

Do Banks Compete on Non-Price Terms? Evidence from Loan Covenants

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May 2023

Motivation

Loans are complex, multi-dimensional contracts

- All loan terms determined simultaneously
- Lots of heterogeneity in how borrowers and lenders weigh these different dimensions

In contrast, banking literature is very “partial equilibrium”

- *How does shock X affect interest rates?*
- *How does firm characteristic Y affect loan covenants?*
- ...

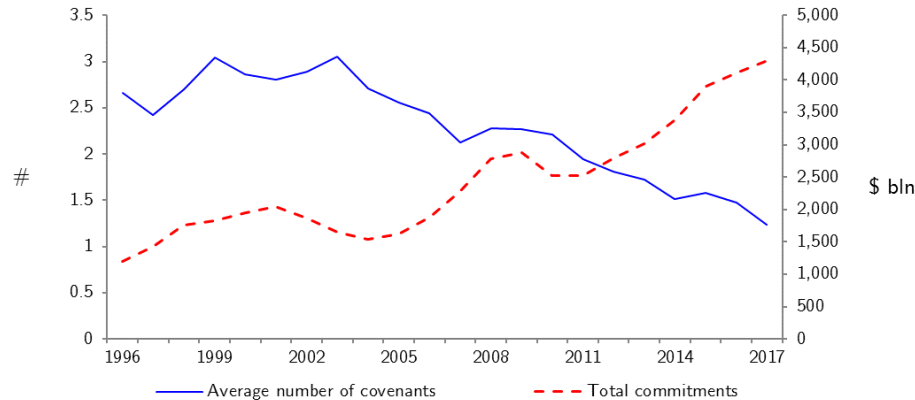
The argument is the usual “*ceteris paribus*” – *controlling for the other loan terms*

This paper: clean, *segmented* shock to one loan dimension allows us to

- trace out how other contract dimensions adjust
- Explore heterogeneity across borrowers and lenders in how each dimension is weighted

Motivation

Trends in the syndicated loan market



Dealscan, Shared National Credit Program's Data (Fed, FDIC, OCC)

Rise in cov-lite lending

Federal Reserve [+ Add to myFT](#)

Concern over waning use of covenants in debt markets

'False bravado' and investors' lack of protection causes concern

US [+ Add to myFT](#)

Growth of 'cov-lite' loans sparks debate

The lack of lender protection has sparked a debate among investors

“Growing **pressure to reduce covenants** in the syndicated loan market is filtering down to the middle market, prompting lenders to find a creative way to navigate an **increasingly competitive industry**”

Reuters, 2017

“**We chose <JPMorgan> Chase because** its pricing was competitive, it agreed to underwrite the full amount, and they showed a high degree of flexibility on structuring, **particularly** their willingness to permit ongoing capital expenditures **without burdensome covenants**”

Jeff Speed, Disney's VP of Corp Fin

Hypothesis: Supply side matters (Murfin, 2012)! Lenders compete on non-price terms

Empirical Challenge and Main Result

Why do we care?

- i. might explain link between fast loan growth and subsequent poor bank performance (Fahlenbrach et al. 2018)
- ii. hidden risks for financial system in downturn (Chodorow-Reich & Falato 2018)



Theory and identification

- Develop simple theoretical framework similar to Matvos (2013):
 - Predictions on extensive and intensive margin
- 2013/4: Board, FDIC and OCC issue Leveraged Lending Guidance and subsequent Clarification
- Provides quasi-exogenous, *isolated* shock to the ability of regulated lenders to offer covenant lite loans
- Importantly, proxy for unobservable loan offers through observed loans by old relationship lender



Main results:

- Causal link between covenants and the choice of lenders by borrowers
- Allows us to estimate something akin to a “market price of covenants”

Literature and contribution

Our paper relates to the large empirical literature studying

- covenants in terms of their
 - i. impact on firm policies (Chava & Roberts 2008, Nini et al. 2009),
 - ii. choice/determinants (Murfin 2012, Griffin et al. 2020)
 - iii. role in financial system (Chodorow-Reich & Falato 2018)
- shadow banks (Moreira & Savov 2017)
- relationship banking (Degryse and Ongena 2005; Ivashina and Scharfstein 2010; Chodorow-Reich 2013; Beck, Degryse, De Haas, Van Horen 2018)
- regulatory decisions in banking system (Fraise & Thesmar 2015; Steri & Pierret 2018), and, in particular,
- impact of the Guidance and the Clarification (Schenck & Shi 2017; Kim et al. 2018)

We contribute to the literature by

- establishing the causal link between covenants and borrowing choices
- assessing the impact of the Clarification on banks' behavior through a specific channel

Theory

Simple model in the spirit of Matvos (2013):

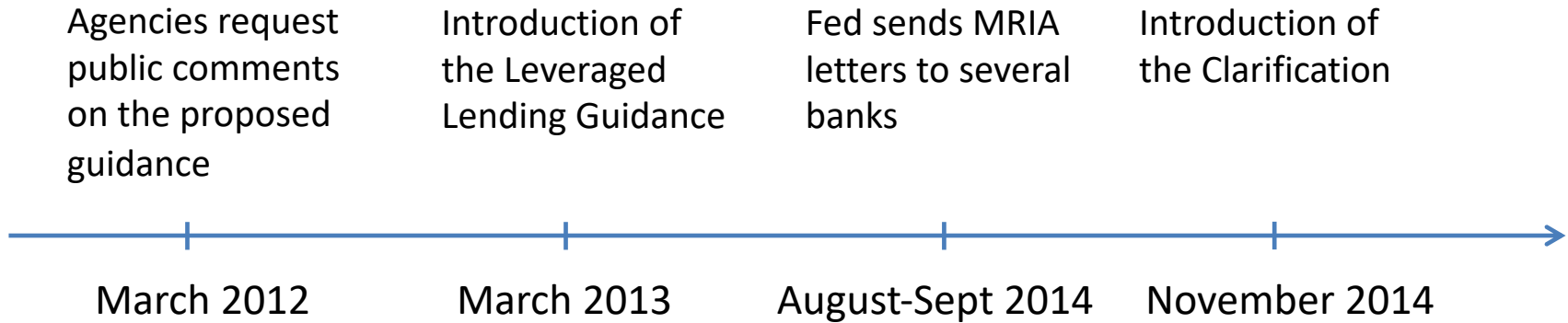
- continuum of lenders compete for a loan from borrower
- importantly, both *price* and *non-price* terms (interest rate and covenants)

Really hard to model! (for a more involved approach, see [Lee & Mann, \(2022\)](#))

Three key takeaways:

1. Borrowers trade off the availability of funds with the presence of covenants – there exists “*a unique optimal set of financial contracts which maximize the value of the firm*” (Smith & Warner, 1979)
2. After a lender is forced to increase covenants, borrowers trade off staying with said lender and getting lower rates/larger loans as compensation vs switching
3. Decision to switch depends on value of covenant lite loans to borrower

The regulation



Leveraged Lending Guidance, March 2013:

- “...applies to all institutions supervised by the OCC, Board and FDIC...”
- “...safe and sound lending standards..., ... underwriting standards...should consider...covenant protection”,
- “Agencies will closely review < **covlite** > loans as part of the overall credit evaluation of an institution“

Clarification, November 2014

- “Potential weaknesses in one aspect of a transaction structure (such as **covenants**, maturity, or repayment structure) are assessed along with the financial aspects of the borrower in determining the final supervisory rating”

Data and sample

- S&P's Leveraged Commentary and Data (LCD)
- Sample period is 2012-2018 for regressions, 2000-2018 for relationship measures
- Leveraged loans only, based on LIBOR 150+ bp and credit rating
- Non-financial US borrowers
- US banks are treatment (~4k loans) and non-banks are control group (~400 loans)

Table 1. Summary stats

	Panel B: Banks vs NonBanks									
	Banks					NonBanks				
	Mean	St. Dev.	Min	Max	NObs	Mean	St. Dev.	Min	Max	NObs
DealSize (\$ bln)	0.67	0.80	0.01	12.35	4039	0.35	0.41	0.01	2.40	421
Interest	4.00	1.78	0.33	15.00	4039	4.86	1.87	2.25	12.00	421
Collateral	0.02	0.14	0.00	1.00	4039	0.01	0.11	0.00	1.00	421
Maturity	5.81	1.20	0.70	10.00	4039	5.87	1.23	0.50	8.50	421
Rated	0.96	0.19	0.00	1.00	4039	0.93	0.25	0.00	1.00	421
Bank Relationship	0.96	0.20	0.00	1.00	4039	0.37	0.48	0.00	1.00	421
New Lender	0.27	0.44	0.00	1.00	4039	0.38	0.49	0.00	1.00	421
CovLite	0.56	0.50	0.00	1.00	4039	0.58	0.49	0.00	1.00	421

Data and sample

Table 1. Transition Matrices

Panel D. Transition matrix of probabilities								
Prior to the Clarification			After the Clarification			Change in transition probabilities		
	Bank	Non-bank		Bank	Non-bank		Bank	Non-bank
Bank	96.7%	3.3%	Bank	94.9%	5.1%	Bank	-1.9%*** (4.3755)	1.9%*** (-4.3755)
Non-bank	47.3%	52.7%	Non-bank	35.8%	64.2%	Non-bank	-11.5%*** (3.3995)	11.5%*** (-3.995)

Post Clarification:

- Former bank borrowers switch to non-banks at a rate 60% higher than pre-clarification
- Non-bank borrowers switch back to regulated banks at a 25% lower rate than before

Total volume of loans in non-bank sector increases by **\$30bn**



The premise of the empirical part is to unfold these changes and pin down the channel

Research design

Strategy

- Classic DID:
 - **Treatment:** firms with revealed preference for bank lenders (Becker & Ivashina 2014)
 - **Post:** after Clarification (Q4 2014)
- Outcome:
 - *New Lender*, an indicator for whether a loan was with a lender that had not previously acted as lead arranger for borrower ***b***
- Fixed effects in most complete specification:
 - Borrower
 - Lender
 - Rating
 - Loan purpose

$$New\ lender_{b,l,t} = \beta_0 + \beta_1 Bank\ borrower_{b,t} \times Post_t + \beta_2 X_{b,l,t} + \delta_b + \beta_3 Bank\ borrower_{b,t} + \eta_{l,t} + \varepsilon_{b,l,t}, \quad (1)$$

Parallel trends in switching lenders

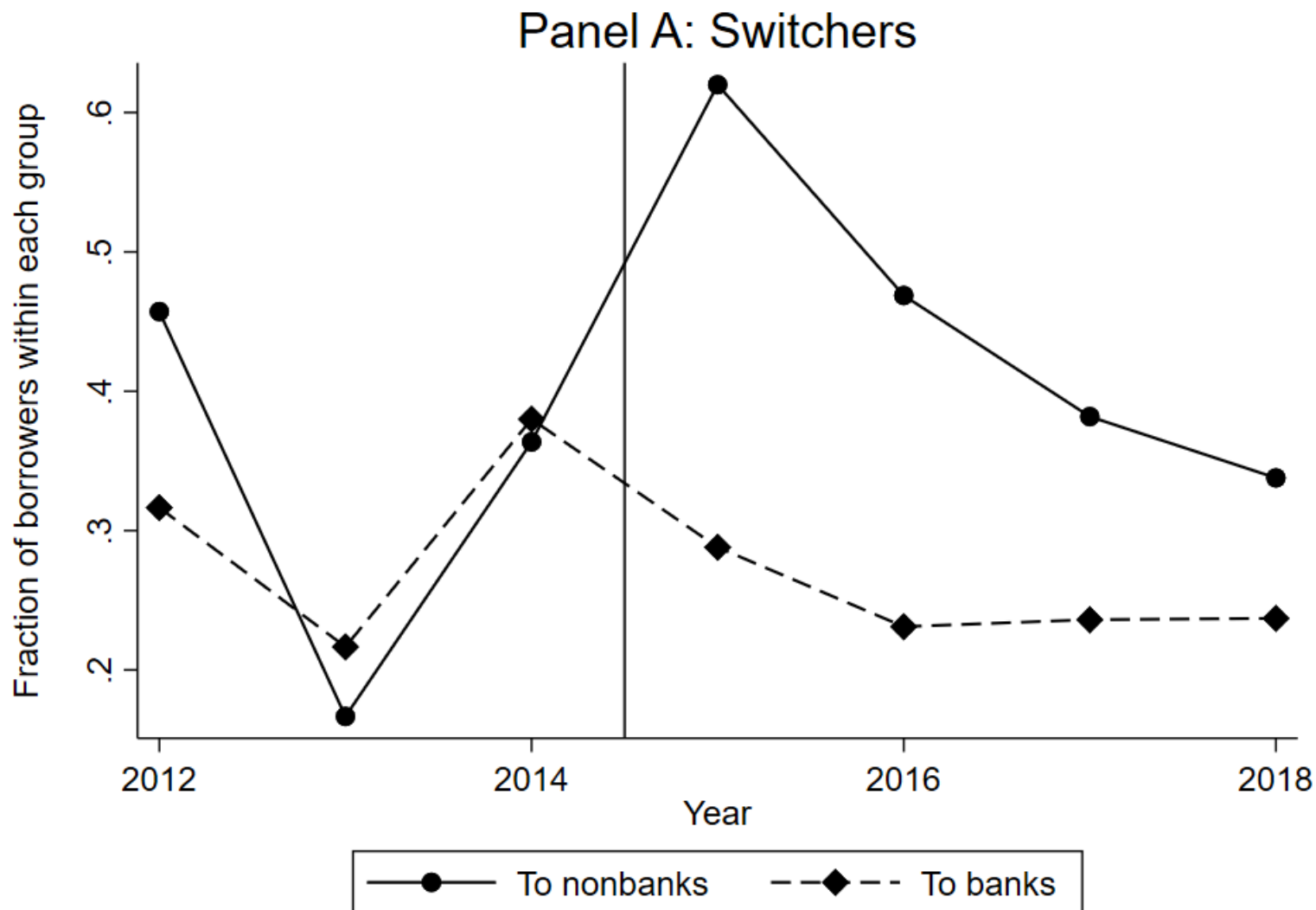


Figure 3. Parallel trends in the likelihood of switching lenders

Likelihood of switching lenders for bank borrowers

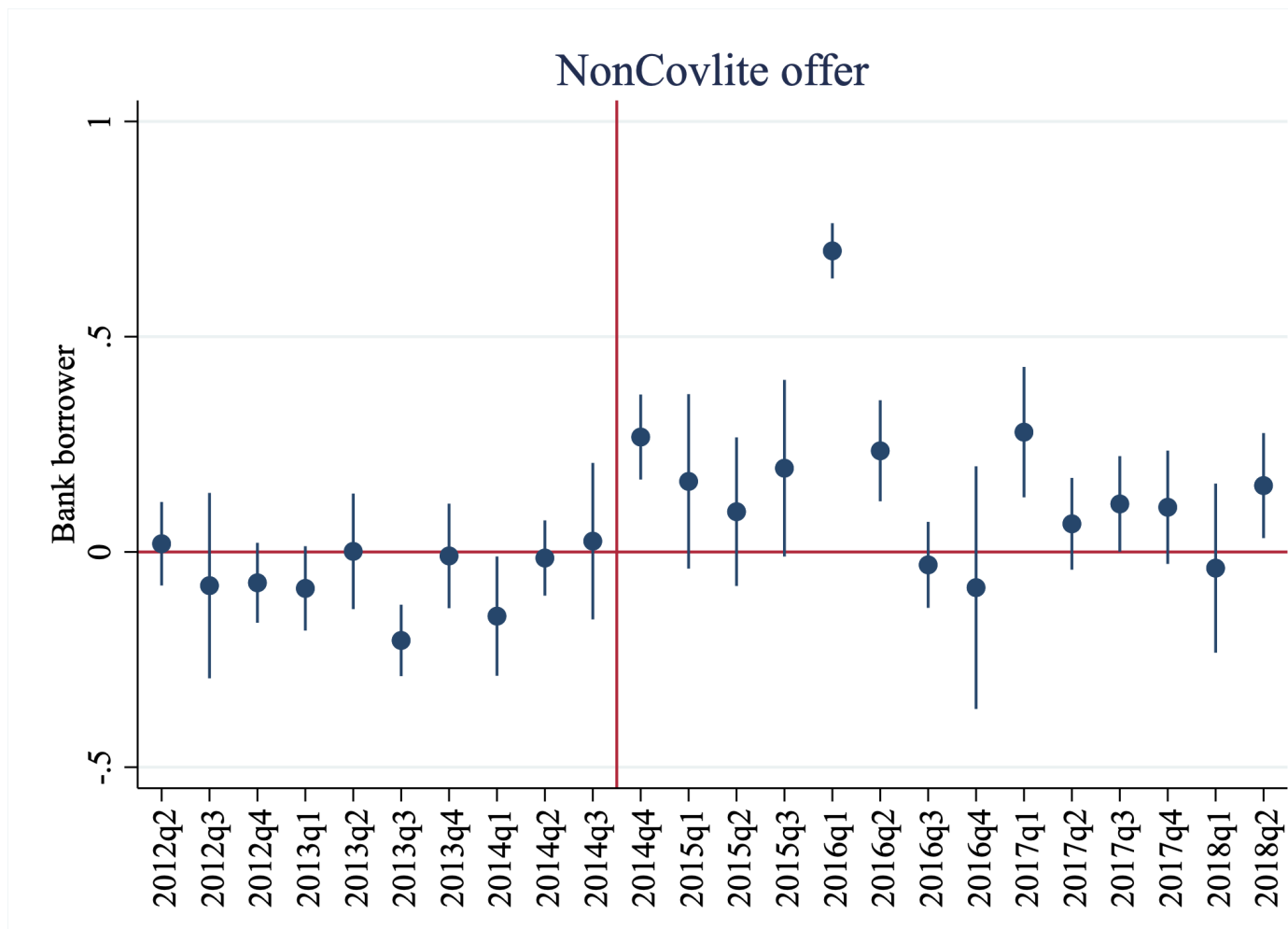
- Bank borrowers are more likely to switch lenders following the Clarification

Table 3. Lender switching for previous bank borrowers post-clarification

	New Lender				
	(4)	(5)	(6)	(7)	(8)
Post × Bank Borrower	0.220*** (0.081)	0.179** (0.086)	0.182** (0.086)	0.235** (0.092)	0.371*** (0.117)
Bank Borrower	0.177*** (0.064)	-0.134* (0.078)	-0.138* (0.078)	-0.150* (0.079)	-0.279*** (0.083)
Post					
Borrower FE	No	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	No
Lender FE	Yes	No	No	Yes	No
Lender × Time FE	No	No	No	No	Yes
Loan Purpose FE	No	Yes	Yes	Yes	Yes
Rating FE	No	No	Yes	Yes	Yes
Industry	Yes	No	No	No	No
Obs	4460	4460	4460	4460	4460
R ²	0.10	0.51	0.51	0.54	0.64

Empirical results

- Timing coincides exactly with an increase in covenants demanded



Likelihood of covenants included for bank borrowers

- Bank borrowers receive more covenants in their loan *offers*

Table 4. Covenants included in loan offers

	NonCovlite offer			
	(5)	(6)	(7)	(8)
Post × Bank Borrower	0.173*** (0.026)	0.170*** (0.025)	0.162*** (0.025)	0.193*** (0.031)
Bank Borrower	-0.186*** (0.023)	-0.185*** (0.022)	-0.180*** (0.022)	-0.217*** (0.021)
Post				
Borrower FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	No
Lender FE	No	No	Yes	No
Lender × Time FE	No	No	No	Yes
Loan Purpose FE	Yes	Yes	Yes	Yes
Rating FE	No	Yes	Yes	Yes
Industry	No	No	No	No
Obs	4460	4460	4460	4460
R ²	0.74	0.74	0.75	0.88

Cross-sectional effects I: effect concentrated in covlite loans

Table 5. Cross section covlite offers

	New lender defined as:		
	(1) Any new lender	(2) Only CovLite	(3) Only NonCovLite
Post × Bank Borrower	0.371*** (0.117)	0.329*** (0.083)	0.042 (0.088)
Bank Borrower	-0.279*** (0.083)	-0.177*** (0.062)	-0.102 (0.069)
Borrower FE	Yes	Yes	Yes
Time FE	No	No	No
Lender FE	No	No	No
Lender × Time FE	Yes	Yes	Yes
Loan Purpose FE	Yes	Yes	Yes
Rating FE	Yes	Yes	Yes
Obs	4460	4460	4460
R ²	0.64	0.49	0.48

Changes in other offered loan terms?

Table 6. Changes in other offered loan terms

	<u>Interest</u>	<u>Maturity</u>	<u>Collateral</u>	<u>Deal Size</u>
	(1)	(2)	(3)	(4)
Post × Bank Borrower	-0.493*** (0.139)	-0.199*** (0.074)	0.019** (0.009)	-0.016 (0.037)
Bank Borrower	-0.401*** (0.122)	0.036 (0.067)	0.006 (0.008)	0.275*** (0.026)
Borrower FE	Yes	Yes	Yes	Yes
Lender × Time FE	Yes	Yes	Yes	Yes
Loan Purpose FE	Yes	Yes	Yes	Yes
Rating FE	Yes	Yes	Yes	Yes
Obs	4453	4460	4460	4460
R ²	0.82	0.80	0.74	0.85

Cross-sectional effects III: Extensive/intensive margins

- Effect is concentrated in most constraint borrowers – the most constraint drop out of the market, the next most constraint switch to non-banks

Table 7. Extensive/Intensive margin

	Borrowers leaving the leveraged lending market			Borrowers switching to nonbanks		
	(1)	(2)	(3)	(4)	(5)	(6)
Credit rating	0.053 *** (0.013)			0.020** (0.007)		
Number of previous loans		0.029** (0.011)			0.010* (0.006)	
Deal size			-0.052 *** (0.017)			-0.011 ** (0.005)
Interest			0.031** (0.012)			0.006 (0.006)
Collateral			0.232* (0.125)			-0.046** (0.021)
Maturity			0.019 (0.015)			-0.002 (0.007)
Covlite			-0.024 (0.046)			0.007 (0.020)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
Obs	713	713	713	665	665	665
R ²	0.08	0.07	0.11	0.07	0.06	0.07

Cross-sectional effects II: revealed preference for covlite structures

Table 8. Historical Presence in the Covenant Lite Segment

	New Lender	
	(1)	(2)
Bank Borrower	-0.263*** (0.084)	-0.422*** (0.107)
Post × Bank Borrower	0.373*** (0.116)	0.459*** (0.139)
Post × Covlite Demand	-0.178** (0.070)	
Bank Borrower × Covlite Demand	-0.092 (0.062)	
Post × Bank Borrower × Covlite Demand	0.197*** (0.072)	
Covlite Supply		0.192*** (0.061)
Post × Covlite Supply		-0.251*** (0.070)
Bank Borrower × Covlite Supply		-0.157** (0.063)
Post × Bank Borrower × Covlite Supply		0.238*** (0.073)
Borrower FE	Yes	Yes
Lender × Time FE	Yes	Yes
Loan Purpose FE	Yes	Yes
Rating FE	Yes	Yes
Obs	4460	4460
R ²	0.64	0.64

Bigger picture - non-banks gain market share

- Post clarification, non-banks gain market share since they can offer more attractive non-price loan terms

Table 9. Non-Covenant-Lite Loans and Market Share

	Covlite lending		Market Share	
	(1)	(2)	(3)	(4)
Post × Bank	-0.148*** (0.051)	-0.145*** (0.050)	-1.215* (0.647)	-1.210* (0.637)
Lender FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Obs	626	626	626	626
R ²	0.59	0.62	0.81	0.82

“Exclusion” restriction

Banks should pay special attention to borrower's characteristics, including

- **Covenant protection** – but also:
 - Repayment capacity
 - Enterprise value
 - Leverage (6x Debt/EBITDA)
 - Sustainability of capital structure (ability to de-lever based on CF)

(pp. 25-27)

Concern: banks focus on lending to safest borrowers which leads to loss of market share in leveraged lending market and fewer covenants

We find:

- No effect on borrower **credit rating**, no effect on **borrower leverage**, no effect on **absolute** or **relative leveraged loan supply**
- No effects on other credit dimensions (pricing, size, maturity)

External validity

- Classic endogeneity challenge keeping us from causal interpretation:
Most optimistic banks will issue more loans with fewer covenants
- Still, it looks as if this might be a broader pattern:

Table 11. External validity

	Bank Level: Market Share		Loan Level: 1(Loan from new lenders)	
	(1)	(2)	(3)	(4)
Number of covenants	-0.365 *** (0.094)	-0.250 *** (0.093)	-0.019 ** (0.009)	-0.023 *** (0.009)
Maturity		0.172 * (0.094)		0.003 *** (0.001)
Interest		-0.105 * (0.055)		0.012 (0.008)
Rating		-0.096 *** (0.019)		0.001 (0.005)
Lender FE	Yes	Yes	No	No
Borrower FE	No	No	Yes	Yes
Year-quarter FE	Yes	Yes	Yes	Yes
Observations	4,521	4,521	17,297	17,297
R ²	0.64	0.64	0.36	0.36

Conclusion

We study lender competition based on non-price terms, exploiting the Clarification to the Leveraged Lending Guidance (2014)

- Borrowers assign value to loans without maintenance covenants
 - i. after the guidance banks offer loans with covenants and subsequently lose a fraction of borrowers to nonbanks
 - ii. this result suggests that lenders compete based not only on interest rates, but non-price terms too
 - iii. covlite loans are associated with the higher probability of default
- The findings are
 - i. stronger for lender-borrower pairs with shorter history of relationships
 - ii. stronger for lenders with higher fraction of covlite lending prior to the Clarification

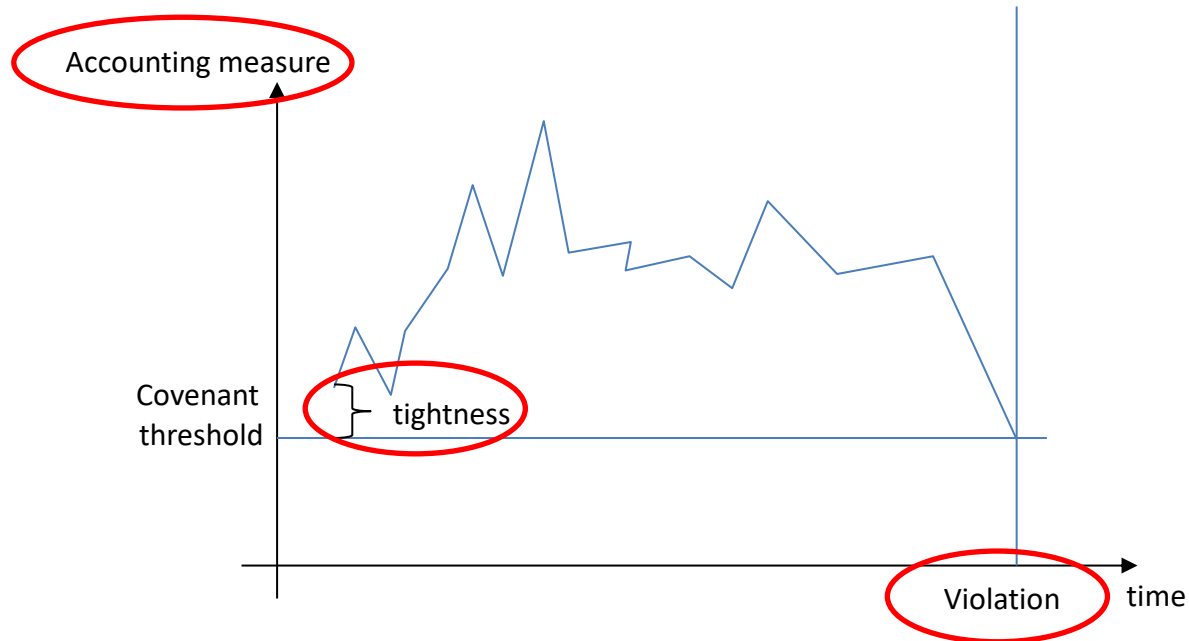
The results are limited to leveraged loans, though it seems to be broader pattern that banks gain market share by lowering covenant protections

Additional analysis

- Varying event windows
- Alternative measures for relationship intensity (duration, indicator if > 2 loans)
- Effect on covariates, interaction of controls with Post variable
- Exclusion of 2014q3
- Guidance as an Event

Covenants are contractual provisions that give control rights to lenders when borrower performance deteriorates

Figure 1. Concept of Loan Covenants



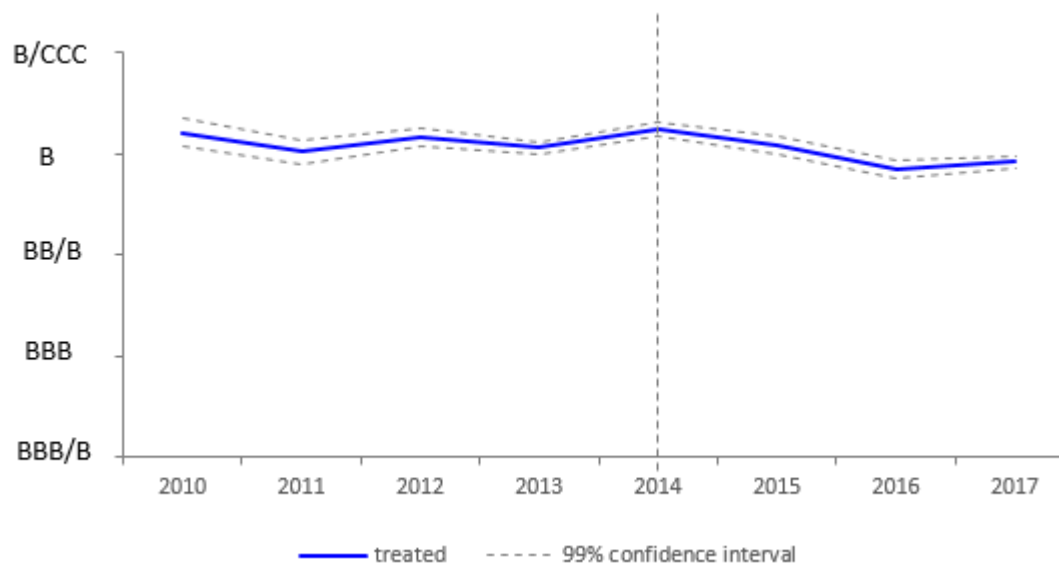
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Jeff Speed, Disney's VP of Corp Fin

Exclusion restriction: credit quality

- We study risk profile of bank borrowers before and after the guidance
- Regressions: no significant drop in credit rating after the Clarification
- *“What we would look for is if they (<banks>) are doing it (<leveraged lending>) in a safe and sound manner”* – Head of OCC

Figure 4. Average borrower's credit ratings



- The effect on market shares plausibly comes from the number of covenants rather than a stop in serving risky borrowers

Exclusion restriction credit quality : regressions

- Regressions confirm visual inspection
- Treated banks did not stop providing funding for riskiest borrowers
- A value of 1 corresponds to the top rating, AAA

Table 3. Market Share and Number of Covenants

	Credit rating		Investment grade	
	(1)	(2)	(3)	(4)
PostTreated	-0.032 (0.033)	-0.040 (0.034)	0.000 (0.002)	-0.000 (0.002)
Treated	-0.001 (0.025)	0.006 (0.026)	-0.000 (0.001)	-0.000 (0.001)
Borrower FE	Yes	Yes	Yes	Yes
Lender x Time FE	Yes	Yes	Yes	Yes
Loan Purpose FE	Yes	Yes	Yes	Yes
Obs	3874	3874	3874	3874
R2	0.87	0.87	0.99	0.99

- Also, no apparent change in maturity, interest rate, collateral and deal size