

The Center and the Periphery: The Globalization of Financial Turmoil

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The Current Debate

- **The financial turmoil of the 1990s has triggered concerns about:**
 - **Contagion**
 - **Systemic risk.**
- **New proposals (on codes and standards, monetary arrangements, the role of international institutions, and securities law) to create a bulwark to prevent contagion .**

Previous Research

- **The literature on contagion has developed along two complementary strands in recent years.**
- **First, the earlier studies attempted to document the incidence of contagion or establish whether there is such a beast.**
- **Second, many studies have primarily sought to discriminate among the possible channels of transmission of disturbances:**
 - **trade links**
 - **common foreign bank lenders**
 - **Cross-market hedging**

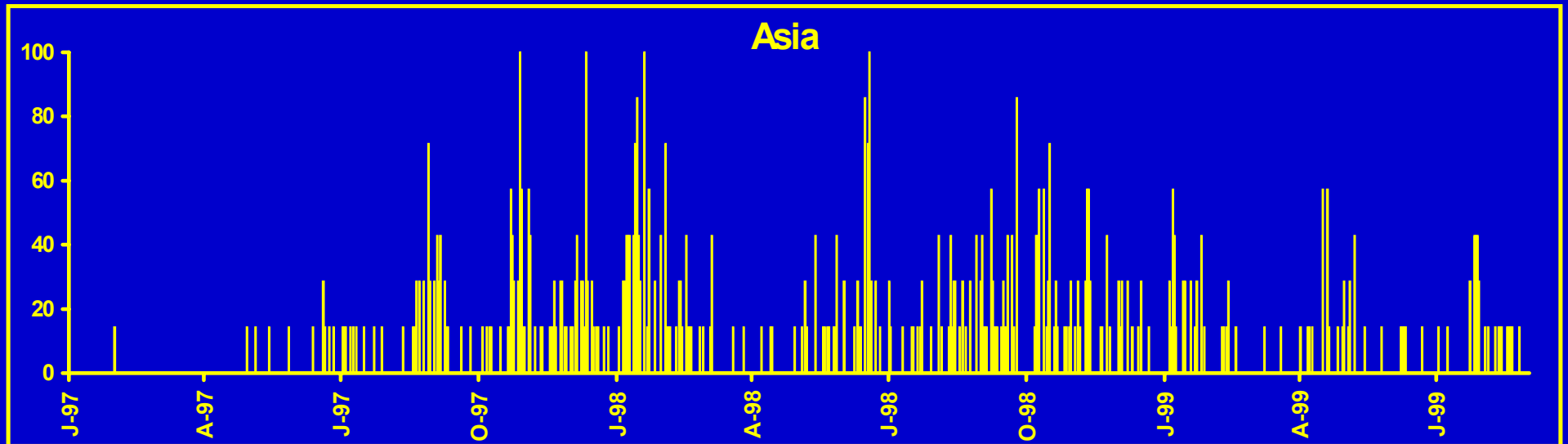
What is different about this paper?

- **Origins?**
- **Patterns of transmission?**
- **Spillover of extreme events**
- **What do we need for systemic crises?**
 - **Is it extreme shocks in financial centers?**
 - **Or just extreme shocks in crisis-prone emerging markets?**
- **Two new Measures of Globalization**
 - **Weak-Form and Strong-Form Globalization**
- **We link the days of high regional and world globalization to key world events.**

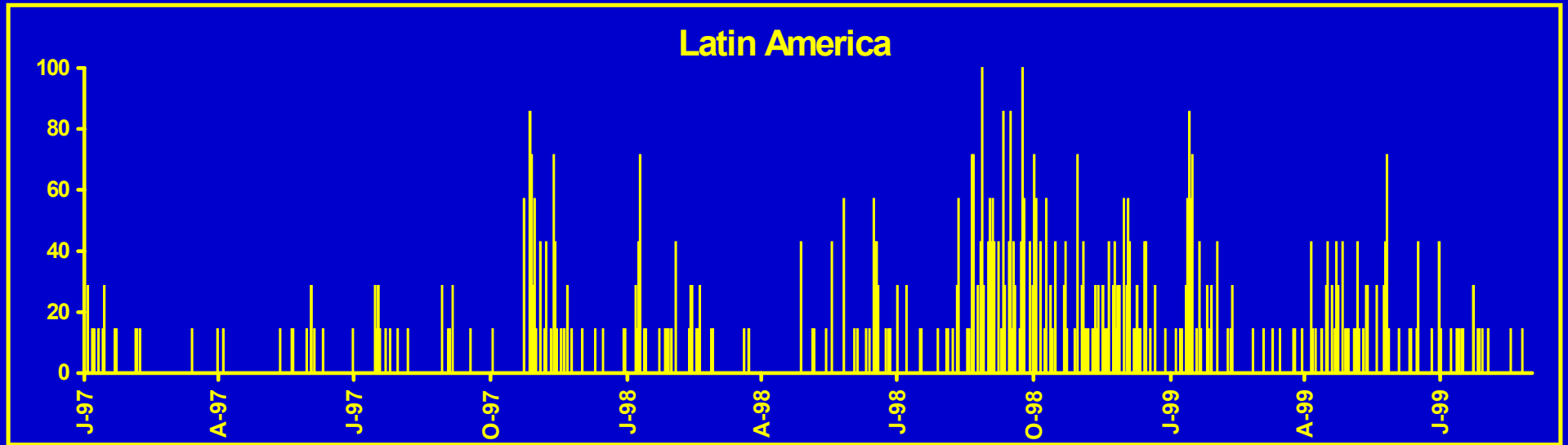
Data

- **Thirty five mature and emerging countries:**
 - **G-7 countries**
 - **Asia**
 - **Europe**
 - **Latin America**
 - **Transition economies**
- **Stock Market Indices**
- **Daily data from January 1, 1997 to August 31, 1999.**

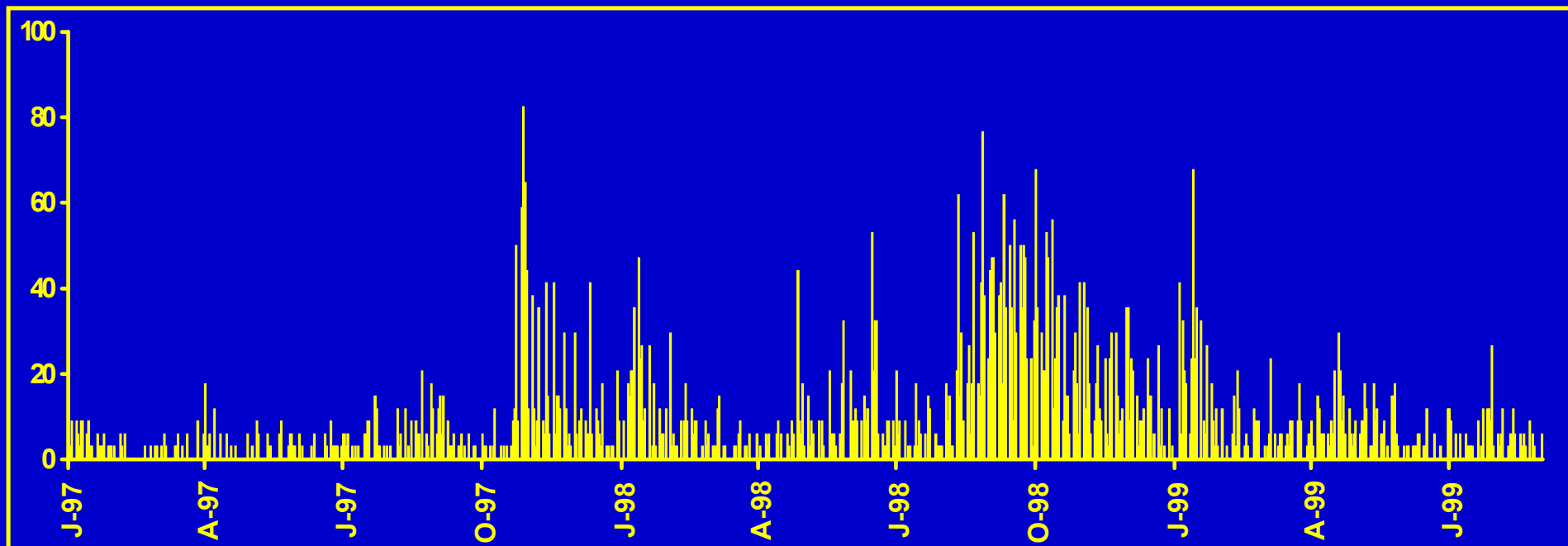
Regional Globalization



Regional Globalization



World Globalization



Weak-Form Globalization

- **Focus on days of turmoil, which are defined as days with returns in the 5th and 95th percentiles.**
- **Examine the degree of spillover conditional on turmoil in:**
 - **Financial Centers**
 - **Crisis-prone emerging markets**
- **Weak-Form Globalization: The frequency distribution of returns around the world changes when conditioning on days of turmoil in one financial center or in one crisis-prone emerging market.**
- **Degree of Globalization: Proportion of countries with different frequency distributions.**
- **Use Kolgomorov-Smirnov test.**

Table 4
Weak-Form Globalization of Turmoil
Regional and World Effects

REGIONS	Percentage of Countries with Anomalous Returns when Turmoil in		
	GERMANY	JAPAN	USA
Asia	43	71	29
Europe	71	71	71
G7	100	75	75
Latin America	43	0	71
Transition Economies	57	14	43
World	59	44	56

REGIONS	Percentage of Countries with Anomalous Returns when Turmoil in		
	BRAZIL	RUSSIA	THAILAND
Asia	14	29	67
Europe	100	100	0
G7	83	67	17
Latin America	100	86	14
Transition Economies	86	83	0
World	76	73	18

Weak-Form Globalization Regional and World Effects

REGIONS	Percentage of Countries with Anomalous Returns when Turmoil in								
	BRAZIL			RUSSIA			THAILAND		
	With Financial Center	Without Financial Center	W p-value	With Financial Center	Without Financial Center	W p-value	With Financial Center	Without Financial Center	W p-value
Latin America	100	83		86	0		14	14	
Asia	14	0		29	14		67	0	
Europe	100	29		100	0		0	0	
G7	83	0		67	0		17	14	
Transition Economies	86	14		83	33		0	0	
World	76	24		73	12		18	6	
Wilcoxon Statistic (W)	1320	891	0.00	1452	759	0.00	1188	1023	0.00

Strong-Form Globalization

- **Again, focus on days of turmoil, which are defined as days with returns in the 5th and 95th percentiles.**
- **Examine the degree of spillover conditional on turmoil in:**
 - **Financial Centers**
 - **Crisis-prone emerging markets**
- **Strong-Form Globalization: Coincidence of turmoil.**
- **Degree of Globalization: Proportion of countries with turmoil.**

Strong-Form Globalization

We use a multinomial-logit and order-logit regression techniques:

- **The dependent variable captures degrees of globalization. There are three categories:**
 - **Low Globalization: Only up to 25 percent of the countries have turmoil**
 - **Medium Globalization: 25 to 50 percent of the countries have turmoil**
 - **High Globalization: More than 50 percent of the countries have turmoil**
- **The explanatory variables are (0,1) dummy variables that reflect days of turmoil in:**
 - **A crisis-prone emerging market (no financial center affected)**
 - **A crisis-prone emerging market (financial center affected)**
 - **Financial Center**

Strong Form Globalization

Degree Of Globalization	Probabilities Conditional on		
	TURMOIL IN GERMANY	TURMOIL IN JAPAN	TURMOIL IN USA
Low	41	58	52
Medium	36	27	23
High	23	14	25

Degree Of Globalization	Probabilities Conditional on		
	TURMOIL IN BRAZIL	TURMOIL IN RUSSIA	TURMOIL IN THAILAND
Low	40	56	70
Medium	26	23	23
High	34	20	7

Strong Form Globalization

Degree of Globalization	Probabilities Conditional on								
	TURMOIL IN BRAZIL			TURMOIL IN RUSSIA			TURMOIL IN THAILAND		
	With Financial Center	Without financial Center	No Turmoil	With Financial Center	Without Financial Center	No Turmoil	With Financial Center	Without financial Center	No Turmoil
Low	21	56	87	23	75	92	47	80	90
Medium	21	27	10	27	23	7	40	17	8
High	57	17	2	50	2	1	13	4	3

Strong-Form Globalization

Degree of Globalization	Probabilities Conditional on						
	No Turmoil	TURMOIL IN ONE EMERGING MARKET		TURMOIL IN TWO EMERGING MARKETS		TURMOIL IN THREE EMERGING MARKETS	
		With Financial Center	Without Financial Center	With Financial Center	Without Financial Center	With Financial Center	Without Financial Center
Low	77	56	76	19	75	2	73
Medium	21	31	22	20	22	4	21
High	1	13	2	62	4	94	6

Strong-Form Globalization Results

- **When there is turmoil in Financial Centers the probability of at least medium globalization is 50 percent.**
- **Turmoil in Crisis-Prone Emerging Markets**
 - **Triggers high globalization of turbulences with a 50 percent probability if financial centers are affected**
 - **Triggers low globalization of turbulences with a 50 percent probability if financial centers are not affected**

The Origins of Turmoil

- **We construct a chronology of news from Bloomberg for the days of high world and regional globalization.**
- **We find that:**
 - **News about financial institutions are at the heart of worldwide globalization events.**
 - **Other economic news or political news trigger mostly regional globalization events.**
- **Interestingly, 85 percent of all high worldwide globalization events are crashes.**
- **Also, events of high worldwide globalization are characterized by more drastic shocks.**

Conclusions:

The Center or the Periphery?

- **We need to understand the circuitous route that financial shocks often traverse.**
- **Problems occur synchronously in many emerging markets —the periphery — because a shock in one of them first influences a financial center.**
- **If a shock never reaches a center, it is doubtful it can become systemic, whatever our definition of systemic is.**