

Global Structured Credit Strategy

CLO Equity – Europe and FATCA Update*

- **FATCA Update for CLO 1.0** — The IRS recently delayed by two years the taxation of gross proceeds to 2017, but tax on loan interest may start in Jan 2014
- **Shorter average lives boost CLO 1.0 appeal** — Despite lower subordination and coupons than CLO 2.0, older bonds have recently shown higher price increases
- **Issuance crosses \$40bn** — Tighter CLO liability spreads have supported the primary market, and total issuance for 2012 may cross \$45bn
- **Middle-market CLO niche continues** — Investor hunt for higher yield is supporting CLOs with a low-rated, middle-market loan pool, but ramp-up is a challenge
- **Euro CLO equity on positive momentum** — Higher loan spreads, plus more deals passing diversion tests, have resulted in an increase in CLO equity payments
- **Be wary of discount and triple-C buckets in Euro deals** — We show the impact of large distressed pools, and the potential effect of a rising triple-C loan bucket
- **Pay for Euro CLO manager differences** — Higher idiosyncratic and macro-risks, plus a less transparent and liquid loan market, have led to manager differentiation

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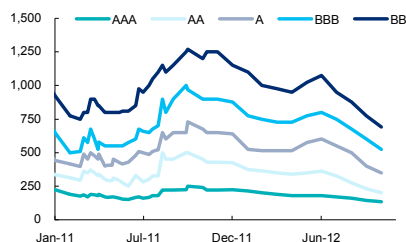
See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

*Correction: On page 5, we have corrected our names of the managers with the highest average payments.

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CLO Demand – On Track

Figure 1. Spreads of CLO 1.0 bonds by rating, bps

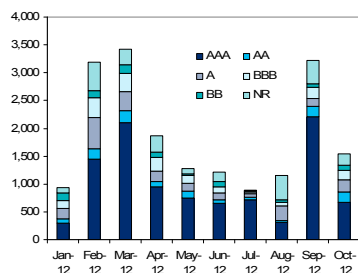


Source: Citi Research

Spreads shrug off storm - further tightening?

Though the storm that ravaged the US East Coast last week created some volatility in the markets, spreads of risky assets soon stabilized. The month ended with spreads even tighter than the previous month-end, and now spreads are through (Figure 1) last year's tights. The one exception, a point we made in the previous [Global Structured Credit Strategy](#), is the triple-A bonds which remain sticky despite the greater involvement of banks. On balance, we think spreads have room to tighten a little bit further on the back of tightening in loan spreads. Despite the fact that CLO supply has been significantly healthier than expected, amortizations of older deals are keeping net issuance down. Moreover, despite a recent uptick in loan and high yield issuance, total supply is barely able to keep up with loan paydown and demand from new funds (retail and institutional such as new CLOs). Many high yield and loan funds are including small buckets of CLOs in their collateral pool. Further, structured finance funds have been unable to find attractive opportunities in mortgage-backed products and are participating in the CLO market.

Figure 2. CLO BWIC volumes, \$mn



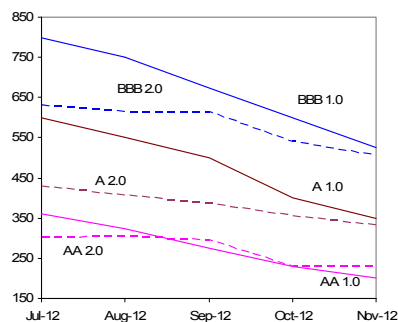
Source: Citi Research

Secondary market supply still low

While the total volume of supply in October is less than the previous month, the amount of supply of junior tranches and mezz is healthier than what we saw a few months earlier. This has been sparked by relative value players taking profit, a trend that has been most clearly visible in the amount of CLO equity in BWICs over the last few months. The supply of mezz bonds has, moreover, been readily absorbed by the market, and has not created any widening in spreads. If anything, the differential between secondary CLO 1.0 bonds and new issue CLO 2.0 has inverted and secondary bonds are trading tight to new issue, in a sign that many investors prefer CLO 1.0 bonds. We think lack of new issue relative to new demand, especially for mezz bonds, coupled with potentially a shorter duration are behind the spread compression of the older bonds. More visibility on the collateral pool (new deals are often partially ramped) also helps.

Tightening in CLO 1.0s – too much optimism?

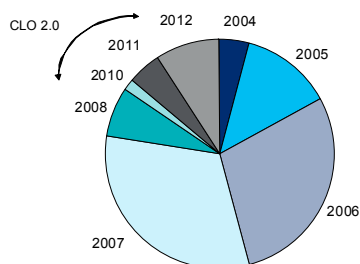
Figure 3. Recent spreads in CLO 2.0 versus CLO 1.0 bonds by rating, bps



Source: Citi Research

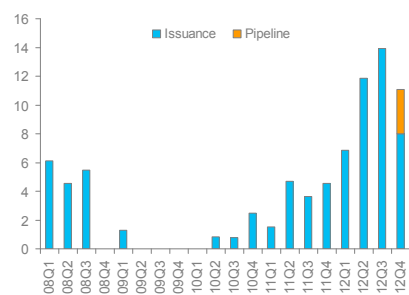
One of the most dramatic recent spread compressions has been in CLO 1.0 senior bonds. In theory, investors may avoid the older bonds for their lower subordination for the same original rating, lower coupons and potentially muddier collateral pools that include other CLOs and second-lien loans, but recently the market (Figure 3) shows the opposite effect. There may be another reason for the preference. Older CLOs are steadily deleveraging and upcoming regulation on possible taxation of loans in older deals (see next section on FATCA) may accelerate that deleveraging as managers choose not to use flexibility in reinvestment language to buy new loans post the reinvestment period. Investors may also be hoping that deals will get called as the economics of remaining invested weakens. We feel, however, that by looking at the slow pace of calls the optimism may be misplaced. Among other things, getting a bunch of equity holders, some of whom will be managers reluctant to lose fees, to call a deal will pose practical difficulties.

Figure 4. Distribution of \$270bn of CLO outstandings by vintage



Source: Citi Research

Figure 5. CLO Issuance, \$bn



Source: Citi Research

Figure 6. Three middle-market CLOs in 2012

	Cerberus Offshore	TICC CLO 2012-1	NXT Capital 2012	Fu
Closing	Oct-12	Aug-12	May-12	
Moody's rating factor	4800	3250	3350	
Average spread constraint	7.00%	5.25%	4.75%	
Average life, yrs	4.0	8.0	7.5	
Reinvest. period, yrs	1	4	3	
First-lien min	80%	75%	97%	
Triple-C bucket	n/a	20%	17.50%	
Subordination below senior tranche	52%	45%	42%	

Source: Moody's

FATCA and CLO 1.0 Update – Earlier Maturities

Given the much larger universe of older CLO 1.0 bonds and the possible impact on CLO 1.0 bonds, and the possible impact of FATCA on the loan collateral income, we are a little surprised at relative lack of investor focus on the subject. On one hand, similar to the loan repricing risk that is likely to lead to lower loan coupons as borrowers refinance, net loan coupons could decline in non-compliant (most CLO 1.0s) deals. This would adversely impact equity cashflows. Conversely, older CLOs may have a greater incentive to get called if future cashflows look threatened. This may explain the rally in CLO 1.0 bonds that we just described.

As the LSTA weekly put it succinctly, IRS released Announcement 2012-42 which, among other things, delayed withholdings on “gross proceeds” by FFI (foreign financial institutions) to January 2017 as opposed to January 2015. Under FATCA, FFIs must disclose US account holders to the IRS, or face a 30% withholding tax on US source payments. CLOs are considered FFIs, and older deals have no structural feature that enables them to report or withhold tax from their US account holders, thus making them subject to the tax on loan interest payments and sale proceeds. Newer deals have the ability to satisfy reporting requirements.

The announcement does not change several key points. As the LSTA weekly says, loans that are issued or “materially modified” – which can be as modest as a 25 bps spread change – after Jan. 1, 2013 will no longer be grandfathered for FATCA purposes. The interest payment withholding date is also unchanged. Beginning Jan. 1, 2014, these new or modified loans will be subject to 30% withholding on all interest payments. It is “gross proceeds” – likely to include sales proceeds and repayment/prepayment proceeds – that has been delayed to Jan 2017.

The net impact may be to hasten the paydown, including optional redemption, of new deals. Loan spreads today are higher relative to 2006-2007, and so at a healthy discount to the low cost of liabilities, but a 30% tax on a portion of the portfolio does bite. There is even some unquantifiable legal risk that a tax event may be triggered by a deal’s controlling party if a large part of the portfolio is now taxed. This is not the final word, though. The LSTA have recommended that pre-FATCA CLOs, who have their trustees or clearing agents doing the requisite reporting/withholding, should be considered compliant and not subject to the tax.

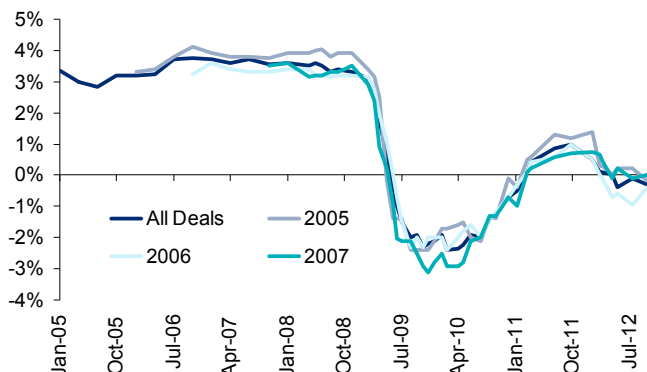
Primary at \$40bn, boosted by middle-market

Issuance has now exceeded \$40bn for the year (Figure 5), helped by the compression in liability spreads that we saw in Figure 1. A small part of the issuance is middle-market loans with one such recent deal being brought by Cerberus. The deal Cerberus Offshore Levered I L.P. is their second deal of the year, the first being A5 Funding. These deals have worse-rated collateral than their peers (Figure 6), but A5 (and Abelco Finance, another Cerberus deal from 2011) have managed to reach its spread targets with higher-rated collateral than the constraints allow. Middle-market deals have created interest with some CLO mezz investors because of their wider spreads. Many such investors find it difficult to simultaneously meet their yield and rating targets. The triple-A bonds of Cerberus deal, for example, have higher subordination and a coupon of 250-275bps over Libor according to Bloomberg which is well above that for a broadly syndicated loan deal. Against that must be balanced lower-rated collateral, lower diversity and increasingly, a higher proportion of subordinated loans. Further, the deal is only 40% ramped at closing, making it hard for investors to analyze an already-opaque collateral class.

European CLO Equity: On the Brink Positive Momentum – So Far

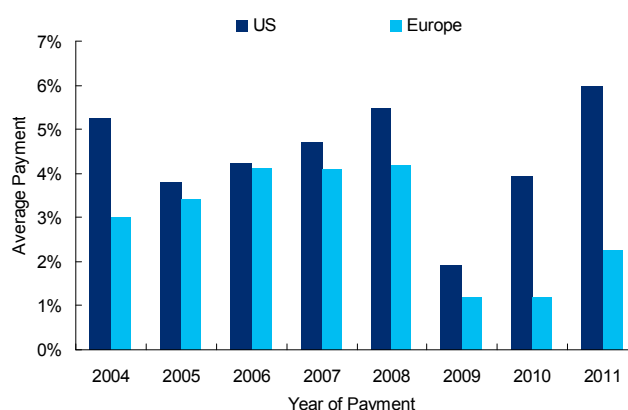
In a world of low yields, European CLO equity may be one of the last frontiers of generating alpha for brave-minded souls, but our analysis shows that even though the last year or two has been rewarding, detailed analysis is needed before investing. No one expected equity from European deals to perform as strongly as those from US deals (US CLO Equity Mid-year Performance, [Global Structured Credit Strategy](#)) but the signs of improvement are definitely there. First, fewer deals are failing their cash-diversion triggers compared to the post-crisis 2009-2010 period (Figure 7), even though an increase in the triple-C universe has slightly diluted the level of deal interest diversion test cushions. Second, higher loan spreads, plus more deals receiving interest, has also increased the average quarterly payment that deals have recently received (Figure 8).

Figure 7. Average interest diversion cushion in Euro CLOs by vintage



Source: Intex, Citi Research

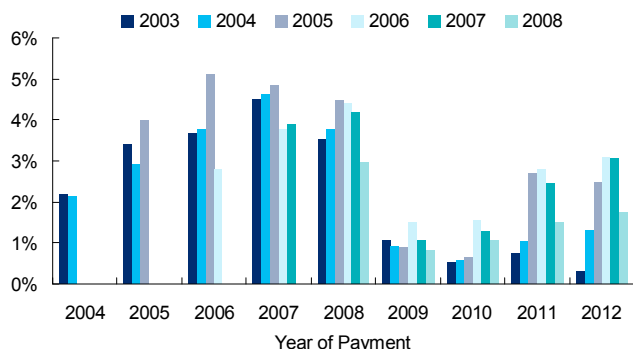
Figure 8. Average quarterly cashflows in Euro CLO equity



Source: Intex, Citi Research

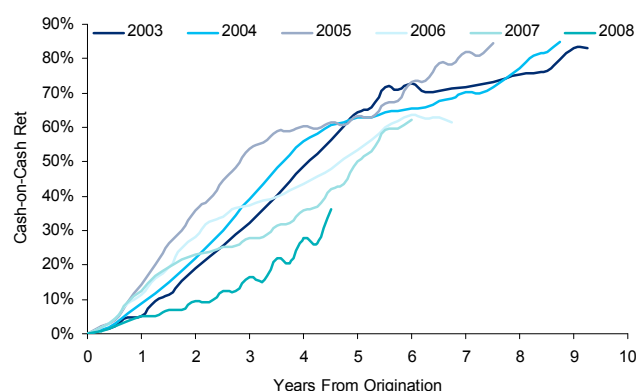
As shown in Figure 9, both 2011 and 2012 have provided high returns, especially for deals that were originated in 2005-2007. Most of these deals, with low liability costs have returned close to the initial investment (Figure 10) even assuming initial purchases were made at par. The comparable numbers for US deals will be higher, but this is also reflected in the prices of secondary US CLO equity.

Figure 9. Quarterly Euro CLO Distributions by vintage and year of payment



Source: Citi Research

Figure 10. Cumulative Cash-on-Cash Returns of Euro CLO Equity by vintage and time from closing date



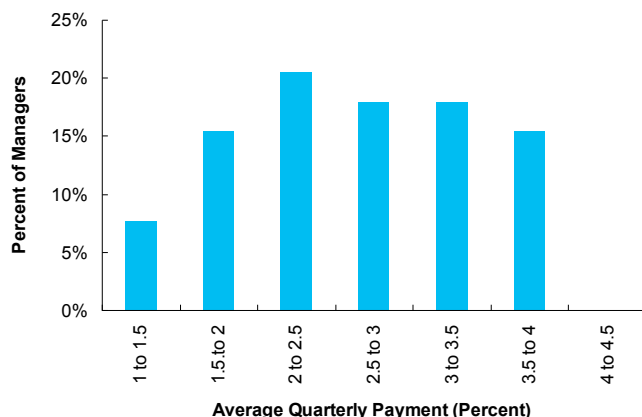
Source: Citi Research

The figures also illustrate the vintage effect. Equity from deals originated in 2003-2004 exhibited significantly lower returns than their later counterparts (with the exception of 2008 originated deals). For most investors this should come as little surprise as the earlier 2003-2004 deals had wider liability spreads. With most of the original collateral refinanced at tighter spreads, “arbitrage” in these deals has been significantly dented. Furthermore, most of these deals are beyond their reinvestment period and can’t take advantage of today’s wider loan spreads.

Manager’s Alpha

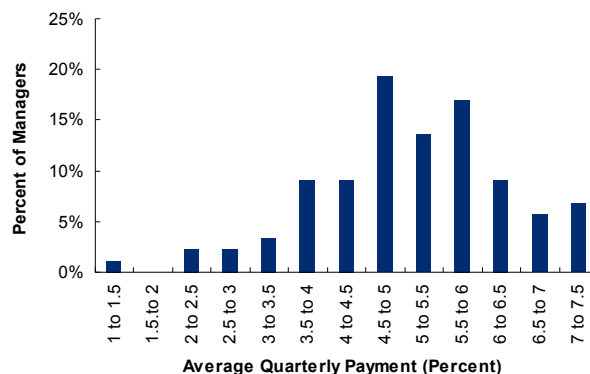
Our previous studies amply showed that managers (and deal structure) can contribute significantly to CLO Equity performance – this time is no different. Manager outperformance is also evidenced by the heavy right tail (excess returns) for European CLO equity in Figure 11. As a point of comparison we also show the US situation in Figure 12. Though the averages are significantly higher in US, several managers were able to get US-median type returns of about 4% per quarter. (and thus where deals were originally marketed). The managers with the highest average payments were CVC, Goldentree, Oakhill, GSO/Blackstone, Pinebridge, Eaton Vance and CQS. Except for GSO/Blackstone, the other managers on the list had only 2-3 deals under management. We also emphasize that high historical returns should not be the only factor on which to base choice of manager – considerations such as depth of loan and CLO management experience, access to loan pipeline, and sponsorship from well-capitalized parents are all very important.

Figure 11. European Average Quarterly Payments 2007-2011 – Percent of Total Manager Universe of 39



Source: Citi Research and Intex

Figure 12. US Average Quarterly Payments 2007-2011 – Percent of Total Manager Universe of 100



Source: Citi Research and Intex

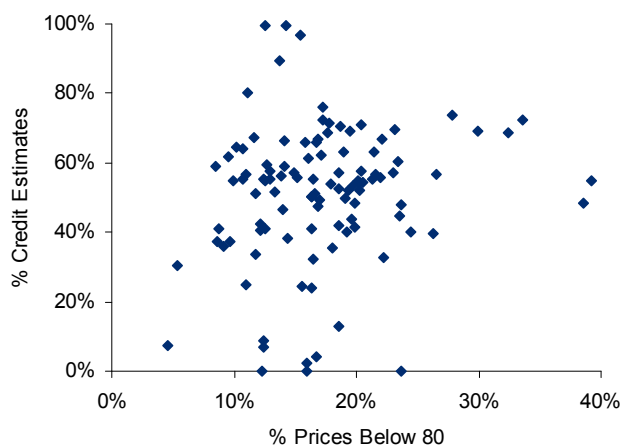
The amount of dispersion between managers has increased since we last did the European study earlier this year. This is in line with our prediction at that point in time where we felt that differences in collateral buckets between deals will lead to divergence. Many deals had significant second-lien buckets which suffered near-total losses. On the other hand, high yield bonds, another source of yield within CLOs, did better. Second, greater amend-to-extend activity has allowed deals with more flexible documentation to increase the life of equity cashflows. Finally with rating upgrades, better deals were able to trade and re-balance their portfolios.

Pay up for managers in Europe

Quite apart from the overall poor macro background in Europe, the European loan collateral class is also more opaque. Therefore, junior investors need to be able to do significant credit analysis themselves, or put their faith in managers with a track record. In a nutshell, European CLOs are less liquid than US deals, and the same relationship holds for the underlying loan market. The lack of clarity on ratings becomes all the more pronounced with loans that could be deemed triple-C, and thus have an impact on cash diversion tests. Active management is all the more important right now, when many deals are at the brink of failing their cash diversion tests (Figure 7); a savvy manager should be able to pick collateral that has the best chance of allowing the tests to recover even if they do fail for a limited period.

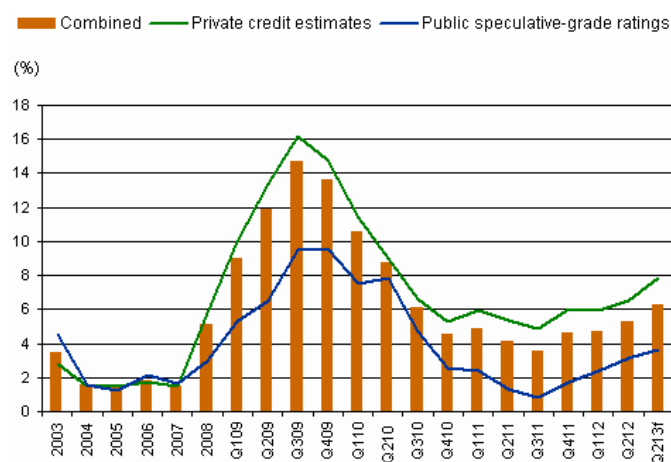
As we drill down into the type of collateral within Euro CLOs we see a high percentage with no public ratings. Moreover, the European loan market is relatively illiquid with a wide distribution of loan prices. We can see this in Figure 13. Moreover, most loans with credit estimates are likely to be worse in quality than public-rated deals with a higher realized default rate (Figure 14). The primary reason is that the loans with credit estimates are predominantly leveraged loans for LBOs with a higher financial risk profile – mostly 2006-08 vintage - including a reasonable number that had been restructured previously.

Figure 13. Percentage of CLO collateral with no public ratings (credit estimates) versus percentage with low prices by CLO



Source: Citi Research

Figure 14. European Speculative-Grade Default Rate – credit estimate loans have performed worse

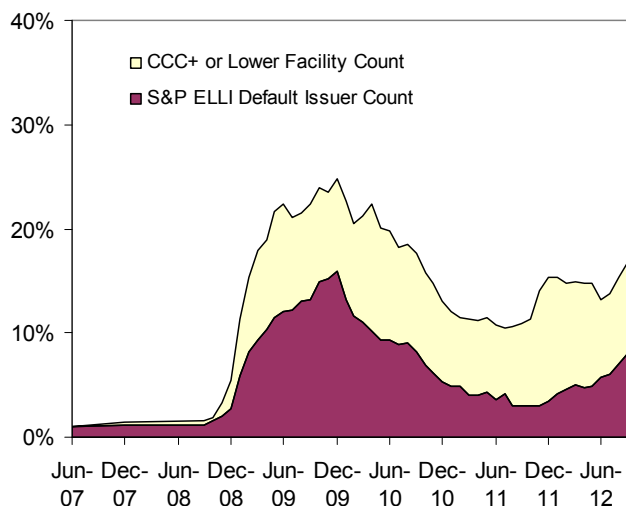


Source: Standard & Poor's

The progress of the triple-C buckets also needs to be well understood by the manager or investor as this can trip cash diversion tests. On one hand, the loan universe is showing growing signs of impairment as the default rate rises slowly and the number of facilities (publicly and privately rated) with triple-C and lower ratings rise (Figure 15). Understanding what constitutes triple-C (two examples being the number of rating agencies and the amount of downgrade below a single-B), the allowable size of the bucket, the speed at which agencies refresh credit estimates, and the calculation of the market-value discount are all critical in determining whether the test fails, and how quickly it can recover. For example, a savvy manager may choose to sell high-price triple-Cs in favor of attractively-priced single-Bs to protect equity cashflows.

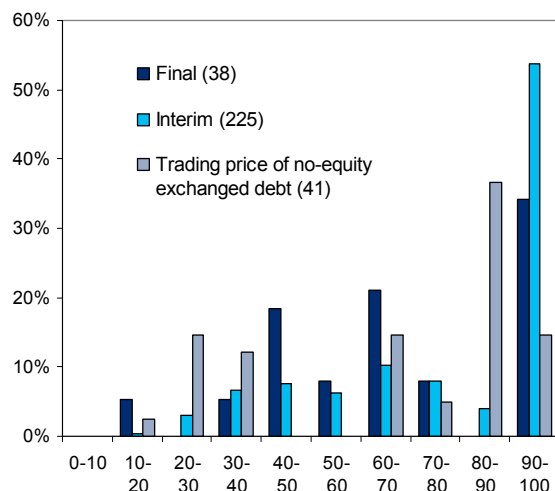
In contrast to the evolution of the default and triple-C buckets, recoveries on senior secured loans have surprised to the upside. Standard and Poor's found¹ that mean nominal recoveries on European first-lien secured debt instruments that defaulted between 2003 and 2010 was 76%, which compares favorably with the US. However, the nominal European recovery rate includes a high volume (65%) of interim recoveries, generally debt exchanges, which could change with time. The smaller universe of credits for which ultimate recoveries are available (that is, the value of the settlement a lender receives by holding an instrument throughout its emergence from default) shows a lower, but still attractive, median 67% recovery.

Figure 15. European loan universe deterioration



Source: S&P LCD

Figure 16. Recoveries have surprised to upside



Source: S&P LCD

Avoid distressed pools and inflexible deals

Since equity investors want to have longer deal lives, flexibility in documentation is important. In the absence of active capital markets, amend-to-extend activity has increased (Figure 17) and CLOs will participate if managers find value in the additional fees and the credit quality of the borrower. Standard and Poor's data shows, for example, that 44% of the better-quality names, falling into the BB category, have already pushed out maturities via an amendment. The CLO structure needs to be able to absorb such appropriate amendments to maximize cashflows to equity holders.

Net-asset-value of the collateral is another consideration. Equity investors will typically pay more for deals with higher collateral market value since it provides a floor if the deal were to liquidate. However, we also see some evidence between deals that have historically showed higher equity returns and the quality of loans (as measured by price) that the manager in which the deal has invested.

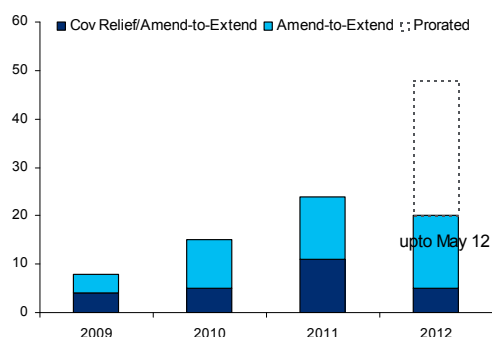
While paying above-par for loans that can, in theory, be called at par might be seen as poor value, the price is likely to reflect as much the strength of the borrower as the coupon level (including any Euribor floors). Many of the double-B issuers in

¹ Europe's Senior Loan Market Delivers A Strong Recovery Performance Over Its First Cycle. Standard and Poor's, 30 Apr 2012

Europe continue to trade at a premium, the latest reading from S&P LCD shows prices near the closest levels to par since July 2007.

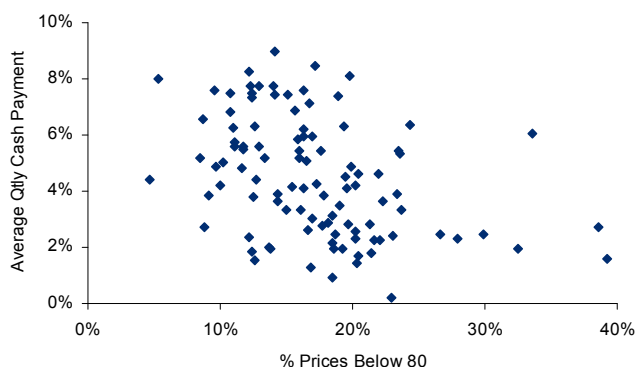
The relationship is strengthened by looking at the opposite side, that is, the ability to deliver returns by owning distressed collateral (here defined as loan prices below 80). Deals with large distressed loans (that is, those with low traded prices) have provided poor cashflows to equity investors (Figure 18). Moreover, there is significant risk that as the amount of triple-C loans rise within a CLO, the lower priced collateral will rapidly worsen interest diversion cushions. The moral of the story - you get what you pay for.

Figure 17. Number of covenant relief including loan amend-to-extend requests which could extend CLO deal lives



Source: Citi Research

Figure 18. Average quarterly payments for Euro CLOs versus proportion of collateral with loan prices below 80



Source: Citi Research

Things for which to pay

We are all aware that the European landscape is riddled with uncertainty. Yet our study has shown that deals have outperformed, and some managers have visibly outdistanced the pack. As investors look for yield opportunities, European CLO equity should be on the shopping list, but we can highlight a few features on which investors may want to focus. Managers have shown their value in this asset class, and, for a given loss projection, investors should be prepared to lower yields for deals from such managers. Many loans are also likely to extend in the European loan universe, extending the payment period for equity. Investors should prefer deals where documentation (such as limits on tranche rating downgrades, or collateral maturity tests) allow more flexibility for reinvestment and loan amendments. Deals with higher cash diversion cushions (or more lenient treatment of triple-C loans) should also be favored. Finally, our study shows that, illiquid as it is, the European loan market does show valuable indicators for the credit performance of loans. Quite apart from the liquidation value of the collateral, investors should look with some skepticism at deals with large discount loan buckets.

Appendix

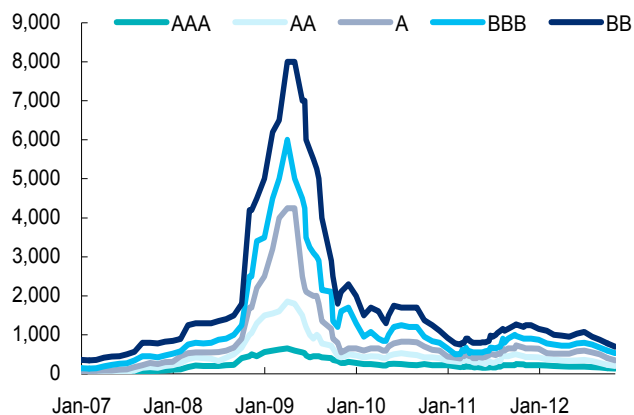
Cash Flow CDO Market

Figure 19. Secondary Cash Flow CDO Spreads/Prices

Collateral Type	AAA	AA	A	BBB	BB
US HY CLO 1.0 (Spreads) – 1-Nov-12	135	200	350	525	690
US HY CLO 1.0 (Prices) – 1-Nov-12	Mid 90s – High 90s	Low 90s – Mid 90s	High 70s – High 80s	High 70s – Mid 80s	Low 80s – Mid 80s
US HY CLO 2.0 (Spreads) – 1-Nov-12	141	229	331	506	681
US HY CLO 2.0 (Prices) – 1-Nov-12	High 90s – Par	High 90s – Par	Low 90s – High 90s	High 80s – Low 90s	Low 80s – High 80s
Euro HY CLO (Spreads) – 1-Nov-12	170	420	575	1075	1400
Euro HY CLO (Prices) – 1-Nov-12	Mid 90s – High 90s	Low 80s – High 80s	Mid 70s – Low 80s	High 50s – High 60s	High 50s – High 60s

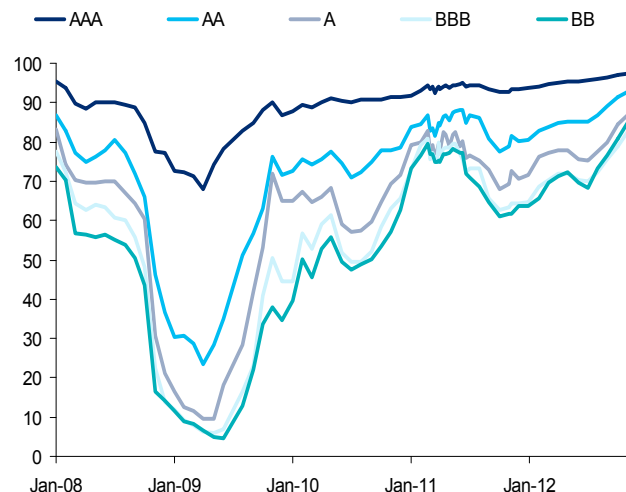
Source: Citi Research

Figure 20. US CLO Tranche Spreads



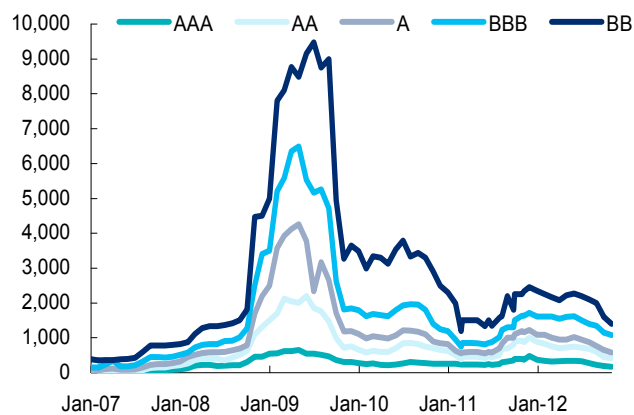
Source: Citi Research

Figure 22. US CLO Tranche Prices



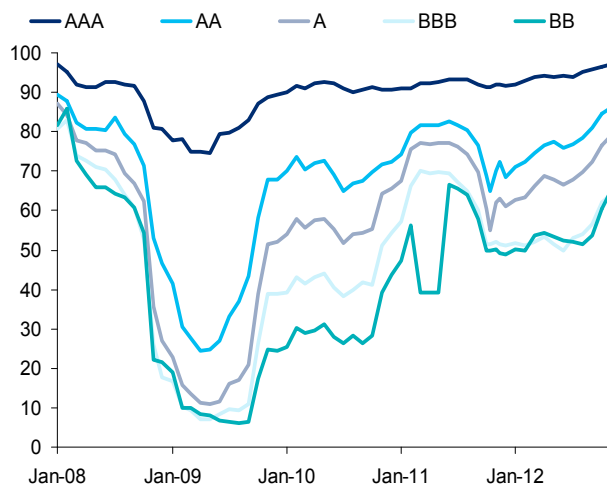
Source: Citi Research

Figure 21. European CLO Tranche Spreads



Source: Citi Research

Figure 23. European CLO Tranche Prices



Source: Citi Research

CLO Collateral

Figure 24. Avg First and Second-Lien Secondary Spreads to Maturity

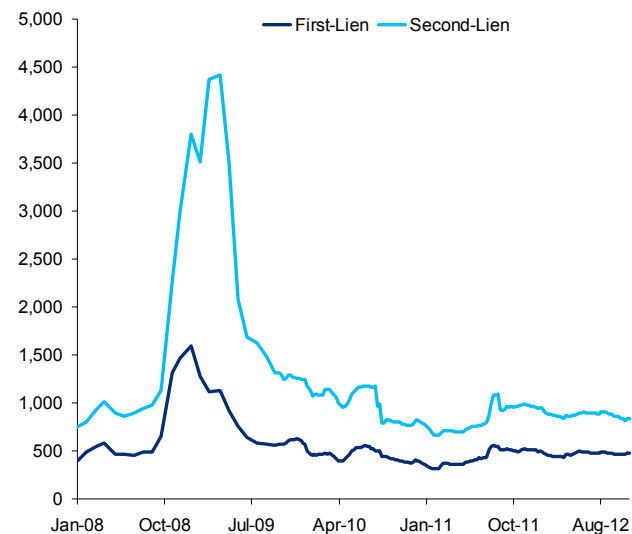


Figure 25. Weighted Average Bid

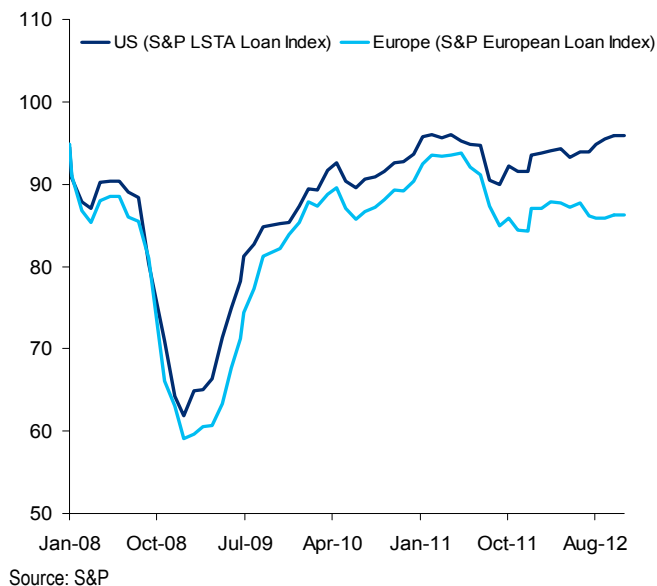


Figure 26. US Lagging 12mo. Default Rate by Principal and # of Issuers

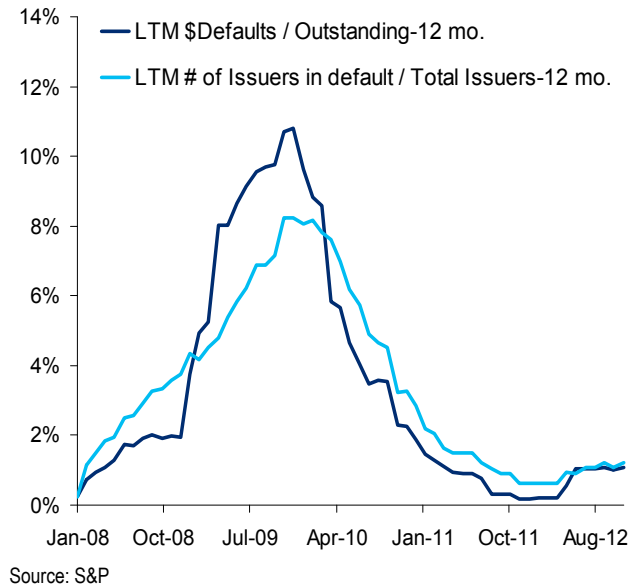


Figure 27. US Quarterly Repayment Rate and Repayment Amount

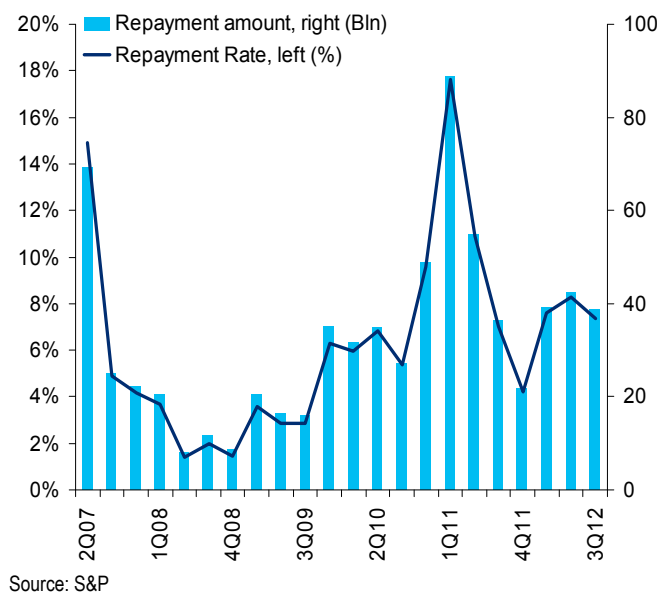
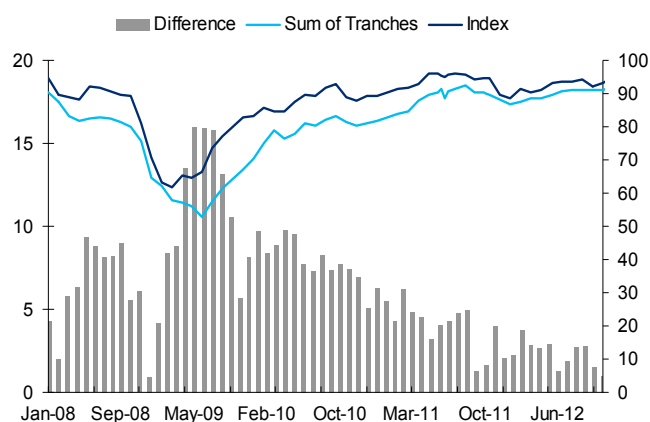
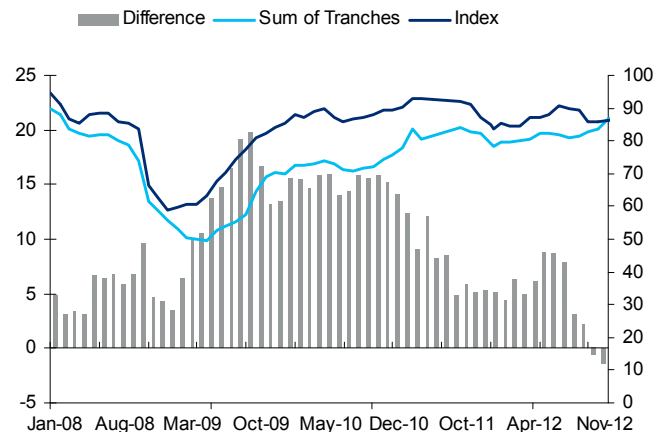


Figure 28. Collateral/Tranche Arbitrage (US Deals)



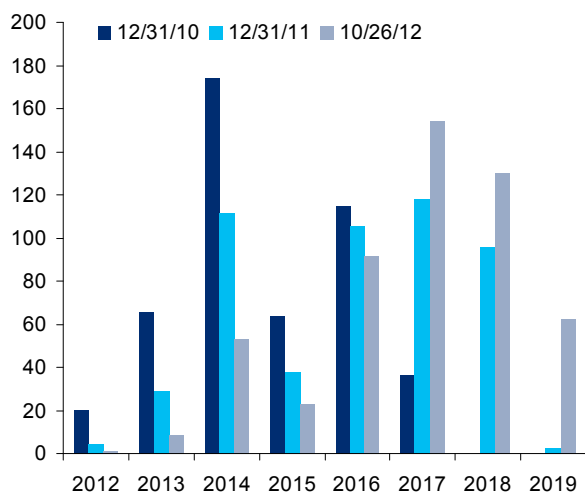
Source: Citi Research

Figure 29. Collateral/Tranche Arbitrage (EUR Deals)



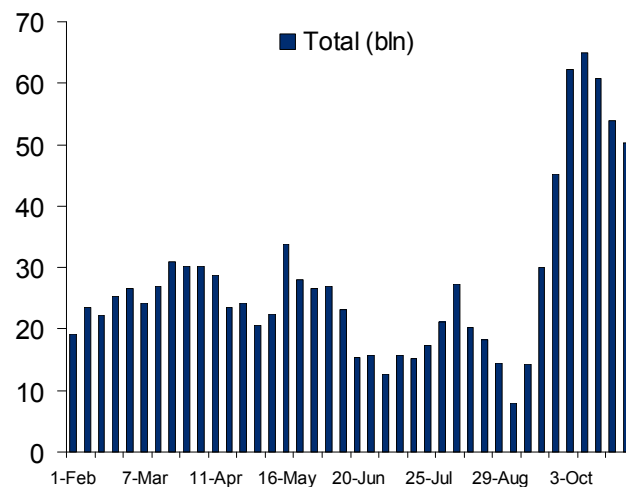
Source: Citi Research

Figure 30. US Loan Distribution by Year of Maturity



Source: S&P

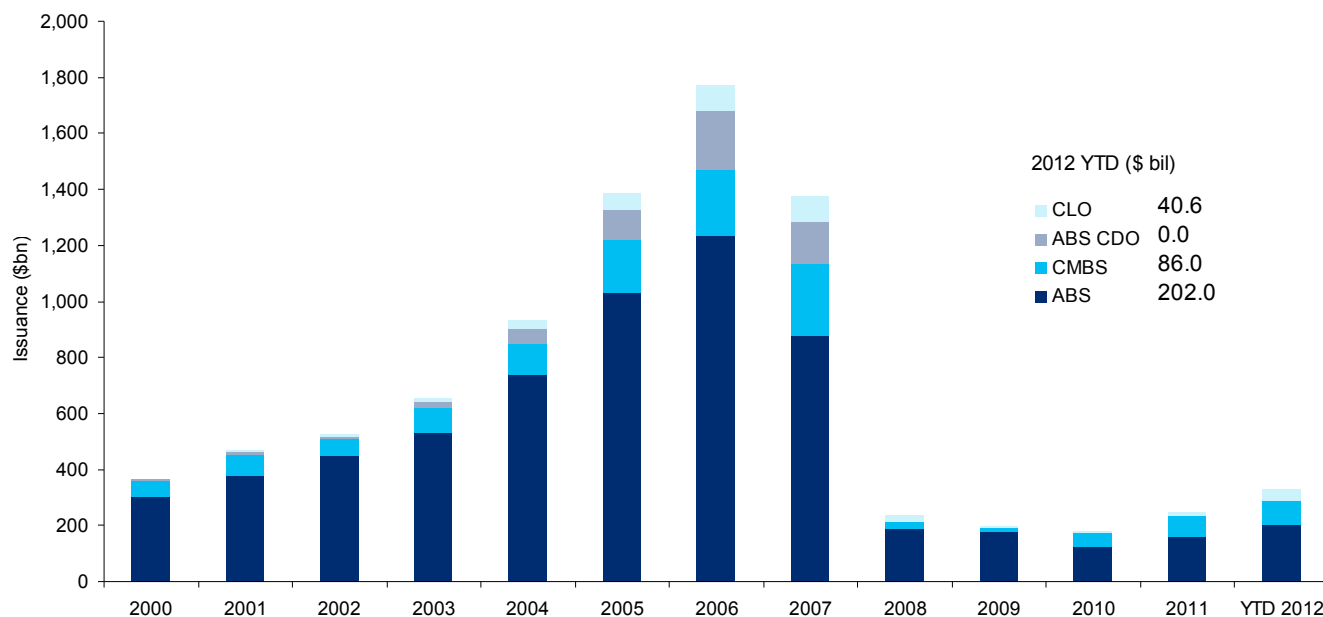
Figure 31. US Institutional Loans Launched to Market (Rolling 30-Days)



Source: S&P

Securitized Products Issuance

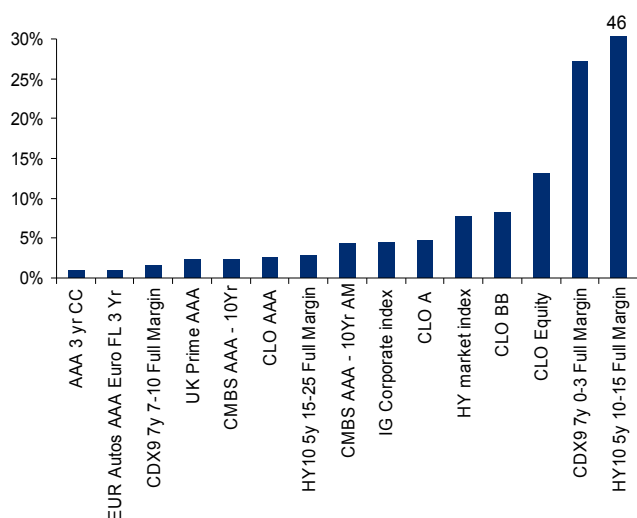
Figure 32. Year-to-Date CDO Issuance and Securitization Market Historical Issuance (\$bln)



Source: Bloomberg, Citi Research

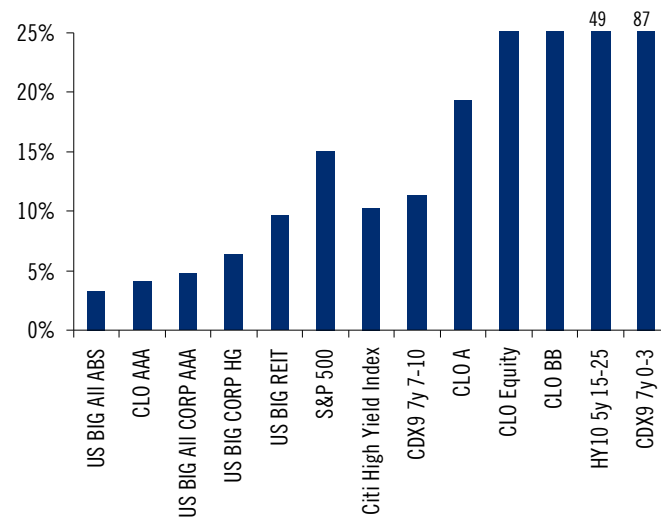
Securitized and Non-securitized Products Returns

Figure 33. Simple Yield



Source: Citi Research

Figure 34. Total Returns, YTD 2012



Source: Citi Research

Appendix A-1

Analyst Certification

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