

FINANCIAL CRISIS AND FLIGHT TO THE FAMILIAR: EVIDENCE AND IMPLICATIONS FOR ASSET PRICES

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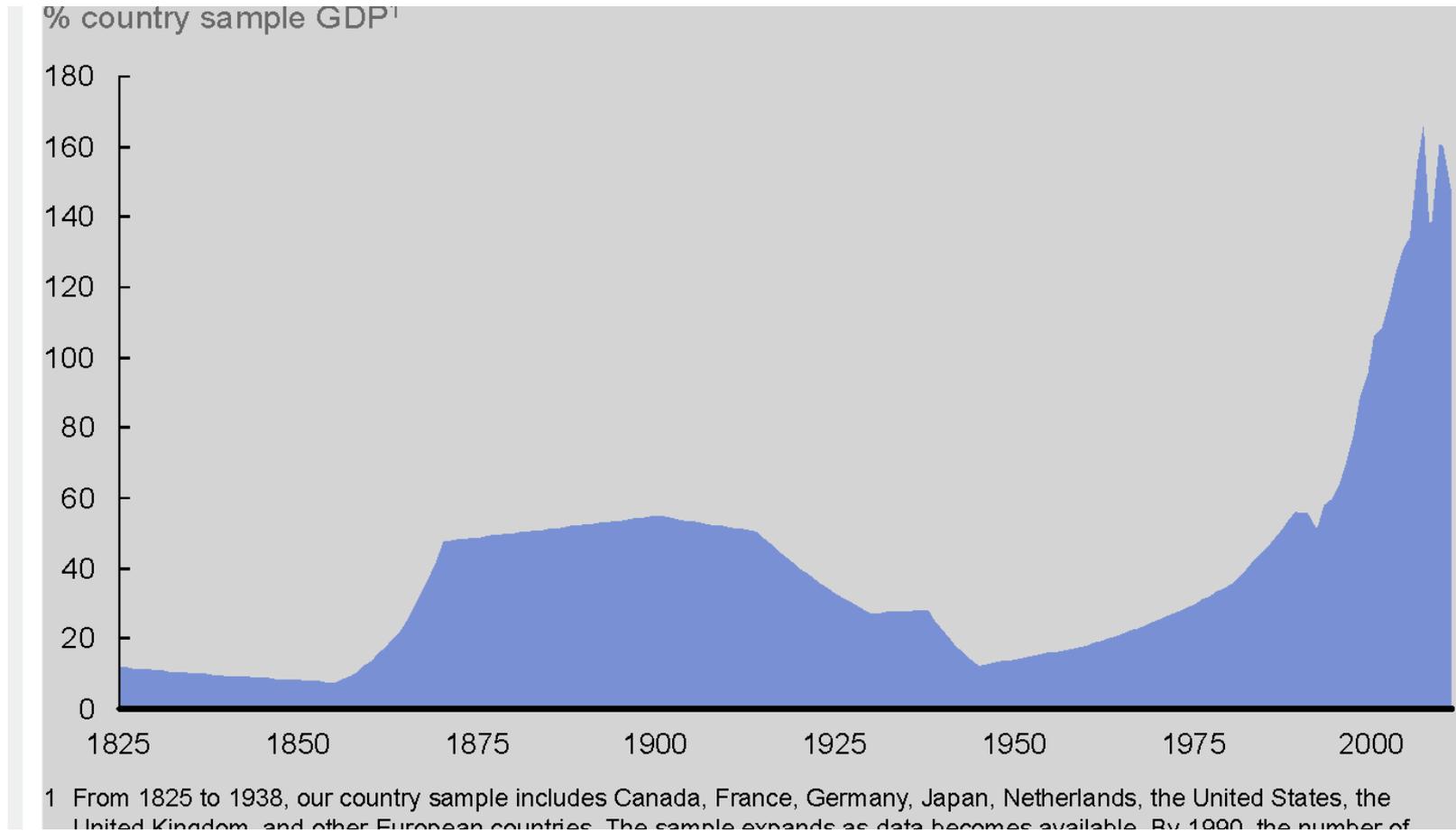
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FINANCIAL INTEGRATION AND FINANCIAL CRISES

- **During good times we are inclined to think of financial integration as an ever increasing phenomenon....**
- **However, by the end of 2012, cross-border capital flows had declined by 60% with respect to their peak in 2007**
 - Tendency has been particularly accentuated for international bank claims: 3.7 trillion decline in cross-border claims by Eurozone banks
- **To some extent nothing new; also with respect to financial integration the great recession mimics the period following the crash of the gold standard in 1913 and then the great depression of 1929...**

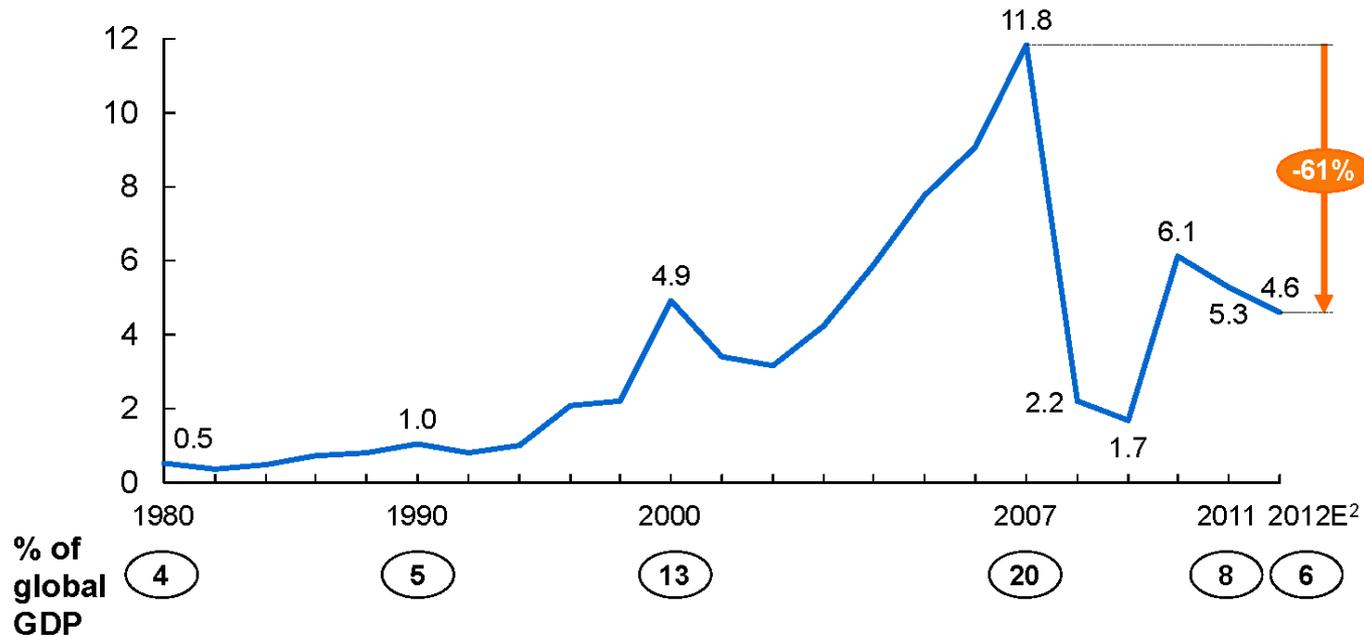
THEN

A Figure from Obstfeld & Taylor “Global Capital Markets”, 2004



...AND NOW

Global cross-border capital flows¹
\$ trillion, constant 2011 exchange rates



1 Includes foreign direct investment, purchases of foreign bonds and equities, and cross-border loans and deposits.

2 Estimated based on data through the latest available quarter (Q3 for major developed economies, Q2 for other advanced and emerging economies). For countries without quarterly data, we use trends from the Institute of International Finance.

SOURCE: International Monetary Fund (IMF) Balance of Payments; Institute of International Finance (IIF); McKinsey Global Institute analysis

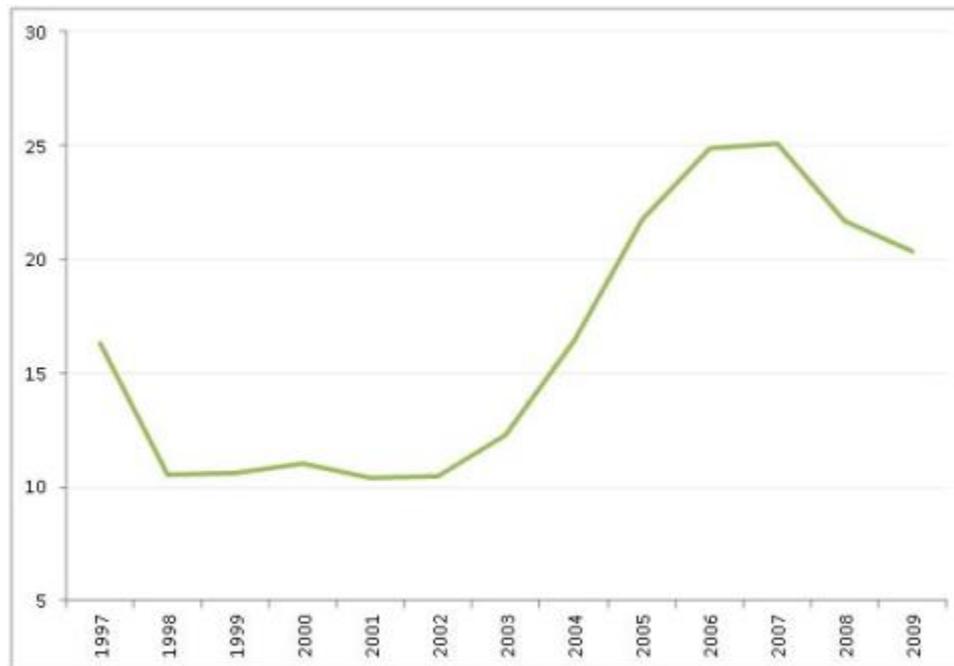
WHAT ARE THE DETERMINANTS OF THE GREAT RETRENCHMENT?

- **Wealth effects and other forms of financial constraints**
 - Did capital flows decrease as a proportion of world wealth?
 - Did investors decrease the foreign holdings in their portfolio?
- **Governments policies and financial protectionism**
 - Rose and Wieladek (JF, 2014)
- **Flight home and flight to the familiar**
 - A number of papers that I wrote/am writing mainly with Luc Laeven

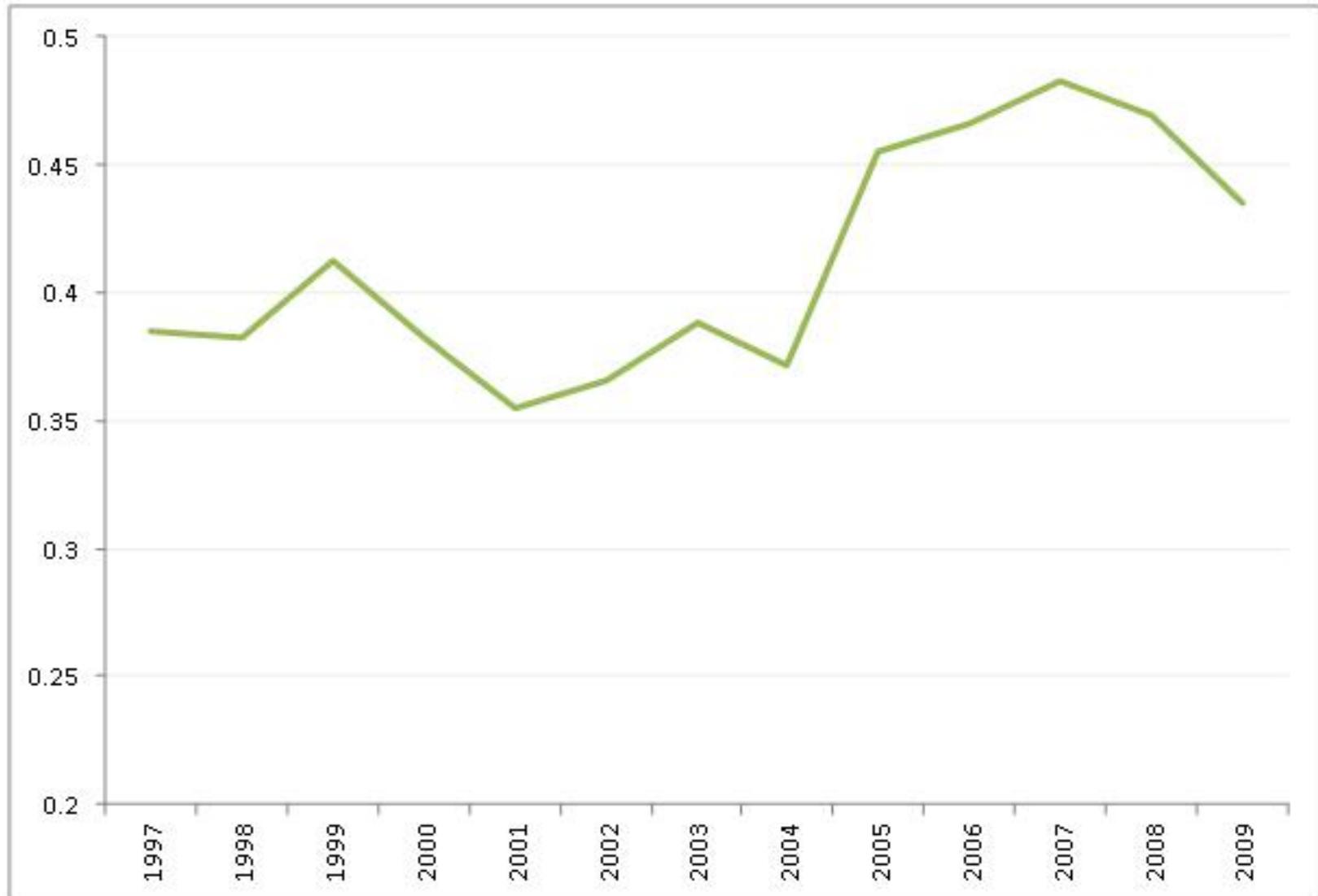
FIRST EVIDENCE OF THE FLIGHT HOME

- **The collapse of the international syndicated loan market**
 - Based on Giannetti and Laeven (JFE, 2012)

Total amount of syndicated loans issued (1997-2009)



THE COLLAPSE WAS DUE TO THE DROP IN THE PROPORTION OF FOREIGN LOANS



INTERNATIONAL SYNDICATED LOAN MARKET

- **Highly internationalized market** in which lead banks (lenders) issue loans to borrowers in a variety of countries
 - Where home (and familiarity) biases matter
(Giannetti and Yafeh, MS 2012)
- **Information on loan origination at the bank level**
 - → Loan Analytics
 - 256 (parent) banks from 55 countries
 - extending loans to borrowers in 192 countries
 - We can evaluate how agents' financial conditions affect their behavior

HOW TO INTERPRET THE COLLAPSE?

- **Shock transmission → international markets shrink because overall economic activity shrinks (High Financial Integration)**
 - Peek and Rosengren (1997 and 2000); Klein, Peek, and Rosengren (2002); Cetorelli and Goldberg (2010)
- **Amplification → economic agents concentrate on domestic activity (Decrease in Financial Integration → Flight Home)**

MAIN QUESTIONS

- Is there a **flight-home** effect during financial crises?
 - Does international activity shrinks **more** than domestic activity during financial crises?
- Is the flight-home effect distinguishable from the **flight-to-quality** effect?
 - Do economic agents prefer to act in **domestic markets** or in markets with **good institutions/high transparency** during financial crises?

METHODOLOGY

$$Loanshare_{ijt} = \alpha_1 ForeignLoan_{ij} - \alpha_2 ForeignLoan_{ij} * ShockBankCountry_{it} + \alpha_3 ForeignLoan_{ij} * ShockBorrowerCountry_{jt} + \Gamma X_{ijt} + \varepsilon_{ijt}$$

Home Bias

Flight Home

Concurrent shocks to borrowers' demand

Other borrower country

controls:

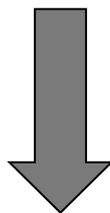
Domestic banks' loans or

Proportion of loans of bank i to borrowers in country j in month t → By construction does not depend on the supply of loans of bank i

METHODOLOGY (CONTINUED)

How does **the flight-home effect** vary **across host countries**?

- (e.g., emerging markets and advance economies; strong and weak institutional environment)



*ForeignBank_i * ShockBankCountry_{it} **
**InstitutionsQualityBorrowerCountry_{jt}*

FINDINGS

- **Evidence of a flight home:**
 - The proportion of loans issued to domestic borrowers increases by 20 percent when the lender's country of origin experiences a banking crisis
 - A-rated borrowers are affected as much as unrated borrowers
 - Borrowers in emerging markets and advanced economies are equally affected
 - The flight-home affects borrowers independently from their country's law and order and order and credit rating of government debt
 - Banks exhibit a flight home independently from their home country characteristics
 - If anything the flight home is smaller for banks from high investor protection countries

WHY DO BANKS FLY HOME?

- **Potential explanations**

- Government interventions (no empirical support)
- Bank relationships (no empirical support)
- Higher expected returns from domestic loans
- Increased risk aversion and lower (perceived) risk of domestic loans
- Currency risk

HIGHER EXPECTED RETURNS OF DOMESTIC LOANS

Pecuniary

- Domestic loans may involve lower costs and be more profitable
 - Diversification of the loan portfolios in banking leads to lower returns (Acharya, Hasan and Saunders, 2006)
 - Transaction costs for foreign loans appear larger (Giannetti and Yafeh, MS 2012)
- Evidence:
 - Banks with more funding difficulties that presumably have to shrink their assets more have a more pronounced flight home
 - Effect is larger for more diversified banks

HIGHER EXPECTED RETURNS OF DOMESTIC LOANS

- **Non-Pecuniary**
 - Domestic loans involve higher non-pecuniary benefits
 - Increase the probability of a bail out

EVIDENCE I

- **The flight home is stronger for smaller banks**
 - Attempt to increase the probability of a bail out extending domestic loans?
- **The flight home is stronger for loans to government and government owned firms**
 - Considering domestic loans only, banks increase the proportion of government loans when their country of origin is affected by a banking crisis

RISK AVERSION AND FAMILIARITY

- **Increase in effective risk aversion of banks**
 - Because of their capital requirements
 - Psychological amplification mechanisms (Barberis (2010))
 - Heath and Tversky (1991): Individuals become more ambiguity averse after experiencing negative shocks
 - Because of currency risk
- **Higher perceived risk of foreign borrowers**
 - Banks (believe that they) can evaluate more accurately domestic borrowers (ambiguity aversion models e.g., Epstein, 2001)

EVIDENCE III

Flight home stronger for

- Banks with lower tier 1 capital
- Banks with smaller proportion of deposits as liability
 - Banks with more difficulties in refinancing
- Banks with a larger proportion of non-performing loans to total assets
 - i.e., the banks with a higher exposure to the crisis

CURRENCY RISK

- **Flight home more accentuated from countries in which firms have to issue loans in foreign currency**
- **Further evidence**
 - Ivashina, Scharfstein and Stein (wp, 2013) show that the inability of EU banks to access dollar financing is related to the retrenchment of EU banks from the US

MORE EVIDENCE OF FLIGHT HOME

- **Presbitero, Udell and Zazzaro (JMCB, 2014):** Among Italian regions, the credit crunch has been harsher in provinces with a large share of branches owned by distantly managed banks
- **De Haas and Van Horen (RFS, 2013)** confirm our results for the international syndicated loan market showing that banks retracted more from distant markets
- **Increases in familiarity biases in the bank interbank markets (Sander, Kleimeier, and Heuchemer, WP 2014)**
- **Some evidence of increased home bias in banks holdings of government bonds (Acharya and Steffen, WP 2014)**

MORE EVIDENCE ON FINANCING CONDITIONS AND FLIGHT HOME

- **Based on AER P&P 2012 (with Luc Laeven)**
- **Banks grant a higher (lower) proportion of foreign loans, when they have easier (more difficult) access to funding**
 - **Flight abroad:** decreases in the home bias when funding conditions improve as a flight abroad effect.
 - **Flight home:** increases in the home bias of international lending when funding conditions deteriorate
- **This has the potential to increase credit expansions and contractions in host countries**

SOME CORRELATIONS

TABLE 2—FOREIGN BANKS AND THE CYCLICALITY OF LENDING

Dependent variable	Volatility of cyclically adjusted syndicated loans per capita	Volatility of cyclically adjusted private credit per capita	Amplitude of lending expansions	Amplitude of lending contractions
Share of loans from foreign banks	0.67*** [0.12]	0.07* [0.04]		
Share of loans from domestic banks extended abroad	0.03 [0.11]	-0.07** [0.03]	-0.22** [0.09]	0.03 [0.15]
Exposure to foreign banks with high market to book values			0.01* [0.01]	
Exposure to foreign banks with high interbank spreads				0.02*** [0.01]
Market to book value of banks			0.06** [0.02]	
Spread between interbank rate and policy rate				-0.03** [0.01]
Volatility of real GDP growth			0.02** [0.01]	0.04*** [0.01]
Observations	86	74	116	88
R^2	0.13	0.16	0.75	0.69

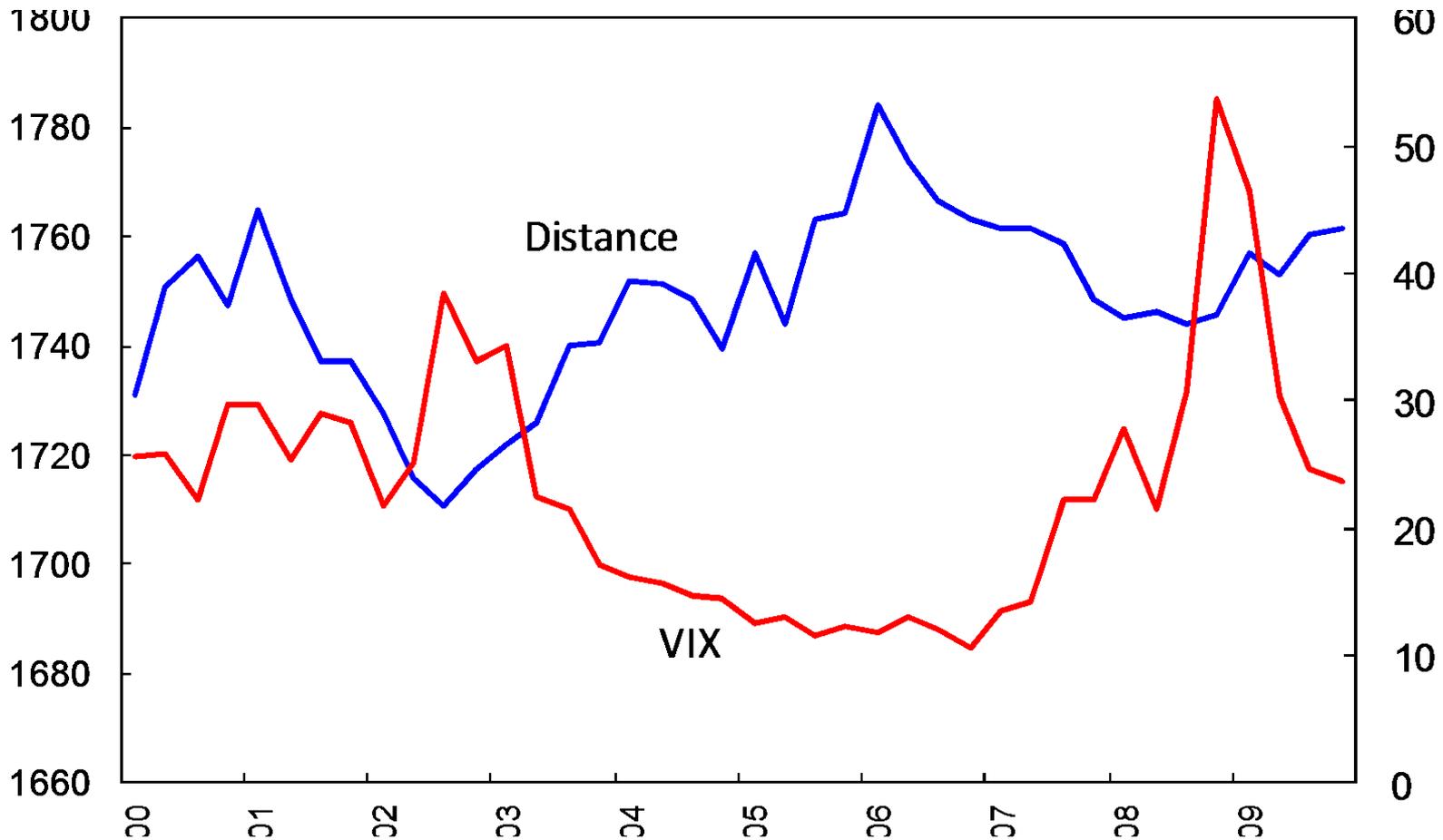
BEYOND BANKS

- **Do other investors exhibit a time-varying home bias? Or are banks special?**

RESEARCH QUESTIONS

- **Does investors' local/home bias vary with market conditions?**
 - Even abstracting from from changes in regulation, economic policy and political uncertainty etc.
 - US investment of US mutual funds
 - Following the lead of Coval and Moskowitz (1999)
 - Which are the mechanisms?
 - **Are changes in local bias** justified by changes in investors' ability to predict the returns of local and distant stocks, such as **changes in the value of information?**
 - Or do **preferences for local stocks become stronger during periods of market stress?**
- **Does local ownership affect how stock prices respond to market turmoil?**

THE PAPER IN A FIGURE



NET PURCHASES OF DISTANT MINUS NET PURCHASES OF CLOSE STOCKS

	(1)	(2)	(3)	(4)
VIX	-0.086*** (0.026)			
Uncertainty		-0.371*** (0.082)		
Recession			-2.348*** (0.647)	
Sentiment				1.063** (0.420)
Fund Flows	3.331 (3.161)	2.231 (3.144)	2.428 (3.076)	3.365 (3.158)
Obs	69495	69709	69709	69709
R ²	.000143	.000269	.0002	.0000935

FUND PORTFOLIO REBALANCING AND FUND CHARACTERISTICS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VIX	-0.081*** (0.026)	-0.085*** (0.026)	-0.082*** (0.026)	-0.062** (0.026)	-0.070** (0.027)	-0.085*** (0.031)	-0.072** (0.036)
<u>smalfam</u> ==1							-0.193 (1.583)
(<u>smalfam</u> ==1)* <u>vxo_avg</u>							-0.050 (0.078)
<u>highbiasstate</u> ==1						-8.394*** (2.621)	
(<u>highbiasstate</u> ==1)* <u>vxo_avg</u>						-0.002 (0.110)	
(<u>mean</u>) flow	5.695 (5.110)	3.740 (3.189)	2.612 (3.168)	2.744 (3.181)	4.311 (3.326)	4.837 (3.127)	3.224 (3.149)
(<u>mean</u>) flow_2	-6.235 (6.686)						
(<u>mean</u>) flow_3	2.125 (6.656)						
(<u>mean</u>) flow_4	4.162 (4.607)						
Past return		-7.265 (7.202)					
<u>turnover</u>			-0.215*** (0.077)				
<u>activefund</u>			-0.026 (0.568)				
<u>past_tna</u>					0.413 (0.320)		
Firm FE	No	No	No	Yes	Yes	No	No
<u>Obs</u>	65421	69495	69495	69495	67375	69495	69495

LOCAL OWNERSHIP AND FIRM LEVEL SELLING PRESSURE

<u>lagIOstate_vixhigh</u>	-0.021*** (0.008)	-0.021** (0.008)	-0.019** (0.008)	-0.019** (0.008)
<u>lagIOstate</u>	0.008 (0.006)	0.011 (0.009)	0.007 (0.006)	0.008 (0.006)
<u>IIO</u>	0.075*** (0.017)	0.128*** (0.025)	0.076*** (0.017)	0.061*** (0.008)
<u>lagIO_vixhigh</u>	0.009 (0.021)	0.001 (0.024)	0.009 (0.019)	0.008 (0.011)
<u>lev</u>	-0.000 (0.000)	0.000 (0.001)	-0.000 (0.001)	-0.000 (0.000)
<u>roa</u>	-0.000 (0.001)	-0.002 (0.001)	0.001 (0.002)	0.001** (0.000)
<u>ppe</u>	0.000 (0.001)	-0.000 (0.002)	-0.000 (0.001)	-0.000 (0.000)
<u>firmmcap</u>	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000*** (0.000)
<u>(mean) vol</u>	0.156 (0.124)	0.125 (0.108)	0.166 (0.227)	0.056 (0.072)
<u>lagret</u>	0.005 (0.008)	0.006 (0.009)	0.009 (0.012)	-0.004*** (0.001)
<u>sd ret</u>	0.017*** (0.005)	0.020** (0.008)	0.022*** (0.006)	0.012*** (0.001)
Firm FE		Yes		
Interaction of VIX and Firm Characteristics			Yes	
State* Time FE				Yes

WHAT IS THE EFFECT OF LOCAL OWNERSHIP ON ASSET VALUES?

Corporate Valuations

		Controlling for Mutual Fund Ownership	Shate*Time FE	Lagged Local Ownership	Interaction of Firm Characteristics and VIX	IV
	(1)	(2)	(3)	(4)	(5)	(6)
vxo_high2	-0.306*** (0.008)	-0.318*** (0.011)		-0.303*** (0.008)	-0.423*** (0.032)	-0.302*** (0.012)
lagIOstate_vixhigh	1.501*** (0.429)	1.277*** (0.450)	1.949*** (0.483)		0.978** (0.447)	4.652*** (1.430)
lagIOstate	-0.191 (0.521)	-0.120 (0.521)	-1.117** (0.553)		0.000 (0.519)	1.635 (1.628)
lag4IOstate_vixhigh				1.543*** (0.410)		
lag4IOstate				-0.688 (0.538)		
lagIO_vixhigh		0.145* (0.085)			-0.174* (0.090)	0.399*** (0.127)
IIO	0.606*** (0.118)	0.558*** (0.121)	0.728*** (0.125)	0.723*** (0.118)	0.660*** (0.121)	0.508*** (0.157)

EXPOSURE OF STOCK RETURNS TO THE FEAR INDEX

Sample	(1) Whole sample	(2) High MF Local Assets	(3) Low MF Local Assets	(4) Whole sample
IOstatexdelta_vix	0.020* (0.011)	0.024** (0.011)	0.028 (0.033)	0.021** (0.010)
delta_vix	0.001 (0.003)	-0.000 (0.003)	0.003 (0.003)	0.003 (0.003)
IO state	0.095 (0.073)	0.035 (0.086)	0.676*** (0.254)	0.112 (0.070)
IOxdelta_vix	-0.048*** (0.017)	-0.040** (0.016)	-0.061*** (0.018)	-0.032*** (0.012)
(sum) IO	0.164 (0.104)	0.129 (0.100)	0.211* (0.113)	0.087 (0.084)
State Inc Gr				-0.000 (0.002)
State SA Unemp				0.000 (0.002)
US Inc Gr				-0.040*** (0.015)
US SA Unemp				0.056*** (0.012)
Obs	276962	153877	123085	276699
R2	.0108	.00996	.014	.0956

WHY DO FAMILIARITY BIASES BECOME STRONGER AT TIMES OF CRISES?

- **In a classic paper, French and Poterba (AERP&P, 1991) quantify the higher expectation on domestic stock returns that investors should have to justify the home bias**
- **Expectations on distant/unfamiliar assets may become more pessimistic during crises?**
- **Some evidence from sovereign bond ratings**
 - Fuchs and Kai Gehring (2014): The Home bias in sovereign ratings
- **The home country of rating agencies could affect rating decisions as a result of political economy influences and culture**
 - Chinese credit agency Dagong assigns higher ratings to the Chinese territories Hong Kong and Macao as well as to the group of BRIC countries, including China itself than S&P, Fitch and Moody's. On the other hand, Dagong assigns lower ratings to many Western economies than the big three U.S.-based agencies
 - The home bias became more pronounced following the onset of the global financial crisis

WHY DO FAMILIARITY BIASES BECOME STRONGER AT TIMES OF CRISES?

- **Ambiguity aversion is related to the home bias (Epstein, AER 2001)**
 - Individuals consider foreign assets less familiar (more ambiguous) because they have uncertainty on the distribution from which the uncertain payoff will be drawn
- **The home bias is larger when the variance of all assets increases (Bye, Garlappi, Uppal and Wang, MS 2011)**
 - Even if the variance of domestic and foreign assets increases to the same extent, ambiguity averse investors prefer closer (less ambiguous assets)

CONCLUSIONS

Financial integration and familiarity bias are time-varying phenomena

- This may have large implications for supply of credit and asset prices

The geography of finance may amplify/reduce the effect of economic shocks