

*Comments on*  
*“Sovereign Risk and Financial Risk”*  
*By Simon Gilchrist, Vivian Z. Yue & Egon Zakrajsek*

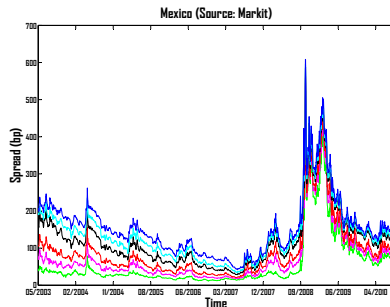
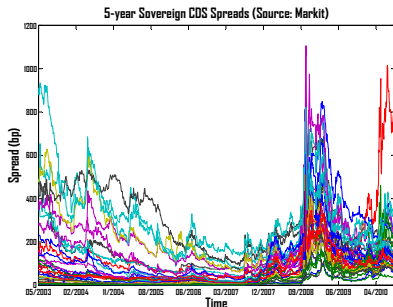
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# Motivation

Lots of **co-movement** in the Sovereign debt market!  
Cross-country and Cross-maturity



Which **common factors** drive (the co-movement of) spreads?

# Motivation

## Why do we care?

- 1 Recent **sovereign bailouts** in Europe: Greece, Ireland, Portugal,...
- 2 **No consensus** on the determinants of sovereign risk premia.
  - Local vs. global Factors? Frequency? State of the world?
    - This paper makes a contribution that tends to reconcile different views
- 3 International **portfolio diversification**.
- 4 **Big money**.
  - World external debt: 56.9 trillion USD (31.12.2009)
  - Global stock market capitalization: 51.225 trillion USD
  - Single-name CDS Notional Amount Outstanding: 18.145 trillion USD (BIS H2 2010)
  - Sovereign CDS Notional Amount Outstanding: 2.542 trillion USD (BIS H2 2010)
- 5 From a standard **GE asset pricing** perspective, little known about Sovereign debt and default.
  - This paper contributes in that direction as well: endogenous default and debt dynamics
- 6 **Bonds** vs. **CDS**? Non-linear pricing function and divergence of CDS-Bond basis!

# Selected literature on Sovereign credit risk

## Global factors

Pan and Singleton (2008), Longstaff et al. (2010), Remolona et al. (2008), Borri and Verdelhan (2009), Ang and Longstaff (2011), Augustin and Tédongap (2012)

- 1 U.S. equity, volatility (VIX), and bond market risk premia.
- 2 Measures of Global Risk Aversion.
- 3 U.S. business cycle.
- 4 Long-run risks in macroeconomic forecast and uncertainty

## Local factors

Hilscher and Nosbusch (2010), Altman and Rijken (2011), Acharya et al. (2011)

- 1 Volatility of terms of trade.
- 2 Health of local financial sector.
- 3 Local government bailout guarantees.

## This paper

- 1 Global factors: excess bond premium (EBP), US stock market
- 2 Local factors: local stock market (return and volatility), exchange rate against USD

# Contribution from empirical findings **with comments**

- 1 Sovereign spreads highly sensitive to the EBP, larger effect for speculative-grade (SG) debt, compared to investment-grade (IG) debt.
  - Financial crisis:
    - EBP  $\uparrow$  300 bp  $\Rightarrow$  SG  $\uparrow$  70 bp
    - EBP  $\uparrow$  300 bp  $\Rightarrow$  IG  $\uparrow$  30 bp
    - **These numbers must be compared relative to the total increase in SG and IG spreads and same analysis should be carried out for other significant global factors**
  - **The EBP must be confronted to other global factors considered in previous literature (see previous slide), as well as VRP, VIX, MSCI, BA/ML BBB-AAA, BA/ML BB-BBB**
- 2 Spreads are sensitive to exchange rates, though the effect is (**very?**) weak, and varies across exchange rate regimes, from more flexible (MF) to less flexible (LF)
  - Local currency depreciation:
    - FX  $\uparrow$  1%  $\Rightarrow$  MF  $\uparrow$  1.7 bp
    - FX  $\uparrow$  1%  $\Rightarrow$  LF  $\uparrow$  smaller
    - **Again, these numbers must be compared relative to the total increase in MF and LF spreads and same analysis should be carried out for other significant local factors**
  - **FX, local market return and volatility must be confronted to other local factors considered in previous literature (see previous slide)**

# Contribution from rationalization **with comments**

- 1 Construct a general equilibrium model of sovereign debt and default to rationalize the empirical findings
  - risk-averse global investor
  - optimal default
  - endogenous debt dynamics
  - multiple countries
- 2 Important Fact:
  - Empirical relationship between sovereign bond spreads and U.S. financial market variables (EBP & stock return)...
  - ... but rationalize these findings with a model based on real economic shocks.
  - Question: Real or financial channel? (Ang and Longstaff (2011))
  - Why not **rationalize findings with a model based on aggregate wealth...**
  - ...or **perform a rigorous test of the model predictions based on primitive macroeconomic shocks?**
  - ... or **derive the model EBP, global and local stock return and volatility, and other factors with endogenous counterparts, and make sure to reproduce their actual moments together with actual regression coefficients?**
  - If not so, **difficult to convince model rationalizes the data findings.**

# Other Remarks

- 1 Regression of EBP on other global factors considered in the literature
- 2 Global stock volatility (e.g. VIX) not considered, but local stock volatility is
- 3 Calibration of the model: discuss and motivate choice of parameter values
- 4 Borrowers are modeled individually. Independently? Can model accommodate multiple defaults?
- 5 Alternative global and local factors
- 6 Term structure of Sovereign debt neglected in the paper, but important in the literature. Can EBP be constructed per debt maturity and empirical analysis refined?
- 7 Do standard regression analysis in truncated data (-50 bp, 2000 bp). Try truncated regression analysis using original data, if possible.

# Conclusion

- 1 Very preliminary paper
- 2 Global factors, EBP in particular, seem to be more important
- 3 More ambitious goal: build a model that generates the same factors as in the data, and conduct same analyses on model versus data



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