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First draft of an essay prepared for
The New Palgrave. Comments welcome.
Henry Thornton was born in 1760, the youngest son of John Thornton, a London merchant prominent in the Russian trade. All three of John Thornton's sons were important in the business community and all three served as Members of Parliament. The eldest, Samuel, followed his father in the Russian trade, was a director of the Bank of England, and its Governor between 1799-1801; Robert served as Governor of the East India Company for a time, but business reverses were eventually to lead to his emigration to the United States; and Henry became an extremely successful London banker. He died, probably from consumption, in 1815.

John Thornton had been an early member of the Evangelicals, as those followers of John Wesley who remained within the Church of England were called, and Henry too was among their leaders, the most famous of whom was his second cousin and close friend William Wilberforce. The movement became known as the Clapham sect largely because their informal headquarters was Thornton's country house, located in that then outlying village. The Evangelicals were also known as "the Party of Saints" and what we would now regard as the conventional piety and respectability of the Victorian middle classes owe much to their influence. Nevertheless their milieu was not Victorian, but Georgian and Regency England, where their insistence that public policy be informed by the same high moral purpose as their private lives was profoundly radical. Their best known accomplishment was ending Britain's participation in the slave trade in 1809, and in 1833 the abolition of slavery itself in the British Empire; but the role of their Sunday School Movement in promoting popular literacy in Britain, not to mention the influence of their British and
Foreign Bible Society on 19th century missionary activity throughout the world are also noteworthy.

Henry Thornton was at the centre of all of these activities and many others as organiser, fund raiser and donor. Before his marriage in 1796 he habitually devoted $6/7$ths of his considerable income to charity, and perhaps a quarter thereafter. During his 33 years service in Parliament, in addition to his work against the slave trade, he supported such progressive causes as Peace with the American Colonies, accommodation with France, and Catholic Emancipation. He also devoted considerable time and energy to religious writings and his great-great grandson F. M. Forster (1951) records that his posthumously published volume of *Family Prayers* was something of a Victorian best seller which was still earning royalties for his descendents at the end of the 19th century.

Among all of this activity, Henry Thornton found time to study monetary economics. As a prominent banker and member of Parliament it was natural that he would take a practical interest in such matters, particularly given the financial turbulence associated with the French Wars of 1793-1815 and the suspension of the gold convertibility of Bank of England notes which accompanied them. He gave evidence to the Parliamentary Committees enquiring into the circumstances of the suspension in 1797, and he was an important member of both the Commons Committee which investigated Irish Currency problems in 1804 and the famous "Bullion Committee" of 1810. However, he was also and above all a great monetary theorist, and his outstanding treatise, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*, (1802), gives him a strong claim to be regarded as the most important contributor to monetary economics between David Hume (1752) and Knut Wicksell (1898). Only David Ricardo could seriously be regarded as his rival here.
The early 18th century had seen considerable progress in monetary economics, and David Hume's three essays of 1752 are rightly regarded as containing the core of classical monetary theory. They set out the quantity theory doctrine that, other things equal, the price level varies with the quantity of money, and accompany this with an analysis of the way in which, under a commodity standard, balance of payments mechanisms operate so as to equalize price levels and distribute the precious metals among countries. Although allowing that monetary changes can have short-run effects on real output, they also develop the basic classical postulate that money is neutral in the long run, affecting only prices; and in particular they argue that the rate of interest is not a monetary phenomenon.

Banks are scarcely mentioned in Hume's analysis, and though Adam Smith (1776) paid considerable attention to them, his model was the eighteenth century Scottish system. Scottish commercial banks held their reserves in claims upon London, not upon any Scottish central bank, and Scotland was a small, largely price taking economy. Hence Smith's analysis of the interaction of bank behaviour, the price level and the balance of payments, though remarkably perceptive, was far from complete. It had little to say about the transmission mechanisms at work here and about the role of financial assets other than bank notes in the monetary system. Moreover it had nothing at all to say about central banking.

By the 1790s, the development of the English monetary system had far outstripped the growth of knowledge concerning the principles that underlay its operations, and the financial crisis which culminated in the suspension of February 1797 drew attention to this gap in most dramatic fashion. Thornton's
Paper Credit, published in 1802 but perhaps begun as early as 1796, not only remedied this deficiency, but brought monetary theory to a level of sophistication that it was not to surpass until the end of the 19th century, as a brief sketch of its contributions will make quite evident.

III

Paper Credit begins with a detailed description of the contemporary English monetary system, showing how a rather wide variety of credit instruments had come to circulate as what we would now call money, alongside coin and bank notes, and it argues that the velocities of various components of this complex "circulating medium" differ among instruments and fluctuate over time. In common with virtually every monetary economist before Irving Fisher (and many thereafter) Thornton regarded velocities of circulation as frequently unstable and he discussed in some detail how the Bank of England should behave, both to minimise the occurrence of monetary instability and to offset its consequences when it arose. Thornton was by no means the only contributor to the "bullionist controversy", as the debates of the period are called, to recognise the crucial role and responsibilities of the Bank of England as a central bank, but there are many, not least among the directors of that institution, who refused to do so; and Thornton's exposition of the issues involved represents an important contribution to monetary economics.

No doubt drawing upon his own first-hand observations of the mechanisms at work during the turbulent 1790s, Thornton stressed both the crucial role and the volatility of the public's confidence in the banking system's ability to redeem its liabilities (in terms of Bank of England Notes in the case of
country and private London banks, and, under convertibility, in terms of specie in the case of the Bank of England). He understood that bank customers who were confident that they could obtain Bank of England notes or specie when they required it, would not in fact seek such accommodation, and that only those who had doubts about the convertibility of their assets would demand their redemption. Hence he argued that any initial fall in confidence could lead to a self-reinforcing drain of reserves from the system if the Bank of England responded to it by reducing lending and hence cutting down of the supply of the very central bank notes that the public were demanding from country and London Banks. For Thornton the right response to such an "internal" (i.e., within the country) drain of reserves from the Banking system was for the Bank of England to lend freely to all solvent borrowers in order to restore and maintain the public confidence in the system. In short, the by now conventional textbook analysis of the central bank's "lender of last resort" function found its first full statement in *Paper Credit*.

But Thornton understood well enough that an internal drain was not the only possible source of pressure on reserves. An external drain associated with what we would now call an adverse balance of payments was also a possibility, and here the required remedy might be different. He was clear that, to the extent that the drain stemmed from an uncompetitively high domestic price level it could only be remedied by monetary contraction, and hence by the central bank scaling down its loans, including those made to the rest of the banking system. In the conventional wisdom of the later 19th century concerning sound central bank practice, an external drain was always appropriately to be met by such measures, but Thornton (unlike Ricardo, who is the true father of that conventional wisdom), was more subtle than this in his analysis.
For him, money wages were sticky and any sudden monetary contraction carried with it the danger of disrupting markets and causing real output and employment to fall, a danger to be avoided if at all possible. Hence when developing the implications for Bank of England policy of his pioneering analysis of what was later to be called "the transfer problem", he advocated that temporary drains of specie abroad, associated with bad harvests or once and for all subsidy payments to allies, he accompanied by as little domestic monetary contraction as seemed to that institution to be prudent. Under arrangements prevailing after 1797, he was even willing to entertain temporary departures of sterling from par with specie in the face of temporary external drains rather than risk the domestic disruption that might accompany monetary contraction. Thornton was thus in Paper Credit far from being an advocate of an automatic gold standard, and his views have something in common with those of such later advocates of managed paper currency as Thomas Atwood—not to mention John Maynard Keynes, as certain recent commentators, notably Beaugrand (1981) have pointed out.

IV

MacCullogh (1845), who confused Henry with his brother Samuel, regarded Paper Credit as being too partial to the Bank of England in its arguments, but though it may certainly be regarded as a defense of that institution's behaviour during the early years of the restriction, it is nevertheless a critical defense. Even so, by 1810, Henry Thornton was a prominent member of the Bullion Committee, and had become one of the Bank's sternest critics, advocating, both as a signatory to the Committee's Report (Cannan 1919) and in
two Commons speeches on the Report, that the obligation to redeem its notes in
specie be reimposed upon it as soon as possible, a measure which was designed
to narrow considerably the scope for discretion left to the Bank when
confronted with an external drain.

Thornton's policy stance had changed between 1802 and 1810, but there is
no evidence that his underlying analytic views were any different. First and
foremost, and despite certain above-mentioned "Keynesian" elements in his
work, Henry Thornton was always, as Hicks (1967) has put it, a "hard money"
man. He regarded the maintenance of the specie value of Bank of England
liabilities as the proper overriding end of monetary policy. After 1797 he
expected the Bank of England, subject to certain caveats about bad harvests
and once and for all transfers, to manage its discounts so as to stabilize the
exchange rate and the price of specie. In 1802 he believed that the Bank
could be trusted to do so without the check of convertibility, but by 1810 he
had changed his mind.

Though the actual conduct of monetary policy, particularly after 1811,
shows that, luckily for Britain, they did not always practice what they
preached, the directors of the Bank declared themselves firmly committed to
the so-called Real Bills Doctrine in their evidence to the Bullion Committee,
as they did in many other statements. This doctrine distinguishes between
"real bills", drawn to finance goods in the process of production and
distribution, and "fictitious bills", those which simply represent a debt with
no corresponding real asset to back them. It then argues that a banking
system in general, and a Central Bank in particular, which confines its
activities to the discount of the former cannot affect the price level. The
quantity of money generated by following such practices will, so it is
claimed, vary with the volume of output and adjust itself automatically and passively to the "needs of trade".

Thornton had considered and comprehensively refuted this bundle of fallacies in *Paper Credit*. He had shown that, because there is no necessary relationship between the period for which commercial bills are discounted and the period of time that elapses between the beginning of the production of a particular unit of output and its final consumption, the distinction between "real" and "fictitious" bills was specious. Distinguishing between credit *per se*, and the role of credit instruments as components of the circulating medium, he had also shown how money, even if created against the security of good quality commercial bills, could influence the price level. Finally, and crucially, he had shown that the demand by manufacturers and merchants for bank credit would vary with the relationship between the banking system's lending rate and the expected rate of profit in such a way that, if the latter were high relative to the former, potentially unlimited monetary expansion and inflation could be generated by a banking system whose central authority took the Real Bills doctrine as its sole operating guide.

These arguments of Thornton's play a central role in the 1810 *Report* of the Bullion Committee and reflect his influence on that document. The explicit rejection of them by the Directors of the bank of England, not to mention widespread concern about inflation during 1809-10, were crucial factors persuading the Committee in general, and Thornton in particular as one of its key members, to recommend that the constraint of specie convertibility be re-imposed upon the Bank as soon as possible, a recommendation which was, of course, rejected by Parliament in 1811 along with the rest of the *Bullion Report*. 
The reader familiar with the later literature of monetary economics will recognise the essentially Wicksellian (e.g. 1898) flavour of Thornton's discussion of the relationship between bank lending policies and inflation. In a Parliamentary speech of 1811 on the Bullion Report he elaborated on his earlier analysis by allowing for the influence of inflation expectations on the perceived real interest burden implied by any given nominal bank lending rate. This insight, which plays only an occasional and peripheral role in Wicksell's work was of course central to the contributions of another great monetary theorist, Irving Fisher (1896). Moreover in his analysis of these matters, Thornton developed a version of what was later to be called the "forced saving" doctrine which played an important role in early 20th century business cycle theory. In the light of all this, it would be easy to jump to the conclusion that Thornton's work was well known to his successors. However it was not.

Failing health and a relatively early death removed Henry Thornton from the centre of monetary controversy just as David Ricardo came to the height of his powers and influence. It was Ricardo and not Thornton who was destined to become the recognised authority to whom 19th century monetary economists working within the classical tradition looked for guidance in matters of monetary theory. Thornton's name faded from view, and was not even known to Wicksell; it is largely due to the efforts of Jacob Viner (1924) (1937) and particularly Friedrich von Hayek (1983) that his true stature has come to be appreciated in the twentieth century. Nevertheless, his ideas were well known to his contemporaries, not least to Ricardo, and as transmitted by them, not always without a certain loss of subtlety, they permeate 19th century
Classical monetary theory. Thus if Henry Thornton's name was often forgotten by economists, his contributions to the subject were certainly not. For most men, this would be small consolation indeed, but one suspects that so benevolent and self-effacing a man as Henry Thornton might have been content with such an outcome.
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THE BULLIONIST CONTROVERSY

by

David Laidler

First draft of an essay to be included in The New Palgrave. I am grateful to Knick Harley and Neville Thompson for helpful discussions of some of the issues dealt with here. Comments are welcome, but please do not quote or refer to this paper.
"Bullionist Controversy" is the label conventionally attached to the series of debates about monetary theory and policy which took place in Britain over the years 1797-1821, when the specie convertibility of Bank of England notes was suspended. The protagonists in this controversy are usually classified into two camps - "bullionist" supporters of specie convertibility who were critics of the Bank of England, and "anti-bullionist" adherents of an opposing viewpoint. Such labels are useful as organising devices, but it is dangerous to apply them rigidly. The bullionist controversy was a series of debates about a variety of issues, and those debates involved a shifting cast of participants, whose views sometimes changed as controversy continued.

Although contemporary policy problems provided most of the immediate impetus for debate, the bullionist controversy was not a series of arguments about the application of well known economic principles to a particular set of circumstances. On the contrary, much of the debate was about fundamental questions of economic theory; and though the literature of the controversy consists largely of pamphlets, reviews, letters to newspapers, parliamentary speeches and reports, it contains contributions of crucial and lasting importance to monetary theory.
The Bank of England, a privately owned joint stock company, was founded in 1694 with the aim of creating a market for, and an institution to manage, the government debt arising from William III's participation in the wars against the France of Louis XIV. By the end of the eighteenth century its monopoly of note issue in the London area, and its status as the only note issuing joint stock bank in England, had given it a pivotal position in the British monetary system. It had in fact evolved into the central bank of at least of England, though not of the United Kingdom; for Ireland at this time had its own largely independent monetary system, with commercial banks operating on a reserve base provided by the Bank of Ireland in Dublin, which held its reserves in specie rather than in claims upon London. Scottish Banks too belonged to a distinct system, albeit one which held its reserves in London. Though reforms of the coinage beginning in 1696 and culminating in that supervised by Sir Isaac Newton in 1717 had been intended to create a bimetallic system, their undervaluation of silver had instead placed Britain on a de facto gold standard that was firmly entrenched by the last decade of the century.

By the 1790s the "circulating medium", to use a contemporary phrase, consisted of gold coin, Bank of England and Country (i.e. non-London) Bank notes, while bills of exchange and bank deposits were widely used means of payment in wholesale transactions. Country Banks mainly held reserves on deposit with private London Banks, which did not emit notes, and which in turn held reserves in the form of Bank of England liabilities. Britain's specie reserves were mainly held by the Bank of England in the form of bullion. The degree of concentration here was not as absolute as it would become later in the 19th century, but, to put it in modern parlance, Bank of England
liabilities were high-powered money, and any difficulties in the banking system at large quickly put pressure on the Bank's specie reserves.

The outbreak of hostilities between Britain and Revolutionary France in 1793 precipitated just such pressure. A drain of reserves from the banking system into domestic private sector portfolios, to which the Bank of England responded by contracting its note issue, created a liquidity crisis. The crisis was alleviated by a government issue of exchequer bills, and this very fact speaks eloquently of the lack of appreciation, on the part of the Bank and Government alike, of the role and responsibilities of a Central Bank in the monetary and financial system which characterized the state of knowledge at the beginning of the bullionist controversy. Not the least of that controversy's enduring contributions was to advance understanding of these matters.

As France recovered from the political chaos associated with the Terror, and the monetary chaos created by the Assignats, the war began to go badly for Britain and her allies. By the beginning of 1797 France was clearly in the ascendant. Indeed, the completion of Buonaparte's Italian campaign at the end of that year would see only Britain remaining in the field against her. During 1795–6 the Bank of England had again attempted to counter a continuing drain of specie from its reserves by a contraction of its liabilities, and had probably thereby accentuated its difficulties. This certainly was the opinion of commentators such as Walter Boyd (1800), while Henry Thornton's (1802) analysis of the general importance of a Central Bank's standing ready to lend freely in the face of a domestic run on its reserves in order to restore and maintain confidence may be read as, in part, a criticism of the Bank of England's behaviour during this episode.
Be that as it may, by February of 1797, pressure on the Bank was again strong, and rumours of an impending French invasion—a small force of French troops did land in Wales but was quickly captured—provoked a run on the banking system. This run began in Newcastle and quickly spread. To the government and the Bank of England it seemed to put that institution in jeopardy, and an Order in Council of February 26, confirmed in May by an Act of Parliament, suspended the specie convertibility of Bank of England notes. This "temporary" suspension, initially supposed to end in June 1797, was to last until 1821. The management of an inconvertible currency—or rather partially convertible, for gold and some subsidiary silver coin continued to circulate, and during the suspension period the Bank did from time to time declare some of its small denomination notes convertible—would have been difficult enough in peacetime; but, down to 1815 the Bank of England's task was frequently complicated by the need to make large transfers abroad to subsidise allies and support British forces fighting on the Continent, not to mention by the disruptive effects of the Napoleonic "Continental System" on British Trade.

The body of economic analysis which a modern economist would deploy in dealing with these matters was not available in Regency Britain. The Cantillon (1734)—Hume (1752) version of the quantity theory of money, and its associated analysis of the price-specie flow mechanism was well enough known; but that dealt with a commodity money system, not with one dominated by banks, in which a large proportion of the "circulating medium" consisted of bank notes and deposits (or cheques drawn upon them) not to mention various commercial bills. The Wealth of Nations, (Smith (1776)), contained extensive discussions of banking, but those discussions, as Checkland (1975) has argued, were largely based on Scottish oral tradition; they therefore dealt with the
competitive operations of commercial banks against the background of specie convertibility and had next to nothing to say about central banking.

Much available knowledge about the operation of inconvertible paper systems was of a practical nature. It drew on the French experience with John Law's scheme, and later the Assignats, on many North American experiments before, during and after the American War of Independence, and, to a lesser extent, the 18th century experiences of Russia and Sweden with paper money. Though the Swedish experience had generated controversy which in many respects anticipated the British bullionist debate, as Eagly (1968) has shown, there seems to be no evidence that the Swedish literature was known in Britain, even to those who, like Henry Thornton, were aware of the events that had generated it.

In short, by the 1790's, institutional developments in the British monetary system had run far ahead of systematic knowledge of what we would now call the theory of money and banking. The difficulties of the suspension period focused attention on this fact, and the analysis developed during the course of the bullionist controversy had to solve fundamental problems in monetary theory as well as cope with contemporary policy issues. It is because it dealt with the first of these tasks with such success that the controversy is of enduring importance to monetary economists, and not just to historians of economic thought and economic historians.

III

The 18th century experiences with inconvertible paper referred to above were, with few exceptions, unhappy, and it is scarcely surprising that, at the very outset, opponents of restriction in Britain warned of dire inflationary consequences. However, it was not until 1800 that rising prices, a decline in
the value of Bank of England paper in terms of bullion, and an associated
depreciation of the sterling exchange rate on Hamburg gave warning that all
was not well. (We need not concern ourselves here with the complications
caused by the fact that Hamburg was on a silver and not a gold standard.)
These events generated a flurry of pamphlets, and it is generally agreed that
Walter Boyd's (1800) *Letter to . . . William Pitt* was the most noteworthy of
these. It stated a simple version of what was to become known as the
bullionist position, namely that the suspension of convertibility had
permitted the Bank of England unduly to expand its note issue and that
overexpansion had in turn brought about the above mentioned interrelated
consequences.

The fact that agricultural prices had risen considerably more than the
value of bullion made it possible for defenders of the Bank of England, such
as Sir Francis Baring, to argue that the problem lay elsewhere than in the
banking system *per se*. The Bank's defenders also raised at this early stage
of the debate what was to become an important bone of contention in later
monetary debates, namely the possibility that the Country Banks, by varying
their note issue, could and indeed did exert an influence on the behaviour of
the price level independently of the Bank of England. The preliminary
"skirmish" of 1800-02 as Fetter (1965) called it was indecisive, but it
produced Henry Thornton's *Paper Credit...* (1802), an extraordinary treatise
which systematically expounds the intellectual basis of what Viner (1937)
termed the "moderate bullionist" position in subsequent discussions.

von Hayek suggests in his introduction to *Paper Credit* that Thornton may
have been working on it as early as 1796, but in its published form, this book
was a defence, albeit a constructively critical defense, of the Bank of
England's policy during the early years of restriction. It was published
during a lull in the debate, and its direct influence on the course of the bullionist controversy was therefore minor. During the 19th century the work dropped from sight, and its true stature was not thereafter widely appreciated until the appearance of von Hayek's (1939) edition. Indirectly, however, Paper Credit was of the first order of importance. Its author was an influential member both of the Committee of the House of Commons that investigated Irish currency issues in 1804--see Fetter (1955) on this episode -- and of the so-called Bullion Committee itself, whose 1810 report marked the high point of the controversy. Moreover, the chairman of the latter committee, Francis Horner, who with help from Thornton and William Huskisson, was the principal author of its Report, had devoted a long and favourable review article to Paper Credit... in the first issue of the Edinburgh Review.

IV

The immediate cause of the renewed controversy that led to the setting up by Parliament of the Select Committee on The High Price of Gold Bullion in February 1810 was a re-emergence of inflationary pressures in early 1809, whose most noticable symptoms to observers not equipped with even the concept of a price index, let alone a servicable example of such a device, were a declining exchange rate for sterling and marked rise in the price of specie in terms of Bank of England notes. Both of these symptoms were more marked than they had been in 1800-02, but the positions taken up in the controversy that preceded the committee's formation and accompanied its deliberations were very much those established in the preliminary skirmish of those years.

What Viner (1937) terms the "extreme bullionist" position had been stated by John Wheatley as early as (1802), and was subsequently maintained by him. David Ricardo, whose (1809) contributions to the Morning Chronicle
represent his first published work in economics also argued this position, though a little more flexibly than Wheatley, notably in his (1810-11) essay on The High Price of Gold Bullion. Simply put, the extreme bullionist position was that the decline in the exchanges, and the increase in the price of bullion, were solely due to an excessive issue of Bank of England notes, an excessive issue which could not have taken place under convertibility. Against such views, the anti-bullionist defenders of the Bank argued that the decline in the exchanges was due to pressures exerted by extraordinary wartime foreign remittances and had nothing to do with the Bank's domestic policy. Moreover, they argued, because the Bank confined itself to making loans on the security of high quality commercial bills, drawn to finance goods in the course of production and distribution, it was impossible that its note issue could be excessive and could cause prices to rise. The first of these arguments deals with what we would now call the "transfer problem" and the second is a statement of the infamous Real Bills Doctrine.

At the outset of the bullionist controversy there existed little in the way of coherent analysis of the transfer problem under conditions of convertibility, let alone of inconvertibility. Adam Smith (1776) had stated that foreign remittances would in fact be effected by a transfer of goods rather than specie abroad, but had not explained how, while during the bullionist controversy the directors of the Bank of England consistently argued that any transfer must initially involve an outflow of specie equal in amount to the transfer itself. This position was not far removed from the naive mercantilist analysis which Hume had so effectively attacked in (1752), and was, as Fetter (1965) has noted, quite inconsistent with the actual behaviour of the Bank's specie reserves during the French wars.
A key contributor to the analysis of the transfer problem was Thornton, and the influence of ideas first expounded in *Paper Credit* is quite evident in the Committee's *Bullion Report* of 1810 (Cannan 1919). He had shown in *Paper Credit* how a transfer of goods would be brought about under a convertible currency as a result of monetary contraction in the country making the transfer and expansion in the recipient country, and had stressed income effects as well as price level changes as critical links in the mechanism. Though he did not distinguish clearly between a convertible and inconvertible currency, he also argued that, under post-1797 arrangements, (which because of the continued circulation of gold coin did not amount to a clear-cut inconvertible system), the mechanisms in question would lead to a temporary exchange rate depreciation, even if domestic policy was such as to promote what we would now term domestic price level stability. The limits to the possible depreciation here would be set by the costs of evading legal prohibitions on the melting and export of coin.

In 1802 this analysis had formed part of Thornton's defence of Bank of England Policy against bullionist critics, and it was further refined in the course of the deliberations of the Parliamentary Committee of 1804 which investigated the depreciation of the Irish pound, and on which Thornton served. At least two authors, John Hill and J. C. Herries (both antibullionists) were later to supplement it with the observation that a temporary depreciation created scope for short-term capital movements to help in making a transfer effective.

By 1810-11, the view that transfers could temporarily depress the exchanges under conditions of inconvertibility, and a growing scarcity of gold coin had by then moved the system much closer to such conditions than it had been a decade earlier, set the analysis of moderate bullionists, including
Thomas R. Malthus, and of course the Bullion Committee itself, apart from that of Ricardo and Wheatley, who denied that even a temporary exchange rate depreciation could take place in the absence of a simultaneous excessive issue of domestic paper. Either this latter argument involves an implicit definition of "excessive" and is circular; or, as Viner has suggested it is erroneous and provides an unfortunate example of the "Ricardian Vice" of giving answers relevant to the long run equilibrium outcome of particular situations to questions having to do with the intermediate stages whereby long run equilibrium is achieved.

Disagreement among the bullionists was about the possibility of temporary effects, however. Moderate bullionists were in complete agreement with their more extreme colleagues that an apparently permanent exchange depreciation could not be put down to the effects of once and for all transfers. Their view, as expressed in the 1810 Report, was that sterling's initial depreciation had probably been the consequence of foreign remittances, and of the effects of the Continental system on trade, but that its subsequent failure to recover was caused by an overissue of paper money by the Bank of England. They thus rejected the Bank of England's claim that it was powerless to affect the purchasing power of paper money so long as it confined its issues to those called forth by the supply for discount of good quality bills of exchange.

The analysis of the Real Bills Doctrine set out in the Bullion Report is in all its essentials the same as that to be found in Paper Credit, and is marked by a careful discussion of the mechanisms whereby the policies espoused by the Bank could lead to overissue. In this respect it is superior to that of Ricardo, who in his essay of (1810-11), without going into any details about the processes whereby the economy might move from one long run
equilibrium to another, concentrated on giving an exceptionally clear statement of the nature of the long run equilibrium relationship that rules between the quantity of paper money, the exchange rate and the price of specie (which, as Hollander (1979) persuasively argues, is to be understood in this context as standing as a proxy for what we would now term the general price level).

The Real Bills Doctrine is attributable to Adam Smith (1776) but in his work it appears mainly as a rule of behaviour for the individual commercial bank operating in a competitive system against a background of specie convertibility. To discount only good short-term bills is not perhaps bad practice for such an institution if it wishes to secure its long-term viability. To claim such a principle to be a sufficient guarantee of price level stability if adopted by a Central Bank managing something akin to an inconvertible paper currency is another thing altogether, but that is what the directors of the Bank of England did, giving to the Bullion Committee what Bagehot (1874) was later to term "answers almost classical by their nonsense" when questioned on this matter. Adherence to the Real Bills Fallacy was by no means confined to the Bank of England. It had many defenders and even so able an economist as Robert Torrens espoused the Doctrine during the bullionist controversy, though in later debates he was to be one of its most vigorous opponents. Moreover, despite its definitive refutation by Thornton and the Bullion Committee, this doctrine was to reassert itself with great regularity throughout the 19th century, and into the 20th, as Mints (1945) in particular has so carefully documented.

The critical flaw in the Real Bills Doctrine arises from its implicitly treating the nominal quantity of bills of exchange offered for discount as being determined, independently of the policies of the banking system, by the
real volume of goods under production in the economy, rather than by the perceived profitability of engaging in production and trade. The latter, as Thornton, the Bullion Committee and all subsequent critics of the Doctrine have pointed out, depends upon the relationship between the rate of interest at which the banking system stands ready to lend, and the rate of return that borrowers expect to earn. To put it in the language of Knut Wicksell (1898) whose analysis of these matters closely follows Thornton—-even though he appears to have been unaware of Paper Credit—-everything depends on the relationship between the "money rate of interest" and the "natural rate of interest".

As the Bullion Committee argued, with the rate of interest at which banks would lend set below the anticipated rate of profit, the potential supply of bills for discount would be without limit. Under specie convertibility, a banking system that had fixed its lending rate too low would find the associated expansion of money causing a drain of reserves and the central bank would be forced to raise its lending rate. Without the crucial check of convertibility, prices and the money supply would begin to rise, as would the nominal value of new bills of exchange offered for discount in a self justifying inflationary spiral. The Real Bills Doctrine, a relatively harmless precept under specie convertibility, thus becomes, under inconvertibility, a recipe for unlimited inflation and exchange depreciation. This conclusion is of enduring importance and is perhaps the most significant result that emerged from the bullionist controversy.

The Real Bills Doctrine was particularly dangerous in the circumstances of 1810. The then current usury laws set an upper limit of 5% to the rate of interest, and the ability of the public to convert paper money into gold coin, and then melt the latter for export, an illegal but seemingly widely practiced
check on overissue in the earlier days of the suspension, had become less
effective by 1810 as gold coin had become scarce. Moreover, what we would now
term inflationary expectations had begun to become established in the business
community. Though the point was not raised explicitly in the Bullion Report,
in a parliamentary speech of 1811 on the Report, Thornton showed himself well
aware of the implications of this for the relationship between nominal and
real interest rates and the inflationary process, thus anticipating the
insights of Irving Fisher (1898) by 87 years.

In placing the blame for the persistence of sterling's depreciation on
the Bank of England, the Bullion Committee also took the position that the
Country Banks' note issue had not exerted a major independent influence on
prices. Their Report contained nothing approaching a formal analysis of what
we would nowadays term the "bank credit multiplier"; such analysis did not
appear until the early 1820s, when it was first developed by Thomas Joplin and
James Pennington, and indeed it was not widely understood until well into the
20th century. The Committee nevertheless took the position that the Country
Banks' note issue, not to mention the other privately emitted components of
the circulating medium, tended to expand and contract in rough harmony with
Bank of England liabilities. This is a point of some interest, since in the
debates of the 1830s and 40s, the Currency School, who in their opposition is
the Real Bills Doctrine were the intellectual heirs to the bullionists, took a
diametrically opposite view of the significance of the Country Bank note issue
and were eventually successful in having it suppressed.

In matters of monetary theory and the diagnosis of contemporary problems
it is hard to fault the Bullion Committee even today. No other discussion of
economic policy issues prepared by working politicians has had so sound an
intellectual basis and has stood the test of time so well. It is more
difficult to praise the Report's key policy proposal, however. So worried were its authors about sterling's depreciation, and about the capacity of the Bank of England to conduct policy competently that, in the midst of a major war, and at a time when sterling had significantly depreciated, they recommended a return to specie convertibility at the pre-war parity within two years. The Bullion Report was laid before the House of Commons in May 1811 where debate on its substance was organised around a series of resolutions and counter-resolutions. Though the Commons rejected the whole Report it is not without interest that the specific proposal to resume convertibility within two years failed by a significantly larger majority than did any other. It should be noted though, that in rejecting the Bullion Committee's recommendations, the House of Commons simultaneously supported resumption once peace was re-established.

V

Subsequent experience was to prove the Bullion Committee's fears of future Bank of England profligacy unfounded. Whatever the Bank's directors may have said about their operating procedures, they clearly relied on more than a real bills rule, and, as commentators from Bagehot on have noted, their policy was, if judged by results, reasonably responsible, particularly after 1810, which saw the peak of war-time inflationary pressures. Thus, debate about monetary issues had died down by 1812, but that year saw the crucial defeat of Napoleon's army in Russia. The decline in his fortunes thereafter, leading to his final surrender in 1815, set the stage for the next phase of the bullionist controversy. This dealt mainly with the problems of implementing resumption, though the first decisive peacetime monetary measure, taken by Parliament in 1816, was to remove the legal ambiguity which had
persisted since 1717 about the status of silver in Britain's monetary system by formally placing the country on a gold standard, albeit one in which convertibility was still suspended.

The end of a war that had lasted for more than two decades was inevitably an occasion for considerable economic dislocation. Agriculture and metal working industries in particular suffered badly from the re-establishment of peacetime patterns of production and trade. A simultaneous general fall of prices in terms of gold, upon which was superimposed a contraction of Bank of England liabilities and therefore an approach of sterling to its pre-war parity, was associated with widespread distress. In such circumstances, it is hardly surprising that there was much political opposition to early resumption. By and large, this opposition was not grounded in any coherent economic analysis, except in Birmingham. In this city, the centre of the metal working industries, opposition to resumption was articulated by Thomas and Matthias Attwood and their associates, and the Birmingham School showed a keen appreciation of the effects of monetary contraction and deflation upon employment, and an understanding that an appropriately managed monetary system based on inconvertible paper might, in principle be a viable method of avoiding such problems.

At their best the Birmingham School anticipated Keynesian insights of the 1930s, but their analysis often degenerated into crude inflationism, particularly in their later writings. In any event, they were always a small minority among those whom we would nowadays recognise as economists. The vast majority of these always supported the principle of resumption at the 1797 parity. The value of Bank of England paper in terms of gold was either regarded as a good measure of its purchasing power over goods in general, or stability in the gold value of money was looked upon as "natural" and
desirable in its own right; and there was widespread agreement that war-time inflation had been unjust to creditors. The problems of those who had incurred debts during the war, after paper had depreciated, provided some of the impetus to popular opposition to resumption immediately after the war, particularly in agricultural areas, but it is nevertheless fair to argue that a curious moral one-sidedness about the redistributive effects of inflation emerged among the majority of economists during this stage of the bullionist controversy. This one-sidedness, which perhaps had its roots in Hume's view of credit markets in which the typical borrower is an improvident consumer and the typical lender a frugal producer, has played an important role in debates about inflation ever since.

If there was wide agreement about the ultimate desirability of resuming convertibility at the 1797 parity, its advocacy was nevertheless tempered with caution after 1812. In contrast to the Bullion Report's unconcern about such matters, later discussions did pay attention to the potentially disruptive effects on output and employment of the deflation needed to implement it. Two problems were recognized: first, deflation was needed to restore sterling to its old parity with gold; and second there was the possibility that the increased demand for gold implied by a resumption of convertibility might itself create more deflation by driving up the relative price of specie. The end of the war was, as we have already noted, the occasion for significant price level falls, both in terms of gold, but even more in terms of Bank of England paper, whose quantity in circulation contracted considerably. The latter contraction was not, according to Fetter (1965) the result of any conscious policy decision on the part of the Bank of England, but it did have the effect of weakening any practical case against resumption by reducing the amount of further deflation needed to implement it.
Ricardo dominated the later stages of the bullionist controversy, as Thornton had dominated its earlier stages, and he is often regarded as having been unconcerned about deflation. Such unconcern would be consistent with the Ricardian vice of underplaying the importance of the short run in economic life, but as Hollander (1979) has shown, this view of his position is not sustainable. Ricardo's 1816 Proposals for An Economical and Secure Currency were motivated by a desire to mitigate further deflation as well as by a desire to put the British monetary system upon an intellectually sound basis. He argued that, with resumption, Britain adopt a paper currency rather than one with a high proportion of gold coin, and that the Bank of England should hold against it a reserve of gold ingots in terms of which notes could be redeemed. One practical advantage of this scheme was that by economizing on gold, it would put little upward pressure on its value when it was implemented, and Ricardo pointed out this advantage. He mainly justified his proposal in more general terms though, stressing the desirability per se of economising on scarce precious metals when paper would serve equally well as currency, an argument which harked back to Adam Smith's defence of paper money in the Wealth of Nations.

Ricardo's ingot plan was adopted in 1819 by Parliament, of which he was by then a member, as a basis for resumption; but second thoughts about it soon set in, for quite practical reasons. Counterfeiting of bank notes had been virtually unknown before 1797, but the increased circulation of low denomination Bank of England notes thereafter had offered considerable temptation to forgers. The years 1797-1817 saw over 300 capital convictions for the offence. These convictions, and, as Fetter (1965) records, the fact that clemency seems to have been granted or refused on the recommendation of the Bank, brought much public opprobrium upon that institution. A paper
currency backed by gold ingots might have been economical and secure, but it
did not remove the temptation to forgery. Hence Ricardo's ingot plan was
dropped and when resumption was finally implemented in 1821, gold coins
replaced small denomination notes in circulation. Ricardo's ingot plan was
not forgotten, however; something very like it was implemented in Britain in
1925 when the country once again resumed gold convertibility in the wake of a
wartime suspension, and the similarity here was no accident. The literature
of the bullionist controversy, not least Ricardo's contributions to it, was
much read and cited by participants in the monetary debates of the 1920s.

VI

The resumption of 1821 was not the unmitigated disaster that the 1925
return to gold was to be, not least because the amount of deflation needed
after 1819 to make the 1797 parity effective was rather minor. Nevertheless,
resumption did not put an end either to monetary problems or debate. Even the
rather small amount of deflation needed after 1819 was hard for the economy to
digest, and a fitful recovery thereafter ended, in 1825, in the first of a
series of financial crises that were to recur at roughly decennial intervals
for the next half century. Thus, if 1821 marked the end of the bullionist
controversy, it also marked the beginning of a new period of debate about the
monetary system, and in particular about monetary policy and institutions
under a gold standard. This debate would, in due course, culminate in a
second famous controversy, that between the Currency School and the Banking
School.

There is considerable continuity between these later debates and the
bullionist controversy, and this simple fact attests to the important
contributions which were made during its course. In only a quarter century
18th century analysis of commodity money mechanisms had been adapted to the circumstances of a modern banking system, and the monetary economics of the open economy under fixed and flexible exchange rates had taken on a form that is recognisable even today. Moreover, the foundations of the theory of central banking under commodity and paper standards were also developed. It is hard to think of any other episode in the history of monetary economics when so much was accomplished in so short a period.
References


