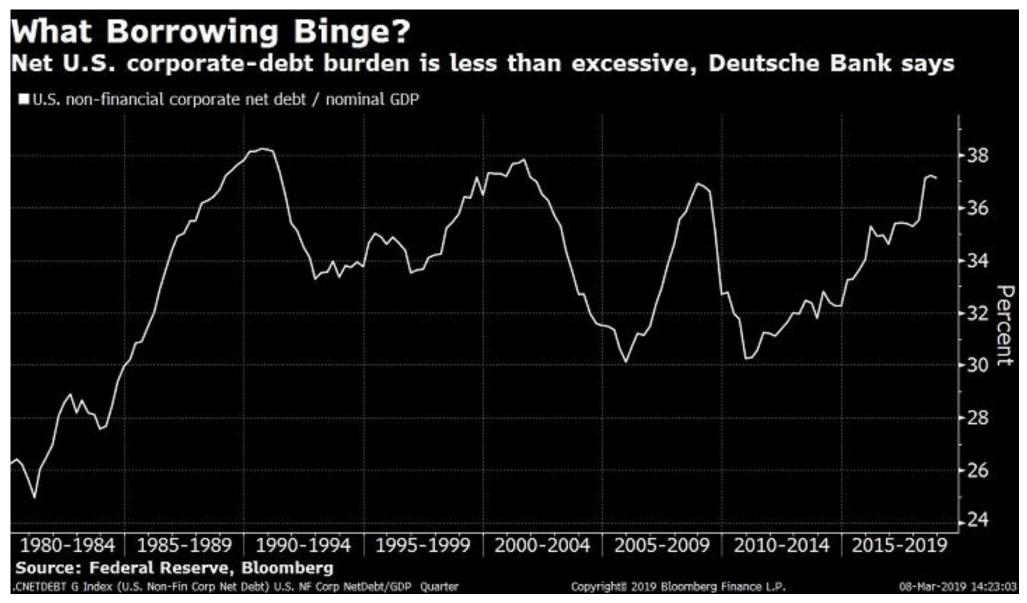
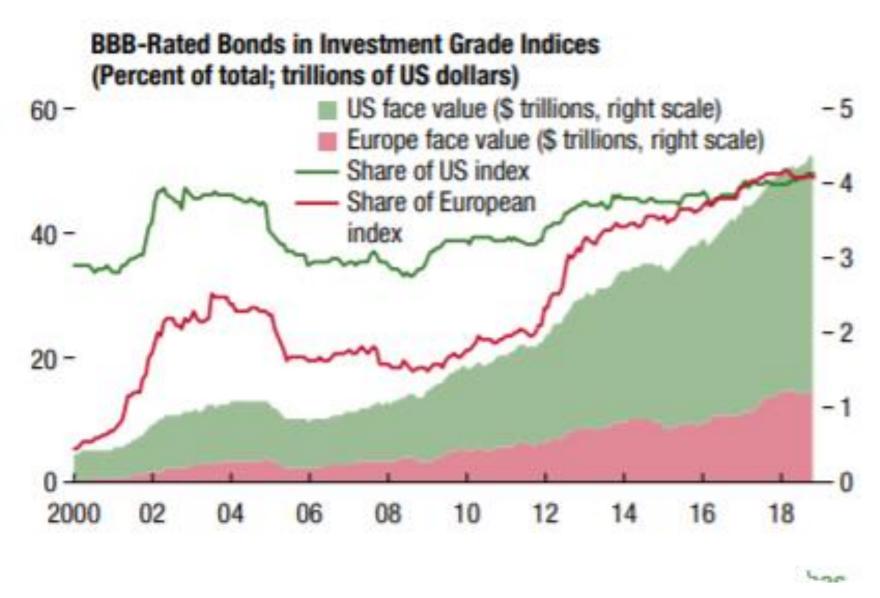
Does CLO Rhyme With CDO?

Is It Different This Time?



Source: Bloomberg

Iffy Loan Dollar Volume Looks Bad....



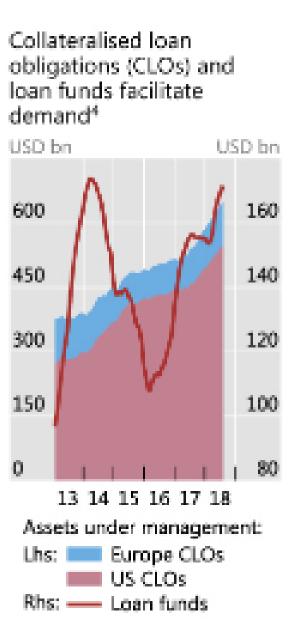
Source: IMF

.....But Actually It's Much Worse

US Leveraged Loan Market Characteristics	Level		Percentile Signal	
	2007	2018	2007	2018
Outstanding Leveraged Loans (\$ billions)	554	1,147		•
US Issuance (percent of global issuance)	66.9	75.8		
Covenant Quality Index	2.6	4.1		•
Covenant-Lite Share (percent of new issuance)	29.2	84.7		
B-Rated (percent of new issuance)	22.6	58.0		•
Total Debt/EBITDA (times)	4.9	5.3	•	•
First Lien Debt/EBITDA (times)	3.5	4.3		•
Other Debt/EBITDA (times)	1.4	1.0		
Deals with EBITDA Add-Backs				
(percent of new issuance)	8.4	27.1	•	•
				•
	0%			100%

Source: IMF

CLOs and Leveraged Loans Up 70% Since 2013



Source: BIS

UnFun With Numbers

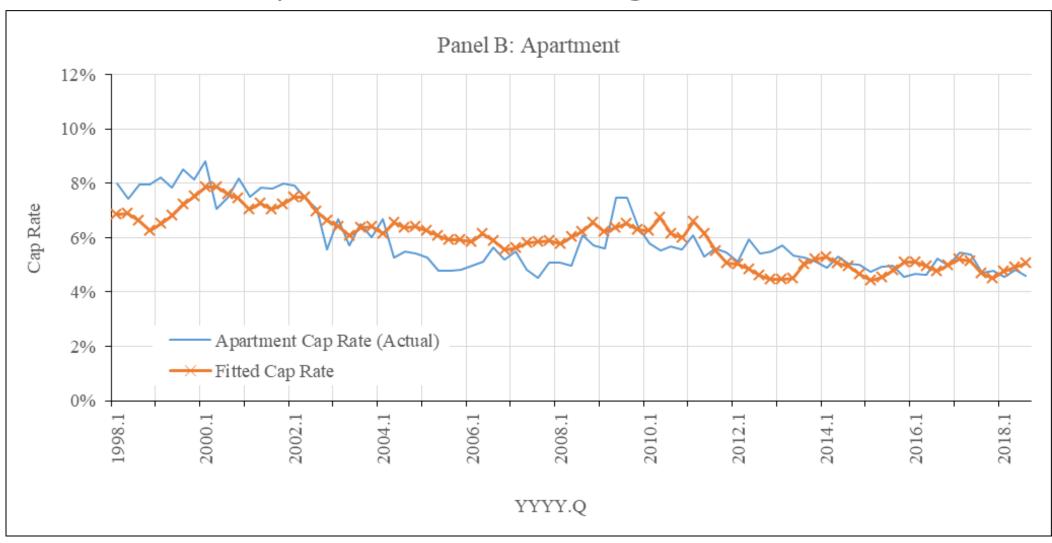
 US Bank loans to non-bank lenders have doubled from about 5% to 10% of loans between 2014 -2018

- Global private equity firm AUM \$3.4T AUM, including \$1.2T dry powder.
- Gundlach: Debt-financed share buybacks have turned the stock market into a high-risk 'CDO residual'

The Model

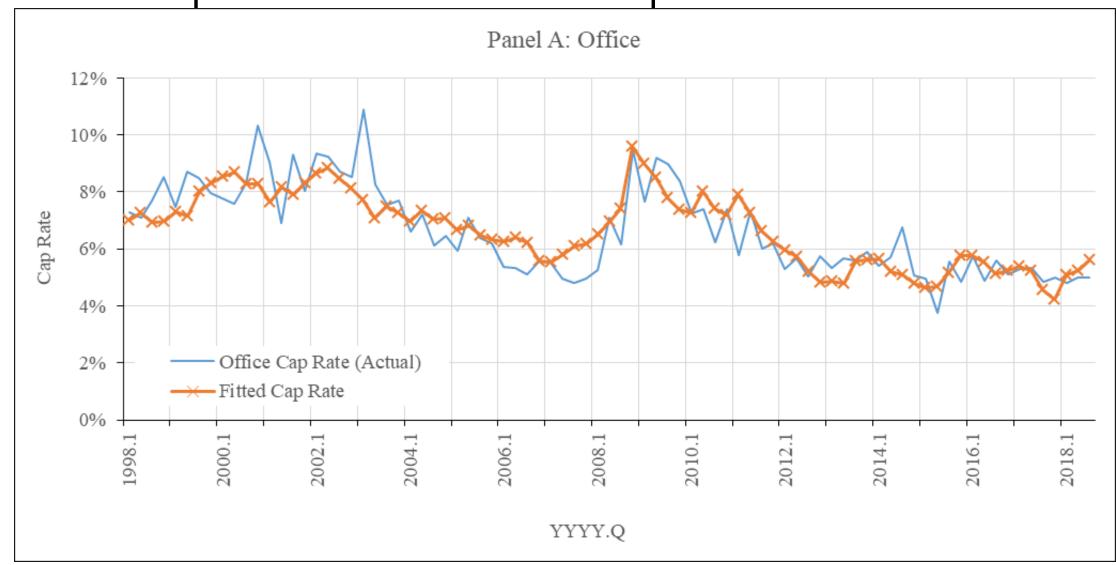
- Builds on previous literature CRE cap rates are driven by capital flows and broader debt market
- Cap rates determined by 10 Yr. Treasury, BBB corporate bond spreads, CDO/CLO issuance (proxy for risky capital flows) and NOI growth

Apartment Cap Rates Are "Right"



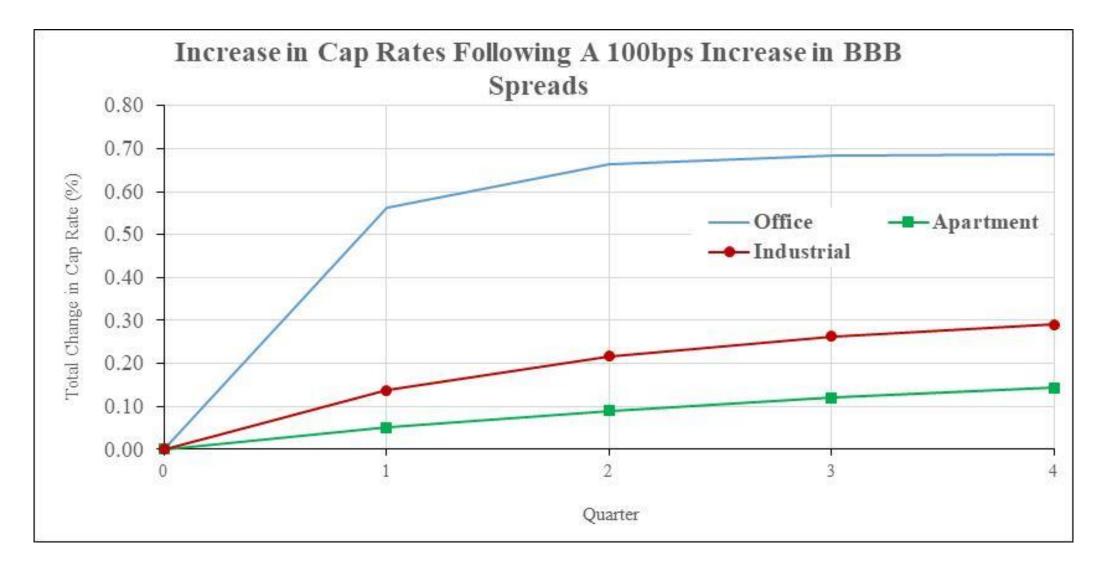
Source: Does CLO Rhyme With CDO? Buschbom, Diosdado and Nordby, 2019

Office Caps Need To Move Up This Week



Source: Does CLO Rhyme With CDO? Buschbom, Diosdado and Nordby, 2019

Not The End Of The World....But Not Much Fun Either



Source: Does CLO Rhyme With CDO? Buschbom, Diosdado and Nordby, 2019

Discuss!

- Could a credit crunch happen without a recession?
- Outside of CRE how do covenant lite loans to PE firms roll (roil?) out through borrowers in a recession? Credit spreads? The economy?

Discuss!

- Is the CRE model right for each property type?
- In a regular recession, does BBB spread expansion equal CRE cap rate expansion?
 - For a two quarters or two years?
- Where does a BBB-blowout hurt CRE
 - Most
 - Least