#### Comments on "Market Discipline under Systemic Risk: Evidence from Bank Runs in Emerging Economies"

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## Goals

- Why is this research important?
- What did we learn?

- Interpretation of results

- What could we learn that we didn't?
  - Suggestion for alternative techniques
  - Ideas for future data/research
- How can we use to results to inform policy choices?

# Why is this research important?

- Explores the nexus between bank fundamentals-based market discipline and systemic risk.
  - Show definitions of bank fundamentals needs to be expanded to include other risks to test for market discipline.
- Provides evidence that systemic risk can play an important (even dominant) role in bank runs.

## What Did We Learn?

- Systemic risks (e.g. macro factors) themselves can be appear to make traditional bank-specific fundamentals appear insignificant, but interaction effects very important.
- During crises, systemic risks used by depositors to gauge bank (system?) risk.

- Definitions
  - Market discipline—private sector participants (bondholders, stockholders, rating agencies, and depositors) face costs that are positively related to bank risk and react on the basis of these costs.
    - Only one such participant used—depositors
  - Systemic risk—viewed as driven by macroeconomic factors.
    - Country risk—sovereign bond spreads
    - Exchange rate risk—currency premium (NDFs-spot exchange rate)

- Systemic risk (vs. systematic/global/domestic) concepts.
  - Liquidity risk (e.g. interbank exposures)
  - "Irrational" or "rational herding" bank runs
- Banks' systemic risk exposure measures used.
  - Share of gov't debt/total banks assets
  - Ratio of dollar loans/bank capital
  - Potential problems?
    - What proportion of dollar borrowers have dollar-based receipts (a natural hedge)?
    - Variability of variables low—may not be able to statistically capture anything.

- Definitions:
  - Bank fundamentals (matter to whom?)
    - ROA vs. ROE
    - NPLs often understated and lagging
    - Capital differentially defined over time and for different types of banks (public vs. private)

- How much do the systemic variables matter?
  - Uses "the five largest systemic innovations" from VAR framework and compares statistical response to actual decline of deposits.
  - "Merely 15 systemic events are needed to explain 50 and 20 percent of decline in peso and dollar deposits?"
    - Define "systemic events/innovations"?
    - Can these statistical events be compared to actual events over the entire sample period?
    - How should the dummy variables associated with important news in the VAR system be interpreted?
    - Are the results really additive as Table 7 suggests?

# Modeling Issues

- Endogeneity
  - Lags help.
  - Deposit interest rate—supply or demanddriven?
  - Covered/uncovered interest rate arbitrage.
  - Sovereign risk assessments (e.g. ratings) and thus bond spreads utilize banking system risks (e.g. robustness of banking sector, contingent liabilities to the gov't).

# Modeling Issues

- Nonlinearity
  - Regressions and VARs are linear specifications.
  - Evidence from the statistical significance of interactions (e.g. banks' exposures\*risk).
  - Spread movements are highly non-linear.

#### Argentina

(A) Bond Spread



Source: J.P. Morgan Chase

#### Uruguay

#### (A) Bond Spread



Source: J.P. Morgan Chase

#### What could we learn that we didn't?

- Suggestions for alternative techniques
  - Non-linear specifications
  - Analysis of variance techniques
  - -2-step procedure
    - Step 1: Control for systemic factors in bank fundamentals (see equation #3).

- NPL(i,t) = a(i) + b NPL(i,t-j) + c S (t-k) + e(t)

• Step 2: Run deposit variables on *estimated* NPLs and systemic variables to find out independent influence of systemic factors.

#### What could we learn that we didn't?

- Alternative data
  - Depositors concerned with liquidity/large depositor withdrawals.
    - Use liquidity ratios
    - Use "large" deposits or interbank deposits
  - Examine only private banks.
    - Use bank stock prices, if available

#### What could we learn that we didn't?

- Alternative sample period
  - Bank fundamentals didn't (statistically) matter during this time period (overshadowed by systemic risks).
  - Fundamentals should matter during tranquil period. Do they? Do we have the wrong set of fundamentals for the question posed?

# **Policy Implications**

- Transparency of "traditional" bank fundamentals (maybe) necessary but not sufficient to prevent bank runs.
- Need to include bank exposure to systemic risks in disclosed data.
  - Should banks disclose? Should supervisors disclose?
  - Costs/benefits of disclosure?

## The future of market discipline

- Quest for market discipline should not be viewed as less attainable in emerging markets just because systemic risks are greater.
  - Emerging market bank managers should take into account their bank's exposure to (higher) systemic risks (limit currency mismatches, limit gov't debt exposures, carry higher capital ratios).
  - Industrial countries' bank managers and supervisors already do this.
    - Either mandated (e.g. supervisory rules on FX exposure limits, creditor exposure limits, liquidity rules, etc).
    - Or voluntarily (e.g. Value-at-Risk, exposure data) released.

# Summary

- Research shows the importance of systemic risk (relative to banking fundamentals) for measuring market discipline using a concrete example.
- Suggests need to view market discipline more broadly and consider expanding transparency to include variables measuring exposure to systemic risks.
- Just a start—more evidence on causes of bank runs and usefulness of systemic risk variables to help market discipline work are needed.