

Chapter 6: Introduction to Sovereign Currency: The Government and its Money

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Learning Objectives

1. Explain why a fiat currency is valued and is acceptable in domestic transactions.
2. Recognise the distinction between fixed and floating exchange rate regimes and their significance for the conduct of macroeconomic policy.
3. Understand how IOUs are created and extinguished.

6.1 Introduction

In this chapter we will examine in more detail several of the concepts briefly introduced in earlier Chapters of this textbook. We first turn to the money of account and the nation's currency, and note that the latter is not backed by a precious metal, such as gold. We argue that the so-called fiat currency is valued and widely used in transactions because it is required as the means to relinquish tax obligations levied by the state. All financial stocks and flows are denominated in the national money of account. In this context the financial system can be viewed as a record of transactions, that is a scoreboard. We then examine the difference between floating and fixed exchange rate systems. Government and non-government IOUs are denominated in the money of account. After defining leveraging, we argue that these different types of IOUs can be conceived of as a financial pyramid, with government IOUs at the top. Finally we emphasise the need to use the term 'money' very carefully to avoid confusion.

6.2 The National Currency (Unit of Account)

Let us look at money as the **unit of account** in which stocks and flows are denominated.

One nation, one currency

In Chapter 1 we introduced the concept of the money of account. The Australian dollar, the US dollar, the Japanese yen, the British pound, and the European euro are all examples of a money of account. The first four of these monies of account are each associated with a single nation. Throughout history, the usual situation has been 'one nation, one currency', although there have been a few exceptions to this rule, including the modern euro, which is a money of account adopted by a number of countries that have joined the Economic and Monetary Union of the European Union (EMU). When we address the exceptional cases, such as the EMU, we will carefully identify the differences that arise when a currency is used, but not issued, by a nation.

Most of the discussion that follows will be focused on the more common case in which a nation adopts its own money of account. The government of the nation issues a currency (usually consisting of metal coins and paper notes of various denominations) denominated in its money of account. Spending by the government as well as tax liabilities, fees, and fines owed to the government are denominated in the same money of account. These payments are enforceable by law. More generally, broad use of a nation's money of account is ensured by enforcing monetary contracts in the court of law, such as the payment of wages.

In many nations there are private contracts that are written in foreign monies of account. For example, in some Latin American countries it is common to write some kinds of contracts in terms of the US dollar. It is also common in many nations to use US currency in payment. According to some estimates, the total value of US currency circulating outside America exceeds the value of US currency used at home. Much of this is thought to be involved in illegal activities, including the drug trade. Thus, one or more foreign monies of account as well as the corresponding foreign currencies might be used in addition to the domestic money of account and the domestic currency denominated in that unit. Sometimes this is explicitly recognised by, and permitted, by the authorities, while other times it is part of the underground economy that tries to avoid detection by using foreign currency.

Sovereignty and the currency

The national currency is often referred to as a **sovereign currency**, that is, the currency issued by the sovereign government. The sovereign government retains for itself a variety of powers that are not given to private individuals or institutions. Here, we are only concerned with those powers associated with money. The sovereign government alone, has the power to determine which money of account it will recognise for official accounts. Further, modern sovereign governments, alone are invested with the power to issue the currency denominated in each nation's money of account. For example, if any entity other than the US government tried to issue US currency it would be prosecuted as a counterfeiter, with severe penalties resulting. As noted above, the sovereign government imposes tax liabilities (as well as fines and fees) in its money of account, and decides how these liabilities can be paid - that is, it decides what it will accept in payment so that taxpayers can fulfil their obligations. Finally, the sovereign government also decides how it will make its own payments - when it purchases goods or services, or meets its own obligations, such as pensions to retirees. Most modern sovereign governments make payments in their own currency, and require tax payments in the same currency. For reasons that we will examine later, requiring tax payments in the government's currency ensures that the same currency will be accepted in payments made by government.

What 'backs up' the currency?

There is, and historically has been, some confusion surrounding sovereign currency. For example, many policy makers and economists have had trouble understanding why the private sector would accept currency issued by the government when it made purchases. Some have argued that it is necessary to 'back up' a currency with a precious metal in order to ensure acceptance in payment. Historically, governments have sometimes maintained a reserve of gold or silver (or both) against its currency. It was thought that if the population could always return currency to the government to obtain precious metal instead, then the currency would be accepted because it would be thought to be 'as good as gold'. Sometimes the currency itself did contain precious metal - as in the case of gold coins. In the US, the Treasury did maintain gold reserves equal to 25 per cent of the value of the issued currency until the late 1960s, but American citizens were not allowed to redeem currency for gold; only foreign holders of US currency could do so. However, the US and most nations have long since abandoned this practice. And even with no gold backing, the US currency is still in high demand all over the world, so that the view that currency needs precious metal backing is erroneous.

Legal tender laws

Another explanation that has been offered is legal tender laws. Historically, sovereign governments have enacted legislation requiring their currencies to be accepted in payments. Indeed, paper currency issued in the US proclaims 'this note is legal tender for all debts, public and private'; Canadian notes say 'this note is legal tender'; and Australian paper currency reads 'This Australian note is legal tender throughout Australia and its territories.' By contrast, the paper currency of the UK simply says 'I promise to pay the bearer on demand the sum of five Pounds' (in the case of the five pound note). On the other hand, the euro paper currency makes no promises. Further, throughout history there are many examples of governments that passed legal tender laws, but still could not create a demand for their currencies - which were not accepted in private payments, and sometimes even rejected in payment by the government. In

some cases, the penalty for refusing to accept a king's coin included the burning of a red hot coin into the forehead of the recalcitrant. Hence, there are currencies that readily circulate without any legal tender laws as well as currencies that were shunned even with legal tender laws. Further, as we know, the US dollar circulates in a large number of countries in which it is not legal tender (and even in countries where its use is discouraged by the authorities).

Fiat currency

Modern currencies are often called **fiat currencies** because there is no promise made by government to redeem them for precious metal - their value is proclaimed by 'fiat' (the government merely announces that a coin is worth a half-dollar without holding a reserve of precious metal equal in value to a half dollar). Many students in economics courses are shocked when they are first told that there is 'nothing' backing the currency in their pockets. While they had probably never contemplated actually taking the currency down to the treasury to exchange it for gold, they had found comfort in the erroneous belief that there was 'something' standing behind the currency - perhaps a reserve of precious metal available for redemption. The UK currency's 'promise to pay the bearer on demand the sum of five Pounds' appears to offer a sound basis, implying that the treasury holds something in reserve that it can use to make the promised payments. However, if one were to actually present to the UK government a five pound note, the treasury would simply offer another five pound note, or a combination of notes and coins that sum to five pounds! Any citizen of the US or Australia would experience the same outcome at their own treasuries: a five dollar note can be exchanged for a different five dollar note, or for some combination of notes and coins to make five dollars. That is the extent of the government 'promise to pay'!

If currency cannot be exchanged for precious metal, and if legal tender laws are neither necessary nor sufficient to ensure acceptance of a currency, and if the government's 'promise to pay' really amounts to nothing, then why would anyone accept a government's currency? Let us try to determine why.

Taxes drive the demand for money

One of the most important powers claimed by sovereign government is the authority to levy and collect taxes (and other payments made to government including fees and fines). Tax obligations are levied in the national money of account - for example, dollars in the US and Australia, yen in Japan, pounds in the UK and so on. Further, the sovereign government also determines what can be delivered to satisfy the tax obligation. In all modern nations, it is the government's own currency that is accepted in payment of taxes.

While taxpayers mostly use cheques drawn on private banks to make tax payments, when government receives these cheques, it debits the reserves of the private banks, which are held at the central bank. Reserves are just a special form of government currency used by banks to make payments to one another and to the government. Like all currency, reserves are the government's IOU. Effectively, private banks intermediate between taxpayers and government, making payment in currency on behalf of the taxpayers. Once the banks have made these payments, the taxpayer has fulfilled her obligation, so the tax liability is eliminated.

The tax payment reduces the worker's financial wealth because their bank deposit is debited by the amount of the tax payment. At the same time, the government's asset (the tax liability owed

by the worker) is eliminated when the taxes are paid, and the government's liability (the reserves held by private banks) is also eliminated. This is an example of the operation of the payments system, which will be analysed in greater detail in Chapter 13.

We are now able to answer the question posed above: why would anyone accept government's 'fiat' currency? The answer is because the government's currency is the main (and usually the only) thing accepted by government in payment of taxes. It is true, of course, that government currency can be used for other purposes: coins can be used to make purchases from vending machines; private debts can be settled by offering government paper currency; and government money can be hoarded in piggy banks for future spending. However, these other uses of currency are all subsidiary, deriving from government's willingness to accept its currency in tax payments. It is because anyone with tax obligations can use currency to eliminate these liabilities that government currency is in demand, and thus can be used in purchases or in payment of private obligations. The government cannot easily force others to use its currency in private payments, or to hoard it in piggybanks, but government can force use of currency to meet tax obligations that it imposes.

For this reason, neither reserves of precious metals nor legal tender laws are necessary to ensure acceptance of the government's currency. All that is required is the imposition of a tax liability to be paid in the government's currency. The 'promise to pay' that is engraved on UK pound notes is superfluous and really quite misleading. We know that the UK treasury will not really pay anything (other than another note) when the five pound paper currency is presented. However, it will and must accept the note in payment of taxes. This is really how government currency is redeemed - not for gold, but in payments made to the government. We will go through the accounting of tax payments later. It is sufficient for our purposes now to understand that the tax obligations to government are met by presenting the government's own IOUs to the tax collector.

We can conclude that taxes drive money. The government first creates a money of account (the dollar), and then imposes tax obligations in that national money of account. In all modern nations, this is sufficient to ensure that most debts, assets, and prices, will also be denominated in the national money of account. The government is then able to issue a currency that is also denominated in the same money of account, so long as it accepts that currency in tax payment. When we talk about the government 'issuing' currency, the most usual way in which this occurs is through government spending. We say the government spends the currency into existence. It can also make loans.

It is not necessary to 'back' the currency with precious metal, nor is it necessary to enforce legal tender laws that require acceptance of the national currency. For example, rather than engraving the statement 'This note is legal tender for all debts, public and private', all the US government needs to do is to promise 'This note will be accepted in the payment of taxes' in order to ensure general acceptability within the US and even abroad.

Financial stocks and flows are denominated in the national money of account

Financial stocks and financial flows are denominated in the national money of account. While working, the employee earns a flow of wages that are denominated in money, effectively accumulating a monetary claim on the employer (see Chapter 5). On payday, the employer eliminates the obligation by providing a pay cheque that is a liability of the employer's bank.

Again, that is denominated in the national money of account. If desired, the worker can cash the cheque at their bank, receiving the government's currency - again an IOU of the government. Alternatively, the cheque can be deposited in the worker's bank, leaving the worker with an IOU of their bank, denominated in the money of account.

Any disposable income that is not used for consumption purchases represents a flow of saving, accumulated as a stock of wealth. In this case, the saving is held as a bank deposit, that is, as financial wealth. These monetary stocks and flows are conceptually nothing more than accounting entries, measured in the money of account. We can easily imagine doing away with coins and paper notes as well as cheque books, with all payments made through electronic entries on computer hard-drives. All financial wealth could similarly be accounted for without use of paper.

In Chapter 5, we carefully examined the definitions of stocks (for example, wealth) and flows (for example, income, spending and saving), as well as the relationships between them.

The financial system as an electronic scoreboard

The modern financial system can be seen as an elaborate system of record keeping, a sort of financial scoring of the game of life in a capitalist economy. Financial scoring can be compared with a scoreboard at a sporting event, say a game of football. When a team scores a goal, the official scorer awards points, and electronic pulses are sent to the appropriate combination of LEDs so that the scoreboard will show the appropriate number of points depending on the football code being played. As the game progresses, point totals are adjusted for each team. The points have no real physical presence, they simply reflect a record of the performance of each team according to the rules of the game. They are not 'backed' by anything, although they are valuable because the team that accumulates the most points is deemed the 'winner' - perhaps rewarded with fame and fortune. Further, in some codes, points can be taken away after review by officials who determine that rules were broken and that penalties should be assessed. The points that are taken away don't really go anywhere - they simply disappear as the scorekeeper deducts them from the score.

Similarly, in the game of life, earned income leads to 'points' credited to the 'score' that is kept by financial institutions. Unlike the game of football, in the game of life, every 'point' that is awarded to one player is deducted from the 'score' of another - either reducing the payer's assets or increasing their liabilities. However, accountants in the game of life are very careful to ensure that financial accounts always balance. The payment of wages leads to a debit of the employer's 'score' at the bank, and a credit to the employee's 'score', but at the same time, the wage payment eliminates the employer's implicit obligation to pay wages as well as the employee's legal claim to wages. So, while the game of life is a bit more complicated than the football game, the idea that record keeping in terms of money is a lot like record keeping in terms of points can help us to remember that money is not a 'thing' but rather is a unit of account in which we keep track of all the debits and credits - or, 'points'.

6.3 Floating versus Fixed Exchange Rate Regimes

In the previous sections we dealt with the case of governments that do not promise to convert their currencies on demand into precious metals or anything else. When a \$5 note is presented to the US Treasury, it can be used to pay taxes or it can be exchanged for five \$1 notes (or for some combination of notes and coins that total \$5) - but the US government will not convert it to anything else. Further, the US government does not promise to maintain the exchange rate of US dollars at any particular level. Most of this textbook will be concerned with sovereign currencies which operate with **floating exchange rates** against other currencies, so that they are not convertible at a fixed rate to another currency. Examples of such currencies include the US dollar, the Australian dollar, the Canadian dollar, the UK pound, the Japanese yen, the Turkish lira, the Mexican peso, the Argentinean peso, and so on. We will now make this important distinction between fixed and floating exchange rates clearer.

The gold standard and fixed exchange rates

A century ago, many nations operated with a gold standard in which the country not only promised to redeem its currency for gold, but also promised to make this redemption at a fixed exchange rate. An example of a fixed exchange rate is a promise to convert thirty-five US dollars to one ounce of gold. For many years, this was indeed the official US exchange rate. Other nations also adopted fixed exchange rates, pegging the value of their currency either to gold or, after WWII, to the US dollar. For example, at the inception of the post WWII system, known as the Bretton Woods system, the official exchange rate for the UK pound per US dollar was 0.2481 (on December 27, 1945). This is equivalent to a person receiving \$US4 for each UK pound presented for conversion. As all other currencies in the system were set relative to the US dollar, this also set their relative values with each other. So on December 27, 1945, 119.1 French francs exchanged for \$US1, which meant that it that 480 francs were required to purchase one UK pound. In Chapter 16, we will learn how to interpret exchange rate quotations and calculate various cross parities.

In order to make good on its promises to convert its currency at fixed exchange rates, each nation had to keep a reserve of foreign currencies (and/or gold). For example, if a lot of UK pounds were presented for conversion to \$US (for example, by foreign central banks to the Bank of England), the UK's reserves of foreign currency could be depleted rapidly. There were three strategies that could be adopted by the UK government to avoid running out of foreign currency reserves, but none of them was very pleasant. They included: a) alter the value of the pound against the US dollar – that is, devalue; b) borrow foreign currency reserves; or c) deflate the economy using higher interest rates and/or fiscal cutbacks to curtail imports and attract capital inflow.

Floating exchange rates

In August 1971, the US President Nixon abandoned US participation in the fixed exchange rate system because it was unable to continue to guarantee conversion of US dollars into gold at the agreed price. Many countries followed suit. This meant that these governments no longer promised to convert their currency to another currency (or gold) at a fixed rate. As a result, the relative values of currencies against each other were allowed to float and be determined hour by hour by forces of demand and supply. It didn't stop conversion of currencies into other

currencies. It just meant that the values governing that conversion would frequently fluctuate. It is easy to convert most currencies into any other major currency at private banks and at kiosks in international airports. Currency exchanges do these conversions at the current exchange rate set in international markets (less fees charged for the transactions). These exchange rates change day-by-day, or even minute-by-minute, fluctuating to match demand (from those trying to obtain the currency in question) and supply (from those offering that particular currency in exchange for other currencies).

The determination of exchange rates in a floating exchange rate system is exceedingly complex. The international value of the US dollar, for example, might be influenced by such factors as the demand for US assets, the US trade balance, US interest rates relative to those in the rest of the world, US inflation, and US growth relative to that in the rest of the world. So many factors are involved that no statistical model has been developed yet that can reliably predict movements of exchange rates.

What is important for our analysis, however, is that with a floating exchange rate, a government does not need to fear that it will run out of foreign currency reserves (or gold reserves) for the simple reason that it does not convert its domestic currency to foreign currency at a fixed exchange rate. Indeed, the government does not have to promise to make any conversions at all. In practice, governments operating with floating exchange rates do hold foreign currency reserves, and they do offer currency exchange services for the convenience of their financial institutions. However, the conversions are done at current market exchange rates, rather than keeping the exchange rate at a prescribed level.

Governments can also intervene into currency exchange markets to try to nudge the exchange rate in the desired direction. They also will use macroeconomic policy (including monetary and fiscal policy - as discussed later) in an attempt to affect exchange rates. Sometimes this works, and sometimes it does not. The point is that, with a floating exchange rate, attempts to influence exchange rates are discretionary. With a fixed exchange rate, government must use policy to try to keep the exchange rate fixed. On the other hand, the floating exchange rate ensures that the government has greater freedom to pursue other policy goals - such as maintenance of full employment, sufficient economic growth, and price stability. How it might do that is discussed in later chapters.

6.4 IOUs Denominated in National Currency: Government and Non-Government

In the sections above we have noted that assets and liabilities are denominated in a money of account, which is chosen by a national government and given force through the mechanism of taxation. With a floating exchange rate, the government's own IOUs - currency - are nonconvertible in the sense that the government makes no promise to convert them to precious metal, to foreign currency, or to anything else. Instead, it promises to accept its own IOUs in payments made to itself (mostly tax payments, but also payments of fees and fines). This is the necessary and fundamental promise made: the issuer of an IOU must accept that IOU in payment. So long as government agrees to accept its own IOUs in tax payments, the government's IOUs will be in demand (at least for tax payments, and probably for other uses as well).

Similarly, private issuers of IOUs also promise to accept their own liabilities. For example, if you have a loan with your bank, you can always pay principle and interest on the loan by writing a cheque on your deposit account at the bank. Indeed, all modern banking systems operate a cheque clearing facility so that each bank accepts cheques drawn on all other banks in the country. This allows anyone with a debt due to any bank in the country to present a cheque drawn on any other bank in the country for payment of the debt. The cheque clearing facility then operates to settle accounts among the banks - a topic to be discussed in detail in Chapter 10. The important point is that banks accept their own liabilities (cheques drawn on deposits) in payments on debts due to banks (the loans banks have made), just as governments accept their own liabilities (currency) in payments on debts due to government (tax liabilities).

Leveraging

There is one big difference between government and banks, however. Banks do promise to convert their liabilities to something. You can present a cheque to your bank for payment in currency, what is normally called 'cashing a cheque', or you can simply withdraw cash at the Automatic Teller Machine (ATM) from one of your bank accounts. In either case, the bank IOU is converted to a government IOU. Banks normally promise to make these conversions either 'on demand' (in the case of 'demand deposits', which are normal cheque accounts) or after a specified time period (in the case of 'time or term deposits', including savings accounts and certificates of deposits, known as CDs - perhaps with a penalty for early withdrawal).

Because banks make this promise to convert on demand, they must either hold reserves of currency, or have quick access to them. Their reserves take the form of vault cash plus deposits held at the central bank. Note that they need to hold only small amount of reserves against their deposits because they know that redemptions (withdrawals) over any short period will be a tiny fraction of their total deposits. The fraction of reserves against deposits is called the reserve ratio. We can think of deposits as **leveraging** the reserves. For example, in the USA, the ratio of reserves against bank deposits is around 1 per cent. This means the leverage ratio is 100-to-1.

Banks hold a relatively small amount of currency in their vaults to handle these conversions, but most of their reserves take the form of deposits at the central bank. If they need more currency, they ask the central bank to send an armoured truck with the desired notes and coins. Banks don't want to keep a lot of cash on hand, nor do they need to do so in normal circumstances. For our purposes here, bank reserves (deposits at the central bank) are equivalent to vault cash because a bank can immediately convert them to currency to meet cash withdrawals. There is no functional difference between cash held in bank vaults and reserve deposits held at the central bank. We can include both as currency – government liabilities with zero time to maturity.

Lots of cash could increase the attractiveness to robbers, but the main reason for minimising holdings is because it is costly to hold currency. The most obvious cost is the vault and the need to hire security guards. However, more important to banks is that holding reserves does not earn profits. Banks would rather hold loans as assets, because debtors pay interest on these loans. For this reason, banks operate with high leverage ratios, holding a very tiny fraction of their assets in the form of reserves against their deposit liabilities. So long as only a small percentage of their depositors try to convert deposits to cash on any given day, this is not a problem. However, in the case of a bank run in which a large number of customers try to convert their deposits to cash on the same day, the bank will have to obtain currency from the central bank. This can even lead

to a lender of last resort action by the central bank that lends currency reserves to a bank facing a run. These are issues that we will address later.

Clearing accounts extinguish IOUs

There is another reason that banks hold reserves. When you write a cheque on your bank account to pay a bill, the recipient of the cheque will deposit it in their own bank - which is probably a different bank. Their bank will present the cheque to your bank for payment. This is called **clearing accounts**. Banks clear accounts using government IOUs, and for that reason banks maintain reserve deposits at the central bank. More importantly, they have access to more reserves should they ever need them, both through borrowing from other banks through the interbank market for reserves (an overnight market where banks lend to and borrow from each other), or through borrowing them from the central bank. All modern financial systems have developed procedures that ensure banks can get currency and reserves as necessary to clear accounts among themselves and with their depositors. The central bank is duty bound to provide banks with sufficient reserves should it fall short on any particular day.

When First National Bank receives a cheque drawn on Second National Bank, it asks the central bank to debit the reserves of Second National and to credit its own reserves. This is now handled electronically. Note that while Second National's assets will be reduced (by the amount of reserves debited), its liabilities (cheque deposit) will be reduced by the same amount. Similarly, when a depositor uses the ATM to withdraw currency, the bank's assets (cash reserves) are reduced, and its IOUs to the depositor (the liabilities in the deposit account) are reduced by the same amount.

Other business firms use bank liabilities for clearing their own accounts. For example, the retail firm typically receives products from wholesalers on the basis of a promise to pay after a specified time period (for example, this period is usually 30 days in the US). Wholesalers hold these IOUs until the end of the period, at which time the retailers pay by a cheque drawn on their bank account (or, increasingly, by an electronic transfer from their account to the account of the wholesaler). At this point, the retailer's IOUs held by the wholesalers are cancelled.

Alternatively, the wholesaler might not be willing to wait until the end of the period for payment. In this case, the wholesaler can sell the retailer's IOUs at a discount (for less than the amount that the retailer promises to pay at the end of the period). The discount is effectively interest that the wholesaler is willing to pay to get the funds earlier than promised. In this case, the retailer will finally pay the holder of these IOUs at the end of the period, who effectively earns interest (the difference between the amount paid for the IOUs and the amount paid by the retailer to extinguish the IOUs). Again, the retailer's IOU is cancelled by delivering a bank liability (the holder of the retailer's IOU receives a credit to their own bank account). As we will see later, discounting is the basis of both commercial banking and of interest rates.

Pyramiding currency

This brings up another important point. Private financial liabilities are not only denominated in the government's money of account, but they also are, ultimately, convertible into the government's currency. As we have discussed, banks explicitly promise to convert their liabilities to currency (either immediately in the case of demand deposits, or with some delay in the case of time deposits). Other private firms mostly use bank liabilities to clear their own

accounts. Essentially, this means they are promising to convert their liabilities to bank liabilities, 'paying by cheque' on a specified date (or, according to other conditions specified in the contract). For this reason, they must have deposits, or have access to deposits, with banks to make the payments.

Things can get even more complex than this, because there is a wide range of financial institutions (and, even, non-financial institutions that offer financial services) that can provide payment services. These can make payments for other firms, with net clearing among these 'non-bank financial institutions' occurring using the liabilities of banks. Banks in turn, clear accounts using government liabilities. There could thus be 'six degrees of separation' (many layers of financial leveraging) between a creditor and debtor involved in clearing accounts.

We can think of a pyramid of liabilities, with different layers according to the degree of separation from the central bank. Perhaps the bottom layer consists of the IOUs of households, held by other households, by firms engaged in production, by banks, and by other financial institutions. The important point is that households usually clear accounts by using liabilities issued by those higher in the debt pyramid - usually financial institutions.

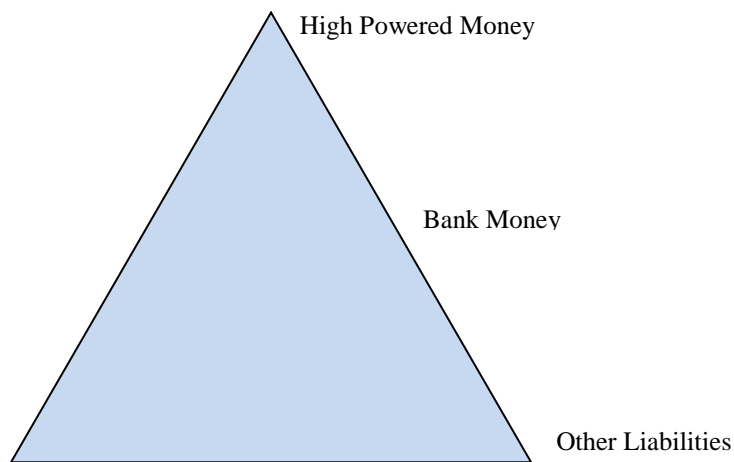
The next layer up from the bottom consists of the IOUs of firms engaged in production, with their liabilities held mostly by financial institutions higher in the debt pyramid (although some are directly held by households and by other production firms), and who mostly clear accounts using liabilities issued by the financial institutions, sometimes called shadow banks.

At the next layer we have non-bank financial institutions, which in turn clear accounts using the banks whose liabilities are higher in the pyramid. Banks use government liabilities for net clearing.

Finally, the government is at the top of the pyramid - with no liabilities higher than its non-convertible IOUs. The shape of the pyramid is instructive for two reasons. First, there is a hierarchical arrangement whereby liabilities issued by those higher in the pyramid are more generally more acceptable. In some respects, this is due to higher credit worthiness (the government's liabilities are free from credit risk; as we move down the pyramid through bank liabilities, toward non-financial business liabilities and finally to the IOUs of households, risk tends to rise - although this is not a firm and fast rule). Second, the liabilities at each level typically leverage the liabilities at the higher levels. In this sense, the whole pyramid is based on leveraging of (a relatively smaller number of) government IOUs. This is a concept we will return to in the next section.

The following 'pyramid' (developed by Hyman Minsky and Duncan Foley, and extended by Stephanie Bell) provides a nice visual representation of the concept of leveraging. At the top of the pyramid are the government's liabilities; below this are the liabilities of banks, normally made convertible into government's high powered money, which is also called the monetary base and constitutes the sum of all bank reserves held in the central bank clearing accounts and outstanding currency (notes and coins). At the bottom of the pyramid we include all other money-denominated liabilities (these could include the IOUs of non-financial firms as well as those of households).

Figure 6.1 The Minsky – Foley pyramid



6.5 Use of the Term ‘Money’: Confusion and Precision

Before concluding this chapter, we will briefly distinguish between our use of the term ‘money’ and the way this term is often used. The term ‘money’ is often used colloquially to refer to income, as in ‘how much money do you make at your job’. As was discussed in Chapter 5, income is a flow that is measured in nominal terms, that is, in the money of account. In this book, we will always carefully distinguish flows from stocks, and will not use the term ‘money’ in place of ‘income’.

The term ‘money’ is also often used to indicate a particular liability, such as the demand deposit liability of a bank, or the currency IOU of the government. In fact, as we have discussed above, all financial liabilities are denominated in a money of account. It is thus rather arbitrary to call some of these ‘money’ and to exclude others. Further, each time one uses the term money to generally refer to money-denominated liabilities, one must provide a list of those that are included as ‘money’ or a list of those that are excluded. Otherwise, we can never be sure what the speaker means.

Throughout this book, we will carefully distinguish between the money of account (the US dollar or the Australian dollar, for example), and specific money-denominated liabilities (demand deposits issued by banks or currency issued by the government, for example). The term ‘money’ simply refers to the unit of account chosen by government to denominate tax liabilities and payments made to government - the dollar in both the US and Australia. As we have discussed, this does not have any physical existence but rather is the unit in which we can keep track of debts and credits - much as a ‘point’ is the unit of account used in American football to keep track of touchdowns and field goals. Just as a touchdown is denominated in points, a coin is denominated in dollars (or fractions of a dollar). A touchdown takes a physical form (a player carrying the football crosses the goal line), but the six points used to ‘account’ for the touchdown do not have any physical presence. In the same manner, a ten dollar note issued by the treasury has a physical form (a piece of paper imprinted with ink), but the ten dollars owed by the treasury that it ‘accounts’ for do not.