Level 3 Fair Value Measurement and Systemic Risk
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Conclusions
We find a positive association between Level 3 and systemic risk buildup where Level 3 accounting is opaque.

1. This is not observed for level 2 assets.
2. This finding association declines after ASU 2011-04 that requires more disclosure on level 3 valuation.
3. The same decline is concentrated for banks with liquidity concerns.
4. Same finding after holding the asset category constant.

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Terminology and Variable Definition
- ΔCoVaR: conditional value-at-risk
- ABS: asset-backed securities
- APS: available-for-sale securities, scaled by total assets
- ASU: An indicator variable, 1 for 2012-2013 and 0 for 2010-2011.
- MSR: mortgage servicing rights

Prior research has examined the role of level 3 fair value in the context of systemic risk.

Background and Descriptive statistics
Fair value is aimed to estimate the price at which an asset liability can be transacted between market participants in an orderly manner. Based on whether a market exists for the asset liability and how active the market is, assets and liabilities are classified into the following three levels.

- Level 1: quoted prices in active markets
- Level 2: observable inputs other than level 1 inputs
- Level 3: unobservable inputs

78% of sample banks use repo for short-term funding.

Most of the sample banks use bilateral repos to borrow from wholesale funding providers such as FHLB or retail lenders.

Research setting
ASU 2011-04 requires entities which develop quantitative fair value to disclose these unobservable inputs. (E.g. JP Morgan’s 10-K filing)

Variables
VARIABLES ΔCoVaR ΔCoVaR
Level 3 Assets 0.100*** 0.000  
ASU*Level 3 Assets -0.125*** -0.046  
Level 2 Assets 0.002  
ASU*Level 2 Assets -0.127*** -0.057  
Level 1 Assets -0.010  
Observations 3,791  
Adj. R-squared 0.938

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- MSR: mortgage servicing rights
- repo: securities sold under agreements to repurchase scaled by total assets
- VaR: value-at-risk.