

# Sudden Stops: Recent vs. Earlier Crises

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- 1 Introduction
- 2 Measuring sudden stops
- 3 Sudden stops and the real economy: Some descriptive evidence
- 4 Explaining sudden stops: An econometric exercise



# Starting point: Why/how did the crisis spread to emerging markets?

- (More or less expected) burst of the housing bubble in the US in 2007 was considered to be quite dangerous early on,...
- ... but NOT for emerging markets with no/limited ties to the financial products/banks
- Possible exception: Extreme dependence on a small number of foreign banks (e.g. in the Baltic countries)
- This opinion was not even changed very much by the bankruptcy of Lehman brothers in Sept 08
- This, however, turned out to be wrong (big time!)
  - During 2009, WEO growth forecast revisions ranged from -1,5% to -18% (!)
  - Emerging markets have been among those economies that have been hit worst  $\Rightarrow$  puzzle



# Looking for solutions of the puzzle

- In Jerger/Knogler (2010), we looked at the relative importance of the following channels for economies in south eastern Europe
  - declining demand for export goods;
  - rising (perceptions of) country risk;
  - currency devaluations;
  - indebtedness in foreign currencies;
  - declining remittances
- All these things are closely related to sudden stops (of capital inflow)
- Well-established fact: Emerging markets are (much) more vulnerable to sudden stops than more advanced economies



# Some numbers

- Growth of international trade (volumes): 2002–2007: 7,2% p.a.; 2008: 2,8%; 2009: -10,7% (much worse for single countries)
- Net trade flows:

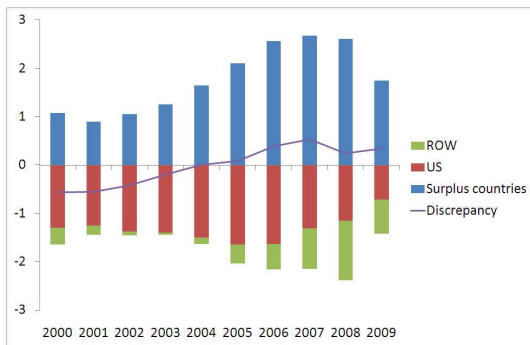


Figure: The global picture



# What we (want to) do! Topics and questions

- Look at the anatomy of the crisis – (how) was it different this time?
- How important was the phenomenon of sudden stops? How important is the exact definition of a SS?
- What causes SS's? State of the art is to look at macroeconomic variables. Two extensions suggest themselves:
  - financial market variables
  - private sector variables
- We can make use – in addition to IMF/IFS of a database developed by the IMF on Vulnerability of Emerging Market Economies (however: „crisis paper“ also concerning data availability)



# One notion – many ideas

- Starting point is clear:

$$CAB + FAB \equiv \Delta FXR, \quad (1)$$

- Use  $FAB$ , or part thereof, or  $CAB$  (all;  $FAB$ )
- Impose  $FAB > 0$ , or not (both; not)
- Benchmark changes of capital inflows relative to country or region specific volatility; or use cluster analysis (country specific)
- Require a SS to be characterized by a decline of capital inflows of at least  $x$  times the SE ( $x \in [1, 2]$ ) (1 and 1,5; 1)
- Require a SS to last for at least 2 consecutive years or not (not)



# Counting crises

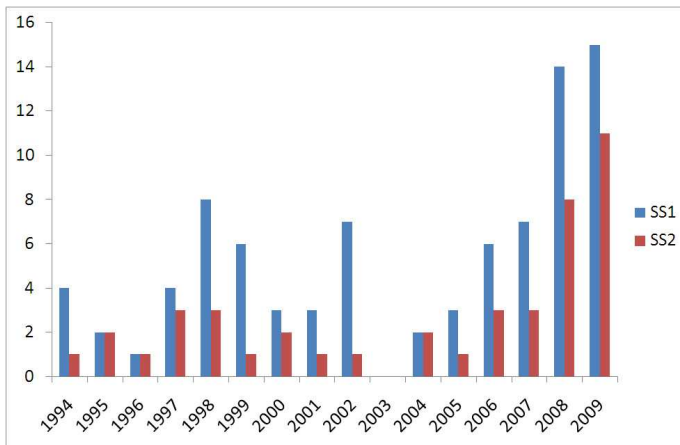


Figure: Sudden stops measures based on changes of the financial account balance





# Re-counting crises

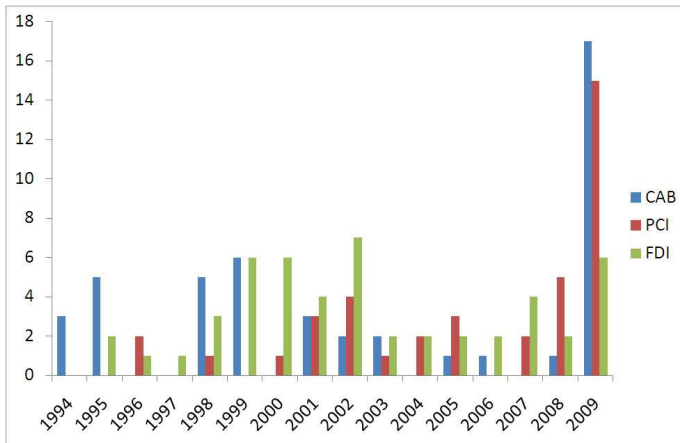


Figure: Alternative sudden stops measures



# What do we learn from counting crises?

- 2009, and according to *FAB* 2008 truly stand out
- In 2008, countries may have been able to shield the effect on current account by using international reserves
- In 2009, the collapse of private capital inflows was especially „unique“
- This was *not* the case for FDI; hence portfolio investments are the main culprit
- Measures *CAB*, *PCI*, *FDI* poorly reflect the 97/8 crisis – which might explain the relatively rare use of them in the empirical literature
- ⇒ Main message: Yes, the current situation is really different



# Suddenly stopping growth?

- $SS1 = 1 : g = 1,40\%$ ;  $SS1 = 0 : g = 4,61\%$

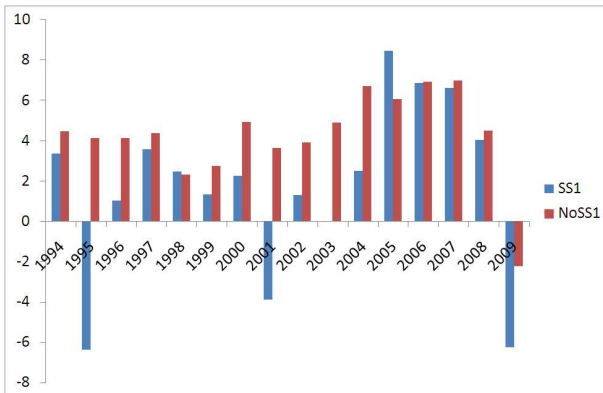


Figure: Sudden stops and economic growth



## CAB and FAB crises: Do they come together?

	SS2 = 1	SS2=0	Sum
<i>CAB</i> = 1	14 (1,89%)	22 (2,96%)	36
<i>CAB</i> = 0	30 (4,89%)	676 (91,11%)	706
Sum	44	698	742

Table: Joint distribution of SS2 and CAB



## Public debt and sudden stops

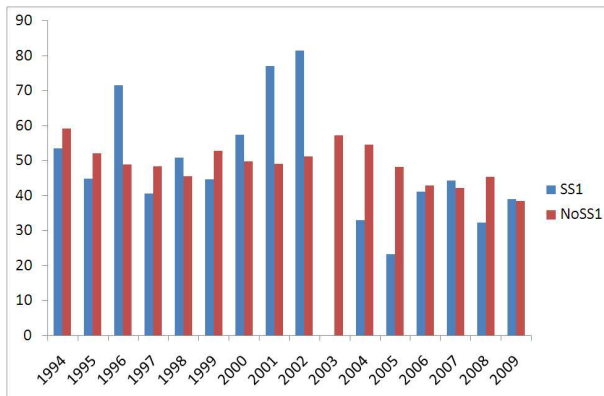


Figure: Sudden stops and the level of public debt



## A standard specification ...

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Logit estimates                               Number of obs   =       445
                                                LR chi2(18)    =       67.50
                                                Prob > chi2    =       0.0000
Log likelihood = -145.91501                    Pseudo R2      =       0.1878

```

ss7a_2	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
lgdpgrowth	1.005554	.0542941	0.10	0.918	.9045769 1.117803
lgdppc	.9402521	.0375079	-1.54	0.122	.8695385 1.016716
linfl	.999734	.0166495	-0.02	0.987	.9676284 1.032905
lca	.9798567	.033866	-0.59	0.556	.9156787 1.048533
lfdi	.9962619	.0457628	-0.08	0.935	.9104875 1.090117
lgir	1.035411	.02072	1.74	0.082	.9955863 1.076828
ltextdebt	1.010996	.0096999	1.14	0.254	.9921617 1.030187
lshortextd-t	.9916893	.0169732	-0.49	0.626	.9589743 1.02552
lampus	1.01632	.009034	1.82	0.069	.9987671 1.034181
ltotgrowth	.9386814	.0239245	-2.48	0.013	.8929423 .9867634
lfiscbal	1.055559	.0696921	0.82	0.413	.9274334 1.201385
linterest	.974493	.0630184	-0.40	0.689	.8584861 1.106176
lpubdebt	.9752682	.0084202	-2.90	0.004	.9589038 .9919119
lshortpubd-t	1.048375	.0242721	2.04	0.041	1.001866 1.097043
lfinreturn	.9295455	.066786	-1.02	0.309	.8074462 1.070108
ldcreditgdp	.9747398	.0244214	-1.02	0.307	.9280309 1.0238
y16	4.539351	1.952066	3.52	0.000	1.954114 10.54478
y17	16.34687	9.006033	5.07	0.000	5.552384 48.12711

Figure: Regression 1



## ... plus financial market indicators...

```

Logit estimates
Log likelihood = -101.36573

Number of obs   =      310
LR chi2(26)    =      57.61
Prob > chi2    =      0.0003
Pseudo R2     =      0.2213

```

ss7a_2	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]	
lgdpgrowth	.9919693	.0764155	-0.10	0.917	.8529561	1.153639
lgdppc	.9037744	.0535915	-1.71	0.088	.8046109	1.015159
linfl	.962617	.0391134	-0.94	0.348	.8889293	1.042413
lca	1.015036	.0487189	0.31	0.756	.9239029	1.115159
lfdi	.995029	.0555016	-0.09	0.929	.8919832	1.109979
lgir	1.053788	.0277048	1.99	0.046	1.000863	1.109512
ltextdebt	1.025368	.0189938	1.35	0.176	.9888088	1.06328
lshortextd-t	.9665795	.0335152	-0.98	0.327	.9030734	1.034552
lexpus	1.00885	.0131277	0.68	0.498	.9834455	1.034911
loverval	1.004032	.0149543	0.27	0.787	.9751457	1.033774
ltotgrowth	.9456909	.0312499	-1.69	0.091	.8863835	1.008967
lfiscbal	1.033368	.1018401	0.33	0.739	.8518591	1.253552
lgovtexpnd	.9921099	.0345531	-0.23	0.820	.9266469	1.062198
linterest	1.076493	.1036823	0.77	0.444	.8913077	1.300153
lpubdebt	.9869529	.015747	-0.82	0.410	.9565669	1.018304
ltextpubdebt	.9896308	.0261334	-0.39	0.693	.9397131	1.0422
lshortpubd-t	.9903121	.0370282	-0.26	0.795	.9203336	1.065611
lcapadeq	.9645752	.0479606	-0.73	0.468	.8750093	1.063309
lnonperform	.9338951	.0505834	-1.26	0.207	.8398345	1.03849
lfinreturn	.8748878	.0949412	-1.23	0.218	.707264	1.082239
ldcreditgdp	.991089	.0316049	-0.28	0.779	.9310407	1.05501
y6	34.9288	63.27146	1.96	0.050	1.002958	1216.424
y10	3.737404	2.524595	1.95	0.051	.994462	14.04597
y14	2.987691	1.765434	1.85	0.064	.9383366	9.512894
y16	4.418031	2.439559	2.69	0.007	1.49696	13.03909
y17	21.45676	15.08681	4.36	0.000	5.408321	85.12674

Figure: Regression 2



## ... plus private sector indicators...

```

Logit estimates
Number of obs   =      175
LR chi2(31)    =      83.29
Prob > chi2    =      0.0000
Pseudo R2     =      0.6116
Log likelihood = -26.446279

```

ss7a_2	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
lgdpgrowth	1.032094	.2766948	0.12	0.906	.6102674 1.745495
lgdppc	.801033	.1065996	-1.67	0.095	.617127 1.039744
linfl	1.157528	.1461739	1.16	0.247	.9037341 1.482593
lca	.4033903	.1225819	-2.99	0.003	.2223633 .7317923
lfdi	.3764632	.1656637	-2.22	0.026	.1589091 .891859
lgir	1.574945	.2427138	2.95	0.003	1.16436 2.130314
ltextdebt	1.540913	.2239857	2.97	0.003	1.158906 2.04884
lshortextd-t	.2779961	.1237469	-2.88	0.004	.1161812 .665184
lexpus	1.077328	.0414354	1.94	0.053	.9991016 1.161679
loverval	1.013149	.0383877	0.34	0.730	.940636 1.091251
ltotgrowth	.8751363	.0589091	-1.98	0.048	.7669689 .9985589
lfiscbal	4.860935	2.640414	2.91	0.004	1.676314 14.09563
lgovtexpnd	1.054129	.1564403	0.36	0.722	.7880783 1.409997
linterest	1.697281	.4922864	1.82	0.068	.9613193 2.996676
lpubdebt	1.269036	.1035775	2.92	0.004	1.081433 1.489183
ltextpubdebt	.5318398	.1060962	-3.17	0.002	.359729 .7862961
lshortpubd-t	.8886264	.098327	-1.07	0.286	.7153742 1.103838
lcapadeq	.7317159	.1615461	-1.41	0.157	.4746972 1.127894
lnonperform	.9091177	.1382898	-0.63	0.531	.6747459 1.224898
lfinreturn	.4028467	.259726	-1.41	0.158	.1138538 1.425385
lcreditgdp	.5866471	.1264851	-2.47	0.013	.3844608 .8951623
ldefault	.9015772	.1385695	-0.67	0.500	.6670771 1.218512
lntcover	.8173161	.0575902	-2.86	0.004	.711889 .9383565
lcorpreturn	1.015534	.1708429	0.09	0.927	.730293 1.412186
lvaluation	.9220538	.0982104	-0.76	0.446	.7483289 1.136109
lleverage	.8816998	.1202355	-0.92	0.356	.6749075 1.151853
y6	3951.958	17857.72	1.83	0.067	.5629709 2.77e+07
y10	45.09117	83.39297	2.06	0.039	1.201859 1691.723
y14	85.45494	153.213	2.48	0.013	2.54454 2869.889
y16	102.5357	178.9382	2.65	0.008	3.352877 3135.686
y17	85.04884	179.8438	2.10	0.036	1.348101 5365.551

Figure: Regression 3

