

HICKS'S THEORY OF THE SHORT-TERM RATE OF INTEREST AND ITS INFLUENCES

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“The determination of the rate of interest, or discount, on the bill is equivalent to the determination of a rate of exchange.” (Hicks, 1989, p.51)

“Thornton accordingly held that a credit system must be *managed*. It must be managed by a Central Bank, whose operations must be determined by judgment, and cannot be reduced to procedure by a mechanical rule.” (Hicks, 1967, p.164)

Abstract:

John Richard Hicks offered an endogenous theory of money from the sixties to his last book *Market Theory of Money* (1989). He develops a theory of credit, and a theory of short-term rates of interest that he had neglected in his previous writings like *Mr Keynes and the Classics* (1937). In this early article, Hicks put the emphasis on the market for cash balance and the motives for the demand for money, while leaving aside the money market and the clearing functions of banks. In the sixties, Hicks was largely inspired by Henry Thornton (1802) and Ralph George Hawtrey (1913, 1919). The originality of this paper is that we interpret the short-term rates as the price of liquidity. This enables to interpret Hicks's analysis of the floor of the short-term rates of interest, and to shed light on his vision of the role of the central bank.

Keywords : banks, bills, convertibility, discretionary policies, instability of credit, money, short-term rate of interest

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I. INTRODUCTION

In *Mr Keynes and the Classics* (1937) the young John Richard Hicks set aside an analysis of money on which money is created to cancel debts, and in which banks play a crucial role; instead, he put the emphasis on the market for cash balance and the motives for the demand for money. Generally in the Thirties, Hicks was focusing on the determination of long-term rates of interest, especially in *Value and Capital* (1939) where he extended Keynes's theory of the term structure of interest rates. This paper focuses on the "elder" Hicks who, between *Critical Essays in Monetary Theory* (1967) and his last book *A Market Theory of Money* (1989)² analysed the formation of short-term rates of interest. Axel Leijonhufvud (1981 and 1984, p.26), Giuseppe Fontana (2009, p.73), Jean François Goux (1990) and David Laidler (1995, in *The legacy of John Hicks*) have underlined Hicks's interest in credit and banking theory since the sixties. Jérôme De Boyer and Ricardo Solis (2003, p.11) and Sylvie Diatkine (2003) wrote that Hicks's last book analyses the function of the lender of last resort, and that he must be assimilated to Hawtrey's and Thornton's contributions to monetary theory. Considering this literature, one original aspect of our paper could be to link Hicks thought to Thornton and Hawtrey on the theory of credit. Their conception of liquidity enable to understand that the short-term rates, which is the price of liquidity, cannot go below a certain level. Hicks owes a lot to Thornton and Hawtrey's endogenous view of money. As an aside, a line of continuity can be traced from *Value and Capital* (1939) to *A Market Theory of Money* (1989) as regards Hicks's theory of short-term rates of interest, although Hicks was mainly focusing on the determination of the long-term rates in the Thirties.

The second aim of this paper concerns with monetary policy. In Thornton, Hawtrey and Hicks's respective thought, the instability of credit is an inherent phenomenon due to the functioning of credit economies. Credit is unstable, not because of monetary mismanagement, but because the behaviour of private agents: the traders on commodity markets. This why those authors are more in favour of interest rate controls than controls of the quantity of money. Hicks's interest in Thornton's and Hawtrey's theories grew in the sixties, when Milton Friedman was advocating a monetary rule (Milton Friedman and Rosa Friedman, 1962, p.54). Hicks thought that Thornton's monetary ideas could "help out the field" (Hicks, 1967, p.viii). Hicks studied Thornton in order to challenge Friedman's monetary plan³. According to Hicks, Friedman belonged to the monetary tradition of the Currency School: "[it] is represented, over its long history, not only by Lord Overstone and his friends, but by Ricardo himself; not only by Mises and Hayek and Friedman, but also Pigou" (Hicks 1967, p.viii)⁴.

The plan is the following. The second part of this paper analyses how a credit economy creates its own circulating medium. Credit enables merchants to trade between them. Without

² Another important books we could refer to are *Crisis in Keynesian Revolution* (1974), and *Money, Interest and Wages* (1982), in which Hicks developed the role of banks in a credit economy. Hicks' other books, published in the Thirties, did not stress this side of economic theory, which is why we choose not to introduce them in this paper.

³ More generally, Hicks refuted several theses coming from the 'monetarists'. Notably, Hicks did not believe in Friedman and Schwartz's empirical relation giving a direct link between the growth of the quantity of money and the value of income (Hicks, 1967, p.15). Hicks also disagree with R. T. Selden, considered as one of 'Friedman's collaborators'.

⁴ Schumpeter already drew before Hicks two similar schools of thought in his *History of Economic Analysis* (1954, III, p.700): the "metallist doctrine" linked to the Currency School (Ricardo is its precursor), and the contributors to the Banking School with Thornton as its precursor.

money, goods circulate thanks to bills, which characterize indebtedness from one merchant to another. In the third part we focus on the nature of money according to Thornton, Hawtrey and Hicks, which enables actors to clear debts. Money and credit are two different notions. Hicks's 'two spheres of circulation' (1989, pp.49-51) enables to grasp this difference. The fourth part concerns the role of banks as a dealer of "options" (in Hawtrey's language). Banks finance merchants by selling advances and purchasing merchants' bills. Advances can be analysed as options which enable merchants to synchronize receipts with payments. The fifth part is an attempt to draw a line of continuity in Hicks's thought about the "floor" of short-term rates of interest from *Value and Capital* (1939) and *A Market Theory of Money* (1989). The sixth part deals with the necessity to manage the instability of credit with interest rate policies, and the seventh part presents Thornton's, Hawtrey's and Hicks's scepticism towards monetary rules. The eighth part concludes.

II. "THE MARKET MAKES ITS MONEY"

"The market makes its money" is the title of the chapter of *A Market Theory of Money* (Hicks, 1989). In this chapter Hicks introduces commercial bills, a mean of exchange, which comes before the creation of money. In doing so, Hicks makes a theory of credit very similar to more ancient author like Thornton in 1802, and Hawtrey in 1913 and 1919. Money is created after the creation of credit, and is endogenous to the productive sphere, this is why it is important to study credit before money.

Thornton, Hawtrey and Hicks all analysed the working of a credit economy before introducing money. Notably, they all leave aside spot transactions in the economy. During the process of production there is a time spread between the deliveries of goods and the deliveries of money. The exchange of goods against money is not immediate and, usually, the producer gets paid after a certain lag of time. Thornton took the example of a manufacturer who delivers goods to a farmer who is not able to pay on the spot, because the crop (the agreed mean of payment) is not yet ready, but will be at a future date (Thornton, Chapter I, 1802, p.36). The transaction between the two merchants rests on confidence. On Hicks's part, "It is clear from the most common experience that spot payment – payment 'on the nail' or 'on the spot' – is by no means the only, or perhaps even the most important, way of doing business." (Hicks, 1989, chapter V, p.41). Hawtrey illustrated the same idea with merchants dealing with tons of coal (Hawtrey, 1919, p.2).

Hicks explained that the market makes its own "money", where the term "money" refers to *bills*. A bill is a promise of delivery of goods against money at a future date. Hicks gave the example of an agent receiving his newspapers daily, but paying for this service only every month. This agent benefits from the services of the newspaper company and is indebted until he pays at the end of the month (Hicks, 1989, p.41). Hawtrey referred to a 'chain of debts' generated by the process of production. To produce, merchants are indebted toward employees until they pay for their wages (Hawtrey, 1919, p.453)

Trust on the bill market is necessary for merchants to trade, and employees to work before receiving wages. Merchants must trust the capacity of other merchants to honour their promises. Without trust, orders are not made and trade would not happen. A credit system, Hicks wrote, "rests upon confidence and trust; when trust is absent it can just shrivel up" (Hicks, 1967, p.159). Thornton also referred to the importance of trust: "This commercial credit is the foundation of paper credit paper serving to express that confidence which is in the

mind, and to reduce to writing those engagements to pay, which might otherwise be merely verbal” (Thornton, 1802, p.14-15)

According to Hicks, the quality of the debt depends on the credit risk of the issuer/borrower, and on the information lenders have access to. The level of trust affects the rate at which lender accept to lend funds (Hicks, 1989, chapter VII, p.62, and see also p.48).

Thornton wrote that trust can enlarge trade within the economy. The size of the market depends on the level of trust between merchants. Paper credit is a promise of delivery of money, and the extension of its use enable to ‘diffuse confidence among traders’ (Thornton, 1802, p.36).

III. THE NATURE OF MONEY AND THE ROLE OF BANKS

In Thornton, Hawtrey, Keynes and Hicks's thought Money serves for making a payment in the settlement of a debt. Paper credit can be converted, “at any time, into money” (Thornton, 1802, p.41). On his side, Hawtrey wrote that money “has to provide the means for the legal discharge of a debt” (Hawtrey, 1919, p.15-16). Hicks assigned the same property to money, by explaining that “[t]he payment I made to him would have been in settlement of a debt” (Hicks, 1989, p.41)⁵.

In 1989 Hicks introduced a theory of the two spheres of circulation, very similar to that of Adam Smith in the *Wealth of Nations*⁶. The first sphere is made up of merchants only; Hicks labelled it either the ‘mercantile sector’ or the ‘inside’ sector. The mercantile (inside) sector uses credit as the circulating medium, and money to pay for the wages of their employees. The ‘outside’ sector is made up of agents who use only money to purchase goods. Hicks wrote that only the ‘outside’ sector uses money, because the ‘inside’ sector only uses bills (Hicks, 1989, p.51).

In the frontier between the two sectors, two kinds of financial intermediary are at works, Hicks explained. The function of the first kind of intermediary is to discount bills against money. Merchants face the problem that the maturity of their bills does not perfectly match with their need for money, while they need cash in order to pay for their workers' salaries. The first kind of intermediary has the function to purchase bills and provides money to merchants. In the quote bellow, Hicks described a second kind of intermediary who works only in the bill market, but we focus on the kind of intermediary which directly deals with money and bills. The intermediary makes advances and guarantees a ‘perfect match’ between merchants' cash inflows and cash outflows:

“There are at least two sorts of financial operators who should then begin to appear. One works within the mercantile sector, the other on the frontier between it and the rest. (...). It is the business of this kind of intermediary to find that route, getting a sequence of guarantees, as cheaply as possible. The other kind of intermediation, which has more of a future before it, is the discounting of bills for cash. Any bill has a date of maturity, so it can (if it is honored) be turned into cash simply by waiting. But the dates at which

⁵ Hicks makes the same point of view in his article “Liquidity” (1962), and also in *Money, Interest and Wages* (1982): “liquids assets are held to pay existing debts” (Hicks, 1962, p.797) and “money is what is acceptable in the payment of debts” (Hicks, 1982, p.266),

⁶ “The circulation of every country may be considered as divided into two different branches; the circulation of the dealers with one another, and the circulation between the dealers and the consumers. Though the same pieces of money, whether paper or metal, may be employed sometimes in the one circulation and sometimes in the other ; yet as both are constantly going on at the same time, each requires a certain stock of money of one kind or another, to carry it on” (Smith, 1776, Vol 2, chapter 2, p.342)

a trader finds himself in need of cash, to make purchases outside the mercantile sector, are unlikely to have a perfect match with the bills happens to hold” (Hicks, 1989, Chapter VI, p.49).

A similar presentation of bill discounting appears in Hawtrey's *Currency of Credit* (1919). Hawtrey illustrates this operation with two agents, an umbrella company and a bank. The umbrella company records cash outflows before receiving cash inflows, because it has to pay for wages (Hawtrey, 1919, p.4). Indeed, during the activity of companies, it often happens that money is needed during the process of production. In this situation, the merchant could sell his bills to a bank, who would purchase them at a lower price than the price agreed forward. “A dealer in debts or credits is a *Banker*” (Hawtrey, 1919, p.4). The bank provides “a necessary element of elasticity into the merchant's business” (Hawtrey, 1919, p.217-218). When banks purchase a bill, the active part of its balance sheet increases because the bill is an asset. At the date of the delivery of money, the merchant will pay for the order and the merchant who sold his bill to the bank will be able to cancel his debt toward the bank. Hawtrey explained this in *Good and Bad Trade* (1913, p.77) and also *Currency and Credit* (1919):

“Here intervenes the banker, who takes the immediate obligations upon his own shoulders, in exchange for a future obligation which the manufacturer, as the creditor of the merchant, is in a position to give him. The banker's debts, unlike those of the manufacturer, can be conveniently used as the means of payment; or, where legal tender money is needed for the purpose, the banker makes it his business to supply money on demand” (Hawtrey, 1919, p.453)

Hicks and Hawtrey shared the common idea that merchants go into the process of production because they can have access to liquidity thanks to banks. Indeed, banks enable merchants to have access to money before they receive cash inflows. In this sense, Hicks wrote that banks “assured (or apparently assured) a borrowing power” (Hicks, 1974, p.50-51). On his side, Hawtrey wrote that merchants have “the right to buy wealth [from the banker] which is not yet ready for them”. A bank credit is an option to buy money (or gold) at any time according to Hawtrey. The price that merchants pay to exert this option is the rate of interest charged by the banker:

“From this point of view a banker's business may be regarded as composed chiefly of dealings in “options” and “futures” in gold. A bank credit is an option to buy gold at any time; a loan or bill is an undertaking to deliver gold at some fixed future date” (Hawtrey, 1919, p.230)

The role of banks as credit providers also appears in Hicks's book *The Crisis in Keynesian Economics* (1974). In the second part of the book entitled “Money, interest and liquidity”, Hicks distinguished the overdraft economy, in which banks finance trade by making advances and/or extending credit, from the auto economy, in which merchants are auto-financed thanks to the assets they hold in reserve. In an overdraft economy, merchants are totally dependent on banks for access to money:

“Such a firm will be more liquid if it has an agreed overdraft – a contractual right to borrow, up to a limit – than it would be if it had no contractual right, only an informal understanding” (Hicks, 1974, p.54).

Banks issue notes as gold substitutes. Banks notes are a promise from the bank to convert it against money (and/or gold in Thornton's and Hawtrey's writings). By issuing bank notes, banks ease the circulation of credit within the economy. Hicks and Thornton shared the view that the more merchants trust banks, the more trades happen. The presence of banks, Hicks explained, enlarges the circle of borrowers within the economy. Indeed, without banks, merchants would have less trust in the quality of bills, and interest rate of those bills would be higher. The existence of banks reduces the part of risk in the rate of interest, because it takes an engagement to cover the risk of default of the bill issuer (1989, p.57).

Hicks wrote on the consequences of the enlargement of circles of borrowers. The more the circle widens, the more confidence decreases. Banking institutions are better informed than common traders, and their position as intermediaries between traders guarantees a higher level of trust on the bill market:

“(…) trade credit though expansible would not be indefinitely expansible; the time would come when some of the extended trade had to be financed by something commanding wider confidence. Recourse would then be had to the banking system, and there would be an expansion of bank money” (Hicks, 1989, p.95)

IV. THE CENTRAL BANK IS A DEALER OF BANKERS' DEBTS

Hicks became interested into Thornton's theory (1802) because he is considered to be the first thinker to have provided a developed vision of the role of a central bank (Hicks, 1967). Other authors, like Hawtrey (1938, p.3)⁷, Rist (1938, p.422) and more recently Meltzer (2003, p.20, p.viii), have underlined those pioneering contributions. Although the term 'lender of last resort' is absent from Thornton's writings⁸ the notion appears in Chapter 4 of *Paper Credit* (1802). In this chapter, he wrote on the 'Nature of the Bank of England'. An important role of the central bank is to maintain the confidence of banks and merchants in the system of payment. During a crisis, the central bank should be ready to issue notes without limits, at a certain rate, in order to avoid panics amongst merchants:

“It is ... in every respect plain that it must be important to maintain, and to maintain carefully, the credit of the country, at that time in particular, when its guineas are few, and are also leaving it; that is the time when our own funds are necessarily low, when the most regular industry should by every means be promoted, and when there is the most need of the aid both of our domestic and foreign credit; and it belongs to the Bank of England, in particular, to guard and to superintend the interests of the country in this respect” (Thornton, 1802, p.63)

Hawtrey uses the term of “lender in last resort” for the first time in the second edition of *Currency and Credit* (1928, as noted in de Boyer, 2003, p.2). In *The Art of Central Banking* (1932) the term is commonly used. Hawtrey explained that the central bank should provide “legal tender notes” and also that it should have the monopoly on the emissions of bank notes, which were used as means of payment. Legal tender notes represent the debt of the central bank, because it can be exchanged against gold on demand:

⁷ Indeed, Hawtrey wrote that “The practice of using the Bank of England's discount rate as an instrument of monetary regulation may be said to start from the Bank Charter Act of 1833 ... The idea was thirty years older. It was originated, I believe, by Henry Thornton.” (Hawtrey, 1938, p.3)

⁸ De Boyer and Solis (2002, p.2) and Laidler (2002, p.2) looked for the origin of the term of “last resort” in the literature. It appears that Baring labeled it in 1797.

“A Bank of England note remained nothing than a documentary evidence of a debt due from a Bank, with the attributes of a negotiable instrument” (Hawtrey, 1927, p.5, as noted by de Boyer and Solis, 2011, p.183)

The emission of the legal tender can be unlimited – even if Hawtrey is not in favour of the unlimited issue of credit, as we shall see in Part 6 – in order to restore confidence on the money market. Hawtrey wrote that “the interchangeability of its [the Bank of England’s] deposits with cash is absolute” (Hawtrey, 1919, p.99).

The mechanism is the following. Let us suppose a rise of the discount rate by the central bank. This would force the discount houses to charge correspondingly higher rates for discounting bills. And because commercial banks were used to converting bills against cash only through the channel of the discount market, the credit stringency would be felt by banks through the discount houses’ window. The rate of discount of the discount houses would be adjusted ‘from hour to hour’ according to the supply and demand for bills. When the discount houses were short of cash, they could rediscount bills for cash to the window of the central bank (Hawtrey, 1932, p.130 and see also Sayers, p.129). Short-term rates of interest (of discount houses and commercial banks) were thus following the Bank rate (Hawtrey, 1919, p.228). So, in Hawtrey’s thought, the central bank should control credit by varying its discount rate, the rate at which it is willing to purchase bills against notes:

“If given a monopoly of the issue of legal tender notes, such a bank can regulate the paper currency on banking principles. It will issue notes by way of short-term advances (whether loans or discounts) to traders or to the other banks, and will be continually receiving notes in payment of past advances. By stopping or curtailing fresh advances, the Central Bank can ensure a steady diminution in the note issue. By offering to lend at a low rate of interest and otherwise encouraging borrowers, it can increase the note issue” (Hawtrey, 1919, p.55)

At the time when Hawtrey wrote, financial markets were more developed than at Thornton’s times. The central bank could reinforce its Bank rate policy with open-market operations: “It is the function of the sales of securities to make Bank rate effective” (Hawtrey, 1932, p.151). Asset purchases increase the central bank liability, and also bankers’ deposits. Banks are then encouraged to increase their discount. Hawtrey was very supportive of open market operations conducted in the United States, and was in favour of its use by the Bank of England (Hawtrey, 1932, p.447).

Hicks underlined the relevance of Thornton’s theory of central banking (Hicks, 1967, p.viii and also see p.164) in which the substitutability of bills against cash occupies a central place. It should be a main role of the central banker to guaranty this substitutability, and to fix a price on it. Hicks also acknowledged Hawtrey of considering the importance of such a substitutability between bills and money (Hicks, 1969, p.309; 1977, p.120 and 1989, p.112). Hicks’s theory of credit is in the continuity of Thornton and Hawtrey. The central bank is a dealer of banks’ debts; one of its main function is to exchange bills against bank notes in order to respond to the need of cash from banks (Hicks, 1967, p.13-14).

Despite the important influence of Thornton and Hawtrey on Hicks, the contributions of this latter to central banking theory go beyond simple repetitions of what Thornton and Hawtrey already wrote about an “art” of central banking. In the sixties, Hicks was concerned with explaining why short-term rates could not go below a certain level, as developed in the forthcoming part.

V. HICKS'S ON THE 'FLOOR' TO THE SHORT-TERM RATES OF INTEREST

While Hicks was mainly concerned, in his early writings, to extend and complete Keynes's theory of the long-term rate of interest (which Hicks did not find entirely satisfying, see Brilliant, 2014 for more explanations), his attention turned to the determination of short-term rates of interest. Hicks's interest for short-term rates is apparent in *Capital and Growth* (1965, pp.284-286), *Critical Essays in Monetary Theory* (1967, p.58) and *A Market Theory of Money* (1989, pp.109-111). In Hicks's theory, long-term rates reflect the yield on long-term assets, whereas short-term rates deal with the yield on shorter-term assets. In this part, our primary concern is to interpret Hicks's view of the short-term rates, dealing with bills.

While supporting Thornton's and Hawtrey's thoughts, in which short-term rates are the price of bills against money, Hicks also acknowledged Wicksell's contributions (Hicks, 1965, p.284-285), in which the "market rate" represents the deposit rate, which is fixed by the central bank (as explained by Diatkine, 2012, p.726)⁹. However, in Hicks's thought, short-term rates are not to be confounded with the deposit rates. Hicks shares Hawtrey and Thornton's thought for whom short-term rates are the price of substitution of bills against cash (Hicks, 1989, p.51). Furthermore, Hicks's emphasis on the Wicksellian's rate of profit (representing the expected rate of return on real investment) is not involved in the determination of the floor to the short-term rates of interest. What is involved is the liquidity preference, coming from Keynes's theory, and the endogenous vision of money coming from Thornton and Hawtrey's influences. The "two rates" to which Hicks referred are the rate at which agents borrow funds from a "ring", and the rate at which they lend funds to other "ring".

Let us present the framework that Hicks had in mind. Three kind of dealers belonging to 'different rings' (1967, p.58) appear in Hicks's framework: the merchants, the banks and the central bank. Bills are created in the sphere of merchants, and banks supply liquidity by exchanging merchants' bills against money. In turn, banks can raise liquidity by selling bills to the central bank. If the central bank wants to reduce the liquidity of the system, it could raise its discount rate. The substitutability of bills against cash would then diminish. Short-term rates of interest therefore reflect the price of the conversion of bills against cash. In 1989 Hicks wrote that "[t]he determination of the rate of interest, or discount, on the bill is equivalent to the determination of a rate of exchange" (p.51). Even if the central bank reduces its discount rate to zero, the price of bills against money would not be zero. Bills would still stand at a discount, and a "rate of exchange" of bills against money would prevail, even for perfectly safe bills (Hicks, 1989, p.51). The reason concerns liquidity preference:

"[T]he principal reason why the market value of one bill should differ from another is difference in reliability; but bills, between which no difference in reliability is perceived, may still differ in maturity. A trader who is in need of cash needs it now,

⁹ Interpretations diverge on this issue. Laidler (1999, p.124) wrote that Wicksell's monetary rate is of the same nature as Thornton's short-term rate. Laidler added that Thornton was the first to provide a framework in which short-term rates are in the hands of the central bank, and that Wicksell will later present a similar idea (1999, p.124). Laidler also observed similarities between Wicksell's monetary rate and Hawtrey's short-term rate: "the emphasis that [Wicksell] placed on the active role played by bank liabilities in the economy seems to me to link his work more closely to the tradition of Hawtrey and Keynes (1923)." (Laidler, 2003, p.23). Diatkine (2013) rather wrote that Wicksell short-term rate did not distinguish the bank rate from the central bank rate, and that he assimilated the deposit rate to the loan rate (pp.726-727).

not (say) six months hence. So there is a discount on a prime bill which is a pure matter of time-preference – a pure rate of interest” (Hicks, 1989, p.49)

When banks choose to purchase bills instead of keeping cash, they take up (*de facto*) a less liquid position. As Hicks wrote, “each financier, wherever situated, has to make a profit and each has *his problem of liquidity*” (Hicks, 1967, p.58, italics added). Banks are encouraged to purchase bills instead of keeping actual money if an excess return prevails on bills. In Hicks's words, “[each financier] will not raise funds from the ring inside him, and lend funds to the ring outside, unless he gets a net advantage, he must lend at a higher rate than that at which he borrows” (1967, p.58). However, Hicks remained silent on the nature of the excess returns on perfectly safe bills. A further explanation can be found in *Value and Capital* (1939a), in the chapter entitled “Interest and Money”. In this chapter, Hicks explained that these excess returns are directly linked to the risks of liquidity. Even if bills are perfectly safe, they are not perfectly convertible into money. Anyone choosing to purchase bills instead of keeping money takes a risk of a capital loss if he has to sell it before its maturity date, in the case where the market price of bills has decreased. The “cost of investment” to which Hicks referred is the price at which bills are convertible against cash. The lower the conversion of bills against money, the higher the “cost of investment”. Acquiring bills “requires a separate transaction, and the trouble of making that transaction may offset the gain in interest” (1939a, p.165). The bill's holder convert his bills against cash in order to acquire other bills. Hicks added that if “safe bills could be acquired without any trouble at all, ... people would become willing to convert all their money into bills”, and bills would not stand at a discount. To sum up, it is the “imperfect moneyiness” (1939a, p.166) of safe bills – which are not perfectly exchangeable against money at any time – which causes short-term rates of interest to stand at a discount.

VI. AGAINST QUANTITATIVE CONTROLS OF THE MONEY ISSUE TO CHECK THE ‘INSTABILITY OF CREDIT’

Hicks classified himself, with Hawtrey and Thornton, in the Banking School tradition (Hicks, 1967, p.viii) because money is endogenous in their respective theory. However, Hicks was not entirely right in linking those authors and himself with the tradition of the Banking School. This School proposed to follow the real bill doctrine, while Thornton, Hawtrey and Hicks underlined the dangers of making unlimited loans on the security of safe bills. According to Thornton, there is a risk of over-creation of credit as long as the “rate of interest” (influenced by the central bank) is below the “mercantile rate of profit” (Thornton, 1802, p.136)¹⁰. On Hawtrey's account, it is the demand for loans by traders to finance stocks which is at the core of the matter. If traders expect an increase of commodity prices, they order commodities from producers and increase their stocks with borrowed money. The rise the production engenders a rise in consumer income and outlay, which increases the demand for goods. A cumulative process is at work. The “instability of credit” is generated by traders' demand for loans in order to produce, which ‘gives rise to a chain of debts’ in Hawtrey's thought¹¹ (1919, p.453). If extending its loans without limits, the central bank can fuel an over-expansion of credit, which could affect the wealth value of the monetary unit (Hawtrey, 1919, p.14).

¹⁰ “In order to ascertain how far the desire of obtaining loans at the bank may be expected at any time to be carried, we must enquire into the subject of the quantum of profit... We may, therefore, consider this question as turning principally on a comparison of the rate of interest taken at the bank with the current rate of mercantile profit.” (Thornton, 1802, p.136)

¹¹ The term ‘instability of credit’ appeared for the first time in Hawtrey's *Good and Bad Trade* (1913, Chapter 7).

While Thornton's and Hawtrey's analysis of the over-issue of loans seems to look like Wicksell's two-rates theory, their theories should not be confounded. The profit rates described by Thornton and Hawtrey deals with the return on short-term investments, whereas for Wicksell's, the profit rate represents the return on long-term investments (Laidler, 1999, p.123 and pp.130-131, and 2003, p.23). In the same vein, Mésonnier wrote that Wicksell's 'natural rate' and Thornton's 'mercantile profit rate' are not similar notions because the latter rate is not the marginal productivity of capital (Mésonnier, 2007, p.662 and p.676).

Like Thornton and Hawtrey, Hicks thought that "the credit system is an unstable system" (Hicks, 1967, p.158). In 1982, he wrote that "A monetary system – a sophisticated monetary system, with much fluidity – is inherently unstable..." (Hicks, 1982, p.275). The instability comes from the private sphere, as Hicks explained in *A Market Theory of Money* (1989). Hicks agreed that monetary authorities should aim at lowering the inherent instability of credit economy (we will see in the forthcoming part that Hicks directly referred to Hawtrey's works to reduce the instability of credit). However, Hicks criticized the use of monetary rules to deal with the instability. This instability "frightened" (Hicks, 1967, p.159) the successors of the Currency School where Ricardo and his contemporaries are included. Hicks also included Friedman in this School of thought (Hicks, 1967, p.167). According to Hicks, monetarists like Milton and Rose Friedman saw monetary rules as a way to fight the instability of credit. Friedman and Friedman were in favour of "a legislated rule instructing the monetary authority to achieve a specified rate of growth in the stock of money" in *Capitalism and Freedom* (Friedman and Friedman, 1962, p.54)¹². However, according to Hicks, "to fall back on rules, making the monetary system mechanical, is a confession of failure (Hicks, 1967, p.187).

Hicks was skeptical about defining monetary aggregates. Thornton supported the same idea in 1802.

"Where, in this continuum, do we draw a line? It is no wonder that there has been such a fuss about the sorts of claims are to be reckoned as money, Mx and My and so on! In what has become the modern world, there can be no answer to that question" (Hicks, 1989, p.63)

A direct control the quantity of money, Hicks explained, can break the essential substitutability of bills against money. It is vital in a developed credit system to keep the substitutability of "shorts" – which represents bills and other short-term assets – for money. By indexing money creation to the growth of domestic product, there may not be enough money to permit bills to be converted into money:

"For the separation between money, in the narrow sense, and the shorts (which are undoubtedly functioning as quasi-money), though it has come about through the pressure of high interest rates, is itself dependent upon the convertibility of the shorts into money. It is not at all easy to see how the volume of money, in the narrow sense, could be controlled, without damaging that convertibility. If the convertibility were lost,

¹² In *The Role of Monetary Policy* (1968) Friedman advised to limit and fix the issue of fiduciary money in order to limit the growing level of inflation: "My own prescription is still that the monetary authority goes all the way in avoiding such swings by adopting publicly the policy of achieving a steady rate of growth in a specified monetary total. The precise rate of growth, like the precise monetary total, is less important than the adoption of some stated and known rate. I myself have argued for a rate that would on the average achieve rough stability in the level of prices of final products, which I have estimated would call for something like a 3 to 5 per cent per year rate of growth in currency plus all commercial bank deposits or a slightly lower rate of growth in currency plus demand deposits only." (Friedman, 1968, p.16)

the quasi-monies cease to be liquid; the liquidity crisis which would then develop could pass all bounds" (Hicks, 1982, p.265-267)

In the thought of Thornton, Hawtrey and Hicks, monetary controls can lead to confidence crises. About Thornton, Hicks wrote: "Thornton, we may be sure, would not have approved of Fiduciary Issues, ... he was setting his sights higher than that" (Hicks, 1967, p.187). It is not easy to distinguish real shocks than monetary shocks. If the economy faces a panic, or exceptional expenses (a rise of imports due to poor harvest, to take Thornton's example), the central bank should extend its loans to respond to the liquidity needs of markets (Hicks, 1967, p.187).

In *Paper Credit* (1802), Thornton presented the effect of a money contraction by the bank of England. This reduces merchants' capacity to pay for their debts (wages and bills to trading partners). A shortage of money forces merchants needing money to interrupt the process of production. A reduction of the quantity of money leads to a reduction of the level of price, but not systematically to a rise of the investment of merchants, because money is lacking, and merchants should first seek to reimburse their debts before investing in new projects. Debts are less convertible to money. Furthermore, it reduces the confidence in paper credit, which depresses merchants' willingness to make future investments:

"It is plain, ... , that any very great and sudden diminution of Bank of England notes would be attended with the most serious effects both on the metropolis and on the whole kingdom. A reduction of them ... might, perhaps, be sufficient to produce a very general insolvency in London, of which the effect would be the suspension of confidence, the derangement of commerce, and the stagnation of manufactures throughout the country" (Thornton, 1802, Chapter IV, p.59)

If the Bank of England restricted the issue of bank notes "too severely" (Thornton, p.60), the banking system would be prompted to create a new circulating medium in order to continue its operations with merchants. A new circulating medium would therefore be created by the market itself. The policy of limiting the quantity of fiduciary issue would thus not prevent banks from financing trades; but it would increase banks' and merchants' liquidity risk (Thornton, 1802, p.60).

VII. IN FAVOUR OF DISCRETIONARY POLICIES

Hicks's repeatedly acknowledged the use of discretionary policies to deal with the instability of credit, along the line of Thornton and Hawtrey's recommendations. Notably, Hicks wrote that "Thornton accordingly held that a credit system must be *managed*. It must be managed by a Central Bank, whose operations must be determined by judgment, and cannot be reduced to procedure by a mechanical rule" (Hicks, 1967, p.164). Hicks wrote about monetary controls in many of his subsequent books (1967, 1974, 1982 and 1989). An ideal monetary system, according to Hicks, would "check, or moderat[e], the instability" (Hicks, 1982, p.9). He admitted that it is impossible to find perfect safeguards against instability, because monetary institutions are themselves liable to be infected by it. "It is a 'psychological' instability, not mechanical, which is in question; so it cannot be remedied by the application of a formula, as so many, both then and in later days, have been tempted to suppose (Hicks, 1982, p.9). Monetary policy should follow a judgement, not a rule.

When Thornton was writing, the central bank did not have the power to vary its discount rate, because of the usury law fixing it at 5%. Thornton thought that the central bank should be

allowed to fix its discount rate at a higher level in order to slowdown a credit expansion. Although Thornton wrote about the dangers of an over-issue of Bank notes (leading to a durable excess of the market price for gold above its legal price)¹³, he did not think that the central bank should take this indicator as a rule (as explained by Diatkine, 2003, p.42). If the balance of payment is in deficit (or in case of expenses for a war) and the gold reserves low, the central bank should not reduce its Bank note issuing, otherwise it could aggravate the situation by causing 'an alarm in the country' (Thornton, 1802, p.104). The public could lose confidence in the market for bills, and the central bank should avoid such a situation.

Hawtrey wrote that Thornton was the first to have thought of the bank rate as an instrument of monetary regulation. He explained this in *A Century of Bank Rate* (1938):

"The practice of using the Bank of England's discount rate as an instrument of monetary regulation may be said to start from the Bank Charter Act of 1833... The idea was thirty years older. It was originated, I believe, by Henry Thornton" (Hawtrey, 1938, p.3)

In the first half of the twentieth century, the central bank was able to influence the short-term rates, and was in a position to "dictate the rate" (Hawtrey, 1938, 197). But an over-issue of credit could affect the stability of the monetary unit, by engendering a decrease of the value of money as Hawtrey explained (1919, p.14).

Despite the danger of an over issue of credit, which would lead to a rise of the circulating medium, Hawtrey did not advocated controls of money issues. Hawtrey was in favour of interest rate policies, which were more appropriated to limit the instability of credit. He developed a theory of central banking (1932) where interest rates policies could reduce instabilities and smooth the business cycle. The central bank should be able to induce an expansion of credits, while refraining in case of an over-expansion (Hawtrey, 1919, p.152). A rise of short-term rates of interest has a depressive effect on private investment; a direct effect is to discourage new borrowings, and a second effect is to increase the cost of holding stocks. The two effects cumulated lead to a reduction of orders of traders (who hold stocks) to producers. The level of private investment decreases, and also the level of the unspent margin which Hawtrey defined as "the aggregate of the money and bank deposits in the community" (Hawtrey, 1927, *Gold Standard in Theory and Practice*, p.11, as noted in de Boyer and Solis, 2011, p.179). Hawtrey was more a partisan of interest rates policies than of monetary controls (Deutscher supported this idea, 1990, p.38):

"Far from causing the cyclical fluctuations, a banking system diminishes their violence and facilitates their control. Though credit institutions are not themselves the cause of this phenomenon, yet where such institutions exist it is through them that the fluctuations take effect. And it is through a wise regulation of credit that there is hope of finding a remedy for them" (Hawtrey, 1919, p.456)¹⁴

The use of discretionary policies are more suitable to a credit economy than policies following rules. The central bank should be able to reduce its discount rate, and to extent its note issue even if a drain of gold is happening. This opens the discussion on another topic dealing with Hawtrey's advocacy of the gold exchange standard:

¹³ There is a risk... "to produce the evils of rise in the price of the commodities in Great Britain, of a fall in our exchange, and of an excess of the market price above the mint price of gold" (Thornton, 1802, p.126).

¹⁴ Hawtrey also wrote about credit controls in *The Art of Central Banking* (1932, pp.279-280).

“Stabilisation cannot be secured by any hard and fast rules. The Central Bank must exercise discretion; they must be ready to detect and forestall any monetary disturbance even before it has affected prices” (Hawtrey, 1923, p.143)

In *Automatists, Hawtreysians and Keynesians* (1969), Hicks argued in favour of short-term monetary policies. He directly referred to Hawtrey's theory of the Bank rate and the way that expectations work. “Moderate movements should suffice”, Hicks wrote, “because what really matters is the announcement effects of the central bank” (1969, p.316). Agents are able to anticipate future short-term rates, influenced by the central bank, and change their investment strategy accordingly.

Hicks's emphasis on short-term rates policies appeared clearly in *The Crisis in Keynesian Economics* (1974). Those policies are more efficient for “overdraft economies” than for “auto economies”, Hicks wrote. “In a pure overdraft economy, where firms kept no liquid reserves, they would be wholly dependent, for their liquidity, on the banks. The liquidity of business would be directly controllable by the banks.” (Hicks, 1974, p.54). However, monetary authorities can still have a control over firms' investments in the “auto economy”. The control would have to be on the spectrum of assets on financial market, because the firms hold assets in their reserves. This side of Hicks's thought deals with his theory of long-term rates, which is developed in other papers (Brillant, 2014, 2015).

VIII. CONCLUDING REMARKS

Hicks's credit theory is the result of several influences. His description of the money market, where the central bank fixes the price of bills against cash, links him to the tradition of Thornton and Hawtrey. This filiation to more ancient authors enables to understand several elements in Hicks's thought: his theory of short-term rates, (reflecting the convertibility of bills against money), his vision of the central bank and his rejection of the Monetarist thesis in favour of monetary rules. The central bank, which influences the short term rates of interest on the market for bills, exerts a control by fixing its discount rate. It intervenes at any time by issuing legal tender notes against high quality bills and supplies the liquidity that businesses need during the process of production. By controlling the price of the access to money, the central bank can reduce the instability of credit. The substitutability between bills and money should not be broken too sharply in order to avoid liquidity crisis and panics on markets. Hicks's interest for Thornton and Hawtrey's thoughts can be understood as a way to counteract the Monetarism. Hicks was worried of bad effects of monetary rules limiting the quantity of money in the economy. Friedman and his partisans were in favour of those rules, and their influence was growing in the sixties. In the conclusion of the French translation of *Crisis in Keynesian Economics* (1988) Hicks is clearly against Monetarism. According to Hicks, the adoption of monetarist measures had reduced the confidence of businesses in the capacity of the banking system to supply funds. Those measures strongly contributed to the rise of a market-based funding – which characterizes an “auto economy”, where businesses raise funds thanks to their financial assets holdings – and to a decline of a banking-funding – characterizing an overdraft economy. This increased the exposure of businesses to the volatility of financial markets, and even more in a context of floating exchange rates.

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