

*Lender of Last Resort : the Classical Approaches from Baring to Hawtrey*¹

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Preface

Imagine a world without asymmetric information, where goods are liquid. There is no currency, no banking credit. Only securities!

Suppose now that there is asymmetric information between lenders and borrowers. Then the financial intermediaries appear; these are the banks. Thus, there is banking credit and an interbank market. Let us further assume that there is an asymmetry of information among banks, but that a bank, let's call it the central bank, is excepted from this situation (because it is supervising). Thus the interbank market is paralyzed and only the central bank grants credit to banks. This is the contemporary microeconomic theory of the lender of last resort based on counterparty risk⁴.

Finally, suppose that the asymmetries of information are not between lenders and borrowers but among lenders. In addition, assume that the lenders do not know when they will need to dispose of their security (uncertainty of the preferred habitat). A bank might offer them an insurance contract (the deposit) that increases the liquidity of their security: its remuneration in the case of short term disposition is improved in return for a reduction in the remuneration in the long term. Such a bank takes a liquidity risk. If there should be a run on the bank, it would have no liquidity. This is the contemporary microeconomic theory of the lender of last resort based on the liquidity risk⁵.

Let's abandon the hypothesis of liquidity of goods and introduce a currency of "ricardian" type. In this case, the bank credit is a loan of currency (and not of goods), a currency that banks collect (borrow) in the form of demand deposits. The credit is different from the currency, and the latter is different from the deposit. The convertibility of the deposit into currency is a condition of the continuity of the loan. The banks must have an ample reserve (of currency). If this is not the case, they should be able to borrow this currency from a bank which has such a reserve. This is Bagehot's 1873 theory of the lender of last resort.

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⁴ Cf. Freixas & al (1999)

⁵ Cf. Marini (2000)

Thornton (1802) has a different conception of the economy. The exchange takes place by means of credit, and currency derives from this credit. Credit and issue of currency incorporate risks of counterparty and liquidity. The lender of last resort intervenes in managing the liquidity risk. Tooke (1838- 1848), Fullarton (1845) and Hawtrey (1919 – 1938) agree with this approach.

The use of the term LLR

From Baring (1797) to Hawtrey, the term of lender of last resort is not frequently used. Baring qualifies the Bank of England as *last resort* in two cases⁶. The term does not appear in Thornton's *Paper Credit*, published in 1802, nor in Horner's study (same year), nor in the *Bullion Report* (1810). However, in those three texts, the notion of lender of last resort ("LLR" here in after in the text) is present⁷. The term does not appear in Ricardo, who did not pay attention to the notion, not even during the controversy over the reform of the Bank of England in 1844, when the possibility of denying this role to the bank was mooted. The term LLR is absent in the texts of Overstone and Torrens, members of the *Currency School* and instigators of the reform, who were hostile to such a role. However neither did it appear in the texts of Fullarton and Tooke, members of *Banking School*, who condemned this reform, defended this function of the bank and agreed with Baring and Thornton. The term is not employed by Stuart- Mill, who tried to make a synthesis of the two schools in 1848, nor by Bagehot whose book *Lombard Street*, published in 1873, is devoted to this subject. Yet, the parliamentary committee of 1858 had described the Bank of England as "*the bank of last resort in case of panic*"⁸. The term is absent in Warburg (1910- 1913) and Fisher (1911) on the eve of the creation of the FED in 1913 ; but Sprague (1910) used it⁹. Hollander does not address the issue of the LLR in his article of 1911, where he re-discovers Thornton, due to his analysis of the exchange rates¹⁰.

On the other hand, the notion is at the center of Hawtrey's *Currency and Credit*. If the term is absent in the first edition (1919), in his second edition (1928), Hawtrey writes that "*the other banks must have adequate supplies of currency, which can, in the last resort, only be obtained from the Central Bank*"¹¹. Then, in 1932, he starts the first section of chapter 4 of *The Art of Central Banking* with the title "*The lender of last resort*". It is about the internal LLR and the international LLR¹².

⁶ "*last resort*" figures in French (*dernier resort*). Cf. Baring (1797), p.22 and 47.

⁷ Cf. Thornton, chap 4 and 7; cf. Horner, pp. 46-49; cf. Bullion Report, pp. 57-60

⁸ Cf. Hawtrey (1939), p. 36

⁹ "... in the absence of any important institution, such that exists in other commercial nations, the associated banks (of the Clearing House) are the last resort in this country" (Sprague, 1910, p.95), quoted by Wicker (2000, p.129).

¹⁰ On the contribution of Thornton to the theory of exchange, cf. From Boyer (2002)

¹¹ Hawtrey (1828), p.55; p. 77 from the French edition (1935)

¹² Hawtrey mentions Thornton in *A Century of Bank Rate*, published in 1938. That same year, Rist dedicates to Thornton and to the notion of lender of last resort a chapter of his *Histoire des doctrines relatives à la monnaie et au crédit*, but does not use the term. In 1939, Hayek re-edits the *Paper Credit* from Thornton with an introduction that mentions the term "last resort" employed by Baring and emphasizes his precedence over Thornton in the terms of the LLR function of the Bank of England.

During one hundred and thirty years, the term LLR almost disappeared, while its ghost haunted the political and monetary theory debates. The study of these debates shows the diversity of the classical approaches to the LLR.

	Quantity theory of money		Reform of 1844		Dichotomy Currency / credit		Lender of last resort		The LLR lends...	
	Yes (a)	No	In favor	Against	Yes	No	In Favor	Against	...its debt	...an exogenous currency
Smith		X				X				
Thornton	X					X	X		X	
Ricardo	X		(b)		X					
Currency School	X		X		X			X		X
Banking school		X		X		X	X		X	
Bagehot	X		X		X		X			X
Hawtrey	X		X			X	X		X	

- (a) The quantitative theory of Thornton in the first place, that of Ricardo, the currency Principle and Bagehot's in second place, and Hawtrey's in the third place, are not identical.
- (b) Ricardo (1833) is the forerunner of this reform

1. Correlation of withdrawals and central banking

i) Credit and liquidity risk

Following Smith, the classics grant importance to the fact that banks have the function of helping businessmen to minimize the amount of their capital which must be kept liquid: the bank note that capitalists obtain when borrowing is a substitute for the metallic currency¹³.. Derived from credit, the bank note is more secure than credit, since it is guaranteed by the bank's shareholder's funds. Moreover, as opposed to credit, the bank note is liquid as it is "payable in coin, at the option of the holder"¹⁴. Payable on demand, the bank note is issued with a partial metallic backup. It allows goods to circulate. By taking a portfolio of claims payable at term and issuing, in compensation, payable debts upon demand ("the banking currency"), banks create liquidity. As a consequence, they put themselves in a liquidity risk : their assets are less liquid than their liabilities, their reserves cover only a fraction of the bank notes and demand deposits. In other words, according to Hawtrey, the bank note is "an option that allows the

¹³ Cf. From Boyer (1998)

¹⁴ Wilson, quote from Tooke (1848, p. 261)

*purchase of gold at any moment...so that the banker is exposed to the same dangers as any other businessman who deals with...options*¹⁵. The danger is the exercise of the option, i.e. the payment of bank bills in gold, the withdrawal of the deposits.

Cantillon (1728), then Smith (1776), who perceived the link between the reserves of the bank and their shareholder's funds¹⁶, explained that the fractional system of reserves is viable as long as there is no correlation of withdrawals. The former attributes it to the opulence and the thrifty character of his clients, the latter to the non-synchronization of their revenues and expenses¹⁷. In 1888, Edgeworth relies on the law of large numbers to explain the non-correlation of withdrawals, which authorizes banks the non-coverage of their issues at the rate of one-to-one with their reserves¹⁸ and leads to the conclusion that the centralization of the reserves is the optimum strategy.

The correlation of withdrawals, on the contrary, causes a liquidity crisis. It is to respond to this type of crisis that Thornton introduces the LLR in 1802. In this respect, he clearly distinguishes the correlation of withdrawals of the external type, linked to a deficit of the balance of payments, from the correlation of withdrawals of the internal type. In the first case, the correlation of withdrawals takes place because gold has an international price above the official price at which it can be obtained in banks. In the second case, the exercise of the option of the payment of bank notes in gold is not linked to the price of gold. It is here that the LLR has a role.

The classical approaches to the LLR will differ from the causes of the correlation of withdrawals and from the nature of lending of last resort. They differ in their position from the "ricardian" quantitative approach which challenged the idea of LLR and supported the Bank of England reform of 1844.

It should be remembered that the 1844 reform, inspired by Ricardo's plan of 1823, was put forward by the Currency School. Fundamentally, these authors postulated that currency was different from credit, and that it was convenient to dissociate the issuing of currency from the granting of credit. They also postulated, an idea inherited from the *bullionism* of Ricardo, that every deficit of the balance of payments resulted from an excess of currency¹⁹. For them, the correlation of withdrawals was always linked to a deficit of payments, this one due to an excess of issue. Supplementary lending from the Bank of England could only create disorder²⁰ and, in the end create a lack of liquidity. According to them, it is because the bank "plays the LLR" that it then appears essential as such. Thus, a reform emerges restraining the power of the banks to issue notes and preventing the Bank of England from issuing bank notes based on credit. By dividing it into two departments - the Issue Department issuing bank notes and the Banking Department granting credit²¹ - the Bank of England was denied the possibility of being a lender of last resort. In the remainder of this text, only the supporters of the LLR will be considered.

¹⁵ Hawtrey (1919), p. 201; p. 320 from the French edition

¹⁶ Cf. de Boyer (1998)

¹⁷ Cantillon (1728, p.162); Smith (1726, p.347)

¹⁸ What constitute a critic to the *Currency Principle*

¹⁹ For a critic, cf. de Boyer (2002-1)

²⁰ According to Torrens (1837, p.40) "*The Bank exercises its vain function of supporting the commercial credit*".

²¹ For a presentation cf. de Boyer (1985, 1992), Diatkine (1995)

ii) *Centralization and LLR*

The centralized character of the British monetary and banking system, directed by the Bank of England, is emphasized by Baring in 1797, then by Thornton, Tooke and Fullarton, and finally by Bagehot, whose papers are subsequent to the 1844 reform which accentuated this centralization²².

Baring, who says that the bank is *“the center or pivot”* (p.6 & 34), agrees with centralization: *“To the charter of the Bank of England this country is indebted in a high degree for the prosperity she has enjoyed”* (p.41). For Thornton, the centralization covers a hierarchy in the solvency of debtors, in the quality of the credit instruments. These range from the commercial agreement taken from some modest merchant to the bank note issued by the Bank of England, which has a capital of sixteen million²³. In the text of Thornton, this centralization, of which Smith did not realize the importance, seems inherent to the credit system. It places the LLR role at the top of the hierarchy, in this case the Bank of England. Thornton specifies that in the hypothetical case that several banks are situated at the top of the hierarchy, their actions should be coordinated :

“...if instead of one national bank two or more should be instituted, each having a small capital;...we should suppose such a good understanding to subsist between them as to make them act as if they were one body, and resemble, in many respects, one single institution.” Thornton (1802, p.127)

Bagehot discusses this centralization, traces its history and draws contrasting consequences from it. He distinguishes the monetary centralization from the credit centralization. He approves the former and criticizes the latter since it opposes the principles of competition²⁴ and is a source of dilution of responsibilities. However, he mentions the effectiveness of the latter so long as it increases the profitability of banks, which with the exception of the Bank of England, are to be exempt from the possession of high reserves²⁵. At the end, he emphasizes that the peculiarity of the Bank of England has to be recognized and that it has to assume the responsibilities that result from it. For him, the centralization of the British system is not a natural fact, it is something history has imposed: its functioning has to be improved²⁶.

Except for some authors from the period 1830-1840 who wanted to weaken the Bank of England²⁷, its supremacy was never questioned. It centralized the gold reserves and its bank

²² Centralization was extended to the British colonies through the establishment of the Currency Board. Cf. Walters & Hanke (1992), Hanke (2000)

²³ On the role the Bank's role capital in Thornton's theory, cf. de Boyer (1998), Diatkine (2001)

²⁴ As early as 1849 in *The Currency Monopoly*, his first article.

²⁵ Having a similar idea to Baring. The banks decrease their reserves to be able to pay bank bills and repayable deposits at full term. Op. quoted, pp. 16 & 21.

²⁶ For a normative interpretation "Free Banking" from Bagehot's work, cf. Goodhart (1988)

²⁷ Parnell (1829), Scrope (1832), Bailey (1840) and Gilbart (1854). These authors represent the opposing point of view vis à vis the Lender of Last Resort. But their arguments are different from those of the *Currency Principle*.

notes served as means of interbank payments. In consequence, each deficit in the balance of payments and any problem in the treasury of the banks (which caused an excess of demand for discount in the monetary market) was translated into an increased pressure on the Bank of England. Simultaneous withdrawals in the banks caused a decrease of the reserves of the Bank of England and an increased demand for its bank notes and therefore for discounts. The Bank's help was requested as a last resort. Unlike other banks that aim to become more liquid (contraction of issuing and lending, transfer and discounting of loan portfolio), the Bank of England must, when its reserves are at the lowest, increase its exposure to liquidity risk by increasing its lending and bank note issue (needed by other banks). In order to restore banking liquidity and eliminate the fears of a lack of liquidity, the Smith's rule of issue must be abandoned²⁸ and the Bank must adopt the role of lender of last resort. As a consequence, the Bank limits panic, and thus withdrawals. In times of crisis, its profits are high. On the contrary, in times of stability, its reserves are high and its profits are low. Its profitability is the non-intended consequence of interventions guided by the general interest. Thornton, as well as Bagehot, is explicit on this subject²⁹.

The *Banking School* approved³⁰ the supremacy of the Bank of England but denounced the 1844 reform. This needlessly accentuated the centralization of the banking system and made even more necessary the intervention of the Bank of England as LLR, simultaneously preventing the latter, paradoxically, from playing that role.

The position of Bagehot is different: he defends the 1844 reform but reinstates the LLR function of the Bank of England. As follower of the *Currency Principle*, he accepts the Ricardian dichotomy between currency and credit, approves the increased centralization of the monetary system³¹ and adheres to the forms of management of the Issue Department contemplated by the reform. In agreement with the division of the bank into two departments, he is also influenced by John Stuart Mill (1848) and James Wilson³². He contemplates cases of the correlation of withdrawals unrelated to an excessive issue of bank notes and argues for an LLR policy of the banking department. Unlike the 1844 reformers, he considers that the Banking Department must not be managed in the same way as an ordinary bank.

Hawtrey only considers a monetary and a banking system with a central bank. Like Bagehot he supports monetary centralization. But unlike him, he associates currency with credit as Thornton does". *The national central bank, in virtue of its function as the lender of last resort, is the fountain of currency*" (Hawtrey, 1923, ed. 1933, p.274)

2. To whom and how does the LLR lend? According to what rules?

i) *Insolvency and illiquidity*

²⁸ Like Smith, Thornton links monetary analysis and banking analysis, currency and credit.

²⁹ Thornton (1802), p.110; Bagehot (1873), p. 34-7, p.159, p.337-342

³⁰ Tooke was consistent in this matter; Cf. (1838, I, p.195-204), (1838-II, p.185-6), (1840, p.111-2), (1848-I, in Capie, T.X, p. 196-219), (1848-II, p.304-5, p.346-8, p.385). In this matter we do not share the Analysis of Aron (1991)

³¹ from 1849. Cf. note 18. To Bagehot, centralization is analytically based on those factors which are relevant to the currency not credit.

³² Close to the Banking School, Wilson, director and editor of the Economist, is Bagehot's father in law.

Smith's theory of real bills teaches that an insolvent bank becomes non-liquid. Solving this kind of illiquidity does not concern the LLR. It is not "an absorber of losses"; it lends to illiquid but solvent banks, with a perspective of repayment. All authors are explicit in this respect. As noticed by Humphrey (1975, 1992), the problematic of the "too big to fail" defended by Goodhart³³ is unknown to the classical outlook³⁴. The problem is not to avoid the contagion of bankruptcy from insolvent and illiquid banks to solvent and liquid banks, but to avoid the bankruptcy of solvent but illiquid banks, and its contagion to other solvent and liquid banks. The LLR is not in origin a moral hazard precisely because the Bank which seeks help must be solvent.

Thornton, who rejects the Smith theory of real bills, obviously does not suggest that banks practise the discounting of fictitious bills in favor of insolvent clients. His thesis is that the solvency of the borrower is much more important than the "real" nature of financing³⁵, and that, although lending to a solvent agent is a necessary condition for banking liquidity it is not a sufficient one. Besides credit risks (asset risk), there are liability risks independent of asset risks. In the first place this is because, as we will suggest later, there is the phenomenon of the "flight to quality". In the second place, every deficit of the balance of payments reduces banking liquidity³⁶. It is in this type of situation that the question of the intervention of LLR is made. It would not be capable on this occasion, of abandoning the rule of relative caution in relation to asset risks which applies to every bank, even central banks : only to lend to solvent clients.

Loans are collateralized by different types of securities (drafts, bills of exchange, shares...). Now, in a period of liquidity crisis, the market value of securities diminishes. At this moment a rule implicit in Thornton's ideas, clearly expressed by Bagehot³⁷ and developed by Hawtrey becomes important³⁸. This states that the LLR must take the securities into its portfolio on the basis of their pre-crisis value.

"...the Bank of England (...) ought not to advance during a panic on any kind of security on which they do not commonly advance". Bagehot (1873, p.196)

The goal of the intervention is to stop the liquidity crisis, one of whose effects is to cause a drop in share prices. The restoration of the bank's liquidity is the restoration of the liquidity of its assets. This is the relevance of the Bagehot's rule of discounts. It achieves consensus and dismisses any moral hazard. In current terms, it would be said that the LLR lends "to the market", and not to the banks.

ii) *The interest rates*

³³ Goodhart (1988, 1999)

³⁴ And to the practice of the Bank of England. Cf. Wood (2000)

³⁵ Cf. de Boyer (1998), Diatkine (2001)

³⁶ Cf. de Boyer (2002)

³⁷ Bagehot (1873) éd. fr., pp.161, 189-91; english edition (1937), pp. 161, 188-190

“...The idea (of using the Bank of England's discount rate as an instrument of monetary regulation)...was originated I believe, by Henry Thornton”. Hawtrey (1938, p.3)

In the case of a liquidity crisis, says Thornton, we witness a drop in the price of public debt securities that covers an increase in the long term interest rate³⁹. By increasing its lending, the LLR stops this increase⁴⁰. But what should its discount rate policy be? Even if he does not say it explicitly, Thornton thinks that it has to increase its discount rate⁴¹. This second rule is found in Tooke, Bagehot and also Hawtrey although argued in different ways.

According to Thornton, when he writes in 1802, as well as in 1811 when the Bullion report is discussed in Parliament, the commercial profit rate is higher than the 5% usury rate and the Bank of England is embarrassed by the usury law. It has to respect the usury rate while the other banks get around it⁴². In consequence, it is the object of an unlimited inflow of credit requests triggered by the arbitrage incentive between its discount rate (limited to 5%) and the effective rates for the market. It must also, permanently, ration its credit supply⁴³ to limit the issue of bank notes. It is a matter, in Thornton's eyes, of containing inflation and the induced risks of the balance of payment deficit. But in the case of a liquidity crisis, the Bank cannot simultaneously ration its credit offer and furnish the necessary liquidity to the market : how should it distinguish between different borrowers? Here is where the need becomes obvious to repeal the usury law and allow the Bank to increase its discount rate above 5%. This measure would suppress the demand for liquidity caused by rate arbitrage and would allow the satisfaction of the requested demand for liquidity caused by the liquidity crisis, without any risk to the bank (e.g. payments deficit due to inflation)⁴⁴. Hawtrey's opinion seems well founded.

However there is a prewickselian⁴⁵ appearance about all this that raises some difficulties. In the absence of usury laws, according to Thornton, could the LLR have enough autonomy to determine its discount rate or would it be submissive to the competition and forced to adjust its rate to the market rate, or even, as in Wicksell, to a natural interest rate? This is not easy to answer within Thornton's framework. Such a conception corresponds to the Ricardian vision, amplified precisely by Wicksell, rather than to the LLR one. In fact theoreticians of the LLR evolved progressively towards the opposite idea, namely that the LLR sets the discount rate to its desired level.

Thus, in 1845, Fullarton noticed that the Bank of England, worried about the issuance regulation decided on non-competitive behavior and maintained its discount rate above the

³⁸ Hawtrey (1932), p.126-31

³⁹ Thornton (1802), p.113 & 196

⁴⁰ The idea has a pre-keynesian look. Hicks (1967) and Beaugrand (1981) emphasize this. However it should be noted that the Marshallian concept of the currency market (the balance of supply and demand) and the keynesian thesis which prefers liquidity (defined apart from the fault risk of the debtor) are absent.

⁴¹ Cf. Solis (1983), p.219. The lack of structure analysis deadlines should be noted.

⁴² Thornton (1802), p. 254-5. Cf. on this point Meissonnier (2001)

⁴³ vis a vis this rationing, the state has a privileged position. Thornton judges that it is neutral. This point is emphasized and criticised by Horner. C.f. Depoortère (2001).

⁴⁴ The rule of lending exclusively on the basis of good guaranties continues to prevail, so that the risk of selecting a bad borrower emphasized by Smith is eliminated. Concerning the usury rate, Baring (1797, p.22) refers to Bentham (1787) who criticized Smith.

⁴⁵ Discussed by Solis (1983, p. 241; 1999, p. 181)

market rate. He sees in this a satisfactory functioning of the law of reflux⁴⁶, does not interpret it in terms of risk premium, and half realises that this discount rate is crucial (bench-mark rate)⁴⁷. For Fullarton, this is the moment when there is a crisis, when “the public has already to some extent become dependent on the bank for its discount accommodations”⁴⁸. So, he explains, following the example of Tooke (1840), at the same time as the Bank raises its issues to satisfy the increased demand for discounts, which weakens its gold-reserve, it has to increase its discount rate in order to attract capital from abroad, which has a stabilizing effect on the balance of payments and a consolidating effect on the gold-reserve⁴⁹. This effect can be found in the *Foreign Exchange Theory* of Goshen (1861), and later in Bagehot’s *Lombard Street*.

Chapter five of Bagehot’s work, dedicated to interest rates, is rather confused⁵⁰. He seems to conclude that the LLR does not have the capacity to determine discount rates, that it is dependent rather on competition, but that it can however, and must, limit the fluctuations in the course of the cycle⁵¹. Notably, in a crisis situation, it can stop an interest rate flight by lending with freedom. Bagehot also states that the Bank must then increase its discount rates, as in 1847 :

“*Very large loans at very high rates are the best remedy ...*” Bagehot (p.56)

Bagehot adds a third argument to Thornton’s ideas (about containing inflation and suppressing the arbitrage between usury rates and market rates) and that of the *Banking School* (to attract foreign capital to consolidate the reserves): The raising of rates increases the cost to banks of maintaining a liquidity position and he suggests they should not search for an excessively liquid position. Providing the needed liquidity, the LLR wants to convince banks that it is useless to ask for liquidity for fear of not being granted it; increasing discount rates increases the cost of this useless demand. The announcement of this policy increases its effectiveness.

In Hawtrey⁵², the LLR intervention loses its exceptional character and becomes permanent. To Hawtrey, the LLR assures the liquidity of banks which guarantees in turn the businessman’s liquidity. The cost of this liquidity, i.e. short-term interest rates, is essential. When they are raised, merchants reduce their debt, their stocks and their orders to industry. If there is overheating, it ceases. If there is not, unemployment grows. When the interest rates decrease, wholesalers increase their stocks and the economy enters a cumulative process of increased activity, of employment, of credit, of income, and even monetary prices. Banks enter

⁴⁶ Cf. Fullarton, p.79, 96 and 167. Cf. equally Skaggs (1991) and Cassidy (1998)

⁴⁷ In french, "le taux d'escompte est directeur"

⁴⁸ Fullarton (1845), p.167

⁴⁹ Fullarton (1945), p. 130-3, p.149-151

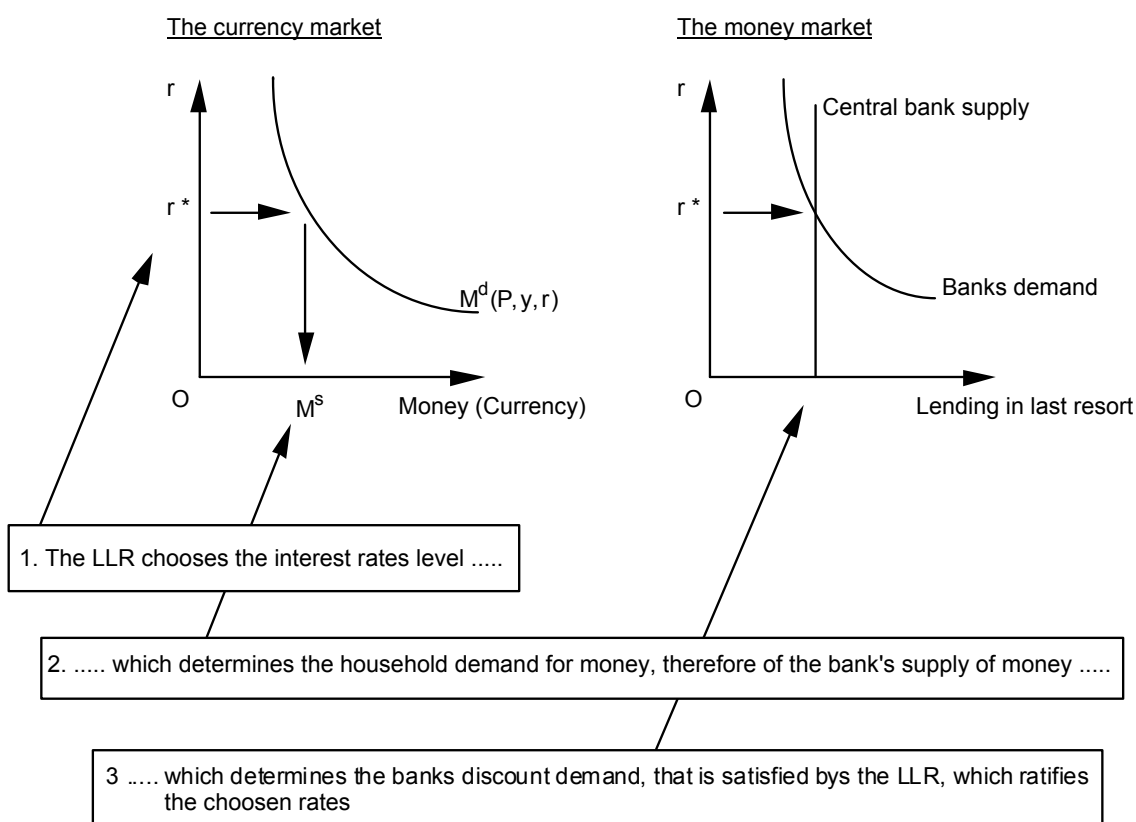
⁵⁰ Bagehot uses the term “currency value” to designate the interest rate and the purchasing power of currency.

⁵¹ The influence of the *Banking School* is obvious here. As it is on Marx who develops a similar cyclic analysis of the interest rate level. Marx supports his analysis with the idea that a natural interest rate does not exist. Cf; Marx, p. 1119)

⁵² Hawtrey is not widely known. The reader can refer to de Boyer, Deutscher, Solis

a cumulative process of granting credit and issuing of bank currency. Their payable liabilities increase.

Now, if currency is issued for the benefit of the merchants, they only keep a small part in cash, using most to buy goods from manufacturers. These businesses use the currency to pay household incomes. It is these households who retain the currency (and indirectly finance the wholesalers' stocks). For reasons of caution and also because they may need to carry out other transactions, households do not spend their entire income; they keep an "unspent margin", says Hawtrey. In current terms, households have a demand for money (for currency) M^d , an notion absent from the monetary frameworks of the classical authors. This demand for money (for currency) affects both the banking currency and the legal currency, issued by the LLR. As credit and issuing increase, households convert a part of the latter into legal currency and banks must be able to obtain it through discounts with the LLR. Withdrawals increase with income (P, y) , which itself increases when interest rates (r) decrease.



Thus, merchants' demand for credit, the agents' demand for money (for currency), and the banks' demand for these discounts from the LLR depend on the same variable, the short-term interest rates. In other words, when interest rates increase all the above mentioned demands for credit and money decrease and vice-versa, when the interest rates decrease these others increase. In consequence, the money market (*Lombard Street*, to return to Bagehot's terminology) and the currency market balance each other. In these market(s), the LLR supervises either the supply (which will then be exogenous) or the interest rates. According to

Hawtrey, it fixes the interest rates⁵³ and satisfies the demand for discount and for money (for currency) at this rate. Simultaneously, to reinforce the determining character of this rate, it plays on the demand via the open market.

With Hawtrey, the earlier rule of an interest rate increase in the case of an intervention of the LLR becomes invalid. In this theory the currency is endogenous : the LLR fixes the interest rates, increasing them or decreasing them, and supplying liquidity at these rates.

3. For what reasons should the LLR intervene? What does it lend?

The monetary theory of Thornton and Hawtrey corresponds to the one suggested by Hicks in 1989. It leads to the idea, summed up by the *Banking School*⁵⁴, of a monetary aggregate composed of a range of debts, to which metal money is added. In this context, the LLR has the function of making sure it is possible to substitute the different components of the monetary aggregate for each other. Bagehot adheres to the *Currency Principle* which does not share this view.

i) *The flight to quality*

In Thornton's analysis, goods are not exchanged against goods, but against debts⁵⁵. The liquidity of goods pre-supposes the liquidity of debt that is their acceptance as a purchasing means of exchange. Issued by merchants and bankers, the different types of debt do not have the same quality ; there are private promises of future payment that do not represent the same risk characteristics. In consequence, they do not circulate at the same speed and their possession does not offer the same remuneration (interest rate). A deterioration of the confidence of the lenders in the debtor liquidity (to solvency?) causes a flight to quality which reduces the liquidity of lower-ranked debt. Subsequently, the circulation of higher-ranked debt slows down, the holders of lower-ranked debt want to get rid of it, refuse to accept it in exchange for the goods they sell and try to convert it into higher-ranked debts so that the interest rates rise. There is panic and a run of provincial banks to obtain bank notes from the Bank of England, or even gold.

The flight to quality, which disorganizes the exchanges and productive activity, reaches the Bank of England. The "LLR cuts its wings restoring confidence⁵⁶ in lower-ranked debt, by accepting it into its portfolio and issuing, in compensation, its own debt. It restores "*an idea of general solvency*"⁵⁷. Being convertible into coins, if the Central Bank's own debt is the object of mistrust and/or its reserves are insufficient, so that the flight to quality puts the LLR in danger because people only want gold, the State has to suspend the convertibility of that debt into

⁵³ Hawtrey (1932), p.154

⁵⁴ Emphasized by Laidler (1972)

⁵⁵ Thornton (1802), chapter 2

⁵⁶ The idea is present in Baring. Op. Quoted, pp. 33, 47-8 & 54

⁵⁷ Thornton (1802), p.98

gold⁵⁸. The solvency of the LLR being indisputable, its debt is hauled up to the top of the hierarchy of the aggregate monetary components. Here, the LLR lends its own debt.

ii) *Hoarding and non- elasticity of issues.*

We find these ideas in the *Banking School*. However if Tooke and Fullarton are influenced by Thornton⁵⁹, they refer to Smith as well. They bring back his theory of real bills, included under Fullarton's law of reflux, to support the idea that the gold standard is necessary but also sufficient to stop the banks from issuing too much currency⁶⁰. Thus the smithian rule of notes issues is replaced by Thornton's discretionary approach. The *Banking School* offers a synthesis of antiquantitativism and Smith's defense of bank notes convertibility on the one hand, and Thornton's LLR theory on the other hand. Two elements are added to this theory: hoarding and the elasticity of issuance.

The hoarding principle is essential to the rejection of Ricardo's quantitative theory⁶¹. It resurrects the reserve value function of money and ensures that the quantity of money is sufficient for the needs of circulation. It ensures the stability of the value of gold which contrasts with the volatile market prices of other merchandises and also shows gold's liquidity: according to Tooke, "(gold) is so universally marketable (...) that it can always buy all other commodities; whereas, other commodities cannot always buy gold"⁶². But, says, Fullarton, in England, banks have substitutes themselves "for individual hoarders", and all the gold hoarded has "been transferred to the Bank of England"⁶³. We have to accept that the gold reserve of the Bank varies according to the needs of circulation.

However, those needs fluctuate. Particularly those in circulation among businessmen, guaranteed by credit as Tooke says⁶⁴. Those needs vary as a function of the agricultural and industrial production rates, as well as of imports and exports⁶⁵. With banking credit being added to the coin circulation, the elasticity of credits and issues completes the *hoarding/dehoarding* role of gold. This necessary elasticity needs to be respected.

The demand for gold, i.e., the correlation of withdrawals, covers two different aspects: a hoarding demand on the one hand⁶⁶, and a need to regulate a payment deficit on the other hand. The Bank must satisfy the former by offering its bank notes to support the hoarding, instead of gold: "The notes were hoarded equally with the gold"⁶⁷. It must satisfy the latter providing gold in exchange for its bank notes and deposits, without fearing for its liquidity since

⁵⁸ Thornton (1802), chap. 4 and 5, notably p. 138-9. It is in part to justify the suspension of payments of 1797 that Thornton publishes the Paper Credit. Hawtrey (1919, chap. 13) also sees in the possibility of the State suspending the payments, a condition of the optimal functioning of the monetary system

⁵⁹ For the theory of exchange, Tooke is also inspired by Thornton (1802), on the contrary, he thinks that Thornton has been influenced by Horner at the moment of the *Bullion Committee*. Cf. Tooke (1848, II, p. 112)

⁶⁰ Hereinafter we refer the reader to de Boyer (1985, 1998)

⁶¹ In this point, cf. Marx (1859)

⁶² Tooke (1844), p.10

⁶³ Fullarton (1845), p.76

⁶⁴ Tooke insists on the distinction between currency, that ensures the payment and the waste of revenues, and credit, which ensures the circulation of capital goods among merchants. Cf. de Boyer (1985)

⁶⁵ Fullarton (1845), p. 157

⁶⁶ "...the demand in such cases is not for circulation, but for hoarding, a demand on the part of alarmed bankers and capitalists..." Fullarton (1845), p.130

gold circulates, in this case, as credit. It circulates among merchants : a commercial deficit represents a flux followed later by a reflux, when there is a surplus. Moreover, in parallel to flows linked to commercial sales, there are investment flows that the Bank corrects by adjusting its discount rates.

For the Banking School, gold, bank notes and bank deposits can maintain circulation among merchants in the same way as the bank notes and deposits of provincial banks, or commercial credits. It is also absurd to decree on the one hand that the bank note of the Bank of England is the equivalent to gold in backing the currency but on the other that a deposit in that bank, or in another bank, or even a bank note issued by another bank, are credit and not currency. It is absurd to dichotomize bank notes and deposits and to refuse to lend as a last resort when the gold reserves decrease. It is the refusal to ensure the elasticity of issues and to accept the level of fluctuations of reserves (between 5 and 15 M£) that creates the liquidity shortage. This in turn causes the fear of lack of liquidity and, in the end, leads towards panic and a run which accelerates the liquidity crises. This happened in 1797, in 1825 and in 1847. Not having its current role of LLR, the Bank of England had to improvise it urgently, and suspended payments in 1797. The 1844 reform aggravated (worsened) this disfunctioning. To the *Banking School*, the central bank is the LLR, in normal times and in crisis times : the LLR lends its debt and has to ensure the convertibility of gold.

iii) *The insufficiency of the reserves of the Banking Department*

To Bagehot, the 1844 reform has solved the monetary problem, but a banking problem remains⁶⁸. The centralization of the system, inherited from history, allows banks to work with their capital and metallic reserve at a minimum; in case of need, banks have become accustomed to counting on the Bank of England. It is a source of effectiveness and profitability to banks, but equally of fragility of the system⁶⁹. This tendency has been reinforced by the evolution of the *bill brokers*. Originally, these had a draft brokerage activity between banks with a financing requirement and those with a financing capacity. Later they became financial intermediaries taking debts issued by the former into their portfolio and financing them by the deposits of the latter. Progressively, banks placed their funds in deposit with the *bill brokers*, counting on them in the case of the need for liquidity. The brokers counted on the Bank of England. More precisely they counted on the Banking Department since the Issue Department cannot practice the discount. However the 1844 reform had suggested to some governors the mistaken idea that the Banking Department should be managed as if it were an ordinary bank. The result was an under-capitalization of the Banking Department, a reserve held at minimum and a lending restriction policy in a crisis situation. The consequence was that the entire banking system, including the Banking Department of the Bank of England, worked with an

⁶⁷ Tooke (1848, I), p.219

⁶⁸ Torrens (1858) develops a similar idea. Cf. Diatkine (2001). For Tooke, on the contrary, before the 1844 reform, it was a banking problem but no currency problems (illiquidity)

insufficient stock of currency— gold and bank notes issued by the Issue Department of the Bank of England. If there was a payment deficit, or simply a crisis of confidence in the possibility of obtaining currency from the *bill brokers* and the Banking Department of the Bank, the entire system would become illiquid. Banks would demand the repayment of their deposits with the *bill brokers* who were unable to comply because the Banking Department would not be capable of refinancing them even if it wanted to. The announcement that the Banking Department would not act as LLR, is sufficient to transform a tension in banking liquidity into an alarm that degenerates into a crisis. Panics and runs are due to the insufficiency of the reserves of the Banking Department which gives rise to the fear of a lending restriction.

In Bagehot's eyes, the 1844 reform is not in question. He approves the ricardian rule of bank note issue and the management of the Issue Department. What he questions is the management of the Banking Department. Unlike ordinary banks in a crisis period, the Central Bank must, according to Bagehot, lend in the last resort in accordance with the rules previously discussed: to lend freely on the basis of good guarantees, increasing the interest rates, and making this policy clear to all concerned. History has assigned the Central Bank this responsibility : it cannot escape from it. In consequence, it should abandon the high dividend policy, and increase its reserve by additional contributions of capital. In their absence, the government is forced to step in by suspending the healthy management rules of the Issue Department. To Bagehot, in 1847, in 1857, and in 1866, the Issue Department had to rescue the Banking Department due to the insufficient liquidity structure of the latter. But for him, this is not desirable. The solution does not reside in a removal of the currency issue rules, but in the improvement of the Banking Department's liquidity. Here the LLR, in this case the Banking Department and not the Issue Department, does not lend its own debt; it lends a currency that is foreign to it, its reserves. This conception of the LLR, that gives different statutes to bank notes and to deposits issued by the Bank of England, is not that of Tooke, nor Thornton, nor Hawtrey.

iv) *The inherent instability of credit*

Hawtrey does not conceive currency as a means for the circulation of goods, it is credit that plays that role. But credit is unstable : when it does not contract, it grows in a cumulative way. The role of currency is to correct this instability⁷⁰. It fulfills that role as a means of payment. Every uninterrupted increase of credit and prices comes up against the limited amount of currency. But unlike debts issued by the exchangers and the other banks which make up credit and constitute promises to pay, the on-demand debt (bank note or deposit) of the Bank of England is a means of payment. In the same way as gold, it is currency.

If currency was only comprised of gold, whose amount is strictly limited, its credit regulating role would be exercised by causing a financial crisis. It is different with currency issued by the central bank because the amount can be increased. The central bank progressively holds back the expansion of credit by lending means of payment of last resort,

⁶⁹ Idem in Baring. Cf. note 24

and adjusting upwards its discount rates at the same time. Vice-versa, in the case of a continuous contraction of credit it stops the depression by decreasing its discount rates and providing liquidity to banks at that rate. The LLR intervenes in a permanent way to stabilize credit and avoid a crisis; it provides the essential liquidity; it lends its debt, which is a means of payment.

In the framework of the macro-economic model introduced by Hawtrey, the pertinence of this policy will be discussed in terms of the micro-economic foundations of the demand for money function. Surprisingly, within this framework, the LLR concept linked to liquidity risks taken by the banks, has not been noticed ; the monetary theory has been disconnected from the banking theory ; money has become exogenous, foreign to the contracts made by the agents, an initial stock that agents adjust during the market period ; the central bank became an independent agent⁷¹ which modifies that stock during the market period. In this respect, it offers money, and not LLR ; it lends to the market, and not to banks. In this perspective, only the existence of information asymmetries or the treatment of operational accidents justify an LLR choosing to treat a particular institution⁷².

4. Balance of payments and International Lender of Last Resort (ILLR)

“It is by no means to be taken for granted that an exact parallel can be drawn between an international central bank and a national central bank.” Hawtrey (1932), p.274

i) *exchange risk and liquidity risk*

In case of the correlation of the withdrawals of the internal type, the LLR solves the liquidity crisis by issuing its debt. This is because it is needed by the market. On the contrary, in the case of correlation of withdrawals of the external type, the LLR proves helpless. It is because its debt is offered ; offered on the exchange market so that it finds itself illiquid. Let us remember the mechanism! The pound sterling is offered on the exchange market and lowers the exchange rate. When the fall reaches the “gold exit point”, the arbitrators buy the pounds sterling, convert them into gold with the banks, and export that gold. In the case of the correlation of withdrawals of the external type, gold is in demand, not LLR debt.

In this way, in a gold-convertibility regime, the banking system appears exposed to an exchange risk that takes the form of a liquidity risk. Tooke and Bagehot analyzed discount rates as a risk management tool. The suspension of convertibility, i.e., the payment in gold of bank notes, is the last strategy suggested by Thornton and Hawtrey to save the LLR⁷³. But this opens the door to the currency devaluation on this side of gold’s exit point and, consequently,

⁷⁰ Cf. de Boyer (1985) and Solis (1983; 1999)

⁷¹ Fortunately, during liquidity crises, practitioners have born in mind the historical precedents.

⁷² Cf. Freixas (1999), Freixas and alii (1999), Goodhart (1999)

⁷³ Thornton (1802), p. 139 and 159; Hawtrey (1932), p. 259

increases of gold prices over the market beyond legal course⁷⁴ and thus imports inflation. It also raises the exchange risk to pound sterling holders and suddenly introduces a new cause of correlation of withdrawals.

From 1821 to 1914, Great Britain was able to avoid the suspension of payments. Forced to use to it in 1914, it restored the gold standard in 1925 and then suspended it in 1931, in the context of an exchange and banking liquidity crisis that was transmitted from country to country, and from continent to continent. This is what leads Hawtrey to question the International Lender of Last Resort (ILLR).

ii) *Bagehot's anxiety in 1873*

Bagehot had already tackled the LLR question in a multinational context. However, in his theory, the LLR lends an exogenous currency, and not its own debt, so the exchange crisis treatment is not specific. If the deficit is due to a currency excess, the issue rules of the Issue Department correct the imbalance. If the deficit is favored by a low interest rate, then the Banking Department corrects it by following its rule of raising discount rates when its reserves decrease. But if the deficit is not caused by either of these two, then the LLR must have the possibility of borrowing from a foreign bank. Since 1839, this had been the Bank of France. But, in 1873, and that is why he wrote his study⁷⁵, Bagehot is extremely worried by the situation created by the Franco-Prussian war.

In the first place, the war compensation paid by France had been temporarily placed by the Prussian government with the Bank of London, which in turn had placed the liquidity with other banks (with *bill brokers*). In case of the withdrawal of that deposit, there would be a correlation of withdrawals from different banks and the demands for gold would converge on the Banking Department of the Bank of England. This sole deposit and its possible withdrawal, which depended on the use of the war indemnity and not on price levels and interest rates, put the entire banking system in a liquidity risk for which the Banking Department of the Bank of England was not prepared. But, and this is Bagehot's second source of anxiety, the military victory of Prussia had also led to the retirement of the Bank of France. This entity could no longer rescue the Bank of England in case of a balance of payments deficit. Put another way, the Bank of France could no longer play the LLR role vis-à-vis the Bank of England. Bagehot worried about the disappearance of the bilateral cooperation between the two lenders of last resort.

Bagehot's fear was excessive. As shown by Hawtrey, from 1871 and until 1914, the fear of a balance of payments crisis stops being a constraint on the Bank of England in its LLR role : the pound sterling then dominates international finances. *Lombard Street* becomes the financial center of international trade and the discount rates of the Bank of England become crucial (bench-mark rate). When the British LLR modifies its discount rates, the rates follow abroad.

⁷⁴ The bullion controversy leads to this point

⁷⁵ Cf. introduction of *Lombard Street*. Clapham (1944) emphasizes this point

Things change after 1918. Wall Street and the dollar gain importance, Lombard Street and the pound sterling weaken.

iii) *The ILLR according to Hawtrey*

A widespread banking crisis is to be found in 1931, with destabilizing effects on the balance of payments. This banking crisis was a result of deflationary policies, led by England after 1924, the worldwide economic depression caused by the Wall Street crack in 1929, of the negotiations relating to German reparations and uncertain defenses of the newly restored gold standard by different countries. Hawtrey analyzes the risks then created by the internationalization of banking activity. First, he notices that the gold stock is divided between England, France, Belgium, Switzerland, the Netherlands and the United States. Second, he points out that banks have assets in different countries and manage important deposits of foreign banks. Third, he mentions that banks remain exposed to exchange risks even if their assets have gold indexing clauses or are denominated in foreign currency. Finally, he sees that solvent banks can prove unable to honor their engagements in foreign currency even if guaranteed by the state itself.

Thus, although solvent, German and Austrian banks, of which a part of the debts contracted after 1923 were denominated in foreign currency, found themselves illiquid as a consequence of withdrawals from French and Belgian banks (for political reasons) and from American banks (in search of liquidity). German clients joined this interbank run: *“Moreover, at a time of discredit the withdrawal of foreign funds is likely to be reinforced by a “flight” from the currency among the natives”* (Hawtrey, 1932, p.230-1)

From this resulted a banking crisis, an exchange crisis, the suspension of the convertibility of the mark, and finally , an exchange rate collapse. The crisis then reached English banks which suffered losses from their investments in Germany and as a result became the object of a run of foreign banks to withdraw their deposits. This run was motivated by the risk of abandoning the gold standard and the devaluation of the pound sterling (assets in £). Hawtrey emphasizes that *“such a panic-stricken withdrawal had never occurred before.”* (p.224).The flight towards the deflationist policy confirmed this risk⁷⁶ and precipitated the crisis.

“It was believed that the maintenance of the gold standard had become impossible, and that therefore every one who retained a balance in terms of pound sterling till it was too late would be a loser. The stream of withdrawals became a torrent..” (Hawtrey, 1932, p.224)

As a result the gold standard was suspended in 1931. The phenomenon hit the American banks and gold surged⁷⁷ in France, Belgium, the Netherlands and Switzerland, where

⁷⁶ The criticism of deflationary adjustment made by Hawtrey (1932, p.213- 227) is similar to that of Thornton (1802, p. 118-121)

⁷⁷ streamed, flowed

it was absorbed in part by the banks that continued practicing restrictive policies, and by private hoarders, which fed deflation.

Hawtrey emphasizes the linked risks of liquidity and exchange⁷⁸. The run on the entire banking system of a country causes an exchange crisis. The anticipation of an exchange crisis causes a run on a banking system. Germany was affected by the first phenomenon, England by the second. He concludes that *“the need arises for an **international lender of last resort.**”* (p.228). However, the establishment of an ILLR, faces specific difficulties.

First, unlike the banking liquidity crisis that an LLR solves at a national level, the crisis is multinational : it associates a liquidity crisis with an exchange crisis. An International State which defines a legal means of payment at an international level does not exist. There is no international currency issued by the ILLR. In short, unlike an LLR, the ILLR cannot solve the crisis by issuing its own debt. In fact, the efficient interventions are bilateral or multilateral interventions of national central banks in the exchange markets, where the banks of countries with a balance of payments surplus support countries in deficit. The ILLR can be a centralizer of a part of the reserves and/or a coordinator for the co-operation of the central banks. Hawtrey states the previously quoted phrase: *“Perhaps some day the Bank of International Settlements will be in a position to meet this need (of ILLR). But, as things are, the function can only be undertaken by a foreign central bank or by a group of foreign central banks in co-operation.”* (p.228). If the ILLR is instituted, it can borrow the different currencies in order to lend them. In any case, it does not issue currency and appears more like a crisis administrator than a LLR.

Secondly, the ILLR takes counterparty risks, or obliges central banks of which it coordinates the interventions to take them. In fact, in order to stop an international interbank run that threatens a country, the ILLR should, following the example of an LLR, grant foreign currency denominated loans without limit. If the intervention fails, because the ILLR has insufficient means or exchange rates are unsustainable, so that the country in need of help must devalue its currency, the loans will not be repaid. Intervening to stop an exchange crisis, the ILLR takes an exchange risk that translates into a counterparty risk :

“...if credits are to be granted to a central bank in difficulties at all, they ought to be granted up to the full amount needed. There should be no limit. For if the amount granted proves inadequate, the exchange gives way after all. The sums already lent will then have been completely wasted...” (Hawtrey, 1932, p.230)

In the case of an ILLR, the loss sharing problem is raised. The states are called into question. The ILLR does not have the same means, constraints and objectives as an LLR. It is the tool of multilateral co-operation between states and their central banks (national LLRs). Evaluated properly, its interventions are effective :

⁷⁸ Kaminski and Reinhart (1998) talk about twin crises.

“...a country subjected to a panic-stricken withdrawal of foreign money may legitimately be assisted with credits from foreign central banks, provided the country is in a position to continue its existing monetary standard without undue strain, and in that case, the credit ought to be granted to whatever amount may be necessary without definit limit; but that, if the effort of maintaining parity is excessive, no credits at all should be given, and the currency should be allowed to depreciate. A case of the latter type may, however, be modified to this extent, that if the currency is allowed to depreciate to a manageable value, credits may then very reasonably be provided to safeguard it against depreciating still further.” ((Hawtrey, 1932, p.231-2)

Such bilateral or multilateral interventions negotiated between the States cannot be considered as LLR operations strictly speaking. Thus, regarding a central bank which comes to the assistance of another, Hawtrey specifies :

“Thus it would be the lender not of last resort, but of last resort but one.”

(Hawtrey, 1932, p.276)

To conclude, some remarks on the subject:

i) On the independence of central banks

The classical economists agree that the central bank serves the general interest. But they differ in their analysis of it.

The ricardian tradition thinks that it is about stabilizing the currency value. In this perspective, it speaks for the monopoly of issue, the independence of the National Bank (Ricardo 1823), the dissociation of credit and issue operations, and the institution of issue rules. The golden age of the Bank of England that followed the 1844 reform validated the idea that this reform was a success, and that this was because of the sound ideas of monetary theory. The ideas of monetarism perpetuate this tradition.

The non-ricardian tradition thinks that the central bank serves the general interest by guaranteeing liquidity. It is in this perspective that the LLR intervenes. It conducts a discretionary policy and manages the flexibility of reserves, credit and issues.

The Bank of England emerges from a project aiming to improve the liquidity of national public debt with the goal of reducing risk, and finally, the rates at which the Treasury borrows. From this arises the common idea of the eighteenth and nineteenth centuries, according to which the general interest which the Bank served was associated with the interests of the State, even though it was a private institution. The outcome of the crisis of 1793 when the Treasury and the Bank co-operated in an operation of lending of last resort, shows that the general interest extended to the liquidity of bankers and merchants. Thornton, Tooke and Bagehot had

understood this. With Hawtrey, the LLR determines the short-term interest rates and the activity and employment levels. The guidelines of the general interest are again extended. Keynesianism follows this tradition. Here, the independence of the central bank makes no sense.

ii) concerning exogenous and endogenous currency

On the frontier of the two traditions, Bagehot takes the ricardian side. He accepts the separation between currency and credit : the Issue Department exercises its monopoly following a quantity limitation rule while the Banking Department exercises the role of lender of last resort. The LLR grants credit, but does not issue currency : it lends a currency which it does not create. In Bagehot, the currency is exogenous.

On the contrary, in Thornton, Tooke and Hawtrey, the currency is endogenous. The LLR simultaneously grants credit and issues currency. On this occasion, it tries hard to stay away from counterparty risk, which does not mean it does not take any risk. It creates liquidity and takes an illiquidity risk. Here, currency is indissociable from credit, and from the market forces. The idea according to which the LLR would be a currency supplier in a ricardian sense, i.e. without taking risk or supplying any bank with credit, does not correspond to their vision. We do not share Thornton's monetary interpretation introduced by Hetzel in 1987.

iii) Concerning moral hazard

The LLR is not a loss absorber ("LA" from now on). The LLR regulates banking liquidity, it does not solve insolvency problems. In our opinion, the issue of the "too big to fail" ("TBTF" from now on) is not addressed by the classics. If they had considered this problem, we think that they would have distinguished LA from LLR. To prevent a systemic crisis due to the insolvency of a bank TBTF, it is to the shareholders (beyond the limited liability principle), to the deposit insurance organism, to other banks (in the name of the solidarity of the market), even to the State (in the case of the failure of other responsible agents) to recapitalize this bank. The LLR is not a part of the LA. In the case of the intervention of the LLR to guarantee the continuity of payments and ensure the liquidity of that bank, the LA must ensure the solvency of the TBTF bank and take responsibility for the risk of loss.

Goodhart shows that every LA intervention incorporates moral hazard. But this is not the case in LLR interventions. The existence of moral hazards cannot be cited (as liberals would like to) to frustrate the intervention of a central bank in its LLR function. Likewise, it cannot be a question, in a so called LLR intervention, of justifying the fraud which gave rise, and often continues to do so, to the LA interventions (whether from states or the FMI⁷⁹). Even less is it a question of judging them to be inevitable. The distinction between LA and LLR contributes to

⁷⁹ Cf. Calomiris (1998), concerned México, Cf. Solis and alii (2000)

clarifying functions, to outlining responsibilities, and to eliminating moral hazards linked to the intervention of an LA.

iv) *Concerning the international LLR*

The classical economists saw that illiquidity reaches the LLR in a case of balance payments deficit. Thornton's justification of a suspension of payments (and of the fixed exchange rate) comes from this. Tooke supports an active discount rate policy. In the light of the situation of the year from 1930-32, Hawtrey notes the perverse effects of extremely high interest rates (on employment) and of vicious and cumulative cycles between banking and exchange crises. If the LLR institution appears to him to be desirable, he also sees the difficulties. In the international domain, there is no political authority, neither central bank, nor State. Interests are bilateral, multilateral, protected by different States. Here, there are no "pure" liquidity crises as in a closed economy. In the case of a crisis, to restore liquidity, it is necessary for loans that incorporate counterparty risks to be in position. It is hard to talk about the LLR in a classical sense. The multilateral intervention of central banks has to be coordinated, but states also have to be involved to share the work of adjustment efforts and even the losses. The question of moral hazards is essential.

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