A note on the notions of risk-premium and liquidity-premium in Hicks’s and Keynes’s analyses of the term structure of interest rates

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1. Introduction

Brillant’s paper provides an interesting comparison between Keynes’s and Hicks’s views on the term structure of interest rates under uncertainty, offering the opportunity for clarification of their notions of risk-premium and liquidity-premium in this context.

A preliminary remark may help here: while Hicks’s (1939) Value and Capital contains a complete theory of the yield structure, in Keynes (either in the Treatise or in the General Theory) there is no systematic treatment of the subject, but only scattered remarks made while presenting his theory of the interest rate. Since in Hicks’s analysis of the relation between long-term and short-term interest rates both the notions of risk-premium and liquidity-premium were drawn from Keynes, two questions arise: (i) Is Hicks’s extension and systematisation of Keynes’s scattering views on the matter in line with Keynes’s own thought? (ii) More specifically, what are the similarities and differences in their approaches to the determination of the term structure?

This investigation seems particularly worthwhile since there is a strand of literature, originated by Modigliani and Sutch (1966), where Hicks’s and Keynes’s explanations of the term structure are considered almost identical and both assimilated to the notion of ‘preferred habitat’. This view is endorsed by Brillant, who states that this ‘concept […] is part of
both Keynes’ and Hicks’ theories’ (Brillant 2014). A full treatment of the issue is far beyond the limited scope of this note; we hope, however, to offer some evidence to challenge the claim that this notion captures the spirit of both Keynes’s and Hicks’s analysis of the term structure of interest rates.

2. The notion of risk-premium in Hicks’s theory

When Hicks (1939) provided a theory of the term structure of interest rates in *Value and Capital*, he found some inspiration in Keynes’s work, not—as should have appeared more natural—in Keynes’s theory of interest based on his liquidity-preference approach, but rather in the concept of risk-premium, as introduced by Keynes in his theory of commodity futures markets.

Hicks (1939, p. 141) considered a loan as the combination of a spot and a forward transaction, since one side of the bargain is executed currently, leaving the other side to be executed at some future date, or perhaps a series of future dates. These transactions account for the existence of the complex system of money rates of interest paid for different loans at the same date. Rates of interest may differ in either the length of time to maturity and the distribution of repayments over time or the risk of default by the borrower. Hicks (1939, p. 143) observes that ‘it is the second which is responsible for the element of “risk-premium” in interest rates as generally understood’. However, in his subsequent analysis, Hicks leaves aside the risk of default and uses the notion of risk-premium, as derived from Keynes’s theory of ‘normal backwardation’ on commodity markets, to provide an explanation of the term structure of interest rates.

According to Keynes’s analysis of commodity futures markets, there is a systematic excess of the current spot price over the futures price, which arises in ‘normal’ conditions when demand and supply are expected to remain unchanged and the spot price is substantially stable: this ‘normal backwardation’ represents the amount which hedgers have to hand over to speculators to induce them to take on the risks of unexpected price fluctuations, and hence may be interpreted as a risk-premium (see Fantacci, Marcuzzo, and Sanfilippo 2010). Hicks adapted Keynes’s theory of ‘normal backwardation’ to explain long-term interest rates in terms of speculation on the future course of short-term interest rates. Since the longer the maturity of a loan happens to be, the more serious is the risk of adverse movements in interest rates if it is necessary for the investors to rediscount it, ‘the long rate is normally likely to exceed the short rate by a risk-premium, whose function it is to compensate for the risk of an adverse movement of interest rates. This sort of risk-premium is fundamental to the difference between long and short rates’ (Hicks 1939, pp. 166–7).
The question then arises: Is Hick’s adaptation in line with Keynes’s views on the term structure of interest rates?

3. Keynes’s analysis of the term structure of interest rates

In fact, throughout Keynes’s writings, there is no explicit, systematic theory of the yield structure comparable to that which can be found in Value and Capital.

The Treatise dedicates a section to discussion of the relationship between short-term rates of interest and long-term rates of interest (Keynes 1930, pp. 315–24). This does not amount to exposition of a theory, but rather a series of observations on the actual functioning of the markets. The main argument is that long-term rates respond more than one might expect to variations in short-term rates. Keynes suggests that, in theory, there would be no reason to assume such a close relationship: ‘For whilst it is reasonable that long-term rates should bear a definite relation to the prospective short-term rates, quarter by quarter, over the years to come, the contribution of the current three-monthly period to this aggregate expectation should be insignificant in amount’ (Keynes 1930, pp. 315–6, italics added).

However, on the basis of empirical evidence, Keynes shows that both in the USA and in the UK short-term and long-term rates move more closely than would be reasonable to assume, and he undertakes to provide an explanation. A link between short-term and long-term yields is provided by the activity of arbitrageurs, and particularly of institutional investors, continuously adjusting the composition of their portfolios between long-term and short-term assets according to the relative yields. Moreover, expected short-term rates are linked to current short-term rates by the peculiar way in which expectations are formed in a context of uncertainty. ‘The ignorance of even the best-informed investor about the more remote future is much greater than his knowledge, and he cannot but be influenced to a degree which would seem wildly disproportionate to anyone who really knew the future, by the little that he knows for certain, or almost for certain, about the recent past and the near future, and be forced to seek a clue mainly here to trends further ahead’ (Keynes 1930, p. 323). On the basis of such assumptions, the expectations concerning future short-term rates will be strongly influenced by current short-term rates — much more strongly than would be warranted by actual knowledge about the future.

In the General Theory there is not even a specific section dedicated to short-term and long-term interest rates, nor any systematic treatment of their relationship. In fact, throughout most of the book Keynes discusses the rate of interest generically, without bothering to distinguish between short term and long term.
In any case, unlike Hicks, Keynes does not appear anywhere to assume that the long-term rate of interest is *systematically* greater than the short-term rate of interest. This does not mean, however, that he assumes them always to be equal. In fact, several passages in the *General Theory* underline the fact that the long-term rate of interest may, *under certain circumstances*, remain at a higher level than the short-term rate of interest. There are at work a series of factors that are indeed neither constant nor easily quantifiable and that have to do not only with the policy of the central bank (which may decide to focus its activity on short-term debts), but also with how public opinion perceives its policy (as being more or less reasonable, practicable, in the public interest, and carried out with conviction and authority) (Keynes 1936, pp. 202–3).

This explains why, when Keynes specifically addresses the term structure of interest rates in chapter 13, he is sceptical about the possibility of quantifying the premium required to induce investors to hold long-term rather than short-term assets: ‘The actuarial profit or mathematical expectation of gain calculated in accordance with the existing probabilities – *if it can be so calculated, which is doubtful* – must be sufficient to compensate for the risk of disappointment’ (Keynes 1936, p. 169, italics added).

It would therefore have been unconceivable for Keynes to derive the long-term rate of interest from the short-term rate of interest simply by adding a risk-premium, since the difference between the two was exceptional and unstable, depending not merely on the actual risk involved, but also on the confidence with which that risk was assessed.

4. Liquidity-premium in Hicks and Keynes

Hicks did not adhere to Keynes’s theory of liquidity-preference, i.e. the idea that the speculative motive was the key determinant of the demand for money in a context of uncertainty. He considered Keynes’s theory of interest – in this respect following Robertson (1937) in the famous controversy on loanable funds versus liquidity-preference, where the rate of interest is the price bringing the demand and supply of loanable funds into equilibrium - no more than a ‘special’ theory, which at least needed to be generalised.

As Brilliant reminds us, Hicks made the reason for his dissatisfaction with Keynes’s liquidity-preference approach explicit, in particular, with respect to the ‘bootstraps’ relation between short- and long-term interest rates (Hicks 1939, p. 164). His strategy to overcome the circularity implied by the liquidity-preference consists of two steps. The first step, as we have seen, consists of accounting for the long-term interest rate in terms of the short-term rate plus a risk-premium. The second step consists of accounting for the short-term interest rate in terms of a transaction costs: ‘The
various sorts of securities we have been considering — including money — behave in very much the same sort of way as a chain of substitute commodities, say different quality of wheat or sugar. Money is naturally the highest grade, and that is why other grades ordinarily stand at a discount relatively to money’ (Hicks 1939, p. 168). The ‘superiority’ of money is ascribed to the avoidance of the ‘troubles’ of making a separate transaction to convert into bills the money received in payment due to the ‘lack of general acceptability’ of bills, to ‘their imperfect moneyness’ (Hicks 1939, pp. 165–166).

In Keynes, however, the rate of interest — defined as ‘the reward for parting from liquidity for a specified period’ (Keynes 1936, p. 167) — is not merely equal to the transaction cost implied by turning a credit back into cash, but must also compensate the lender for the (indeterminate and unquantifiable) loss of ‘the potential convenience or security given by this power of disposal’ (Keynes 1936, p. 226). In other terms, for Keynes, what a person loses when holding bills rather than cash is not only the amount of money required to convert the bills into cash before being able to spend them, but the comfort and security of having a purchasing power which can be spent immediately without notice and for a certain predetermined amount. As Keynes explained in a letter to Hugh Townshend in 1938, ‘A liquidity premium […] is a payment, not for the expectation of increased tangible income at the end of the period, but for an increased sense of comfort and confidence during the period’ (Keynes 1938, p. 294).

In this perspective the difference between long- and short-term interest appears not as a risk-premium, but rather as a liquidity-premium. ‘The liquidity-premium […] is partly similar to the risk-premium, but partly different; — the difference corresponding to the difference between the best estimates we can make of probabilities and the confidence with which we make them’ (Keynes 1936, p. 240). In other terms, a risk-premium is the compensation for accepting exposure to risk, i.e. to a highly volatile probability of loss, whereas a liquidity-premium is the compensation for accepting exposure to uncertainty, i.e. to a possibility of loss that can be calculated only with a low degree of confidence, or not at all. The compensation to holders of long-term debts falls clearly into this second category.

In conclusion, while in Hicks’s analysis there is the idea of a yield curve normally upward sloping, Keynes does not appear to envisage a systematic positive spread between long-term and short-term interest rates. As Kahn (1954) remarked, in Keynes’s views the uncertainty which is at the bottom of the liquidity-preference should be understood in a deeper sense, since the expectations of economic agents which influence from day to day their choices between securities of different maturities can vary with change in the ‘degree of confidence’ they attribute to their opinions. This factor affects both the interest rate determination and the term structure.
As a final comment, we may mention that the concept of liquidity-premium lends itself to application also to situations in which the cash flow patterns diverge in the economy and some agents (typically banks) have to hold the risk which is not taken care of by the matching of the short and long positions in the loan market. As clarified by Mehrling and Nielson, ‘if more people want to lock in forward borrowing rates than want to lock in forward lending rates [...] the banking system is forced to hold a net long position and charges a premium for doing so’ (2014, p. 304). The liquidity-premium as compensation for specific ‘liquidity risk’ has its natural habitat not in ‘preferences’, but rather in systemic imbalances in transactions between borrowers and lenders which forward and future markets are unable to clear.

References


Abstract

While in Hicks’s analysis there is the idea of a yield curve normally upward sloping, Keynes does not appear to envisage a systematic positive spread
between long-term and short-term interest rates. This is mainly due a
difference in their notions of liquidity, and in particular to Keynes’s
disbelief in the possibility of quantifying the premium required to induce
investors to hold long-term rather than short-term assets. It follows that
Hicks’s and Keynes’s explanations of the term structure are neither
identical nor can be assimilated to the notion of ‘preferred habitat’, as
suggested in some literature.

Keywords
Risk-premium and liquidity-premium, Hicks, Keynes, long-term and short-
term interest rates
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