

“Risk Taking and Low Longer-term Interest Rates: Evidence from the U.S. Syndicated Loan Market”

Sirio Aramonte, Seung Jung Lee, and Viktors Stebunovs

Discussed by Andres Liberman - NYU Stern

WFA Seattle 2015

Research question

- ▶ Do financial intermediaries extend riskier loans when interest rates are lower?
- ▶ Answer from paper: Yes
- ▶ Interpretation: *“...results are consistent with a “search for yield” by lenders in the syndicated loan market.”*

Part of a very active research agenda

- ▶ This is an important question
- ▶ Broad agenda: does monetary policy affect risk premia?
- ▶ Why?
 - ▶ Theory: (De Nicolò et al (2010)): asset substitution, search for yield (e.g. Rajan (2005)), leverage (Adrian and Shin (2009), Dreschler et al (2015)), limited liability (Dell'Ariccia, Laeven, and Marquez (2010)), etc

Discussion

- ▶ Empirics
- ▶ Contribution

Empirics

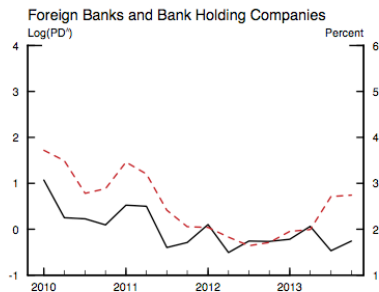
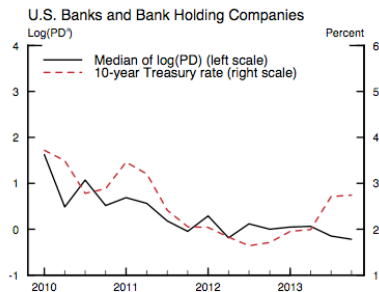
- ▶ What does the paper do?
- ▶ Causality?

What does the paper do?

- ▶ Data: roughly 90% of total syndicated loan market volume, primary and **secondary** market
- ▶ Look at ex ante (regulatory) default probability of quarterly originations / portfolio additions for different types of intermediaries between 4Q 2009 and 4Q 2013
 - ▶ 7 categories of intermediaries
- ▶ Main test: correlate time series variation in pD's with time series variation in the 10 year Treasury rate (nominal) over this period
- ▶ Second part: loan price does not reflect this

Empirics

- ▶ A good picture is worth... (Figure 4)



Two observations

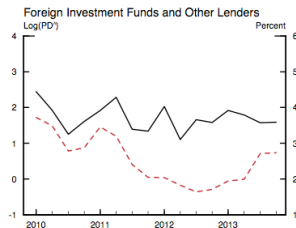
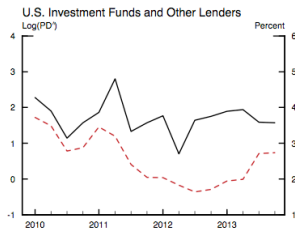
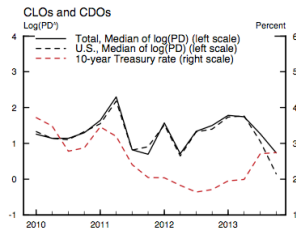
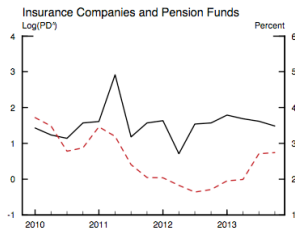
- ▶ First, this is a period when interest rates are always relatively low, and the (absolute) variation in rates is not large
- ▶ Authors agree: “... *it is precisely the period we cover that is characterized by persistently low longer-term interest rates...*”
- ▶ Second, there is remarkably little variation in the probability of default of portfolio additions (is this to be expected?)
- ▶ Third, what about real rates?
- ▶ Is this the right setting to study this question? (I'll return to this in a second)

My interpretation

- ▶ In terms of risk, if anything, banks seem to be adding less risky loans to their portfolio as time goes by
 - ▶ Perhaps a positive relationship between rates and ex ante risk?

Empirics

- A good picture is worth... part 2 (Figure 4)



My interpretation

- ▶ I don't see any noticeable trends for any other intermediary
- ▶ There is remarkably little variation in the probability of default of portfolio additions
 - ▶ Is the time-series variation in pD 's statistically significant?

Regression

- So, what does the main regression test show?

$$\log(pd_{i,j,t}) = \alpha_i + \sum l_j \beta_j T_t + q_{j,y} + \text{controls}_t + \epsilon_{i,t}$$

	Unbal.	Bal.
U.S. banks and BHCs	-0.102 (-0.77) ^{3.5}	-0.607** (-2.64) ^{6.7}
Non-U.S. banks and BHCs	-0.037 (-0.20) ^{3.6}	0.075 (0.51) ^{8.0}
Insurance cos./Pension funds	-0.420** (-2.23) ^{10.5}	-0.440 (-1.63) ^{4.7}
U.S. CLOs/CDOs	-0.696** (-2.87) ^{12.6}	-0.832*** (-4.64) ^{26.8}
Non-U.S. CLOs/CDOs	-0.667*** (-3.65) ^{9.5}	-0.725*** (-3.89) ^{9.7}
U.S. inv. funds and others	-0.402* (-2.03) ^{43.7}	-0.268 (-1.07) ^{36.1}
Non-U.S. inv. funds and others	-0.385*** (-3.11) ^{16.6}	-0.636** (-2.17) ^{8.0}

Regression model

- ▶ What's going on?

$$\log(pd_{i,j,t}) = \alpha_i + \sum l_j \beta_j T_t + q_{j,y} + \sum l_j \gamma_j controls_t + \epsilon_{i,t}$$

- ▶ First, you should be able to run 7 separate regressions and obtain the same coefficients:

$$\begin{aligned}\log(pd_{i,banks,t}) &= \alpha_i + \beta_{banks} T_t + q_y + \gamma_{banks} controls_t + \epsilon_{i,t} \\ \log(pd_{i,insurance,t}) &= \alpha_i + \beta_{insurance} T_t + q_y + \gamma_{insurance} controls_t + \epsilon_{i,t} \\ &\dots\end{aligned}$$

- ▶ Or, if you want to highlight differences, use the full panel and make banks the excluded category and see whether coefficients for other intermediaries are significant

Regression model

- ▶ An example:

$$\log(pd_{i,insurance,t}) = \alpha_i + \beta_{insurance} T_t + q_y + \gamma_{insurance} controls_t + \epsilon_{i,t}$$

- ▶ Second, structure of fixed effects:
- ▶ α_i is there because you only want to focus on changes in credit policy over time when rates change
 - ▶ I agree!

Regression model

$$\log(pd_{i,insurance,t}) = \alpha_i + \beta_{insurance} T_t + q_y + \gamma_{insurance} controls_t + \epsilon_{i,t}$$

- ▶ q_y is there because... you want to focus on within-year comparisons?
 - ▶ I don't understand this
 - ▶ How much variation is there in rates within years?
- ▶ Would like to see results without this year fixed effect: absorbs a lot of the time-series variation

More importantly

- ▶ Now I return to this: is this the right setting to study this question?
- ▶ *“Our analysis focus on how the default risk of investment in the syndicated term-loan market changes when investors expect that U.S. interest rates will remain lower for a longer period of time”* (page 11)
- ▶ There is little to no variation in rates!
 - ▶ What do you compare loans issued in an environment of low rates today to?
- ▶ Expand the time-series?

Finally, causality?

- ▶ Assume results are as regression tables, not as in graphs
- ▶ Authors push a story where lower rates cause higher pDs
- ▶ (Plausible) Alternative: pDs and interest rates both driven by an omitted factor
- ▶ E.g., demand for Treasuries is higher at a time when, on average, *new* investment projects are riskier

Endogeneity

- ▶ Robustness test: outcome is prob of default normalized by prob of default of existing assets
- ▶ Only works if omitted factor affects older projects in the same way, but why would it?

Endogeneity

- ▶ Robustness test: outcome is prob of default normalized by prob of default of existing assets
- ▶ Only works if omitted factor affects older projects in the same way, but why would it?
- ▶ Really, you need exogenous variation in rates (previous literature has also looked at within-borrower estimation)
- ▶ I think paper shows a particular time-series correlation in the crisis/post-crisis period
 - ▶ Potentially very valuable information too! But not what the paper says it measures

Discussion

- ▶ Empirics
- ▶ **Contribution**

Contribution

- ▶ Let's take results as given
- ▶ i.e., during this period of time, risk of default of loans added to portfolio of intermediaries increases when Treasury rate decreases

Contribution

- ▶ Let's take results as given
- ▶ i.e., during this period of time, risk of default of loans added to portfolio of intermediaries increases when Treasury rate decreases
- ▶ Not a new finding
- ▶ Recent empirical literature: higher (real) rates cause lower bank risk taking (e.g.: Jimenez, Ongena, Peydro, and Saurina (2014); Dell'Ariccia, Laeven, and Suarez (2013); Landier, Sraer, and Thesmar (2013); Scharfstein and Sunderam (2014); Drechsler, Savov, and Schnabl (2014))
- ▶ So where does this paper fit?

Suggestion

- ▶ Can you exploit the cross sectional variation in effect by intermediary types to say something about the mechanism? (then compare β_{banks} with $\beta_{insurance}$ etc, not with 0)
- ▶ E.g.:
 - ▶ Banks are affected by leverage constraints, patient investors are not
 - ▶ Moral hazard / management incentives should be more of a problem in some institutions than in others
 - ▶ Are banks concerned with “search for yield”? Are pension funds?
 - ▶ Which institutions should be more affected by asset substitution?

Thanks

Thanks!

Other comments and questions

- ▶ Should we be concerned that “only banks in the early stages of adopting Basel II” (page 8) must report pD?
 - ▶ In particular, bank holdings go from 22% to 55% (!) when restricting sample to loans with pD
- ▶ I'm also worried that having a pD is systematically correlated with lender type. Sample selection may drive correlation?
- ▶ Summary stats: how many loans? From what period are these loans?
- ▶ Balancing drops 35k observations (88%). Why is this a good exercise?

Other comments and questions

- ▶ Would appreciate more info about determination of pD in Basel II regulations: do banks have discretion? are there strategic considerations, i.e., do banks gain something by rating loans in a certain manner?
- ▶ Why use the $\log(\text{pD})$ instead of pD as the outcome variable? Is the percent-change in probability of default the relevant outcome (i.e., 1% to 2% is the same as 5% to 10% increase in pD)?
- ▶ I like the point that “orthogonalized” treasury rates are estimated, and thus s.e.’s will tend to be too low