Capital quality and the illiquidity premium

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Article by Malcolm Kemp – 27 May 2010

The issue of whether to include an *illliquidity premium* in the valuation of illiquid long-term liabilities has shot to prominence recently. In this article I have not tried to explore the strength of the arguments for or against an illiquidity premium (or about how any such premium should be calculated). Interested readers are directed towards Kemp (2009) and CEIOPS (2010). Instead I have highlighted an element of the debate that I think has not (yet) gained the prominence that it deserves. This is the link between the valuation impact of any illiquidity premium and the 'quality' of capital that the entity concerned has to back its liabilities. Arguably, the 'asset' (liability offset) created by including an illiquidity premium is less resilient than some other asset types in a 'gone concern' situation. It may therefore be appropriate to limit the proportion of the entity's overall capital base that such an asset can form, as often applies to other assets exhibiting similarly limited resilience in such situations.

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1. The current debate on the illiquidity premium

The background to the meteoric rise in the perceived importance (to actuaries) of the illiquidity premium may be summarised as follows:

- Some insurers have material exposures to illiquid liabilities, particularly in annuity books. Annuity policies are typically considered to be highly illiquid and relatively long-term, because they cannot normally be cancelled. Many such insurers have 'matched' this illiquidity in their liabilities by investing in correspondingly illiquid assets, e.g. illiquid corporate bonds generating similar cash flow payment profiles to those required to meet the annuity liabilities as they fall due.

- These insurers have often also adjusted downwards the values they have placed on these liabilities, to reflect the perceived illiquidity yield premium available from investing in these assets. When commentators refer to the 'illiquidity premium' they are generally referring to the part of the overall yield spread (versus liquid highly rated government bonds) that is not perceived by the commentator to be merely a 'fair' compensation for the extra credit (i.e. default) risk carried by corporate bonds (or for the uncertainty in the future magnitude of this risk) but reflects differences in the current (and future) *liquidity* exhibited by these instruments.

- Insurers have adjusted valuations of illiquid liabilities in this type of fashion not just in solvency valuations but also when pricing annuity policies, including bulk annuity purchases that pension funds might wish to make.

- Even small differences in annualised yield spreads can compound to large differences in liability valuations. At the height of the recent credit crisis some commentators estimated the magnitude of the liquidity premium as in excess of 2% pa. This might equate to, say, a c. 20 – 30% change in value for an illiquid liability with a c. 10 to 15 year average duration. The impact of the illiquidity premium can be substantial both for sellers of such policies (insurers) and for buyers (pension funds as well as individuals).

- Although the recent financial crisis is most commonly referred to as a *credit* crisis, it could arguably be better described as a *liquidity* crisis. The banks that failed were disproportionately ones that relied on the wholesale markets for their funding. It was when these funding sources dried up that they ran into problems, because they were then unable to source the liquidity they needed to continue as going concerns.

- As a result, regulators have become much more focused on liquidity risk. This applies not just to banking regulators. Last autumn, EU insurance regulators (CEIOPS) preparing for Solvency II proposed that for regulatory capital purposes EU insurers should value annuity liabilities by discounting at a 'risk-free' discount rate derived from highly rated government bonds, i.e. *without* including an illiquidity yield premium.

- Predictably, some insurers with large annuity books lobbied hard to have this stance reversed, claiming that it might require an extra £50bn of capital and lead to reductions in annuities to pensioners by between 10 and 20 per cent according to e.g. The Times (2009). The Association of British Insurers went on record as arguing that the proposed use of a yield curve derived from 'AAA' Government bonds would "*cause massive disruption in the capital markets and a huge artificial inflation in the value of liabilities. A 'liquidity premium' should be recognised and taken into account in the risk free rate, in particular for long term non redeemable liabilities*". CEIOPS's original stance has also been referred to by some as 'reckless prudence'.

- CEIOPS responded by commissioning a Task Force on the Illiquidity Premium, which reported in March 2010, see CEIOPS (2010). Its members were split about whether there was a sound theoretical basis for incorporating an illiquidity premium in the discount rates used to value illiquid long-term liabilities, and, to the extent that there was one, on how practical it might be to estimate its size reliably. This lack of consensus is perhaps not surprising. Kemp (2009) highlights that there are several different possible economic interpretations for liquidity risk. Some support the use of an illiquidity premium in this way whilst others do not. However, the Task Force did propose a pragmatic way forward, to the extent that it was felt appropriate to include an illiquidity premium at all, which involved deeming some proportion of the total yield spread available on corporate versus government bonds to correspond to an illiquidity premium.

- The Task Force report was included in the Level 2 advice on Solvency II provided by CEIOPS to the EU Commission. The EU Commission subsequently indicated in the draft technical specifications for the Solvency II Quantitative Impact Study 5 that it was minded to allow inclusion of an illiquidity premium. The draft technical specifications included two sets of yield curves applicable as at 31 December 2009, one deemed to exclude the illiquidity

premium and one deemed to include it. For liabilities with average durations of c. 10 to 15 years, the difference between them corresponded to a c. 5 to 10% difference in value, depending on the currency in question.

2. Capital quality

Current regulatory practice typically implicitly adopts the premise that the value placed on a (positive) liability is independent of the deemed health of the entity to which the liability relates in the situation being tested for in the valuation computation. This contrasts with the approach applied by regulators to a *negative* liability, i.e. an *asset*. A financial service organisation can generally use *different* types of asset to meet its regulatory capital requirements. However, regulatory practice typically distinguishes between them, depending on the extent to which the type of asset in question protects customers (e.g. policyholders, beneficiaries, depositors etc.) in the various different circumstances in which the organisation can find itself.

In particular, banks and insurers are usually required to have their capital subdivided into *tiers*. Most types of paid-up unencumbered equity capital (and reserves) qualify for the highest tier (i.e. Tier 1). In the event of the organisation defaulting, providers of this type of capital will typically get nothing back from their investment unless and until all prior claims are honoured in full. Organisations are also allowed to have some of their capital base formed by other types of capital (e.g. Tier 2 capital, which includes many types of debt or hybrid instruments), as long as the instruments still rank below customer liabilities in the event of default.

Key to understanding the rationale for capital tiering is to appreciate that some types of capital are less effective than others at coping with what we might call a *gone concern* situation (e.g. where the organisation has defaulted or is approaching default), even if they offer similar protection to customers in a *going concern* situation.

For example, although companies can refuse to pay coupons to bondholders and dividends to equity holders, the former typically triggers default whereas the latter doesn't. In 'normal' circumstances, when the solvency of the organisation is perceived to be strong, the two behave broadly equally in terms of providing security to customers (if both rank below customer liabilities). However, in stressed circumstances equity capital offers better protection than bond capital. The need to continue to pay contractual coupons on bonds to avoid formal default may significantly limit the flexibility that the organisation has to address its weakened financial position.

Regulators of banks and insurance companies typically limit the proportion of total required capital that can be in the form of non Tier 1 capital. One of the responses of banking regulators to the recent credit crisis has been to seek for banks to hold both more capital in absolute terms and also a higher proportion in the 'right' sort of capital, i.e. with a higher proportion of the (increased) capital base exhibiting a resilient nature.

Arguably, pension fund capital adequacy rules operate in a similar overall fashion but using different terminology. We can view the scope to ask for future contributions from the sponsor as effectively a form of 'capital' that the trustees have access to in the event of the fund itself getting into difficulty. However it is a form of capital that is not generally perceived to be of as good quality as actually physically holding assets within the fund itself, particularly if the sponsor covenant is considered to be weak. In such circumstances, recovery plans and the like take on added importance.

3. The link between the illiquidity premium and capital quality

The fundamental point that I want to highlight is that any reduction in the value placed on liabilities by incorporation of an illiquidity premium also has a similar dynamic. This arises from the inherent nature of illiquidity. An asset (or liability) is deemed illiquid if it is (or will be) difficult to buy or sell at approximately its (mid) market price in a timely manner. The reduction in liability values arising from incorporation of an illiquidity premium creates a balance sheet effect equivalent to an increase in the entity's capital base. It can therefore be thought of as a type of 'capital'. But it is a type of capital that is likely to be less helpful in a gone concern situation than in a going concern one.

In a stressed, gone concern, situation, an entity is likely to have lost control of its own destiny. It will, most probably, be forced to liquidate its assets and liabilities quickly or to be an involuntary transferor of them to some centralised protection scheme (or government) that will generally not want to overpay for the assets or to undercharge for the liabilities it is taking over. In short, its liquidation is likely to involve some element of fire-sale, meaning that the entity in question is unlikely to be able to access all (or even, possibly, any) of the capitalised value of future illiquidity premiums that it might otherwise have expected to receive on its illiquid asset and liability portfolio.

The implication is that there should be some restriction on the ability of entities to use the 'asset' arising from an illiquidity premium to meet its overall capital requirements. For entities with well diversified and robust capital structures, there would be little impact from such a proposal. But for entities where the 'asset' concerned formed too large a proportion of the overall capital base the impact would be larger.

This, I would argue, merely reflects economic reality. An entity will only in practice be able to benefit fully from the supposed illiquidity premium if it can stay the course over the time-span during which this premium will accrue. To do so, it needs to have access to sufficient sources of capital able to protect it against a gone concern situation. It is these types of situation that are or ought to be the primary focus of regulators, customers and governments (and hence actuaries) when assessing an entity's overall capital adequacy status.

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