7 Endnotes

1. Some countries have experienced deflation, generally due to a fall in the amount of money in circulation.
2. This is the demand side of GDP; the other is the supply / production side.
3. Source of Hungarian inflation and note: wikipedia.org. Although no official data on the inflation rate in Zimbabwe was available from mid-2008, John Robertson, a Zimbabwean economist, estimated the inflation rate in late 2008 to have been in the region of seven sextillion % pa (= seven followed by 21 zeros). Another source (the Cato Institute, quoted by wikipedia.com) puts the Zimbabwean inflation peak at 89.7 sextillion percent per annum in November 2008.
4. According to my research; also stated by wikipedia.com.
5. John Robertson estimated the Z$ 100 note to have been worth 0.00285 US cents in March 2009.
6. In this text we use the monetary unit "corona" of fictitious country "Local Country". Its currency code is LCC.
7. Usually, the statute that governs the activities of the central bank.
8. Not always, however. If you pay by EFT or cheque, then yes. But, if the smallest denomination coin is 5 cents, then payments by N&C can only be in multiples of 5 cents.
9. In most cases; in some countries it is a liability of government.
10. If Friend A lent money to you, you owe him the money; he is your creditor = a liability in your balance sheet. If you lend Friend B money he owes you the money; he is your debtor = an asset in your balance sheet.
11. There is usually a maximum amount stated in the statute in respect of the tender of coins.

12. This differs from country to country. In some the debt is not extinguished but, if the creditor sues for his debt, the debtor must pay the money to the court, and the debtor is liable for the costs of the action. See Morgan (1965: 28).
13. There is another: standard of deferred payment, but this one is an outflow of the store of value role. In the interests of your constitutional right…, it will not be elaborated upon here.
14. Note that we use the terms *loan* and *credit* interchangeably.
15. Usually current / cheque (check in the US) / savings / call accounts.
16. Usually accounts for which a short notice period is required.
17. Bank A does a credit check on Co B and a detailed feasibility study on the project for which Co B wants to borrow money and declares Co B creditworthy and the project feasible.
18. There is much historical and recent evidence of the vulnerability of banks. This is an interesting phenomenon, in that some banks literally act like members of the canine species when given unlimited food: they eat until they throw up. Because banks are in the business of lending, when their competitors are rapidly expanding their balance sheets (i.e. lending and creating / getting deposits) some of them will relax their lending criteria and some consequently will fail. Government banking regulation and supervision is critical, for two reasons: (1) banking is a "privileged" business (and they have a moral obligation to the public whose deposits they hold), and (2) banks are inherently unstable. Some hold the view that the authorities should have the right to interfere in bank employee remuneration.
19. Morgan, 1965:9.
20. Newlyn (1971:1) refers to this as "a double coincidence of wants."
21. Jevons, 1875:1–2. He quotes from a "lively" letter printed by M Wolowski.
22. Jevons, 1875:2–3.
23. 1971:1.
24. Davies, 2002:27 and Morgan, 1965:12.
25. A fifth can be added if you are a pedantic economist: *savings in information costs*; it arises from the reduction in the number of prices when a medium of exchange is introduced. As seen, in a barter economy the number of prices to be monitored is vast and therefore unmanageable. A price is no more than information (supply and demand) concerning the relevant good.
26. Morgan, 1965:12.
27. Davies, 2002:36.
28. Davies did not mention the quality issue. It is common sense that a prettier, subservient, caring, loving, well-skilled-in-the-kitchen woman will cost more cowries. Therefore one has to introduce the quality proviso, that is, to make the prices comparable.
29. According to Davies, 2002:45.
30. Morgan, 1965:13; Davies, 2002:46.

31. An internet search of these and related words will reveal a litany of hysterical protests that we need to return to this age to save the world from the ravages of a monetary system based on debt. We will show that a monetary system that creates money not backed by anything can be an elegant one, which has a significant advantage – that of enabling economic growth that a system of gold-backed money does not have. There is a momentous rider, however, which (as we have said before) is that the monetary system requires rigorous and responsible management by the central bank. *Rigorous and responsible* means ensuring that money growth maintains a close relationship with the production elasticity and the resource-availability of the economy. How this is implemented by central banks across the world today is covered in detail later.
32. Pirenne, 1965:105.
33. Davies, 2002:46.
34. Davies, 2002:62.
35. Morgan, 1965:12.
36. Davies, 2002: 60-61.
37. Morgan, 1965:13.
38. Davies, 2002:61. Sources differ on the period.
39. All quotes in this and the next paragraph from Davies, 2002:63.
40. Morgan, 1965:15–16.
41. Davies, 2002, 47, quoting from Jevons, WS, 1910. Money and the mechanism of exchange. London.
42. Pirenne, 1965:108.
43. Pirenne, 1965:108.
44. Morgan, 1965:15.
45. Pirenne, 1965:114.
46. Davies, 2002:188.
47. Morgan, 1965:20.
48. Morgan, 1965:18.
49. Pirenne, 1965:109.
50. Pirenne, 1965:109.
51. Pirenne, 1965:109.
52. Morgan, 1965:18.
53. Newlyn, 1971:5.
54. Clearly the purchasing power remained unchanged, but the bullion value was reduced.
55. Pirenne, 1945:110.
56. It is actually the profit after deduction of the cost of re-minting.
57. Morgan, 1965:19.
58. Harrod ,1969:5–6.
59. There are times (in periods of high inflation) when the intrinsic value of coins exceeds the purchasing power. It then pays to melt the coin down and sell the metal. In these circumstances, governments are quick to replace the coins with coins of lower intrinsic value.
60. Newlyn, 1971:3, defines token money as follows: "Token money…has…in the limiting case of paper notes, no commodity value whatsoever; its value derives entirely from the fact that it is generally acceptable in exchange for goods and services."
61. Davies, 2002:181.

62. Davies, 2002:181–183.
63. Newlyn, 1971:6.
64. In this period gold was valued at £3 17s 10½d per standard ounce, eleven-twelfths fine. The principal gold coin in England, the guinea, introduced in 1663, had a value of twenty-one shillings. It was replaced by the sovereign in 1925 by which time major changes to the currency had taken place in the form of token money (money with little or no backing) and bank deposit money. See Newlyn, 1971:6.
65. I am indebted to Pamela Hunter of C Hoare & Co who generously sent me this receipt and cheques shown later, as well as the deciphered texts. The company probably started out as a goldsmith and sometime before 1672 expanded its business to that of a goldsmith-banker at the London address: "at the golden bottle in Cheapside" (see the cheque of 1676 presented later). It moved to Fleet Street in 1690. The company exists to this day as a private banker: C Hoare & Co, and it is still owned by the Hoare family; its illustrious history can be perused at www.hoaresbank.co.uk. It is not known whether Lawrence Hoare was related to the "founder" Richard Hoare, who bought the business from the estate of Robert Tempest who passed away in 1673. The receipt and the cheques shown below were purchased by the company from a dealer in 1924.
66. Davies, 2002:249–250.
67. Jevons, 1875:201.
68. Jevons, 1875:201.
69. In the early days of the goldsmith-bankers there was no one pound coin. The closest was the guinea (made from gold from the Guinea Coast) which was equal to twenty-one twentieths of one pound. For the sake of simplicity, we assume there was a one pound coin. Cannan, 1919:vii.

70. "On the face of the receipt" later became to be called "face value" and this phrase also spread to securities (my speculation).
71. Jevons, 1875:201.
72. Jevons, 1875:201.
73. Davies, 2002:252, from Withers, 1909:20.
74. Davies, 2002:252.
75. Davies, 2002:256.
76. Babylon was a city-state of ancient Mesopotamia. The latter means "land between the rivers" the rivers being the Euphrates and Tigris; it largely corresponds with Iraq, and included parts of Turkey, Syria and Iran. Babylon was first mentioned in 2400 BC. Source: Wikipedia.
77. This paragraph benefitted much from Davies, 2002:50. He also states that there is much evidence of banking business during the period: "Literally hundreds of thousands of cuneiform blocks…unearthed by archaeologists in the various city sites along the Tigris and Euphrates, many of which were deposit receipts and monetary contracts, confirming the existence of simple banking operations…" The sub-quote is from Orsingher, 1964:1. An example of a cuneiform tablet is presented in Box 4.
78. This paragraph benefitted much from Davies, 2002:50.
79. A giro system opposes to a cheque system of transfer of deposits in that a transfer is made of a known deposit of a payer to a payee, whereas a cheque is given by a payer to a payee and the payee's bank elicits the funds from payer's bank.
80. And a "…central bank in Alexandria, where the main accounts from all the state granary banks were recorded." Davies, 2002:54.
81. Rostovtzeff, 1941:1285; quoted by Davies, 2002:54.
82. Heichelheim, 1958:134; quoted by Davies, 2002:55.
83. This paragraph benefitted from Morgan, 1965:22.
84. Morgan, 1965:22.
85. According to Morgan, 1965:22.
86. This paragraph benefitted much from Morgan, 1965:22–23.
87. Morgan, 1965:23.
88. Harrod, 1969:32.
89. Davies, 2002:251–252, from Spufford, 1988:395. The cheque resides in the Institute of Bankers' library in Lombard Street, London.
90. This paragraph benefitted much from Davies, 2002:50.
91. This was the form of bank lending before the bank overdraft (we surmise). It does not matter because the outcome is the same.
92. Davies, 2002:253-254.
93. It is interesting to note that this covenant lives on today. Many government securities today are payable "out of the revenue and assets" of the government.
94. Davies, 2002:253.
95. Also non-foreign, i.e. domestic.
96. Davies, 2002:239.
97. Except in hyperinflation periods when the value of the metals in coins exceeds their face values and it pays to melt the coins and sell the metal.

98. Davies, 2002:253–254.
99. It is recorded that some 2500 depositors were affected by this event. Horsefield, 1929; as quoted by Davies, 2002:255.
100. Morgan, 1965:23. The monopoly was fully completed only in 1921.
101. Davies, 2002:261.
102. Morgan, 1965:26.
103. Morgan, 1965:24.
104. This paragraph up this point benefitted much from Morgan, 1965:24.
105. Newlyn, 1971:8.
106. Morgan, 1865:24–25.
107. Introduced in 1925, and known as the Modified Gold Standard. See Newlyn, 1971:9.
108. The gold standard was abandoned in a financial crisis – when the Bank of England was not able to meet the demands for gold from foreign financial centres. See Newlyn, 1971:9.
109. The banks we mention here are the private sector banks and the central bank. Deposits of the public are kept with the private sector banks, while the bank notes and in some cases coins are the liabilities of the central bank. In some countries coins are the liabilities of government.
110. Examples are Reserve Bank of Malawi bills, Bank of Botswana certificates, and South African Reserve bank debentures. They can be regarded as a type of deposit security.
111. Under certain circumstances this is not so, but we are focussed on the normal here; the abnormal is for when you study further.

112. There are some other valuation techniques but the ones based on discounting future cash flows are the foundation ones. The formula gets a little complicated when there are multiple cash flows in the future (but the principle remains the same).
113. They will also all have different coupons (i.e. the fixed rate payable on each security) and therefore different prices, depending on their market rates. In the bond market an interest rate term, yield to maturity (ytm), is used because of the multiple cash flow in the future. Ytm is an average rate for the term of the security.
114. This refers to credit risk (although there are some countries where a credit risk does exist, i.e. government may renege on the principal and/or interest payments). Generally the finance world thinks of the developed world when they think of the concept rfr. Market risk (the risk of the price moving adversely – down – for you) does exist, but is not at issue here.
115. Even though you think that you are able to sell the bond in the bond market, this is not 100% certain (for example, a war may break out); hence the premium in terms of rate.
116. We said earlier that government securities rates are the lowest rates. This applies to the comparison of investments. When a bank is introduced, the picture is different: because banks are financial intermediaries, their call deposit (and other) rates are lower that the rfr – in order to make a margin, i.e. a profit.
117. The data span is six years, and is for a particular country which has a good record in terms of the conduct of monetary policy. The central bank's target is interest rates, and it manages rates via creating a permanent bank liquidity shortage (LS), which makes the KIR effective. This means, as seen in the figure, that the unfettered IBM rate is set by the banks with reference to the KIR. In normal times this is the style of policy adopted by most central banks.
118. In some countries the central bank does, but this takes place under extreme conditions of high bank liquidity when there is no other option. High liquidity renders monetary policy ineffective, and paying interest is an effort to make policy partially effective. This is a complicated story on which we will be silent in this book in the interests of our keeping the principles unfettered.
119. The singular is applicable because the banks always have the same prime rate – certainly in the vast majority of countries.
120. This is so because the public accepts deposit money as a means of payment.
121. Except "self-imposed" creditworthiness-assessment in the case of individuals and scrutiny of viability in the case of the corporate sector.
122. In many countries central bank accommodation to the banks is granted on an overnight basis (i.e. 1 day). In the repo system adopted in many other countries 1-week auctions are usually held for the majority of the liquidity required, and overnight repos are executed for "fine-tuning" at the end of the final interbank clearing.
123. Note that this style on monetary policy execution is followed by many countries in normal circumstances, including the ECB, the Bank of England, the Bank of Canada, the South African Reserve Bank, and so on. Not all countries follow this style. Some countries follow a policy of not having a liquidity shortage or surplus, while others allow liquidity surpluses. The latter policy is deeply flawed.
124. First introduced in the US, probably shortly after the Federal Reserve System was established in 1914, and followed by other central banks. De Kock, 1946:70.
125. This is a separate and interesting issue, which will detract from the principles we are discussing; therefore it will not be discussed here.

126. As we will show in a separate text, if there was another bank, the interbank market will make the market balance. We do not introduce this here in the interests of revealing principles.
127. The outcome is the same with an overdraft facility granted and utilised.
128. The central bank's balance sheet will be unchanged; so it does not feature in the consolidation.
129. There is a minor exception, as will be pointed out later.
130. Or liabilities in some cases.
131. As we have seen, in some countries N&C do not rank as reserves.
132. As we know, the latter was hardly achieved in the US and elsewhere in 2007/08/09.
133. The statement obviously does not apply to banks which are in trouble and the CB decides to allow them to be liquidated (such as Lehman Brothers in 2008). Some readers will not agree with this statement at all. We urge them to read all six sections before refuting it. It will be seen that, because central banks hold the banks' settlement accounts, this cannot be avoided.
134. If this is difficult to follow, think of the central bank as being the only bank that does not have accounts with the other banks. Thus when it is paid for the TBs (think cheques that are put through the clearing system) the payments are made by debits to the relevant banks' settlement accounts.
135. The author has personal experience of this when he acted as an advisor to a group that is involved in financial services in a number of small countries. This brought the author into contact with a number of central bank officials, including in some cases the central bank governor.
136. Morgan, 1965:31.
137. Newlyn, 1971:8–9.
138. Friedman and Schwartz, 1971.
139. This term usually refers to the retirement funds, the insurers and the unit trusts, that is, custodians of most of the investments of individuals.
140. Morgan, 1965:30.
141. De Kock, 1946:11. De Kock shows that the oldest to be established in terms of date was the Riksbank of Sweden. He also states that the Riksbank took its cues from the Bank of England as it developed into a central bank. The "of issue" refers to the bank note issue.
142. Morgan, 1965:202–203.
143. Morgan, 1965:203.
144. De Kock, 1946:12.
145. In the times of financial crises the Bank borrowed reserves (item C).
146. De Kock, 1946:12.
147. De Kock, 1946:13.
148. The capital B is correct
149. De Kock, 1946:13.
150. Morgan, 1965:212.
151. Morgan, 1965:212
152. Morgan, 1965:213.
153. Morgan, 1965:213.

154. Providing accommodation to the banks is an essential function of the CB. In times of crisis when some smaller (and sometimes even large) banks are less regarded by the stronger banks the interbank market does not clear effectively (because the larger banks will not make interbank loans to them). The CB then steps in, but only in the case of a bank it does not want to fail. An even more important point is that, as we saw earlier in great detail, whenever a CB does a transaction in the open market (OMO), it either creates reserves (if it buys) or a shortage of reserves (if it sells); in the latter case it has no option but to "accommodate" (i.e. lend to) the bank/s. It has not always been appreciated by central banks that at such times it is unnecessary to charge a penal rate; the prevailing KIR is the highest rate in the market in any case.
155. De Kock, 1946:17–20.
156. Morgan, 1965:217.
157. Morgan, 1965:217.
158. Morgan, 1965:216.
159. Morgan, 1965:202, quoting from Hansard, 9 April 1957, Col. 985.
160. Morgan, 1965:222, quoting the Radcliffe Report.
161. The author has come across this model in certain small countries. They are usually donor-receipt countries, and the model is forced upon them by multilateral international institutions in order to instil monetary discipline (in the severe absence thereof).
162. www.boe.co.uk.
163. In this case to avoid deflation; see further below.
164. Bank reserves.
165. www.rba.gov.au.
166. www.boc.co.ca.
167. http://www.federalreserve.gov/monetarypolicy/discountrate.htm.
168. It is based mainly on the illustration presented by the Bank of England at http://www.bankofengland.co.uk/images.
169. Here we ignore the firm-RR model, which is essentially a theoretical model rarely applied today.