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► **To cite this version:**

Lucy Brilliant. Hicks's Theory of the Short-Term Rate of Interest and Thornton and Hawtrey's Influences. *Journal of the History of Economic Thought*, 2019, 41 (3), pp.393-410. 10.1017/S1053837218000482 . hal-01794570

**HAL Id: hal-01794570**

**<https://hal.science/hal-01794570v1>**

Submitted on 6 Sep 2019

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# HICKS'S THEORY OF THE SHORT-TERM RATE OF INTEREST AND THORNTON'S AND HAWTREY'S INFLUENCES

Lucy Brilliant<sup>1</sup>

“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 proposed an endogenous theory of money from the 1960s until his final book *A Market Theory of Money* (1989). He developed a theory of credit, and a theory of short-term rates of interest that had been neglected in his earlier writings such as *Mr Keynes and the Classics* (1937). In that early article, Hicks concentrated on the market for cash balances and the motives for the demand for money, while leaving aside the money market and the clearing function of banks. In the 1960s, Hicks was largely inspired by Henry Thornton (1802) and Ralph George Hawtrey (1913, 1919). The originality of this paper is to interpret the short-term rates as the price of liquidity, and to examine Hicks's fight against restrictive monetary policies in the 1960s–1970s in Britain.

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 in which money was created to cancel debts, and in which banks played a crucial role; he concentrated instead on the market for cash balances and the motives for the demand for money. Generally in the 1930s, Hicks focused on long-term rates of interest. In *Value and Capital* (1939), for instance, Hicks completed and extended Keynes's theory of the term structure of interest rates (as studied in Brillant, 2018). This present paper focuses on the "older" Hicks who, between *Critical Essays in Monetary Theory* (1967) and his final book, *A Market Theory of Money* (1989),<sup>2</sup> analysed the formation of short-term rates of interest. Axel Leijonhufvud (1981, p.40 and 1984, p. 26), Giuseppe Fontana (2009, p. 73), Jean François Goux (1990), David Laidler (in *The Legacy of John Hicks*, Harald Hagemann, 1995) and Perry Mehrling (2017) have all underlined Hicks's interest in credit and banking theory since the 1960s. Jérôme De Boyer and Ricardo Solis (2003, p. 11) and Sylvie Diatkine (2003) wrote that Hicks's final book analysed the function of the lender of last resort, and that it should be likened to Hawtrey's and Thornton's contributions to monetary theory.

Considering this literature, this paper links Hicks's theory of money and credit to both Thornton's and Hawtrey's thinking. This filiation enables us to give some coherence to Hicks's theory of interest rates, from *Value and Capital* (1939) to *A Market Theory of Money* (1989).

This paper also deals with monetary policy. In the thinking of Thornton, Hawtrey and Hicks respectively, the "instability of credit"<sup>3</sup> results from the functioning of credit economies. Credit is unstable because of the behaviour of traders in commodity markets and not because of monetary mismanagement. The authors thought that it was better to deal with credit instability by adjusting interest rates rather than placing controls on the quantity of money. Hicks's interest in both Thornton's and Hawtrey's theories grew in the 1960s as he sought to counter the monetary plan of Milton Friedman (1968).<sup>4</sup> Hicks thought that Thornton's monetary ideas could "help out the field" (Hicks, 1967, p. viii). He was against restrictive monetary policies in England to fight high inflation, because in his view inflation was not the result of monetary forces.

The plan of this paper is as follows. The second section analyses the functioning of a credit economy which is present in the thinking of Thornton, Hawtrey and Hicks. In the third section we focus on the nature of money. Money and credit are two different concepts. Hicks's "two spheres of circulation" (1989, pp. 49-51) enable us to grasp this difference. The fourth section concerns the role of the banking system. The fifth section tries to impart some coherence to Hicks's theory of interest rates, from *Value and Capital* (1939), focusing mainly on long-term rates of interest, to his final book *A Market Theory of Money* (1989), where a complete theory of the short-term rates of interest appears. The sixth section deals with the necessity to manage the instability of credit, and the seventh section presents Thornton's and Hicks's sceptical views of monetary rules. The eighth section is about Hicks's fight against overly restrictive monetary policies to combat the high inflation rate in England in the 1960s–1970s. The ninth section concludes.

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<sup>2</sup> Other important books we could refer to are *Crisis in Keynesian Economics* (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 1930s, did not stress this side of economic theory, which is why we choose not to introduce them in this paper.

<sup>3</sup> The term "instability of credit" first appeared in Hawtrey's *Good and Bad Trade* (1913, Chapter 7).

<sup>4</sup> More generally, Hicks refuted several "monetarist" theses. Notably, Hicks did not believe in Friedman's and Schwartz's empirical relation directly linking growth in the quantity of money and the value of income (Hicks, 1967, p. 15).

## II. "THE MARKET MAKES ITS MONEY"

"The market makes its money" is a chapter of *A Market Theory of Money* (Hicks, 1989). In it Hicks discussed commercial bills, a means of exchange, which precede the creation of money. In doing so, Hicks developed a theory of credit very similar to the theories of earlier authors like Thornton in 1802 and Hawtrey in 1913 and 1919. Money is created after credit, and is endogenous to the productive sphere.

Thornton, Hawtrey and Hicks all analysed the workings of a credit economy before introducing money. Notably, they all left aside spot transactions in the economy. During the process of production there is a time spread between the delivery of goods and the delivery of money. The exchange of goods against money is not immediate and, usually, the producer gets paid after a certain lapse of time. Thornton<sup>5</sup> took the example of a manufacturer who delivers goods to a farmer who is unable to pay on the spot, because the crop (the agreed means 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 trust. For 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 in 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 to employees until they pay their wages (Hawtrey, 1919, p. 453).

Trust on the bill market is necessary for merchants to trade with each other, and for employees to work before receiving their wages. Merchants must trust the capacity of other merchants to honor their promises. Without trust, orders would not be placed 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, too, 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 depended on the credit risk of the issuer/borrower, and on the information to which lenders have access. The level of trust affects the rate at which lenders accept to lend funds (Hicks, 1989, chapter VII, p. 62, and see also p. 48).

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

Some clarifications about the terminology may be useful with respect to Thornton and Hawtrey's thinking. In Thornton's thinking, commercial bills and money in the form of

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<sup>5</sup> Friedrich Von Hayek and Jacob Viner contributed to a rediscovery of Thornton's works (as Skaggs explained in the *Canadian Journal of Economics*, 1995). At the time Hawtrey wrote, Thornton was still a novelty: "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." (1938, p. 3). As we shall see, Hawtrey's and Thornton's monetary theories share common features.

precious metal can be defined as money (see Neil T. Skaggs, 2008, p. 457 quoting Thornton, 1802, p. 139). A bill of exchange is a commitment from one merchant to another to pay his debt at some future date. The value of a bill depends on the confidence in the capacity of its issuer to honor his commitment. The greater that confidence, the more funds the borrower can obtain.

Hawtrey's concept of money and credit is less easy to understand than Thornton's. It is clear that money includes legal tender notes (exchangeable against gold by the Bank of England), as in Thornton's thinking. As explained by Laidler, the notion of credit refers to two different operations: discounting commercial bills or depositing money in a bank account (termed "demand deposit" by Hawtrey) (Laidler, 1999, p. 113). It seems obvious enough that commercial bills are a form of credit. They are held as assets on the balance sheet of any purchaser of commercial bills. The logic is less straightforward for the other meaning of credit. Bank deposits appear on the liabilities side of the bank's balance sheet. A merchant can pay for his debts by issuing a check in an amount that will be debited from his account. This would reduce the liabilities side of the bank's balance sheet. So far, bank deposits seem to be money. Let us try to understand why Hawtrey considered bank deposits to be credit. Bank deposits increase when a commercial bill is purchased by a bank, or when a bank makes an advance to a merchant.<sup>6</sup> There is a link between bank operations and the "unspent margin" which is "the aggregate of the money and bank deposits in the community"<sup>7</sup> (Hawtrey, 1927, *Gold Standard in Theory and Practice*, p. 11). In 1932, Hawtrey wrote that "a larger proportion of people's cash resources have been held in the form of currency and a smaller proportion in the form of bank credit than in other wealthy countries" (Hawtrey, p. 198). It is now possible to state that, in Hawtrey's terminology, bank deposits mean "bank credit".

### III. THE NATURE OF MONEY AND THE ROLE OF BANKS

In the thinking of Thornton, Hawtrey, Keynes and Hicks, 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). Hawtrey wrote that money "has to provide the means for the legal discharge of a debt" (Hawtrey, 1919, p. 15-16). Hicks attributed 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).<sup>8</sup>

In 1989, Hicks introduced a theory of the two spheres of circulation, which was very similar to that of Adam Smith in the *Wealth of Nations*.<sup>9</sup> The first sphere is made up of merchants only; Hicks called 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 money to purchase goods only. Hicks wrote that only the "outside" sector uses money, because the "inside" sector uses bills only (Hicks, 1989, p. 51).

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<sup>6</sup> "But what happens in the case of currency? The 'supply' is the unspent margin, which can be increased by increased borrowing from the banks" (Hawtrey, 1919, p. 198).

<sup>7</sup> Laidler defined Hawtrey's unspent margin as "money holdings in modern terminology" (1993, p. 1073).

<sup>8</sup> Hicks shares 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).

<sup>9</sup> "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)

On the boundary between the two sectors, two kinds of financial intermediary are at work, 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 their need for money, while they need cash in order to pay their workers' wages. The first kind of intermediary has as its function to purchase bills and provide money to merchants. 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 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 he happens to hold (Hicks, 1989, Chapter VI, p. 49).

A similar presentation of bill discounting appears in Hawtrey's *Currency of Credit* (1919). Hawtrey illustrated 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, money is often required in the course of the production process. In this situation, the merchant can sell his bills to a bank, which purchases 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 introduces "a necessary element of elasticity into the merchant's business" (Hawtrey, 1919, p. 217-218). In purchasing bills, banks provide liquidity to merchants. Hawtrey explained this in *Good and Bad Trade* (1913, p. 77) and also *Currency and Credit* (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). For his part, 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 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 (Hicks, 1974, p. 54).

Banks ease the circulation of credit within the economy when issuing bank notes. Hicks and Thornton shared the view that the more merchants trust banks, the more trade occurs. The presence of banks, Hicks explained, enlarges the circle of borrowers in the economy. Without banks, interest rates charged on bills would be higher, because merchants would have less confidence. The existence of banks reduces the level of risk in the rate of interest, because

they give a commitment to cover the risk of default by the bill issuer (Hicks, 1989, p. 57 and p. 95).

#### IV. THE CENTRAL BANK IS A DEALER IN BANKERS' DEBTS

Hicks took an interest in Thornton's vision of the central bank, because Thornton was considered to be the first to have developed an advanced theory of central banking (Hicks, 1967). Other authors, like Hawtrey (1938, p. 3), Rist (1938, p. 422) and more recently Meltzer (2003, p. 20, p. viii) have also pointed out Thornton's pioneering contributions.

Although the term "lender of last resort" does not figure in Thornton's writings,<sup>10</sup> the notion appears in Chapter 4 of *Paper Credit* (1802) on the "Nature of the Bank of England". An important role of a 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 panic among 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 used the term "lender in last resort" for the first time in the second edition of *Currency and Credit* (1928, as noted in de Boyer and Solis, 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 of the issue of bank notes, which are used as a means of payment. Legal tender notes represent the debt of the central bank, because it can be exchanged against gold on demand:

A Bank of England note remained nothing more 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 legal tender can be unlimited – even if Hawtrey was not in favor of the unlimited issue of credit, as we shall see in Section 6 – in order to restore confidence in 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 works as follows. Let us suppose the central bank raises the discount rate. This forces the discount houses to charge correspondingly higher rates for discounting bills. And because commercial banks are used to converting bills against cash only through the channel of the discount market, the credit squeeze is felt by banks through the discount houses' window. The rate of discount of the discount houses is adjusted "from hour to hour" in accordance with the supply and demand for bills. When the discount houses are short of cash, they can rediscount bills for cash at 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) thus follow the Bank rate (Hawtrey, 1919, p. 228). So, in Hawtrey's thinking, 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

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<sup>10</sup> 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 coined it in 1797.

(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 Hawtrey wrote, financial markets were more developed than in Thornton's day. The central bank could reinforce its Bank rate policy with open-market operations: "It is the function of the sales of securities to make the Bank rate effective" (Hawtrey, 1932, p. 151). Asset purchases increase the central bank's liabilities, and also bankers' deposits. Banks are then encouraged to increase their discount. In his writings, Hawtrey was very supportive of open market operations in the United States and in favor of their 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 guarantee this substitutability, and to set a price for it. Hicks also acknowledged Hawtrey in considering the importance of such substitutability between bills and money (Hicks, 1969, p. 309; 1977, p. 120 and 1989, p. 112). Hicks's theory of credit is an extension of the theories of Thornton and Hawtrey. The central bank deals in banks' debts; one of its main functions is to exchange bills against bank notes in order to respond to banks' need for cash (Hicks, 1967, p. 13-14).

Despite the substantial influence of Thornton and Hawtrey on Hicks, Hicks' contributions to central banking theory go beyond merely repeating what Thornton and Hawtrey had already written about an "art" of central banking. In the 1960s, Hicks was concerned with explaining why short-term rates could not fall below a certain level, as developed in the next section.

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

While Hicks's early writings (in the 1930s) are mainly concerned with extending and supplementing Keynes's theory of the long-term rate of interest,<sup>11</sup> his attention turned to the determination of short-term rates of interest in the 1960s. Indeed, Hicks's interest in 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 his theory, long-term rates reflect the yield on long-term assets, whereas short-term rates deal with the yield on shorter-term assets. This section offers an interpretation of the short-term rates of interest in Hicks's thinking.

While supporting Thornton's and Hawtrey's thinking, 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, 2013, p. 726).<sup>12</sup> However, in Hicks's view, such a connection cannot be established. Although "market rates" can be considered short-term rates,

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<sup>11</sup> See Brillant, 2014 for further explanations.

<sup>12</sup> 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 then 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) wrote that Wicksell's 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).



they do not represent a deposit rate. The latter is of prime importance as it acts “as a minimum to the system of interest rates” (Hicks, 1989, p. 107).

Hicks's emphasis on Wicksell's rate of profit (representing the expected rate of return on real investment) is not involved in determining the floor to the short-term rates of interest. What is involved is the liquidity preference, from Keynes's theory, and the endogenous vision of money from Thornton and Hawtrey's works. The “two rates” to which Hicks referred are the rate at which agents borrow funds from one “ring”, and the rate at which they lend funds to another “ring”.

Let us set out Hicks' framework. Three kinds of dealers belonging to “different rings” (1967, p. 58) are considered: merchants, banks and the central bank. Bills are created in the sphere of merchants, and banks supply liquidity by exchanging 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 can raise its discount rate. The substitutability of bills against money then diminishes. Short-term rates of interest therefore reflect the price of the conversion of bills against money: “[t]he 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). Even if the central bank reduces its discount rate to zero, the price of bills against money is not zero. Even perfectly safe bills still stand at a discount (Hicks, 1989, p. 51). This is due to the liquidity preference of financial investors:

[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, 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). 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 was silent about 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 before the maturity date, because the market price of bills may have fallen. The “cost of investment” to which Hicks referred is the price at which bills are convertible against cash. The lower the price of 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 holder converts 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 moneyness” (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. FOR QUANTITATIVE CONTROLS OF MONEY TO CHECK THE “INSTABILITY OF CREDIT”?<sup>13</sup>

Hicks classified himself, with Hawtrey and Thornton, in the Banking School tradition (Hicks, 1967, p. viii) because money is endogenous in their respective theories. However, Hicks was not entirely right in linking those authors with the tradition of the Banking School which was a supporter of the real bill doctrine. Both Thornton and Hawtrey 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” (1802, p. 136).<sup>14</sup> By Hawtrey's account, it is the demand for loans by traders to finance stocks which engenders credit cycles. If traders expect an increase in commodity prices, they order commodities from producers and increase their stocks with borrowed money. The rise in production engenders a rise in consumer income and outlay, and the demand for goods increases as well. A cumulative process is at work. The “instability of credit” is generated by traders' demand for loans, which “gives rise to a chain of debts” (Hawtrey, 1919, p. 453). By extending loans without limits, the central bank can fuel an over-expansion of credit, which may affect the wealth value of the monetary unit (Hawtrey, 1919, p. 14).

While Thornton and Hawtrey's analysis looks like Wicksell's two-rates theory, their theories should not be confused. The profit rate described by Thornton and Hawtrey is the return on short-term investments, whereas in Wicksell it represents the return on long-term investments (Laidler, 1999, p. 123 and pp. 130-131, and 2003, p. 23). Similarly, Mésonnier wrote that Wicksell's “natural rate” and Thornton's “mercantile profit rate” are separate concepts 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). He wrote that “A monetary system – a sophisticated monetary system, with much fluidity – is inherently unstable...” (Hicks, 1982, p. 275). The instability stems from the private sphere, as Hicks explained in *A Market Theory of Money* (1989). Hicks agreed that monetary authorities should aim at reducing the inherent instability of the credit economy. However, Hicks criticized the use of monetary rules for addressing instability. This instability “frightened” (Hicks, 1967, p.159) the successors of the Currency School “Ricardo and his contemporaries” (Hicks, 1967, p. 159) and also Friedman (Hicks, 1967, p. 167).<sup>15</sup> According to Hicks, monetary rules were for Friedman a way to manage the instability of credit. Friedman was indeed in favor of “a legislated rule instructing the monetary authority to achieve a specified rate of growth in the stock of money” in *The Role of Monetary Policy* (1968).<sup>16</sup> However, according to Hicks, “to fall back on rules, making the monetary system mechanical, is a confession of failure” (Hicks, 1967, p. 187).

<sup>13</sup> On the origin of the term, see footnote 2.

<sup>14</sup> “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)

<sup>15</sup> 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). Schumpeter before Hicks already drew on two similar schools of thought in his *History of Economic Analysis* (1954, III, p. 700): the “metallist doctrine” linked to the Currency School (Ricardo was its precursor), and the contributors to the Banking School with Thornton as its precursor.

<sup>16</sup> In this book Friedman advised limiting and fixing the issue of fiduciary money in order to limit the rising level of inflation: “My own prescription is still that the monetary authority goes all the way in avoiding such swings

Hicks, like Thornton in 1802, is sceptical about defining monetary aggregates.

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 that 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)

Direct control of 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" – bills and other short-term assets – for money, even if the price of such convertibility is very high. It is better to fix a price to access money instead of cutting off the supply of money. On this issue Hicks wrote that "if the convertibility were lost, the quasi-monies cease to be liquid; the liquidity crisis which would then develop could pass all bounds" (1982, p. 265-267). Given the importance which Hicks attributed to interest rate controls, he could not agree with Friedman's monetary rule. He wrote that "it is not at all easy to see how the volume of money, in the narrow sense, could be controlled, without damaging that convertibility" (1982, p. 265-267).

Here again, Thornton was not a proponent of monetary rules that might lead to confidence crises. According to Skaggs, Thornton did not consider a direct link between the quantity of money and the level of prices (2008, p. 457). 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 from monetary shocks. If the economy has exceptional expenses (a rise in imports due to a 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 "very great and sudden diminution of Bank of England notes" (1802, Chapter V, p. 59). 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 production process. A reduction in the quantity of money can lead to a reduction in the level of prices, but not systematically to a rise in 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, a reduction in the quantity of money reduces the confidence in paper credit, which depresses merchants' willingness to make future investments (Thornton, 1802, Chapter V, p. 59).

A contraction of the issue of bank notes of the sort supposedly encourages private agents to create a new circulating medium in order to continue their operations with merchants. A new circulating medium would be created by the market itself, as Thornton explained (1802, p. 60). The policy of limiting the quantity of fiduciary issues might discourage trade in the short run, but the market could find a new medium of exchange to continue trading.

To claim that Hawtrey opposed monetary rules would not accurately reflect his thinking. Even if instability does not stem initially from the banking system, but from the behaviour of traders, the central bank can dissuade new borrowers by raising its discount rates and also by reducing the issue of money. This is the main policy proposed by Hawtrey in *Currency and Credit* (1919) but also in his books written in the 1930s (*The Art of Central Banking*, 1932, and *A Century of Bank Rate*, 1938). However, after the Second World War, Hawtrey

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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)

advocated currency controls. Evidence can be found in Hawtrey's archives held at Churchill College (University of Cambridge, England), in a "Manifesto" promoting monetary restrictions in order to reduce the rate of inflation in England (draft for basis of discussion, "Measures to combat monetary instability").<sup>17</sup> "Hawtrey's papers" contain correspondence between Hicks and Hawtrey on the issue of high inflation, especially in as much as it threatened the British economy. Hicks wrote three replies to Hawtrey's letters. Hawtrey, for whom "inflation is a monetary malady" (letter of 12 March 1948), was in favor of monetary restrictions. Policies of high short-term rates would fail to reduce the rate of inflation because public borrowing was too high.<sup>18</sup> Hicks declined to support Hawtrey, writing that "I don't feel at all happy about so predominantly a monetary approach to the problem" (Hicks, in Hawtrey's Manifesto, Hawtrey's Papers, Churchill College, University of Cambridge).

## VII. IN FAVOR OF DISCRETIONARY POLICIES

Hicks repeatedly acknowledged the use of discretionary policies to deal with the instability of credit, in line with Thornton'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 conceded that it was impossible to find perfect safeguards against instability, because monetary institutions were 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 be based on considered judgement and not on an unbendable 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 argued that the central bank should be allowed to fix its discount rate at a higher level in order to slow down credit expansion. Although Thornton discussed the dangers of an over-issue of Bank notes (leading to the market price for gold being lastingly above its legal price),<sup>19</sup> 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 was in deficit (or in the event 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, p.3, see footnote 5 of this paper):

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

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<sup>17</sup> "Hawtrey's papers" contain correspondence between Hicks and Hawtrey in 1948. Hawtrey sent a "Manifesto" in January 1948 to several economists of the time (Clay, Hicks, Meade, Robertson and Robbins among others) expressing the need to fight against the threat of inflation by monetary restrictions. Those papers can be found in Box HTRY 6/6/6 in Hawtrey's papers at Churchill College, Cambridge.

<sup>18</sup> "I need hardly say that I agree as to the importance of short-term rates. But when there is an excess of money created against Government borrowing, the efficacy of high short-term rates is impaired or even destroyed" (Hawtrey, in the letter of 12 March 1948).

<sup>19</sup> There is a risk... "to produce the evils of a 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).

of credit could affect the stability of the monetary unit, by engendering a decrease in the value of money as Hawtrey explains (1919, p. 14).

In his writings of the 1930s, Hawtrey was more in favor of interest rate policies than direct currency controls to limit the instability of credit, while after the Second World War he encouraged the use of currency restrictions. In *The Art of Central Banking* (1932) he developed a theory of central banking in which interest rate policies could reduce instabilities and smooth the business cycle. The central bank should be able to induce credit expansion, while refraining in the event of over-expansion (Hawtrey, 1919, p. 152). A rise in 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 together lead to a reduction in orders from traders (who hold stocks) to producers. The level of private investment falls, as does 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 should be seen more as an advocate of interest rate policies than of monetary controls (Deutsher supports this idea, 1990, p. 38), as this quote shows:

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)<sup>20</sup>

The use of discretionary policies is more suitable to a credit economy than hard and fast policy rules, as Hawtrey argued (1923, p. 143). “The central bank must exercise discretion” Hawtrey continued (1923, p. 143), and should be able to reduce its discount rate, even before the depressing effect on prices of an economic slump.

In *Automatists, Hawtreysians and Keynesians* (1969), Hicks argued in favor of short-term monetary policies. He referred directly 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 appears clearly in *The Crisis in Keynesian Economics* (1974). Those policies were more efficient for “overdraft economies” than for “auto economies”, Hicks argued. “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 could still have control over firms' investments in the “auto economy”. The control would have to cover the spectrum of assets on the financial market, because firms hold assets in their reserves.

## VIII HICKS'S LACK OF REMEDIES AGAINST INFLATION IN THE 1960s–1970s

In the 1960s and 1970s, the economies of western countries were characterized by high rates of inflation and unemployment. The policies encouraging economic growth since the Second World War were blamed for rises in commodity prices and unemployment. Well aware of those problems, and recognizing that high rates of inflation were bad for the economy, Hicks

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<sup>20</sup> Hawtrey also wrote about credit controls in *The Art of Central Banking* (1932, pp. 279-280).

wrote of economic policy that “Something, it seemed clear, had gone wrong” (Hicks, 1974, p. 3).<sup>21</sup>

Hicks did not think that restrictive monetary policies could reduce the inflation rate to reasonable levels for three reasons. First, because the nature of money was to be subordinated to credit, one major role of the banking system was to respond to the liquidity needs of the commercial sphere, needing it to synchronize cash-inflows with cash-outflows. Short-term rates should not then be raised too sharply, or the convertibility of short-term bills against money might be broken. This could seriously damage firms (1982, p. 265-267).

Second, restrictive monetary policies are not efficient when short-term rates are too high, which was the case of England in the late 1960s. The reason involves the power of the central bank over the term structure of interest rates, which cannot be effective in the event of high rates of interest and inflation. Financial speculators, in normal times, make arbitrages by purchasing long-term financial assets and selling short-term ones (or the other way round, depending on expectations). Hicks considered short-term assets to be money at the bottom edge of the asset spectrum. Announcements by the central bank, which are normally a key factor influencing portfolio decisions of speculators, would not be successful if those agents did not hold liquid assets. In the 1960s, with 10–20% short-term rates, “no prudent operator will hold his reserve in the form of cash, if he can find way of avoiding doing so” (1982, p. 263). There was a “flight from cash” (Hicks, 1982, p. 264). In normal times, expectations of a rise in short-term rates (or rise in long-term rates if the central bank announced a sale of long-term bonds) would suffice to encourage speculators to sell long-term assets in order to buy short-term ones; then, the rise in the long-term rate would depress new investments and prices. But in a situation where a speculator has integrated in his/her expectations that short-term rates will remain high and growing, “it will be better for him to borrow, even at such high rates, when he needs to do so, than to sacrifice the yield which he could get from holding shorts, all the time, when immediate cash is needed” (Hicks, 1982, p. 263-264). In addition, because long-term rates were higher than short-term ones, (even in this abnormal situation of overall high rates), a profit was still obtainable by borrowing short and buying long-term bonds.

Third, Hicks considered that inflation was the result of real phenomena: (1) the wage-claims of workers (Hicks, 1982, p. 201) and (2) the rise in import prices “which implies a reduction in the real wages that British labour was able to earn” (Hicks, 1989, p. 33 and see also Hicks in Johnson, 1991, p. 107). (1) Not ignoring that inflation can be generated by an abundance of money in the economy – leading to “demand-pull” factors (Hicks in Johnson, 1991, p. 161) – Hicks considered that the high rate of inflation was mainly the result of the actual determination of wages in the labour market – a cost-push factor. In *The Crisis in Keynesian Economics*, Hicks presented a “wage theorem” according to which rising commodity prices derive from rising money wages (1974, p. 73).<sup>22</sup> Wage differentials among workers lead to wage-claims because “anyone, on some comparison or other, feels left behind” (1974, p. 71).<sup>23</sup> Hicks gave other reasons why workers might claim higher wages in *Money, Interest*

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<sup>21</sup> The preceding paragraph reads: “There can yet be no doubt that the boom was associated, in the minds of many, with the Keynesian policies; so when, at some date in the late sixties (varying from country to country), the boom itself began to falter, the authority of the policies that were supposed to have led to it inevitably began to be called in question. Instead of producing real economic progress, or growth, as they had for so long appeared to do, they were just producing inflation.” (Hicks, 1974, p. 3)

<sup>22</sup> “The quantity theory begins from a change in money supply; the wage theorem begins from a change in the level of money wages.” (Hicks, 1974, p. 73)

<sup>23</sup> Hicks continues: “The electricians get a rise, so the gasmen must follow; but when the gasmen get their rise, it is the electricians who feel themselves to be treated unfairly. In terms of just two industries, the behaviour sounds exaggerated; but generalize it over many, and is it not what happens? Is not this the inflation, which is

*and Wages* (1982, pp. 200-204). Under the classical Gold Standard, such wage-claims were not possible, because the Bank of England had to counteract the growth of commodity prices by raising its discount rate (in order to avoid the fall in the value of money which would drain gold, because of arbitrages, from Britain), in order to protect its reserves of gold. Variations in the discount rate impacted the price of commodities and wages, acting therefore as a safeguard against inflation. The "Labour Standard" succeeded the gold standard era, with an inflationary bias (Hicks, 1982, p. 196).<sup>24</sup>

On the whole, Hicks did not provide clear solutions to fight the price pressure in England. From his correspondence with Hawtrey in the late 1940s (found at Churchill College) until his last book *A Market Theory of Money* (1989), he remained an opponent of monetarist prescriptions to fight inflation. Hicks' opposition to overly restrictive monetary policies interested Laidler in *The Legacy of John Hicks* (in Hagemann and Hamouda, 1994, p. 159). In *The Crisis in Keynesian Economics*, Hicks was not sure that "fiscal or monetary expansion must make inflation worse" (1974, p. 80). High rates of inflation in England were mainly due to the rise in import prices and to wage-claims. Those factors were not the result of excessive issue of money according to Hicks. Although he encouraged the strengthening of the economy in order to withstand high inflation rates, he did not propose concrete economic policies:

So perhaps what is bad about inflation is principally not its effects – the losses of 'convenience and security' to which older economists gave so much attention – but the weakening of the economy, which is the cause of the evil. If that is cured, inflation, with only a little help from monetary policy, will cure itself. (Hicks, 1989, p. 135)

## IX. 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 earlier authors provides an interpretation of Hicks's theory of short-term rates, his vision of the role of the central bank and his rejection of excessively severe disinflationary policies in the 1960s. Those ideas can be summed up in three points. First, the central bank intervenes at any time by issuing legal tender notes against high quality bills and supplies the liquidity that businesses need during the production process. By varying the discount rate, the central bank should seek to reduce the instability of credit. Second, when conducting a restrictive monetary policy, the central bank should take care not to break too sharply the substitutability between bills and money on the market for bills. Such a policy could generate panics on markets. Third and finally, Hicks's interest for Thornton can be understood as a way to counteract Monetarism, because he did not establish a systematic relation between the quantity of money and the level of prices (Skaggs, 2012, p. 457). Hicks was worried that overly severe monetary restrictions would disrupt the working of the market for bills. Hawtrey, but also a monetarist like Friedman, was also in favor of those policies, writing that "inflation is a monetary malady" (Letter of 12 March 1948, "Hawtrey's Paper", Churchill College). Hicks considered, however, that post-war inflation was mainly the result of non-monetary forces.

Unable to support deflationary policies, Hicks was very critical of restrictive monetary policies. The adoption of monetarist measures, he wrote, had reduced business confidence in

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perfectly consistent with trade depression, the 'stagnation-inflation' which was so widely experienced in 1970-1?" (1974, p. 71-72)

<sup>24</sup> "If we have to take it for granted that it is hardly possible, under the Labour Standard, for the money wages of any group of workers to be reduced, it follows that troubles about wage differentials can themselves be a cause of inflation." (Hicks, 1982, p. 202, italics in original)

the capacity of the banking system to supply funds. Those measures contributed greatly to the rise of market-based funding – which characterizes an “auto economy”, where businesses raise funds thanks to their financial assets holdings – and to a decline in banking-funding – characteristic of an overdraft economy. This increases the exposure of businesses to the volatility of financial markets, and even more so in a context of floating exchange rates (Hicks in the conclusion to the French edition of *The Crisis in Keynesian Economics*, 1974). However, other than blaming monetarists prescriptions, Hicks failed to come up with alternative policies.

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