COVENANT-LIGHT CONTRACTS AND CREDITOR COORDINATION

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Rises in issuance of corporate loan contracts with weaker enforcement features—called covenant-light—has been interpreted as a sign of easy credit conditions, and even overheating, in the loan market. We evaluate two alternative explanations of this phenomenon: (i) increased demand for cov-lite loans, and (ii) rise in creditor coordination cost. The second point stems from the increasing involvement of non-bank institutions—including hedge funds, mutual funds, structured products, and, to a lesser degree, pension funds and insurance companies—in the syndicated loan market. Based on the (narrower) skills and diverse preferences of these institutional lenders, optimal contracts between them and corporate borrowers likely involve fewer monitoring tools and weaker control rights. In short, these lenders are similar to bond investors, and their optimal debt contract is likely to look more like a bond, i.e., covenant light. We evaluate these explanations of covenant light contract provisions in a large sample of U.S. loans for the 2001-2014 period. We rule out that the rise in demand was a primary explanation for fluctuation in cov-lite volume over this period. We also document that fund flows into institutional lenders are associated with more covenant light provisions, but not necessarily easing in loan pricing terms or speed of syndication. The cov-lite boom reflects, at least in part, that loans are becoming more arms-length.

Key words: Credit cycles; Loan contracts; Debt Covenants.
JEL Codes: G11, G22, G30

The post-crisis period has seen a strong recovery in U.S. corporate credit markets, exhibiting both high issuance volumes of bonds and loans and low average issuer credit quality, thus raising questions about possible overheating. One type of loan in particular has been the subject of overheating concern: namely, an increasing fraction of corporate loans have been issued with weaker covenant protection. This type of loan contract is often called covenant light, or "cov-lite".

Contrary to what the name might suggest, cov-lite loans do not have fewer covenants. What differentiates these loans and makes them riskier is weaker covenant enforcement. Smith and Warner (1979) point out that a typical debt contract contains a set of contractual provisions (covenants) that govern the allocation of control rights between the borrower and its creditors. For example, the most prominent financial covenant in a loan is the leverage ratio, which limits the firm indebtedness as a percentage of its earnings before interest taxes depreciation and amortization (EBITDA). A cov-lite contract (a contract with incurrence provisions) requires the firm to comply with its financial covenants only in the event that a firm pursues (*incurs*) an active event, such as issuance of additional financing, sale of assets, or merger. In contrast, a "cov-heavy" contract (a contract with maintenance provisions) requires the firm to *maintain* its compliance with contractual financial covenants at all points in time.[1] Thus, a drop in the firm's EBITDA due to operational deterioration typically leads to a violation of a cov-heavy, but not a cov-lite, loan contract.

Cov-lite had existed as a fringe phenomenon in corporate lending for several years but took off in the years prior to the financial crisis. As indicated in Figure 1, after disappearing in 2008, covenant light issuance reemerged in 2009. By the end of 2012, quarterly covenant lite origination had surpassed its earlier peak (25% of loan issuance as of 2007:Q2) and it has remained substantially above that level through the end of 2014. In the first quarter of 2014, 43% of all new leveraged loans and 54% of leveraged loan dollar volume flow were cov-lite.[2]

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[1] Effectively, maintenance covenants are tested for compliance every fiscal quarter.

[2] We follow industry jargon and refer to syndicated loans of poor credit quality as "leveraged loans." This term is always used to refer to high risk loans, but the specific definition—i.e., the exact cut-off for the loan spread and overall leverage—might vary by source and time period. In our study we rely on Standard and Poor's classification. Cov-lite is exclusively a feature of leveraged loans, something we discuss in more detail below.

It has been argued that the high cov-lite volume reflects reaching-for-yield—a preference for assets with partially priced, but generally hard to measure, risk—spurred by the prolonged low interest rate environment. Stein (2013) points out that investors that are reaching for yield may be willing to forego control rights in order to boost yields, even if those control rights are more valuable, because yields are visible to investors and part of performance benchmarks, whereas control rights are less visible and are not explicitly accounted for in benchmarks.

Apart from market overheating, the recent rise in cov-lite volumes could also be a demand phenomenon: cov-lite popularity might have increased among firms given the experience of the economic recession. Such is a prominent view among the defendants of the recent increase in cov-lite issuance.[3] From this perspective, given what had been learned from the crisis, more issuers may have been willing to pay a higher yield to get cov-lite features. Indeed, it is worth keeping in mind that, although it is quite sizable, the leveraged loan market is relatively young and its contractual practices (as well understandings of the implications of these practices) are constantly evolving. Consequently, *fluctuations in the prevalence of cov-lite loans should be evaluated together with the pricing*.

A third explanation for the recent rise in cov-lite issuance has to do with the ways contracts shift in response to changes in the investor base for leveraged loans. Covenant violations constitute default, and accelerate all payments (i.e., the whole loan is due immediately), which would typically force a borrower to file for bankruptcy protection. In practice, it is often better for both parties to renegotiate. Indeed, Roberts and Sufi (2009) show that such is the case of the vast majority of violations. So some covenants are intended to serve as triggers to renegotiation. Covenant violation shifts the control rights to the creditor, but does not necessary lead to a default. For loans held by many investors, renegotiation requires that both parties coordinate, using the covenant violation to renegotiate borrowing terms. The presence of coordination costs suggests that covenants might make more or less sense depending on the composition of investors. For example, the quantity of investors

[3] *"These 'ratio maintenance' covenants can often present future onerous restrictions to borrowing companies on managing their business, and in some cases ensuring the survival of their business. As a CFO, I don't want to be overly controlled by strict maintenance covenants that limit my ability to manage my company at exactly the time I need flexibility."* From op-ed by Steve Trollope, Chief Financial Officer for CoGen Power Solutions, LLC. "Leveraged Loans Should Be Lauded, Not Maligned," *Forbes*, September 26, 2014.

may matter: Gertner and Scharfstein (1991) argue that a major impediment to efficient reorganizations is the inability for dispersed creditors to coordinate bargaining among themselves and with the managers of the bankrupt firm. Likewise, Bolton and Scharfstein (1996) argue that capital structures with many creditors can deter efficient ex-post renegotiation of defaulted contracts. Taken together, these arguments would suggest that covenant-driven shifts in control from owners to creditors make less sense for firms that have a dispersed creditor base. For example, changing non-payment features of a bond's indenture typically requires an approval of at least two thirds (by value of bonds) of bondholders. As such, these changes involve a large number of investors, many of whom hold a large number of bonds without having detailed insights into individual issuers.[4] Consistent with this, it comes as no surprise that publicly held bonds are cov-lite, whereas loans funded by banks are covenant heavy.

We propose that the creditor coordination argument is relevant for leveraged loans. Leveraged loans are originated by a few banks but funded by a wide base of institutional investors; i.e., leveraged loans are syndicated to institutional investors. Thus, in terms of investor coordination cost, they represent a form of debt that is in between a publicly-held bond and a bank-held loan. Importantly, over time, institutional investors' demand for leveraged loans has been subject to substantial level and compositional shifts, making leveraged loans more or less like bonds (and less or more like bank-held loans). Specifically, in periods when the investor base of a leveraged loan increasingly resemble that of a public bond (such as the most recent rise in cov-lite issuance), inclusion of covenants intended to lead to renegotiation become less attractive, and one should expect more bond-like (cov-lite) contracts.[5] This brings us to the second point of this paper: *fluctuations in the prevalence of cov-lite loans could be an optimal contractual response to coordination costs and therefore should be evaluated together with shifts in the underlying investor base*.

[4] As an example, in December 2014, Fidelity's Total Bond Fund, which invests across U.S. bond markets, held 2,453 different bonds, and had a total assets of $16.9 billion, and was run by a team of four. Fidelity's High Income Fund, which focuses on lower rated corporate bonds, had assets of $5.7 billion and 594 holdings and was run by a single manager.

[5] Our results are silent on the efficiency of funding a very high share of loans from investors who might be passive in their assessment of issuer's fundamentals. We leave this important question for other research.

Using a sample of syndicated loans, we document several empirical patterns for cov-lite contract terms. First, there are two episodes of considerable cov-lite issuance, one in 2006-2007 and one, even larger, in the period since 2010. These peaks in cov-lite coincide with institutional shares of syndicated loans. Furthermore, flows into CLOs, and to a lesser extent, mutual funds that invest in loans, are strongly correlated with both institutional share of new loans and cov-lite loans.

Second, we examine pricing by comparing the yields on new loans that are cov-lite and cov-heavy, but otherwise similar, controlling for observable fetaures of loan (e.g. size) and issuer (e.g. credit rating). The pricing has contracted at the same time volumes increases, suggesting that a mangerial preference view of cov-lite is not likely to explain the overall patterns. We show that the rise in cov-lite issuance has been accompanied by a contraction in its pricing (i.e., the spread difference between otherwise comparable loans that are cov-lite and cov-heavy). This contradicts the view that this phenomenon is driven by borrowers (if the time pattern of cov-lite was driven by borrowers alone, the implicit price of cov-lite would be expected to rise along with volume). Furthermore, we illustrate that fluctuations in the leveraged loans investor base, which are tied to the cost of coordination, partially account for the increased incidence of cov-liteness.

Third, we consider the cross-sectional determinants of covenant-light frequency and pricing. First, we examine the aggregate time series. We relate cov-lite volumes and prices to determinants of investor compositions: the net flow to CLOs that invest in leverage loans, and to mutual funds (close end, open end, and ETFs). If the coordination argument is correct, we expect higher flows into these investor categories to be reflected in more frequent cov-lite features for new issues. We also relate volumes and prices to proxies for overheating in the market: time on the market or how long it takes to syndicate and close on a new loan used by Ivashina and Sun (2011) and the "break price", i.e., the price at which new loans first trade in the secondary market. If cov-lite reflects irrational or exuberant behavior by investors, we expect these to be related to cov-lite features. The fund flow variables are associated with the high cov-lite frequency and low pricing. In other words, the time series is consistent with the coordination theory. The *R*-squared in the time series is high (0.50 with monthly volumes, and 0.05 with prices, which contain considerable noise, and 0.65 and 0.15 without lagging the independent variables). The overheating variables have some correlation with volumes and prices

of cov-lite, but inconsistent and insignificant half of the time. Thus, the time series lends more support to the coordination theory of cov-lite. [We are working on extending this to cross-sectional tests of individual loans, using ownership data (being collected).]

Our results do not reject irrational pricing or overheating in the sense of Stein (2013) in corporate credit markets, but do offer support for a somewhat different mechanism: the proximate cause of the rise of cov-lite loan features appears to be largely the composition of investors. Of course, the ultimate cause of this flow may itself be more or less rational and healthy (for example, see Kacperczyk and Schnabl 2013 and Zhao 2005).

1. Data

We use two sources for collecting data on corporate loan features: S&P Leveraged Commentary and Data (LCD) and Dealscan. Both datasets have an indicator for cov-lite loans. The two data sources are complementary in that they report somewhat similar information for only partially-overlapping sets of loans.

We classify loans as cov-lite based on indicators in the S&P data. The classification is based on whether enforcement of the financial covenants is incurrence-based, as for corporate bonds, or maintenance-based, as for traditional loans. While the distinction between maintenance and incurrence covenants (and hence that between cov-lite and cov-heavy leveraged loans) is essentially binary, a few intermediate cases also exist. For example, different categories of lenders may have different covenant protection, or covenants may become incurrence only when a certain amount of a revolving credit facility is drawn (these are called "springing covenants" or "quasi cov-lite" loans). These situations are sufficiently rare that we have not attempted to deal with them.

We also collect data on loan ownership by securitized vehicles and mutual funds.

2. Cov-lite pricing

We first evaluate the proposition that the recent financial crisis may have raised managers' willingness to pay for financial contract features that makes them less vulnerable to financial turmoil

and to loss of control to creditors. For example, as suggested by a quote in the introduction, CFOs may have been looking for cov-lite as a way to maintain independence from creditors.

If increased cov-lite issuance reflected a shift in demand for cov-lite loans (as more firms decide to pursue this option)—with an inelastic supply—we would expect that the spread on the cov-lite loans would have gone up. But the trend in prices was just the opposite: as illustrated in Figure 2, the drop in loan spreads between 2009:Q4 and 2014:Q4 was more pronounced for cov-lite loans than for cov-heavy loans. For cov-lite loans, the spread drop between the first and second half of this period was roughly 170 bps (from 615 bps to 445 bps), whereas for cov-heavy loans the drop over the same period was about 35 bps (from 468 bps to 436 bps).[6] A 135 basis points differential translated to a nearly a quarter drop in spreads for cov-lite loans.

The pooled averages in Figure 2 may be confounded by selection effects. In Figure 3, we present results after controlling for firm and loan characteristics such as deal size and purpose and issuer credit rating, all of which are allowed to vary with issuance quarter. We have also expanded the sample to include DealScan together with S&P LCD loan data. As before, these results suggest that the price of covenant lite has been contracting, not increasing, contrary to the managerial preference view. The initial differential is smaller once on accounts for quality, but it still points to roughly a 50 basis point drop in the price of cov-lite loans.

We should also consider shift in the composition of the demand for cov-lite as an explanation for pricing patterns in Figures 2 and 3. In particular, cov-lite provisions are often associated with better companies. (Indeed, heavily leveraged buyouts are most often not cov-lite which is not to say that they do not have other contractual weaknesses.) This observation is consistent with a relatively small difference in the level of pricing between cov-lite and cov-heavy loans pricing leading up to the financial crisis, or over the more recent period (note that the quality difference must be conditional on the control variables in Figure 3). Over time, this price difference has narrowed, which could reflect a rising average quality—an increasing fraction of better companies—choosing cov-lite provisions. One

[6] According to the NBER, 2009:Q2 marks the end of the 2007-2009 economic recession. However, issuance of cov-lite loans over the later part of the recession period was nearly nonexistent. 2009:Q4 represents the first calendar quarter with at least two borrowers receiving cov-lite loans.

way to control for it to look at loan refinancing. This generally would help to account for unobserved variation remaining between firms of the same size and rating issuing loans of similar characteristics (but different covenant liteness).

In Figure 4 we examine the loan pricing at refinancing. The refinancing decision is often dictated by the maturity of the outstanding loan, and in that sense is not influenced by the market conditions (Almeida et al., 2009). The same point emerges from this analysis as from that using firm controls: while there is an overall drop in prices following the Great Recession, the drop in pricing of cov-lite loans is particularly aggressive. In the five and a half years following the Great Recession the spread for firms refinancing into cov-lite loans dropped from a roughly 70 bps premium in the first half of the period to zero in the second half of the period.

The rise in cov-lite issuance has been accompanied by a contraction in its pricing (i.e., the spread difference between otherwise comparable loans that are cov-lite and cov-heavy). This contradicts the view that this phenomenon is driven by borrowers (if the time pattern of cov-lite was driven by borrowers alone, the implicit price of cov-lite would be expected to rise along with volume). We next turn to whether fluctuations in the leveraged loans investor base, which are tied to the cost of coordination, can partially account for the increased incidence of cov-liteness.

3. Coordination cost and incidence of cov-lite provisions

A. Institutional investors in the loan market[7]

Although leveraged loans are originated by banks, non-banks or institutional investors constitute the primary lender base in this market segment. In 2013, at loan origination, only 12.4% of leveraged loans were held by banks.[8] The three main institutional types dominating this market are collateralized loan obligations (CLOs), mutual funds, and hedge funds. Together their holdings exceeded 80% of the loans at their origination in 2013.

[7] Information in this section is based on the S&P's coverage of the leveraged loan market.

[8] Due to the over-the-counter nature of the loan market, there is little information about participants in the secondary market. But arguably, the institutional base should only broaden through trading; in that sense, institutional investors' funding contribution in the primary market is a lower bound. Similarly, it is likely that the number of the investors increases once the loan starts trading and stakes acquired on the primary market get partially sold off.

As illustrated in Figure 5, the institutional flow coincides with periods of cov-lite issuance. The correlation of the incidence of cov-lite with CLO issuance and with the flow into loan funds is 0.68 and 0.48, respectively, both statistically significant at 1% level. The number of different fund managers in this market—important from a coordination prospective—follows a very similar pattern: it grew from 74 in 2000 to 307 (with nearly 900 different investment vehicles) in 2007. This includes managers that either participated in at least three loans or made at least $10 million of commitments. After the securitization shutdown at the end of 2007, the number of institutional groups investing in leveraged loans dropped almost by half. However, this number was essentially back to its pre-crisis level by the end of 2013, and reached 316 investor groups by mid-2014.[9]

While the number of investors engaging in the leveraged loan market in the post-crisis period is large, but comparable to the pre-crisis levels the composition of the investor base following the crisis is more diverse and complex. In 2013, CLOs were still the largest institutional group, with roughly 45% of all primary holdings. But the new post-crisis phenomenon is a rise in loan mutual funds. The share held by these mutual funds nearly tripled following the financial crisis, rising from roughly 10% in 2006 to 27% by the end of 2013.

There are several important differences between mutual funds and CLOs including the fact that mutual funds mark the value of their assets to market and are subject to redemptions (outflows). These structural differences are likely to lead to differences in incentives in loan renegotiation making coordination among creditors even more costly. For example, CLO managers (decision-makers on the amendments) may benefit from a maturity extension more than non-CLO investors. Consequently, compositional changes in the leveraged loan investor base may have driven a rise in renegotiation costs.

To compare the theories of cov-lite to each other more directly, we now turn to multivariate regression tests. We consider both cross-sectional and time series data.[10]

B. Time-series results

[9] For more information on institutional engagement in the leveraged loan market see Ivashina (2013).

[10] NB. As of this preliminary version of the working paper, cross-sectional tests are not ready, pending loan-level data on ownership.

We first consider correlates of the time series patter of prices and volumes. We use the fraction (Table 2) and implied price on cov-lite (Table 3) as dependent variables. The implied price is a regression coefficient on a cov-lite indicator (separate for each calendar month or quarter) in a regression of loan yields on controls for size, size squared, maturity, loan rating, deal purpose, loan type, all interacted with issuance quarter fixed effects (Figure 3 illustrates these prices).[11]

We explain the time series of volumes and prices at the monthly frequency (or quarterly, as robustness) in a regression with three groups of variables: capturing the loan investor composition, capturing general overheating, and capturing a generic time trend. The key investor types, as discussed above, in leveraged loans, are mutual funds and CLOs. We measure aggregate inflows, in billions of U.S. dollars, at the monthly frequency. When inflows are high, the coordination theory predicts higher volumes of cov-lite and lower prices. We measure overheating using two measures: the average time taken to close syndication on new loans, and the average price, as a fraction of par, at which new loans start trading in secondary market (multiplied by 1,000). Both of these are expected to move if markets are somehow overheating in the sense of Stein (2013). They could also move for other reasons, so that significant coefficients need not be interpreted as firm evidence of mistakes or irrationality. We lag all the dependent variables one month to make sure we don't include market responses to issuance as dependent variables.

In Table 2, we test whether coordination and overheating can explain the overall time pattern in volumes. Institutional investor flows are strongly related to volumes (positively), as well as prices (negatively). This holds whether or not we control for overheating variables and a time trend. In Table 3, we test whether lagged variables can explain how implicit prices move over time. For both regressions, institutional flow is highly significant. Overheating variables have more mixed significance (four out of 12 coefficients at monthly frequency are significant). The linear time trend is positively associated with volumes but not pricing. The magnitude of the estimated effect of institutional flows on volumes is large: a one standard increase in the institutional flow variables are

[11] The regression standard errors are adjusted for the fact that the dependent variable is estimated. A more efficient procedure estimating the coefficients of interest directly in one step is also possible, but the regression output is less easy to interpret.

associated with increases in the cov-lite share of 7.8% and 2.1% respectively. The two variables explain about half of the time series variation in the cov-lite share. The effect on pricing is also large: one standard deviation increases reduce the price of cov-lite by 15 and 13 bps, respectively. The R-squared is lower for prices, in line with the noisy nature of this time series.

These time-series results are consistent with a large role for the composition of investors as a key determinant of both the pricing and volume of cov-lite. The data speaks a little less clearly on whether overheating, over optimism, or irrational exuberance can also play a role in corporate credit markets. At least, we can say that we find no strong evidence for this.

4. Final remarks

Credit markets exhibit strong cyclical patterns, which are associated with large swings in output and investment. Evidence suggests that credit is low in recessions in part because banks are unwilling to lend, i.e. the supply of loans is moving (see, e.g., Becker and Ivashina, 2014, Ivashina and Scharfstein, 2010, and Jimenez and Ongena, 2012). This suggests that lending is "too low" in bad times, in the sense that frictions (in banking) have negative effects on growth.

To what extent are credit markets also "too easy" in good times? There is a well-understood theoretical mechanism that describes feedback between asset prices and leverage (e.g., Kiyotaki and Moore, 1997 and Geanakopolos, 2009). Other mechanisms involving agency problems or behavioral mistakes are also possible (see Stein, 2013). Understanding the extent to which credit market swings reflect irrational exuberance is key for informed monetary policy formation, for regulation, and for market participants.

In this paper, we consider a feature of syndicated loans—covenant-lightness—which has recently been linked to exuberance and overheating. We provide a comprehensive framework for thinking about cross-sectional patterns as well as trends in cov-lite loan issuance. We highlight that the analysis of cov-lite must account for (i) loan prices, and (ii) the composition of the lender base.

Apart from the overheating explanation, an alternative theory suggests that optimal contracts should give weaker control mechanisms to loan syndicates when participants are less informed and more dispersed. The recent uptick in cov-lite lending does coincide with broadened participation in

loan syndicates by mutual funds, hedge funds, structured products, and other non-bank investors. A third explanation for the recent boom argues that the uptick in volume reflects a shift in borrower preferences: in the wake of the financial crisis, managers have increased the value they place on financial flexibility (which can be improved by cov-lite borrowing).

Time series patterns of volumes do not offer clean separation between the overheating, managerial flexibility, and coordination views of cov-lite, simply because there are few periods and many variables changing at once. Therefore, we consider two pieces of additional evidence: prices and cross-sectional variation in the use of cov-lite features. We document that holding observables fixed, the price (i.e., yield difference) between cov-lite and cov-heavy has fallen at the same time that the share of cov-lite rose rapidly. Thus, the "supply" of cov-lite, i.e., the willingness of investors to accept it, appears to have increased considerably. This rules out the managerial flexibility explanation of the recent cov-lite boom. The contracting explanation is consistent with a sizeable increase in the share of leveraged loan tranches being acquired by structured products. Cross-sectional evidence on this issue will be developed.

In this paper, we have followed regulatory and industry interest in cov-lite provisions. However, as far as credit cycles go, cov-liteness is just one of the contractual features that may be associated with weaker creditor control rights, increases in the risk of new credit, and possible reaching for yield. There is a multitude of other provisions (increased use of second liens and pay-in-kind provisions to name a few) that are likely to make loans riskier, but fit with a more arm's-length investor base. Cov-lite is particularly interesting because the recent increase in volumes has been so steep and because the contract is so similar to exisiting contracts in the bond market. Whether or not an increased share of institutions in credit markets is on balance good or bad, whether it increases or reduces systemic risk, and whether it may be a sign of possible overheating (for example due to yield chasing by retail investors or by regulated entities), is not addressed by our results.

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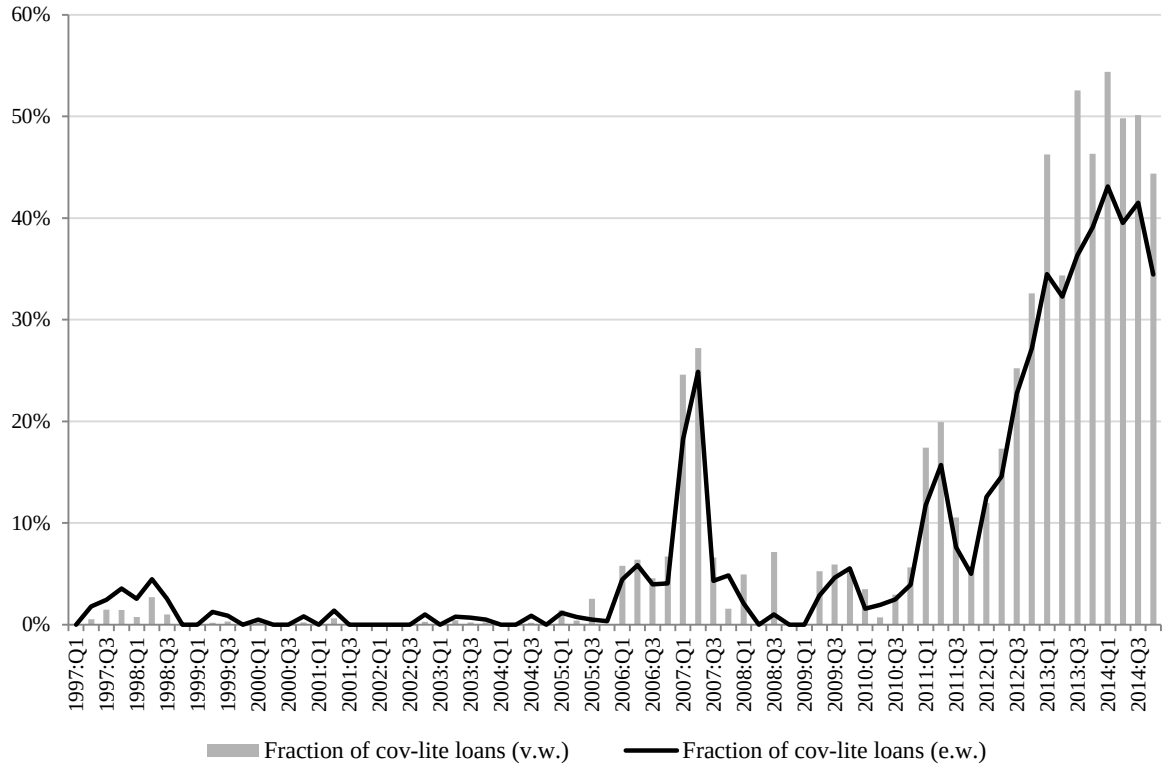
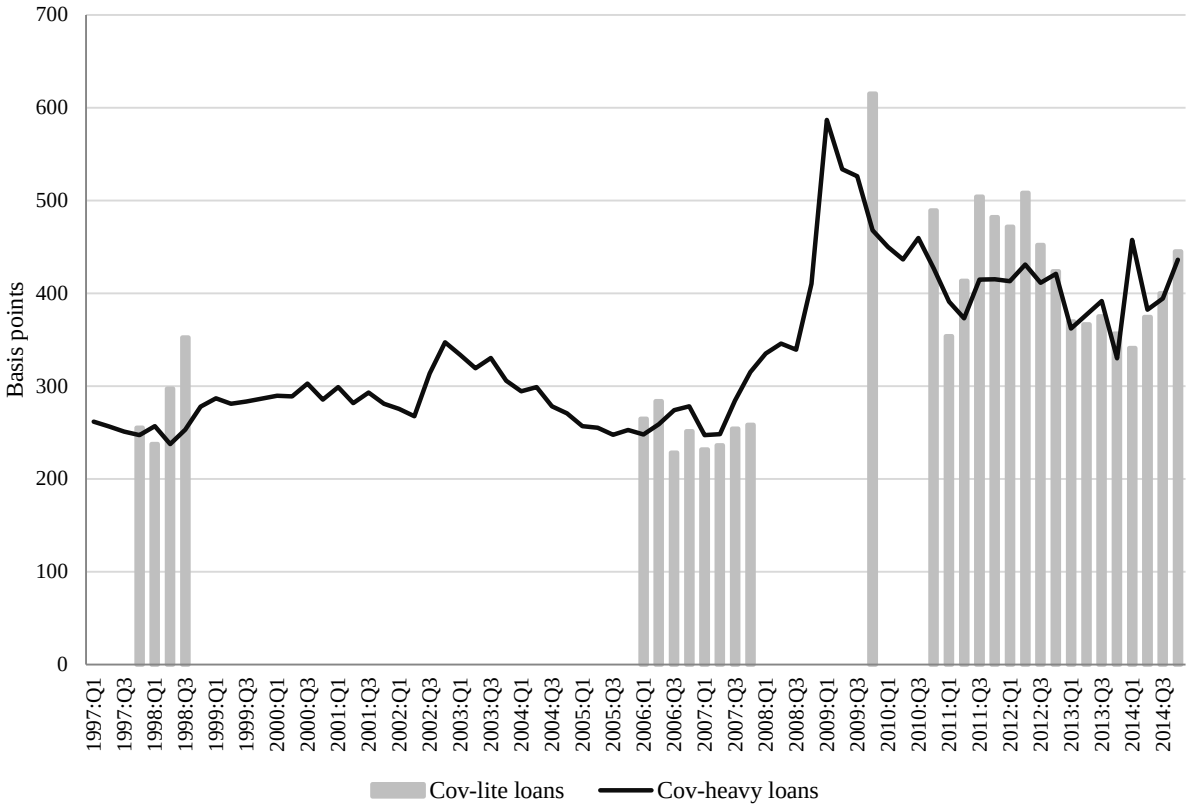
FIGURE 1. COV-LITE LOAN ISSUANCE, 1997-2014



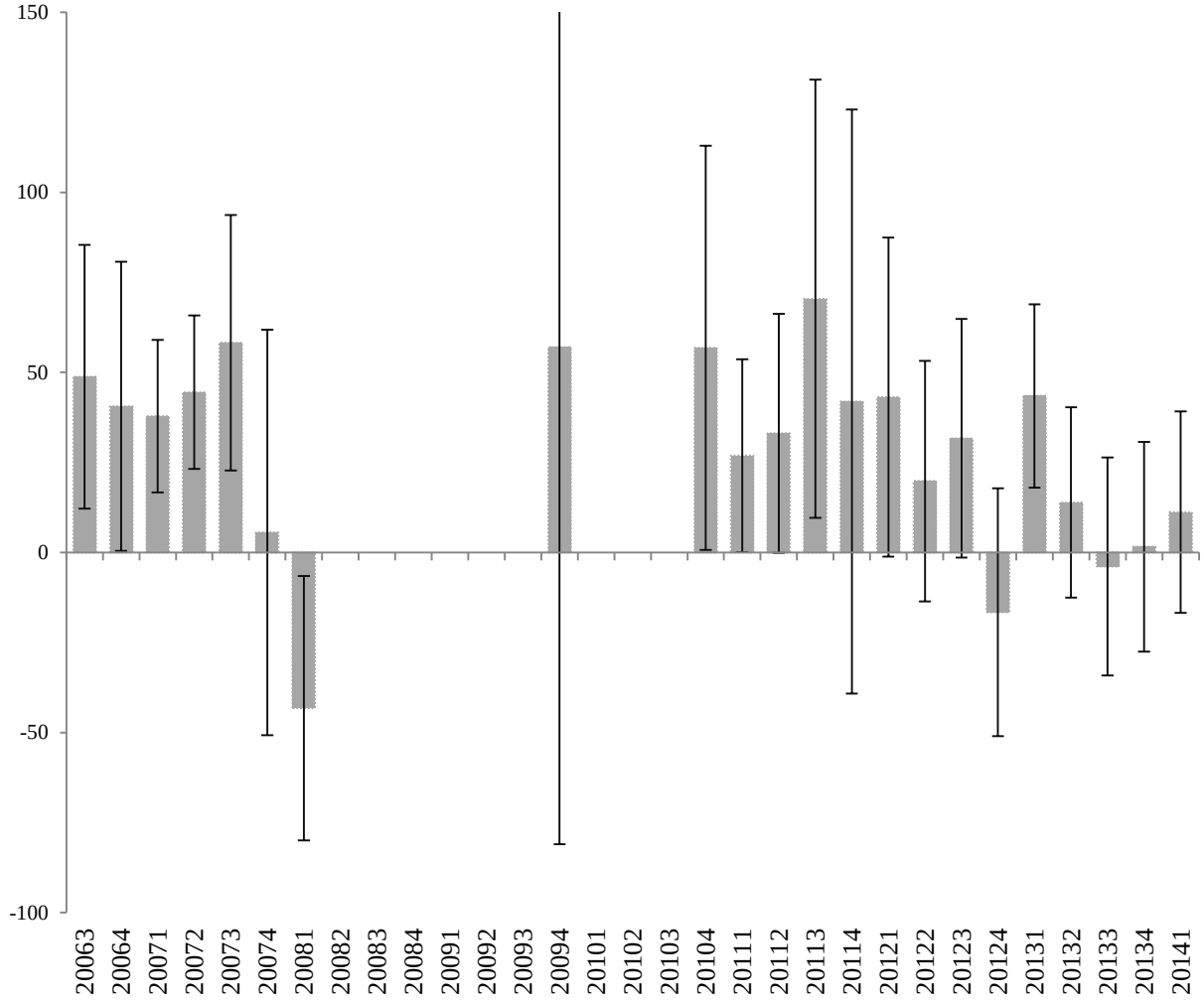
Notes: The figure plots the fraction of newly issued leveraged loans that are "covenant-lite." Data is compiled from Standard and Poor's LCD U.S. loan pipeline data accessed on December 4, 2014. The sample excludes deals classified by S&P as Middle Market. The Volume for the fourth quarter of 2014 is estimated using data through November 30, 2014.

FIGURE 2. LOAN SPREAD: COV-LITE VS. COV-HEAVY LOANS



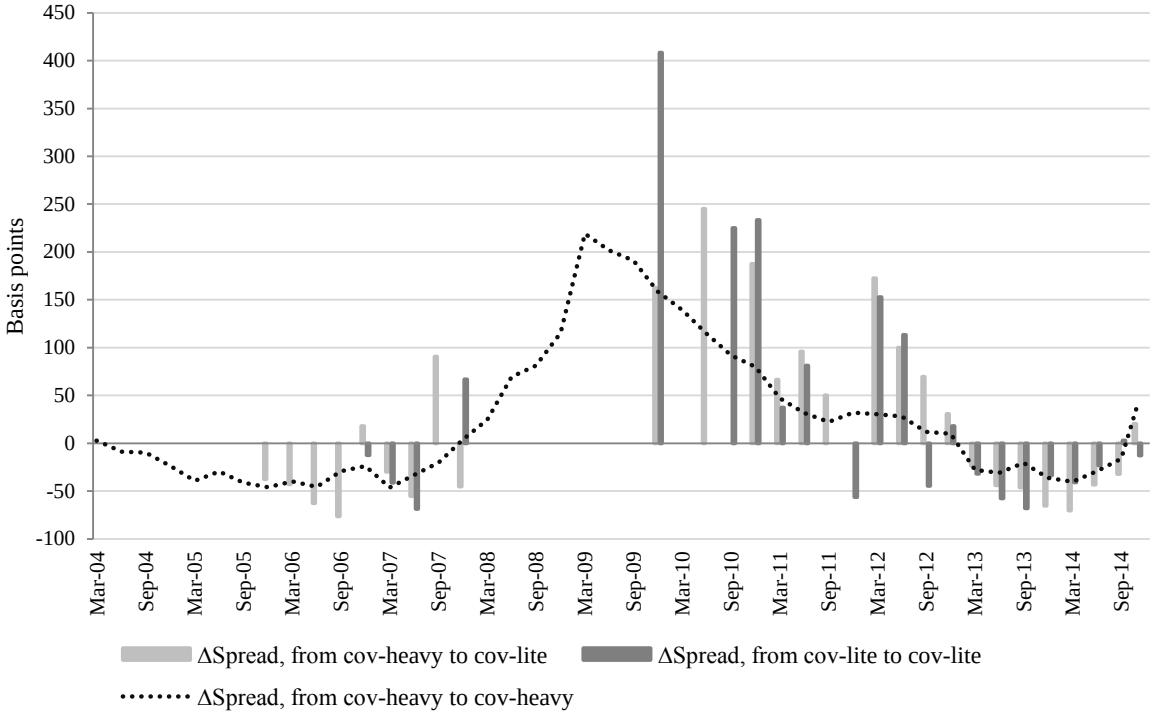
Notes: The figure plots all-fees-in-drawn spread paid over LIBOR. Data is compiled from Standard and Poor's LCD U.S. loan pipeline data accessed on December 4, 2014. The sample excludes deals classified by S&P as Middle Market. For cov-lite loans, the sample excludes quarters with fewer than two borrowers receiving new loans.

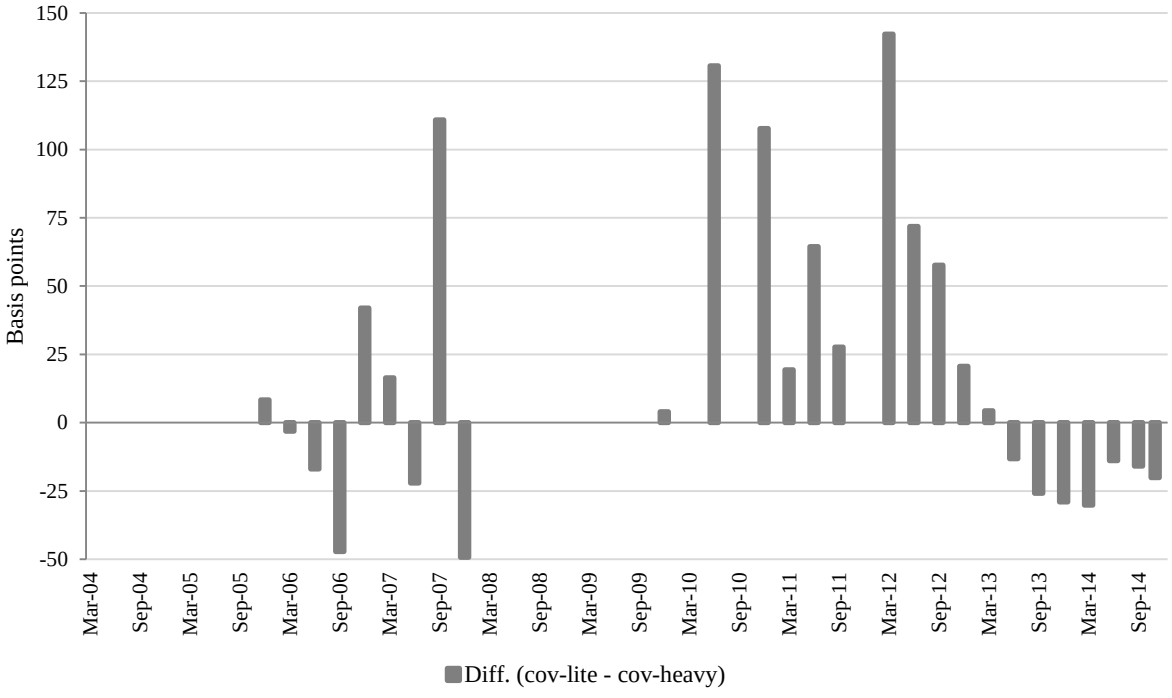
FIGURE 3. COV-LITE PREMIUM: CROSS-SECTIONAL EVIDENCE



Notes: The figure plots all-fees-in-drawn spreads paid over LIBOR for cov-lite loans. Each column represents the coefficient on a covenant light indicator, controlling for size, size squared, maturity, loan rating, deal purpose, loan type, all interacted with issuance quarter fixed effects. Data is compiled from Standard and Poor's LCD U.S. loan pipeline data accessed on December 4, 2014. The sample excludes deals classified by S&P as Middle Market. Error bars indicate 95% confidence intervals based on robust standard errors.

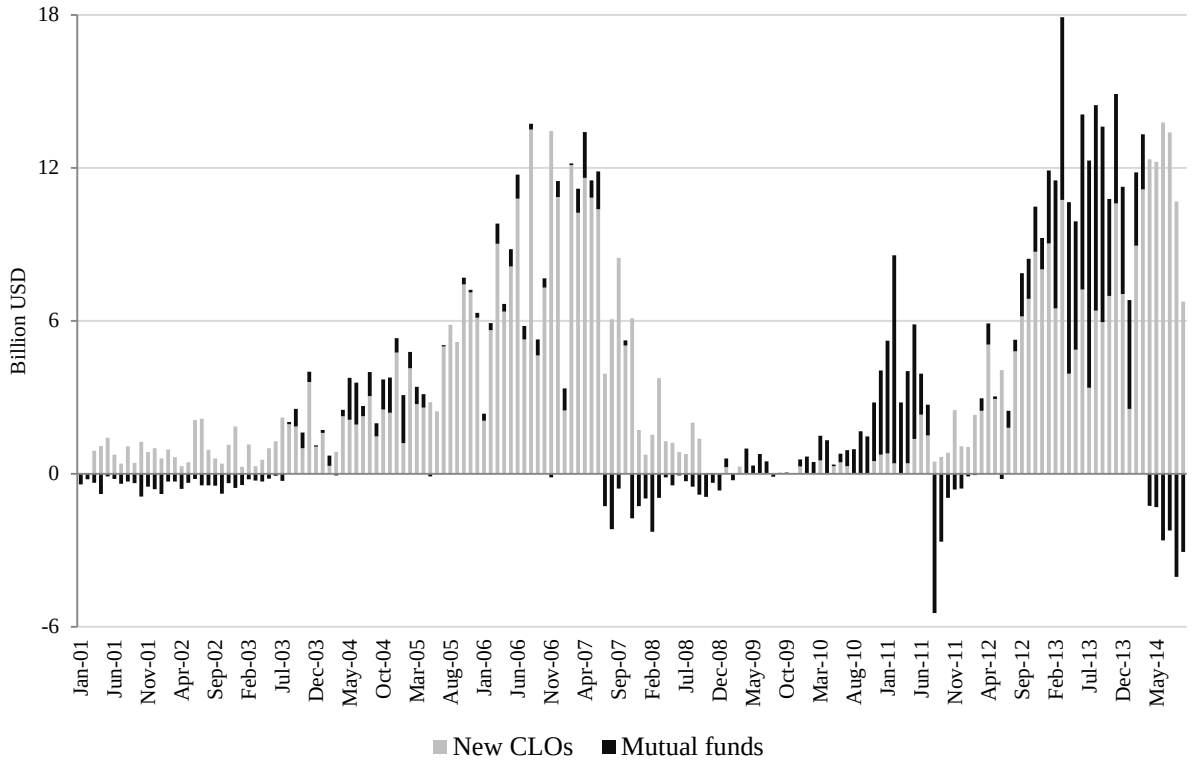
FIGURE 4. COV-LITE PREMIUM: EVIDENCE FROM REFINANCING





Notes: The figure plots *change* in all-fees-in-drawn spread paid over LIBOR by the same borrower paid on refinanced loans. Data is compiled from Standard and Poor's LCD U.S. loan pipeline data accessed on December 4, 2014 and DealScan. For cov-lite loans, the sample excludes quarters with fewer than two borrowers receiving new loans.

FIGURE 5. LOAN MARKET INSTITUTIONAL FUND FLOW



Notes: The figure plots fund flow into collateralized loan obligations (CLOs) and loan mutual funds. Both of the institutional types concentrate their assets in leverage loans. The figure uses data from Lipper downloaded from Standard and Poor's LCD.

TABLE 1. SUMMARY STATISTICS

Variable:	Mean	Standard deviation	Minimum	Maximum
Institutional inflow: CLOs ($ billion)	4.25	4.27	0	13.78
Institutional inflow: Mutual funds ($ billion)	0.98	2.54	-5.46	8.91
Time on the market (days)	18.55	6.74	4.00	47.10
Break price (relative to par x 1,000)	991.6	22.4	815	1,012.9
Cov-lite price, quarterly estimate	32.0	26.5	-43.2	70.4
Cov-lite price, monthly estimate	-31.0	55.4	-277.7	150.8
Cov-lite share, leveraged loans (%)	14.1	14.3	0	43.1

Notes: This table presents summary statistics for times series variables. Institutional inflow represents inflow minus outflow to key investors in leveraged loans, based on data from Lipper, Standard & Poor's Structured Finance Group, JP Morgan, Merrill Lynch, Citigroup, S&P/LSTA Index, Standard & Poor's LCD. *Mutual funds* include open ended funds, close-end funds, and ETF funds. *Time on the market* is the average time between a new loan is introduced and when the deal is closed. *Break price* is the price at which a loan first trades in the secondary market, as a fraction of par. *Cov-lite price* is a regression coefficient on a cov-lite indicator, controlling for size, size squared, maturity, loan rating, deal purpose, loan type, all interacted with issuance quarter fixed effects (se Figure 3). When nothing else is indicated, a variable is measured at monthly frequency.

TABLE 2 — TIME-SERIES CORRELATES OF COV-LITE VOLUMES

Dependent variable:	Cov-lite share of leveraged loans			
Frequency:	Monthly	Monthly	Monthly	Monthly
	(1)	(2)	(3)	(4)
Institutional inflow: CLOs	1.960***	--	2.160***	1.816***
	(0.451)		(0.314)	(0.194)
Institutional inflow: Mutual funds	1.913***	--	1.582***	0.836***
	(0.626)		(0.469)	(0.266)
Time on the market	--	-0.724*	-0.828**	0.074
		(0.376)	(0.340)	(0.252)
Break price	--	0.124	-0.079	-0.011
		(0.102)	(0.050)	(0.026)
Linear time trend	--	--	--	3.606***
				(0.388)
Obs.	104	101	99	71
Clusters	35	36	35	35
R-squared	0.504	0.194	0.630	0.849

Notes: This table presents regression of the share of leveraged loans that are cov-lite on time series variables. The independent variables are CLO issuance and net inflows to mutual funds specializing in loans, the average time taken to close syndication on new loans, and the average price, as a fraction of par, at which new loans start trading in secondary market (multiplied by 1,000). All independent variables are monthly, and are lagged one month. Robust standard errors, clustered by calendar quarter, are reported below each coefficient in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

TABLE 3 — TIME-SERIES CORRELATES OF COV-LITE PRICING

Dependent variable:	Cov-lite price				
Frequency:	Monthly	Monthly	Monthly	Monthly	Quarterly
	(1)	(2)	(3)	(4)	(5)
Institutional inflow: CLOs	-2.479*	--	-3.501***	-3.504***	-2.635***
	(1.379)		(1.1175)	(1.195)	(0.782)
Institutional inflow: Mutual funds	-3.420*	--	-5.167***	-5.175***	-3.350***
	(1.572)		(1.430)	(1.494)	(1.721)
Time on market	--	-0.180	-0.476	-0.448	1.198**
		(0.595)	(0.631)	(0.708)	(0.520)
Break price	--	0.075	1.017**	1.017**	1.327***
		(0.756)	(0.486)	(0.493)	(0.235)
Linear time trend	--	--	--	0.086	-0.823
				(2.465)	(1.640)
Obs.	71	73	71	71	71
Clusters	26	27	26	26	24
R-squared	0.059	0.006	0.091	0.091	0.497

Notes: This table presents regression of the implicit price of cov-lite by time period on time series variables. The implicit price is the coefficient on a cov-lite indicator (separate for each calendar month or quarter) in a regression of loan yields on controls for size, size squared, maturity, loan rating, deal purpose, loan type, all interacted with issuance quarter fixed effects (presented in Figure 3). The independent variables are new CLOs and net inflows to mutual funds specializing in loans, the average time taken to close syndication on new loans, and the average price, as a fraction of par, at which new loans start trading in secondary market (multiplied by 1,000). All independent variables are monthly, and are lagged one month. Robust standard errors, clustered by calendar quarter, are reported below each coefficient in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.