Efficacy of balance-sheet CLOs

It sometimes seems that securitisation has taken over the financial world, an arranger may sell virtually any asset or financial contract to a special-purpose vehicle (SPV). There is creativity and innovation in the 'risk engineering' as well as in the introduction of new assets to securitise, writes Joseph M. Pimbley.

This article discusses balance sheet collateralised loan obligations (CLOs). We compare them first with a particular type of collateralised bond obligation (CBO) and then discuss advantages and disadvantages of the CLOs.

Corporate bonds were one of the first asset classes that the market securitised. The issuer's motive was simple and sensible. A bond fund manager wanted to borrow in order to purchase the risky bonds. The (CBO) securitisation permitted the fund manager to post the risky bonds as collateral and receive funding from the investors for roughly 90% of the value of the portfolio.

The management company itself funded the remaining 10% and bore the first loss. Unlike a more straightforward collateralised loan, the fund manager -- who in this case is the owner of the 10% equity tranche – had no obligation to repay the loan (to the senior investors) if the collateral value were insufficient.

The structure has the common name of 'arbitrage CBO'. As with virtually all instances of the term 'arbitrage', it is a misnomer. That is, the average yield on the risky bonds might be Libor plus 200 basis points per annum while the senior tranche investors (the lenders to the bond fund manager) would receive about Libor plus 50bp per annum.

Hence, the fund manager receives 150bp pa risk-free on the funded portion if the arbitrage adjective is correct. In reality, the fund manager (also known as the equity investor) takes considerable risk. There's nothing risk-free about this structure!

But the name persists. So the industry applies the term 'arbitrage CBO' to indicate that the CBO issuer deliberately retains the equity tranche because it wishes to retain the portfolio risk and to merely secure funding with the sale of the senior tranche. The market correctly perceives the purveyor of an arbitrage CBO as a leveraged risk-taker.

Contrast the arbitrage CBO with the 'balance sheet CLO'. The two are similar in many respects. The primary differences are that banks, rather than bond fund managers, issue the balance sheet CLO and that the collateral is corporate bank loans rather than corporate bonds. Further, the bank loans are typically investment-grade while the bonds within the arbitrage CBO are more often non-investment-grade.

Oddly, the market considers a bank's issuance of a balance sheet CLO to be a conservative, risk mitigating transaction. The differences between the arbitrage CBO and balance sheet CLO do not justify the disparity between leveraged risk-taker and conservative risk mitigator. How did this confusion arise? There are two primary reasons.

First, the bank often does not insist on retaining the equity tranche. Rather, it simply finds it cannot sell it for what it considers a reasonable price. Second, the Bank for International Settlements (BIS) 1988 Capital Accord rules permit the issuing bank to reduce its regulatory capital requirement even when the bank retains the equity tranche. Hence, the market gains the impression that the bank has reduced its risk when, in practical terms, this risk reduction may be non-existent.

Advantages and disadvantages

Let us discuss the advantages and disadvantages of the balance sheet CLO. We argue that the only rational driving force for this transaction is mistaken regulatory risk capital reduction.

There are four putative advantages that might prompt a bank to issue a balance sheet CLO in which the bank sells its own loans to the SPV: risk reduction; funding; regulatory risk capital reduction; and removal of the loans from the balance sheet. The discussion of risk reduction is the most quantitative and possibly the most contentious. Certainly, if the issuing bank sells the equity and all other tranches, then it has completely eliminated its risk. The difficulty is that the bank often retains the equity tranche.

Depending on the size of this tranche, though, it may be fair to claim that the equity investor bears virtually the entire risk of the loan portfolio. That is, the possibility that senior investors suffer any loss is extremely small. In such a case, one must conclude that these senior investors provide almost no credit support to the portfolio.

Let's take an hypothetical example of a CLO. Bank x sold US$1bn of loans to the SPV. The SPV sold 89% of this amount as Triple A debt, 3.3% as single-A debt, and 3.6% as triple-B debt. The remaining amount, slightly greater than 4% of the US$1bn deal size, is (unrated) equity. For the sake of discussion, we assume that Bank x did retain this most subordinated tranche.

To study the contention that the bank transfers very little risk when it retains the 4% equity, we must create and employ a model to determine the loan portfolio loss distribution. We do not have all necessary information, though, to study this particular transaction. One would need the size and default probability for each loan as well as the matrix of default correlation values for each pair of loans.

Nevertheless, we can estimate conservatively such parameters. We find that, at most, the 96% of the portfolio in the rated tranches holds one-tenth of the risk level of the portfolio. Hence, the equity investor retains at least 90% of the total risk. If the bank in this example owns the equity tranche, then, it has effectively not reduced its risk at all.

Funding

The CLO-issuing bank enjoys a funding benefit even in the absence of any risk reduction. In fact, this characteristic is precisely what the bond fund manager seeks in an arbitrage CBO. The bank correctly views the CLO instrument as a diversification of its sources of funding. Such diversification is always advantageous.

The disadvantage, though, is that this funding comes at an enormous cost. Market investors require a premium to

purchase CLO tranches. There are several possible reasons for this market behaviour. The first is that investors may not fully trust or understand the rating agencies' credit risk assessments. Another potential explanation is that investors believe they are taking "early amortisation risk" since one structural credit protection stipulates early repayment of principal if the loan collateral performs poorly.

CLOs also have a 'story' that investors must understand. Such stories always add to market yield expectations. Finally, many investors are simply not permitted to buy asset-backed securities. The diminution in permitted investors reduces the demand relative to corporate bonds of comparable credit rating and thus pushes up the yield of CLO tranches. For these reasons, Triple A CLO tranche yields have a positive, rather than negative, spread to Libor.

Let us again refer to the example. The yield spreads to LIBOR for the Triple A, A2/A, and Baa2/BBB tranches with average lives of 3 years are 30bp, 57bp, and 155bp, respectively. Yield spreads for the same rated tranches with 5-year average lives are 36bp, 68bp, and 185bp. We do not know the yield of the equity tranche, but we do know that the yield on the portfolio loans must pay the yield of all the tranches. The weighted-average yield of the rated tranches is 36bp. Given that these tranches bear at most 10% of the portfolio credit risk, one would expect the average portfolio loan yield to be roughly 360bp.

Of course, it's extremely unlikely that the loan portfolio of this example has such a high level of risk. It would be surprising if the average loan yield were as high as 100bp. Bank CLOs almost always emphasise investment-grade loans. In this typical CLO, then, the senior investors are grossly overpaid for the credit risk they bear. The corollary is that the equity investor is grossly underpaid for the risk it takes. This observation explains the great difficulty banks have in selling the equity tranche.

When a bank retains the equity tranche in a typical CLO, then, it effectively transfers almost no risk and pays exorbitant funding cost to the senior investors. It is certainly an advantage for a bank to have CLO investors as a source of funding, but the bank must pay much more than it ordinarily would for the funding. A good guess is that the issuing bank would usually fund at Libor-flat. In the CLO example, though, it must pay close to 40bp over Libor.

(Note that, strictly speaking, it is the bank in its role as equity tranche owner that effectively pays the funding cost. When a bond fund manager of an arbitrage CBO pays Libor plus 40-50bp pa, the transaction is sensible since this manager most likely could not have borrowed at LIBOR-flat as an alternative.)

Regulatory risk capital

The 1988 BIS Capital Accord assigns 100% risk weight to all funded corporate loans. Banks must therefore hold 8% capital against each loan. It does not matter whether the bank earns 20 basis points per annum on a low-risk loan or 300bp pa on a high-risk loan. The bank holds the same capital regardless of the true risk.

When a bank creates a CLO, it reduces its BIS capital requirement simply because it sells the loans. For a US$2bn loan portfolio, the bank must hold US$160m (8% of $2bn) in capital. When the bank sells the entire portfolio to the SPV of a CLO and retains none of the tranches, the bank need hold no capital against these loans. The bank reduces its capital requirement by the full $160m.

The capital treatment for the bank that retains the equity tranche is somewhat unclear. In the early days of CLOs, banks would claim that they held a risky asset (the equity tranche) with risk weighting of 100%. The bank would thus claim it should hold capital equal to 8% of the equity tranche size.

For a US$2bn loan portfolio with 4% equity tranche, then, the bank would propose to hold US$6.4m in capital (8% x 4% x US$2bn). Hence, the bank would reduce its capital requirement from US$160m to US$6.4m even though it had retained at least 90% of the true credit risk.

As regulator understanding grew, however, this treatment did not persist. Banks must now take the size of the equity tranche as their capital requirement. In this example, the bank capital requirement is US$80m (4% of US$2bn). This requirement is much more onerous to the bank, but it does reflect more closely the true risk transfer that the CLO confers. Still, the regulatory treatment does not go far enough. At most, the bank in our example transfers 10% of its credit risk. But regulatory rules permit the bank to cut its capital requirement by 50%.

The market declares 'regulatory arbitrage' when it sees this situation in which the bank reduces its true risk by a small amount, if at all, while greatly diminishing its regulatory capital requirement. It is an expression that must prompt seething among the regulators. But it is a misguided term. The connotation is that the bank has gained something (risk capital reduction) for nothing. In fact, though, the bank pays exorbitantly in terms of high funding cost and structuring fees.

The sale of loans to the SPV removes loans from the bank's balance sheet. Retention of the equity tranche would keep this much smaller exposure as a balance sheet asset, though. Reducing the balance sheet assets is a true advantage only in the sense that the bank reduces its risk. A previous section discusses risk as a distinct issue. Exclusive of the risk, removing loans from the balance sheet can only have a cosmetic effect. The bank will appear to be less risky if its balance sheet leverage decreases. Even the cosmetic advantage of reducing balance sheet size is small, however, since bank observers focus more on regulatory capital and profitability.

The balance sheet CLO is similar in many ways to the arbitrage CBO. The primary differences are the collateral (investment-grade loans versus speculative-grade bonds) and the purpose (regulatory capital reduction versus funding). The market reputes the arbitrage CBO to be a leveraged risk for the bond fund manager while it views the balance sheet CLO as a prudent credit risk mitigation instrument.

The market's understanding of the arbitrage CBO is much closer to the mark than its perception of the balance sheet CLO. We argued that a typical CLO retains more than 90% of the loan credit risk in the equity tranche. When the bank holds the equity tranche, then, it hardly mitigates its lending risk at all. Further, the bank pays an extravagant price for the *de minimus* risk reduction. It is not an unreasonable speculation to say that the issuing bank pays away more than half the spread of the portfolio loans for less than 10% of credit risk transfer.

There is one, and apparently only one, advantage to the balance sheet CLO. The issuing bank is likely to get a significant reduction in its capital requirement because the BIS rules permit a typical reduction of 50% even when the true risk reduction is neg negligible. The BIS regulatory framework is flawed in its measurement of bank credit risk. This flaw then gives some banks an incentive to execute transactions that are otherwise detrimental to their businesses.