Finance 101 morphs to Repo 105

The revelations of dodgy accounting practices by Lehmann Brothers, described as Repo 105 transactions, in the report for the US Bankruptcy court by the Examiner Anton R. Valukas should probably come as no surprise to observers of financial markets. But understanding how and why they did it is a bit more complex – and illuminating.

US investment banks have used repurchase agreements (repos) intensively as a source of funding their businesses – and the risks involved were exposed dramatically in the Global Financial Crisis. In a repo, the bank sells securities (a CDO for example) to a counterparty (receiving cash in exchange) and agrees to repurchase (for cash) the security at some future date (a few days) at an agreed price.

A common and significant practice has been for investment banks to buy securities and simultaneously "repo" them, thus funding long-term securities with a short term borrowing from the repo counterparty. When a repo expires, the plan is to enter another repo (thus having a sequence of short term fundings) or, if necessary, sell the security into the market place.

Typically the amount of cash received (and promised to be repaid) is a bit less than the market value of the security (eg $99 cash versus $100 security value). This "haircut" is to protect the counterparty should the bank default on the repurchase – because the counterparty has title to the security which is worth more than the amount of cash to be repaid.

Of course the market value of the security can fall, reducing this buffer of protection, in which case the counterparty will call for additional collateral or a larger "haircut" – generally making a margin call requiring the investment bank to return some of the cash.

In the GFC, as asset prices (such as CDOs) fell, counterparties made margin calls, refused to enter new repos, and investment banks found themselves in the unenviable position of having to sell securities into asset markets which were "tanking" or simply not operating. "Funding" liquidity risk and "asset price" liquidity risk combined with deleterious consequences.

Funding liquidity risk can be aggravated if the market perceives a bank as being too highly leveraged. And normal accounting practice incorporates implicit borrowings via a repo into the leverage calculation by continuing to record the "repo'd" security as an asset and the repo as a collateralised borrowing.

But what if, instead, the repo could be treated as a sale of the security for cash, and the second leg of the repo (the repurchase bit) counted as a derivative (forward) contract to buy the security. And it seems that it could, at least according to some advisers to Lehmanns – as long as the repo involved a security with value of at least 105 per cent of the cash received in return! Doing that would enable the firm to window-dress its accounts and reduce its leverage, in the following way.

Suppose, to take a simple example, the investment bank has assets of $100, borrowings of $90, and equity of $10 (a debt/equity ratio of 9). It enters a repo over $11 of assets in exchange for a receipt of cash of $10, which it uses to reduce its borrowings by $10 to $80.

If "conventional" accounting had been applied, the debt/equity ratio would have stayed at 9 – because the repo would have been classed as a collateralised borrowing of $10 (which would have offset the decline in other borrowings of $10 using the cash received). And the $10 of assets involved in the repo would have stayed on the bank's balance sheet.

If treated as an asset sale under Repo105 , the investment bank now has securities holdings of $89 ($100 -$11), but the associated forward contract (the second leg of the repo) is an agreement to pay $10 to buy a security worth $11, and thus has a mark to market value of $1. So the bank's assets (including the mark to market value of the forward contract) remain at $90. The debt/equity ratio has fallen from 9 to 8.

Leverage will revert back to its original higher level when the repo is completed – but if that is after the reporting date for the accounts who will be the wiser! One wonders how many other such tricks are yet to be uncovered.

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