the two sciences must necessarily differ, for the physical sciences 'being only secondarily conversant with mind, draw their premises almost exclusively from observation or hypothesis'. Observation may guide such strictly empirical sciences as technology, but such sciences as physics, 'those which treat only of magnitude and number. ... draw them altogether from hypothesis'. The physical sciences must rest on tentative hypotheses, precisely because they are 'only secondarily conversant with mind'. On the other hand, 'the mental sciences and the mental arts draw their premises principally from consciousness. The subjects with which they are chiefly conversant are the working of the human mind. And the only mind whose workings a man really knows is his own'. And of course economics was one of the mental sciences.

In this way, Nassau Senior, with brilliant clarity, developed the essentials of what Ludwig von Mises, a century later, would call 'praxeology'. As in the case of other mental sciences, economics cannot, like the physical sciences, conduct experiments. It is true, Senior noted, that economics deals with such material matters as production, productivity and diminishing returns, but the 'political economist dwells on them only with reference to the mental phenomena which they serve to explain', as among the motives or sources or capital, rent, profit, etc. In short, wrote Senior,

> All the technical terms, therefore, of Political Economy, represent either purely mental ideas, such as *demand, utility, value,* and *abstinence,* or objects which, though some of them may be material, are considered by the Political Economist so far only as they are the causes of certain affectations of the human mind, such as *wealth, capital, rent, wages,* and *profits.*

It is important to consider the once famous battle between Nassau Senior and John Stuart Mill on economic method, for Mill was soon to become the undeservedly towering economist for the next half-century. Mill agreed that economics, as a mental science, cannot conduct experiments; but he did not conclude, with Senior, that its premises or axioms should be complete, general and apodictic. Instead, he asserted that the foundations and premises of economics can only be 'hypothetical', that is, they must make assumptions that abstract from, and hence distort, reality. The axioms of economics are only partially, or hypothetically, true. In short, for Mill, since economics focuses on man's desire for wealth, it must *assume*, even though admittedly falsely, that man's *only* desire is for wealth. Thus, as Mill stated in his *Essays on Some Unsettled Questions in Political Economy* in 1844:

> Political Economy ... does not treat of the whole of man's nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desires to possess wealth, and who is capable of

> judging the comparative efficacy of means for obtaining that end. It predicts only such of the phenomena of the social state as take place in consequence of the pursuit of wealth. It makes entire abstraction of every other human passion or motive... Political Economy considers mankind as occupied solely in acquiring and consuming wealth; and aims at showing what is the course of action into which mankind living in a state of society, would be impelled, if that motive ... were absolute ruler of all their actions... Not that any political economist was ever so absurd as to suppose that mankind are really thus constituted, but because this is the mode in which science must necessarily proceed.[30]

Mill conceded that the founding assumption of his economics was 'an arbitrary definition of man'. For it reasoned from 'assumed premises – from premises which might be totally without foundation in fact, and which are not pretended to be universally in accordance with it...'.

And thus, John Stuart Mill, in this adumbration of the methodology of the deliberate creation of the fallacious 'economic man' – the man who is only interested in pursuing wealth – elaborated what might be called the orthodox, or dominant, 'positivist' methodology in economics. The positivist method, set down with such fallacious and fateful clarity by Mill, after a struggle with alternative praxeological (as well as other) methods, finally triumphed in the mid-twentieth century with the unfortunate rise to dominance of the positivism of Vilfredo Pareto and Milton Friedman.

Part of the motivation of Senior's thoughtful lectures on method in 1847 was precisely to engage in a critique and demolition of Millian positivism. Since Mill, like Smith and Ricardo before him, returned to their fallacious limitation of 'wealth' to material goods, the resulting distortion of value and production theory made Senior's task all the more important. Senior's assault on Mill, as well as on Ricardo, was formidable and devastating. He made their essential differences clear:

> neither the reasoning of Mr. Mill, nor the example of Mr. Ricardo, induce me to treat Political Economy as a hypothetical science. I do not think it necessary, and, if unnecessary, I do not think it desirable.
>
> It appears to me, that if we substitute for Mr. Mill's hypothesis, that wealth and costly enjoyment are the *only* object of human desire, the statement that they are universal and constant objects of desire, that they are desired by all men and at all times, we shall have laid an equally firm foundation for our subsequent reasoning, *and have put a truth in the place of an arbitrary assumption.* (Italics added.)

Senior goes on to concede that indeed we shall not now be able to infer, from the fact that a labourer may so act as to obtain higher wages, or a capitalist higher profits, that 'they will certainly act in that manner'. But, at least 'we shall be able to infer that they will do so in the absence of disturbing causes. And if we are able, as will frequently be the case, to state the cases in which these causes may be expected to exist, and the force with which they are likely to operate, we shall have removed all objection to the positive as opposed to the hypothetical treatment of the science'.[31]

One danger of the hypothetical method, Senior wisely and prophetically points out, is the perpetual danger of forgetting that the premises are not complete and are only partial and even false assumptions. Another and even deeper flaw is that, since the assumptions are false from the very beginning, there is no way to bring in experience or observation to correct or even check on the conclusions of the abstract analysis. In this way, positivists, who always trumpet their method as being the only truly scientific and 'empirical' one, turn out to be resting on runaway and uncorrectable false premises. On the other hand, and ironically, the praxeological method, which has long been accused of *a priori* mysticism, is the only one that bases theory on broadly known and deeply empirical – indeed universally true – premises!

Being universally true, the praxeological method provides *complete* and general laws rather than partial, and hence generally false, ones. As Marian Bowley astutely sees the difference:

> Thus in the question of the definition of the desire for wealth: if it is stated in Mill's form that everyone always prefers wealth to anything else [the 'economic man'], with the added warning that it is only a hypothesis, the constant relation between the desire for wealth and all other conflicting motives is not defined completely by the general law. It remains necessary to introduce a further premise in each individual stating the general relation of other motives to that of the desire for wealth, as well as evaluating the actual variables. Now Senior's explanation of the desire for wealth includes information as to the interconnections between the variables.

Or, as Miss Bowley explains further:

> Senior's substitution of net advantages for earnings is equivalent to defining in general terms the relation between all the variables which influence the distribution of resources between occupations, instead of leaving that relation to be considered afresh in each use.[32]

Thus, a positivist, assuming that businessmen are always and only interested in maximizing money profits, might well overlook and ignore instances of businessmen placing other motives (such as giving an executive post to one's relative) higher than profits. Or, worse still, if acknowledging such instances, he would be tempted to dismiss these cases contemptuously as 'irrational behaviour'. Similarly, Charles Dickens, who repeatedly spoofed and attacked classical economics in his novels, had a utilitarian son refuse to help his impoverished mother on the ground that the science of political economy told him that to be rational a man must always buy in the cheapest market and sell in the dearest. And since Smith–Ricardo–Mill classical economics solely emphasized cost of production and therefore was totally blocked from even talking about the consumer, it was especially open to this Dickensian misconception.

4.13 Notes

1. J.A. Schumpeter, *History of Economic Analysis* (New York: Oxford University Press, 1954), p. 473 (italics in original).
2. Alexander Gray, *The Development of Economic Doctrine* (London: Longmans, Green and Co., 1931), pp. 170–71. Noting that Ricardo habitually wrote in sweeping conclusions, followed by mumbled qualifications and backtrackings, enabling his followers to claim that such pursuers of the Ricardian logic as Marx and Henry George 'misrepresented' Ricardo, Gray retorts that 'perhaps the final lesson to be learned from Ricardo is that the literary graces are not merely ornamental but useful, and that he who is deficient in the art of expression has only himself to blame if he is misrepresented'. Amen! Ibid., p. 189.
3. No more delightful passage has been written on the effectiveness of the obscure than in the sparkling essay of H.L. Mencken on the work of Thorstein Veblen: 'What was genuinely remarkable about them [Veblen's ideas] was not their novelty, or their complexity, nor even the fact that a professor should harbor them; it was the astoundingly grandiose and rococo manner of their statement, the almost unbelievable tediousness and flatulence of the gifted headmaster's prose, his unprecedented talent for saying nothing in an august and heroic manner... If one tunneled under his great moraines and stalagmites of words, dug down into his vast kitchen-midden of discordant and raucous polysyllables, blew up the hard, thick shell of his almost theological manner, what one found in his discourse was chiefly a mass of platitudes – the self-evident made horrifying, the obvious in terms of the staggering.

   'Marx, I daresay, had said a good deal of it long before him, and what Marx overlooked had been said over and over again by his heirs and assigns. But Marx, at this business, labored under a technical handicap; he wrote in German, a language he actually understood. Professor Veblen submitted himself to no such disadvantage. Though born, I believe, in these States, and resident here all his life, he achieved the effect, perhaps without employing the means, of thinking in some unearthly foreign language – say Swahili, Sumerian or Old Bulgarian – and then painfully clawing his thought into a copious but uncertain and book-learned English. The result was a style that affected the higher cerebral centers like a constant roll of subway expresses. The second result was a sort of bewildered numbness of the senses, as before some fabulous and unearthly marvel. And the third result, if I make no mistake, was the celebrity of the professor as a Great Thinker.' H.L. Mencken, 'Professor Veblen', *A Mencken Crestomathy* (New York: Knopf, 1949), pp. 269–70.
4. St Clair writes about the poet and ardent Ricardian Thomas De Quincey: 'De Quincey, a great admirer of Ricardo, attributed his obscurity to profundity of thought. It is natural, said the author of the *Opium Eater*, that a man of brilliant intellect should express himself in elliptical language, difficult for less gifted persons to follow...'. Oswald St Clair, *A Key to Ricardo* (1957, New York: M. Kelley, 1965), p. xxiii.
5. Schumpeter, op. cit., note 1, p. 474.
6. Senior's ancestors had been prosperous merchants. His grandfather, Nassau Thomas Senior, had converted from Judaism to Christianity in the mid-eighteenth century. Nassau Thomas's father, Moses Aaron Senior, had emigrated from Hamburg in the 1720s; he had come from a long line of Spanish–Portuguese Jews who had been merchants and financiers in Spain and had emigrated to Amsterdam and Hamburg.
7. S.G. Checkland, 'The Propagation of Ricardian Economics in England', *Economica*, n.s., 16 (Feb. 1949), pp. 40–52; Ronald Meek, 'The Decline of Ricardian Economics in England', *Economica*, n.s. 17 (Feb. 1950), pp. 43–62.
8. Other writers doggedly pushing underconsumptionist fallacies in this period include the protectionist Yorkshire landowner and later MP Edward Stillingfleet Cayley (1802–62);

Captain William R.A. Pettman; and a top royal bureaucrat in India, Sir William Henry Sleeman (1788–1856).

9. Since Meek's article, D.P. O'Brien, in the first comprehensive study of McCulloch, has demonstrated that McCulloch had abandoned the Ricardian labour theory of value for the more qualified Smithian cost-of-production theory. In fact, O'Brien shows that McCulloch was far more Smithian than Ricardian. D.P. O'Brien, *J.R. McCulloch: A Study in Classical Economics* (New York: Barnes & Noble, 1970).
10. Frank W. Fetter, 'The Rise and Decline of Ricardian Economics', *History of Political Economy*, 1 (Spring 1969), pp. 67–84.
11. Quoted in Barry Gordon, 'Criticism of Ricardian Views on Value and Distribution in the British Periodicals, 1820–1850', *History of Political Economy*, 1 (Autumn 1969), p. 380.
12. Schumpeter, op. cit., note 1, p. 580n. Also see Edwin Cannan, *A History of the Theories of Production & Distribution* (3rd ed., London: Staples Press, 1917), pp. 133–4.
13. Frank A. Fetter, 'Rent', *Encyclopedia of the Social Sciences*, reprinted in M. Rothbard (ed.), *Capital, Interest, and Rent: Essays in the Theory of Distribution, by Frank A. Fetter* (Kansas City: Sheed Andrews & McMeel, 1977), p. 368.
14. It has only recently been recognized that Bailey was philosophically Austrian – an insight buried in Robert Rauner's neglected 1956 doctoral dissertation at the University of London, 'Samuel Bailey and Classical Economics'. Denis P. O'Brien, 'Classical Reassessments', in W.O. Thweatt (ed.), *Classical Political Economy: A Survey of Recent Literature* (Boston: Kluwer, 1988), pp. 199–200.
15. Thor W. Bruce, 'The Economic Theories of John Craig, A Forgotten English Economist', *Quarterly Journal of Economics*, 52 (August 1938), p. 699.
16. Whately's biographer noted that Oxford 'was one way, and Richard Whately the other. Oxford had resigned itself to Orthodoxy and Toryism and Whately was an inquirer and a liberal'. In W.J. Fitzpatrick, *Anecdotal Memoirs of Richard Whately* ... (London, 1864), I, p. 56, quoted in Salim Rashid, 'Richard Whately and Christian Political Economy at Oxford and Dublin', *Journal of the History of Ideas*, 38 (Jan.–Mar. 1977), p. 148. In 1826, Whately anonymously published a rousing and controversial pamphlet, *Letters of the Church, by an Episcopalian*, calling for disestablishment of the Anglican Church, and separation of Church and state. Ibid.
17. The Rev. John McVickar, professor of political economy and moral philosophy at Columbia University, was moved to rewrite Whately's *Easy Lessons* for an American audience, in his own primer for children, *First Lessons in Political Economy* (1835).
18. Laurence S. Moss, *Mountifort Longfield: Ireland's First Professor of Political Economy* (Ottawa, Ill.: Green Hill Pubs, 1976), pp. 39–42.
19. One English writer who adopted catallactics during this period was the pseudonymous Patrick Plough who, in the custom of the day, both introduced and explained the term within the title of his tract, *Letters on the Rudiments of a Science, called, formerly, improperly, Political Economy, recently more pertinently, Catallactics* (London, 1842). See Israel Kirzner, *The Economic Point of View: An Essay in the History of Economic Thought* (Princeton, N.J.: Van Nostrand, 1960), pp. 72–5.
20. E.R.A. Seligman, 'On Some Neglected British Economists, I', *Economic Journal*, 13 (Sept. 1903), pp. 360–1.
21. Lloyd's 'special utility' was his term for what would later be called 'marginal utility'; 'abstract' or 'general' utility would later be called 'total utility'. See Seligman, op. cit., note 20, pp. 360–1.
22. Kendall was born to a Massachusetts farm family, and graduated from Dartmouth College in 1811 at the head of his class. He became a lawyer, and emigrated to Kentucky in 1814, where he functioned as attorney, editor and postmaster. He became editor of the important *Frankfort (Ky) Argus* in the capital of Kentucky, in 1814, and later became a leading Jacksonian brain-truster and postmaster-general.
23. Quoted in Gordon, op. cit., note 11, p. 384.
24. Bailey, however, did add a welcome methodological critique of James Mill's clumsy attempt to define away the increase of the value of wine through aging as some sort of mystical, vicarious expenditure of a year's worth of labour. As Bailey sardonically rebut-

ted Mill's assertion that the equivalent 'labour may be correctly considered as having been expended' on the wine: 'a fact may be correctly considered as having taken place only when it really has taken place'. Colonel Torrens also provided a similar critique of Mill's labour theory.

25. Moss, op. cit., note 18, p. 67.
26. Ibid., pp. 68, 201.
27. Eugen von Böhm-Bawerk, *Capital and Interest, Vol. I, History and Critique of Interest Theories* (South Holland, Ill.: Libertarian Press, 1959), p. 208.
28. Quoted in R. Warren James, *John Rae: Political Economist* (Toronto: University of Toronto Press, 1965), I, pp. 191–2.
29. Published in Senior's *Outline of the Science of Political Economy* (1836), cited in Marian Bowley, *Nassau Senior and Classical Economics* (1937, New York: A.M. Kelley, 1949), pp. 47–8.
30. It should be noted that, in this passage, Mill also made two exceptions to his assumed exclusive motivation of the desire for wealth: aversion to labour, and desire to consume at present. But he correctly added while these motives may conflict with the pursuit of wealth, they also 'accompany it always as a drag, or impediment, are therefore inseparably mixed up in the consideration of it'.
31. Senior's use of the term 'positive' we would now say is 'praxeologic', his 'hypothetical' we would now say is broadly 'positivist'.
32. Bowley, op. cit., note 29, pp. 63, 62n.

5 Monetary and banking thought, I: the early bullionist controversy

5.1 The restriction and the emergence of the bullionist controversy

The Bank of England had been the bulwark of the English (and, by serving as bankers' bank, of the Scottish) banking system since its founding in 1694. The bank was the recipient of an enormous amount of monopoly privilege from the British government. Not only was it the receiver of all public funds, but no other corporate banks were allowed to exist, and no partnerships of more than six partners were allowed to issue bank notes. As a result, by the late eighteenth century, the Bank of England was serving as an inflationary engine of bank deposits and especially of paper money, on top of which a flood of small partnership banks ('country banks') were able to pyramid their own notes, using Bank of England notes as their reserve. As if this were not enough privilege, when the bank got into trouble by overinflating, it was permitted to suspend specie payment, that is, refuse to meet its obligation to redeem its notes and deposits in specie. This privilege was granted to the bank several times during the century after it opened its doors. However, each time the suspension, or 'restriction' of specie payment lasted only a few years.

In the 1790s, however, a startlingly new epoch began in the history of the British monetary system. In February 1793, a generation of fierce warfare broke out between revolutionary France and the crowned heads of Europe, led by Great Britain. While not exactly continuous, the war lasted, with slight interruptions, until Napoleon was finally defeated in 1815 and the monarchies of Europe reimposed the Bourbon dynasty upon the French nation. This massive war effort meant a rapid escalation of monetary inflation, government spending, and public debt by the British government.

During the 1780s, the inflationary process of bank credit expansion had managed to double the number of country banks in England, totalling nearly 400 by the outbreak of war. The shock of the war led to a massive financial crisis, including runs on the country banks, as well as numerous bankruptcies among banks and financial houses. One-third of the country banks suspended specie payment during 1793.

For a few years, the bank saved itself by pursuing a cautious and conservative policy. But soon, inflationary war finance, the drain of gold abroad in response to higher purchasing power elsewhere, the alarms of war, and the increased demand for gold upon the banks, all combined to precipitate a massive run on banks, including the Bank of England, in February 1797. The country banks suspended specie payments, and the government brought matters to a head by 'forcing' the bank to suspend specie payments, a 'Restriction' which the Bank of England of course was all too delighted to accept. For the bank could now continue operations, could expand credit, inflate its supply of notes and deposits, and insist that *its* debtors must repay their loans, while it could avoid the bother of redeeming its own obligations in specie. In effect, bank notes were unofficially legal tender, indeed virtually the only legal tender, and they were made official legal tender in 1812 until the resumption of specie payments in 1821.

At the beginning, the general view held the restriction to be strictly temporary, and indeed the decree, at any given time, was only supposed to last for a few years. But the restriction was extended repeatedly, and was eventually continued for 24 years, from 1797 to 1821. Until the end of the eighteenth century, it was unthinkable that Great Britain could be on an irredeemable fiat standard for an entire generation.

Apart from a few years during the continental paper period of the American Revolution, the South Sea and Mississippi bubbles of the early eighteenth century, the hyperinflated *assignats* during the French Revolution, or a few brief suspensions of specie payment, the world had always been on some form of gold or silver standard. All these episodes had been mercifully brief if catastrophic. But now, after a while, it began to dawn on the British public that the era of inflationary fiat paper would continue indefinitely.

Great Britain suspended specie payments indefinitely so as to permit the Bank of England, and the banking system as a whole, to maintain and greatly expand the previously inflated system of fractional reserve banking. Accordingly, the bank was able to greatly inflate credit and the money supply of notes and deposits. Statistics for the period are sparse, but it is clear that from 1797 until the end of the Napoleonic Wars the supply of money approximately doubled. This monetary inflation had several predictable – and generally unwelcome – consequences. Domestic prices skyrocketed, the price of silver and especially of gold bullion vaulted upwards in relation to the official par with the pound, and the pound depreciated in the foreign exchange market.[1] The monetary inflation, as usual, proceeded in fits and starts rather than as a smooth line, and so the various consequences in domestic prices, bullion, and foreign exchanges were themselves scarcely uniform or proportional. But the rough general trend was unmistakeable, with the three latter effects each eventually rising to a peak of approximately 40 or 50 per cent over their pre-restriction levels.

Before 1800, decades of inconvertible paper money in England would have been considered unthinkable, and so previous monetary theorists had scarcely contemplated or analysed such an economy. But now writers were forced to come to grips with fiat paper, and to propose policies to cope with an unwelcome new era.

The political controversies during the restriction period centred on explaining the price inflation and depreciation and on assessing the role of the Bank of England. The 'bullionists' pointed out that the cause of the price inflation, the rise in the price of bullion over par, and the depreciation of the pound was the fiat money expansion. They further maintained that the central role in that inflation was played by the Bank of England, freed of its necessity to redeem in specie. Their opponents, the 'anti-bullionists', tried absurdly to absolve the government and its privileged bank of all blame, and to attribute all unwelcome consequences to specific problems in the particular markets involved. Depreciation in foreign exchange was charged to the outflow of bullion caused by excessive imports or by British war expenditures abroad (presumably unrelated to the increased amount of paper pounds or to the lowered purchasing power of the pound). The rise in the price of bullion was supposedly caused by an increased 'real' demand for gold or silver (again unrelated to the depreciated paper pound). The increases in domestic prices received less attention from the two sides of the debate, but they were attributed by the anti-bullionists to wartime disruptions and shortages in supply. Any *ad hoc* cause could be seized upon, so long as the great integrating cause, the expansion of bank credit and paper money, was carefully ignored and let off the hook. In short, the anti-bullionists reverted to mercantilist worry about *ad hoc* causes and the balance of trade on the market. The previous hard-won analysis of money and overall prices went by the board.

5.2 The bullionist controversy begins

The announcement of the restriction brought a flurry of activity, pro and con, consisting not of extensive theoretical analyses but of general statements of approval or warnings of things to come. The prime minister, William Pitt the Younger (1759–1806), and his followers egregiously maintained that there was no cause for alarm, since unlike the *assignats* of the evil French Revolutionaries, the Bank of England was issuing 'private' rather than government paper. Hence the reluctance of the government to make bank notes legal tender until nearly the end of the war, although its policies made them legal tender *de facto*. The opposition leader, Charles James Fox (1749–1800), denounced the restriction and called for resumption of specie payments, and also pointed out that the war against France bore ultimate responsibility for the plunge into fiat paper. And the distinguished playwright and Whig M.P. Richard Brinsley Sheridan (1751–1816) warned that 'we were doomed to all the horrors of a paper circulation'.

The inflationist economic historian Norman Silberling summed up the Fox–Sheridan position unsympathetically as follows:

> Fox and Sheridan constituted themselves the leaders of a persistent tirade against the Bank Suspension, not upon grounds of financial principle, but because the Suspension permitted that institution to support the activities of what they regarded as a militaristic, reactionary, and withal bankrupt administration...[T]hey concentrated their eloquent invective against this alliance of Bank and State which was productive of 'robbery and fraud'; and they urged that the Bank be divorced forthwith from their public responsibilities and their participation in the

> War. Let the Ministry repay the debts of the Bank (if it could!) and let the bank resume the honest payment of their Notes.[2]

For the first few years, however, all seemed well. The initial caution of the bank and the minimal expansion of government demands on its credit, combined with the inevitable time lag between issue of new money and rise in prices to lull Britons into a false sense of security. The price of food rose substantially in 1799, but it was easy for the anti-bullionists and other administration apologists to dismiss this rise in a flurry of pamphlets as the product of crop failure and wartime disruption in the import of grain. Even the Rev. Thomas Robert Malthus, afterwards to emerge as at least a partial bullionist, diffidently raised the monetary question, and then dismissed the increase of paper money as 'rather...the effect than the cause of the high price of provisions'.[3]

In the Spring of 1800, however, war expenditures and bank financing government debt accelerated, leading to a depreciation of the pound by 9 per cent in the main foreign exchange market of Hamburg, and gold bullion appreciated to 9 per cent above its official par value. In addition, domestic prices rose even more sharply than before. The depreciation of the pound had evidently begun.

The first phase of the bullionist controversy (1800–4) started when one of the best of the bullionists published his remarkable pamphlet on the cause of the depreciation. Certainly there was little in the previous career of Walter Boyd (c.1754–1837), a wealthy adventurer and seeker of state privilege, to prepare one for a pamphlet of keen insight into the calamitous consequences of irredeemable paper money. Boyd had been a wealthy English banker in Paris, the chief partner of Boyd, Ker and Co., who had to flee for his life in 1793 from the wrath of the French Revolution, which also confiscated his property. Back in London, Boyd established the banking firm of Boyd, Benfield and Co., of which he was principal partner. A close friend of Prime Minister William Pitt for many years, Boyd rode high in the British Establishment, becoming an MP in 1796 from his partner Paul Benfield's pocket borough. In 1794, the firm floated an important loan to the Austrian emperor. Furthermore, Boyd, Benfield received the enormous contract of £30 million in government debt after the beginning of the war with France.

Things began to go sour for Boyd in 1796, however, when the Bank of England, whose loans had been keeping Boyd, Benfield and Co. afloat, failed to renew its discounts. Boyd tried desperately to get Parliament to establish a new board for the issue of a massive amount of notes, and the scheme received considerable support, but it was ended by the opposition of William Pitt.

The only thing left for Boyd was to try to get more Bank of England loans, and in Parliament during 1796 and 1797 he denounced the bank for too tight a credit policy, presumably not mentioning himself as one of the prominent sufferers from its allegedly tight money. Facing 'ruin' Boyd managed to obtain financial aid from friends in the Navy Office, and he finally got the bank to lend Boyd, Benfield & Co. £80 000 in 1798. But Samuel Thornton (1755–1838), deputy governor of the Bank of England, and MP, warned Pitt that Boyd, Benfield & Co. was only being kept alive by bank largesse, and as a result, Pitt refused to let the House of Boyd contract for the 1799 public loan. Finally, Boyd, Benfield & Co. went bankrupt in March 1800, and the result was total financial ruin, so much so that Walter Boyd was reluctant to show his face in Parliament.

As might be expected, Boyd put the blame for his failure not on his own reckless feeding at the public trough, but on the niggardly policies of the Bank of England. In November 1800, Boyd wrote *A Letter to the Rt. Hon. William Pitt* published in 1801, which won quick fame and caused Boyd to publish a second edition later that year. With Boyd's *Letter*, the bullionist controversy was born, Boyd now denouncing the Bank of England not for overly tight credit but to the contrary for generating the inflation and monetary depreciation in the first place.

His new-found fame did Boyd little personal good, however, and he promptly went to France for financial manoeuvring. There he was arrested the following year, and jailed by the French until the end of the Napoleonic Wars. He then returned to England, wrote other financial pamphlets, and once again became an MP.

5.3 Boyd's *Letter to Pitt*

Walter Boyd did not intend his pamphlet, the *Letter to Pitt*, to be a treatise on monetary theory. It was, as one historian put it, a 'tract for the times', written in a 'heated temper', and the tract assumed a generally accepted set of monetary principles on the part of his readers. Nonetheless, since Adam Smith and the other eighteenth century economists could not have addressed their analyses to a non-existent inconvertible fiat money, Boyd felt called upon to extend the conventional analysis to this unwelcome new system that had suddenly come to Great Britain. In the course of doing so, Boyd not only launched the 'bullionist controversy', but also set forth an excellent exposition of what came to be known as the 'bullionist' position in the great controversy.

Boyd pointed to the three new and unwelcome conditions: the premium of gold bullion over the paper pound, the depreciation of the pound on the foreign exchange market, and the 'increase in the prices of almost all articles of necessity, convenients, and luxury, and indeed of almost every species of exchangeable value, which has been gradually taking place during the last two years, and which had recently arrived at so great a height'. He argued that the cause of all three troublesome phenomena was the same: a depreciation of the value of the pound, brought about by 'the issue of Bank-notes, uncontrolled by the obligation of paying them, in specie, on demand'. An increase in the supply of money diminishes its value, whether in the form of a premium on gold bullion or of a rise in the prices of goods. And 'the same circumstances which raise the value of Gold in the home market, necessarily tend to depreciate our currency when compared with currency of other countries'. Boyd summed up the bullionist position clearly in the preface to the second edition (1801) of his *Letter*: 'The premium on bullion, the low rate of exchange, and the high prices of commodities in general, are...symptoms and effects of the superabundance of paper'.

If the supply of money is crucial to the movement of prices, bullion and exchange rates, it becomes vital to clarify what precisely that supply may be. Before Adam Smith, the eighteenth century British writers on money, such as Hume and Harris, muddied the waters by including in the concept of money virtually all liquid assets, such as bills of exchange and government securities. In the *Wealth of Nations*, however, Smith helped matters by distinguishing clearly between money, the general medium of exchange and the final means of payment, and other liquid instruments that are exchanged *against* money. Following Smith, Walter Boyd makes the distinction between money, or 'ready money', and other assets crystal-clear:

> By the words 'Means of Circulation', 'Circulating Medium', and 'Currency', which are used almost as synonymous terms in this letter, I understand always *ready money*, whether consisting of Bank Notes or specie, in contradistinction to Bills of Exchange, Navy Bills, Exchequer Bills, or any other *negotiable* paper, which form no part of the circulating medium, as I have always understood that term. The latter is the *Circulator*; the former are merely *objects of circulation.*

Not only that: Boyd proceeded to go beyond Smith and to be the first to clearly identify bank demand deposits as fully 'ready money' as bank notes. As he put it: 'Credits in the Books of the Banks...may be considered as Bank Notes *virtually*, though not *really* in circulation...'. Much grief and error would have been spared economic thought as well as the development of money and banking if the currency school – the mid-nineteenth century successors to the bullionists – had heeded this lesson, and understood that demand deposits were equivalent to bank notes as a part of the supply of money.

On another crucial point, too, Boyd proved to be far superior to Adam Smith. Like Cantillon and Turgot, Boyd objected to the unfortunate doctrine, propounded by Hume and then by Smith, that an increase in the quantity of money results in an equiproportional increase in the 'price level'. Considering the essence of the Hume model, of assuming a magically great proportionate increase in the money supply and discussing the consequences, Boyd echoes Cantillon rather than Hume:

> if...this country had acquired, by supernatural means, and thrown into every channel of circulation, the same additional currency in gold and silver, within the same period, this influx, altogether disproportioned to the progress of the industry of the country; within that period, could not have failed to produce a very great rise in the price of every species of *property, not all with equal rapidity, but each by different degrees of celerity, according to the frequency or rarity of its natural contact with money.* (Italics added.)

Internationally, such a magical influx of gold and silver according to Boyd and Smith before him, would ordinarily have rapidly flowed out of the country, thereby limiting the inflationary harm that the inflow might do. Unfortunately, as in Smith, the mechanism for this allegedly rapid outflow is highly obscure. At any rate, Boyd pressed on to be the first to apply mainstream monetary theory to the problem of inconvertible fiat currencies. He begins by showing that since bank notes cannot be exported, there is no mechanism, as there is with specie, for draining off an 'excess' quantity of money to foreign countries. As a result, in the first place, the price rise resulting from an influx of specie would not be 'so great as that which has been occasioned by the introduction of so much paper, destitute of the essential quality of being constantly convertible into specie'.

More specifically, according to Boyd, the depreciation of fiat paper in terms of other currencies would be reflected in a rise in the price of gold or silver bullion, and an appreciation of foreign currencies on the foreign exchange market. This view, as Professor Salerno points out, provides the germ of the purchasing-power-parity theory of exchange rates under inconvertible fiat currencies:

> Specifically, Boyd contends that an increase in the supply of inconvertible paper money effects a general rise in domestic prices or, what is the same thing, a depreciation in the exchange value of the currency in terms of commodities which necessarily drives down the value of domestic currency in terms of foreign currencies whose exchange values have remained unchanged. This fall in the value of the inflated and depreciated domestic currency relative to foreign currencies is manifested in the depreciation of the exchange rate. Contained in Boyd's argument...is the seminal formulation of the purchasing-power-parity of exchange-rate determination which, of course, is the logical outcome of the application of the monetary approach to conditions of inconvertible paper currency.[4]

In addition, Walter Boyd set the tone for the bullionists following him by placing the full blame for the monetary inflation on the Bank of England rather than the country banks. For the country banks could not have expanded their notes in circulation, Boyd pointed out, unless their reserve base had expanded proportionately. And that reserve base was constituted by notes of the Bank of England. For the country banks remain under the same 'salutary control' as the Bank of England had been under before the advent of restriction. Just as the bank's notes had to be redeemed on demand in specie, so do the country banks' notes still have to be redeemed in the notes of the Bank of England. The key to the problem is the escape from redeemability that the government had permitted to the Bank of England. As Boyd put it:

> The circulation of Country Bank-notes must necessarily be proportioned to the sums, in specie or Bank of England notes, requisite to discharge such of them as may be presented for payment: but the paper of the Bank of England has no such limitation. It is itself now become (what the coin of the country only ought to be) the ultimate element into which the whole paper circulation of the country resolves itself. The Bank of England is the great source of all the circulation of the country; and, by the increase or diminution of its paper, the increase or diminution of that of every country-Bank is infallibly regulated...

Walter Boyd specifically cited and patterned himself on Adam Smith, and unfortunately also followed Smith in hailing the expansion of private redeemable bank notes as providing a less costly and more efficient 'highway in the sky' (though Boyd did not use that phrase). But, being an embattled Smithian in a new world of fiat money, Boyd stressed his militant opposition to bank notes in a context of fiat money. Boyd denounced inconvertible or 'forced' paper money as 'that dangerous quack-medicine, which, far from restoring vigour, gives only temporary artificial health, while it secretly undermines the vital powers of the country that has recourse to it'. Boyd concluded that restoring the nation's currency 'to its pristine purity', would be 'not only proper and practical, but indispensably necessary, in order to prevent the numberless calamities which the uncontrolled circulation of paper not convertible into specie, must infallibly produce'.

Boyd was what we may call a 'complete' bullionist, and was therefore a sophisticated one. He fully recognized that partial 'real' factors – such as government expenditures abroad, a sudden scarcity of food, or 'a sudden diminution of the confidence of foreigners, in consequence of any great national disaster' – could influence overall prices or the status of the pound in the foreign exchange market. But he also realized that such influences can only be trivial and temporary. The overriding causes of such price or exchange movements – not just in some remote 'long run' but a *all* times except temporary deviations – are monetary changes in the supply of and demand for money. Changes in 'real' factors can only have an important impact on exchange rates and general prices by altering the composition and the height of the demand for money on the market. But since market demands for money are neither homogeneous nor uniform nor do they ever change