Insurance companies and the growth of corporate loans' securitization

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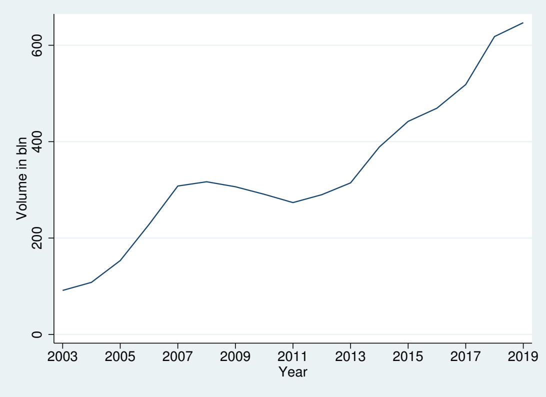
The Market for CLOs Has Grown Significantly in Recent Years

Figure: U.S. CLOs Outstanding (billions of dollars)



Overview

Motivation

- While researchers and policy makers have been investigating the impact of CLOs growth on the cost and riskiness of corporate loans, less attention has been paid to the drivers of this phenomenon.
- Insurance companies are known for investing in corporate bonds and syndicated corporate loans. It is less understood their increasing exposure to CLOs, particularly in the post great recession era.

Objective of the paper

Investigate the role that insurance companies have played in the growth of corporate loans' securitization and identify the key factors behind this role.

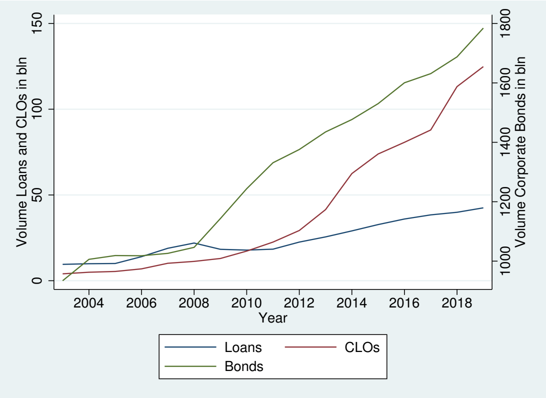
Main finding

Insurance companies contributed to the expansion of corporate loans' securitization becoming prominent investors in the CLO market. Insurance capital regulation has played a role in driving this phenomenon.

Insurance Companies' Growing Investments in CLOs

Between 2009 and 2019, insurance companies' investments in corporate bonds and loans increased by 56% and 132%, respectively. During the same time period, CLO investments increased by 863%, reaching total holdings of $125 bln in 2019.

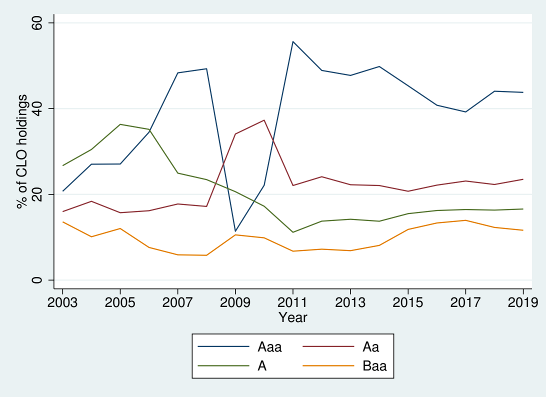
Figure: Insurance Companies' Investments in Corporate Loans, CLOs, and Corporate Bonds



Insurance Companies' Preference for CLO Mezzanine Tranches in the Post-Great Recession Period

Insurance companies have a preference for mezzanine tranches (rated Aa, A or Baa) over the safest triple-A rated tranches.

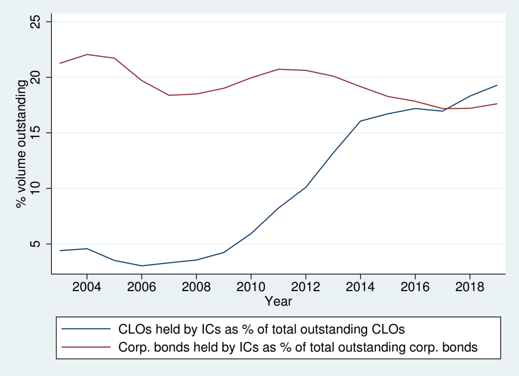
Figure: Composition of Insurance Companies' Investments in CLOs by Rating



Insurance Companies' Growing Importance in the CLO Market

Insurers' market share of corporate bonds exhibits a moderate downward trend, whereas the market share of CLO tranches exhibits a large increase, moving from 4% in 2003 to 19% in 2019.

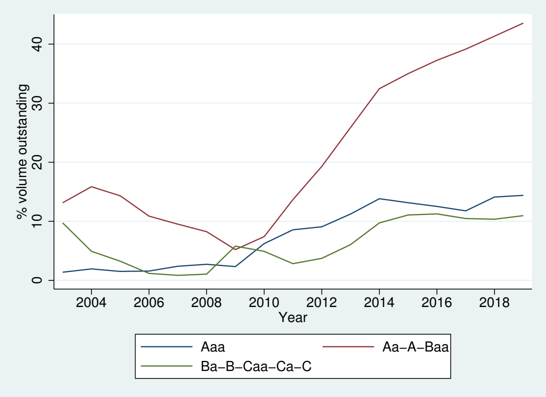
Figure: Insurance Companies' Market Shares of CLOs and Corporate Bonds



Growth Mostly Driven by Investments in Mezzanine Tranches

This growth was mostly driven by mezzanine tranches Aa, A or Baa rated, whose aggregate market share octupled in the post-crisis decade, rising from 5% in 2009 to 44% in 2019.

Figure: Insurance Companies' Market Shares of CLOs by Rating



Insurance Companies' Capital Regulation

Search for yield is fostered by two features of capital regulation:

1. a coarse definition of risk for capital charges on assets with different credit qualities;
2. a similar treatment of different asset classes, such as CLOs and corporate bonds (in contrast to banking regulation).

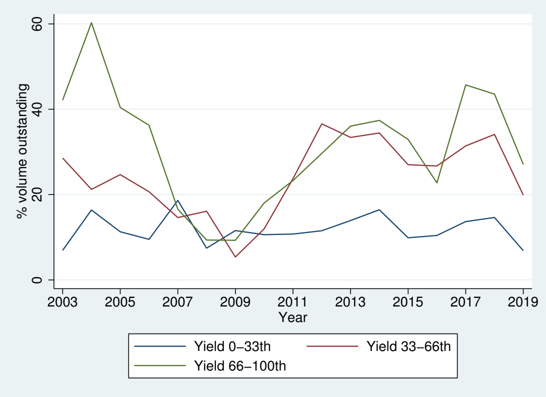
The risk-based capital charge is determined according to a mapping from credit ratings.

	RBC charge (%)			
NAIC Designation	Life (pre-tax)	Life (post-tax)	P&C and Health	Credit Rating
1	0.40%	0.30%	0.30%	Aaa, Aa, A
2	1.30%	0.96%	1.00%	Baa
3	4.60%	3.39%	2.00%	Ba
4	10.00%	7.38%	4.50%	B
5	23.00%	16.96%	10.00%	Caa
6	30.00%	19.50%	30.00%	Ca, C

The 2010-2018 regulatory reform allowed insurers, under specific circumstances, to report some CLOs in a lower NAIC designation than what implied by the rating mapping.

Insurance Companies Have a Preference for the Riskiest CLO Tranches within the NAIC 1 Designation

Figure: New CLO Holdings of Insurance Companies as Percentage of the Total Volume Outstanding of these CLO Tranches by Percentiles of the Distribution of Yields



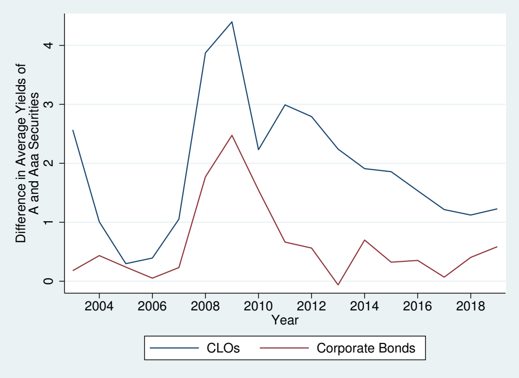
Insurance Companies Have a Preference for the Riskiest CLO Tranches within a NAIC Designation

	(1)	(2)	(3)
Dependent variable	New holding as percentage of total volume outstanding		
Yield (%)	0.067***	0.003	-0.011
	(0.02)	(0.01)	(0.01)
dummy CLO		4.680***	6.641**
		(0.86)	(2.59)
dummy CLO x Yield		1.114***	0.598**
		(0.22)	(0.26)
dummy Reform x Yield			0.024*
			(0.01)
dummy Reform x dummy CLO			-2.567
			(2.58)
dummy Reform x dummy CLO x Yield			0.708**
			(0.33)
Capitalization x Yield			
Asset controls	Yes	Yes	Yes
NAIC designation x Year FE	Yes	Yes	Yes
Security type (CLO or bond) FE	Yes	No	No
Type insurer FE	Yes	Yes	Yes
Insurer x Year FE	Yes	Yes	Yes
Two-way clustering	Insurer, Year	Insurer, Year	Insurer, Year
N	1691393	1691393	1691393
R^2	0.2915	0.2991	0.2998
F-stat	25.318***	32.32***	25.199***

CLOs Are More Attractive than Corporate Bonds for Insurance Companies

Insurance companies search for yield primarily within the CLO asset class because this is characterized by a higher dispersion of yields compared to the asset class of corporate bonds.

Figure: Difference in the Average Yield of Insurance Companies' New Investments in single-A and triple-A Securities



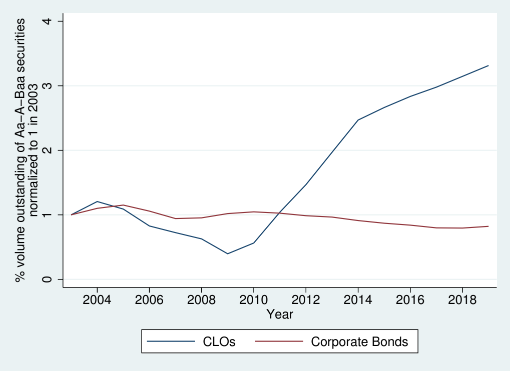
CLOs Are More Attractive than Corporate Bonds for Insurance Companies

Insurers' search-for-yield behavior translated into a preference for CLOs over corporate bond investments. This preference is strictly related to the yields differential between the two asset classes.

Sample		Assets with Aaa, Aa, A and Baa rating
Dependent variable	Yield (%)	New holding as percentage of total volume outstanding
dummy CLO		-0.684
		(3.73)
Rating=Aaa x dummy CLO	0.238	
	(0.27)	
Rating=Aa x dummy CLO	-0.473***	
	(0.11)	
Rating=A x dummy CLO	0.927***	
	(0.11)	
Rating=Baa x dummy CLO	1.556***	
	(0.14)	
Yield CLO/Yield Bond ratio		0.563
		(0.39)
dummy CLO x Yield CLO/Yield Bond ratio		7.909**
		(2.87)
Asset controls	Yes	Yes
Rating	Yes	Yes
Type insurer FE	Yes	Yes
Insurer x Year FE	Yes	Yes
Two-way clustering	Insurer, Year	Insurer, Year
N	1275763	1276043
R^2	0.6821	0.3100
F-stat	38.091***	31.976***

Insurance Companies Have a Preference for CLOs over Corporate Bonds

Figure: Insurance Companies' Market Shares of CLOs and Corporate Bonds with Aa, A or Baa Rating Normalized to 1 in 2003



Implications for the CLO Market

CLO deals in which insurance companies hold larger investments have larger mezzanine tranches with investment grade ratings, and this has been especially true since the regulatory reform of 2010.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Sample	Aaa		Aa-A-Baa		Ba-B-Caa-Ca-C		NR
Dependent variable	Tranches as % of CLO						
% of CLO held by ICs	-0.295**	-0.097**	0.366*	0.020	-0.030**	-0.007	-0.038
	(0.14)	(0.04)	(0.18)	(0.03)	(0.01)	(0.01)	(0.05)
dummy Reform x % of CLO held by ICs		-0.218		0.382*		-0.026	
		(0.15)		(0.19)		(0.02)	
Manager x Issuance Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Two-way clustering	Manager, Year	Manager, Year	Manager, Year	Manager, Year	Manager, Year	Manager, Year	Manager, Year
N	1694	1694	1694	1694	1694	1694	1694
R^2	0.614	0.617	0.526	0.537	0.620	0.620	0.566
F-stat	4.556**	5.617**	4.264*	2.631	7.213**	4.185**	0.643

Implications for the CLO Market

- Mezzanine tranches play a critical role in the origination of CLOs because their junior position allows for the creation of the highly sought triple-A tranches.
- Insurance companies' growing preference for these tranches, together with their dominant role in the market of these tranches, is likely to have played a key role in the post-2010 growth of corporate loan securitization.

Concluding Remarks

- Using data on fixed-income investments of life, health and P&C insurers, we document that insurance companies search for yield, that is, conditional on the asset type and capital charge, they invested more in securities offering higher yields.

- This search for yield behavior translated into a preference for CLOs vis-à-vis corporate bonds, and towards mezzanine tranches rated investment grade within the CLO asset class.

- As a result, by the end of 2019 insurers held more than 40% of CLO mezzanine tranches investment grade, playing a pivotal role in corporate loans' securitization.