

# Systemic Risk across Countries



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Session Discussant

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# Papers

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Three interesting papers but ... long!

- I. Banking System Stability: A Cross-Atlantic Perspective  
(Hartmann, Straetmans and de Vries) 93p
  - II. Estimating systemic risk in the international financial system  
(Bartram, Brown, and Hund) 60p
  - III. A large speculator in contagious currency crisis: a single "George Soros" makes countries more vulnerable to crisis but mitigates contagion  
(Taketa) 47p
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- 200p



# General Research Questions

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- Are banking systems prone to systemic risk? The empirical papers
  - look at evolution of bank stock prices
    - Hartmann et al focus on “**extreme dependencies**” in stock prices (for 25 euro area banks and 25 US banks)
    - Bartram et al focus on “**average**” effects of **unexposed banks** to identify systemic effects (large sample covering about 80% of global bank equity)
  - have different approaches to identify “events”
    - Bartram et al employ 6 shocks that are ex-post considered as events
    - Hartmann et al employ the distributions of bank stock returns to identify events (the negative extremes)
- Aggregate risk versus contagion risk
  - role of macroeconomic shocks/ direct linkages in inducing systemic risk
  - potential of contagion between systems
    - even when no direct linkages (Taketa),
    - in a context with increasing interbank linkages



# Why interesting?

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- Advanced empirical and theoretical methodologies to address interesting policy questions:
  - How important is systemic risk / contagion risk?
  - What is the role of financial integration? What is the role of interbank markets?
  - How should supervision of the financial and banking system be organized?
  - How transparent should markets be?

# I. Banking System Stability: A Cross-Atlantic Perspective

(Hartmann, Straetmans and de Vries)

- Issue + contribution:
  - Assess banking system risks employing EVT (data from 04/1992 – 02/2004) for *two continents* (US and euro area)
  - Importance of *aggregate* (macro) risks and *contagion* (co-crash) probabilities
  - Cross-border contagion versus domestic contagion in euro area
  - Time series analysis of banking system stability

# I. Banking System Stability: A Cross-Atlantic Perspective

(Hartmann, Straetmans and de Vries)

- Results:
  - Contagion risk in US is larger than in euro area;
  - Contagion risk has increased during the 1990s
  - Cross-border contagion risks are
    - still mild in Europe even though important and increasing cross-border interbank linkages
    - smaller than domestic contagion risk
  - Macroshocks are equally important for US and euro area

# I. Banking System Stability: A Cross-Atlantic Perspective

(Hartmann, Straetmans and de Vries)



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## ■ Comments

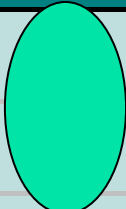

### ■ *Sample selection*

- Coverage
- Potential survivorship bias
  - Default of banks? Or “forced” mergers
  - How is dealt with bank mergers?
- Almanij: KBC? Look at jump from 1996 to 1997 (App C, p71)?

# I. Banking System Stability: A Cross-Atlantic Perspective

(Hartmann, Straetmans and de Vries)

- Comments: contagion between euro area banks and US banks?

	Euro area A	Euro area B	United States
Euro area A	$\eta_A$	X	
Euro area B	X	$\eta_B$	
United States			$\eta_{US}$

- Are *euro area - US* spillovers different from *cross border euro area* spillovers?
  - Need of EU-supervisor or “cross-atlantic” supervisor?

# I. Banking System Stability: A Cross-Atlantic Perspective

(Hartmann, Straetmans and de Vries)

- Comments:
  - Table 3 shows a drop in “contagion risk” in some cases when increasing the number of banks facing a shock: interpretation is depositors moving money from one bank to another? Cross-border movements of deposits????
  - Similar contagion risk of major euro area banks within and between some large countries:
    - Large banks have cross-border activities: what about “national” classifications?
    - Statistical test of whether difference in domestic contagion versus cross-border contagion hinges on “degree of periphery” or “degree of cross-border interbank positions”

# II. Estimating systemic risk in the international financial system

(Bartram, Brown, and Hund)

## ■ Issue

- What is impact of 6 financial crises (Mexican devaluation in 1994; Asian crisis in 1997-8; Russian default and LTCM in 1998, Brazilian devaluation in 1999; September 11, 2001) on three measures of systemic risk
  - CARs for (exposed and) unexposed banks
  - Default probability of unexposed banks using
    - Merton model
    - Option prices
- Using a sample covering about 80% of banks' equity capital
- How to discriminate between different types of shocks
  - Big shocks
  - Spillover
  - Common shocks => unexposed banks

# II. Estimating systemic risk in the international financial system

(Bartram, Brown, and Hund)

## ■ Findings

- CARs of unexposed banks rarely exceed a few percent
- Systemic risk is limited even during major financial crises: less than a 1% increase in default probability
- Suggests that concerns by central bankers may be
  - overstated
  - and/or that current policy framework is adequate

# II. Estimating systemic risk in the international financial system

(Bartram, Brown, and Hund)

- Comments on *measuring* systemic risk:
  - Is this a good way to measure systemic risk (exposed versus unexposed banks)? Loan portfolios may be indirectly linked
  - Why not use a continuous exposure variable?
  - Sample split of exposed versus unexposed may simply be a split on
    - “international” versus “local” banks,
    - “large” versus “small” banks
  - “average” impact: also focus on the distribution
  - Focus is on publicly traded banks; what about other banks?

# II. Estimating systemic risk in the international financial system

(Bartram, Brown, and Hund)

- Comments on *interpretation*:
  - Supervisor: is this good news or bad news?
  
  - How to decompose systemic risk
    - *without* intervention of supervisor/regulator
  
    - versus systemic risk
  
    - *with* intervention of supervisor/regulator?



III. A large speculator in contagious currency crisis: a single  
“George Soros” makes countries more vulnerable to crisis but  
mitigates contagion  
(Kenshi Taketa)

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■ Issue:

- How does presence of a large speculator affect
  - a country's vulnerability to crisis
  - contagion risk?
- What is optimal degree of financial disclosure of such positions?
- How to regulate the size of a large speculator?



### III. A large speculator in contagious currency crisis: a single “George Soros” makes countries more vulnerable to crisis but mitigates contagion (Kenshi Taketa)

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#### ■ Contribution of paper:

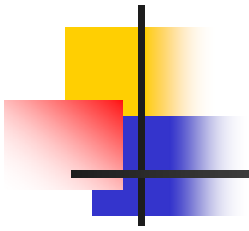
- Paper provides theory for why contagion may occur between “unrelated” countries stemming from updating the information about the large speculator
- Helps to
  - select one out of “multiple equilibria” (in contrast to previous literature)
  - separate “as if” contagion versus “true” contagion
- Allows to address policy implications
  - Disclosure of Soros type: if disclosed that he is a bull then countries are more vulnerable to crisis but no contagion
  - Decreasing the size of Soros makes countries less vulnerable to crisis but more prone to contagion



### III. A large speculator in contagious currency crisis: a single “George Soros” makes countries more vulnerable to crisis but mitigates contagion (Kenshi Taketa)

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- Intuition: whether or not a crisis occurs in country A allows to “improve” information about the large speculator’s type when dealing with country B.
  - If a crisis occurred in A with “intermediate fundamentals” => Soros has attacked suggesting that he is more likely a bull => small investors become more aggressive and country B becomes more prone to crisis and contagion occurs
  - Updating depends on whether group 1 is a single Soros or a group of smaller investors, with *one Soros mitigating contagion!*
  - Updating only happens for “intermediate fundamentals”
    - If bad fundamentals; a crisis is not surprising and small investors’ behavior remains unaffected
    - If good fundamentals; the absence of a crisis is not surprising and small investors’ behavior remains unaffected



III. A large speculator in contagious currency crisis: a single  
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■ Comments:

- Terminology of “bull” and “chicken”
- Why “common” bull or “common” chicken for both countries?
- Implications of Soros having “better” or “worse” information
- Can a large speculator truthfully reveal that he is a “bull” or a “chicken”?



III. A large speculator in contagious currency crisis: a single  
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- Minor comments:
  - Details: some duplication in notation:  
(why introduce  $\mu$  and then call it  $\mu_1$  and 0)
  - What happens with several large speculators?
  - Welfare analysis?



# Some final remarks

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- So what is the big picture?
  - One paper shows that unrelated countries may in the presence of a large speculator become prone to contagion when fundamentals are intermediate.
  - Other papers argue that the problem is quite under control.
  - Is this not contradictory or is it? Or is this simply the result of how supervisory practices are and our regulatory system works?