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Ghislain Deleplace

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Storm in a teacup?

The impact of war on the English monetary system and thought (1797 – 1821)

Ghislain Deleplace, Université Paris 8 - LED

1. Introduction

The aim of my contribution is at analysing the impact of a large-scale war of long duration on the monetary system and monetary thought. The case is that of England during and in the aftermath of the Revolutionary and Napoleonic wars with France (1793-1815).

As is well known, this exogenous shock provoked a major change in the English monetary system. In February 1797 the convertibility into coin of the Bank of England note was suspended; this unprecedented situation would remain in force during 24 years. In 1813 the pound sterling had depreciated by one-third in terms of gold, making *de facto* obsolete the legal definition of the monetary unit that had remained unchanged for nearly a century. After Waterloo, it took the pound four years to regain its value in gold, in the midst of a severe economic depression. However, the pre-war monetary system was resumed in 1821, nothing changing either in the definition of the monetary unit in gold or the organisation of the banking system: the quarter-of-a-century parenthesis was simply closed.

This return to “money as usual” was not for want of intense debates among some of the cleverest minds in the history of economic analysis. It was the time of the “Bullionist controversy” which was hailed by later commentators so different as Viner, Hayek, Schumpeter, or Laidler, for being the most important debate in the history of monetary thought of all time.¹ The specialist of money that stands head and shoulders above any other in the 19th century, David Ricardo, even proposed a plan which, if implemented, would have acted the euthanasia of metallic currency one century in advance. But the Bank of England and conservative interests won the field over him.

This case thus leads to a rather pessimistic conclusion: even a major shock like a long-lasting war seems to have no significant impact on either the monetary system or monetary thought. My contribution intends to put this conclusion under closer scrutiny. I will first sum up the characteristics of this monetary crisis (Section 2) and the three rounds of the controversy (Section 3). I will next study in Sections 4 and 5 how the two great monetary economists of the time – Henry Thornton (1760-1815) and David Ricardo (1772-1823) – fitted in with the debates, then and after. In Section 6 I will try to answer to the question: Why

¹ For Viner (1937: 120), “the germs at least of most of the current monetary theories are to be found in it,” and for Hayek (1939: 37), it “may still be regarded as the greatest of all monetary debates.” Comparing two periods separated by more than one century, Schumpeter (1954: 692) notes “the significant fact that the report of the Cunliffe Committee that recommended England’s return to gold at pre-war parity in 1918 displayed little, if any, knowledge of monetary problems that was not possessed by the men who drafted the Bullion Report [in 1810].” Summing up the controversy, Laidler (1987a: 293) concludes that “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.”

was there no revolution in the monetary system and thought? I end with some concluding remarks in Section 7.

2. A major monetary crisis of long duration

Two aspects testify to the magnitude of the shock then experienced by the English monetary system. The first concerns the value of the pound in terms of the established standard. Since the monetary reform of 1717, inspired by Isaac Newton then Master of the Mint, the legal monetary ratio – that is, the relative price of gold to silver in coin – had been higher in England than on the Continent, so that, in spite of the prohibition of exporting and melting the coin, it was advantageous to export the comparatively undervalued metal (silver) and to import the comparatively overvalued one (gold). In the middle of the 18th century, silver was less and less brought to the Mint to be coined and England shifted progressively to a *de facto* gold standard. Moreover, an Act of 1774 ordered the recoinage of the golden guineas and the limitation at £25 of the legal tender of silver coins. Although silver was still legally one of the two monetary standards – the mint was open to silver coinage and it was still possible to pay in silver coins a higher sum than £25 provided they were taken by weight and not by tale – both measures reinforced the *de facto* gold standard. This shift had been successful: the current value of the pound sterling in terms of gold (the reciprocal of the price of gold bullion quoted in the London market) was stabilised at its legal level (corresponding to the mint price of £3.17s.10½d. per ounce of standard gold 22/24 fine coined in guineas): never during the 80 years that followed the 1717 reform would the pound depreciate in terms of gold more than by 5.2 per cent (in 1763). By contrast, this internal depreciation of the pound would reach 33.3 per cent in 1813, and it was accompanied with a drastic fall of its exchange rate against foreign currencies (31.4 per cent at most against the French franc in 1811).

The second aspect concerns the paper currency (the Bank of England note) which, although it was deprived of legal tender, had been developing during the 18th century. For the first time in the history of banking, the Bank of England (created in 1694 as a device to salvage public finance) could issue bank notes not only against bullion (as the Bank of Amsterdam already did) but also by discounting commercial bills; these notes were convertible into full-bodied (that is, undebased) coins. This innovation, combined with the monopoly of note issue in a 60-mile radius around the City of London and the prohibition of any other joint-stock banking in England, made the Bank of England acquire a prominent position in the English banking system in the second half of the 18th century. However, the circulation of its notes was confined to transactions among traders and banks (see Clapham 1944).² After they became inconvertible in 1797, the expansion of their issuing not only fuelled the increased needs of the government but also (thanks to low-denomination notes) filled the gap opened in general circulation by the disappearance of melted and/or exported specie. In 1810 the inconvertible Bank of England note had become the ordinary circulating

² Country banks could also issue notes outside the 60-mile limit, but the prohibition of joint-stock banking prevented them from having a large-scale importance and it was generally admitted that the amount of their issues was regulated by that of Bank of England notes in which they were convertible.

medium, so that the monetary system was *de facto* deprived of any metallic standard – an unprecedented situation that would continue until 1820.

In a metallic-standard monetary system of specie and convertible notes like the English one before 1797, the role of the standard (gold) was to regulate the quantity of notes issued by the Bank of England: “The only use of a standard is to regulate the quantity, and by the quantity the value of a currency.” (Ricardo 1816: 59) When the market price of gold in bullion paid for in notes exceeded its legal price in coin by a margin equal to the melting cost (which included the cost of fraud when melting was illegal, as in the case of England), bullion traders exchanged the notes at the Bank at par against freshly-minted gold coins, had the latter melted, and sold the bullion in the market to pocket the difference. The immediate effect of this arbitrage was to decrease the quantity of notes in circulation. Symmetrically, when the market price of gold in bullion paid for in notes fell short of its legal price in coin by a margin equal to the minting cost (which was only equal to the loss of interest until the coins were delivered by the mint, since in England there was no seignorage on gold coins), bullion traders discounted bills at the Bank to obtain notes with which they purchased bullion before having it coined at the Mint to pocket the difference. The immediate effect of this arbitrage was to increase the quantity of notes in circulation. The quantity of Bank of England notes was thus regulated by their convertibility both ways into gold coin.

When the Bank of England note ceased to be convertible (from February 1797 to February 1820) the first arbitrage was no longer possible and the regulation of the quantity of notes in a restrictive way did not operate any more. This is what Ricardo observed in 1822 in his pamphlet *Protection to Agriculture*: “It is also forgotten, that from 1797 to 1819 we had no standard whatever, by which to regulate the quantity or value of our money. [...] Accordingly, we find that the currency varied in value considerably during the period of 22 years, when there was no other rule for regulating its quantity and value but the will of the Bank.” (Ricardo 1822: 222-3) Although the standard no longer regulated the quantity of Bank of England notes, the market price of bullion still informed about their actual value expressed in gold, as illustrated by the title of Ricardo’s 1810 pamphlet *The High Price of Bullion, A Proof of the Depreciation of Bank Notes*. This provided a criterion to regulate the quantity of notes, even when they had become inconvertible: when the market price of an ounce of standard gold bullion exceeded the legal price of an ounce of gold in coin (the mint price of £3. 17s. 10½d.), signalling a depreciation of the note, the Bank of England should reduce its issues until the market price of gold bullion had equalised with the mint price. Although advocated by Ricardo and Thornton during the Bullion debates, this criterion was never used by the Bank of England, who repeatedly denied that its issues had any influence on the price of gold or the state of the exchanges.

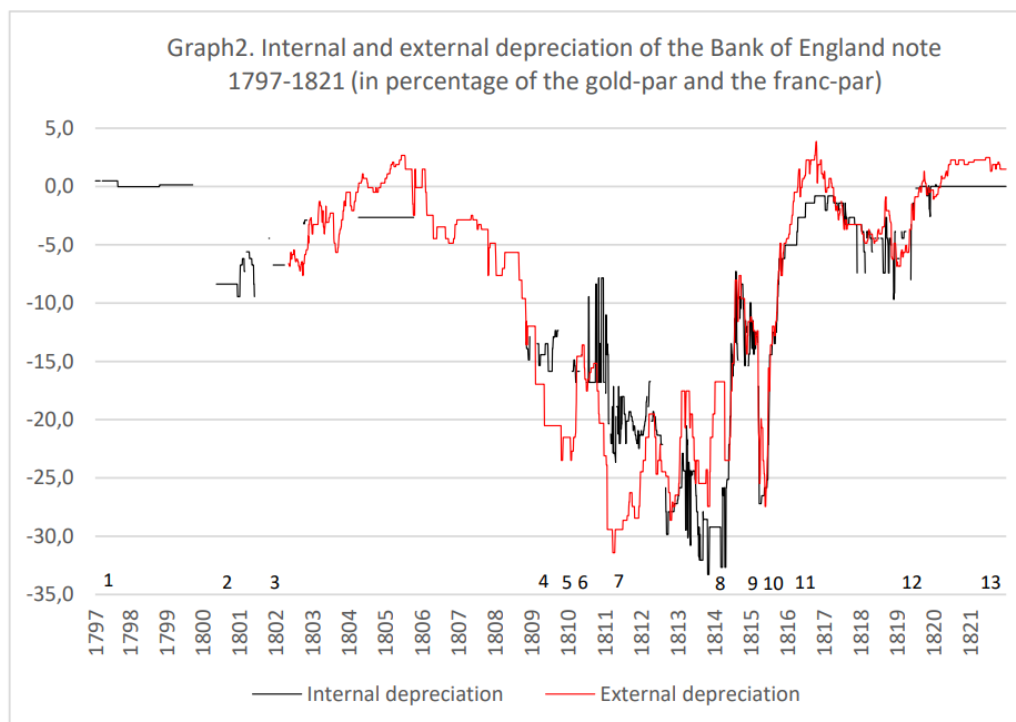
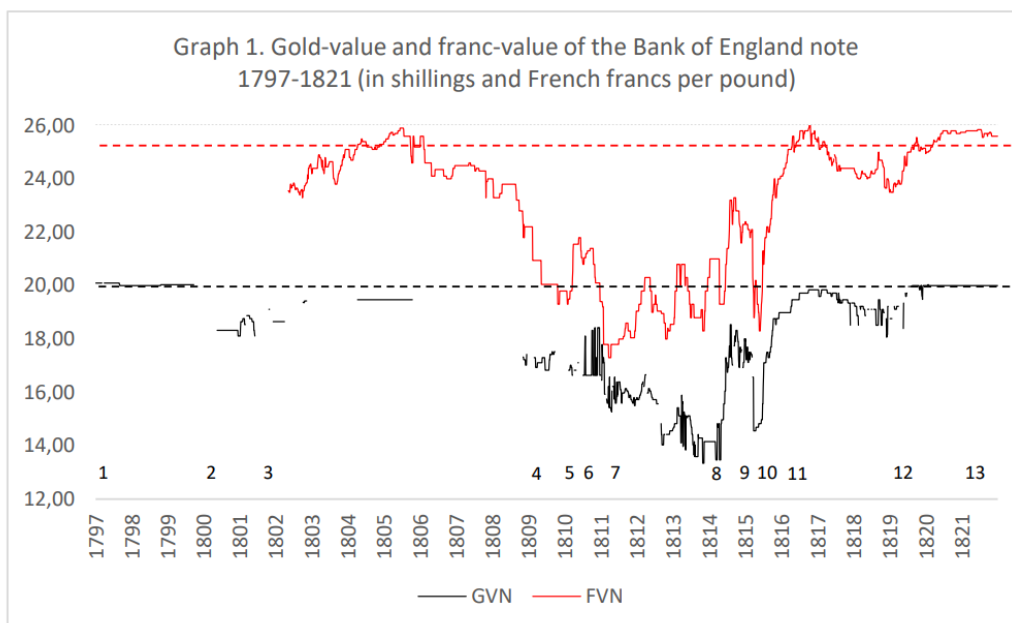
During the long period of inconvertibility, the monetary crisis in England was reflected in two indexes: the market price of gold bullion, whose rise expressed a decline in the internal gold-value of the currency, and the exchange rate against major foreign currencies, whose fall expressed a decline in its external value. Graph 1 illustrates the evolution of the (internal) gold-value of the Bank of England note GVN (measured in shillings) and of its (external) franc-value FVN (measured in French francs) over the period. Admittedly, there was no quotation of the Bank of England note in shillings in the London market; although deprived of legal tender it invariably passed in circulation at its nominal

value of one pound, viz. 20 shillings. However, there was every Tuesday and Friday a quotation of the market price (paid for in Bank of England notes) of gold bullion by the ounce at the legal standard of the coin (22/24 fine). It is thus possible to calculate the value of the Bank of England note in shillings of standard gold. This method was used by Ricardo when he complained about the power entrusted to the Bank of England of changing the value of the pound at will. In a speech before the House of Commons on 12 June 1822 he declared: “They [the directors of the Bank] were the men who had the power of making their one pound note worth 14s. or 17s. or 18s. or 19s., as it had successively been, under their guidance, between the years 1813 and 1819.” (Ricardo 1951-1973, vol. V: 207-8) The mint price of one ounce of coined standard gold being £3.17s.10½d. (£3.89375 in decimals) and the pound being divided in 20 shillings, the gold-value in shillings of one pound in note was 20 (3.89375 / LGB), with LGB the market price (in decimals) of one ounce of standard gold bullion in London. When the market price of gold bullion was equal to the mint price of gold in coin (meaning that the note was neither appreciated nor depreciated), the gold-value of one pound in note was 20s. Accordingly, a positive difference between this gold-value and 20s. measured the internal appreciation of the note, and a negative difference its depreciation (for the sake of convenience, this gold-value will be given in decimals, and not in shillings and pence).

As for the external value of the pound in note, it can be illustrated by the exchange rate with Paris, which was the major exchange centre abroad. This exchange rate could be known directly through the quotation on the same two days (Tuesday and Friday) of a sight bill on Paris purchased in London with Bank of England notes. Its external appreciation or depreciation was given by the positive or negative difference between this quotation and the nominal par of 25.225 French francs computed after the legal definitions of the pound and of the “franc germinal” in gold.³ In the language of the time, an external depreciation of the pound against the French franc was called an “unfavourable” exchange with France.

On Graph 1 the dotted lines indicate the gold-par of one pound in note (20 shillings) and its franc-par of exchange (25.225 French francs). Graph 2 shows the internal and external depreciation (with a negative sign) or appreciation (with a positive sign) of one pound in note in percentage of the gold-par and franc-par respectively.

³ The French “franc” was promulgated on 18 germinal an III (for 7 April 1795 in the revolutionary calendar) and this new unit of account (which replaced the “livre”) was then only defined in silver, as five grams of silver 9/10 fine. On the basis of the gold-silver ratio of 15.5 adopted by the previous monetary reform of 1785, this amounted to a price of 3100 francs per kilogram of gold 9/10 fine. This price was retained for a second legal definition of the franc on 7 germinal an XI (27 March 1803), when the 20-francs gold coin was minted on the basis of 155 coins in one kilogram 9/10 fine. The double-standard monetary system inherited from the *Ancien Régime* was then legally confirmed and the name “franc germinal” reflected the fact that both definitions had been adopted on the same month (in two different years) of the revolutionary calendar.



Source: Author's graphs,⁴ based on the London quotations of gold bullion and of sight bills on Paris twice a week, given in Boyer-Xambeu, Deleplace, and Gillard (1995), (2010a) and (2010b) after the periodical *The Course of the Exchange*. The interruptions in the graphs correspond to dates when the data are not available because *The Course of the Exchange* did not publish any quotation.

⁴ I thank Aurélien Deleplace-Sigot for his expertise in drawing the graphs.

The events marked by numbers on the horizontal axis are as follows:

1. Suspension of cash payments of Bank of England notes: 26 February 1797
2. Walter Boyd's letter to Prime Minister William Pitt: November 1800
3. Publication of Henry Thornton's *Paper Credit of Great Britain*: February or March 1802
4. David Ricardo's first letter to the *Morning Chronicle* on the price of gold: 29 August 1809, followed on 3rd January 1810 by the publication of *High Price of Bullion*
5. Appointment of the Bullion Committee: 19 February 1810
6. Publication of the *Bullion Report*: 12 August 1810
7. Rejection of the *Bullion Report* by the House of Commons: 15 May 1811
8. First abdication of Napoleon: 11 April 1814
9. Napoleon back in Paris: 20 March 1815
10. Battle of Waterloo: 18 June 1815
11. Legal adoption of the gold standard: 22nd June 1816
12. Adoption of Peel's Act on the convertibility of Bank of England notes into bullion at decreasing rates: 26 May 1819
13. Resumption of convertibility of Bank of England notes into coin at pre-war parity: 1st May 1821

The gold-value of the Bank of England note in normal times can be inferred from the quotation of bullion in the years preceding the suspension of cash payments: since February 1st 1785 it had been invariably £3.17s.6d. per ounce, giving a slight premium of 0.5 per cent on the note as compared with the coin (20.1 shillings instead of 20 shillings per pound).⁵ After the suspension on 26 February 1797 (marker 1 on the graphs), this situation would continue until 29 August 1797, and later the note remained at the gold-par of 20 shillings until 24 September 1799. It would only regain this level on 20 August 1819 (after Peel's Act of 26 May 1819: marker 12) and was again at a premium of 0.5 per cent from 14 June 1822. The franc-value of the Bank of England note before the suspension cannot be known because there was no published quotation in London for Paris bills from 26 April 1792 to 11 May 1802.⁶ After Peel's Act, the exchange rate returned above par (25.225 francs) on 10 September 1819 and after 30 May 1820 it remained "favourable" by 1.5 to 2.5 per cent. It would never fall below par until 10 August 1824 (except slightly for six dates in the first half of 1822).

As expected, Graph 1 shows a striking parallelism between the curves of the gold-value GVN of one pound in note and its franc-value FVN. However, it appears in Graph 2 that, although they went together, the internal and external depreciations of the pound were not of the same degree, one being alternatively greater or smaller than the other. For example, the greatest external depreciation was observed from 26 March to 16 April 1811 when it reached 31.4 per cent below the franc-par (for an exchange rate of the pound of 17.30 francs), while the internal depreciation was then only between 17.2 and 22.9 per cent (for a gold-value

⁵ There was no obligation for the Bank to give notes against bullion and it did only so according to its needs; the bullion market was thus the usual way to obtain notes with gold. A legal obligation to purchase any quantity of bullion offered would be for the first time included in the Bank Charter Act of 1844, at the *bank buying price* of £3.17s. 9d. The premium of 0.5 per cent on the note that agreed with a market price of £3.17s.6d. per ounce of standard gold bullion should be compared to the loss of interest of around 0.8 per cent borne when bullion was coined at the mint, which paid £3.17s.10½d. per ounce but delivered the coins after two months.

⁶ One-month bills on London were quoted in Paris between 28 February and 26 December 1797, giving an implicit short rate ranging from 24.13 to 27.44 francs (the par being 25.225).

of the pound in note of 16.57 to 15.43 shillings, that is, £4.14s. to £5.1s. per ounce of standard gold bullion). On the contrary, the greatest internal depreciation was observed from 29 October to 12 November 1813 when it reached 33.3 per cent (for a gold-value of the pound in note of 13.34 shillings, that is, £5.16s.10d. per ounce of standard gold bullion), while the external depreciation was then only 27.5 per cent below the franc-par (for an exchange rate of the pound of 18.30 francs).

This agreement, albeit in varying degrees,⁷ between the internal and external values of the Bank of England note raised the question of the causality between the two – an issue which would frame the Bullionist controversy. The bullionist position was that the internal depreciation (consequent upon an excess issue of notes by the Bank of England) caused the external one. On the contrary, the anti-bullionist position was that the fall in the exchange rate (consequent upon an adverse foreign balance) caused the rise in the market price of bullion. Some participants in the debates contended that the fall in the value of the pound was to be ascribed both to foreign and domestic circumstances. Two authors were able to ground their (different) views in theory: Henry Thornton, who contended that the causality could be (and had actually been) alternatively one or the other (see Section 4 below), and David Ricardo, who maintained that any fall in the exchange rate below the export bullion point was necessarily the consequence of the internal depreciation of the Bank of England note caused by its excess issue (see Deleplace 2017: Chapter 8).⁸

The observation of Graphs 1 and 2 invites to distinguish between several periods, with which the three rounds of the Bullionist controversy can be linked.

3. The three rounds of the Bullionist controversy⁹

As soon as the Bank of England note started to depreciate, both internally (in terms of gold) and externally (in terms of foreign currencies), the question arose as to whether this phenomenon was to be ascribed to the issuing behaviour of the Bank or to outside circumstances linked to the war – mainly an adverse foreign balance. Since in 1810 they supported the *Bullion Report* which concluded to the first explanation, those in accordance with this report were called “Bullionists” and those favouring the second were called “Anti-Bullionists”. What in the history of monetary thought has been labelled the “Bullionist controversy” was thus bounded by these two extrem positions, most of the participants staying in the middle and arguing that, *in principle*, the high price of bullion and the low

⁷ Graph 2 shows that there were only two episodes when the note experienced both an external appreciation and an internal depreciation. Between January 1st and 20 September 1805, the exchange was from 0.7 to 2.7 per cent above the franc-par, while the note was invariably worth 19.47 shillings, that is, 2.7 per cent below the gold-par. Between 7 June 1816 and 14 January 1817, the exchange was from 0.7 to 3.9 per cent above the franc-par, while the note was 2.7 to 0.8 per cent below the gold-par.

⁸ By export bullion point one should understand here an exchange rate calculated on the basis of the nominal par of exchange (25.225 francs per pound with France), by subtracting the cost of exporting gold. This did not mean that the gold points were violated: the actual export bullion point was to be calculated on the basis of the *real* par of exchange, computed after the market price of gold in London and not its legal price of £3.17s.10½d. (James Steuart had been the first to stress this difference). Besides, in times of war, the cost of exporting gold could vary significantly, in particular after the blockade was implemented in 1806 (by England in March and by France in November).

⁹ The classic studies on the Bullionist controversy are in Viner (1937) and Fetter (1965). See also Sraffa (1951, 1952), Laidler (1987a), Arnon (2011, Chapters 5 to 8), Deleplace (2017, Chapters 1 and 2) and for factual information Feaveryear (1931) and Clapham (1944).

exchange of the pound could be explained by an excess note issue *and* other causes as well; they bended to a bullionist position when they considered that, *in the circumstances of the time*, the former factor was mainly operative, and to an anti-bullionist position when they denied that and stressed other causes. The Bullionist controversy was not then a steady and recurrent fight between two organised and permanent camps, because the emergence of its central issue implied relations with other secondary questions to be settled, and this left ample room for various, if not shifting or contradictory, opinions. Nevertheless, the two extreme positions had prominent defenders, such as Ricardo for the bullionist one, and, as expected, the Bank of England for the anti-bullionist one.

Besides, the controversy was not continuous. During the war there were two rounds of debates, which, as shown in Graphs 1 and 2, corresponded to a degradation of the state of the currency: one in 1800-1803, and the second in 1809-1811. Both were inconclusive. A third round started four years after Waterloo; it ended with a return to the pre-war *status quo ante*.

3.1. The suspension of convertibility and the first round of the controversy (1800-1803)

In February 1793 the war with France broke out; it would continue during 22 years with some short-lived interruptions or low-intensity episodes. The outbreak of the war triggered a financial panic which degenerated into a high demand for golden guineas and Bank of England notes. Forced by the legal convertibility of its notes to cash them in coin, the Bank reacted by refusing to discount even good paper further, intensifying the panic that was only overcome when the Government announced a massive issuing of Exchequer bills to relieve the liquidity pressure.

A new alarm occurred in 1795, when, after two war years, an explosive cocktail of financial transfers to the Continent, bad harvests in England, and expanded Government borrowing from the Bank of England led again to a drain of the latter's metallic reserves. The Bank rationed again its discounts, and again this behaviour started a wave of bank and commercial failures over the country. In February 1797, rumours of a French invasion provoked a panic which led to a run on some country banks. Because of the structure of the English banking system which gave it a pivotal role, the Bank of England experienced a heavy drain of its reserves, which was felt as threatening its existence. On 26 February (marker 1 on the graphs), a Council convened by Prime Minister William Pitt ordered the Bank to suspend cash payments of its notes until Parliament had deliberated on the subject; this order was confirmed by the "Bank Restriction Act" passed on 3rd May and was to remain in force till 24 June. Extended by further Acts of Parliament, this unprecedented inconvertibility situation would in fact last until 1820, that is, way after the troubled times – the Revolutionary and later Napoleonic wars with France – which were directly or indirectly held responsible for it.

Considering the novelty of inconvertibility in England and the negative evaluation of previous foreign experiments of the kind – such as the system of *assignats* in revolutionary France – one would have expected the suspension of cash payments to generate immediate debates. Apart from two pamphlets published in 1797 by Sir Francis Baring – in which he supported the suspension but called for improvements in the monetary system, such as the Bank of England notes becoming legal tender and their issuing being regulated – it was not

the case. The main reason was that, as shown by Graphs 1 and 2, there were at first no adverse consequences of suspension. It was only in May 1800 that, after seven months without any published quotation, the price of gold bullion jumped to £4.5s., that is, a depreciation of the note by 8.4 per cent which would reach 9.4 per cent in early 1801.

It is in this context that the Bullionist controversy started. Its beginning is generally associated with the writing in November 1800 (marker 2) of Walter Boyd's *Letter to the Right Honourable William Pitt on the Influence of the Stoppage of Issues in Specie at the Bank of England, on the Prices of Provisions and Other Commodities*; the letter was published in February 1801. According to Boyd, the crucial point was that, having been released from the obligation to reimburse its notes in specie, the Bank of England in its search for profits had increased its circulation by 30 per cent, hence the amount of the circulating medium since country banks' issues and London banks' deposits were limited by the availability of Bank of England notes. This overissue was responsible for the depreciation of the currency, which manifested itself in the general increase in prices. The solution to the bad state of the currency was thus to dispense with the forced paper-money which had been implemented since 1797 and to return to the discipline in the note-issuing behaviour of the Bank of England that had prevailed under convertibility. In response, Sir Francis Baring published in early 1801 *Observations on the Publication of Walter Boyd*. He recognised that the circulation of Bank of England notes had increased by 30 per cent in four years, but maintained that this by itself could not have produced the observed general price increase, which was the consequence of the war, not of Bank of England notes being issued in excess.

This opposition of views between Boyd and Baring reflected what would later be the dividing line between Bullionists and Anti-Bullionists. An important analytical point was added by Peter King, who published *Thoughts on the Restriction of Payments in Specie at the Banks of England and Ireland* in 1803. He stated that the depreciation of the currency should not be judged by the general increase in prices but by two "tests": the increase in the market price of bullion and the decline in the exchange rate of the pound. Another author contributed to this first round of controversy on the bullionist side: in his *Remarks on Currency and Commerce* published also in 1803, John Wheatley stated that the unfavourable exchanges could have only one cause – an excess of notes – contrary to common opinion that recognised the possibility of other causes besides this one.

Both King and Wheatley wrote their pamphlets as a critique of a book published by Henry Thornton in 1802, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (marker 3; see below Section 4). However, the debates did not go further. Graphs 1 and 2 may explain why: in the aftermath of the peace of Amiens signed in March 1802, the exchange on Paris was quoted again and by the end of the year it had improved significantly, becoming favourable after 13 April 1804. It would reach 2.7 per cent above par in June and July 1805. A published quotation of the market price of gold bullion is only available from 10 April 1804 to 15 October 1805 and it remained steadily at £4. per ounce, indicating an internal depreciation by 2.7 per cent only. The debates stopped because they were no longer felt useful. This is a first lesson: when factual amnesia overtakes the search for theoretical understanding, there is a risk that everything has to be discussed anew when another alarm occurs. The second round of the Bullionist controversy, triggered by bad news on the price of

gold and on the exchanges, would not start from Thornton's achievement, in spite of the fact that he would be a major actor in that round.

3.2. The second round (1809-1811) and the *Bullion Report*

This time the debate was launched by a newcomer, who had established himself in the City as a successful jobber and loan contractor in government funds: David Ricardo. On a suggestion by the proprietor of the *Morning Chronicle*, he accepted to publish anonymously in the edition dated 29 August 1809 an article entitled "The Price of Gold".¹⁰ He wrote: "The mint price of gold is 3l.17s.10½d. and the market price has been gradually increasing, and was within these two or three weeks as high as 4l.13s. per ounce, not much less than 20 per cent. advance." (Ricardo 1809: 15) This agrees with what can be seen on Graphs 1 and 2 (mark 4): the market price of gold bullion had reached £4.12s.8d. from 20 June to 28 July, with a slight decline at £4.9s.5d. from 8 to 25 August, giving a gold-value of the note between 16.83 and 17.42 shillings, that is, an internal depreciation by 15.8 to 12.9 per cent.¹¹ During the same period, the exchange was at 20.05 francs, that is, an external depreciation by 20.5 per cent.

The publication of Ricardo's article, which explained the depreciation of the Bank of England note entirely by its excess issuing, started a crossed correspondence in the *Morning Chronicle* between Hutches Trower (who defended the Bank) and himself, with two replies by the former and two more letters by the latter. This was followed by Ricardo's first pamphlet, *The High Price of Bullion, a Proof of the Depreciation of Bank Notes*, published on 3rd January 1810. A speech by Francis Horner in the House of Commons led up to the appointment of the Bullion Committee on 19 February 1810 (marker 5). Under the chairmanship of Francis Horner, its 22 members took evidence from numerous specialists until May; the *Bullion Report*, co-authored by Francis Horner, William Huskisson, and Henry Thornton, was laid before the House of Commons on 8 June but it was not published until 12 August 1810 (marker 6). The diagnosis on the crisis was clear-cut: its responsibility fell on the Bank of England which had over-issued. Accordingly the report recommended to resume the convertibility of the note after two years, whether the war was at an end or not (instead of six months after the ratification of a definitive treaty of peace, as in the previous successive Restriction Acts), and in the meantime to oblige the Bank of England to regulate the amount of its issues by the price of bullion and the state of the exchange: this meant subjecting the Bank to a rule instead of allowing discretion, and in practice contracting the issues as long as the note was depreciated.

These provocative conclusions gave rise to a flurry of pamphlets, articles, and speeches, including three favourable new letters published by Ricardo in the *Morning Chronicle* in September 1810. Some pamphlets supported the report – such as William Huskisson's *The Question concerning the Depreciation of our Currency stated and examined* – or attacking it – such as Charles Bosanquet's *Practical Observations on the Report of the Bullion Committee* in November 1810, criticised by Ricardo in January 1811 in his *Reply to*

¹⁰ For the chronology of this second round of the Bullionist controversy, see Sraffa (1951).

¹¹ The 20 per cent "advance" mentioned by Ricardo was the percentage excess of the market price over the mint price; our data give for that from 19 to 15 per cent.

Mr. Bosanquet's Practical Observations on the Bullion Report. In February 1811 Robert Malthus published in the *Edinburgh Review* an article discussing six of these pamphlets, including Huskisson's, Bosanquet's, and Ricardo's ones. In April a 4th edition of Ricardo's *High Price* was published, with an "Appendix" containing observations on Malthus's article and an outline of a plan for convertibility of the note into bullion instead of specie.

It took the chairman of the Bullion Committee Francis Horner nearly one year to obtain a debate on the *Bullion Report* in a plenary session of the House of Commons. The resolutions discussed from 6 to 15 May 1811 summed up the bullionist and anti-bullionist positions. Horner moved sixteen resolutions embodying the conclusions of the report, and Nicholas Vansittart (who would be later Chancellor of the Exchequer from 1812 to 1822) moved seventeen counter-resolutions which exonerated the Bank of England from any responsibility in the crisis, explained the low exchanges and the high price of bullion entirely by an adverse foreign balance, and repeated the potential term fixed by the last Restriction Act for the resumption of convertibility (six months after the conclusion of a definitive treaty of peace). Henry Thornton delivered two speeches, one supporting Horner's resolutions, the other criticising Vansittart's counter-resolutions (see below Section 4). At the beginning of the first, he underlined that the main question at this moment was not the resumption of cash payments, but the note-issuing rule to be adopted by the Bank of England – varying the issues with the market price of gold and the state of the exchanges – a rule which should apply in convertibility and inconvertibility as well, and in both cases implied the rejection of any discretionary behaviour by the directors of the Bank. In the second speech, he insisted that the implementation of this rule should then lead to a contraction of the note issue aimed at correcting its excess, as it should already have done in 1801, against his own "error" of judgement at the time.

Although only one dissenting voice was heard among the 22 members of the Bullion Committee during the plenary debate, Horner's 15 first resolutions were rejected by the 226 Members of the House of Commons by a majority of two thirds, the last one (on the resumption of convertibility) by a majority of four fifths. This negative vote was confirmed by the adoption of Vansittart's counter-resolutions by a majority of two thirds. This was a defeat for the Bullionists, both on the diagnosis – the depreciation of the Bank of England note due to its overissue – and the remedies – the fixed term for the resumption of convertibility and the note-issuing rule until it would occur. Eight more years would be needed to resurrect the debate in Parliament.

This burying of the debate may look surprising. Contrary to what had happened with the first round of the controversy in 1803, its end did not coincide with a remission of the crisis. During the debates on the *Bullion Report* in the House of Commons from 6 to 15 May 1811 (marker 7), the note was still 18.9 per cent below the gold-par and 29.4 per cent below the franc-par. By the end of the year, the internal depreciation would still increase (up to 22.5 per cent) while the external one did not fall under 27.5 per cent. The situation would even worsen during the two following years. A peak of £5.16s.8d. per ounce of gold bullion (exactly 50 per cent above the mint price of £3.17s.10½d.) was reached from 29 October to 12 November 1813; the Bank of England note was then worth 13.34 shillings in gold, an internal

depreciation by 33.3 per cent.¹² At the same time, a sight bill on Paris purchased in London was quoted 18.30 francs per pound, an external depreciation by 27.5 per cent. As shown by Graphs 1 and 2, this extreme depreciation, both internal and external, was accompanied with high market volatility.

One might think that the absence of debate in a context of worsening situation testified to a general resignation about the monetary crisis, which in a period of prolonged war was viewed as overdetermined by the outcomes of the battles and the vicissitudes of foreign politics. An example is given by the fall of Napoleon which occurred in 1814-1815 in two steps separated by fourteen months. As mentioned just above, an extreme situation had been reached in the autumn of 1813, before the consequences of the defeat of the French Army at the “Battle of Nations” (Leipzig, 16-19 October 1813) were fully known. When Napoleon left France on 29 April 1814 after his first abdication (marker 8), the Bank of England note was still only worth 13.46 shillings in gold (a depreciation by 32.7 per cent) and 19.30 francs (23.5 per cent below par). Just before he returned from exile on 1st March 1815 the situation had improved at 17.50 shillings (12.5 per cent) and 22.00 francs (12.8 per cent) respectively, but it collapsed again at 14.56 shillings (27.2 per cent) and 18.80 francs (25.5 per cent) after he settled back in Paris on 20 March (marker 9). On the first quotation (23rd June) after the news of the victory at the battle of Waterloo had reached London late on 20 June (marker 10), the figures were 14.98 shillings (25.1 per cent) and 19.80 francs (21.5 per cent), before reaching 17.12 shillings (14.4 per cent) and 21.60 francs (14.4 per cent) after Napoleon had boarded the English vessel *Bellerophon* for Saint-Helens on 15 July.

This sensitivity of the bullion and foreign exchange markets to changing political events may illustrate Ricardo’s remark that “he had made his money by observing that people in general exaggerated the importance of events” (as recollected by John Bowring; see Sraffa 1955: 73). However, it leaves open the question of why two years of intense debates in 1809-1811 among the cleverest minds of the time ended up in a *status quo* in spite of a deepening monetary crisis.

3.3. The third round (1819-1821) and the resumption of convertibility

In spite of the peace following Napoleon’s defeat at Waterloo, it took four years to restore the convertibility of the Bank of England note. Graphs 1 and 2 show that its gold-value and its franc-value increased rapidly during the first year after the end of the war, the former returning nearly to par (with a depreciation by 1.4 per cent only) and the latter above par (with an appreciation by 2.3 per cent). However, new episodes of depreciation occurred again between February 1818 and May 1819, with a lowest of 9.7 per cent against gold and 6.8 per cent against the franc in December 1818 – a situation comparable to that of 1801-1803.

Paradoxically, the only noticeable event during that period was at its beginning, when the monetary situation seemed to return durably to normality: the Silver Coinage Act of 22 June 1816 (marker 11) enacted that gold only should be legal tender for any sum exceeding

¹² This agrees with what Ricardo retrospectively declared in the House of Commons on 12 June 1822: “A constant reference had been made [in the debates] to the extreme point of the depreciation in the currency, which they knew occurred in the year 1813. [...] If, in the year 1819, the value of the currency had stood at 14s. for the pound note, which was the case in the year 1813, he should have thought etc.” (Ricardo 1951-1973, vol. V: 207-8) This was a depreciation of 6s. per pound, or 30 per cent.

two pounds, that is, silver was no longer legal tender above this sum, even by standard weight. A seignorage was introduced on the silver coin (taken by the mint at 5s.2d. per standard ounce, it circulated at 5s.6d.) but, for contingent reasons – the market price of silver was then below the mint price of 5s.2d., and the mint would have been flooded with silver bullion brought in for coinage – the royal proclamation implementing free access to the mint for silver was not issued (see Fetter 1965: 67). The government only could coin silver, and a recoinage was ordered in 1817. This change in the metallic currency reflected the secondary role devoted to silver in the monetary system: silver coins were reduced to token currency.¹³ The legal adoption of the gold standard was sanctioned by the issuing of a new gold coin, the sovereign of one pound (inscribed for the first time on the coin), which replaced the guinea of 21 shillings while retaining the century-old mint price of £3.17s.10½d. per ounce standard.

This adaptation of the metallic currency did not touch the paper one. After the war the resumption of convertibility was postponed by three more Acts (in 1815, 1816 and 1818), the latest fixing a date for resumption as 5 July 1819. It was thus only in early 1819 that the debates on the monetary system resumed, with two secret committees, one in the House of Commons and one in the House of Lords, being appointed “to consider the State of the Bank of England, with reference to the Expediency of the Resumption of Cash Payments at the period fixed by law, and into such other matters as are connected therewith.” (quoted in Sraffa 1952: 350) The respective committees took evidence from 24 and 25 witnesses between 8 February and 1st May; they issued their final reports on 6 and 7 May. On 26 May 1819, the House of Commons adopted the nine resolutions embodied in the report of its committee (marker 12).

During the debates, the main issue had been the alternative between deflation and devaluation. Advocates of deflation wished to re-establish the monetary system as it was before 1797, the only difference being the substitution of a *de jure* for a *de facto* gold standard. But in their eyes this implied the fulfilment of two conditions: a contraction of note circulation, in order to lower the market price of gold bullion to the pre-war mint price of £3.17s.10½d. per ounce standard; and the reconstitution of the gold reserves of the Bank of England, to respond to any possible drain on them. Both conditions were liable to increase the difficulties of a return to a peacetime economy, the former by creating liquidity crunches, the latter by exerting an upward pressure on the value of gold in terms of commodities (because of the demand by the Bank of England), hence aggravating deflation. The option of devaluation was symmetrical with that of deflation: by acknowledging that the twenty-two-year period of inconvertibility had produced consequences which could not easily be dispensed of, it made the resumption of convertibility easier. A mint price above £3.17s.10½d. implied less contraction of the note circulation and lower reserves of the Bank of England, but it hurt the interests of the creditors by diminishing the value of debts in terms of gold. As always with the alternative between deflation and devaluation, the outcome depended on the balance of power between creditors and debtors. This conflict of interest was, however, softened by the fact that, although this was not the result of a deliberate policy

¹³ The question of the double standard would be revived in 1819 during the debates in Parliament on the resumption of convertibility. The financier Alexander Baring advocated its reintroduction, as he did again in 1821 and 1823. Ricardo opposed it all the way (see Deleplace 2017: 232-42). In 1826 one of the former co-authors of the *Bullion Report*, William Huskisson, would again propose a plan for this reintroduction.

of the Bank of England, the post-war stagnation in trade and the consequent general fall of prices had reduced the demand for Bank of England notes hence their quantity in circulation. The amount of further deflation needed to resume convertibility at pre-war parity was consequently smaller and made acceptable: as shown on Graphs 1 and 2, since February 1819 the market price of bullion had been a little above £4, that is, the note was depreciated only by around 4 per cent in gold.

This was the position held by Ricardo,¹⁴ who was all the more inclined to neglect the deflationary consequences of resumption at pre-war parity since he himself advocated a plan that would allow dispensing with an increase in the gold reserves of the Bank of England, hence with the upward pressure on the relative value of gold. This Ingot Plan had been developed in his 1816 pamphlet *Proposals for an Economical and Secure Currency* and substituted convertibility of the Bank of England note into bullion for convertibility into coin. This plan had been outlined by Ricardo in 1811 but not considered at the time; now the enquiries of both Committees soon became centred on it, albeit as a temporary device to facilitate the resumption of cash payments and not as a permanent system of currency (see Sraffa 1952). Although it was subject to much opposition and misunderstanding, the House of Commons adopted a resolution compelling the Bank of England to deliver standard bullion for its notes. To alleviate the consequences of deflation, a calendar was set to implement a gradual return to convertibility at decreasing rates (another idea of Ricardo): it started on 1st February 1820 to end up on 1st May 1821 at the pre-1797 rate of £3.17s.10½d. per ounce of standard gold.

However, what is known as Peel's Act of 1819 (after the name of the chairman of the Commons' Committee) contained a provision for a return to convertibility *into coin* on 1st May 1823. Also an amendment had been introduced according to which, starting on 1st May 1822, the Bank of England would have the choice to pay its notes in coin or bullion. Knowing the hostility of the Bank to convertibility into bullion, this implied to shorten the Ingot Plan experiment by one year. When the date of the return to pre-war parity (1st May 1821; marker 13) came, a new act decided to anticipate this possibility of choice. Consequently, after twenty-four years, the parenthesis opened on 26 February 1797 by the suspension of cash payments of Bank of England notes was simply closed, and the monetary system existing before this long crisis was restored, the only change (independent of the issuing of banknotes) being the substitution of a legal gold standard for the previous double standard.

At the end of the day, it appears that, in the case of Thornton in 1811 as of Ricardo in 1821, the theoretical advances in monetary thought generated by a crisis of long duration had no effect on the working of the monetary system when the crisis ended. To answer to the question of why it was so it may be useful to analyse in more details the fate of the writings of each of these path-breaking monetary economists.

4. Henry Thornton and the unfortunate fate of *Paper Credit*

¹⁴ On 8 February 1821 he would declare in the House of Commons: "The question, then [in 1819], before the House was, whether it was advisable to return to the old standard, or to take the existing market rate, which was then about 4 per cent above that standard, as the measure of value in future. [...] If, instead of being at 4*l.* 1*s.* bullion had been much higher, he should not have proposed a recurrence to the mint standard. [...] He was not anxious to restore the old standard; but the market price of bullion being then only 4*l.* 1*s.*, he did not think it necessary to deviate from the ancient standard." (Ricardo 1951-1973, vol. V: 73)

4.1. One or two Thornton(s)?

The rediscovery of Thornton in the 20th century has raised the issue of the consistency between his 1802 book *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* and his co-authorship and oral defence of the *Bullion Report* in 1810-1811. In 1802, Thornton's analysis of the crisis of 1797 insisted on exogenous causes (bad harvests, war transfers), which had generated an adverse foreign balance. If the Bank of England was to blame in the suspension of convertibility in 1797, it was not for having expanded the note issue but, on the contrary, for having contracted it in the preceding years – precipitating the crisis – at a time when it should have been increased (lending of last resort). In *Paper Credit*, another remedy to such a crisis would have been to allow the Bank to raise its discount rate discretionarily – something made impossible by the *Usury Laws* – so as to attract foreign capital until unfavourable circumstances had disappeared. By contrast, the two speeches delivered before Parliament in 1811 (Thornton 1811) endorsed the diagnosis contained in the *Bullion Report* – the Bank of England was responsible for the fall of the pound because it had issued notes in excess – and not only advocated as remedy a contraction of the note issue in the perspective of the resumption of convertibility but also the adoption of a rule that would in the future regulate the issues according to the price of bullion and the state of the exchanges.

The question is thus: was there one or two Thornton(s), and if there was one, who was he? In his introduction to a new edition in 1939 of *Paper Credit* and of the two speeches, Hayek considered that between 1802 and 1810-1811 Thornton had not changed his mind in point of theory but in terms of general perspective. Referring to Thornton's first speech in Parliament, he wrote: "By this time, although he had not altered his theoretical position in any essential respect, Thornton had become thoroughly convinced of the mismanagement of the note issue and the overwhelming danger of an excessive circulation in general, and was no longer afraid to apply the remedy of a severe contraction." (Hayek 1939: 56) He then added that "his speech [...] is really a lecture on the dangers of a paper currency" (*ibid*); this obviously echoed Hayek's own critique of banks as responsible for the fluctuations in economic activity, developed in his 1931 book *Prices and Production*. Laidler shares the same view: "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, [...] Henry Thornton was always, as Hicks (1967) has put it, a 'hard money' man as far as long-run policy questions were concerned." (Laidler 1987b: 635) By contrast, according to Murphy (2003), a plurality of views already existed in *Paper Credit* where no less than three distinct persons were to be found – what Skaggs would call a "schizophrenia" at odds with Thornton's "impeccable logic" (Skaggs 2005: 325). While maintaining his point in a rejoinder, Murphy notes about Thornton that "his move towards becoming a hardliner on monetary issues after such a promising start in *Paper Credit* had become inevitable." (Murphy 2005: 331)

Like most of his predecessors, Arnon (2011) stresses the unity of Thornton's views, but he pushes it further in a quite provocative way: Thornton's late involvement in the *Bullion Report* should not obscure the fact that he was not a Bullionist – even a "moderate" one, as Arnon confesses having previously believed – but "a moderate Anti-Bullionist" (Arnon 2011: 99). This new evaluation rests on two arguments. First, the theoretical unity of *Paper Credit* comes from the defence of managed inconvertibility: "Thornton constructed the most

important theory of his era in defence of an inconvertible system based on discretionary policy. [...] The one consistent Thornton was the innovative monetary theorist whose analysis favoured a non-metallic, managed monetary system.” (*ibid*) Second, the *Bullion Report* – which called for the return to convertibility – did not contradict Thornton’s preference for inconvertible paper money: “If Thornton can be said to have changed his views after 1802, he did so on a pragmatic level for political reasons; his theories remained unchanged.” (*ibid*)

A more balanced view may be the following (for details see Deleplace 2017: 33-37, 53-54): Arnon is indeed right in pointing that there is one consistent Thornton and it is all in *Paper Credit*; but inconvertibility was not central. In the first as in the second rounds of the Bullionist controversy, the question of the return to convertibility was for Thornton of secondary importance; his main concern was about the analysis of the causes of and remedies to monetary disequilibrium. As to the causes, he distinguished between various cases – normal times and exceptional circumstances; adverse foreign balance and excess note issue – the main dividing line being whether the crisis was exogenous or endogenous to the monetary system. As to the remedies, he advocated discretion or a note-issuing rule, according to the particular cause of disequilibrium. Discretion (lending of last resort, increasing the discount rate to attract foreign capital) was required only in times of a crisis provoked by exogenous exceptional circumstances; in normal times, the stability of the monetary system was to be ensured by a note-issuing rule based on the observation of the price of bullion and the state of the exchanges.

Thanks to its theoretical foundations, Thornton’s *Paper Credit* made thus bullionist and anti-bullionist arguments coexist. In contrast with the Bullionists Boyd, King, and Wheatley, Thornton did not blame in 1802 the Bank of England for having taken advantage of inconvertibility and issued in excess; he explained the bad state of the currency by external factors having generated an adverse foreign balance. His analysis of the effects of “a comparison of the rate of interest taken at the bank with the current rate of mercantile profit” (Thornton 1802: 254) nevertheless contained a powerful critique of what would long be a distinctive mark of Anti-Bullionism: the Real Bills Doctrine, according to which notes could never be in excess as long as they were issued by discounting bills generated by current production. Thornton pointed out that the supply of bills – hence the demand for notes – was not driven by the volume of goods under production but by the difference between the expected rate of return on the money borrowed and the actual discount rate at which the Bank of England monetised the bills – a point that would be emphasised by Wicksell nearly a century later when dealing with the relation between the natural rate of interest and the money rate of interest. If this difference was large – a circumstance fostered by the legal maximum of 5 per cent imposed on the discount rate – the fact that the Bank of England only lent on good quality bills could not prevent the issuing of notes from being in excess, by comparison with what was required by the level of current production. This excess then pushed the market price of bullion upwards. Under convertibility, arbitrage triggered by the positive difference between the market price of gold bullion and the legal price at which the Bank of England was compelled to give specie for its notes led to a drain of its metallic reserves that forced the Bank to reduce its issues, thus correcting the excess. But this check on overissue disappeared under inconvertibility, and the depreciation of the currency then had no limit. This argument was consistent with a bullionist approach.

Thornton's book could thus have provided a common theoretical ground, if not to reconcile Bullionists and Anti-Bullionists, at least to frame the debates so as to dissipate confusion and pave the way towards further analytical and practical progress. But this would not be the fate of *Paper Credit*.

4.2. The unfortunate fate of *Paper Credit*

Whatever the modern interpretation of Thornton's views, there is a mystery about them: from the middle of the 19th century, *Paper Credit* was no longer mentioned by economists. According to Hayek, "for a long time John Stuart Mill, who in 1848, in his *Principles of Political Economy*, described the *Paper Credit* as even at his time 'the clearest exposition that I am acquainted with, in the English language, of the modes in which credit is given and taken in a mercantile community,' was the last author to do anything like justice to Henry Thornton" (Hayek 1939: 57-58); by "long time" he meant "until just before, and particularly since, the Great War." Four years before Mill, in his pamphlet against the Currency Principle, Tooke had referred to Thornton's book (in fact quoting from Horner's review of it in the *Edinburgh Review*) but only on "a distinct and full description of the manner in which [domestic] bills of exchange performed in his time the function of money; a description which is strictly applicable at the present day." (Tooke 1844: 29) According to Arnon (2011: 280, 365), *Paper Credit* was ignored by Bagehot – in spite of Thornton's treatment of lending of last resort – and Wicksell – although Thornton emphasised the role of the difference between the rate of profit and the Bank lending rate in the determination of the demand for notes. A follower of Wicksell, Hayek, observed that this latter point was "a remarkable anticipation of the distinction between the market rate and the 'natural' or 'equilibrium' rate of interest which since the work of Knut Wicksell has played such an important rôle in the discussions of these problems. With this idea, along with the idea of forced saving, Thornton was for the first time in possession of the two main elements which it was left for Wicksell, nearly a hundredth years later, successfully to combine into one of the most promising contributions to the theory of credit and industrial fluctuations." (Hayek 1939: 50) But Thornton was not credited for it in the literature until the interwar period of the 20th century.

One might think that the oblivion of Thornton's seminal book and even of his name does not mean that his influence faded but simply that it took subterranean channels. Already at his time the absence of any other publication by him between the 1811 speeches and his death in 1815 did not prevent his ideas from spreading: "Although in Parliament his views had been defeated, largely for reasons of high policy, he lived long enough to see them widely accepted. And among those of his contemporaries who took an interest in these matters there existed little doubt that the new body of thought was mainly his creation." (*ibid*: 57) This was an example of the fact that widely-accepted views sometimes no longer need to be credited to their originator – a point emphasised in the case of Thornton by Rosselli (2008: 78). According to Laidler, "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." (Laidler 1987b: 635) It has been for example suggested

by Skaggs (2003) that this influence did in fact extend beyond the middle of the century, thanks to the missing link provided by the Banking School.

The question, however, is less whether a particular item in *Paper Credit* survived long after it was published than why Thornton's coherent theoretical construction did not find its way in the history of monetary thought. Is there any deeply-rooted reason why this body of thought was forgotten? Arnon's answer to this question is that the British monetary orthodoxy of the 19th century was unable to capture the concept of intermediation. This explains "the puzzling slow rise of a theory of central banking" (Arnon 2011: 370 sq.) and by the same token Thornton's oblivion: "Why had Thornton been rejected for close of a century? Why did he disappear from the canon for so long? [...] Thornton, like Wicksell one hundred years later, departed from the common tendency among the classicals to focus almost exclusively on the exchange process and on the mechanisms that transformed barter into a monetary economy. The analysis of intermediation was weak and partial among mainstream classical theorists, who thus did not really understand Thornton's path-breaking thoughts about the importance of credits, debits, and, more generally, intermediation. The frameworks of both Thornton and Wicksell depart from 'monetary theories of credit' and approach 'credit theories of money'. [...] That credit is more basic than money is indeed a radical notion; an idea that is very difficult to accept." (*ibid*: 396-7) One may add that a dominant approach to money that had a "common tendency to focus almost exclusively on the exchange process" must have felt uncomfortable with a body of thought which – unlike that of Wicksell later – lacked a price theory: Thornton did have an understanding of "the steps by which an increase of paper serves to lift up the price of articles" (Thornton 1802: 195) but the examination of the changes in the supply of and the demand for *all* commodities did not provide an explanation of how the *system of relative prices* was determined and how money played a role in this process, if any.

Thus the question becomes: does the assumed pre-eminence of credit allow skipping the issue of the relationship between the circulation of money and the exchange of commodities? In other words, can one dispense from studying this relationship if the object of monetary theory is to understand how money creation fits in an economy where production financed with credit is market-oriented? I will come back to this issue later, but before we should turn to the author that in this period exemplifies this focus on money and exchange, that is, Ricardo.

5. The alleged triumph of David Ricardo

Thornton's unfortunate theoretical fate did not, it seems, apply to Ricardo. This was Schumpeter's conviction – much to his regret: "In matters of monetary as of general theory, Ricardian teaching is a detour and it slowed up the advance of analysis, which could have been much quicker and smoother had Thornton's lead been followed – had Ricardo's force not prevailed over Thornton's insight." (Schumpeter 1954: 704n) For Laidler, "it was Ricardo and not Thornton who was destined to become the recognized authority to whom 19th-century monetary economists working within the classical tradition looked for guidance in matters of monetary theory." (Laidler 1987b: 635)

This alleged triumph of Ricardo – for better or worse – is rooted in three widespread beliefs: that he inspired the orientation of the Bullion Committee in 1810, was responsible for

the return to the *status quo ante* in 1821, and after his death inspired the Currency Principle which framed the 1844 Bank Charter Act. However, these three beliefs do not stand close scrutiny.¹⁵

5.1. Ricardo and the *Bullion Report* in 1809-1811

As mentioned above, the second round that marked the climax of the Bullionist controversy started with the publication of Ricardo's letter in the *Morning Chronicle* of 29 August 1809. The responsibility of Ricardo in the launching of this round of controversy has been acknowledged not only by Sraffa: it was recognised by major participants in the debate at the time. Francis Horner, the chairman of the Bullion Committee, wrote on 16 July 1810 a letter to the editor of the *Edinburgh Review* which read: "I will do a short article for you this time, to do justice to Mr Ricardo and Mr Mushet, who called the public attention to this very important subject at the end of last year." (quoted in Sraffa 1951: 9-10) After the publication of *High Price* in January 1810, Charles Bosanquet, whose pamphlet "was regarded at the time as the most effective of the criticisms published on the Bullion Report" (*ibid*: 10), attacked "Mr Ricardo's work, not only as having been the immediate cause of the inquiry which has since taken place, under the authority of the house of commons, but as a syllabus of the Report which has been presented by the Committee." (*ibid*)

It may be noticed, however, that Ricardo did not give evidence before the Bullion Committee. This is all the more surprising since most witnesses were at variance with the conclusions of the Committee: only Sir Francis Baring and a Hamburg merchant supported them.¹⁶ Ricardo's evidence could thus have given more weight to the report, but he was professionally involved neither in the bullion nor in the foreign exchange markets and this may account for his absence in hearings that mostly concentrated on facts related to these markets. After the *Bullion Report* had been published and criticised, Ricardo himself felt obliged to Charles Bosanquet for having approached the currency question in terms of facts (Ricardo 1811: 159-61), and he set himself to the task of showing that Bosanquet's use of facts was wrongly grounded.¹⁷

At the beginning of his *Reply to Bosanquet*, Ricardo made the following emphatic warning: "These principles [of the *Bullion Report*] being in all essential points the same as those which I have avowed, and on which Mr. Bosanquet has attacked me, to avoid the necessity of speaking at one time of the opinion of the Bullion Committee, and at another of my own, I shall, in the future pages of this work, consider them as the principles of the Bullion Committee only, and shall take occasion to mention any shade of difference that may occur between theirs and mine." (Ricardo 1811: 161-2) This acknowledged agreement between the principal positions of the Committee and of Ricardo has often led to overstate the influence of the latter on the former. However, if in point of diagnosis (the overissue of Bank of England notes as the cause of the monetary crisis) and remedy (the immediate contraction of the note issue, opening the way to the resumption of convertibility) this agreement does not

¹⁵ It is beyond the object of the present paper to analyse in details Ricardo's monetary theory. For such an analysis see Marcuzzo and Rosselli (1991) (1994) and Deleplace (2017) (2020).

¹⁶ As indicated by Sraffa in his note on "Mr. —' of the Bullion Report" (in Ricardo 1951-1973, vol. III: 428).

¹⁷ For a significant example of such a demonstration against Bosanquet, see the study of Ricardo's calculations of the price of gold in Hamburg in Deleplace (2017: 37-41).

raise any doubt, one should recall that, at a theoretical level, Ricardo was quite isolated in maintaining that the depreciation of the note was *always* caused by its excess issue and *never* by an adverse foreign balance which was necessarily a *consequence* of the depreciation of the currency, never its cause. For example, referring to Thornton (1802), Malthus criticised this statement in his review of *High Price* for the *Edinburgh Review*, to which Ricardo answered in the *Appendix* to the fourth edition. Besides, during the parliamentary debates in May 1811 on the *Bullion Report*, the **suggestion of** convertibility of the note into bullion, contained in this *Appendix*, remained unnoticed. Anyway, whatever Ricardo's real influence, the burying of the report was also that of his monetary ideas. As the proverb says: "Caught together, hanged together."¹⁸

The emphasis generally put on Ricardo's role in the **debates around the *Bullion Report*** is also linked to the belief that his 1809-1811 essays (in particular *High Price*) are the appropriate expression of his monetary theory. This is forgetting that at that time he had not yet faced the problem of the consistency between his views on money and on the value of commodities.

5.2. Ricardo and the resumption of convertibility in 1819-1821

When the debate on the resumption of convertibility resurfaced in early 1819, Ricardo was ready to take part in it. He was in an ideal position to do so. On the one hand, he now seated in the House of Commons where he could have some influence on this subject, first by giving evidence before the two secret committees appointed on it, second by delivering speeches during the general debate in the House. He could thus press for the adoption of his 1816 Ingot Plan to improve the monetary system instead of simply returning to the pre-1797 situation. On the other hand, as loan contractor, he was involved in the negotiation of the Government Loan of 1819 which occurred at the same time.¹⁹ Both issues were linked because the size of the loan depended on whether the Bank of England would as usual provide facilities to the subscribers or would abstain from doing so because of the possible negative consequences of resumption on its metallic reserves. Eventually, the Bank, who opposed the implementation of resumption through Ricardo's plan, refused to accommodate the subscribers, and the government was obliged to cut the size of the Loan by half and to adopt the scheme defended by Grenfell and Ricardo in Commons on 13 May, *viz.* to take the other half from the Sinking Fund (on this episode, see Sraffa 1955: 84-90).²⁰

¹⁸ Ricardo was then attacked by the populist journalist William Cobbett, who, after the publication of the fourth edition of *High Price*, wrote in his *Weekly Political Register* of 6 August 1811: "Then there is Mr. Ricardo who is puffing off a plan of his for raising the value of paper money to that of gold, with a very moderate proportion of that metal. One thing I will say to this Mr. Ricardo, that if he ever does see the New Jerusalem, he will see it before this paper be restored to its sterling value." (quoted in Weatherall 1976: 60). The mention of the New Jerusalem was a transparent allusion to Ricardo's Jewish origin, which was recurrent in Cobbett's attacks: in 1821 he would refer to the "Jew-like notion of the price of gold being the standard" (see Section 6 below).

¹⁹ As mentioned above, the two committees took evidence between 8 February and 1st May 1819; they issued their final reports on 6 and 7 May and on 26 May 1819 the House of Commons adopted the report of its committee. The negotiations on the Loan started at the end of April and it was bargained on 9 June.

²⁰ It should be noticed that by defending this scheme Ricardo acted against his own interest as loan contractor, since it reduced the size of the loan. In his speech before the House, Ricardo said that it was "the opinion which he had long entertained. He should have shrunk into the earth before those who had long known his sentiments if he had given any other" (Ricardo 1951-1973, vol. V: 6), an opinion which was confirmed by Grenfell in reference to the loan of 1814 (*ibid.*: 4). The 1819 loan was eventually attributed to the list of subscribers prepared

Ricardo's intellectual position was strengthened by the fact that he was now equipped with the mature theory of money developed in his 1816 *Proposals*, consistent with his theory of value and distribution contained in his 1817 *Principles*.²¹ The *Proposals* had originated when in May and June 1815 the subject of the limitation of the profits which the Bank of England made from its transactions with the government was raised in the House of Commons by Pascoe Grenfell. The latter urged his friend Ricardo to write a pamphlet on it in the perspective of a motion he intended to put forward during the 1816 session. Expecting that during this session Parliament would fix a date for the resumption of cash payments of its notes by the Bank – as the successive Acts of Restriction implied, now that peace had been re-established, but eventually did not happen – Ricardo went further and developed a plan for convertibility of the note into bullion which he had outlined in 1811 in the 4th edition of *High Price*. In a closing paragraph, he even suggested to remove the issuing of notes from the Bank of England and to put it in the hands of independent commissioners responsible to Parliament only, so that the State would become the sole issuer of money. This pamphlet, entitled *Proposals for an Economical and Secure Currency; with Observations on the Profits of the Bank of England, as they regard the Public and the Proprietors of Bank Stock*, was published on 6 February 1816. Although its sales were quite successful – with a second edition printed on 23rd February – it did not raise any debate, even when in 1818 the monetary situation deteriorated.

As mentioned above, Ricardo's Ingot Plan was now in 1819 at the centre of the debates on resumption, and the three-year implementation of convertibility into bullion enacted by Peel's Act – with the prospect that, if it worked, it could be made permanent – was a success for Ricardo, which he described in a letter to Trower of 8 July 1819 as “the triumph of science and truth in the great councils of the Nation.” (Ricardo 1951-1973, vol. VIII: 44) Before starting his speech on the day of the general debate in the House of Commons (24 May 1819), “Mr. Ricardo rose, amidst loud invitations” (*ibid*, vol. V: 9n), and at the end “The hon. member sat down amidst loud and general cheering from all sides of the House.” (*ibid*: 17). In his diary John Mallet wrote after the debate that “the phenomena of that night was Ricardo” and reported that in a private party a few days afterwards, the Duke of Wellington had “remained in conversation with him [Ricardo] for 20 minutes.” (*ibid*: 17n) Ricardo became famous: *The New Times* of 15 May 1819 wrote that “the proposed Ingots have already obtained a name. They are called *Ricardoes* from their inventor, as the gold *Napoleons* were named from Bonaparte” (quoted in Sraffa 1952: 368), and on 15 June 1819 the same newspaper observed that “Mr Ricardo's *ingots* were the fashionable novelties of the day, like the automaton chess player, or the fair Circassian.” (*ibid*)

Unfortunately, this “triumph” did not last. As mentioned above, in the end Ricardo's plan was legal only from 1st February 1820 till 1st May 1821; this was purely formal, since, as

by Nathan Rothschild, who as a matter of prestige (it was his first bid for a British Loan) had offered exceptionally advantageous terms for the government. Ricardo's list was the runner-up. In evidence before the Commons' Committee the same Nathan Rothschild had attacked Ricardo's Ingot Plan for resumption, and in October 1819, after a fall in the price of Public Funds, he would unsuccessfully press the government for a postponement of the measure (Sraffa 1955: 89-90).

²¹ In Chapter XXVII “On Currency and Banks” of the 2nd edition of *Principles* Ricardo inserted (on the suggestion of McCulloch) four full pages of *Proposals* summing up his plan. This edition was published on 27 February 1819, two weeks after the committees on resumption started their enquiries.

shown in Graphs 1 and 2, during that period the pound in note had regained its par value in gold (20 shillings), so that only 13 “Ricardoes” were demanded as collectors’ pieces out of the 2028 delivered in 1820 by the mint to the Bank of England (*ibid*: 368-70). The paradox is that after the resumption of cash payments in 1821 Ricardo was repeatedly attacked in Parliament and in public opinion for his alleged responsibility in the deflation observed in the following years. As he wrote to Trower on 11 December 1821: “In the country I find much error prevailing on the subject of the currency, every ill which befalls the country is by some ascribed to Peel’s bill, and Peel’s bill is as invariably ascribed to me. [...] I proposed a scheme by the adoption of which there would not have been a demand for one ounce of gold, either on the part of the Bank, or of any one else, and another is adopted by which both the Bank and individuals are obliged to demand a great quantity of gold and I am held responsible for the consequences.” (Ricardo 1951-1973, vol. IX: 122-3)

Against some critics who contended that because of Peel’s Act the currency had increased by 50 per cent in value against commodities – accounting for the same fall in the money price of corn and other raw produce – Ricardo maintained that the resumption of cash payments could only explain an increase in the value of money up to 10 per cent, one half as a consequence of the return to the pre-1797 mint price of gold, the other half as a consequence of an increase in the world value of gold, provoked by the purchases of the Bank of England in the perspective of a return to convertibility *into coin*. In Ricardo’s view, his Ingot Plan could not be held responsible for that outcome, since, by economising on the gold reserves of the Bank of England, convertibility *into bullion*, if prolonged indefinitely, would have avoided half of the deflation having a monetary origin.

There was more: Ricardo was convinced that his plan had been torpedoed by the Bank of England, which, from the very beginning, had opposed it. As after the rejection of the *Bullion Report* in 1811, the third round of the Bullionist controversy ended with a victory of the Bank, who retained its pivotal position in the English monetary system without being subjected to any explicit rule or doctrine concerning its note-issuing behaviour. In spite of other recurrent monetary crises, this situation would remain so 23 more years.

5.3. Ricardo and the 1844 Bank Charter Act

Ricardo was not only referred to by the main leaders of the Currency School, such as Samuel Loyd (later Lord Overstone) and Robert Torrens. In the history of monetary thought the fatherhood of the Currency School which inspired the 1844 Bank Charter Act is generally ascribed to him (see for example Viner 1937, Rist 1940, Robbins 1958, Fetter 1965, Arnon 2011). More precisely, this alleged filiation is based on Ricardo’s last monetary writing, the *Plan for the Establishment of a National Bank*, drafted in 1823 and published posthumously in 1824. For example, Arnon (2011: 210) reads: “This posthumously published paper should be seen as a formative text in the development of monetary theory, and it played an important role in the rise of the Currency School in the late 1830s, when this school became the mainstream. The policy recommendations proposed in the 1840s by the Currency School argue, along the same lines as the 1824 *Plan*, for monopolization of note-issuing and for the separation of the Bank of England into two departments, with the establishment of a strict rule to control the money supply.” This statement agrees with what Charles Rist wrote in his

History of Money and Credit Theory: “The Currency School, blindly following the suggestions put forward by Ricardo in 1823, advocated two measures: 1. The division of the Bank of England into two departments, an issue department and a banking department; 2. All note issues to be covered by coin or bullion, with the exception of a small quantity, for which the Bank should hold State bonds.” (Rist 1940: 227)

The monopolisation of note-issuing was not a dividing line between the Currency and the Banking Schools: both advocated it. The structure of the bank endowed with such monopoly did oppose the two schools, but in both cases this monopoly was to be lodged in the Bank of England (even if the Currency School pronounced it should be divided) – a provision less radical than Ricardo’s 1824 plan to transfer note-issuing from this “company of merchants” to a new public bank managed by independent commissioners. In addition, the Currency School wanted a note-issuing rule to be introduced in the Bank charter. However, the expansion or the contraction of the quantity of notes in strict accordance with the variation of the metallic reserve was at odds with the rule stated by Ricardo in his *Proposals for an Economical and Secure Currency* (which read “if the Bank regulated their loans and issues of paper by the criterion which I have so often mentioned, namely, the price of standard bullion, without attending to the absolute quantity of paper in circulation;” Ricardo 1816: 67) and repeated in his *Plan for a National Bank* (“Regulating the issues by the price of gold, the commissioners could never err.” Ricardo 1824: 293) Varying the note issue inversely with the sign of the difference between the market price and the legal price of gold bullion, until the former is equalised with the latter, was indeed a rule – to be implemented by the commissioners through non-discretionary operations either on the bullion market or on the open market for government securities – but not that rule introduced in the 1844 Bank Charter Act.

The fact that Ricardo’s note-issuing rule referred neither to the size of the Bank’s metallic reserve nor to the amount of notes in circulation should dispel the confusion between his approach to paper money and that of the Currency School. Contrary to the latter, for which the circulation of notes should and could replicate a circulation of coins thanks to the interdependence between the domestic quantity of paper money and the inflows and outflows of metal, Ricardo’s Ingot Plan did not rely on the international gold flows to regulate the quantity of money, as in the Humean price-specie flow mechanism and in the 1844 Bank Charter Act where the Issue Department was expected to react passively to a change in the metallic reserve. According to Ricardo, the note-issuing rule was to be set in motion as soon as the market price of bullion diverged from the legal price, before any profitable inflow or outflow of gold could even take place. The above-quoted sentence from *Proposals* stating this rule started as follows: “The most perfect liberty should be given, at the same time, to export or import every description of bullion. *These transactions in bullion would be very few in number*, if the Bank regulated their loans and issues etc.” (Ricardo 1816: 67; **my emphasis**)

In the Ingot Plan, the note-issuing rule was combined with the substitution of convertibility into bullion for convertibility into coin.²² This was not a minor technical point

²² Although in the 1824 plan convertibility of the notes *into coin* was enacted again, Ricardo suggested that the commissioners might be obliged to sell gold *bullion* one penny and a half below the mint price, “in which case the coin would probably never be exported.” (Ricardo 1824: 293) This was the same scheme as in the Ingot Plan (see Deleplace 2017: 356-7).

but implied what would be called one century later (in the context of the return to the gold standard in Britain after the First World War) “the euthanasia of metal currency.” (Bonar 1923: 298) Convertibility no longer meant exchanging at a legal parity one circulating medium (the note) against another (the coin) but exchanging at a legal price the circulating medium (the note) against a special commodity (gold bullion) which was both the domestic standard of money and an international means of settlement. This had two consequences. First, such conversion could still be triggered by the state of domestic circulation – an excess issue of notes, which raised the market price of gold bullion above its legal price and made arbitrage between the market and the issuing bank profitable – but no longer by the characteristics of the metallic currency or for the purpose of internal circulation. Second, since they were not legal tender, the only use of the ingots obtained from the issuing bank was their exportation: the bank had only to face an external drain, and this increased the security of the monetary system.

Convertibility was thus *de facto* restricted to foreign payments, a feature that would later define a gold-exchange standard, in which the domestic currency is convertible into a foreign currency (itself convertible into gold) that cannot legally be used in domestic payments. Ricardo’s paternity of the notion of gold-exchange standard was acknowledged by Keynes in his book *Indian Currency and Finance*: “Its theoretical advantages [of the gold-exchange standard] were first set forth by Ricardo at the time of the bullionist controversy. He laid it down that a currency is in its most perfect state when it consists of a cheap material, but having an equal value with the gold it professes to represent; and he suggested that convertibility for the purposes of the foreign exchanges should be ensured by the tendering on demand of gold *bars* (not coin) in exchange for notes – so that gold might be available for purposes of export only, and would be prevented from entering into the internal circulation of the country.” (Keynes 1913: 22; Keynes’s emphasis)

To sum up, during his lifetime as in the following century Ricardo’s mature monetary theory was ignored, although it was embodied in a practical plan designed to increase the stability of a gold-standard monetary system.²³ The question is now why two distinct but elaborate bodies of thought (Thornton’s and Ricardo’s) failed to transform the English monetary system after it had been deeply shaken by a major exogenous shock, and to change the 19th-century monetary thought in spite of intense debates. In other words, why was there no revolution in the monetary system and thought?

6. Why was there no revolution in the monetary system and thought?

6.1. A monetary system endorsed by popular fetishism and Bank of England conservatism

Public opinion was first to be heard in Parliament, where the dominant landed interest invariably pressed for a high price of agricultural products, underestimating the dangers of inflation during the war and overestimating those of deflation after it. Being a member of the

²³ Apart from Keynes the only two exceptions I know were Alfred Marshall’s *Remedies for Fluctuations of General Prices* (Marshall 1887), in the context of the deflationary pressure generated in Britain by the increase in the relative price of gold in terms of all other commodities, and Alexander Lindsay’s *Ricardo’s Exchange Remedy: A Proposal to Regulate the Indian Currency* (Lindsay 1892), in the context of the falling exchange rate of the Indian rupee generated by the fall in the relative price of silver in terms of gold. See Deleplace (2013) and (2023) respectively.

House of Commons from 1819 to his death in 1823, Ricardo was particularly attacked by other MPs on this side, as he complained in a letter of 16 December 1822 to Malthus: “I am sorry to find the agricultural distress continue – I was in hope that it would have subsided before this time. I suppose we shall hear much on this subject next session of Parliament and that I shall be a mark for all the country gentlemen.” (Ricardo 1951-1973, vol. IX: 249) In a speech before the House, one of his recurring opponents, Henry Brougham, dubbed him “so great an oracle” (*ibid*, vol. V: 40) and in another speech the same regretted that Ricardo “had argued as if he had dropped from another planet.” (*ibid*: 56) Ricardo was not naïve about the reasons why his ideas were under attack; speaking on 9 May 1822 during a debate on the *Agricultural Report*, he warned his fellow MPs against considering their own interest only: “Let him remind them, that they had a great interest in it [protection to agriculture]; let him caution them not to be led away – not to be improperly biassed – by any views of their own personal advantage. Let him implore them to recollect that they were legislating for the happiness of millions, and that there was no evil so intolerable as the high price of human food.” (*ibid*: 183-4)

Public opinion manifested itself also in the press, and in 1809-1811 as in 1819-1821, a newspaper surpassed all others in its attacks against the *Bullion Report* and later Peel’s Bill: the *Weekly Political Register* created by William Cobbett (see Weatherall 1976: 58, 147). Spreading the nickname coined by Brougham, Cobbett wrote in an article of 20 October 1821 on the *Agricultural Report*: “To refer to the *market price of gold as a standard* is exactly what the Oracle [Ricardo] did; the Oracle of the ‘*Collective Wisdom*’. [...] This was the ground upon which Peel’s Bill was passed! This queer, this ‘Change-Alley, this Jew-like notion of the price of gold being the standard. However, this was no *new* notion; it had been harped on by *Oracle Horner* and his Bullion Committee; by *Lord King*; and by a great many others, long before *the Oracle by excellence* spouted it forth.” (quoted in Ricardo 1951-1973, vol. IX: 123n; Cobbett’s emphasis) Good-tempered Ricardo lost patience in a letter to Trower of 20 February 1822: “Cobbett is a mischievous scoundrel; he ascribes the evils under which the country is laboring to the altered value of money, and yet recommends the people to hoard gold, which he knows will increase the value of money still more. It is confusion he wants, and he cares not what means he takes to produce it.” (*ibid*: 167)

This popular prejudice against any monetary reform suspected of depriving the currency of its healing virtues was complemented with the conservatism of the institution that was expected to have a proper understanding of money: the Bank of England. As noted above, Thornton and Ricardo both contended that a proper regulation of the quantity of notes (whether convertible or inconvertible, whether to restrict or to expand it) called for an issuing rule based on the market price of bullion and the exchange rate. But the Bank of England opposed any such rule and relied on its own ordinary prudence when discounting bills of good quality. Several reasons explained this resistance. First, there was of course the reluctance to be imposed a rule that would limit its freedom in performing its activity and its profitability in granting accommodation. Second, there was the belief that the quantity of its notes did not have any effect on the internal or external value of the currency, under convertibility or inconvertibility as well. This is what Ricardo would gibe in his *Principles*: “It will scarcely be believed fifty years hence, that Bank directors and ministers gravely contended in our times, both in parliament, and before committees of parliament, that the issues of notes by the Bank

of England, unchecked by any power in the holders of such notes, to demand in exchange either specie, or bullion, had not, nor could have any effect on the prices of commodities, bullion, or foreign exchanges.” (Ricardo 1819-1821: 353-4) It would still take twenty years and other repeated monetary crises to alter the Bank directors’ opinion.

But there was a third, more deeply-rooted, reason for the Bank of England to stick to its pre-1797 behaviour. Having been forced by the scarcity of specie to issue low-denomination notes during the period of suspension, it actively purchased bullion after Peel’s Bill in 1819 so as to have sovereigns coined by the Mint and press for the elimination of these small notes. The Bank of England saw itself as part of the bankers and tradesmen community, not as a body in charge of the general circulation. To borrow Adam Smith’s distinction, it considered its note as a circulating medium used in “the circulation between dealers”, leaving to the metallic currency the role of money in “the circulation between dealers and consumers”. This self-evaluation of its structural role in the economy explained its other prejudices: since the Bank of England note should remain a private medium used among tradesmen and bankers – not the general currency used by the population – its quantity was spontaneously adjusted to the needs of trade as reflected by the discounted bills, without any necessary outside interference such as an issuing rule, and its reliability only depended on the ability of this “company of merchants” (as Ricardo said) to passively espouse the interests of the business and banking community.

In the 1830s, the Bank of England would abandon some of its former prejudices – such as the absence of link between the note issue and the exchange rate – but the Bank Charter Act of 1844 showed that the kernel of its doctrine on the monetary system remained unaltered. Another note-issuing rule than Thornton’s and Ricardo’s was indeed adopted, not against the will of the Bank but according to its wish of being discharged of any responsibility in the regulation of the quantity of notes issued. The strict automaticity of the variation in the quantity of notes issued with the change in the metallic reserve of the Issue Department left the Banking Department complete freedom in its role as major actor of the business and banking community. As in another context Tomasi di Lampedusa wrote in *Il Gattopardo*: “Se vogliamo che tutto rimanga come è, bisogna che tutto cambi.”²⁴

6.2. The absence of breakthrough in monetary thought

The fate of Thornton’s and Ricardo’s views on money shows that a major crisis was not enough to trigger a substantial change in monetary thought, although new theories were available.²⁵ This conclusion is quite disturbing and calls for explanation in the realm of economic analysis and not only in the field of facts and opinions. A first explanation might be that the Bullionist controversy was associated in the mind of economists with a period when the metallic currency had been replaced by the inconvertible Bank of England note. In a century which until the First World War considered that a monetary system could only be based on a metallic standard (at least in advanced economies), this kind of monetary analysis could be easily disqualified, all the more so since Thornton was only remembered (when he

²⁴ “If we want everything to stay as it is, all should be changed.”

²⁵ Schumpeter was thus wrong when he wrote in the quotation given above that the future of monetary theory would have been different, had Thornton’s lead been followed rather than Ricardo’s. Neither Ricardo nor Thornton was followed in the century that came after them.

was) for his involvement in the **Bullion Committee** and Ricardo for his writings in line with the *Bullion Report*. In short, the Bullionist controversy of 1797-1821 on money was overshadowed by its central episode, the second round of 1809-1811 on the inconvertible banknote. In favour of this explanation is the fact that Thornton's *Paper Credit* and Ricardo's **Ingot Plan** were rediscovered in the interwar period of the 20th-century, at a time when the gold standard was again at stake and the question of central banking became paramount. However, looking back at these authors in the rear-view mirror, it appears that inconvertibility was not central in Thornton's analysis, and that Ricardo's monetary views – whether analytical or practical – only acquired a theoretical coherence when applied to a standard-based monetary system. Another explanation than the inconvertibility bias should thus be found to their disappearance from the history of monetary thought.

I will suggest that it should be looked for in the fact that the history of monetary thought has always been at pains with the relationship between money and price. Under the label of the index-number problem, the literature of the 19th century did address the question of the relationship between money and the *general price level* and this question never lost its pre-eminence until today, in accordance with the domination of the Quantity Theory of Money. By contrast, the relationship between money and the *price system* was neglected.

In British Classical economics, this question of the relationship between money and the price system was dealt with in a specific way: through the analysis of the metallic standard. Being produced at the world level in competitive conditions, gold belonged to the sphere of commodities and was thus subject to the theory of value. But it was also the standard in which the currency was legally defined in any given country, and as such had a legal price expressed in money terms. The question of the relation between the value of money (in modern parlance the reciprocal of the general price level) and the relative prices of commodities was then framed in terms of the relation between the (real) relative price of the standard in terms of all other commodities, its (monetary) market price, and its (monetary) legal price.

As mentioned above, Thornton's *Paper Credit* was not a proper key to raise this question of money and price because it lacked a theory of price. But Ricardo could have provided that key because, as soon as his monetary theory is not reduced to a commodity-theory of money or to a quantity-theory of money (or both), he offers a coherent framework to integrate a standard-based paper money in a Classical price system (see Deleplace 2017, 2020). Why were the difficulties raised by the question of money and price felt insuperable by economists, so that it was simply set aside, in spite of the fact that Ricardo's treatment of it was available? This is one of the mysteries in the history of monetary thought.²⁶

7. Concluding remarks

The paradox of a major crisis that generated recurring monetary debates in Britain during twenty years and ended with a return to the *status quo ante* illustrates three aspects. First, a crisis calls for solutions to practical problems – here the disappearance of the coin from circulation and the issuing of notes to fill the void. When these practical problems were

²⁶ This question did not disappear since the monetary system has been deprived of a metallic standard and organised around an inconvertible credit money.

eventually lifted after a long time – gold flowing back from abroad after the war and allowing for coining again – there was a tendency to return to “money as usual”. Second, this tendency was reinforced by the prevalence in the mind of practical men – particularly bankers and politicians – of the monetary system that ruled before the crisis. This system was based on the distinction between two circulations, bridged by the convertibility of a circulating medium used in one – the Bank of England note – into the circulating medium used in the other – the gold coin. Third, the ideological prevalence of this dual monetary system was anchored in the belief shared by quasi-all economists – even monetary ones – that in normal times money does not matter; only credit does. Of course there might be a problem with money issued through credit – typically the Bank of England note – because its quantity was at the discretion of its issuer. But this problem could be solved thanks to the convertibility of this “representative money” into the “real money” – the metallic one. During the next great monetary controversy between the Currency and the Banking schools, there would be opposite views about how to maintain convertibility – through a quantity rationing of the note issue by the metallic reserve of the Bank of England or through a management of the Bank discount rate complementing a “big reserve” – but the consensus would continue that, as long as convertibility was ensured, money was not an issue.

The monetary crisis resulting in Britain from a twenty-year war was thus not enough to shake this consensus. Another great war would be needed one century later.

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