

The International Exposure of U.S. Banks

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Current paper continues a research agenda aimed at uncovering implications of foreign bank participants in emerging markets. Most of my prior work on this takes a micro data approach.

Dages, Goldberg, and Kinney. 2000. **“Foreign and Domestic Bank Participation in Emerging Markets: Lessons from Mexico and Argentina”**. *Economic Policy Review*.

Dages, Crystal and Goldberg. 2001. **Does Foreign Ownership Contribute to Sounder Banks in Emerging Markets? The Latin American Experience**. *Open Doors: Foreign Participation in Financial Systems in Developing Countries*, eds. R. Litan, P. Masson, M. Pomerleano, Brookings Press.

Goldberg. 2002. **When is U.S. Bank Lending to Emerging Markets Volatile?** In *Preventing Currency Crises in Emerging Markets*, eds. Sebastian Edwards and Jeffrey Frankel, NBER and University of Chicago Press

Goldberg. 2004. Financial Sector Foreign Direct Investment: New and Old Lessons. NBER *working paper*, #10441, April.

What do we observe in U.S. bank foreign exposures?

Look at the U.S. banks engaged in international lending

- cross-border (as would clearly show up in the US BOP)
 - local, via branches and subsidiaries.
1. Trends.
 2. Country composition.
 3. Changes in the numbers and types of banks with foreign exposures.
 4. Are portfolio motives at work? How should these be specified?
 5. Which types of flows are more volatile, and from which types of banks?

As in Goldberg (2002), use confidential data collected for bank supervision and regulation.

Bank Foreign Exposure, by country & date:

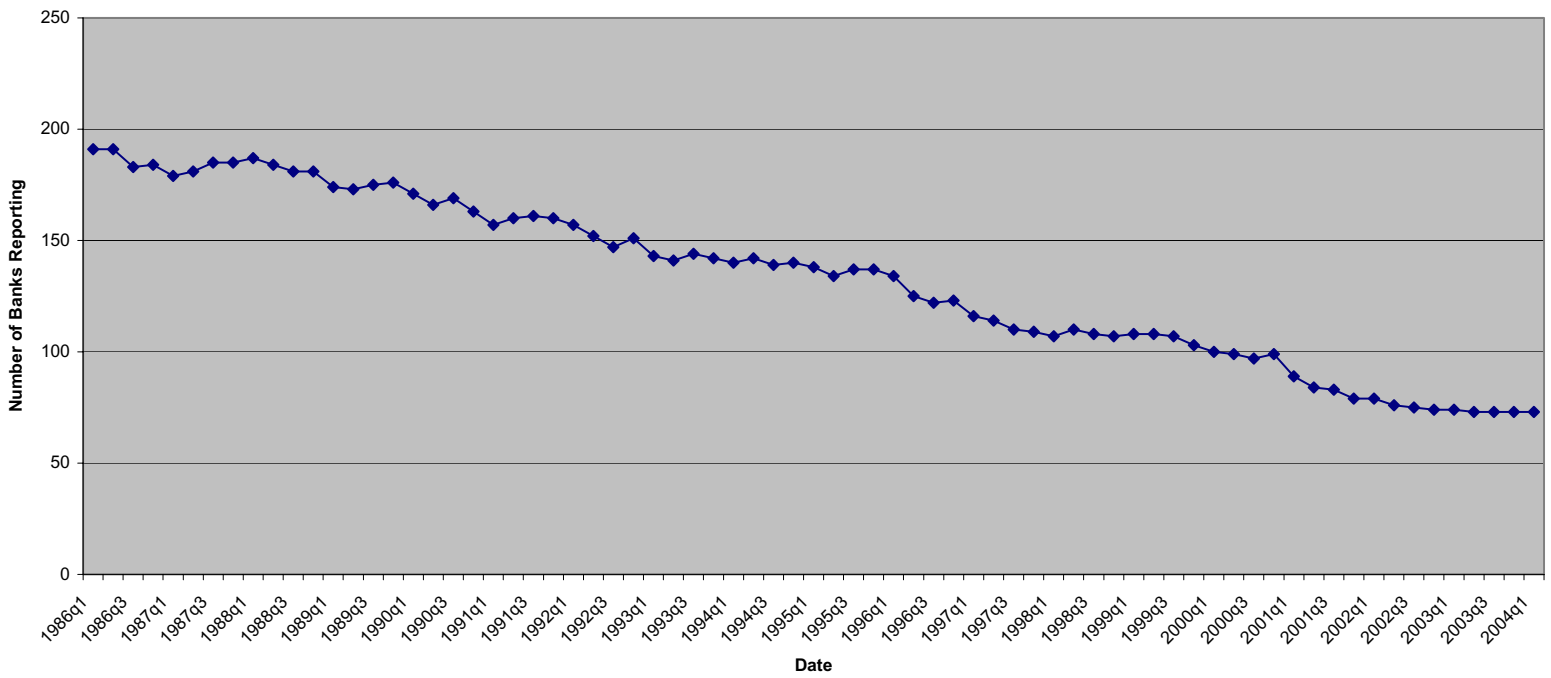
Federal Financial Institutions Examinations Council (FFIEC) 009 Country Exposure Reports, filed quarterly by U.S. chartered & insured commercial banks.

- Filing required if a bank has, on *a fully consolidated bank basis*, total outstanding claims on residents of foreign countries > \$30 million in aggregate.

Bank claims encompass credit extended to foreign country banks, public entities, and other recipients including individuals and businesses, revaluation gains on interest rate, foreign exchange, equity, commodity and other off-balance sheet contracts. (Also information on maturity and client base)

Bank Total Assets from FFIEC031 Consolidated Report of Condition for Insured Commercial and State-Chartered Savings Banks. Y9C for bank holding companies.

Chart 1: Number of US Banks Reporting Foreign Exposure 1986-2004



**Chart 2 Size Distribution of Banks by Real Total Assets
As Share of Total Reporting Banks**

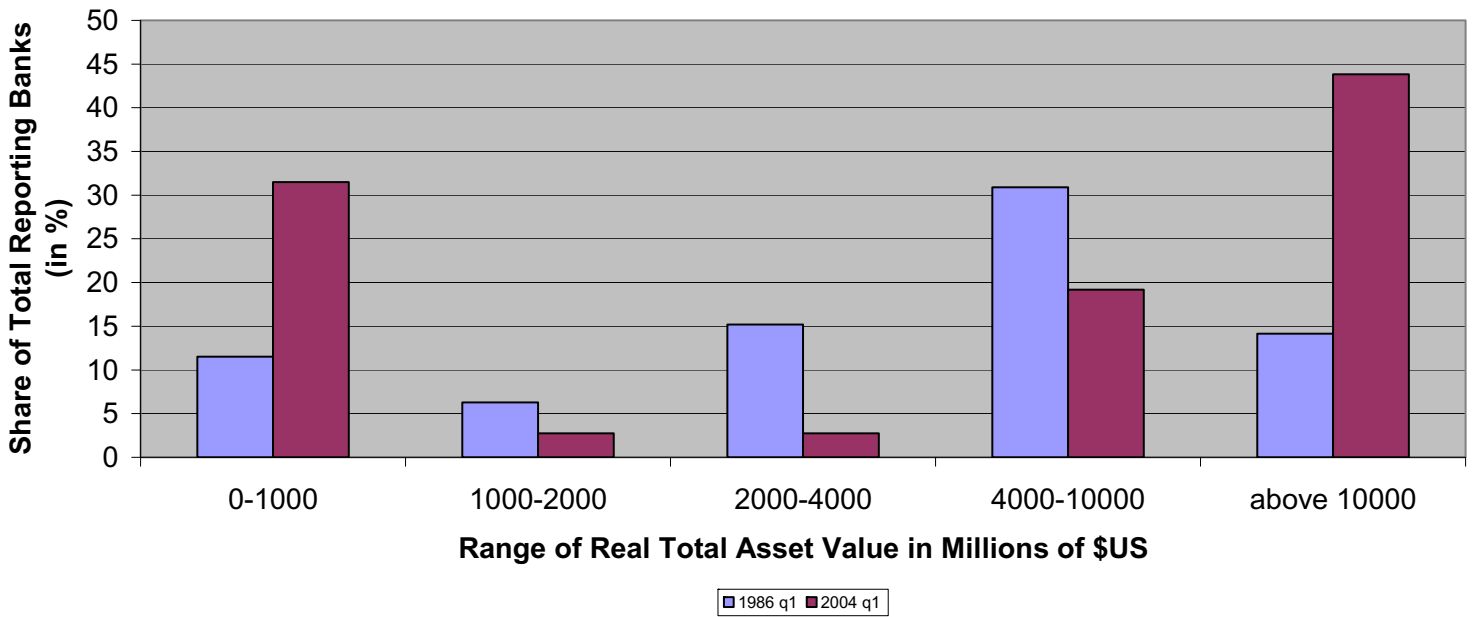


Chart 4: Percent of Total Reporting Banks that Report Exposure to Each Region

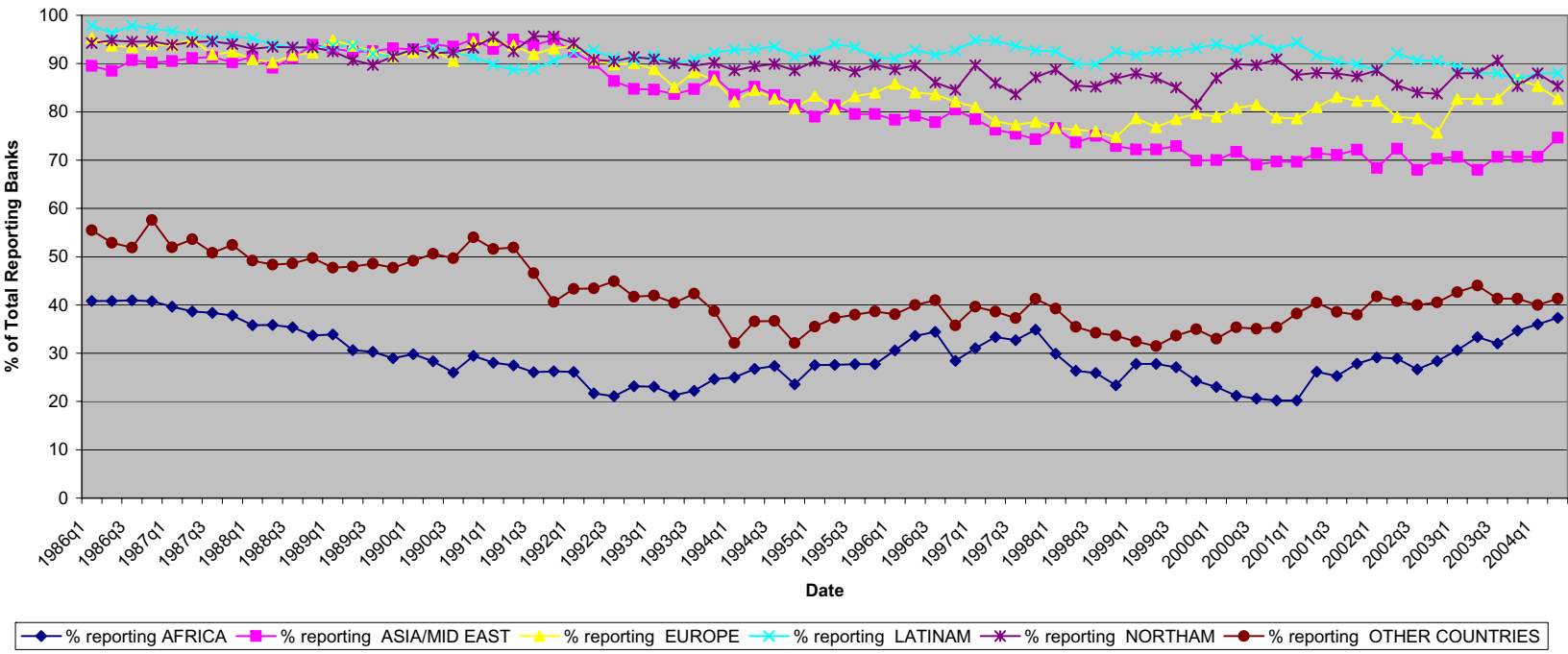


Chart 5 Total Value of Cross Border Claims, by Region

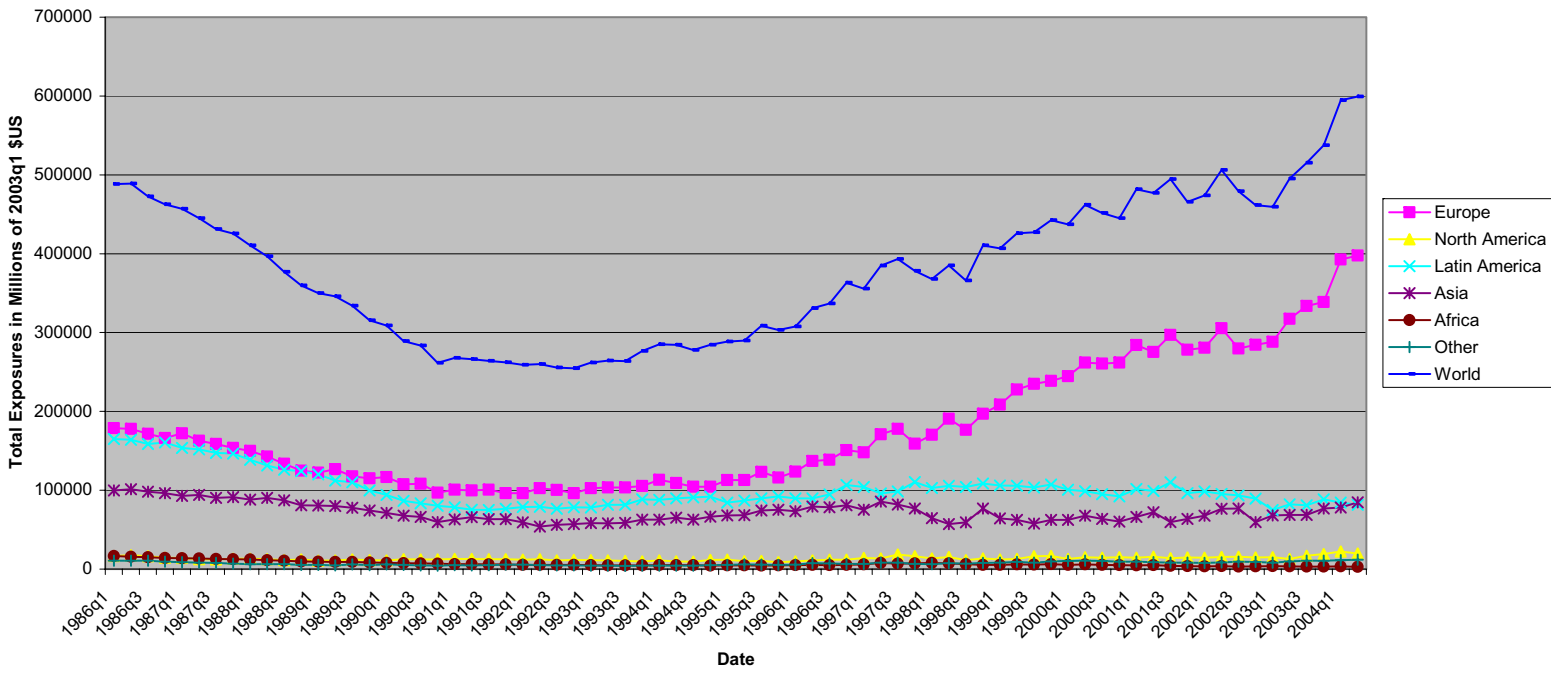
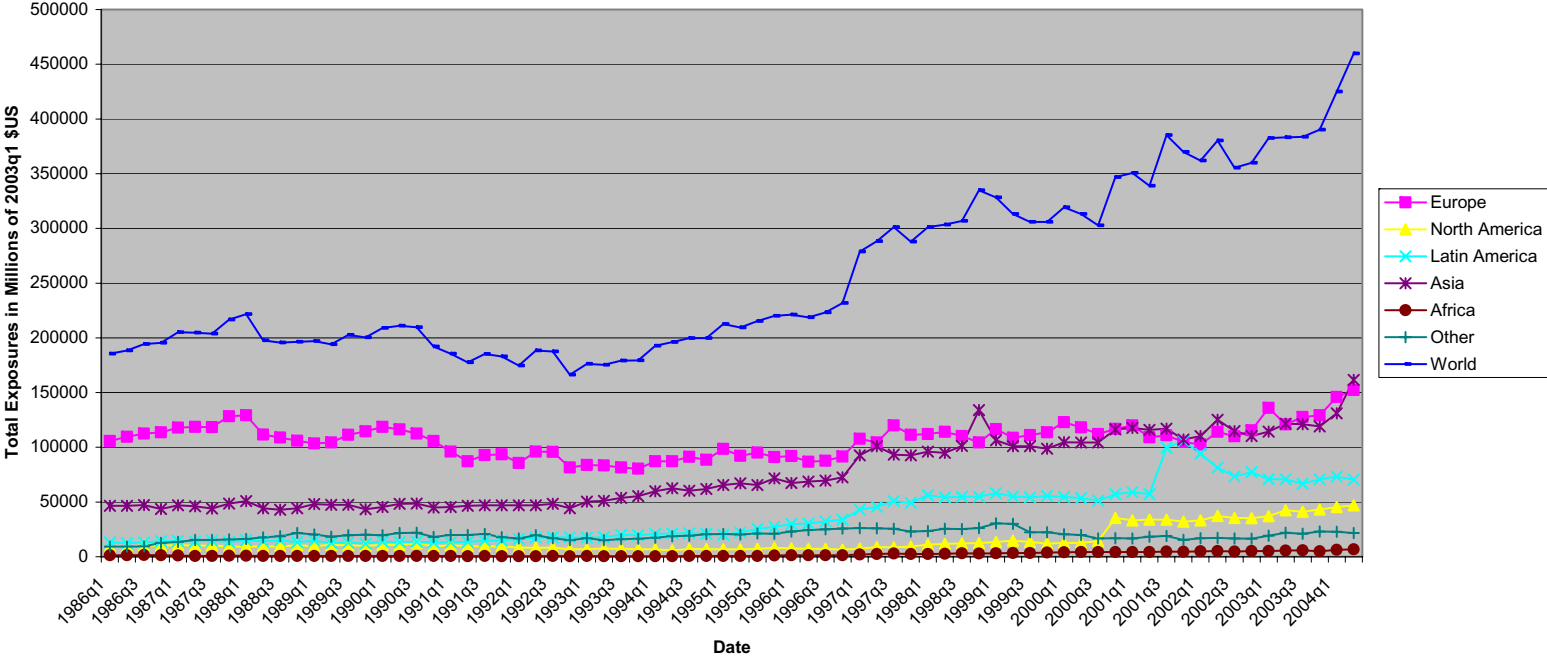


Chart 6 Value of Total Local Claims to Each Region 1986-2004



Local claims growth is more an emerging market than industrialized country phenomenon.

Table 1 Foreign Exposure of U.S. Reporting Banks: Europe heavily dominates cross border claims, but Latin America has a large presence in local claims (2004q1, As Share of Total US Foreign Exposure)

	Cross Border Claims	Local Claims	Total		Cross Border Claims	Local Claims	Total
<i>Europe</i>	<i>25.55</i>	<i>8.91</i>	<i>39.98</i>	<i>Latin America</i>	<i>2.77</i>	<i>4.69</i>	<i>7.57</i>
France	2.72	0.11	3.35	Argentina	0.19	0.22	0.42
Germany	4.62	1.58	7.23	Brazil	0.67	0.82	1.54
Netherlands	2.45	0.02	2.93	Chile	0.21	0.34	0.57
UK	7.89	5.57	15.10	Mexico	1.32	3.06	4.41

Total exposure column includes derivative positions, and is higher than the sum of cross-border and local exposures. Note: our analysis has not, at this point, adjusted for the ultimate country of issuance of claims.

Table 2 Volatility of Foreign Exposures of U.S. Banks: Cross border claims are typically more volatile than local claims, and claims on Latin American countries more volatile than those on European countries (ex. Small ones!)

Standard deviation of total claims in each category divided by the average value of these claims over 2000q1-2004q1 (real 2003q1 millions of U.S. dollars)

	Cross Border Claims	Local Claims	Total		Cross Border Claims	Local Claims	Total
<i>Europe</i>	<i>0.15</i>	<i>0.11</i>	<i>0.13</i>	<i>Latin America</i>	<i>0.17</i>	<i>0.23</i>	<i>0.15</i>
France	0.24	0.38	0.15	Argentina	0.51	0.62	0.57
Germany	0.15	0.14	0.10	Brazil	0.21	0.19	0.19
Netherlands	0.16	0.46	0.14	Chile	0.15	0.06	0.06
U.K.	0.25	0.14	0.19	Mexico	0.11	0.54	0.37

Table 2A Ratio of Volatility of Exposures of Top 5 Banks to Volatility of Foreign Exposures of Other U.S. Reporting Banks, 2000q1-2004q1

Local claims are most interesting. Larger banks typically have less volatile local claims. In cross border claims, for Latin American countries the evidence is mixed.

	Cross Border Claims	Local Claims	Total		Cross Border Claims	Local Claims	Total
<i>Europe</i>	<i>1.00</i>	<i>0.51</i>	<i>0.79</i>	<i>Latin America</i>	<i>0.63</i>	<i>1.07</i>	<i>0.78</i>
France	<i>0.96</i>	<i>0.36</i>	<i>0.65</i>	Argentina	<i>0.81</i>	<i>0.85</i>	<i>0.83</i>
Germany	<i>0.87</i>	<i>0.14</i>	<i>0.56</i>	Brazil	<i>1.17</i>	<i>0.92</i>	<i>0.93</i>
Netherlands	<i>0.81</i>	<i>0.60</i>	<i>0.73</i>	Chile	<i>2.45</i>	<i>0.67</i>	<i>1.19</i>
United Kingdom	<i>1.78</i>	<i>0.92</i>	<i>1.43</i>	Mexico	<i>0.87</i>	<i>2.78#</i>	<i>1.80</i>

Mexican local claims appear more volatile due to acquisition events during this interval.

Role of Economic Fundamentals in U.S. Bank Foreign Exposures

$$\Delta Exp_t^{ic} = a_1^i + a_2^r + b \cdot \Delta i_t^c + c \cdot \Delta i_t^{us} + d \cdot \Delta GGDP_t^c + e \cdot \Delta GGDP_t^{us}$$

Portfolio arguments underlie our basic testing specification:

Percent changes in a U.S. bank's claims on any country:

- a bank specific component common across all regions;
- a region-specific component;
- move with source and destination fundamentals.

Table 3 Levels of Parameter Identification

Sample Period	Type of Foreign Exposure	Parameter stability tests
1986:Q1- 2004:Q2	Total Foreign Exposure	Equality across types of banks (5 money center vs. all others)
1986:Q1 -2001:Q2	Cross-Border Claims	Equality across destination markets (European vs. Latin American countries) Latin American sample, with and without Mexico included
2001:Q3-2004:Q2	Local Claims	Equality across by bank type and destination market
Fixed effects	Random effects estimators	

estimators

Table 4 Regressions on Claims Aggregated Across All Reporting Banks

Elasticities of response of Cross-Border Claims					
	trend	Country real GDP	U.S. real GDP	Country interest rate	U.S. interest rate
1986:Q1-2001:Q2		<i>procyclical</i>			<i>Return seeking</i>
European countries	1.02 (0.94)	0 (0.24)	2.6** (1.16)	-1.27*** (0.43)	-0.6 (1.14)
L. American countries	-2.11 (1.3)	0.1 (0.19)	2.08 (1.61)	0 (0)	-1.41 (1.58)
2001:Q2-2004:Q2		<i>nothing</i>			<i>nothing</i>
European countries	5.12** (2.18)	1.27** (0.59)	-0.79 (2.41)	-1.13 (1.87)	2.42 (2.22)
L.American	-2.83	0.2	0.66	0.08	3.9

countries	(3.07)	(0.4)	(3.41)	(0.31)	(2.95)
Elasticities of response of Local Claims					
	trend	Country real GDP	U.S. real GDP	Country interest rate	U.S. real interest rate
1986:Q1-2001:Q2					
European countries	7.82 (4.9)	-0.93 (1.32)	9.81 (6.03)	2.49 (2.45)	5.93 (6)
L.American countries	10.77 (6.73)	-1.05 (0.98)	1.5 (8.35)	0 (0)	3.55 (8.11)
2001:Q2-2004:Q2					
European countries	11.7 (9.31)	0.22 (2.52)	-4.77 (10.26)	4.03 (8.33)	-13.46 (9.71)
L.American countries	7.48 (12.7)	-1.01 (1.66)	-6.54 (14.11)	-0.34 (1.28)	5.72 (12.21)

Table 7 Elasticities of Response of Cross-Border Claims, based on individual U.S. Reporting Bank Data with Bank-specific random effects

Elasticities of Response of Cross-Border Claims, 1986:Q1-2001:Q2					
	trend	Country real GDP	U.S. real GDP	Country real interest rate	U.S. real interest rate
Europe, Smaller banks	48.99*** (3.74)	0.8 (1.09)	7.75* (4.64)	2.79 (1.99)	0.35 (4.5)
Latin America, Smaller Banks	12.82*** (4.16)	0.39 (0.6)	0.01 (5.14)	0.0** (0.0)	-6.86 (4.87)
Europe, Larger banks	16.44** (6.74)	-0.89 (1.79)	5.37 (8.3)	-0.82 (3.2)	-3.66 (8.23)
Latin America, Larger Banks	69.76*** (14.39)	2.23 (3.2)	12.34 (17.84)	6.41 (5.11)	8.4 (17.42)

Elasticities of response of Cross-Border Claims, 2001:Q3-2004:Q2					
	trend	Country real GDP	U.S. real GDP	Country interest rate	U.S. real interest rate
Europe, Smaller banks	69.5*** (23.15)	11.05* (6.22)	28.14 (25.36)	-20.77 (20.26)	-3.76 (23.83)
Latin America, Smaller Banks	11.68 (25.87)	0.2 (3.48)	-4.68 (28.73)	-0.21 (2.47)	1.33 (25.02)
On Europe, Larger banks	166.13** * (41.72)	12.47 (10.96)	-107.93** (45.63)	59.02* (35.8)	36.12 (42.55)
Latin America, Larger Banks	-35.9 (90.17)	9.52 (18.68)	170.78* (99.61)	-100.39* (54.42)	-39.99 (89.63)
comments	Larger banks reversed their path of trend cross-border credit growth to Latin America, while cross-border flows from smaller banks had more pronounced trends. Slowdowns in the US reinforced this pattern with respect to Latin America, but cross-border claims accelerated instead with respect to European countries.				

Table 8 Elasticities of Response of Local Claims, using individual U.S. Reporting Bank Data with Bank-specific random effects

Elasticities of response of Local Claims, 1986:Q1-2001:Q2					
	trend	Country real GDP	U.S. real GDP	Country interest rate	U.S. real interest rate
On Europe, Smaller banks	-0.82 (8.87)	0.53 (3.87)	13.12 (11.03)	2.38 (5.34)	4.71 (10.41)
Latin America, Smaller Banks	-1.02 (16.31)	-1.27 (3.43)	27.57 (20.2)	0.0 (0.0)	-24.61 (19.1)
On Europe, Larger banks	5.58 (5.38)	0.22 (1.74)	6.59 (6.54)	1.5 (3.16)	3.0 (6.48)
Latin America, Larger Banks	1.51 (26.03)	2.48 (8.75)	11.47 (32.24)	3.27 (11.15)	41.63 (30.62)
None of the portfolio terms appear statistically significant in the local claims regressions for the first 15 years of the data sample.					

Elasticities of response of Local Claims, 2001:Q3-2004:Q2					
	trend	Country real GDP	U.S. real GDP	Country real interest rate	U.S. real interest rate
On Europe, Smaller banks	107.23** (53.18)	0.8 (10.27)	-58.99 (38.18)	9.76 (30.36)	-16.2 (35.16)
Latin America, Smaller Banks	-35.11 (104.77)	1.15 (16.35)	7.29 (119.24)	0.25 (6.67)	11.44 (94)
On Europe, Larger banks	9.49 (60.95)	-2.92 (9.58)	35.21 (30.29)	11.25 (24.94)	-4.63 (28.4)
Latin America, Larger Banks	240.15* (147.2)	3.06 (28.44)	-133.18 (150.54)	7.71 (66.09)	-48.97 (125.96)

Wrap-up on main findings of the paper

- Foreign claims of larger U.S. reporting banks tend to be less volatile compared with smaller banks.
- Local claims tend to be more stable than cross border flows.
- only mixed evidence in support of the idea that U.S. international claims are driven by rudimentary portfolio motives as proxied by GDP growth rates and interest rates.
- There is not consistent evidence, across markets and over time, of procyclicality (or counter-cyclicality) with U.S. business cycles, or with U.S. interest rate changes.

- In general, we do not observe stable transmission of U.S. or destination market cyclical features into either Latin American or European partners, nor in cross-border versus local claims.

Foreign banks *can* be contributors to international business cycle transmission into the host financial markets, albeit with sometimes weak transmission, while at the same time making locally-sourced real shocks and interest rates, i.e. local business cycles, amplified less by the bank intermediation system.

Since these shocks have weak statistical explanatory power for U.S. foreign exposures, the banks engaged in credit extension may reduce the extent to which local country banking systems generating highly procyclical credit cycles

Chart 8 Breakdown of European Cross-Border Claims by Client

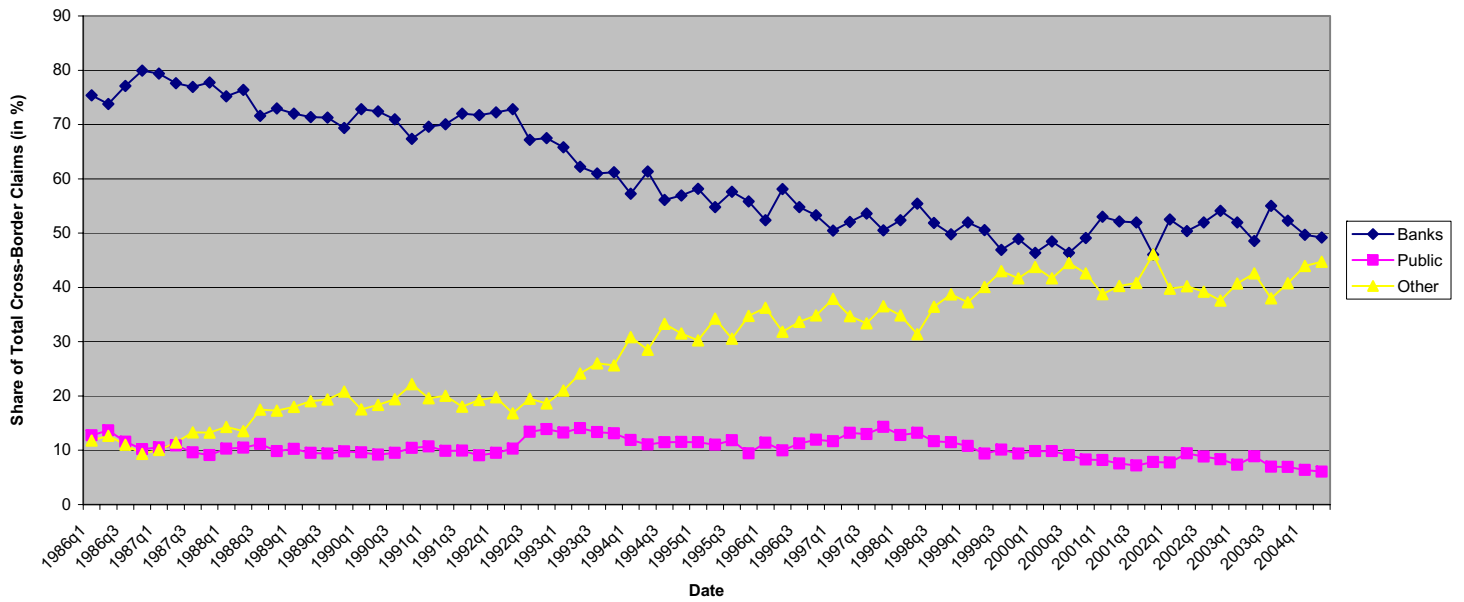


Chart 9 Breakdown of Latin American Cross-Border Claims by Client

