government monetary and fiscal policy. First, MMT points out that state spending does not depend on the *prior* collection of taxes on private incomes. Unless a state itself imposes a restriction on the issue of its own money – for example, with a gold standard – it can never be without the money to finance its expenditure (Wray, 2012). As the modern state creates money by ‘fiat’ – the tap on the computer key – it does not require our money in taxes *before* it spends. Rather, we require the state’s money to meet our tax debts, and, in effect, taxation is a means of withdrawing inflationary potential from the economy.

If the state does not adopt self-imposed restrictions such as a gold standard on the supply of money, MMT contends that the state – as the sovereign money power – can simply spend money into existence. Consequently, there is no *technical* monetary reason why it cannot do so to the limit of full employment. MMT has yet to have a significant impact on mainstream academic economics, but it has triggered an increasingly wide-ranging debate in the USA (see the exchanges at [www.neweconomicperspectives.org](http://www.neweconomicperspectives.org)) and in Europe ([www.sovereignmoney.eu](http://www.sovereignmoney.eu)). As a ‘myth buster’, MMT has exposed flaws in the conventional account of the nature of money; its creation; and current fiscal and monetary arrangements and policy. However, how and how much money is produced is ultimately a political matter, not one of technical economics. We will see in chapters 4 and 5 that today’s institutions for the creation of money are the result of struggles and political conflict over the centuries between states, capitalist financiers, and taxpayers. In chapter 7, we will return to the question of whether this monetary system, wrought by the conflicts, represents the gradual evolution of technically efficient ‘best practice’ or whether the historical developments have produced a workable but none the less inherently flawed outcome.

State theory provides answers to the two questions that are not dealt with satisfactorily by commodity-exchange theory. First, states have been the most effective authority for the creation of the nominal unit of account by which money is distinguished from exchangeable commodities with many fluctuating exchange rates. Second, by spending money into

existence and demanding its return in taxes, states provide a compelling basis for the acceptance of money without recourse to Menger’s tautology that it is rational to do so if all others do likewise. Furthermore, the value of taxes gives value to money. Sociologists have emphasized the importance of trust for the acceptance of money, but this needs to be more precisely specified. The acceptability, or trustworthiness, of money does not depend in the first instance on the transacting individuals’ *personal* trust. Rather, the wide acceptance of money is based on the issuer’s promise to accept it in payment of any debt owed, which shifts the burden of trust from the transacting individuals to the issuer, creating *impersonal* trust and – it must not be forgotten – a degree of *compulsion*.

The legal ‘Case of Mixt Monies’ in early seventeenth-century England (Gilbert *v.* Brett, 1604) nicely illustrates how – as Keynes explained – states write the monetary ‘dictionary’ by declaring what ‘describes’ money: that is, the money of account for the denomination of debts and prices. The case arose out of Elizabeth I’s debasement of the Irish currency in 1601. Brett had purchased £200 of goods from a London merchant, Gilbert, and proffered payment which included some Irish coins which now contained less silver than English coins of the same nominal value – hence ‘mixt monies’. Gilbert refused to accept the payment and the case was referred for a ruling by the Chief Judges of the Queen’s Privy Council. They found in favour of Brett, establishing in common law that debts were obligations valued at the time of the contract in the *abstract* monetary units that the sovereign declared, not by any variation in the precious metal content of the actual means of payment (Fox, 2011).

State theory has been widely misunderstood. First, the existence of private credit money and, as we shall, ‘complementary’ local community currencies (see chapter 6) is taken as evidence that the state is not necessary for the creation of money. We will return to this question in the following chapter, but some points of clarification should be noted. As I have explained, the declaration and enforcement of a money of account for the denomination of prices and debts requires an *authority* – it does not emerge spontaneously from the interaction of self-interested individuals. The authority need not be a state: for example, sixteenth-century Europe’s mercantile

financial networks used their own private unit of account, as did the officers in the POW camp. Moreover, many of the local community currencies and the capitalist financial networks' IOUs, which are held to counter state theory, are denominated in their host state's unit of account: that is, they 'shadow' the dollar, euro, and so on. Furthermore, these non-state moneys are directly embedded in the financial networks, dependent on the creditworthiness of the participants; consequently, they are notoriously unstable. Of course, some states fall into this category, but successful states have produced the most stable and enduring money.

Preoccupied with the 'real', or non-monetary, theory of economic value, mainstream economics has placed state theory's adherents among the monetary 'cranks', ridiculed for thinking that the state rather than the market economy can create value. Weber's distinction between *formal* and *substantive* validity of money helps to clarify the issue (Ingham, 2019). States cannot *directly* determine the *substantive* validity of money: that is, its purchasing power at any point in time. But they can declare and impose its *formal* validity: that is, what is accepted as valid payment for debts, as the Privy Council did in 1604. Formally *valid prospective* value is wielded as a 'weapon' in the struggles that determine *actual substantive* values. Furthermore, the existence of enforceable tax debts further anchors *both* money's *formal validity* and *substantive value*. States are simultaneously the largest makers and receivers of payments. It is a mark of a strong and successful state to be able to impose its money as a means of payment for the goods and services that it purchases and to insist that it is the only money accepted as tax payment. Conversely, the inability to impose and collect taxes in its declared money is both a cause and consequence of state weakness – as shown by the experience of Russia and Argentina (Woodruff, 1999; Ingham, 2004; Saiag, 2019).

### 'A Steadfast Refusal to Face Facts'?

In the face of the logical flaws, historical inaccuracies, and a well-established – if shunned – alternative, how have the irreconcilable theories co-existed for so long? Why has

'neutral' money and associated assumptions endured in mainstream economic theory and practice? It is as if the Copernican revolution had not been able entirely to displace Ptolemy's 'geocentric' theory of the sun's rotation around the earth. According to one of its most eminent – but critical – practitioners, orthodox monetary economics shows 'a steadfast refusal to face facts', remaining beset by 'continuing muddles' (Goodhart, 2009). It persists with the assumptions of 'neutral' money and the corollary that economic value is produced by 'real' forces, independently of the existence of money, as it would in barter (see, for example, Mankiw and Taylor, 2008, chap. 4). To repeat: this is not merely an 'academic' question – theories of money are an inextricable part of the 'struggle for economic existence'. Two examples of the political, practical, and ideological consequences of the 'neutral' money concept will be discussed later: the economic rationale for the creation of a European common currency (chapter 5); and the inability of mainstream macroeconomic models to account for the possibility – indeed, probability – of financial crises (chapter 7).

### Conclusion

In the final analysis, the incompatibility of the theories of money is to be found in the different underlying theories, or 'visions', of society on which they are implicitly based. The strong implication of most mainstream economics – at least that which derives from the conventional interpretation of Adam Smith – is that social order is created spontaneously by individuals in pursuit of their self-interest. Society based on a division of labour is held together by webs of advantaged economic interdependence. Altruism, fellow-feeling, and pride in work exist but they are not the *primary* motivation for the baker's provision of wholesome bread – she just wants us to return the next day. Using a similar conception of society, Friedrich Hayek argued that the state monopoly of money should be replaced by myriad freely competing currencies from which rational individuals would be able to select the most stable (Hayek, 1976). In effect, his hypothesis has been tested and found wanting by the proliferation of

crypto-currencies such as Bitcoin – they have been disabled from performing money’s functions by their chaotically fluctuating exchange-values. It is this anarchy of the market that Keynes had in mind in his comment that Hayek’s economic theory, based exclusively on individual rationality and market competition, was ‘an extraordinary example of how starting with a mistake, a remorseless logician can end in Bedlam’ (Keynes, 1931, 394).

Two other general conceptions of social order underlie, respectively, the credit and state theories. On the one hand, credit theory’s focus on money transactions as credit–debt relations points to their essential social dimension; trust in money derives from conventions and beliefs that also foster social order, as expounded in Émile Durkheim’s sociology. On the other hand, state theory reminds us that the avoidance of Thomas Hobbes’s ‘war of all against all’ requires submission to the coercive force of a ‘Leviathan’. All three forms of order are found in varying degrees in viable societies and consequently in their monetary system.

### 3

## A Social Theory of Money and Monetary Systems

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Digital impulses transmitted electronically by cards, phones, and other devices are rapidly replacing banknotes, coins, and paper cheques; it appears that money has become ‘virtual’. However, the widely held assumption that these technological changes will radically transform money is mistaken. There could be significant consequences: for example, control of the money supply might be enhanced if cash were replaced by digital money, enabling all citizens to have an account at the central bank (see chapter 7). But the fundamental nature of money will remain unchanged.

Money is and has always been virtual; it is in the category of socially constructed abstract – that is, non-material – powers that are actualized by social institutions. In *The Philosophy of Money*, Georg Simmel tells us that money is ‘the value of things without the things themselves . . . the purest reification of means, a concrete instrument which is absolutely identical with its abstract concept’ (Simmel, 1978 [1907], 121, 211). And as we noted in chapter 1, Alfred Mitchell Innes audaciously declared that the eye had never seen, nor the hand touched, a dollar – only the immaterial *promise* to pay a debt for a dollar.

The ingrained conception of money as a material ‘thing’ lies behind the conclusion that changes in the form of money – from analogue to digital – are significant. However, the legacy of commodity theory and metallism’s misunderstanding of

money should now be laid to rest. Any ‘intrinsic’ value of precious metal coins, or the convertibility of paper currency, was merely one of the ways of establishing the stability and acceptance of the means of payment. For the currency to be ‘as good as gold’ required the issuer’s promise to maintain the price of precious metal and its link to the money of account: that is, the ‘face value’ of coins. In the UK’s gold standard, for example, gold coins and the convertible paper notes were both manifestations of the same virtual pound sterling. Precious and base metal coins, paper, and traces of electronic impulses are all means of transmitting money: that is, means of payment denominated in money of account. As Philip Grierson tell us in his *Origins of Money*, ‘money lies behind coin’ (Grierson, 1977, 12).

Seen in this way, the old analogy of ‘things’ – coins and notes – ‘circulating’ with varying ‘velocity’, like blood through the body, is inappropriate. Rather, money should be understood in terms of a vast network of overlapping binary debt contracts which are settled by the transmission of reusable credits. Some time ago, I would ask my students if a hoard of Roman coins discovered in a Suffolk field by a metal detectorist were money. Pedantically, I said that the coins ceased to be money after the collapse of Rome and the disappearance of tax debts. The empire’s provinces no longer ‘had to export goods to the centre in order to buy back the money with which to pay the taxes’ (Hopkins, 1978, 94).

Only at a superficial level, and not in every instance, does the act of settling a debt with money appear to involve the *exchange* of ‘things’; rather, the ‘things’ bear and transmit credits to settle debt. Money is to be distinguished from *exchangeable commodities*. Payment made *in kind* – that is, with commodities – which occurs owing to a shortage or unacceptability of currency is widely misunderstood as a return to barter. For example, after the fall of Soviet communism in the 1990s, Russian power companies accepted paint in payment for electricity. However, as the debt for electricity was denominated in the rouble unit of account, it remained a monetary – not a barter – transaction. In this instance, paint was a money ‘surrogate’ (Woodruff, 2013), accepted as the thing that in Keynes’s terms answered the ‘description’ of money (Keynes 1930, 4; see chapter 6).

Money’s purchasing and debt-settling power exists only in virtue of the existence of actual and potential debts, denominated in the same money of account, awaiting settlement – or not, as in the case of the ditched Roman coins. Credit should not be understood only in the conventional sense as deferred payment – purchasing something ‘on credit’. Rather, all three typical monetary transactions – *deferred payment*, *payment in advance*, and *payment ‘on the spot’* – are debt contracts: that is, immediate cash payment is the settlement of a very short-term debt (Hicks, 1989, 41). The essential element in a monetary transaction is not the handing over of one thing in *exchange* for another, but, rather, the settlement of a debt incurred by a purchase or by the receipt of a loan. The nature of a ‘spot’ debt transaction is seen more clearly with a debit/credit card, which, unlike the coin or note, is handed back once it has transmitted its quantum of abstract value (credit). A debit card’s transmission and cash both deliver credits which are then transmitted again and again by the same or different means in subsequent transactions to myriad holders.

The heterodox economist Hyman Minsky famously said that anyone could issue ‘money’ – the problem was getting it accepted (Minsky, 2008 [1986]). He was emphasizing that ‘money’ was ‘credit’ – an acknowledgement of debt, an IOU; but what he should have said is that anyone could issue ‘credit’ – the problem was getting it accepted as ‘money’. All money is credit, but not all credit is money. The social relations and institutions that constitute a *monetary system* and a *monetary space* enable the transformation of ‘credit’ into money – a universally accepted final means of payment. We might think in terms of a hypothetical continuum at one end of which everyone offers their personal IOUs in payment – a situation not unlike Hayek’s model of competing currencies. At the other end is the ‘ideal’ monetary system comprising two fundamental and related elements: first, a money of account which defines the abstract monetary value; and, second, forms and means of transmission of the abstract prospective value with which actual substantive values are established. Both elements are produced and maintained by institutions and social relations that determine their acceptability.

Empirically, societies rarely approximate this ‘ideal’. There were multiple moneys of account within and across

jurisdictions in medieval Europe and elsewhere, but they were gradually eliminated as monetary sovereignty was consolidated (Fantacci, 2008). Today, the existence of multiple moneys of account usually indicates a weak or disintegrating authority; but the existence of a variety of forms and means of transmission is commonplace – coins, cards, cheques, and so on. As Keynes understood, the things that ‘answer’ the money of account’s ‘description’ of money can vary and, more importantly, their degree of acceptability can also vary: for example, the paint in Russia. Most monetary systems comprise a loose and shifting hierarchy of forms of money ranked by their acceptability (Bell, 2001). Where there is a single dominant issuer, the acceptability of various other forms is determined by the ease with which they are convertible into the money at the top of the hierarchy: that is, the final means of payment. For example, in modern capitalism, bank deposits comprise privately issued means of payment which are readily convertible into state-issued, publicly accepted cash. As we shall see in chapter 6, multiple ‘complementary’ moneys can co-exist in harmony, but they can also create monetary anarchy.

However, a cheque, denominated in the dominant money of account, drawn on a private deposit, might not be accepted without additional assurance of convertibility. Similarly, transmission of money by credit card is enhanced by the issuer’s promise to assume liability for any loss incurred by the user. Credit cards are frequently used by economists to distinguish ‘credit’ and ‘money’ on the grounds that the use of credit card defers payment for the user. Furthermore, in this view, debit cards and cheques are not ‘money’, but a means of transmitting the ‘money’ which is ‘contained’ in bank accounts. Currency – cash and notes – and bank deposits are really money (Mankiw and Taylor, 2017, 196). However, as the reader will appreciate, this can become very confusing! The categorical distinction between ‘money’ and ‘credit’ becomes entangled with the further unclear distinction between ‘money’ – as abstract prospective value – and the means of its transmission. First, the credit card allows deferred payment for the user, but it does *immediately* transmit ‘money’ from the credit card company’s account into the vendor’s account. Second, the idea that notes, cash, and bank

deposits ‘contain’ money is a confused vestige of the conception of money as things ‘containing’ intrinsic value. Bank deposits record the existences of credits of abstract value that can be transmitted in a variety of ways, one of which might be the ‘portable credit’ of coins and notes. To repeat, *the value of the credit that we know as ‘money’ is given by the existence of actual or prospective debts awaiting settlement.*

In practical terms, the fact that currency – notes and coins – is now an insignificant means of transmitting money caused enormous problems for attempts to measure and control the money supply with ‘monetarism’ in the 1980s (see chapter 4). What should be included in the measure of the money supply to be controlled? Notes and coins were M0, to which were added various kinds of bank deposits and financial assets from M1, M2, M3, M4, and so on. The conceptual difficulty – if not the practical measurement problem – of making a categorical distinction between money and *non-money* (credit) is overcome by referring to a hierarchy of forms of credit ranked in terms of their acceptability as payment of debt. In turn, acceptability is dependent on the credibility of the issuer’s promise to accept their credit in payment for any debt.

We have argued that the denomination of abstract value (money of account) and the acceptability of forms/means of its transmission cannot be explained in terms of their utility/advantage for the individual. It is not self-evident that money will perform its economic functions effectively over an uncertain future. As Simmel explained, in monetary relations, unlike bilateral barter and the issue of personal acknowledgements of debt (IOU), ‘a third factor is introduced between the two parties: the community . . . that accepts the money. . . . The liquidation of every private liability by money means that the community now assumes this obligation towards the creditor’ (Simmel, 1978 [1907], 177).

This third factor is the authority that the monetary system exercises over all participants. We shall see in chapter 6 that this may be in actual ‘communities’ which support ‘local exchange trading schemes’ or other ‘complementary’ currencies that are found in many modern economies. Or the authority might be exercised by a network of merchants – as in seventeenth-century Europe. However, the most stable

form of authoritative social order and consequently also of money is based on monopoly of the legitimate use of force with a territory: that is, the coercion and consent found in successful states. In establishing their monetary sovereignty, states have imposed severe physical penalties for debt, forgery, and counterfeiting, as Carl Wennerlind has shown in his *Casualties of Credit* (2011).

Consent and coercion also underpin the economic links between the state and society. As the largest makers and receivers of payments (tax revenue), states are the single most important economic agent in modern society, which ensures that their money is in most demand. Ultimately, however, greater stability of both the state and its money is achieved when ‘might’ is transformed into ‘right’: that is, when states and the monetary system are viewed as legitimate.

Legitimacy – that is, willing acceptance of the values of and justifications for the state’s right to exercise powers contained in convention, law, and the constitution – is arguably the core strength of states and by implication their monetary system. At a still deeper level, state legitimacy might be fused with *hegemony* – the term used by the Marxist Antonio Gramsci to describe domination based on and, importantly, masked by an unquestioned acceptance of the normality and inevitability of the status quo of everyday life. And, of course, this is precisely what powerful controllers and producers of money have led us to believe. The hegemony of money is established when its ‘intrinsic’ value is deemed to exist in a natural realm beyond our control or in the reality of objective needs of the economy which are only open to interpretation by experts in economic science. It is here that the mysteries of monetary theory play a most essential role in preserving the social order. As Henry Ford Sr was said to have put it: ‘It is well enough that the people of the Nation do not understand our banking and monetary system, for if they did, I believe that there would be a revolution before tomorrow morning’ (quoted in Ingham, 2004, 134).

In a similar analysis, André Orléan has used the sociologist Émile Durkheim’s concept of ‘social representations’ to ‘grasp the reality of money, not as traditionally by the classic list of functions, but in its capacity to gain the general assent of the group as the legitimate expression of value’ (Orléan,

2014b, 55). ‘Social representations’ of money endow it with power over us. Everyone must use it to value their own possessions and position in society and seek it – as the legitimate repository of value – as the means to acquire goods and more money. In contrast to the economic concept of value inherent in the utility of things in the ‘real’ economy, this sociological theory contends that *economic value* only assumes an *objective social existence* – that is, value recognized by all – in *money*. This resonates with Mirowski’s claim that it is imperative for society to establish ‘the working fiction of an invariant standard’ (Mirowski, 1991, 579) and the necessity of Simmel’s ‘quasi-religious faith’ for the stability of money (Simmel, 1978 [1907], 179). Money is *assignable* trust. In the face of real-world radical uncertainty, self-fulfilling long-term trust is rooted in a social and political legitimacy whereby potentially personally untrustworthy strangers feel able to participate in complex multilateral relationships. Historically, this has been the work of states.

In short, money ultimately depends on the viability of the social system in which it is created. Again, Simmel grasped the link: ‘The feeling of personal security that the possession of money gives is perhaps the most concentrated and pointed form and manifestation of confidence in the socio-political organization and order’ (Simmel, 1978 [1907], 179). Disorderly societies have disorderly money and vice versa – causality runs from either direction. Monetary disorder and disintegration for the social scientist is akin to the engineer’s experimental destruction tests. In severe crises, money’s social foundations, normally masked by the hegemony of everyday life, are ‘unveiled’ (Orléan, 2008).

### Money: Disorder and Disintegration

An important implication of a social theory of money counters the implication that departures from a well-functioning system are the result of flaws in money itself: that is, the wrong kind of money or the wrong kind of monetary policy. This is most obvious in the continued calls after bouts of inflation or debt crises that the precious metal standard is the only sound basis for money. Jean Cartelier refers to this as

the ‘hypostasis’ of money: ‘Money is not to be conceived of independently of the set of rules, implicit or explicit, which give sense to society where it is observed. Social phenomena in general and money in particular cease to be intelligible when they are severed from their context’ (Cartelier, 2007, 227). Strictly speaking, money ‘disorder’ is a misnomer: when money ceases to perform as expected, we should look to the disorder of the ‘implicit or explicit’ rules of the social and political foundations of money.

Money’s social nature is evident in its sensitivity to self-fulfilling fluctuations in its value. Inflation is accelerated by expectations of further price rises, which induce spending to pre-empt the anticipated loss of purchasing power. Similarly, foreign holders of currency, selling for fear that inflation might trigger a fall in the exchange rate, will cause further domestic inflation as the prices of imported goods rise. Consequently, central banks are primarily concerned with the management of expectations in their efforts to establish ‘the working fiction of an invariant standard’.

There are three basic conditions in which money does not fulfil its functions: deflation, inflation, and, ultimately, disintegration, when the money of account for the denomination of value is abandoned.

### Deflation

In certain circumstances, the ‘fiction’ of money as a *store of value* can perversely conflict with its other functions for the routine operation of the economy. In James Buchan’s evocative term, money is ‘frozen desire’ which allows the temporary postponement of consumption and investment (Buchan, 1997). Holding money grants time to assess alternative courses of action, but clinging to ‘frozen’ value in response to insecurity and uncertainty induces a ‘disorder’ – as Keynes explained during capitalism’s severe deflation in the 1930s. Holding on to money, described by Keynes as ‘liquidity preference’, produces a vicious circle. Reductions in spending and in finance for production and employment exacerbate the very same circumstances that created the uncertainty, insecurity, and pessimism. Furthermore, defla-

tion encourages further postponement in the hope of even lower prices.

Consequently, central banks do not aim for zero inflation for fear that this might create expectations of falling prices and trigger deflation. There are many initial causes of depressions and deflation, but they often follow the frequently recurring debt-default crises in capitalism (see chapter 4). Building on Schumpeter’s observation that capitalist enterprise is typically carried out with borrowed money, Hyman Minsky advanced his ‘financial instability hypothesis’ (Minsky, 1982, 36–7). Moderate cycles of ‘boom and bust’ are ‘normal functioning events’ in which the optimistic expansion of debt in search of greater profit increases balance sheet fragility and eventual defaults (see Ingham, 2011, 39–42 and Postscript). With the expansion of debt, default among weaker enterprises can rise significantly, causing a rapid widespread aversion to risk which stalls the expansion as loans are called in and banks reduce lending. The chain reaction of defaults in the sub-prime mortgage crisis that triggered the Great Financial Crisis in 2008 – known as the ‘credit crunch’ – was dubbed a ‘Minsky moment’ (Ingham, 2011, Postscript). We shall see that to avoid a repetition of the 1930s, governments acted with near zero interest rates and ‘quantitative easing’ to facilitate the availability of money that private banking and finance were unable and unwilling to supply (see chapters 4 and 7).

Arguably, however, deflation is more resistant than inflation to remedial monetary policy. Curtailing the demand for money or restricting its supply can often reduce inflation, but converse measures frequently fail to halt deflation. Merely pumping money into the economy has been likened to ‘pushing on string’: it does not necessarily stimulate consumption and production. Hence the Keynesian advocacy of fiscal policy. Governments should take responsibility to do what is not being done by the incapable unemployed and the unwilling capitalists and bankers: that is, create money and *spend* it. But for orthodox economics, this is precisely what is feared will eventually cause inflation when the supply of money runs ahead of the capacity of the ‘real’ economy to produce consumable commodities.



## Inflation

A little inflation is not seen to be problematic; indeed, it is an indication that the economy is working at near full capacity in which high levels of demand create short-term shortages of supply, inducing price increases. Modern monetary policy attempts to achieve a low and steady rate of inflation of 2 per cent or so to avoid low and falling prices and a slide into deflation. None the less, central banks are constantly on guard against any hint that modest rates of inflation might surge (see chapter 4).

Very high levels of inflation are rightly feared by all members of society: for example, hyperinflation such as the daily doubling of prices in Zimbabwe in 2008 and Venezuela in 2019 creates chaos, leading to social and political disintegration. Hyperinflation – generally classed as a monthly inflation rate of 50 per cent and above – threatens the financial basis of the entire capitalist system. Banking grinds to a halt as the nominal rate of interest required to maintain a real rate of profit for lenders becomes unacceptably high for borrowers. Demand for loans falls and defaults rise. Unable to fulfil its functions, the currency may be abandoned in favour of alternative forms of money. With taxes unpaid and state finances in ruins, governments and states can collapse. In short, hyperinflation dissolves everything in its wake, throwing the entire fabric of society into anomic disarray: that is, social life loses all sense of meaning and order.

Strictly speaking, as money is inessential in the model of the ‘real’ economy, there can be no inflation; the demand and consequently supply of media of exchange are governed entirely by the availability of goods to be purchased. In mathematical Walrasian ‘general equilibrium models’, fluctuations in the value of money are eradicated by assigning a constant value to one of the commodities as the *numeraire*. Aside from this pure theory, more pragmatically oriented macroeconomics is concerned with the reality of inflation and aims to provide analyses which can be used by central banks to establish confidence that they can deliver monetary stability. Monetary policy will be examined in chapters 4 and 5; here,

we will focus on more general theoretical issues in the explanation of inflation.

We have seen that the ‘commodity-exchange’ theory of money is closely related to ‘quantity’ theory, in which the price level is determined by the ratio of two quantities – of commodity money and of commodities. (We will ignore the problems of calculating the *general* price level as opposed to prices of specific commodities.) As we noted in the previous chapter, it has been widely assumed that Fisher’s 1911 equation  $MV = PT$  represents a causal link, as expressed in the simplistic conception of inflation as ‘too much money chasing too few goods’. In Fisher’s time, inflation was not a problem; the value of money had remained stable for over half a century – in the late nineteenth century, prices of haircuts and shaving were etched in hairdressers’ mirrors! The main concerns were, first, with the consequences of any increase in the supply of money that might follow gold discoveries and an influx of bullion; and, second, to warn against the creation of unsound inconvertible, ‘intrinsically valueless’ paper money such as the *assignats* in the French Revolution and the ‘greenbacks’ of the American Civil War (see Ingham, 2004, 19–22). Later in the twentieth century, these two experiments and the experience in Weimar Germany in the 1920s (see below) were invoked as proof of the dangers of government spending. Keynes’s arch adversary Friedrich Hayek was quick to point to the threat of inflation posed by the state monopoly of currency supply freed from the gold standard constraint, which led him to advocate the denationalization of money and a system of freely created competing currencies.

Until well into the twentieth century, the almost exclusive focus on government spending led orthodox economics to overlook two distinctive elements of capitalist economies that could also cause inflation. Guided by the logic of commodity theory and the assumption that the gold standard was the acme of efficiency, ‘quantity’ theorists held to a firm distinction between ‘money’ – metal-based currency – and bank ‘credit’. Consequently, they did not see that the ‘credit’ extended by bank lending created ‘deposits’ which became ‘money’ when spent in the wider economy by the borrower. This process could lead to a situation in which the assumed causality in Fisher’s equation was reversed: that is, from

Prices to Quantity. Raised prices could be met by money created by debt – bank loans. Bank ‘credit’ was not money and therefore was excluded from the quantity of money in the equation. This possibility would have been clear if – in a further move away from ‘classical’ theory – the monopoly power of capital and labour to raise prices in ‘imperfectly’ competitive markets had also been acknowledged. In other words, the imposition of price rises met by the creation of money by bank loans is an inherent feature of the routine operation of capitalism.

With this more realistic view of the capitalist economy, some Keynesian analyses moved away from the direct focus on the money supply and looked at the growing inflation of the 1960s and 1970s in a way which is consistent with this reversal of the ‘quantity equation’. Modest ‘cost-push’ and ‘demand-pull’ forms of inflation are typical of an economy operating at full capacity and employment. In ‘cost-push’ inflation, prices are ‘pushed up’ by increases in the costs of any of the factors of production – labour, capital, materials – when enterprises are running at full productive capacity. That is to say, with higher production costs and already maximized productivity, profits cannot be maintained at the same level of production. Consequently, in the absence of highly competitive markets, increased costs can be passed on to consumers by monopoly producers, contributing to a rise in the general price level. Keynesian models of cost-push inflation in which monopoly capital and labour have the power to raise prices are consistent with Marxist and sociological conflict models of inflation in which competing claims drive up wages (Rowthorn, 1977; Aquanno and Brennan, 2016; Hung and Thompson, 2016; Volscho, 2017).

On the other hand, ‘demand-pull’ inflation is closer to the more mainstream analysis of long-run capacity constraints on the economy. In an expanding economy, operating at full capacity, demands from households, businesses, governments, and foreign buyers compete for the finite supply of goods and services, bidding up prices and causing inflation. These mismatches between demand and supply are attributable to a wide range of factors. Demand could be increased, for example, by government purchases, tax cuts, and a currency depreciation inducing foreigners to spend more.

Keynes’s observation that *expectations* about money – as opposed to the forces of the ‘real’ economy – could affect prices was eventually acknowledged by orthodoxy and ironically integrated into the fundamental tenet of the long-run neutrality of money in an ultimate equilibrium of supply and demand. Using Nobel Laureate Robert Lucas’s ‘rational expectations’ theory, Thomas Sargent and Neil Wallace claimed to have refuted Keynesian economics by demonstrating that government expenditure to stimulate employment would be ‘policy ineffective’ (Sargent and Wallace, 1975). Based on the ‘rational expectation’ that monetary expansion creates inflation, economic agents would press for higher *nominal* wages, returning *real* wages, output, and employment to the previous level. This is not the place to examine critiques of ‘rational expectations’ other than to note that the history of inflation suggests that not all economic agents share the same ‘rational expectations’ as the economists who advanced the hypothesis! (For an accessible account of ‘rational expectations’, see Mankiw and Taylor, 2017, chap. 9; for a critique, Skidelsky, 2018, 194–7.)

However, there is no simple linear relationship between quantities of money and prices: for example, inflation remained subdued long after the loosening of monetary policy in the USA and UK in the 1990s; and, as we have noted, deflation is often unresponsive to monetary stimuli. The vast sums of money injected into the economy by the Japanese government and central bank have not jolted it out of the chronic deflation that has persisted since the financial crisis in 1990. This inconsistent correlation has become a central issue in mainstream economics’ unresolved debate on the short run and long run. Regardless of the quantity of money, all manner of short-run phenomena – ‘money illusion’, false ‘expectations’, ‘imperfect’ information, and ‘event shocks’ such as exchange rate depreciation – can affect prices, but it is maintained that ultimately they will be determined by the ratio of the quantitative supplies of goods and money. Rising prices, indicating scarcity, either will stimulate an increased level of supply or, if it cannot be produced, will stifle demand, bringing inflation to halt in a new equilibrium.

## A Social Theory of Monetary (Dis)Order

Disorderly – that is, unwanted and unanticipated – fluctuations in the value of money are an ever-present possibility. First, there are problems of knowledge and uncertainty. Apart from the limiting cases of extreme contraction and expansion – for example, how the dearth of money exacerbated the 1930s depression and how increasing the supply of money to meet rising prices is utterly self-defeating – we cannot know with any reasonable precision the effect of a given quantity of money on economic activity. Problems of defining, measuring, and controlling the supply of money led to the swift abandonment of ‘monetarism’ in the late twentieth century (see chapter 4). Based on probabilistic economic models, central banks’ forecasts try to resolve the problems; but these are notoriously inaccurate the further the calculations are projected into the unknowable future. They are beset by Donald Rumsfeld’s ‘unknown unknowns’. Consequently, monetary authorities can only hope that their efforts will sustain self-fulfilling expectations of the stability of money.

Second, the structure of the monetary system and the quantity that it supplies are the result of conflicting interests. Money is never merely a neutral instrument adopted by *homo economicus* in pursuit of ‘utility’, nor a ‘public good’ provided by a disinterested monetary authority. The power to create money – monetary sovereignty – has been vigorously contested throughout history, and consequently monetary disorder is almost inevitable. There are three broad money interests. The first are issuers who claim the right to declare what counts as money – that is, the means for settling debt – and to regulate its supply. We have noted Aristotle’s indictment of money’s destabilization of politics in Classical Greece; Oresme’s challenge to the French king; and the government and Currency School resistance to the Banking School’s advocacy of decentralized money; and in chapter 7 we will examine the latest conflict over the production of money in the wake of the Great Financial Crisis. Two other interests reside at opposed sides of the credit–debt relations which are an inherent consequence of the use of money. On the one hand, creditors and holders of money wealth press for

strict control over the supply of money to safeguard the value of their assets and loans against devaluation due to inflation. Historically, they have favoured ‘hard’ money in the form of a fixed metallic standard, strict controls on government spending, and high interest rates. On the other hand, producers and consumers are more likely to be debtors, for whom a ‘soft’ or a loose control of money meets their demands and, if inflationary, reduces the real value of their debt. And, of course, sovereign money creation – from medieval monarchs to modern governments – gives the power to avoid or escape indebtedness. Creditors – medieval landowners and buyers of government bonds – insist that state expenditure is funded by revenue and not by the inflationary manipulation of money. We have noted the efforts of medieval monarchs and we will see that bondholders are the major constraint on modern governments (chapter 4). In short, levels of supply and demand for money are not determined exclusively by actual or predicted productive capacity and the availability of commodities in the ‘real’ economy. Rather, money is a contested source of economic, social, and political power, and the impact of the struggles on how and how much money is created is always uncertain.

Third, conflict over the distribution of economic returns in society is obviously expressed in monetary claims. Myriad equally endowed individuals in economics’ perfect competition model can only be ‘price-takers’: that is, single individuals do not have the market power to affect prices. But powerful interests in real-world capitalism are ‘price-makers’ who are able to make a monetary claim to a greater share of the social product. In chapter 4, we shall see how economic distributional conflict in the 1970s had an impact on economic theory, policy, and monetary institutions. In Latin American populist democracies in the twentieth century, ‘printing’ money to buy support and placate conflicting claims proved to be counterproductive. The inflation and instability that followed simply exacerbated discontent.

It follows that a truce in the ‘struggle for economic existence’, leaving the existing distribution of wealth and income uncontested, is a necessary condition for price stability. Peaceful economic co-existence may express a balance of power in society in which no interest is able successfully to

impose its demands; or there may be contentment with the existing normative equation of worth and reward in which a 'fair day's' work receives a 'fair day's' pay'. Any such social equilibrium or consensus is invariably closely related to a state's effectiveness in maintaining social order, and consequently to its legitimacy. Confidence in a state and its money are inextricably, but precariously, intertwined. An effective and legitimate state may successfully moderate or suppress the 'struggle for economic existence'. In the UK immediately after 1945, a certain type of monetary policy was underpinned by a social consensus, or 'settlement' between economic interests – both of which disintegrated in the 1970s (see chapter 4).

There are also many possible *external* sources of monetary instability: for example, inflation triggered by a narrowly economic event such as a falling exchange rate and a consequent rise in the price of imports might lead to discontent and a loss of government legitimacy. The converse is equally possible: a weak government might shake foreign holders' confidence in the currency, resulting in a sell-off and a falling exchange rate, followed by rising inflation as the prices of imported goods increase. And, of course, the collapse of a state by defeat in war or internal revolution almost invariably entails the destabilization of its money. The complexity of the relationships between causes and consequences of monetary disorder preclude any simple conclusions. But it cannot be emphasized too strongly that monetary stability is never merely an economic question; political and social instability leads to monetary instability and frequently monetary collapse. The following account of hyperinflation is presented as an extreme – almost 'experimental' – illustration of the interrelated totality of social, economic, and political factors involved in money disorder.

### Disintegration: Weimar Germany's Hyperinflation, 1921–3

The nature of money and its social and political bases were starkly 'unveiled' first by the disintegration of the German state and its money in hyperinflationary chaos after 1921 and then by its sudden end in 1923 (Orléan, 2008).

Following military defeat in 1918, revolution swiftly transformed Germany from a stable monarchy into the fragile Weimar democratic republic, governed by a succession of weak coalition governments comprising squabbling socialist, progressive, and centre parties (see Feldman, 1996; Evans, 2002). The order of the pre-war authoritarian state gave way to unprincipled scrambling for gains by striking workers, rebellious soldiers and sailors, rapacious landlords, profiteering industrialists, and their fragmented political representatives. Socialists consolidated their place in the new democracy with full employment policies, an eight-hour day, increased pensions, unemployment insurance, and welfare. A rapid renewal of production was encouraged with tax breaks and aid for industrial corporations. Escalating demands were made and hasty concessions granted against the backdrop of a demoralized nation and a bankrupted state facing vast war reparations from the victors. The crisis of the German state was soon manifest in a crisis of a core component of a state's sovereignty: its money.

From the outset, confidence in both state and currency was low. Restoring the pre-war mark with the promise of its gold convertibility was out of the question; the country was devoid of gold reserves. Without this constraint on the issue of currency, competing domestic demands and reparations payments were met by simply printing money. The 'gold mark' was retained as the nominal money of account against which the value of the paper currency was established at a notional, but unrealistic, 1:1 ratio. By 1923, the ratio had become 1:1,000,000,000 (one thousand million or one trillion). Notes with a face value of 100 million marks failed to slow the increasing volume of paper money. Distribution of notes by vast train-loads and in the later stages by aeroplanes could scarcely keep up with the insatiable demand to meet the dizzying rise in prices, described at the time as the 'delirium of the millions' (Fergusson, 2010 [1975], 39).

Rudolph Haverstein, President of the Reichsbank, apologized for not being able to produce and deliver notes quickly enough to keep pace with the rise in prices. Proponents of the quantity theory of money alleged that he was misguided by the German 'state theory' of money into thinking that the increased quantity of money had not, in the first instance,

caused the rising prices. And, in a sense, Haverstein was right; he was justified in claiming that rising prices were caused by the two intractable problems facing Germany: paying for the reparations imposed by France and Britain and acceding to the demands of the militant factions to avoid a further revolution. Creating money was the only immediately available solution; Haverstein and the government decided that stopping the production of money at this stage would cause utter political and social disintegration.

Furthermore, the 'hard' currency (dollars, sterling, or gold) for reparations payments could only be bought with newly printed rapidly depreciating paper marks. This pushed the exchange rate from 8 marks to the US dollar in 1919 to 320 in 1922, at which point the reparations had to be paid in coal: that is, 'surrogate' money (see chapter 6). Near the end of the hyperinflation in 1923, the dollar-mark exchange rate was a meaningless 1:4,000,000,000,000. Depreciation of the mark exacerbated the domestic price inflation, caused by the printing of money to meet the leapfrogging claims for wages and pensions, and by big business's profiteering.

Once in motion, the hyperinflation was self-generating. Rising prices were met by ever-increasing claims for higher wages and greater profits, which in turn were met by faster production of more money, which was spent on receipt in a near futile attempt to avoid further inexorable depreciation. Many contemporary accounts gave vivid testimony of the social disorientation. A French observer concluded that continual rapid changes in the value of money made it impossible to establish from day to day even the approximate wealth of anyone or anything (Orléan, 2008, 31).

The government had neither the will nor strength to stop the printing. Moreover, during the first year of hyperinflation in 1921, the two main protagonists in the anarchy had no wish to call a halt. Both the organized working class and their profiteering employers in the large monopolies were able to keep abreast or even ahead of inflation (Ahamed, 2009, 123). Borrowing to expand production was accompanied by an immediate and rapid depreciation of the debt. Squeezed between the two powerful interests, middle-class functionaries, teachers, public employees on fixed incomes, and non-unionized workers were impoverished to the point

of starvation. By 1922, a clerk's yearly salary was barely enough to keep his family for a month (Fergusson, 2010 [1975], 84).

People eventually began to balk at pushing wheelbarrow-loads of notes to buy bread. (It is a telling indication of monetary calculation's fundamental importance for daily life that people held onto the incalculable money of account for as long as possible.) Eventually, the mark was abandoned after it became utterly unusable for pricing and purchasing goods. Farmers' refusal to accept money for their produce was an important turning point. City dwellers raided the countryside, crudely slaughtering livestock and stealing food – social and political order had disintegrated.

The end of the hyperinflation in October 1923 was so sudden as to be seen as a 'miracle'. Monetary stabilization by the issue of a new paper currency (Rentenmark) by a new bank (Rentenbank) perfectly illustrates money's social and political foundations and the relative unimportance of economic factors in establishing its acceptability. A political coalition of the capitalist and landed property owners of the Rentenbank promised that new Rentenmarks would be backed by legally contracted mortgages on German property. This was purely fictitious; the validity of the claim was dependent on that which was yet to be established: that is, the value of the mortgages depended on the successful stabilization of the Rentenmark (Orléan, 2008).

In short, monetary stabilization had to await a political agreement between the main interests embroiled in the chaotic struggle in which the emission of money was both cause and consequence of their enmity. The political settlement encouraged a suspension of disbelief; the *Rentenbank* was able to replace the worthless paper notes with the new ones simply because they were not the old ones (Fergusson, 2010 [1975], 216). New prices were quoted in new marks simply by cutting twelve zeros from extant old mark prices, which 'miraculously' now remained stable.

We will now re-engage with the development of the distinctive element of modern capitalism: the elastic creation of credit money as *capital*.