Comments on "Institutional Investors Flows and the Geography of Contagion"

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Overview

- Surges/retrenchments in diffusion measures and factors
- World factors and stress in core (vs. periphery)
- World versus regional factors
- Determinants of sensitivity to world factors

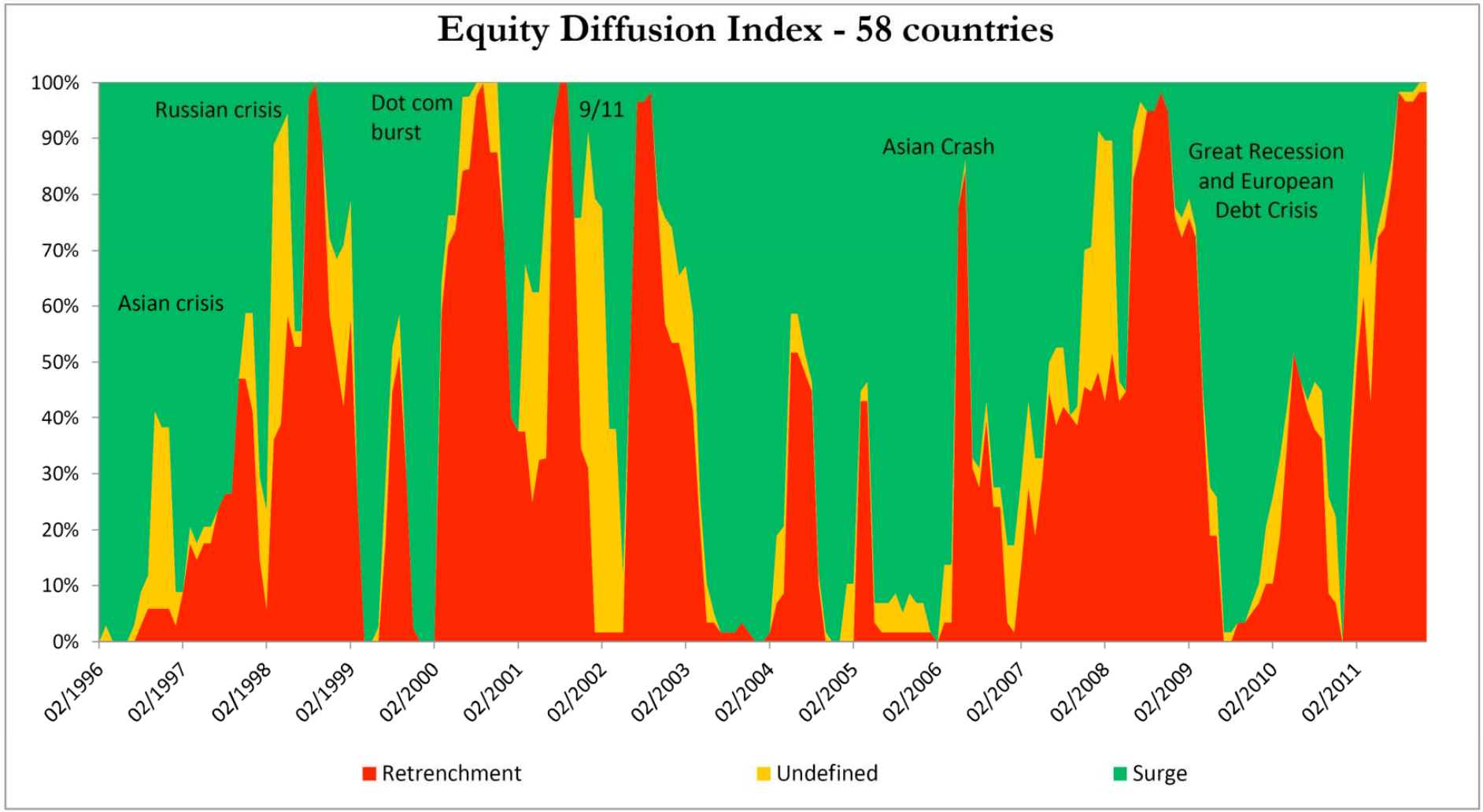


Figure 3: Cross Country Diffusion Index - Equity Flows

Asymmetry in surges vs. retrenchments; and lots of waves

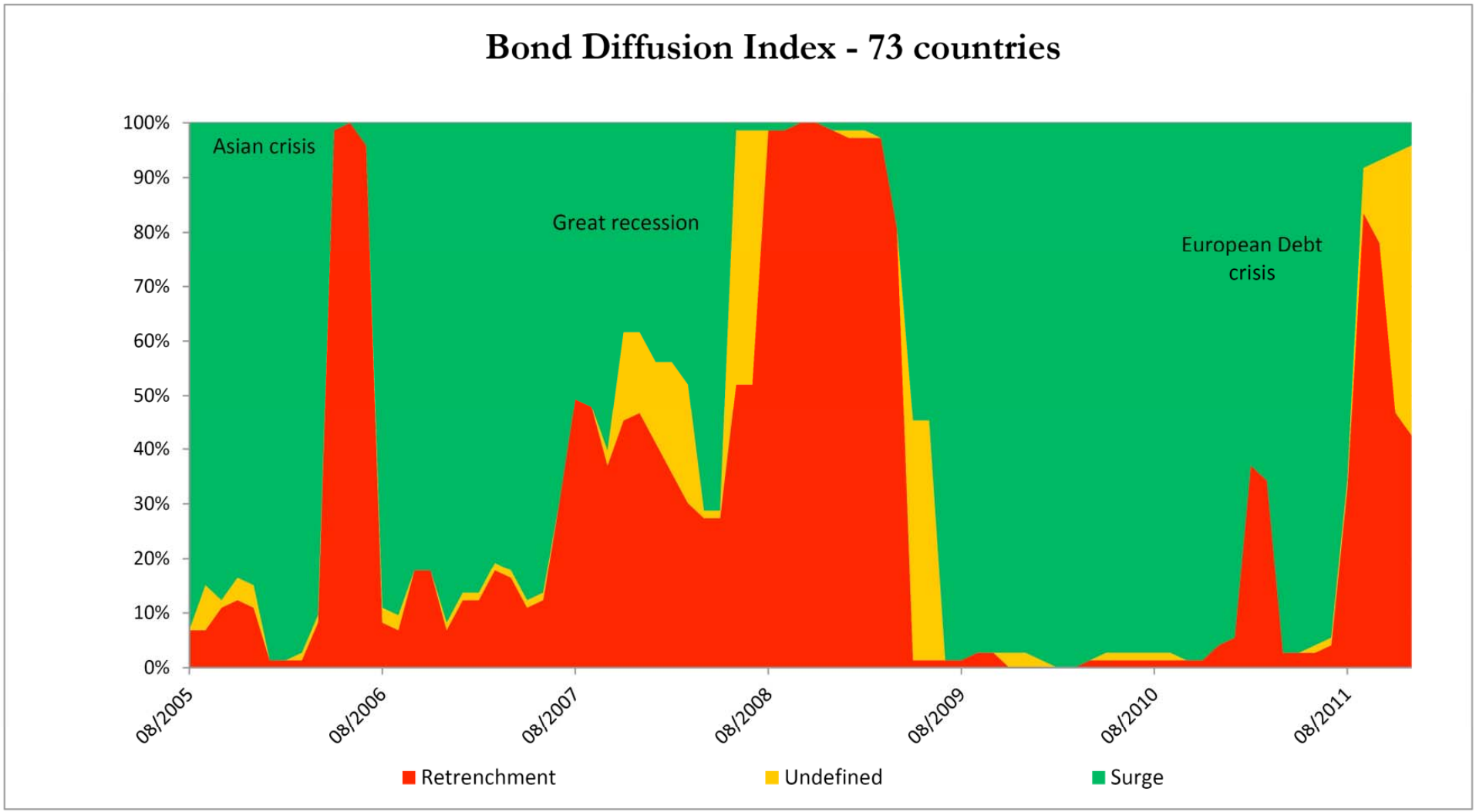
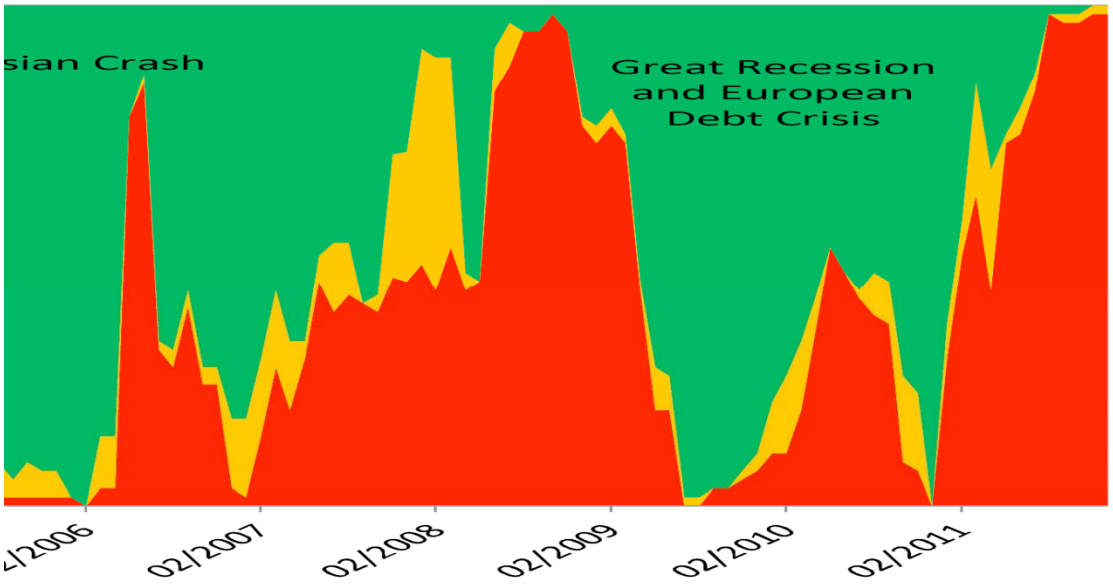
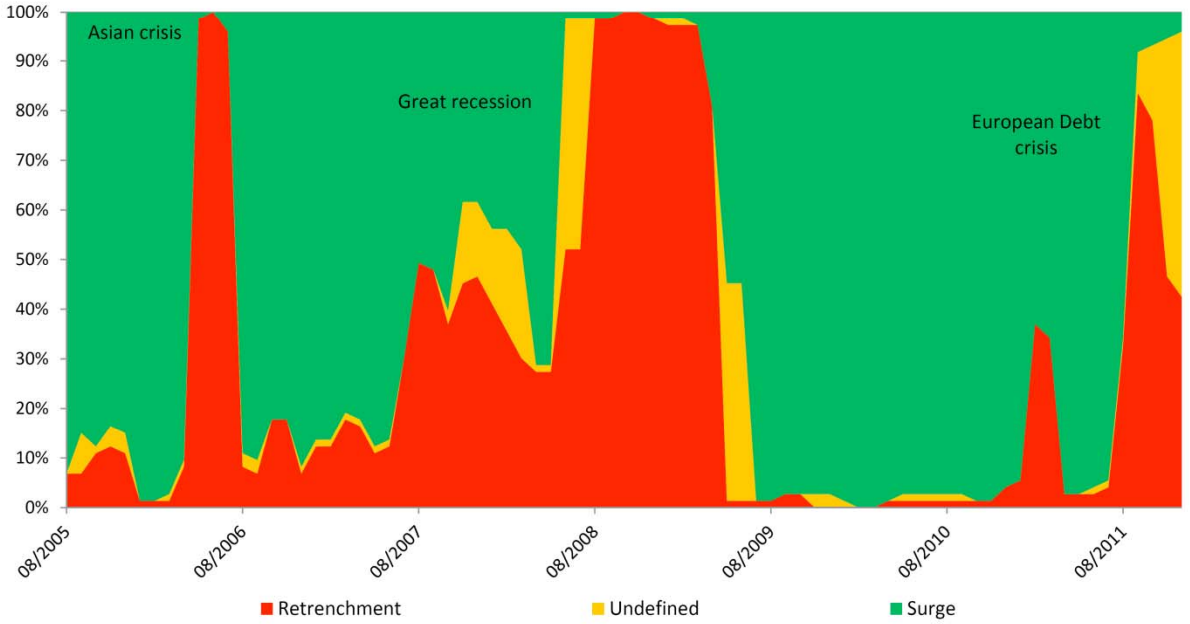


Figure 4: Cross Country Diffusion Index - Bond Flows

Comparing Equity and Bond Diffusion Indices



Bond Diffusion Index - 73 countries



Factor Model (Kose, Otrok, Whiteman)

$$y_{i,t} = \beta_i^w f_t^w + \beta_i^r f_{j,t}^r + \varepsilon_{i,t} \qquad (1)$$

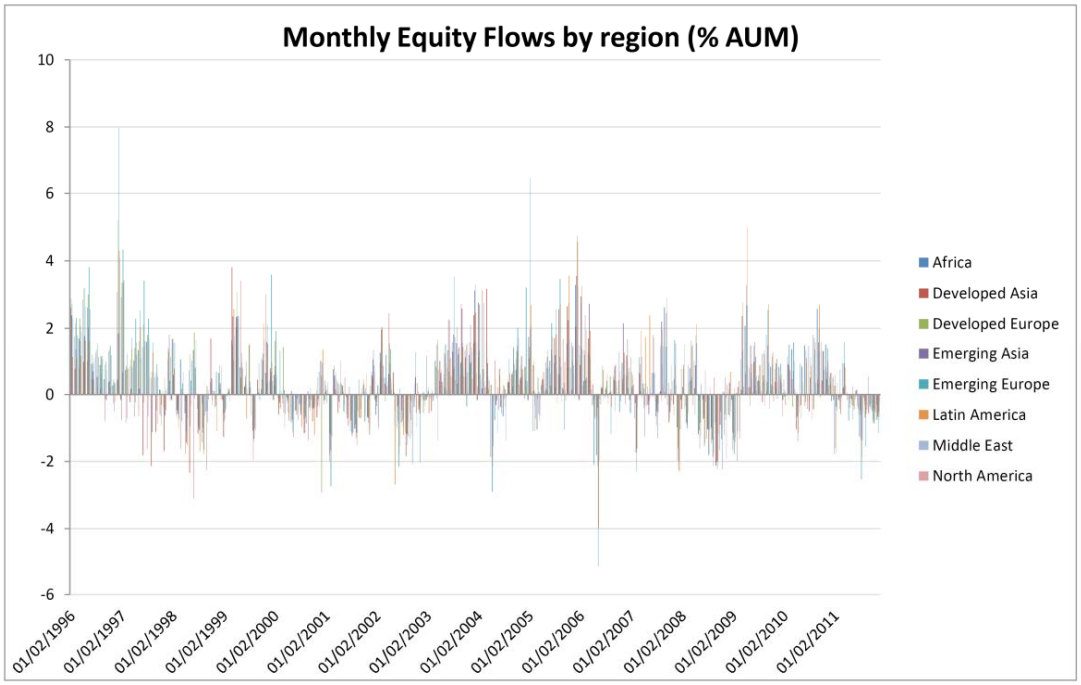
$$\varepsilon_{i,t} = \rho_{i,1}\varepsilon_{i,t-1} + ... + \rho_{i,p}\varepsilon_{i,t-p} + u_{i,t} \qquad (2)$$

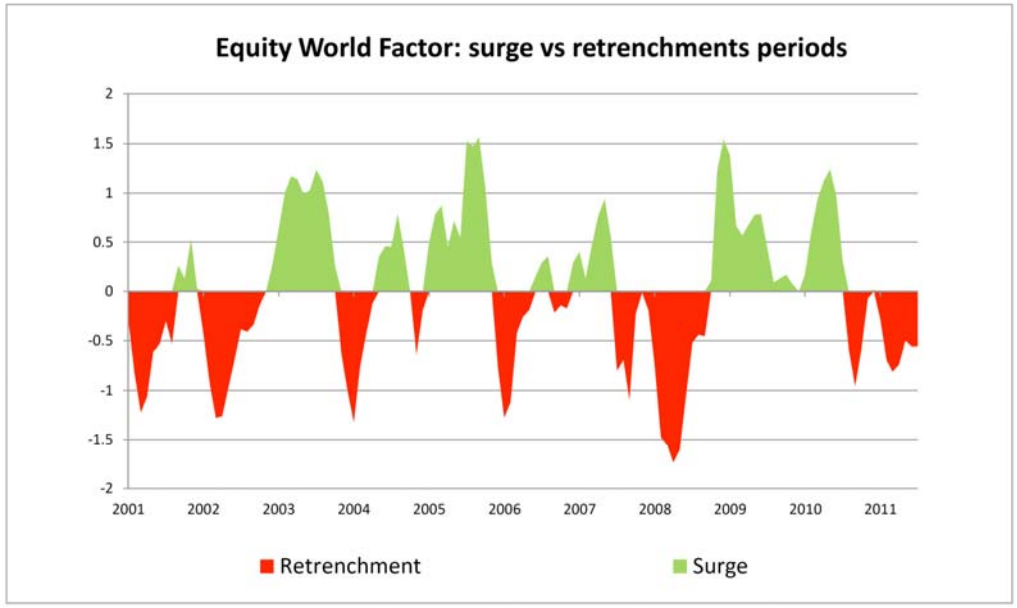
$$f_t^w = \rho_1^w f_{t-1}^w + ... + \rho_q^w f_{t-q}^w + u_t^w \qquad (3)$$

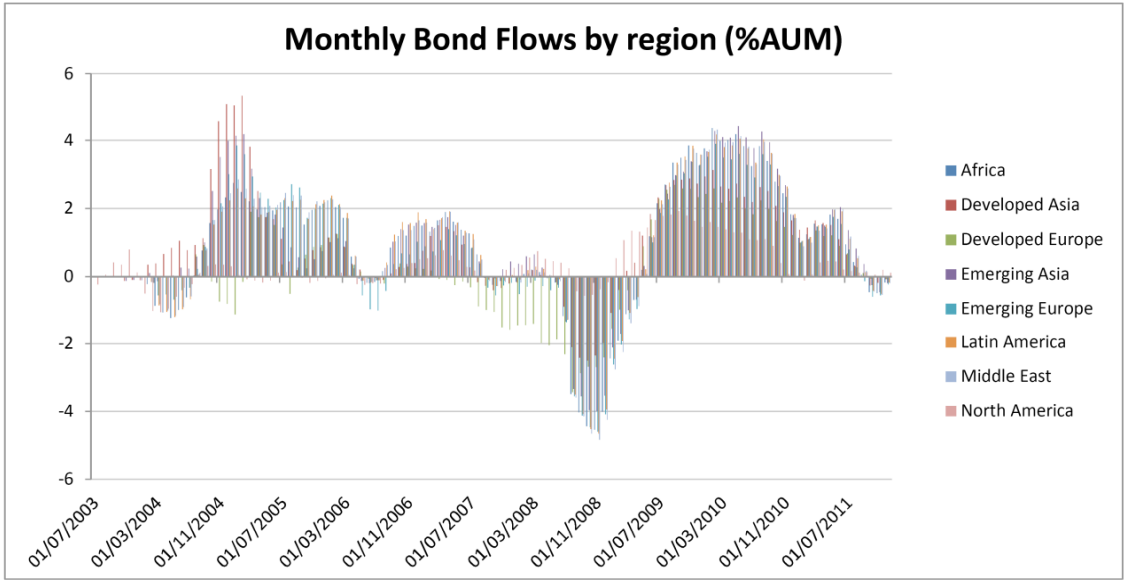
$$f_{j,t}^r = \rho_{j,1}^r f_{j,t-1}^r + ... + \rho_{j,q}^r f_{j,t-q}^r + u_{j,t}^r \qquad (4)$$

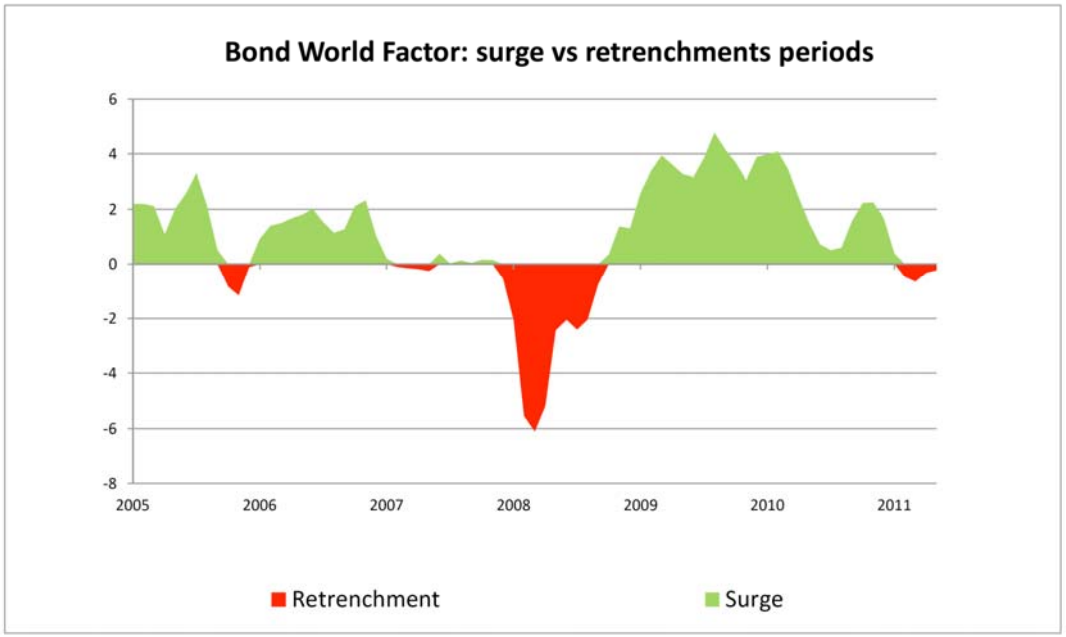
where $u_t^w \sim N(0, \sigma_w^2)$, $u_{j,t}^r \sim N(0, \sigma_{j,r}^2)$, $E(u_t^w, u_{t-s}^w) = E(u_{j,t}^r, u_{j,t-s}^r) = 0$ for $s \neq 0$. shocks in (2)-(4) are fully orthogonal to each other.

Question: What does this Global Factor relate to in terms of observables


Monthly Equity Flows by region (% AUM)
10
8
6
4
2
0
-2
-4
-6
01/02/1996
01/02/1997
01/02/1998
01/02/1999
01/02/2000
01/02/2001
01/02/2002
01/02/2003
01/02/2004
01/02/2005
01/02/2006
01/02/2007
01/02/2008
01/02/2009
01/02/2010
01/02/2011
Africa
Developed Asia
Developed Europe
Emerging Asia
Emerging Europe
Latin America
Middle East
North America


Equity World Factor: surge vs retrenchments periods
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
Retrenchment
Surge


Monthly Bond Flows by region (%AUM)
6
4
2
0
-2
-4
-6
01/07/2003
01/03/2004
01/11/2004
01/07/2005
01/03/2006
01/11/2006
01/07/2007
01/03/2008
01/11/2008
01/07/2009
01/03/2010
01/11/2010
01/07/2011
Africa
Developed Asia
Developed Europe
Emerging Asia
Emerging Europe
Latin America
Middle East
North America


Bond World Factor: surge vs retrenchments periods
6
4
2
0
-2
-4
-6
-8
2005
2006
2007
2008
2009
2010
2011
Retrenchment
Surge

Characteristics of Equity World Factor

Variables	Full Sample (2001-2011)	Sub-Sample 1 (2001-2007)	Sub-sample 2 (2007-2011)
KCFSI	-0.09*	**-0.5*** **	0.04
ΔKCFSI	**-0.46*** **	-0.29	**-0.53*** **
G10 Economic News	**0.007*** **	0.006*	**0.01*** **
Global Int. Rates	-0.33**	**-0.87*** **	-0.16
ΔGlobal Int. Rates	0.25	0.5	-0.17
constant	0.99**	2.7***	0.35
R-Square	0.26	0.38	0.37
N	126	73	53

*p-values are computed using heteroskedasticity-robust standard errors. *, ** and *** indicate respectively 10%, 5% and 1% significance threshold.*

Table 3: Equity World Factor - Regression Results

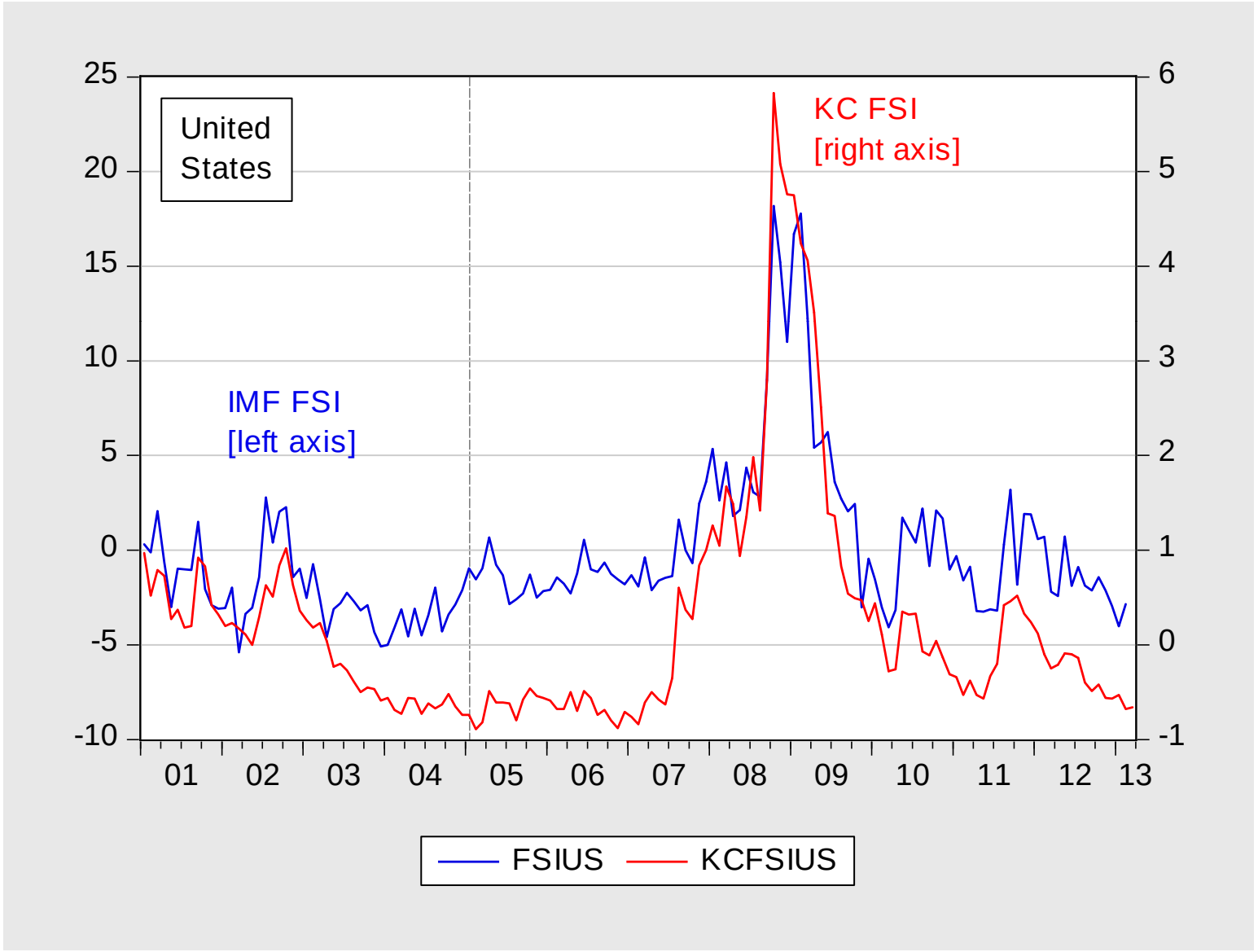
Characteristics of Bond World Factor

Variables	Full Sample (2005-2011)	Sub sample (2007-2011)
KCFSI	-0.03	-0.03
ΔKCFSI	**-0.3*** **	**-0.29** **
G10 Economic News	**0.004***	**0.004***
Global Inflation	**-0.030*** **	**-0.035*** **
constant	0.07	0.08
R-Square	0.43	0.63
N	77	57

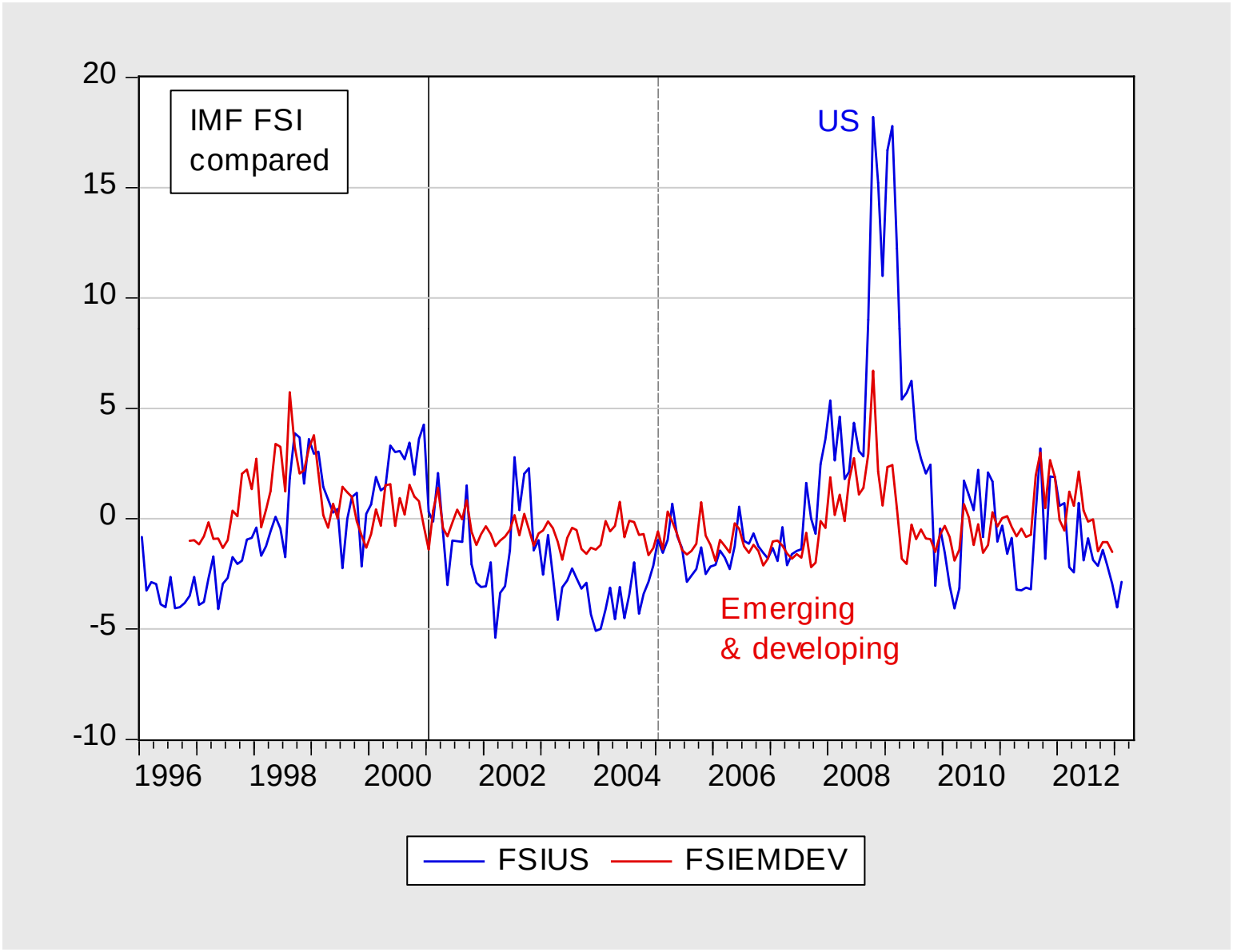
*p-values are computed using heteroskedasticity-robust standard errors. *, ** and *** indicate respectively 10%, 5% and 1% significance threshold.*

Table 4: Bond World Factor - Regression Results

Stress


United States
KC FSI
[right axis]
IMF FSI
[left axis]
25
20
15
10
5
0
-5
-10
6
5
4
3
2
1
0
-1
01
02
03
04
05
06
07
08
09
10
11
12
13
FSIUS
KCFSIUS

Stress in Core vs. Periphery



Push-Pull (Equities)

	World			Regional			Country		
Regional averages	**mean**	**0.05**	**0.95**	**mean**	**0.05**	**0.95**	**mean**	**0.05**	**0.95**
North America	14%	13%	15%	38%	14%	67%	48%	19%	72%
Latin America	55%	54%	57%	10%	7%	12%	35%	33%	38%
Western Europe	18%	37%	40%	43%	42%	45%	18%	18%	19%
Eastern Europe	50%	48%	52%	42%	40%	44%	8%	8%	9%
Middle East & Africa	51%	49%	52%	35%	34%	36%	14%	13%	15%
Developed Asia	52%	50%	54%	23%	21%	26%	25%	23%	26%
Emerging Asia	75%	73%	77%	6%	4%	7%	20%	18%	21%
Advanced	27%	26%	29%	46%	43%	50%	27%	23%	29%
Emerging	56%	55%	58%	26%	24%	28%	18%	17%	19%
World (unweighted)	44%	42%	46%	35%	32%	37%	22%	20%	23%

Table 7: Equity Variance Decomposition - Regional Averages

Push-Pull (Bonds)

	World			Regional			Country		
Regional averages	**mean**	**0.05**	**0.95**	**mean**	**0.05**	**0.95**	**mean**	**0.05**	**0.95**
North America	50%	49%	51%	4%	4%	5%	46%	45%	46%
Latin America	76%	75%	78%	19%	17%	20%	5%	5%	5%
Western Europe	57%	55%	58%	29%	28%	31%	14%	14%	15%
Eastern Europe	65%	63%	66%	20%	19%	21%	15%	15%	16%
Middle East & Africa	79%	78%	80%	19%	17%	20%	3%	2%	3%
Developed Asia	82%	81%	83%	4%	3%	4%	14%	13%	15%
Emerging Asia	88%	87%	89%	5%	5%	6%	7%	6%	7%
Advanced	63%	62%	64%	20%	19%	21%	17%	16%	18%
Emerging	76%	75%	78%	17%	16%	18%	7%	6%	7%
World (unweighted)	72%	71%	73%	18%	17%	19%	10%	10%	10%

Table 8: Bond Variance Decomposition - Regional Averages

Observations

- Idiosyncratic factor 30% overstated by omission of regional factor…
- …if the regional factor is “correctly specified”
- Compare against Fratzscher (*JIE*, 2012): two (observable) factor model
- Global (VIX, TED, US news, US equity, crises)
- Domestic (news, domestic equity)
- Pre-crisis, 65.4%-34.6% breakdown

Determinants of Sensitivity to the Global Factor

Equity Sample	BMA		WALS	
Variables	Coeff.	PIP	Coeff	t-ratio
Rule of law	-	0.07	+	0.2
Investor protection	+	0.10	-	-0.73
Political risk	**-**	**1.00**	**-**	**-2.38**
Disclosure index	-	0.12	+	0.71
Manager liability (index)	+	0.14	+	0.76
Shareholder suits (index)	+	0.16	+	0.77
Inflation volatility	+	0.08	-	-0.26
Real money growth	+	0.08	+	0.35
Output volatility	+	0.11	+	0.27
Trade openness	+	**0.60**	+	**1.50**
GDP per capita	-	0.12	-	-0.94
Public debt	-	0.20	-	-0.97
Budget balance	-	0.07	-	-0.01
Distance	+	**0.97**	+	**2.60**

Table 9: Equity World Factor sensitivity: Country Characteristics

Bond sample	BMA		WALS	
Variables	Coeff.	PIP	Coeff	t-ratio
Rule of law	-	0.13	+	1.13
Investor protection	+	0.12	-	-0.73
Political risk	-	**0.77**	**-**	**-1.70**
Disclosure index	+	0.20	+	0.71
Manager liability (index)	+	0.08	+	0.76
Shareholder suits (index)	+	0.08	+	0.77
Inflation volatility	-	0.08	-	0.22
Real money growth	-	0.10	+	-1.08
Output volatility	+	0.11	+	0.27
Trade openness	+	0.14	+	0.85
GDP per capita	-	0.21	-	-1.08
Public debt	-	0.09	-	-0.97
Budget balance	-	0.27	+	1.20
Distance	+	**0.99**	+	**2.30**

Table 10: Bond World Factor sensitivity: Country Characteristics

Determinants of Sensitivity

Equity - Robust Variables	Coeff	P-value	Bond - Robust Variables	Coeff	P-value
Political risk	-0.012	0.00			
Trade openness	0.006	0.07	Political risk	-0.007	0.00
Distance	0.024	0.00	Distance	0.009	0.03
R-square	0.56		**R-square**	0.41	
Number of Observations	55		**Number of Observations**	70	

Table 11: Regression Output - Equity (left) and Bond (right)

What about other factors that have typically been viewed as important?

- FDI stock, bank lending (Forbes-Chinn, REStat, 2004)
- Capital controls
- Exchange rate regimes

Concluding Thoughts

- How do statistical factors correlate with with economic factors?
- Characterizations sample specific, spanning one very special crisis
- If Push is really more important the Pull, then advanced economies carry a heavier burden of responsibility