

## **Accounting for Crises**

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### **Online Appendix**

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TABLE A1: CRISIS STARTING YEARS AND NUMBER OF PUBLIC FIRMS

Number of public firm-year observations																	
Year													South				
	Argentina	Brazil	Denmark	Finland	India	Indonesia	Italy	Japan	Malaysia	Mexico	Norway	Philippines	Korea	Spain	Sweden	Thailand	Turkey
1983	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	0	0
1984	0	0	0	6	0	0	6	0	3	0	1	0	0	0	4	0	0
1985	0	0	4	7	0	0	8	2	5	7	7	0	0	2	4	0	0
1986	0	0	4	10	0	0	15	11	7	7	12	0	1	3	8	0	0
1987	2	0	5	13	0	0	39	18	10	12	16	0	1	8	12	0	0
1988	6	15	36	38	0	0	186	37	35	38	66	0	13	54	85	4	2
1989	7	99	96	76	0	0	200	142	43	47	82	5	73	71	113	8	10
1990	7	113	125	90	6	2	207	614	50	48	97	5	106	76	145	21	18
1991	7	111	127	90	6	10	208	933	55	47	97	10	99	86	149	42	21
1992	16	148	134	90	32	86	208	1057	106	77	96	36	100	89	154	141	24
1993	21	151	137	89	137	94	200	1085	135	90	90	46	111	92	160	231	28
1994	26	162	143	92	156	101	191	1127	138	105	101	52	165	92	171	301	40
1995	30	197	143	93	175	106	200	1182	156	114	97	57	194	93	184	318	38
1996	28	253	141	93	256	147	195	1219	234	112	97	82	218	97	184	346	41
1997	37	256	171	116	281	155	210	1255	267	120	165	87	259	119	236	372	53
1998	39	278	175	131	298	161	231	1288	304	125	172	88	299	116	270	385	73
1999	49	319	167	130	305	163	247	1789	309	164	156	103	383	117	265	375	89
2000	60	571	154	126	309	193	262	1791	342	170	128	113	649	116	270	375	111
2001	66	561	145	134	350	262	268	1863	548	172	129	152	667	119	263	517	131
2002	68	541	140	132	412	282	262	2019	671	173	124	165	731	114	253	532	140
2003	68	529	137	128	437	286	268	2035	710	167	129	175	814	113	261	585	169
2004	64	541	124	132	510	284	276	2109	794	162	141	172	837	117	279	631	179
2005	61	548	118	132	574	286	273	2162	863	155	142	176	847	110	277	638	177
<b>Total # of firm-years</b>	662	5393	2426	1948	4244	2618	4162	23738	5786	2112	2145	1524	6567	1804	3748	5822	1344
<b># of crisis years (sum of shaded cells)</b>	7	8	2	2	1	5	1	1	3	2	7	4	1	2	2	7	4

Notes: Figures in the table represent the number of public firm observations in each country-year with financial data (total asset, net income from operations, current assets and current liabilities) available in Thomson Datastream. Shaded cells represent the year of the beginning of a crisis as described in Table 1.

TABLE A2: DEFINITIONS AND DESCRIPTIVE STATISTICS OF PRIOR LITERATURE'S LEADING INDICATORS  
(C=COUNTRY, T=YEAR)

Panel A: Definition of leading indicators

Category	Indicator (Variable name)	Definition	Measure & data source	Predicted association with crisis	
Current account	Deviation from the expected real exchange rate ( $XS\_realEX_{c,t}$ )	Deviation of real exchange rate from time (year) trend regression	- residual value from time trend equation estimated by each country - real exchange rate= nominal bilateral exchange rate* (IFS.00ae) (US CPI/domestic CPI) (IFS.64.ZF)	Over-valuation of local currency is linked to currency crisis	(-)
	Imports ( $\Delta Imports_{c,t}$ )	Percent change in imports	- imports (IFS.70.ZF)	Weak external sector	(+)
	Exports ( $\Delta Exports_{c,t}$ )	Percent change in exports	- exports (IFS.71.ZF)	Weak external sector	(-)
Capital account	Foreign exchange reserve ( $\Delta FXreserve_{c,t}$ )	Percent change in foreign exchange reserve	- foreign exchange reserve = Total reserve minus gold (IFS.1L.ZF)	Loss of foreign reserve is a characteristic of currency crisis; Krugman (1979)	(-)
	M2/foreign exchange reserve ( $\Delta M2\_FXreserve_{c,t}$ )	Percent change in M2/foreign exchange reserve	- M2= Quasi money (IFS.35.ZF) - foreign exchange reserve (IFS.1L.ZF)	Expansionary monetary policy and/or sharp decline in reserve is associated with a currency crisis	(+)
	Real interest rate differential ( $interest\_diff_{c,t}$ )	Level of foreign and domestic interest rate differential	- foreign real interest rate = US lending interest rate – US inflation rate calculated from US CPI - domestic real interest rate = lending interest (IFS.60P.ZF) – domestic inflation rate	High world interest rate can lead to reversal of capital flow	(+)
	Short term debt/reserves ( $\Delta ST\_debt_{c,t}$ )	Percent increase in ST debt	- ST debt = debt with maturity less than 1 year (from BIS database) - foreign exchange reserve = Foreign exchange (IFS.1L.D.ZF)	Increase in ST debt is associated with currency crisis	(+)
Real sector	Industry production ( $\Delta Output_{c,t}$ )	Percent change in output	- industry production (IFS.66A.ZF)	Recessions often precede crises	(-)
	Stock price ( $\Delta Equity_{c,t}$ )	Percent change in equity index	- equity indices (IFS.62.ZF)	Burst of asset bubble often precedes currency crisis	(-)

\* The nominal exchange rate between the currencies of domestic countries and the U.S., expressed as the number of US currency units per domestic currency unit.

TABLE A2: DEFINITIONS AND DESCRIPTIVE STATISTICS OF PRIOR LITERATURE'S LEADING INDICATORS (CONTINUED)

Domestic financial	M2 multiplier, ( $\Delta M2\_multiplier_{c,t}$ )	Percent change in M2 multiplier	- M2 multiplier = M2 / Base money - M2= Money ( IFS.34.ZF) + Quasi money (IFS.35.ZF) - base money (IFS.14.ZF)	Rapid growth of credit	(+)
	Domestic credit/GDP, ( $\Delta Domes\_credit_{c,t}$ )	Percent change in domestic credit	- domestic credit (IFS.32.ZF) - GDP (IFS.99B.ZF)	Credit expands prior to crisis	(+)
	Domestic real interest rate ( $Dom\_real\_interest_{c,t}$ )	Domestic real interest rate	- real exchange rate = deposit interest rate (IFS.60L.ZF) – inflation - inflation $_{c,t}=(CPI_{c,t}-(CPI_{c,t-1}))/CPI_{c,t-1}$ (IFS.64.ZF)	Higher real interest rate can signal liquidity crunch or may have been increased to defend against speculative attacks	(+)
	Commercial bank deposits ( $\Delta comm\_deposit_{c,t}$ )	Percent change in commercial bank deposits deflated by CPI	- commercial bank deposits = demand deposits (IFS.24.ZF) + other deposits (IFS.25.ZF) - CPI (IFS.64.ZF)	Loss of deposits occurs as crisis unfolds	(-)
	Lending/deposit interest rate ( $\Delta LD\_ratio_{c,t}$ )	Level of lending to deposit ratio	- lending interest (IFS.60P.ZF) - deposit interest (IFS.60L.ZF)	Lending rates tend to rise prior to a crisis due to a decline in loan quality	(+)
	Excess real M1 balances ( $XS\_real\_MI_{c,t}$ )	M1 deflated by consumer prices less estimated demand for money	- each country's money demand equation is estimated as a function of real GDP, domestic CPI, and time (=year) - M1 = Money (IFS.35.ZF) - CPI (IFS.64.ZF) - real GDP= GDP (IFS.99B.P)	Loose monetary policy can lead to a currency crisis	(+)
Global	G7 output ( $G7\_GDP\_growth_t$ )	Percent change in Changes in G7's average real GDP growth	- weighted average of G7 real GDP growth - real GDP= GDP (IFS.99B.ZF) / CPI (IFS.64.ZF)	Foreign recessions often precede crises	(-)
	U.S. interest rate ( $US\_real\_interest_t$ )	Changes in level of US real interest rate	- real interest rate = nominal interest (IFS.60L.ZF) – inflation rate - inflation=(CPI-lag(CPI))/(lagCPI) (IFS.64.ZF)	Increase in foreign interest associated with capital outflows	(+)
	Oil prices ( $Oil\_price_t$ )	Percent change in oil price	- oil price (IFS.0017.AAZ)	High oil prices are associated with recessions	(+)

Notes: All leading indicator variables are taken directly from the Edison (2003) Appendix A. All leading indicators are measured as annual percentage changes, except (a) interest rate measured as changes over the previous twelve months, (b) real exchange rate as a deviation from time trend, and (c) excess M1 as residuals from the money demand equation. Source: International Financial Statistics (IFS) and other sources as noted.

TABLE A2: DEFINITIONS AND DESCRIPTIVE STATISTICS OF PRIOR LITERATURE'S LEADING INDICATORS (CONTINUED)  
(C=COUNTRY, T=YEAR)

Panel B: Descriptive statistics of leading indicators

Variables	N	Mean	Stn dev.	1 percent	20 percent	Median	75 percent	20 percent
Current Account								
Over-valuation <sub>c,t</sub>	339	(32.0)	673.7	(3626)	(1.46)	(0.26)	1.11	2,417 <sup>†</sup>
Imports <sub>c,t</sub>	339	0.10	0.16	(0.31)	0.00	0.10	0.18	0.54
Exports <sub>c,t</sub>	339	0.10	0.11	(0.13)	0.02	0.09	0.17	0.38
Capital Account								
Foreign exchange reserve <sub>c,t</sub>	339	0.19	0.44	(0.58)	(0.02)	0.14	0.30	1.97
M2/foreign exchange <sub>c,t</sub>	339	0.67	5.90	(0.64)	(0.12)	0.00	0.18	18.21
Real interest rate differential <sub>c,t</sub>	339	(0.90)	8.96	(30.95)	(0.04)	(0.01)	0.01	0.41
Short term debt/reserves <sub>c,t</sub>	339	0.10	0.56	(0.67)	0.00	0.00	0.00	2.72
Real Sector								
Industry production <sub>c,t</sub>	339	0.04	0.06	(0.09)	0.00	0.03	0.07	0.21
Stock prices <sub>c,t</sub>	339	0.14	0.44	(0.37)	(0.02)	0.00	0.25	1.11
Domestic Financial								
M2 multiplier <sub>c,t</sub>	339	(0.01)	0.25	(0.91)	(0.06)	0.00	0.05	0.78
Domestic credit/GDP <sub>c,t</sub>	339	0.00	0.16	(0.54)	(0.03)	0.01	0.05	0.41
Domestic real interest rate <sub>c,t</sub>	339	0.90	8.96	(0.37)	0.00	0.02	0.05	30.99
Commercial bank deposits <sub>c,t</sub>	339	0.07	0.33	(0.50)	0.00	0.04	0.11	0.69
Lending/deposit interest rate <sub>c,t</sub>	339	2.28	4.60	0.00	1.22	1.53	2.14	29.36
Excess real M1 balances <sub>c,t</sub>	339	(7.37)	229	(884.5)	(6.20)	(0.01)	0.34	1,185 <sup>††</sup>
External								
G7 output <sub>t</sub>	339	(0.01)	0.25	(0.41)	(0.19)	(0.03)	0.09	0.56
US interest rate <sub>t</sub>	339	(0.00)	0.01	(0.02)	(0.01)	(0.00)	0.01	0.01
Oil prices <sub>t</sub>	339	0.07	0.25	(0.48)	(0.12)	0.03	0.28	0.57

<sup>†</sup> Extreme values consist of observations from Indonesia and Mexico during periods of high inflation.

<sup>††</sup> Extreme values are driven by EU countries that have discontinuity in M2 measures post year 1999.

TABLE A3: MARGINAL EFFECTS AVERAGED OVER THE SAMPLE  
(C=COUNTRY; T=YEAR, 17 COUNTRIES, YEARS = 1983 – 2005)

Panel A: Analysis of Crises Using Accounting Signals in Table 5

	<i>Prior period</i> [-n =-2]		<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
	$\frac{dF}{dX}$	$\Delta$ method se	$\frac{dF}{dX}$	$\Delta$ method se	$\frac{dF}{dX}$	$\Delta$ method se
<b>Table 4's Realized accounting signals</b>						
Accruals <sub>c,t</sub>	-0.092	(0.07)	-0.348*	(0.19)	0.188*	(0.11)
Profitability <sub>c,t</sub>	0.065	(0.15)	0.142	(0.23)	-0.652*	(0.36)
F- test: Accruals, Profitability =0						
F-stat [ <i>p-value</i> ]:	1.94 [0.379]		3.43 [0.180]		3.97 [0.138]	
Indicator (crisis within last 3 yrs) -	0.044*	(0.02)	-0.016	(0.02)	-0.023	(0.02)
<b>Table A2's Prior literature's leading indicators and time trend</b>						
Over-valuation <sub>c,t</sub> -	-0.001***	(0.00)	-0.0001**	(0.00)	-0.00004**	(0.00)
Imports <sub>c,t</sub> +	0.001	(0.14)	0.095	(0.07)	-0.253*	(0.13)
Exports <sub>c,t</sub> -	-0.128	(0.13)	-0.071	(0.15)	0.148	(0.13)
Foreign exchange reserve <sub>c,t</sub> -	0.078**	(0.03)	0.034	(0.03)	-0.151***	(0.05)
M2/foreign exchange <sub>c,t</sub> reserve <sub>c,t</sub> +	-0.018***	0.00	0.027**	(0.01)	0.035***	(0.01)
Real interest rate differential <sub>c,t</sub> +	0.156	(0.28)	-0.293	(0.26)	-0.624***	(0.21)
Short term debt/reserves <sub>c,t</sub> +	-0.002	(0.01)	0.021	(0.02)	0.030**	(0.02)
Industry production <sub>c,t</sub> -	-0.053	(0.31)	-1.457***	(0.37)	-2.073***	(0.38)
Stock prices <sub>c,t</sub> -	-0.110**	(0.05)	-0.025	(0.07)	-0.127**	(0.06)
M2 multiplier <sub>c,t</sub> +	-0.038	(0.06)	-0.050	(0.06)	-0.090**	(0.05)
Domestic credit/GDP <sub>c,t</sub> +	0.323***	(0.09)	0.239**	(0.11)	-0.444***	(0.16)
Domestic real interest rate <sub>c,t</sub> +	0.160	(0.28)	-0.291	(0.26)	-0.619***	(0.21)
Commercial bank deposits <sub>c,t</sub> -	0.104	(0.14)	-0.349**	(0.14)	0.202	(0.25)
Lending/deposit interest rate <sub>c,t</sub> +	-0.032*	(0.02)	-0.002	0.00	-0.001	0.00
Excess real M1 balances <sub>c,t</sub> +	0.000	0.00	0.0004***	(0.00)	0.00017***	(0.00)
G7 output <sub>t</sub> -	-0.090	(0.08)	-0.134	(0.09)	0.125**	(0.06)
US interest rate <sub>t</sub> +	5.779***	(1.41)	0.725	(2.27)	-0.209	(1.74)
Oil prices <sub>t</sub> +	0.137**	(0.07)	0.237***	(0.09)	0.020	(0.07)
Year trend <sub>t</sub>	-0.009***	(0.00)	-0.134	(0.09)	-0.016***	(0.00)
Country Fixed Effects	Yes		Yes		Yes	
Standard Error clustering on year	Yes		Yes		Yes	
# country-years	277		294		311	
Mc Fadden's R <sup>2</sup>	0.278		0.304		0.443	
Mc Fadden's R <sup>2</sup> (excluding accounting signals)	0.275		0.288		0.422	

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. *Indicator (crisis within last 3 yrs)* is an indicator variable that takes a value of one if there was a crisis that occurred within the last three calendar years, and zero otherwise. Reported coefficients represent the marginal effect averaged over all observations. Standard errors in parentheses are obtained using the delta method. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.

TABLE A3: MARGINAL EFFECTS AVERAGED OVER THE SAMPLE (CONTINUED)  
(C=COUNTRY, T=YEAR, 17 COUNTRIES, YEARS = 1983 – 2005)

Panel B: Analysis of Crises Using Accounting Signals in Table 6 Panel A

$$\text{Model: } D\_Crisis_{c,t} = \alpha + \sum_{i=1}^2 \beta^i \times \text{AccountingSignal}_{c,t-n}^i + \lambda \times \text{Lag Crises Indicator}_{c,t} + \sum_{k=1}^{18} \gamma^k \times \text{LeadingIndicators}_{c,t-n} + \varepsilon_{c,t}$$

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Prior period</i> [-n =-2]		<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries
	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$
	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)
<b>Table 4's Realized accounting signals</b>						
Accruals <sub>c,t</sub>	1.593*** (0.45)	-0.419 (0.41)	-0.066 (0.84)	-0.346** (0.15)	-0.878** (0.34)	0.332*** (0.08)
Profitability <sub>c,t</sub>	-0.497 (0.88)	0.397* (0.22)	-2.502 (2.86)	0.286** (0.14)	-4.492*** (0.98)	0.138 (0.32)
Leading indicators from Table A2 and time trend	Included	Included	Included	Included	Included	Included
Indicator (crisis within last 3 yrs)	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
SE clustering on year	Yes	Yes	Yes	Yes	Yes	Yes
# country-years	135	142	143	151	151	160
Mc Fadden's R <sup>2</sup>	0.424	0.463	0.389	0.388	0.789	0.636
Mc Fadden's R <sup>2</sup> (excluding accounting signals)	0.386	0.438	0.376	0.353	0.642	0.579

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table 3 for definitions of the country samples with high and low accounting precision, and to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. Reported coefficients represent the marginal effect averaged over all observations. Standard errors in parentheses are obtained using the delta method. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.

TABLE A3: MARGINAL EFFECTS AVERAGED OVER THE SAMPLE (CONTINUED)  
(C=COUNTRY, T=YEAR, 17 COUNTRIES, YEARS = 1983 – 2005)

Panel C: Analysis of Crises Using Accruals in Table 6 Panel B

$$\text{Model: } D\_Crisis_{c,t} = \alpha + \beta^i \times \text{AccountingSignal}_{c,t-n}^i + \lambda \times \text{Lag Crises Indicator}_{c,t} + \sum_{k=1}^{18} \gamma^k \times \text{LeadingIndicators}_{c,t-n} + \varepsilon_{c,t}$$

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>Prior period</i> [-n =-2]		<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries
	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$	$\frac{dF}{dX}$
	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)	(Δ method se)
<b>Table 4's Realized accounting signals</b>						
Accruals <sub>c,t</sub>	1.536*** (0.47)	-0.937 (1.05)	0.042 (0.77)	-0.347** (0.18)	-0.805** (0.45)	0.345*** (0.08)
Leading indicators from Table A2 and time trend	Included	Included	Included	Included	Included	Included
Indicator (crisis within last 3 yrs)	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
SE clustering on year	Yes	Yes	Yes	Yes	Yes	Yes
# country-years	135	142	143	151	151	160
Mc Fadden's R <sup>2</sup>	0.424	0.463	0.389	0.388	0.789	0.636
Mc Fadden's R <sup>2</sup> (excluding accounting signals)	0.386	0.438	0.376	0.353	0.642	0.579

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table 3 for definitions of the country samples with high and low accounting precision, and to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. Reported coefficients represent the marginal effect averaged over all observations. Standard errors in parentheses are obtained using the delta method. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.



TABLE A4: ANALYSIS OF 33 SEVERE CRISES USING ACCOUNTING SIGNALS

Model:

$$D\_SevereCrisis_{c,t} = \alpha + \sum_{i=1}^2 \beta^i \times AccountingSignal_{c,t-n}^i + \lambda \times Lag\ Crisis\ Indicator_{c,t} + \sum_{k=1}^{18} \gamma^k \times LeadingIndicators_{c,t-n} + \varepsilon_{c,t}$$

	(1)	(2)	(3)	(4)
	<i>Prior period</i> [-n = -1]		<i>Concurrent</i> [-n = 0]	
	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries
	coefficient (se)	coefficient (se)	coefficient (se)	coefficient (se)
<b>Table 4's Realized accounting signals (= <math>\beta^i</math>)</b>				
Accruals <sub>c,t</sub> $\beta^1$	-0.449 (6.72)	-2.833** (1.26)	-35.060*** (13.46)	4.232*** (1.19)
Profitability <sub>c,t</sub> $\beta^2$	-16.924 (13.08)	2.340 (1.51)	-179.467*** (39.69)	1.765 (4.48)
<b>F- test: <math>\beta^1, \beta^2 = 0</math></b>				
F-stat [ <i>p-value</i> ]:	1.90 [0.387]	<b>6.30 [0.043]</b>	<b>22.51 [&lt;0.001]</b>	<b>12.73 [0.002]</b>
Leading indicators from Table A2 and time trend Indicator (crisis within last 3 yrs)	Included Yes	Included Yes	Included Yes	Included Yes
Country Fixed Effects	No	No	No	No
SE clustering on year	Yes	Yes	Yes	Yes
# country-years	143	151	151	160
Mc Fadden's R <sup>2</sup>	0.389	0.388	0.789	0.636

Notes: D\_Severe\_Crisis<sub>c,t</sub> is an indicator variable indicating a severe crisis year. Severe crisis is defined as a crisis year if the country's output loss in the subsequent year exceeds that year's sample median. subsequent year of the crisis. See Table 1 for crisis years. Refer to Table 3 for a definition of the country sample with high and low accounting precision, and to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. Standard errors clustered by year are in parentheses. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.

TABLE A5: ADJUSTING FOR LEADING INDICATORS WITH EXTREME VALUES  
(C=COUNTRY; T=YEAR, 17 COUNTRIES, YEARS = 1983 – 2005)

Model:

$$D\_Crisis_{c,t} = \alpha + \sum_{i=1}^2 \beta^i \times \text{AccountingSignal}_{c,t-n}^i + \lambda \times \text{Lag Crises Indicator}_{c,t} + \sum_{k=1}^{18} \gamma^k \times \text{LeadingIndicators}_{c,t-n} + \varepsilon_{c,t}$$

	(1)	(2)	(3)	(4)
	<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries
	coefficient (se)	coefficient (se)	coefficient (se)	coefficient (se)
<b>Table 4's Realized accounting signals (= <math>\beta^i</math>)</b>				
Accruals <sub>c,t</sub> $\beta^1$	-3.281 (7.34)	-3.012** (1.35)	-43.928*** (13.55)	5.046*** (1.19)
Profitability <sub>c,t</sub> $\beta^2$	-11.936 (12.78)	2.957* (1.53)	-195.179*** (50.32)	2.268 (4.43)
<b>F- test: <math>\beta^1, \beta^2 = 0</math> F-stat [<i>p-value</i>]:</b>	1.65 [0.437]	<b>6.26 [0.044]</b>	<b>17.70 [&lt;0.001]</b>	<b>18.70 [&lt;0.001]</b>
Over-valuation_w	-0.002 (0.02)	-0.008*** (0.00)	0.035 (0.03)	-0.008*** (0.00)
XS real M1 balances_w	0.021** (0.01)	0.001 (0.00)	0.011** (0.01)	-0.015*** (0.00)
Leading indicators from Table A2 and time trend	Included	Included	Included	Included
Indicator (crisis within last 3 yrs)	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
SE clustering on year	Yes	Yes	Yes	Yes
# country-years	143	151	151	160
Mc Fadden's R <sup>2</sup>	0.394	0.408	0.794	0.634

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table 3 for a definition of the country sample with high and low accounting precision, and to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. We winzorize the two leading indicator variables with extreme values: Over-valuation and XS real M1 balances. *Over-valuation\_w* is the deviation from the expected real exchange rate leading indicator variable winzorized at 3 percent. XS real M1 balances\_w is the Excess real M1 balance leading indicator variable winzorized at 3 percent. Standard errors clustered by year are in parentheses. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.

TABLE A6: ANALYSIS OF CRISES USING ALTERNATIVE USER-BASED MEASURE OF ACCOUNTING PRECISION  
(C=COUNTRY; T=YEAR, 17 COUNTRIES, YEARS = 1983 – 2005)

Model:

$$D\_Crisis_{c,t} = \alpha + \sum_{i=1}^2 \beta^i \times AccountingSignal_{c,t-n}^i + \lambda \times Lag\ Crisis\ Indicator_{c,t} + \sum_{k=1}^{18} \gamma^k \times LeadingIndicators_{c,t-n} + \varepsilon_{c,t}$$

$I_{C_H} = 1$  : if country rank of accounting precision exceeds the sample median, 0 otherwise.

$I_{C_L} = 1$  : if country rank of accounting precision is the sample median, 0 otherwise.

		(1)	(2)	(3)	(4)
		<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
		High analyst following countries	Low analyst following countries	High analyst following countries	Low analyst following countries
		coefficient (se)	coefficient (se)	coefficient (se)	coefficient (se)
Accruals <sub>c,t</sub>	$\beta^1$	-9.215 (11.30)	-2.692* (1.39)	18.838 (15.64)	5.147*** (1.34)
Profitability <sub>c,t</sub>	$\beta^2$	-1.185 (22.68)	2.466* (1.49)	-190.159 (128.67)	-1.772 (3.02)
<b>F- test: <math>\beta^1, \beta^2 = 0</math></b>					
F-stat [ <i>p-value</i> ]:		0.81 [0.669]	4.26 [0.12]	<b>6.64 [0.036]</b>	<b>17.30 [&lt;0.001]</b>
Leading indicators from Table A2 and time trend Indicator (crisis within last 3 yrs)		Included Yes	Included Yes	Included Yes	Included Yes
Country Fixed Effects		Yes	Yes	Yes	Yes
SE clustering on year		Yes	Yes	Yes	Yes
# country-years		105	189	111	200
Adjusted R <sup>2</sup>		0.561	0.349	0.691	0.562

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table 4 and Table A2 for definitions of the accounting signals and leading indicator variables. Countries with high and low accounting precision are partitioned using the median analysts following from I/B/E/S. Analyst following is defined as the median scaled by price (see Li, Lehavy, and Merkley 2011) in each country-year. We average the ranks for each country-year over the sample period starting from the earliest available year. Our high precision countries are: Spain, Finland, Italy, Sweden, Norway, Denmark and India, and low precision countries are: Mexico, Japan, Philippines, Thailand, Indonesia, Malaysia, Korea, Argentina, Turkey, and Brazil. Standard errors clustered by year are in parentheses. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.

TABLE A7: ANALYSIS OF CRISES USING LOGIT MODELS

Model:

$$D\_Crisis_{c,t} = \alpha + \sum_{i=1}^2 \beta^i \times \text{AccountingSignal}_{c,t-n}^i + \lambda \times \text{Lag Crises Indicator}_{c,t} + \sum_{k=1}^{18} \gamma^k \times \text{LeadingIndicators}_{c,t-n} + \varepsilon_{c,t}$$

$I_{C_H} = 1$  : if the country has high accounting precision, 0 otherwise.

$I_{C_L} = 1$  : if the country has low accounting precision, 0 otherwise.

	(1)	(2)	(3)	(4)
	<i>Prior period</i> [-n =-1]		<i>Concurrent</i> [-n =0]	
	High accounting precision countries	Low accounting precision countries	High accounting precision countries	Low accounting precision countries
	coefficient (se)	coefficient (se)	coefficient (se)	coefficient (se)
Accruals <sub>c,t</sub> $\beta^1$	-1.357 (12.75)	-4.892** (2.49)	-62.545** (28.10)	9.246* (5.14)
Profitability <sub>c,t</sub> $\beta^2$	-28.959 (28.64)	4.134 (2.86)	-317.231*** (81.70)	2.891 (6.39)
<b>F- test:</b> $\beta^1, \beta^2 = 0$ F-stat [ <i>p-value</i> ]:	1.09 [0.579]	<b>5.70 [0.058]</b>	<b>15.48 [&lt;0.001]</b>	0.377 [0.152]
Leading indicators from Table A2 and time trend Indicator (crisis within last 3 yrs)	Included Yes	Included Yes	Included Yes	Included Yes
Country Fixed Effects	Yes	Yes	Yes	Yes
SE clustering on year	Yes	Yes	Yes	Yes
# country-years	143	151	151	160
Pseudo R <sup>2</sup>	0.389	0.379	0.784	0.652

Notes:  $D\_Crisis_{c,t}$  is an indicator variable indicating a crisis year. See Table 1 for crisis years. Refer to Table 3 for a definition of the country sample with high and low accounting precision, and to Table A2 and Table 4 for definitions of the leading indicator variables and accounting signals. Standard errors clustered by year are in parentheses. \*\*\*, \*\*, \* denote significance at 1 percent, 5 percent, and 10 percent respectively, using a two-tailed test.