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Financial Instruments

In the second of three parts, Christopher L. Culp and J. Paul Forrester examine the post-financial crisis renaissance in collateralized loan obligations (CLOs). As the empirical evidence shown in Part One of this article indicates, several indicators suggest that U.S. leveraged loans have become increasingly risky in recent years and have returned to (or now exceed) pre-crisis levels. That does not necessarily imply, however, impending problems *for CLO investors* based on the higher risks of the underlying leveraged loan collateral.

BNA INSIGHTS: Risks to Investors in Senior CLO Tranches

BY CHRISTOPHER L. CULP AND J. PAUL FORRESTER

CLOs today are often described as being CLO 1.0, CLO 2.0, or CLO 3.0. CLO 1.0 transactions are essentially pre-crisis vintages issued from 2004 (or earlier) up to 2009. CLO 2.0 deals are post-crisis CLOs issued in the period between 2010 and 2013 period. CLOs with vintages of 2014 or later are known as CLO 3.0 transactions and are synonymous with Volckerized CLOs subject to the Volcker Rule (as will be discussed in Part Three of this article).

Exhibit 5 shows total amounts of CLO liabilities outstanding from 2004 through 2014.[1] The dark-colored columns (CLO 1.0) refer to pre-crisis CLOs, whereas the light-colored columns (CLO 2.0) indicate CLOs issued post-crisis. A record new issuance of U.S. CLOs in 2014 resulted in an all-time high total U.S. CLO outstanding balance that exceeded $380 billion at year-end 2014, representing a net increase of approximately $80 billion (*i.e.*, about 27 percent) in net new CLO supply relative to 2013.

Exhibit 5 also indicates that an increasing proportion of U.S. CLOs outstanding in the last five years are attributable to post-crisis CLO 2.0 and/or 3.0 issuance. Exhibit 6 summarizes some of the important changes in the structures of CLOs that impact the risks to which senior CLO note holders are exposed. In the next four sections, we explain the changes indicated in Panels (a) – (d) of Exhibit 6 in more detail and how various aspects of post-crisis CLO 2.0 and 3.0 transactions provide investors in senior CLO notes with greater protections than pre-crisis CLO 1.0 deals. We conclude this Part II with a discussion of recent changes in the number and average size of new CLO transactions and the diversity of CLO collateral managers.

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[1] Exhibits are numbered consecutively across all three parts of this article. For example, Exhibits 1 – 4 refer to Exhibits shown in Part One of this article .

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In our view, all of these changes in CLO structures and the CLO marketplace more than offset the return of risk to the underlying syndicated leveraged loan market that we discussed in Part One of this article (163 Banking Daily, 8/24/15). (We discuss in Part Three of this article some of the negative impacts that trace to post-crisis regulations.)

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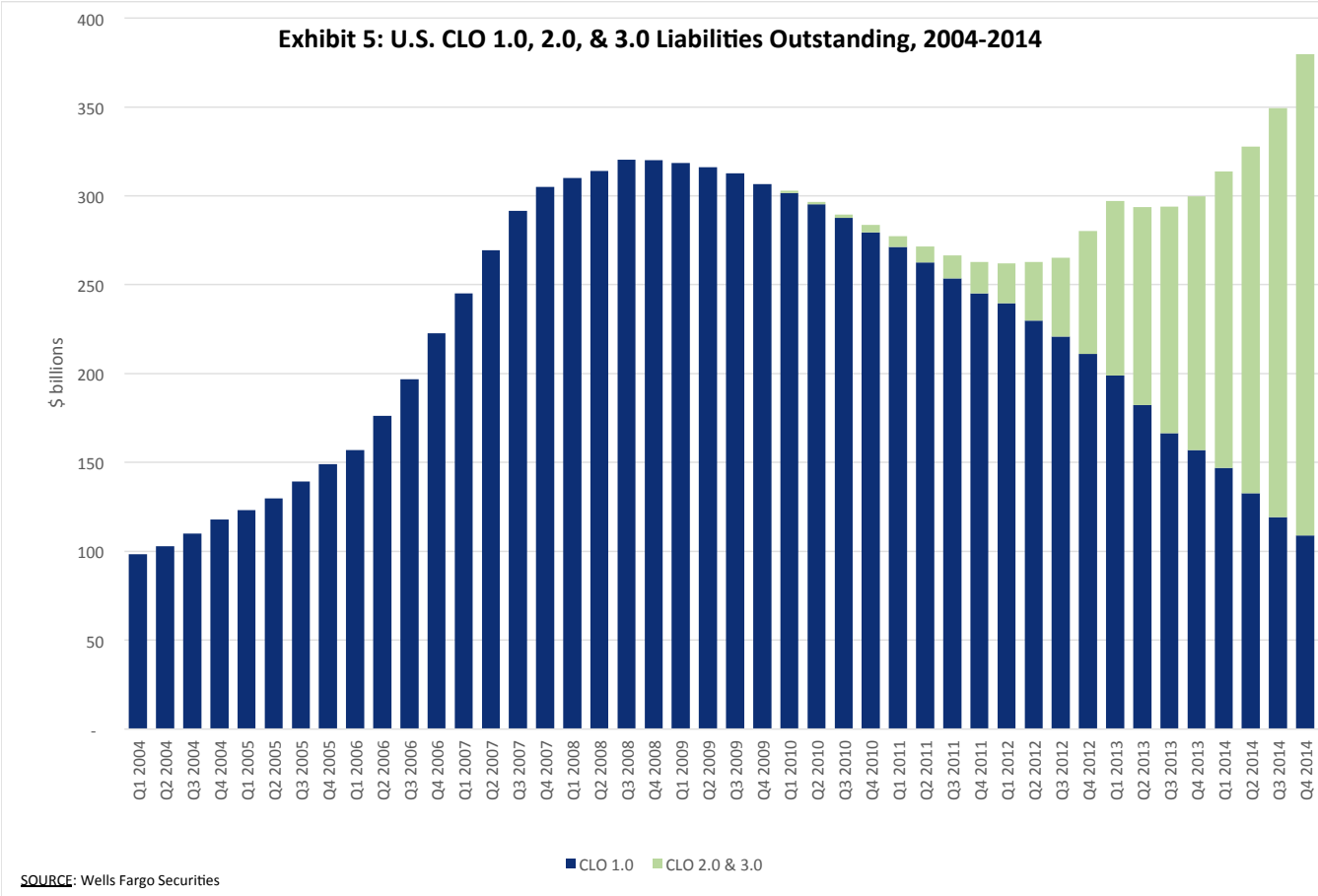


SOURCE: Wells Fargo Securities

Exhibit 6: Structural Features and Investor Protections in Pre- and Post-Crisis CLOs

	CLO 1.0	CLO 2.0	CLO 3.0 (Volckerized)
Vintages:	*Pre-2010*	*2010-2013*	*2014 and later*
Panel (a): Overcollateralization and Credit Enhancements for Senior Tranches			
Credit Support for Senior Tranche(s)	Lower	Higher	Higher
Panel (b): Collateral Restrictions			
CLO Bucket	5-10%	0%	0%
Bond Bucket	5-10%	5-10%	0%
Panel (c): Structural Protections for Senior Tranches			
Reinvestment Period	5-7 years	3-4 years	3-4 years
Non-Call Period	3-5 years	2 years	1.5-2 years
Note Cancellation to Improve O/C	n/a	No	No
Tranche Refinancing	No	After Non-Call Period	After Non-Call Period
Panel (d): Pricing and Excess Spreads			
Excess Spread	Higher	Lower	Lower
Coupon	Lower	Higher	Higher
Weighted-Avg CLO Cost of Funds	50-70 bps	170-225 bps	170-225 bps

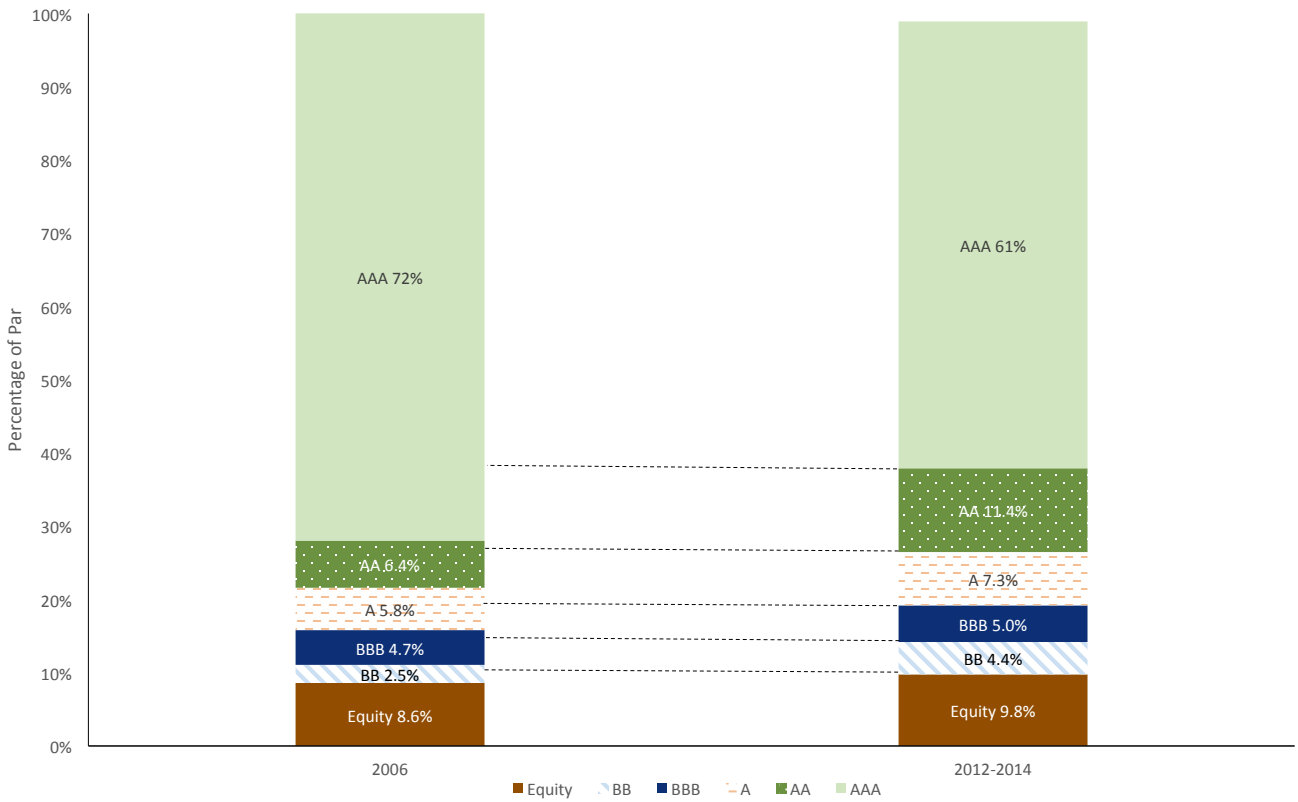
SOURCE: D. Preston and J. McNeilis, ''The Investor's Guide to CLO Senior Notes,'' *Wells Fargo Securities*(April 15, 2015).

Overcollateralization and Credit Enhancements

As Panel (a) of Exhibit 6 indicates, post-crisis CLOs provide relatively greater protection to investors in senior CLO tranches in the form of enhanced subordination. In other words, post-crisis CLOs have relatively smaller senior AAA tranches (as a percentage of the par amount of total CLO liabilities). As a result, other things being equal, losses on the underlying CLO collateral must be larger than for similar pre-crisis CLOs in order to result in losses for investors in senior CLO tranches.

Exhibit 7 shows the median capital structures for CLOs issued in 2006 and in the 2012-2014 period as a percentage of the total par amount of CLO liabilities issued. As Exhibit 7 indicates, the AAA tranche of post-crisis CLOs have accounted for about 11 percentage points less of the total CLO capital structures vis-à-vis pre-crisis 2006 vintage CLOs. As a result, post-crisis investors in CLO liabilities rated AA or lower have experienced a roughly one-tranche shift in the ratings of their investments. For example, investors in pre-crisis AA-rated CLO tranches were exposed to cumulative losses on the underlying collateral from 21.6 percent up to 28 percent, at which point investors in the AA tranche would be wiped out. In post-crisis structures, investors in the AA tranche only experience losses when cumulative collateral losses reach 26.5 percent of total collateral and are completely wiped out when cumulative losses reach 37.9 percent.

Exhibit 7: Pre-Crisis vs. Post-Crisis CLO Capital Structures



SOURCES: S&P, Moody's, Creditflux, Intex, Wells Fargo Securities NOTES: The subordination levels shown are based on median structures for the two sample periods (2006 and 2012-2014) and average structures by vintage. The sample includes only CLOs with broadly syndicated loans as collateral. 2012-14 capital structure does not sum to 100% because of rounding.

Exhibit 8 illustrates the enhanced credit support for investors in post-crisis senior CLO tranches in another way by showing the percentage credit support applicable to each rated CLO tranche in the sample. The AAA tranche of CLOs issued in 2006 had a median 25 percent subordination to total CLO assets, whereas post-crisis CLOs issued in the 2011-2014 period had a median 36.1 percent level of credit support resulting from the less-leveraged post-crisis CLO capital structures. Indeed, comparing credit support from subordination across the two periods shows that pre-crisis CLOs had credit support percentages for a given rating roughly comparable to the credit support to the next-lowest tranche in the post-crisis period – *e.g.*, the pre-crisis 2006 asset subordination of the BBB tranche of 8.1 percent is comparable to the post-crisis 2011-2014 asset subordination percentage of 8.1 percent for the BB tranche.

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Exhibit 8: Asset Credit Support Subordination (% of Credit Support Based on CLO Assets)

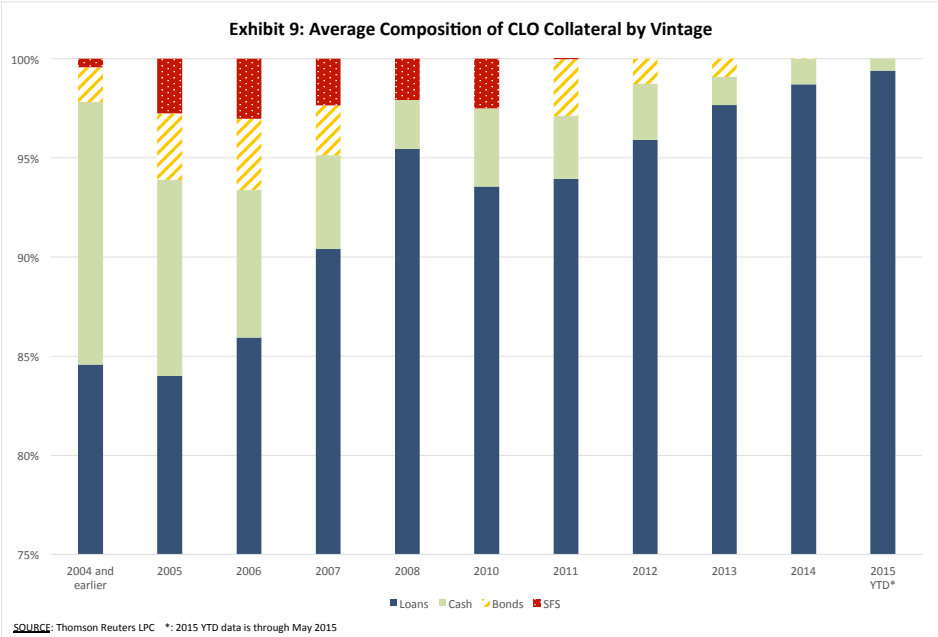
	2006 Vintage	*2011-2014 Vintages*
AAA	25.0%	36.1%
AA	18.6%	24.8%
A	12.8%	17.5%
BBB	8.1%	12.5%
BB	5.6%	8.1%

SOURCES: S&P, Moody's, Creditflux, Intex, Wells Fargo Securities

Restrictions on Eligible Collateral

Many recent CLOs also now include more details and restrictions on the eligible collateral in which CLO managers can invest. In particular, restrictions now limit ''non-core'' investments by CLO managers and require a substantial majority (often 90 percent or more) of CLO portfolios to be invested in senior-secured, broadly syndicated leveraged loans. Tighter restrictions also now apply to other collateral, including exposures to non-U.S. borrowers and sovereigns.

Partly as a result of these additional restrictions, the composition of the collateral backing U.S. CLOs has changed considerably since the financial crisis. Exhibit 9 shows average percentages of CLO collateral by vintage through mid-2015. From 2004 through 2008, CLO holdings of loans represented only 88.1 percent of total collateral on average. The remaining 11.9 percent of CLO collateral was invested in cash, bonds, and structured finance securities, such as ABS and other CLO tranches, representing 7.6 percent, 2.2 percent, and 2.1 percent of total CLO collateral on average for the period.



In the years following the crisis, CLO collateral has shifted increasingly toward core broadly syndicated loan collateral. In the post-crisis period from 2010 through mid-2015, CLO collateral had shifted significantly toward loans, which averaged 96.5 percent of total collateral over the period. In 2014 and through mid-2015, loans accounted for averages of 98.7 percent and 99.4 percent of total CLO collateral, respectively.

As Panel (b) of Exhibit 6 indicates, CLO 1.0 deals typically allowed between 5-10 percent of total collateral to be invested in bonds and structured finance securities. Post-crisis CLO 2.0 deals beginning with 2010 CLO vintages generally no longer permitted CLO collateral to include structured finance securities, including other CLO tranches. And Volckerized CLO 3.0 deals do not permit investments in either HY bonds or struc-

tured finance securities. Not surprisingly, Exhibit 9 confirms that CLOs with 2014 and 2015 year-to-date vintages had no bond or structured finance collateral on average.

As noted earlier, however, restrictions on eligible collateral together with the significant proportion of borrower-friendly syndicated leveraged loans (as shown in Exhibit 3) has necessarily forced a number of CLOs to hold relatively higher proportions of relatively riskier borrower-friendly loans as collateral in order to remain fully invested. In other words, some CLO managers appear to have replaced relatively higher-yield structured finance securities with higher-yield syndicated loans.

Structural Protections for Senior-Tranche Investors

Panel (c) of Exhibit 6 summarizes changes in four structural features of CLOs that have evolved in post-crisis CLO 2.0 and 3.0 deals in a manner that better protects investors in CLO notes. All four of these changes relate to ''optionality'' embedded in CLO structures – *i.e.*, features that give certain participants in the CLO the right to take actions that may adversely affect other participants in the same CLO. These four types of changes are discussed below in the context of CLO 1.0 vs. CLO 2.0 and 3.0 features.

Shorter Reinvestment Periods

CLOs have a life cycle that includes an initial ramp-up phase in which the underlying collateral is acquired through cash purchases of loans and bonds or synthetic protection sales on the credit-sensitive assets. All cash CLOs also have an ''amortization'' phase in which most or all cash principal repayments on the underlying collateral are used to repay principal on the outstanding CLO notes.[2] For ''static'' CLOs in which the initial collateral does not change over the life of the transaction, the ramp-up and amortization phases are the only two components of the CLO's life cycle.

Many CLOs, however, are actively managed and have dynamic collateral that may change over time during a so-called ''reinvestment period.'' During the reinvestment period, a collateral manager is permitted to use principal payments on the original collateral to finance investments in new loans or bonds instead of repaying the CLO liabilities. Investment policies govern CLO collateral managers' discretion and range from lightly managed deals (*e.g.*, discretionary sales of non-performing loans) to actively managed deals (*e.g.*, routine replacements of existing collateral with new loans or bonds with perceived better risk/reward ratios).

All else equal, longer reinvestment periods expose investors in CLO notes to relatively greater risks. One such risk is the interest-rate risk resulting from uncertainty about the effective weighted-average life (and, hence, duration) of the CLO collateral portfolio. In addition, longer reinvestment periods expose investors to the risk that poor reinvestment decisions result in unfavorable performance. Nevertheless, CLO investors recognize that *some* reinvestment period is beneficial because it gives collateral managers flexibility in their asset selections and ability to mitigate losses under-performing securities.

As the first row of Panel (c) in Exhibit 6 indicates, post-crisis CLOs have exhibited average reinvestment periods of three to four years as compared to pre-crisis CLO 1.0 reinvestment periods of five to seven years on average. Investors in post-crisis CLO 2.0 and 3.0 notes thus are exposed to relatively less reinvestment risk vis-à-vis pre-crisis CLO 1.0 structures.

Shorter Non-Call Periods

CLOs typically permit the investor(s) in the equity tranche to redeem the outstanding CLO notes after a specified non-call period if a majority or two-thirds of equity investors exercise that right. Equity investors generally prefer to call the outstanding CLO notes and liquidate the deal if market conditions and adverse performance on the CLO collateral portfolio suggests a lower internal rate of return in the future than originally expected by investors in the CLO equity tranche. In other words, equity investors like the flexibility afforded by a shorter non-call period in order to avoid being locked into an under-performing investment.

Provided that existing collateral amounts are sufficient to redeem all the CLO liabilities (which is a requisite condition for equity investors to call the outstanding notes), investors in senior CLO notes will tend to agree with equity investors in such circumstances because their investments can be redeemed at par based on existing collateral amounts on the call date. In other words, relatively shorter non-call periods tend to benefit investors in senior CLO tranches. Collateral managers, by contrast, tend to dislike short non-call periods because of the time and expense required to construct a portfolio that has a high likelihood of being called shortly after the original issuance.

As indicated in Panel (c) of Exhibit 6, the non-call period for CLOs is shorter on post-crisis deals than pre-crisis deals, thereby providing an additional protection to senior CLO note holders. For pre-crisis CLO 1.0 deals, the non-call period averaged three to five years at the time of issuance. By contrast, post-crisis CLO 2.0 transactions had an average non-call period of two years. And Volckerized CLO 3.0 deals exhibit an even shorter average non-call period of one-and-a-half to two years.

As Panel (c) of Exhibit 6 also indicates, post-crisis CLOs also have shorter reinvestment periods *relative to the length of non-call periods*. Whereas pre-crisis CLO 1.0 structures typically had 5- to 7-year (or sometimes as much as seven- to 10-year) reinvestment periods, non-call periods on pre-crisis CLOs usually ended two years earlier than reinvestment periods. Post-crisis CLOs, however, have reinvestment periods that can end as early as one year before the end of the reinvestment period.

Restrictions on CLO Note Cancellations to Improve O/C

An especially important trigger designed to provide credit enhancements to investors in senior CLO notes is based the senior O/C ratio of the par value of the CLO collateral to the par value of CLO liabilities. The senior O/C test requires that the senior O/C ratio must exceed some specified amount (e.g., 105 percent). For example, suppose a CLO has senior debt of $40 million, junior and mezzanine debt of $40 million, and a residual tranche of $12 million. If the CLO collateral has a par value of $100 million, the O/C ratio would be 109 percent and the structure would pass the test vis-à-vis the

[2] In some CLOs, unscheduled principal payments can be reinvested in new securities during the amortization period provided that certain other criteria are satisfied (*e.g.*, restrictions on weighted-average life of the CLO's assets).

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105 percent minimum. If defaults or catastrophic downgrades cause the value of the collateral to fall to, say, $95 million, however, the O/C ratio would decline to 103 percent and the test would fail.

If the senior O/C coverage test fails, cash flows in the CLO are diverted to pay down the senior tranche until the test is compliant again. If insufficient cash flows are available to restore the O/C ratio in a timely fashion (or if the coverage breach is too large), the deal could experience an event of default (EOD). Following the announcement of an EOD by the CLO's trustee, the trustee attempts to liquidate the collateral and distribute the proceeds to the CLO debt holders in order of seniority. In this manner, the O/C trigger serves as a credit enhancement intended to keep senior investors more insulated from losses on the underlying collateral.

As loan prices fell during the crisis (see Exhibit 4), the senior O/C trigger did not always function as intended. In some pre-crisis CLOs close to experiencing an O/C coverage test failure, collateral managers purchased junior, mezzanine tranches at substantial discounts to par. The holders of the mezz tranches were happy to get something instead of what they worried might be nothing, and the collateral managers' effective cancellations of the junior tranches helped avoid violations of the senior O/C trigger tests and thereby assured their ability to continue earning fees and reinvesting CLO collateral.

To be even more explicit, suppose from the earlier example that the par amount of CLO collateral fell from $100 to $90, resulting in an O/C ratio of 98 percent and a coverage test failure. Instead of diverting cash flows to redeem and protect the senior tranche, the collateral manager might instead purchase the $40 million junior tranche for, say, $10 million. The new O/C test would then be 129 percent – *i.e.*, the $90 million in collateral less the $10 million paid for the junior tranche divided by the now $62 million in now-outstanding liabilities. Despite the remaining over-collateralization of the senior tranche, investors in that senior tranche now actually have a riskier position than before because of the net loss of $10 million paid for the junior tranche.

Only a handful of such ''manager pirate'' cases like the one described above occurred in the wake of the crisis. Nevertheless, those cases called into question the efficacy of the senior O/C test as an important credit enhancement for investors in senior CLO tranches. In response to this experience, most new CLO deals now include provisions to prevent the surrender of CLO notes for cancellation without due consideration, as indicated in the third line of Exhibit 10 Panel (c).

Tranche Refinancing Restrictions

As leveraged loan issuance contracted to new lows in 2009 (thanks in large part to the almost complete evaporation of traditional institutional loan purchasers), many borrowers found it difficult to refinance leveraged loans scheduled to mature between 2009 and 2014. One solution adopted by some borrowers was to issue high-yield bonds to refinance maturing loans.

Beginning in 2009, leveraged loan market participants began to embrace an alternative way to refinance existing leveraged loans that did not rely on the high-yield bond market. Using ''amend and extend'' (A&E) transactions, borrowers could refinance at least part of their existing loans without obtaining 100 percent approval of the existing lenders. In addition, A&E transactions enable borrowers to retain their original credit agreements and avoid the time, expense, and risk of negotiating new ones.

In a typical A&E transaction, a borrower needs the consent of more than 50 percent of its lenders. Loans with consenting lenders are refinanced to longer-dated maturities in return for a higher interest rate and a fee. Any debt with the non-consenting lenders is left intact with its original maturity dates and interest rates.

Although A&E transactions have provided both borrowers and lenders with an efficient refinancing alternative, they also posed considerable problems for many pre-crisis CLOs. A&E transactions plagued CLO managers with controversy and apparently gave rise to inconsistent practices as to whether A&E transactions were subject to applicable CLO reinvestment criteria (*e.g.*, weighted-average life restrictions on underlying loan collateral). As such, recent CLOs have included explicit provisions dealing with A&E transactions involving the underlying loans collateralizing those CLOs. As the last row of Exhibit 6, Panel (c) indicates, moreover, post-crisis CLO 2.0 and 3.0 transactions typically prohibit refinancing CLO liabilities until after the expiration of the non-call period.

Nevertheless, the ability to refinance post-crisis CLOs remains an important consideration for sponsors and collateral managers. Approximately 21 CLOs refinanced about $7.6 billion in 2014, some of which were coupled with so-called Volckerization indentures – *i.e.*, supplemental indentures that removed bond baskets and restricted eligible investments in order to satisfy the ''loan securitization exclusion'' under the Volcker Rule (discussed in more detail in Part Three of this article). Because the related CLO reinvestment periods were almost at their end, the primary impact of the refinancing was a reduction of spreads on the related CLO liabilities due to the shortened and more certain duration.

Pricing and Excess Spreads

An important aspect of the risks to which investors in CLO notes are exposed is the compensation that investors receive for bearing those risks and the excess spread of interest earned on the CLO collateral vis-à-vis interest rates required by investors to hold CLO liabilities.

As indicated in Panel (d) of Exhibit 6, post-crisis CLOs have had lower excess spreads relative to pre-crisis CLOs, resulting in part from the higher coupons demanded by investors as risk premiums for purchasing CLO notes in the post-crisis period. As shown in the last row of Panel (d) in Exhibit 6, the weighted-average cost of funds for pre-crisis CLOs was 120 to155 basis points below post-crisis CLO coupon rates.

Exhibit 2 (discussed in Part One of this article) showed weighted-average leveraged loan spreads in excess of CLO weighted-average coupon rates. The red line in Exhibit 2 shows the quarterly median weighted-average coupon on CLO liabilities as a spread over Libor from 2003 through 2014. This spread over Libor can be viewed as a risk premium demanded by CLO investors to compensate for the credit risk of the underlying collateral *given* the C/E and other risk protections inherent in the CLO structures. The spread over Libor on CLO liabilities also reflects the cost of funds for the CLO.

Pre-crisis CLOs had an average cost of funds of about 81 basis points (bps) over Libor in 2003, which declined to a low of 41 bps over Libor in late 2006 and early 2007.

By the fourth quarter of 2007, the weighted-average cost of funds for CLOs had widened significantly to 106 bps over Libor.

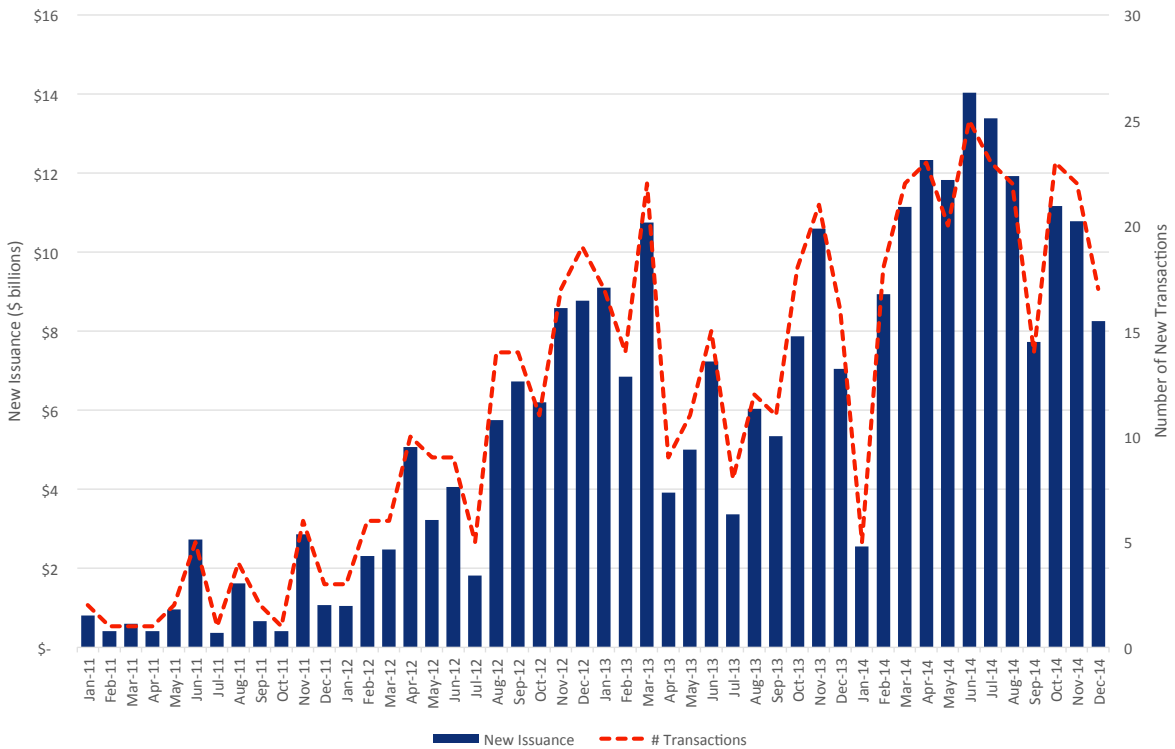
Although post-crisis CLO liability spreads have exhibited greater variance and more frequent directional changes than pre-crisis CLO liability spreads, the lowest point for post-crisis CLOs was approximately 173 bps over Libor in the second quarter of 2013. The highest spreads in the post-crisis period occurred in the fourth quarter of 2011 when the weighted-average cost of funds for CLOs was 226 bps over Libor. At the end of 2014, the weighted-average costs of funds for CLOs was 221 bps over Libor and thus relatively close to the 2011 high-water mark.

The average excess spreads implied by the data in Exhibit 2 and Panel (d) in Exhibit 6 indicate a clear pattern of rising risk premiums demanded by holders of CLO liabilities in the post-crisis period vis-à-vis the pre-crisis period. Although CLOs may be based on riskier collateral in the post-crisis period, investors appear to be demanding higher coupon rates on CLO liabilities to compensate (at least partially) for those risks.

Number and Size of Recent CLO Transactions

Exhibit 10 provides a more detailed look at recent new CLO issuance on a monthly basis from 2011 through 2014. In addition to new issuance amounts, Exhibit 10 also shows the number of new CLO transactions (the dashed line). Exhibit 11, moreover, summarizes annual new CLO issuance from 2011 through 2014 by total issuance amounts, number of new transactions, and average transaction sizes. The average size of a single CLO increased steadily over the period. In 2014, a total of 234 new CLO transactions closed, representing a roughly 11 percent increase in average transaction size relative to 2013 and an approximately 19 percent increase vis-à-vis the 2011 average transaction size.

Exhibit 10: Monthly CLO Issuance, 2011-2014



SOURCE: Wells Fargo Securities

Exhibit 11: Average CLO Transaction Size

	Annual Issuance	*No. of New Transactions*	*Average Transaction Size*
2011	$12,915,980,093	29	$445,378,624
2012	$56,020,688,332	123	$455,452,751
2013	$83,105,040,000	174	$477,615,172
2014	$124,065,216,500	234	$530,193,233

SOURCE: Wells Fargo Securities

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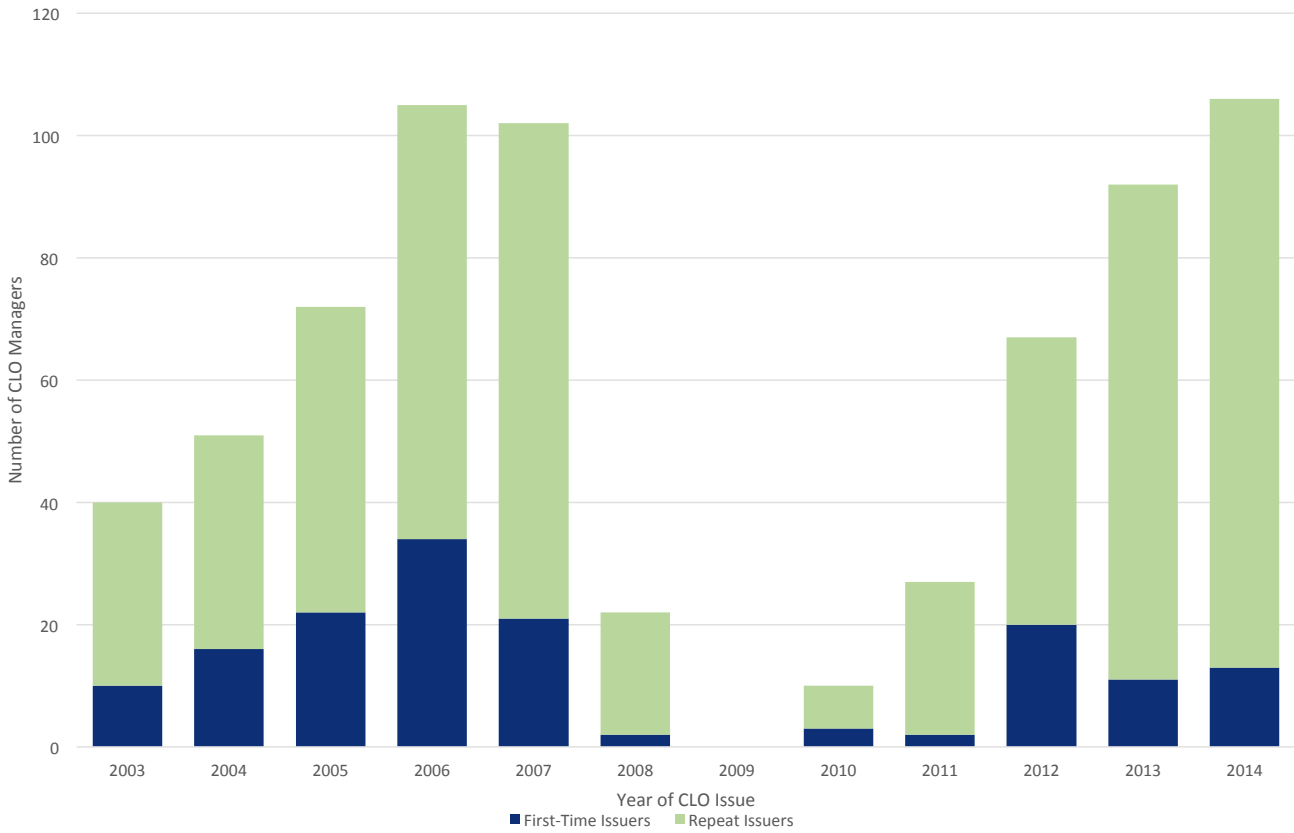
The record-level CLO issuance in 2014 is even more striking when one notes the virtual shutdown of the primary U.S. CLO market in the beginning of 2014 due to the adoption of the final Volcker Rule in December 2013 (which we discuss in Part Three of this article) and the fact that widely-anticipated spread compressions of CLO liabilities did not occur. In fact, even though the cost of CLO liabilities widened in the second half of 2014 (*see* Exhibit 2), the corresponding CLO issuance volume was slightly higher.

Diversity and Stratification of CLO Managers

Exhibit 12 indicates the number of managers that issued at least one U.S. CLO for each issuance year from 2003 through 2014. The dark-colored bars in Exhibit 12 indicate CLO managers that issued a CLO for the first time in each vintage, and the light-colored bars indicate managers that managed new CLOs but which had managed CLOs issued in previous years. Noticeably, 2014 was the year in which the most number of managers issued a CLO – *i.e.*, 106 managers that year, as compared to the previous high of 105 managers that issued U.S. CLOs in the pre-crisis 2006 vintage.

Exhibit 12: Number of Managers Issuing U.S. CLOs by Vintage, 2003-2014



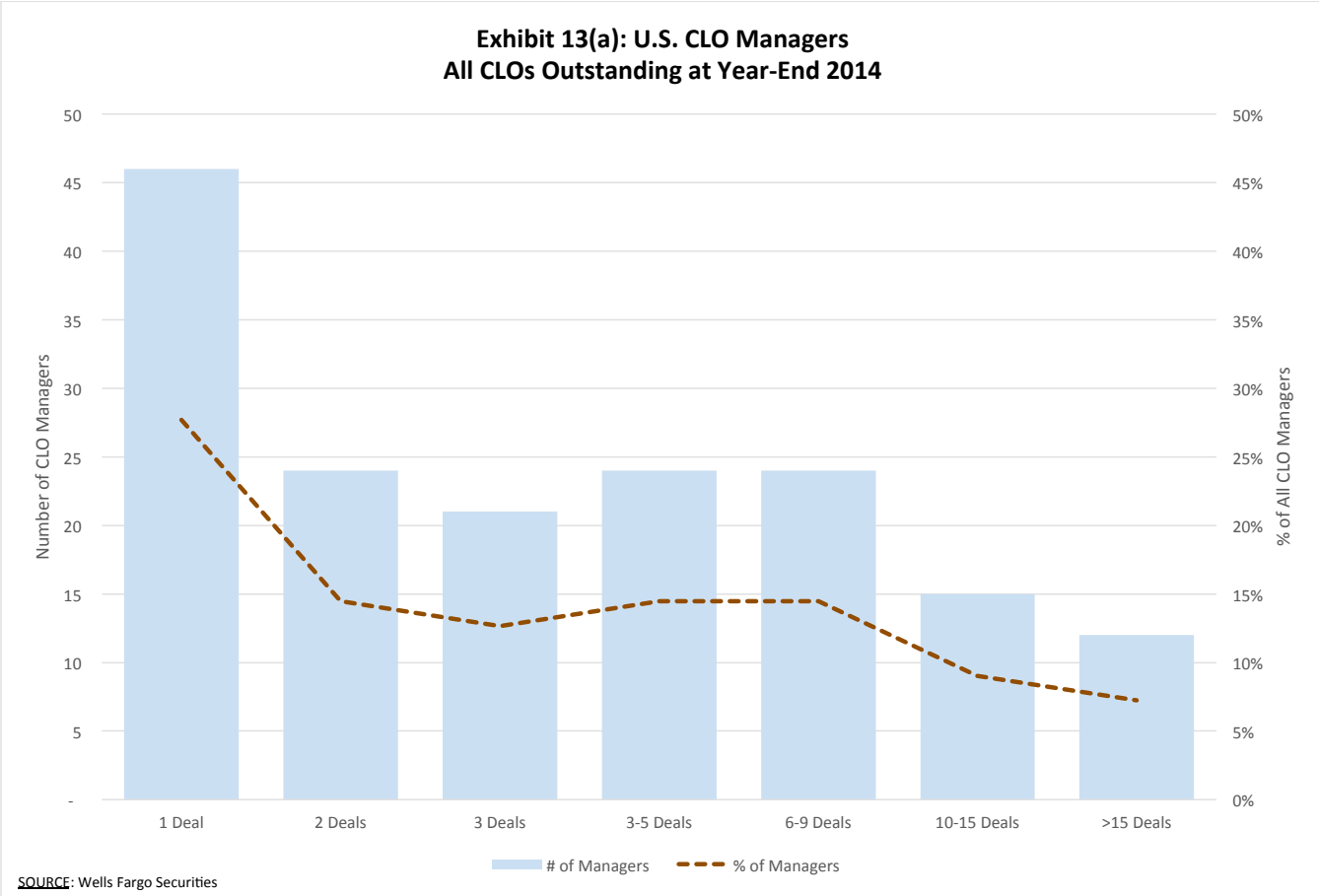
SOURCE: Wells Fargo Securities

Exhibit 13 shows the diversity and stratification of the U.S. CLO market across collateral managers as of year-end 2014. Exhibit 13(a) shows the number and percentage of CLO managers based on the number of deals under management for *all* CLOs (pre- and post-crisis) outstanding at year-end 2014, whereas Exhibit 13(b) shows manager stratification only for post-crisis CLO 2.0 and 3.0 deals outstanding at the end of 2014.

Reflecting the current depth and breadth of the U.S. CLO market, Exhibit 13(a) shows that approximately 166 different CLO managers at year-end 2014 managed a total of 871 individual CLO transactions (both pre- and post-crisis).[3] Exhibit 13(a), moreover, shows the number of U.S. CLO managers by the number of deals outstanding at year-end 2014 that they managed, along with the percentage of all 166 managers by the number of deals outstanding that they managed. The largest number and percentage of CLO managers (*i.e.*, 46 managers, reflecting about 28 percent of all managers) had

[3] The number of managers at year-end 2014 in Exhibits 14 and 15 are not the same because Exhibit 15 shows manager-related issuance by CLO issuance vintage, whereas Exhibit 16 shows managers' total outstanding CLO amounts (across all vintages) at year-end 2014.

only one deal outstanding at year-end 2014.



SOURCE: Wells Fargo Securities

Exhibit 13(a) also indicates that only a small proportion (about 7 percent) of all managers had more than 15 deals outstanding at year-end 2014. Large CLO managers with 10 or more active deals accounted for about 16 percent of all CLO managers at year-end 2014. Despite the relatively small percentage of all managers, those large CLO managers controlled about 53 percent of outstanding U.S. CLO balances at year-end 2014.[4] Reflecting the unusually accommodating CLO market in 2014 – or, alternatively, as some observers have noted, a dash to close CLOs and build scale to survive the implementation of the final Credit Risk Retention Rule (discussed later in this article) – 20 CLO managers issued their first post-crisis CLO transactions in 2014.[5]

As shown in Exhibit 13(b), approximately 123 different CLO managers managed a total of 563 CLO 2.0 or 3.0 structures in the post-crisis U.S. CLO market.[6] Current managers of post-crisis CLOs remain relatively stratified with a total of only 13 CLO managers (around 11 percent) that priced 10 or more post-crisis CLOs and only a total of 38 CLO managers (around 33 percent) that priced six or more post-crisis CLOs as of year-end 2014. As Exhibit 17(b) demonstrates, the vast majority of CLO managers have five or fewer post-crisis CLOs under management.

[4] D. Preston and J. McNeilis, ''The CLO Salmagundi: U.S. CLO Equity Performance,'' *Wells Fargo Securities, Structured Products Research* (Jan. 7, 2015).

[5] D. Preston and J. McNeilis, ''The CLO Salmagundi: 2014 – The Year That Was,'' *Wells Fargo Securities, Structured Products Research* (Jan. 20, 2015).

[6] *See also* Preston and McNeilis (Jan. 20, 2015), *op. cit.*

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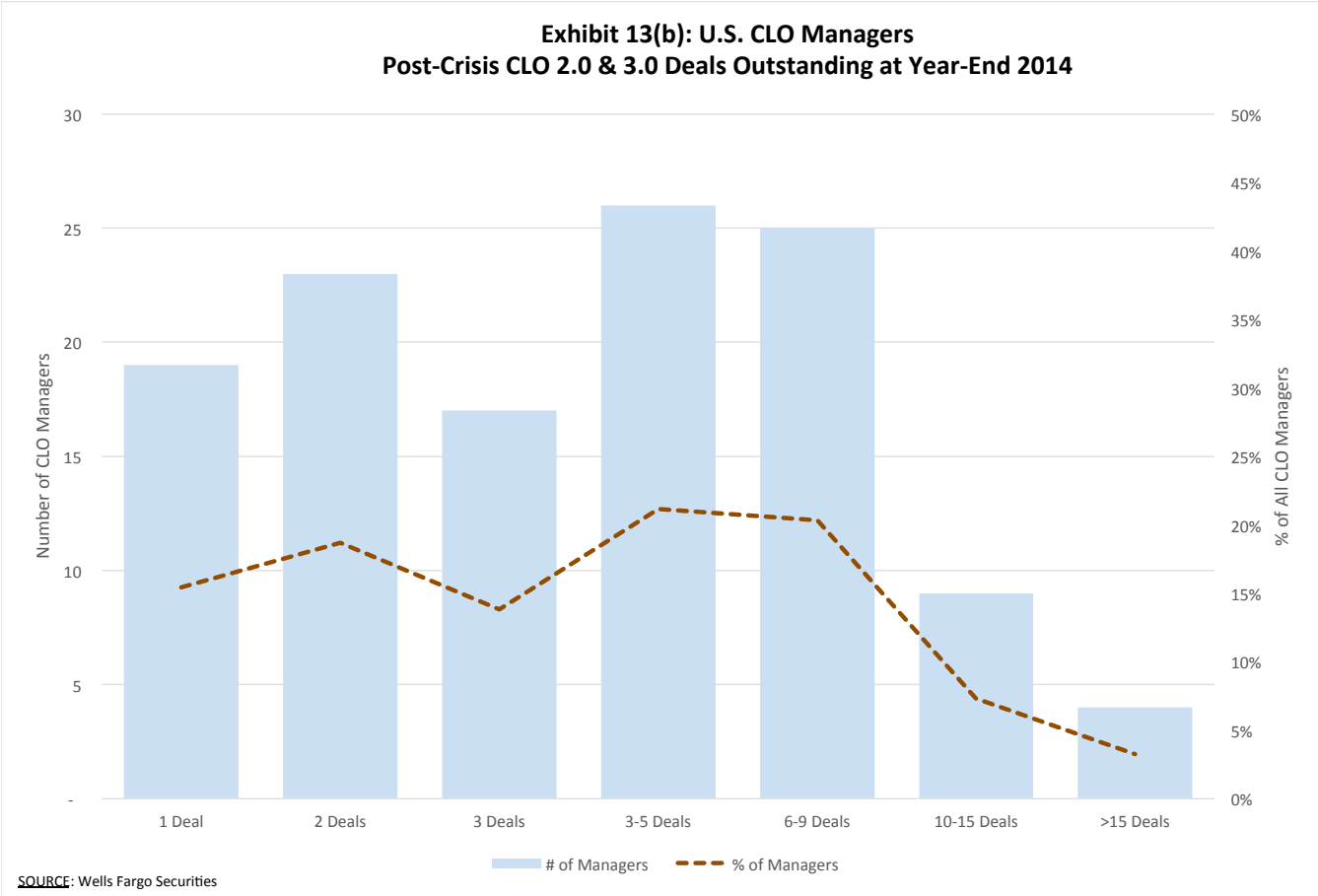

Conclusion

As we discussed in Part One of this article, the market for broadly syndicated U.S. leveraged loans that serve as collateral for most CLOs has experienced a notable recovery following the financial crisis. In recent years, the risks of such loans have returned to and, indeed, surpassed the risks to which pre-crisis investors in institutional tranches of leveraged loans were exposed.

Nevertheless, as the empirical evidence presented in this Part demonstrates, indications that these heightened risks in broadly syndicated U.S. leveraged loans do not necessarily indicate higher potential risks of losses for investors in senior CLO liabilities that hold such loans as collateral. On the contrary, post-crisis structural changes in CLOs, seemingly better risk-based pricing of CLO liabilities, and greater collateral manager stratification all provide better protections to investors in senior CLO 2.0 and 3.0 notes than were present in pre-crisis CLO 1.0 offerings.