Discussion of: *Decomposing euro-area sovereign spreads: credit and liquidity risks*
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Sovereign bond spreads

Objective: *Build and estimate a no-arbitrage model of Euro-area sovereign bond spreads during 2006 to 2012*

- Incorporate variation in liquidity and credit risk in both the time series and cross-section

- Incorporate pricing of liquidity risk and credit risk

⇒ Use estimated parameters to decompose bond spreads into liquidity, credit, and risk premium components
  - estimate actual ($\mathbb{P}$-measure) default probabilities

Model

1. Multiple sovereign bonds each having its own default intensity process
   - upon default bond price jumps down to a fixed fraction of non-defaulted bond price

2. a single common liquidity shock process
   - liquidity shock induces a country-specific loss

3. tractable dynamics and pricing kernel
   - finite-state Markov chain for regime variable
   - affine dynamics for credit and liquidity processes
   - exponential-affine pricing kernel
   - $\Rightarrow$ $\mathbb{Q}$ dynamics have same form as under $\mathbb{P}$

Estimation

Measurement equations for:

1. each country's yield spread over bunds

2. a proxy for illiquidity: spread of German KfW bond yields over Bunds
   - KfW bonds are explicitly guaranteed by German government

3. a proxy for $\mathbb{P}$-measure expectations: survey-based 12-month-ahead forecasts of yields
   - data sample is very short and yields very persistent

$+$ normally-distributed measurement/pricing errors

$\Rightarrow$ estimate via maximum likelihood using Kim (1994) filter
   - Kalman filter $+$ Hamilton (1989) regime-switch model filter

Results

1. decreased illiquidity explains spreads to Bunds in 2008-09

2. since 2010 credit risk explains most of the increase and variation in spreads for Spain, Italy and France
   - liquidity remains the main factor for Austria, Finland, Netherlands

3. credit and liquidity risk premia are substantial
   - $\Rightarrow$ priced default probability is about 2-3 times "actual" default probability
   - example: 45% priced probability vs. 15% actual probability for Italy and Spain in late 2011 and 2012

Comments #1

- CDS spreads can also be used to (help) measure credit risk component
  - more liquid than cash bonds (smaller bid-ask spreads)

- Include Greece, Ireland, and Portugal
  - important to narrative and economics of the crisis
  - relatively high CDS open interest
  - my conjecture: need to change recovery rate to a fraction of *face* value to capture their yield curves

Comments #2

- Add more discussion of identification to clarify what drives state and parameter value estimates
    - e.g., how is the term structure of yields important to the estimation?

- Can do more analysis of asset pricing implications
    - do risk price estimates seem very high or are they reasonable?
    - how are risk price estimates related across countries?

Origins of sovereign credit risk

Acharya, Drechsler, Schnabl (2013) show:

1. 2008 bank bailouts ignited the rise in sovereign credit risk across Europe

2. pre-bailout financial-sector distress predicts post-bailout increase in sovereign CDS

3. sovereign-bank loop: post-bailout changes in sovereign CDS explain bank CDS after controlling for known determinants of credit spreads
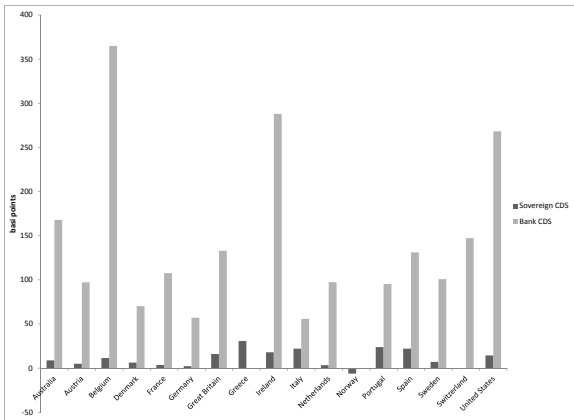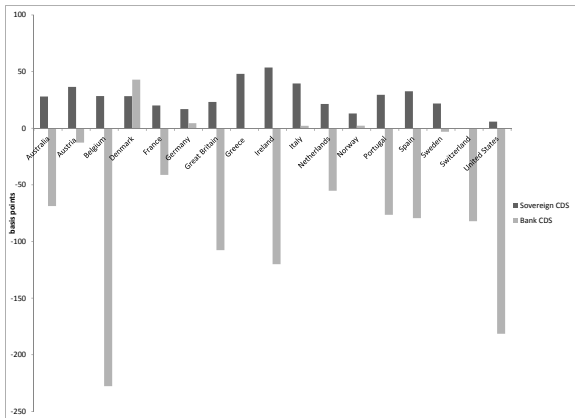
3/1/2007 – 9/26/2008

- bank CDS increases substantially
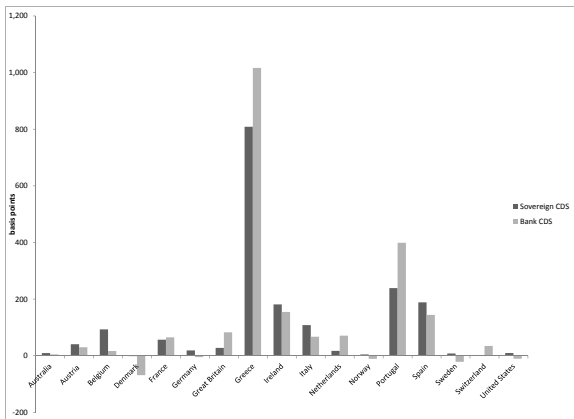- not much change in sovereign CDS

During the Bailout Period

9/27/2008 – 10/21/2008

- bank CDS decreases substantially
- strong increase in sovereign CDS

Post Bailout

10/22/2008 – 6/30/2010

- positive comovement
- a merger of financial sector and and sovereign

Final thoughts

- Nice paper

- Clean and nicely executed framework and estimation

- Thanks for the opportunity to participate!