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Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

Table of Contents:

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Summary

This study reviews the empirical evidence on past emerging market defaults in order to gain a better insight into the broader impact of country risk on corporate risk. We analyze 431 emerging market defaults, 100 Moody's-rated and 331 unrated defaults, in 27 emerging market countries during the period 1995-2008 and attempt to quantify the impact that sovereign crises have had on defaults in the emerging market financial sector, industrial corporate sector, and sub-sovereign sector.

We complement the empirical analysis with a detailed survey of rated defaults and with case studies of the crises in Indonesia in 1997-2002, Russia 1998-1999, and Argentina 2001-2002, in order to better understand the factors that have caused defaults, as well as to gain an insight into how country-specific circumstances have influenced the spillovers of sovereign crises into the corporate sector. Our findings include the following:

- Default rates by rating category and average recovery rates are broadly similar between emerging market countries and advanced countries. However, the share of issuers in the speculative grade rating category is larger in emerging market countries – 52.7% in emerging markets at end-2007, compared to 34.3% in advanced countries.
- Episodes of large-scale corporate and sub-sovereign defaults generally coincide with episodes of sovereign crises. Over 1995-2008, 71% of emerging market defaults have occurred during sovereign crises.

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- Corporate and sub-sovereign defaults have been heavily concentrated during the first two years of a crisis. Reflecting the fact that the typical emerging market crisis has started as either a banking crisis or simultaneous banking and debt crises, almost half of financial sector defaults and almost all regional and local government defaults have occurred at the start of the crisis. The majority of industrial corporate defaults have been concentrated in the second crisis year reflecting corporate vulnerability to both banking crises and to currency crises and subsequent currency devaluations.
- Among rated issuers, the presence of a sovereign crisis on average raises the emerging markets 4-year corporate and sub-sovereign default rate two and a half times: from 9.6% in non-crisis times to 23.7% in crisis years (the 4-year speculative grade corporate and sub-sovereign default rate rises from 15.3% to 28.6%).
- The impact of both sovereign crises and economic recessions appears to be larger in emerging markets than in advanced countries. The presence of a sovereign crisis raises the 4-year advanced countries' corporate and sub-sovereign default rate from 5.3% to 7.8% (from 16.6% to 21.1% for speculative grade issuers), while the presence of a recession increases the advanced countries' 4-year default rate from 5.8% to 6.0% (from 17.4% to 19.5% for speculative grade issuers).
- Further, country case studies suggest that the peak one-year crisis speculative grade corporate default rate can rise as high as 60% in emerging market countries when several types of crises are combined.
- Bond recovery rates in emerging markets could be more than twice as low during crisis years compared to non-crisis times. The difference in recovery rates appears to be smaller in advanced countries.
- A detailed survey of the reasons for default of 100 rated issuers suggests that country risk has been twice as important as firm risk in corporate defaults during sovereign events and has remained important outside of sovereign events as well. Economic recessions and currency depreciation have been the major risk factors, followed by political and civil disturbances and bank runs.
- In-depth case studies of the crises in Indonesia 1997-2002, Russia 1998-1999, and Argentina 2001-2002 suggest that country-specific institutional and political factors have greatly influenced the magnitude of the spillovers of sovereign crises into the corporate sector.

Introduction

Country risk refers to domestic economic and financial risks in a given country that arise from political, institutional, and economic factors. It encompasses the risk arising from sovereign default – referred to as sovereign risk, as well as the risk that the government will interfere with the ability of domiciled borrowers to repay their cross-border debts – often referred to as transfer and convertibility risk. Within the ratings architecture, country ceilings, which represent an upper limit on possible ratings of corporate obligations or structured finance transactions within a sovereign's jurisdiction, speak directly to the importance of country risk.[1] In this report we study one aspect of country risk – the impact that sovereign crises have on corporate sector defaults.[2]

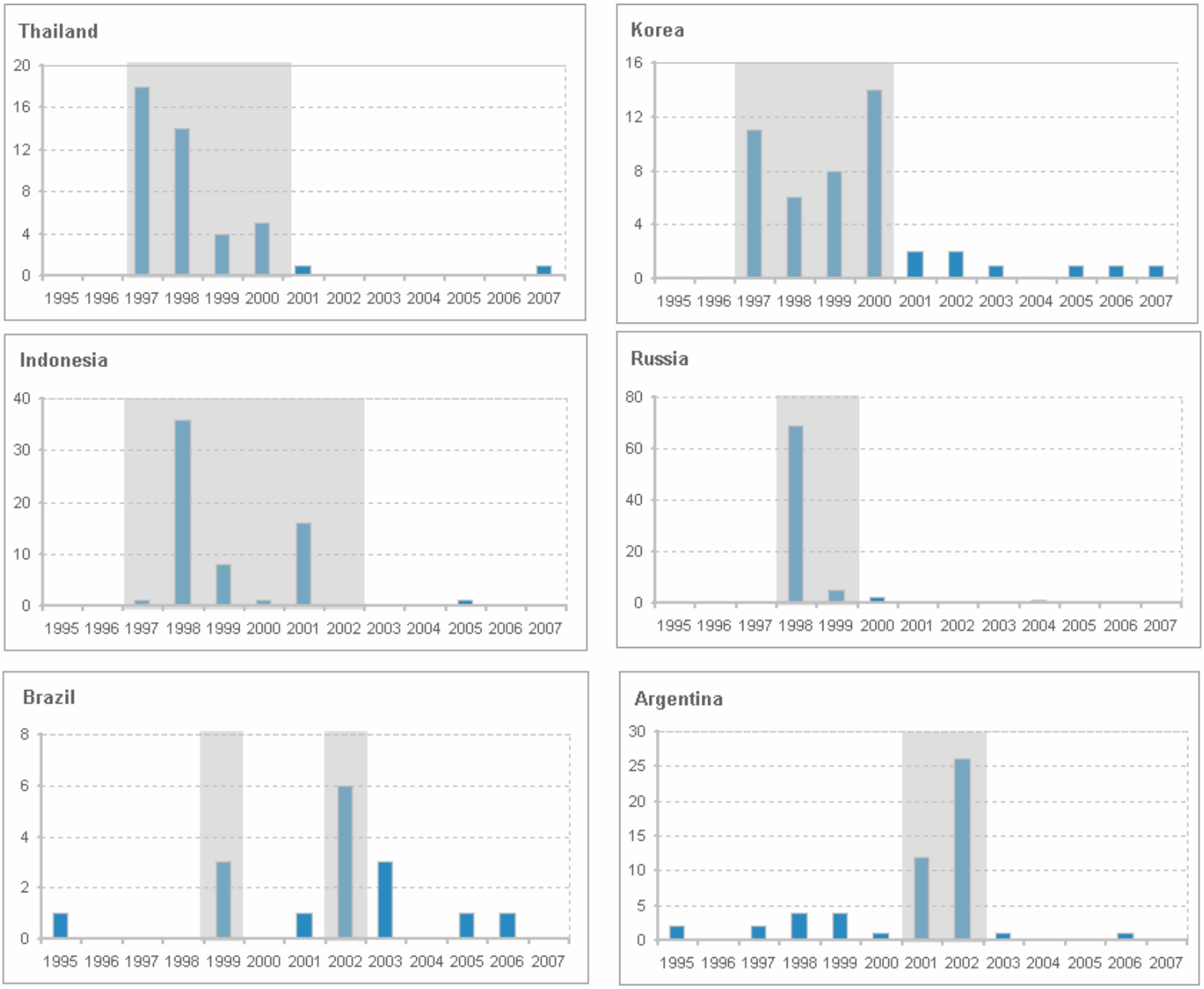
Episodes of sovereign crises largely coincide with episodes of large-scale domestic private sector defaults (Exhibit 1). There is evidence from the academic literature that the frequency of sovereign and correspondingly, banking and corporate sector crises, appears to have increased since the 1980s. There is also evidence that the depth of crises has increased since the 1990s compared to earlier periods.[3] Furthermore, most of the recent crises have been in emerging market countries.

We study the impact of sovereign debt crises, systemic banking crises, and currency crises on corporate and sub-sovereign defaults in 27 emerging market countries. We analyze the default occurrences, estimate the impact sovereign crises have on the emerging market default and recovery rates, and survey the reasons behind the corporate defaults. We also compare the impact of sovereign crises and recessions in emerging

1 For details, see Moody's sovereign methodology publications: "A Guide to Moody's Sovereign Ratings", December 2008 and "Sovereign Bond Ratings", September 2008.
2 More Moody's research relevant to the current financial crisis is listed at the end of the report.
3 Claessens, S., Klingebiel, D. and Laeven, L., 2001, "Financial Restructuring in Banking and Corporate Sector Crises: What Policies to Pursue?", NBER Working paper 8386, July.

market countries with the impact of sovereign crises and recessions on corporate defaults in advanced countries.

Exhibit 1: Episodes of Corporate and Sub-Sovereign Defaults Coincide with Episodes of Sovereign Crises



Note: Blue bars denote number of defaults, shaded areas denote sovereign crises.

Data and Methodology

A. Emerging Market Defaults

We study 431 emerging market defaults, 100 Moody's-rated and 331 unrated defaults, during the period 1995-Sept. 2008. We have data on defaults in 27 of the emerging market countries included in the *JP Morgan EMBI Global Index* and/or the *MSCI Emerging Markets Index*. Countries include: Argentina, Brazil, Bulgaria, Chile, China, Colombia, Czech Republic, Dominican Republic, Egypt, Hungary, India, Indonesia, Israel, Korea,

Malaysia, Mexico, Panama, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey, Ukraine, Uruguay, and Venezuela (Exhibit 2). The default sample represents the regions of Latin America, Eastern Europe, and Asia relatively well, with a higher concentration on Asia (Exhibit 3).

Exhibit 2: Distribution of Emerging Market Defaults by Country, 1995-Sept. 2008

Country	Number of Defaults				
	Total	Rated	Unrated	Crisis	Non-crisis
Argentina	53	24	29	41	12
Brazil	16	8	8	10	6
Bulgaria	2	1	1	0	2
Chile	1	1	0	0	1
China	13	5	8	6	7
Colombia	1	1	0	0	1
Czech Republic	12	1	11	0	12
Dominican Republic	1	1	0	1	0
Egypt	1	0	1	0	1
Hungary	19	0	19	0	19
India	3	1	2	0	3
Indonesia	63	19	44	62	1
Israel	2	1	1	0	2
Korea	47	1	46	39	8
Malaysia	18	1	17	16	2
Mexico	24	13	11	4	20
Panama	1	1	0	0	1
Philippines	10	1	9	5	5
Poland	4	2	2	0	4
Russia	77	14	63	73	4
South Africa	2	0	2	0	2
Taiwan	6	0	6	0	6
Thailand	43	1	42	41	2
Turkey	7	0	7	5	2
Ukraine	2	0	2	1	1
Uruguay	2	2	0	2	0
Venezuela	1	1	0	0	1
Total	431	100	331	306	125

The sectoral distribution of the 431 emerging market defaults is shown in Exhibit 4: 56% of emerging market defaults represent industrial corporate defaults, 16% bank and financial company defaults, 6% utility and transportation company defaults, and 21% regional and local government defaults. Rated defaults are in the range of 25-29% of total defaults in the industrial, financial, and utilities sectors, and 13% in the regional and local government sector (Exhibit 5).

Exhibit 3: Geographical Distribution of Emerging Market Defaults

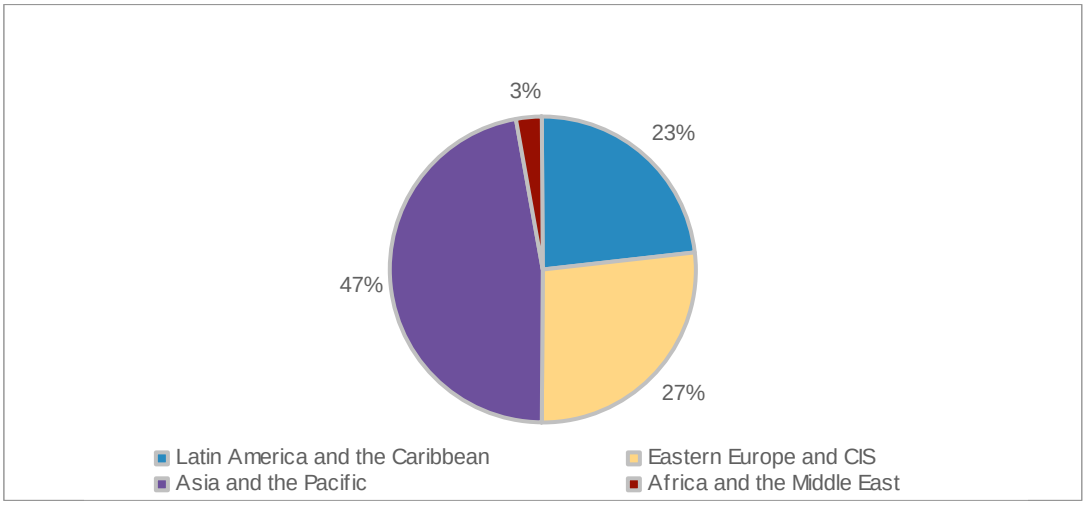


Exhibit 4: Distribution of Emerging Market Defaults by Sector

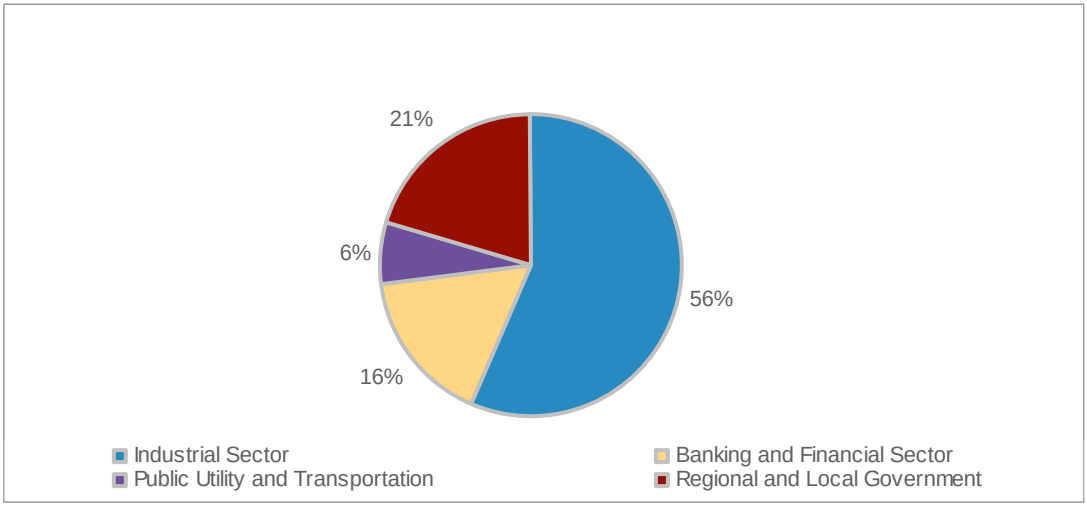


Exhibit 5: Rated and Unrated Defaults by Sector

Sector	Number of Defaults				
	Total	Rated	Unrated	Crisis	Non-crisis
Industrial Sector	243	62	181	167	76
Banking and Financial Sector	71	18	53	57	14
Public Utility and Transportation	28	8	20	14	14
Regional and Local Government	89	12	77	68	21
Total	431	100	331	306	125

B. Sovereign Crises

We define sovereign crises as the occurrence of systemic banking crisis, currency crisis, and/or sovereign debt crisis. All three types of crises are defined in a way that captures extremely disruptive events, above and beyond economic recessions:

- For identifying systemic banking crises, we use the databases of Laeven and Valencia (2008), Caprio and Klingebiel (2003), and Hoelscher and Quintyn (2003). Although some judgment is inevitable when identifying crisis duration, systemic banking crises are identified as banking crises where the banking system had a large proportion of non-performing loans and where most of banks' capital was exhausted.[4]
- Currency crises are identified as in Laeven and Valencia (2008) and are defined as a nominal depreciation of the currency of at least 30% that is also a 10% increase in the rate of depreciation compared to the previous year.
- Finally, debt crises are identified as years of sovereign debt default or restructuring using Moody's data.[5]

Exhibit 6: Sovereign Crises in Emerging Markets, 1995-Sept. 2008

Emerging Market Country	Systemic Banking Crises	Currency Crises	Sovereign Debt Crises
Argentina	1995, 2001-2002	2002	2001-2002
Brazil	1994-1995	1999, 2002	
Bulgaria	1996	1996	
Chile			
China	1998		
Colombia	1998		
Czech Republic	1996		
Dominican Republic	2003	2003	2003
Egypt			
Hungary	1991-1995		
India			
Indonesia	1997-2001	1998	1998, 2000, 2002
Israel			
Korea	1997-2000	1998	
Malaysia	1997-2000	1998	
Mexico	1994-1995	1995	
Panama			
Philippines	1997-1999	1998	
Poland			
Russia	1998-1999	1998	1998-1999
South Africa			
Taiwan	1997-1998		
Thailand	1997-2000	1998	
Turkey	2000-2001	1996, 2001	1999

4 For details, see Laeven, Luc and Valencia, Fabian, 2008, "Systemic Banking Crises: A New Database", IMF Working Paper 224; Caprio, Gerard and Klingebiel, Daniela, 2003, "Episodes of Systemic and Borderline Financial Crises", World Bank Database; Hoelscher, David S. and Quintyn, Marc, 2003, "Managing Systemic Banking Crises", IMF Occasional Paper 224.

5 See Moody's Special Comment "Sovereign Default and Recovery Rates, 1983-2007", March 2008 and Moody's Sovereign Analytics report "Sovereign Defaults and Interference: Perspectives on Government Risks", August 2008.

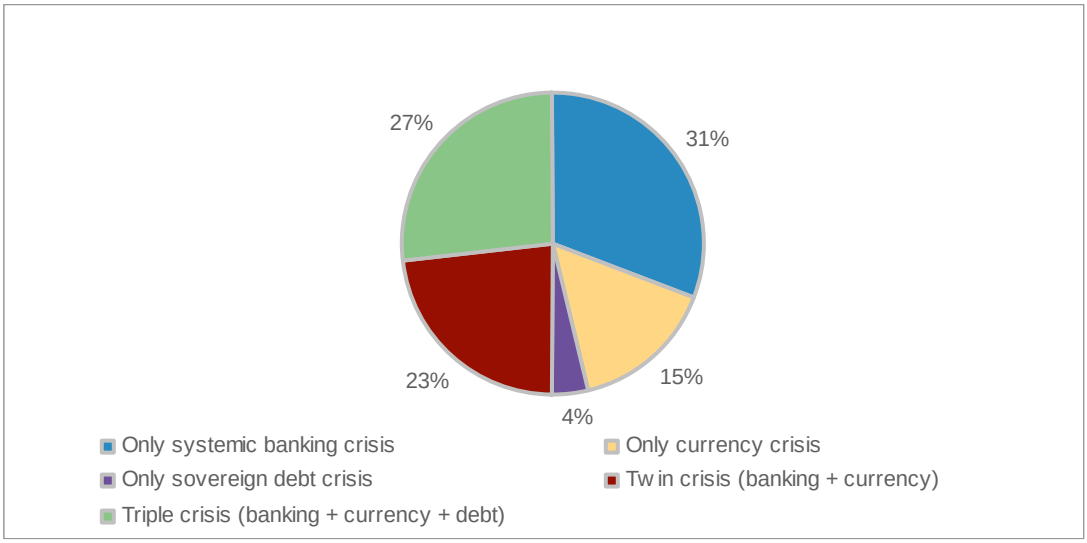
Exhibit 6: Sovereign Crises in Emerging Markets, 1995-Sept. 2008

Emerging Market Country	Systemic Banking Crises	Currency Crises	Sovereign Debt Crises
Ukraine	1998	1998	1998, 2000
Uruguay	2002-2003	2002	2003
Venezuela	1994-1995	2002	1998

Note: The current financial crisis is not included in this study as the course of events and their ultimate effect on default rates is still developing.

Exhibit 6 illustrates the chronology of sovereign crises by country. During 1995-2008 in the 27 emerging market countries in our sample, there were 27 emerging market crises, comprised of 21 systemic banking crises, 17 currency crises, and 8 sovereign debt crises. If we take the year of the crisis with one-year window around it, we see that 13 events were twin crises – where systemic banking and currency crises happened simultaneously. Seven events, representing 88% of the debt crises, were triple crises - where all three types of crises occurred simultaneously (Exhibit 7).

Exhibit 7: Joint Occurrence of Sovereign Crises



Systemic banking crises have been not only most frequent, but have also lasted the longest period of time - anywhere from 1 to 5 years, with average duration of 2.3 years. Sovereign debt crises have generally lasted 1-2 years.

Frequency of Emerging Market Defaults

Analyzing our sample of 431 emerging market defaults, we find that 71% of emerging market defaults over the past 13 years have occurred during sovereign crises (Exhibit 8). More importantly, 71% of emerging market defaults have occurred during 13% of country-years (Exhibit 10).

Emerging market defaults were heavily concentrated in the 1997-2002 period, reflecting the 1997-2002 Asian crisis, the 1998-1999 Russian crisis, the 1999 and 2002 Brazilian crises, and the 2001-2002 Argentinean crisis. While 69% of industrial corporate defaults, 80% of bank defaults, and 76% of sub-sovereign defaults have taken place during a sovereign crisis, half of public utility defaults have occurred outside of crises years (Exhibit 9).

Exhibit 8: The Vast Majority of Emerging Market Defaults Have Occurred during Sovereign Crises

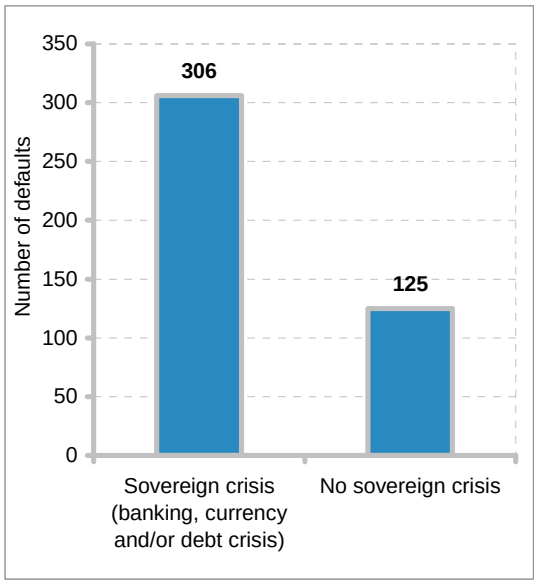


Exhibit 9: Emerging Market Defaults by Sector

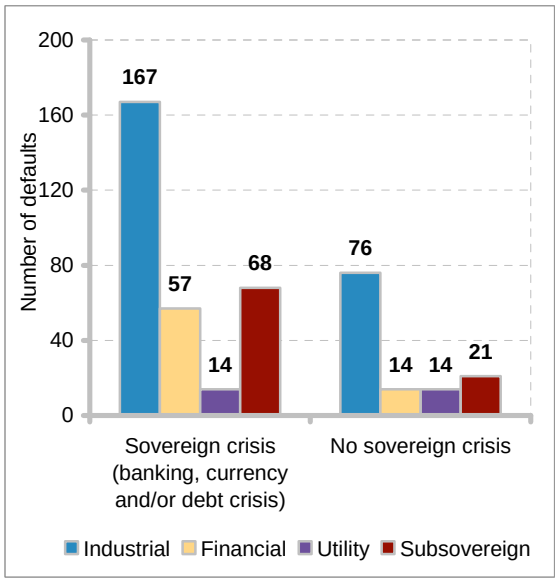
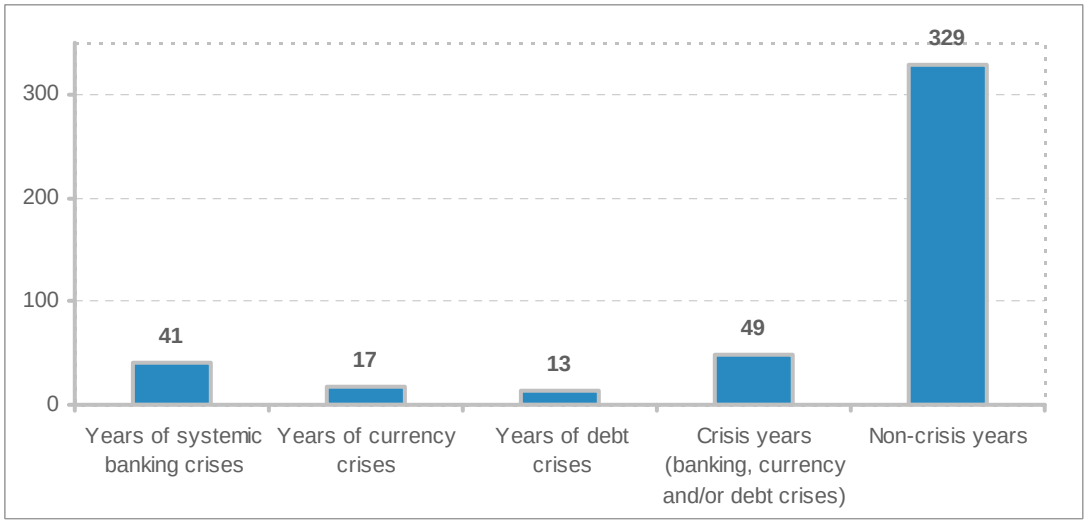


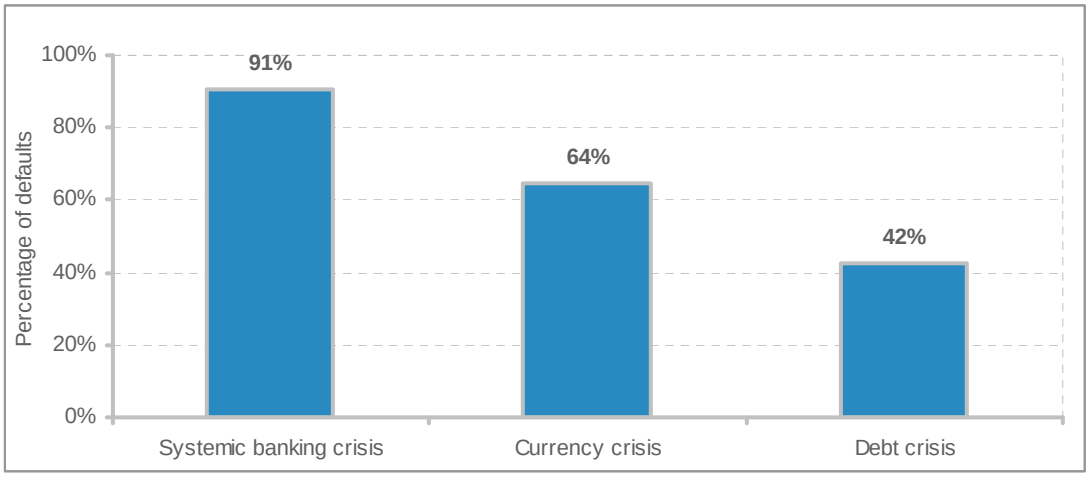
Exhibit 10: Number of Country-Years in the Sample, 1995-2008



Since systemic banking crises have occurred most frequently and have generally lasted the longest, it is not surprising that we find the largest percentage of emerging market defaults occurring during periods of systemic banking crises (Exhibit 11). In order to avoid our results being driven by the countries with largest numbers of observed defaults – Russia, Indonesia, Argentina, Korea, and Thailand, we compute a cross-country average, giving each country equal weight. We calculate the percentage of corporate defaults that occur during systemic banking crises, currency crises, and sovereign defaults respectively in each country, and then compute an average across countries. As shown in Exhibit 11, we find that on average 91% of emerging market defaults have occurred during years of systemic banking crises, 64% during years of currency crises, and 42% have occurred during years of sovereign debt crises.[6]

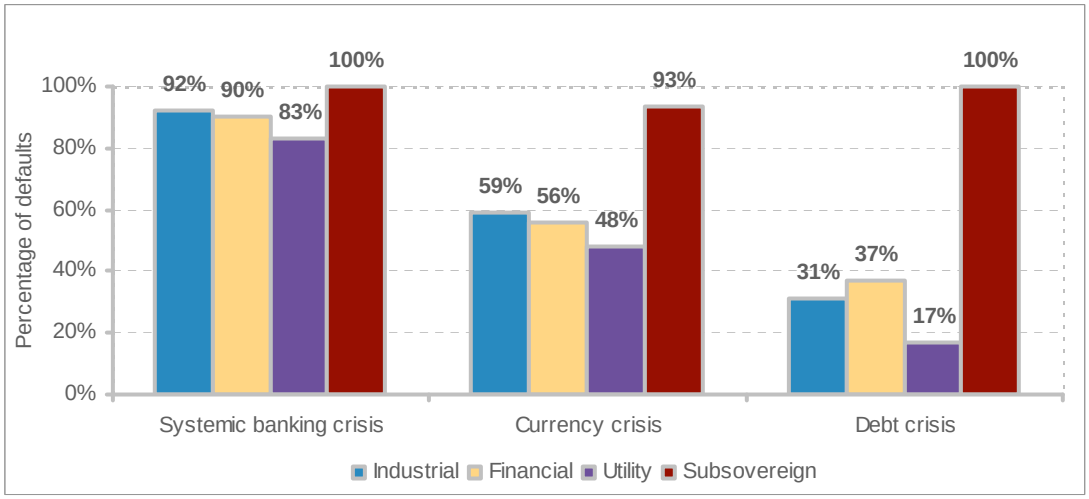
6 The percentages do not sum up to 100% as almost all debt crises have been accompanied by currency and/or systemic banking crises.

Exhibit 11: Emerging Market Defaults by Type of Sovereign Crisis



Similarly, we compute the percentage of defaults that have occurred during the different types of crises for each sector in each country and then calculate an average across countries in Exhibit 12. We find, similar to above, that a very large percentage of the defaults in all sectors have occurred during years of systemic banking crises. Moreover, systemic banking crises seem to have influenced the corporate sector as severely as the financial sector: 92% of industrial corporate defaults and 90% of bank and financial company defaults have occurred during systemic banking crises. A large percentage of industrial corporate, financial, and utility defaults have also coincided with currency crises.

Exhibit 12: Crisis Defaults by Sector



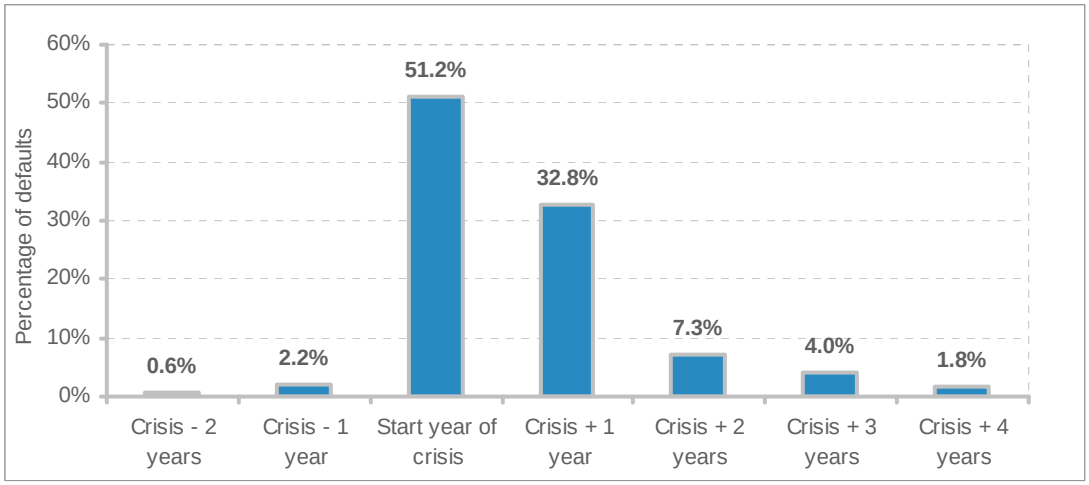
Although our sample of crisis sub-sovereign sector defaults is limited to defaults in Russia, Argentina and Ukraine, Exhibit 12 reflects the close relationship between the economic health of the sovereign and the financial strength of the regional and local governments - sovereign debt crises have been particularly damaging to the sub-sovereign sector.[7] In addition, debt crises have been deeply damaging to the banking sector as banks in many emerging market countries were heavily exposed to the public sector both directly through holdings of government securities and indirectly through lending to public enterprises.

7 See also Moody's Special Comment "Rating Migration and Default Rates of Non-U.S. Sub-Sovereign Debt Issuers, 1983-2007", September 2008.

Timing of Emerging Market Defaults

Overall, emerging market corporate and sub-sovereign defaults have been heavily concentrated during the first two years of a crisis. On average, 51% of defaults have happened during the start year of the crisis. Another 33% of defaults have occurred during the second crisis year, and only 7% and 4% of defaults have occurred in the third and fourth crisis year respectively (Exhibit 13). We create Exhibit 13 by calculating the percentage of defaults that occur during the start year of the crisis, during the 2nd year of the crisis, and so on for each country and then average across countries in order to avoid the results being influenced by the timing pattern of the countries with most defaults.[8]

Exhibit 13: Emerging Market Defaults Are Concentrated during the First Two Years of a Sovereign Crisis

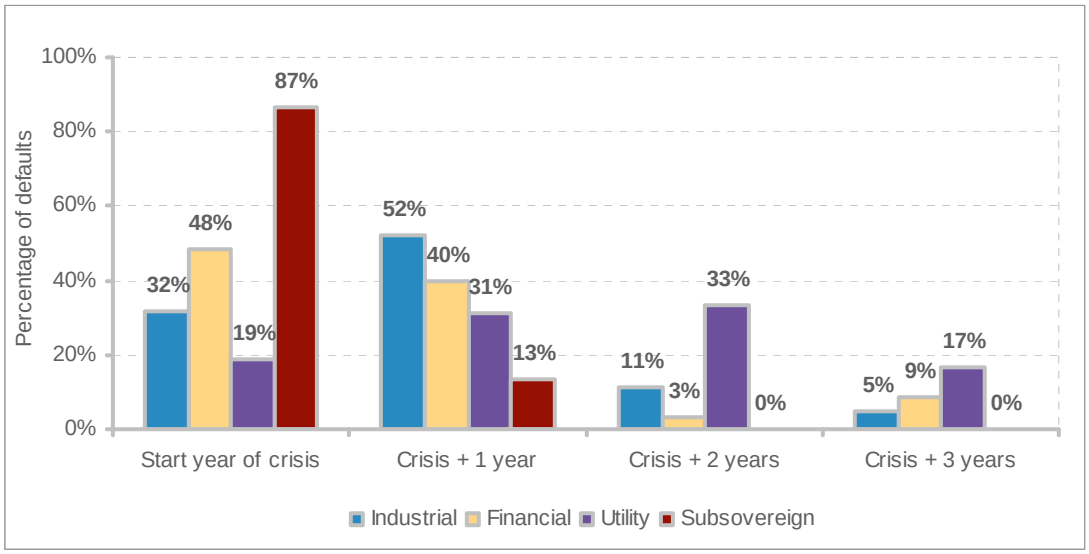


Over 1995-2008, the crisis sequence has typically started with the systemic banking crisis, followed by a currency crisis in the second year. In 8 out of the 13 twin crises, the banking crisis has preceded the currency crisis by a year, while in the other 5 cases, the banking and the currency crises have occurred in the same year. The start of the majority of the sovereign debt crises has coincided with the start of a systemic banking crisis. In the 7 triple crises, 3 events were headed off by simultaneous debt, banking, and currency crises (Russia, Ukraine, and Dominican Republic), 1 event started as simultaneous debt and banking crises (Argentina), 1 event was headed off by the debt crisis (Turkey), and 2 events started as banking sector crises (Indonesia and Uruguay).

Reflecting the fact that the typical emerging market crisis has started as either a banking crisis or simultaneous banking and debt crises, we observe in Exhibit 14 that almost half of financial sector defaults (48%) have occurred at the start of the crisis. Similarly, almost all regional and local government defaults (87%) have occurred during the first year of the crisis as the financial strength of regional governments was heavily influenced by the debt default of the sovereign. The concentration of industrial corporate defaults in the second year of the crisis suggests that corporates were heavily affected not only by the developing banking crisis but also by the currency crisis and the subsequent currency devaluation – more than 50% of corporate defaults and 31% of public utility defaults have taken place during the second year of a crisis.

8 Results do not differ much if we use the sum of default counts instead.

Exhibit 14: Timing of Emerging Market Defaults by Sector



The Impact of Sovereign Crises on Emerging Market Corporate and Sub-Sovereign Default Rates

Using the definition of sovereign crises as described above and the universe of Moody's-rated emerging markets issuers over the period 1995-2007, we estimate the impact the presence of a sovereign crisis has on the emerging market financial, industrial corporate, and sub-sovereign sectors default rate. The country and rating distributions of rated emerging market issuers is presented in Appendix I. For our 27 emerging market countries, we follow the standard Moody's methodology of estimating withdrawal-adjusted default rates, except we form annual instead of monthly issuer cohorts.[9]

As illustrated in Exhibit 15, we find that the presence of a sovereign crisis on average raises the one-year corporate and sub-sovereign default rate six fold, from 1.5% to 9.3%. The 4-year default rate for all emerging market corporates jumps from 9.6% in non-event years to 23.7% in crises years. The 4-year investment-grade default rate increases from 1.4% to 3.4%, while the 4-year speculative-grade emerging market default rate rises from 15.3% to 28.6% in the presence of a sovereign crisis event. The magnitude of the rise in the default rates is underscored by the fact that Moody's-rated corporates in emerging market countries tend to be among the largest companies in their respective sectors, so we are observing a 9.3% one-year default rate and 23.7% 4-year default rate among the *largest* emerging market corporates during sovereign crises.

9 For details, see Moody's Special Comment, "Corporate Default and Recovery Rates, 1920-2007", February 2008.

Exhibit 15: Cumulative Corporate and Sub-Sovereign Emerging Market Default Rates, 1995-2007

Emerging Markets	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
All	2.95%	6.16%	9.41%	12.44%	14.60%	16.64%	18.39%	19.36%	19.90%	19.90%
Non-crisis	1.47%	3.36%	6.47%	9.57%	12.04%	14.78%	17.34%	17.94%	17.94%	17.94%
Crisis	9.30%	17.27%	20.89%	23.65%	24.92%	25.28%	25.28%	26.81%	28.18%	28.18%
Investment grade	0.20%	0.45%	0.77%	1.58%	2.10%	2.43%	2.43%	2.43%	2.43%	2.43%
Investment grade non-crisis	0.00%	0.29%	0.65%	1.37%	2.00%	2.41%	2.41%	2.41%	2.41%	2.41%
Investment grade crisis	2.08%	2.08%	2.08%	3.39%	3.39%	3.39%	3.39%	3.39%	3.39%	3.39%
Speculative grade	4.58%	9.50%	14.40%	18.67%	21.70%	24.62%	27.26%	28.73%	29.59%	29.59%
Speculative grade non-crisis	2.51%	5.54%	10.55%	15.26%	18.92%	23.13%	27.25%	28.22%	28.22%	28.22%
Speculative grade crisis	10.99%	20.86%	25.40%	28.58%	30.23%	30.71%	30.71%	32.81%	34.64%	34.64%

Separating the sample by sector in Exhibit 16, we find that the presence of a sovereign crisis on average raises the 4-year industrial corporate default rate from 14.4% in non-crisis years to 38.8% in crisis years. Similarly, the banking and financial companies 4-year default rate increases from 4.0% to 5.8%. The public utilities 4-year default rate is 4.1% without sovereign events, but rises to 16.9% during sovereign crises. Finally, the detrimental effect of sovereign crises on the creditworthiness of regional and local governments is clearly demonstrated by the jump in the 4-year sub-sovereign default rate from 21.5% in non-crisis times to 46.2% in crisis years.[10]

Exhibit 16: Cumulative Corporate and Sub-Sovereign Emerging Market Default Rates by Sector, 1995-2007

Emerging Markets	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
Industrial	4.64%	9.77%	14.99%	19.40%	22.41%	25.26%	27.49%	28.97%	30.00%	30.00%
Financial	1.03%	2.21%	3.10%	4.22%	4.69%	5.28%	5.66%	6.16%	6.16%	6.16%
Utility	0.95%	2.15%	3.66%	5.59%	8.04%	11.13%	15.08%	15.08%	15.08%	15.08%
Subsovereign	7.25%	12.40%	18.60%	26.00%	37.69%	44.61%	56.92%	56.92%	56.92%	56.92%
Industrial non-crisis	2.69%	5.84%	10.35%	14.41%	17.54%	21.28%	24.57%	25.74%	25.74%	25.74%
Financial non-crisis	0.47%	1.24%	2.44%	3.96%	4.61%	5.45%	6.01%	6.01%	6.01%	6.01%
Utility non-crisis	0.00%	0.00%	1.76%	4.05%	7.05%	10.96%	15.98%	15.98%	15.98%	15.98%
Subsovereign non-crisis	1.80%	3.15%	11.48%	21.50%	37.74%	48.12%	65.41%	65.41%	65.41%	65.41%
Industrial crisis	13.33%	26.14%	33.60%	38.80%	41.27%	41.93%	41.93%	43.65%	45.88%	45.88%
Financial crisis	3.26%	5.81%	5.81%	5.81%	5.81%	5.81%	5.81%	7.28%	7.28%	7.28%
Utility crisis	8.16%	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%	16.91%
Subsovereign crisis	29.63%	46.19%	46.19%	46.19%	46.19%	46.19%	46.19%	46.19%	...	...

Exhibit 17 also presents the emerging market corporate and sub-sovereign default rates by rating categories. Intuitively, sovereign crises have a greater effect on lower-rated corporates that have weaker financial and business profiles. While the 4-year Baa rating category default rate is similar in crisis and non-crisis years, the Caa-C category default rate almost doubles from 34.6% in non-crisis years to 61.8% in crisis times.

10 The sample of rated sub-sovereign defaults is limited and reflects the experience of only two countries, Russia and Argentina.

Exhibit 17: Cumulative Corporate and Sub-Sovereign Emerging Market Default Rates by Rating Category, 1995-2007

Emerging Markets	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
Aaa	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	...	...	...
Aa	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Baa	0.32%	0.71%	1.18%	2.32%	3.03%	3.49%	3.49%	3.49%	3.49%	3.49%
Ba	0.78%	2.21%	4.36%	9.09%	11.94%	14.03%	14.47%	15.03%	15.83%	15.83%
B	4.17%	11.51%	18.25%	22.15%	25.46%	29.65%	35.10%	37.95%	39.05%	39.05%
Caa-C	23.81%	35.00%	46.59%	51.33%	55.39%	55.39%	55.39%	55.39%	55.39%	...
Aaa non-crisis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	...	...	...
Aa non-crisis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
A non-crisis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Baa non-crisis	0.17%	0.59%	1.11%	2.38%	3.18%	3.70%	3.70%	3.70%	3.70%	3.70%
Ba non-crisis	0.00%	1.09%	3.34%	8.32%	11.43%	14.26%	15.00%	16.03%	16.03%	16.03%
B non-crisis	2.50%	7.43%	15.25%	19.62%	23.50%	29.00%	36.16%	37.11%	37.11%	37.11%
Caa-C non-crisis	20.36%	22.60%	26.38%	34.56%	53.26%	...	...	...	...	...
Aaa crisis	...	...	...	...	...	...	...	...	...	...
Aa crisis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	...	...	...
A crisis	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Baa crisis	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%	2.25%
Ba crisis	3.38%	5.74%	7.64%	11.81%	14.17%	15.06%	15.06%	15.06%	16.61%	16.61%
B crisis	11.15%	27.59%	30.32%	32.52%	33.84%	33.84%	33.84%	42.29%	45.89%	45.89%
Caa-C crisis	27.22%	43.70%	58.71%	61.77%	61.77%	61.77%	61.77%	61.77%	61.77%	...

Crises in Emerging Market Countries versus Crises in Advanced Countries

In order to compare the impact sovereign crises have on corporate defaults in emerging market countries with the impact of crises in advanced countries, we identify systemic banking crises and currency crises in 23 advanced countries as shown in Exhibit 18. Our sample of advanced countries include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom (UK), and the United States (US).

As there have been almost no sovereign crises in advanced countries since 1995 and as speculative grade issuance in the capital markets had started since 1980, we analyze the period 1980-2007 for all industrialized countries. The definition of sovereign crises is the same as in emerging market countries and captures extremely disruptive sovereign events – systemic banking crises and currency crises - above and beyond economic recessions. There have been no sovereign defaults in advanced countries during the period of study. As described in detail in the Data and Methodology section above, the data is drawn from Laeven and Valencia (2008), Caprio and Klingebiel (2003), Hoelscher and Quintyn (2003), and Moody's.

There have been 6 systemic banking crises and 9 currency crises in the 1980-2007 period in the 23 advanced countries in our sample. The late 1980s and early 1990s witnessed the Savings and Loan Crisis in the US. The early 1990s also witnessed the banking and currency crises in the Scandinavian countries: Norway, Finland and Sweden. The late 1990s marked the most severe period of the Japanese banking crisis. The report does not include the current financial crisis in the sample as the course of events and their ultimate

effect on default rates is still developing.[11] There have been no sovereign defaults of advanced countries in the 1980-2007 period.

Exhibit 18: Sovereign Crises in Advanced Countries, 1980-2007

Advanced Country	Systemic Banking Crises	Currency Crises
Australia		
Austria		
Belgium		
Canada		
Denmark		
Finland	1991-1993	1993
France		
Germany		
Greece		1983
Iceland		1981, 1989
Ireland		
Italy		1981
Japan	1997-2002	
Luxembourg		
Netherlands		
New Zealand		1984
Norway	1991-1993	
Portugal		1983
Spain	1977-1985	1983
Sweden	1991-1993	1993
Switzerland		
United Kingdom		
United States	1986-1992	

Note: The current financial crisis is not included as the course of events and their ultimate effect on default rates is still developing.

Exhibit 19 shows the cumulative default rates in advanced countries. Even though the investment grade and the speculative grade default rates are very similar between advanced and emerging market countries (1.6% and 18.7% 4-year investment grade and speculative grade corporate and sub-sovereign default rates in emerging markets (Exhibit 15) and 0.6% and 17.6% 4-year investment grade and speculative grade corporate and sub-sovereign default rates in advanced countries (Exhibit 19)), the overall 4-year default rate is more than twice as high in emerging market countries, 12.4%, compared to advanced countries 5.8%, due to the larger share of emerging market issuers that are rated in the speculative-grade category. As of December 2007, 52.7% of the emerging market issuers and 34.3% of the advanced countries issuers in the sample were in the speculative grade rating category (Appendix I).

We find that the impact of sovereign crisis is on average much smaller in the advanced countries than in the emerging market countries. As illustrated in Exhibit 19, the advanced countries 4-year corporate default rate increases from 5.3% in non-crisis years to 7.8% in crisis years – a jump of one and a half times in advanced countries compared to the jump of two and a half times in emerging market countries (from 9.6% to 23.7% in Exhibit 15).

11 Moody's publications relevant to the current financial crisis as well as current banking systems outlooks are listed at the end of this report. See also Moody's Global Financial Risk Perspectives report "Global Macro-Risk Scenarios 2009-2010 – From Global Integration to Global Dis-integration?", December 2008.

The investment-grade advanced countries 4-year default rate remains almost the same in crisis and in non-crisis years, while it rises from 1.4% to 3.4% in emerging markets. Similarly, the average speculative-grade 4-year default rate rises 1.3 times in crisis years in advanced countries, from 16.6% to 21.1% (Exhibit 19), while it rises by almost two times in emerging market countries from 15.3% to 28.6% (Exhibit 15).

Exhibit 19: Cumulative Corporate and Sub-Sovereign Default Rates in Advanced Countries, 1980-2007

Advanced Countries	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
All	1.49%	3.06%	4.51%	5.79%	6.88%	7.81%	8.60%	9.25%	9.84%	10.39%
Non-crisis	1.33%	2.78%	4.13%	5.33%	6.39%	7.36%	8.25%	8.96%	9.62%	10.14%
Crisis	2.22%	4.34%	6.19%	7.76%	8.93%	9.72%	10.23%	10.67%	11.12%	11.73%
Investment grade	0.07%	0.20%	0.39%	0.62%	0.84%	1.07%	1.30%	1.53%	1.77%	2.01%
Investment grade non-crisis	0.07%	0.20%	0.37%	0.58%	0.80%	1.05%	1.32%	1.61%	1.91%	2.14%
Investment grade crisis	0.08%	0.21%	0.49%	0.79%	1.02%	1.19%	1.26%	1.32%	1.41%	1.64%
Speculative grade	4.38%	9.11%	13.57%	17.57%	21.19%	24.37%	27.13%	29.38%	31.47%	33.46%
Speculative grade non-crisis	4.00%	8.43%	12.74%	16.62%	20.28%	23.68%	26.81%	29.29%	31.56%	33.52%
Speculative grade crisis	5.94%	11.76%	16.74%	21.12%	24.62%	27.11%	28.88%	30.57%	32.26%	34.25%

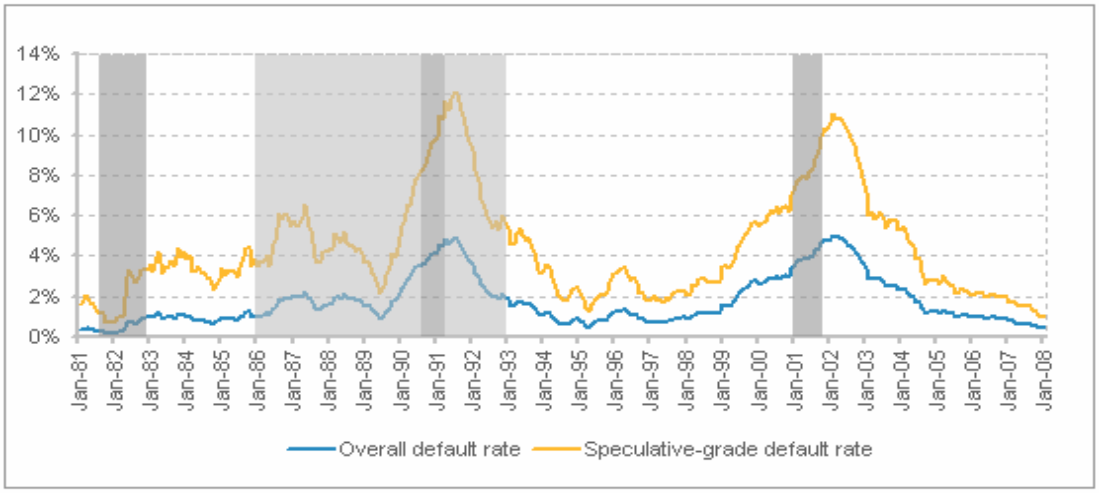
Further, anecdotal evidence suggests that the peak crisis annual default rate could be much higher in emerging market countries than in advanced countries. Exhibit 20 below plots the one-year US overall and speculative-grade default rates over the period 1981–2007. During the past two and a half decades, the US default rate has been the highest during the Savings and Loan crisis and the recession of the early 1990s and then again after the 2001 recession and the bursting of the technology bubble. The one-year US speculative-grade default rate had climbed to about 12% in 1991. On the other hand, during the 2001-2002 Argentinean crisis and in 2001 during the Asian crisis in Indonesia, the rated-issuer one-year speculative-grade default rate had reached as high as 60% (Exhibits 21 and 22). As most or all of the rated issuers in Argentina and Indonesia are speculative grade, the overall and the speculative-grade default rates are very close to each other or overlap.

The estimates in this section come with the caveat that they capture the default rates of Moody's-rated issuers. Moody's-rated companies both in emerging market countries and in advanced countries disproportionately represent the largest companies in a country and the leaders in their respective market sectors. Thus, rated-issuer default rates are generally more indicative of larger company default rates that may understate the extent of the economic disruption caused by a sovereign crisis in a country. However, these larger companies also tend to have more foreign currency debt, making them more vulnerable to some currency crisis scenarios. The number of rated issuers in each country in the sample, along with the rating distribution of issuers in emerging market countries versus issuers in advanced countries, is presented in Appendix I.[12]

In comparing emerging market default rates with advanced countries default rates, we note that even though we consider a longer time horizon for advanced countries, during the period of study there have been far fewer sovereign crises in advanced countries than in emerging market countries. In addition, because our data sample represents an unbalanced panel over time (issuers in some countries did not obtain ratings until the 1990s), we do not fully capture the impact of all sovereign crises – in particular, we do not capture the impact of the early 1980s' currency crises in advanced countries.

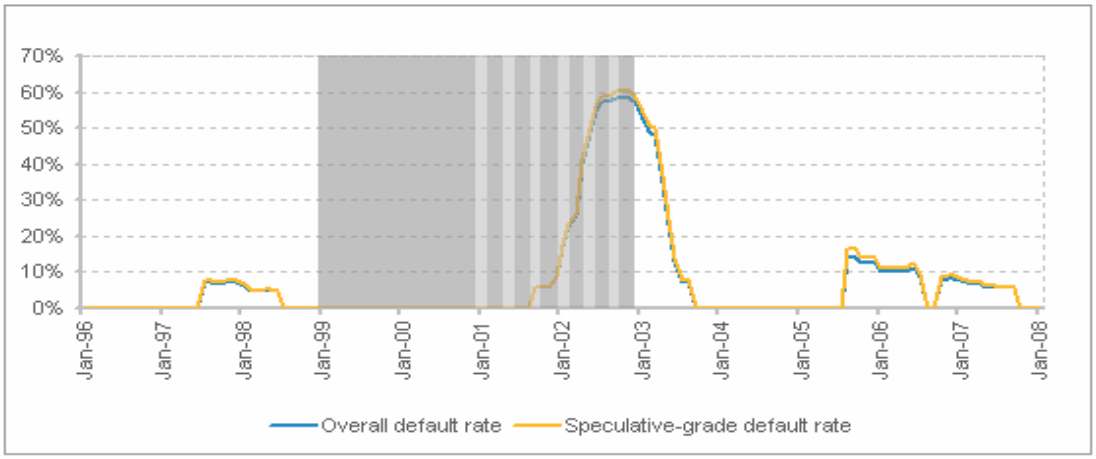
12 The US represents about two-thirds of the advanced countries' sample, which influences the estimates of non-crisis default rates, but has less impact on the estimated crisis default rates.

Exhibit 20: US One-Year Rated-Issuer Corporate and Sub-Sovereign Default Rate, 1981-2007



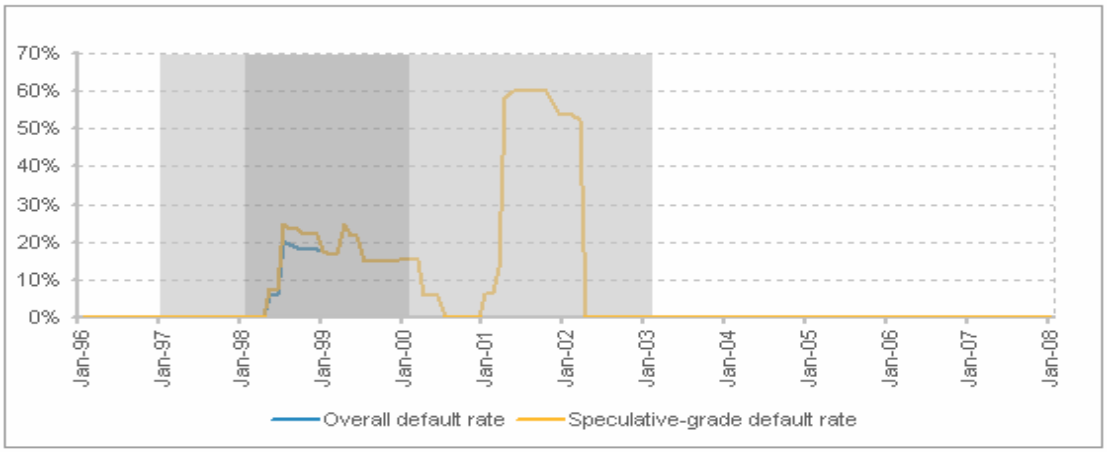
Note: Light gray shading denotes the Savings and Loan crisis, dark gray shading denotes recessions.

Exhibit 21: Argentina One-Year Rated-Issuer Corporate and Sub-Sovereign Default Rate, 1996-2007



Note: Light gray shading denotes crises, dark gray shading denotes recessions.

Exhibit 22: Indonesia One-Year Rated-Issuer Corporate and Sub-Sovereign Default Rate, 1996-2007



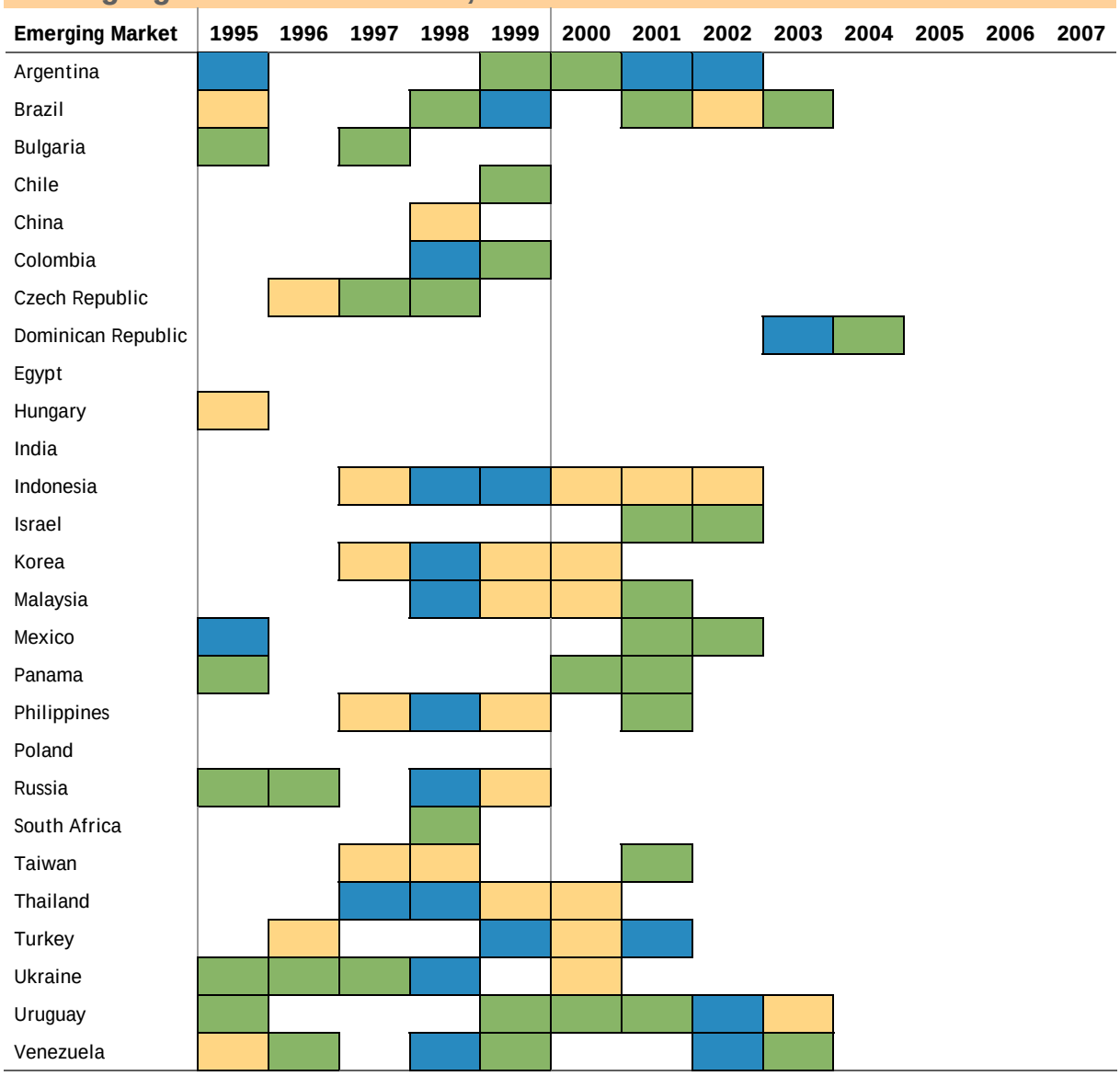
Note: Light gray shading denotes crises, dark gray shading denotes recessions.

Comparing the volatility of default rates during economic recessions, which we turn to in the next section, provides an alternative way of exploring the cyclicality in default rates and also offers more "stress" periods in advanced countries.

Sovereign Crises and Economic Recessions

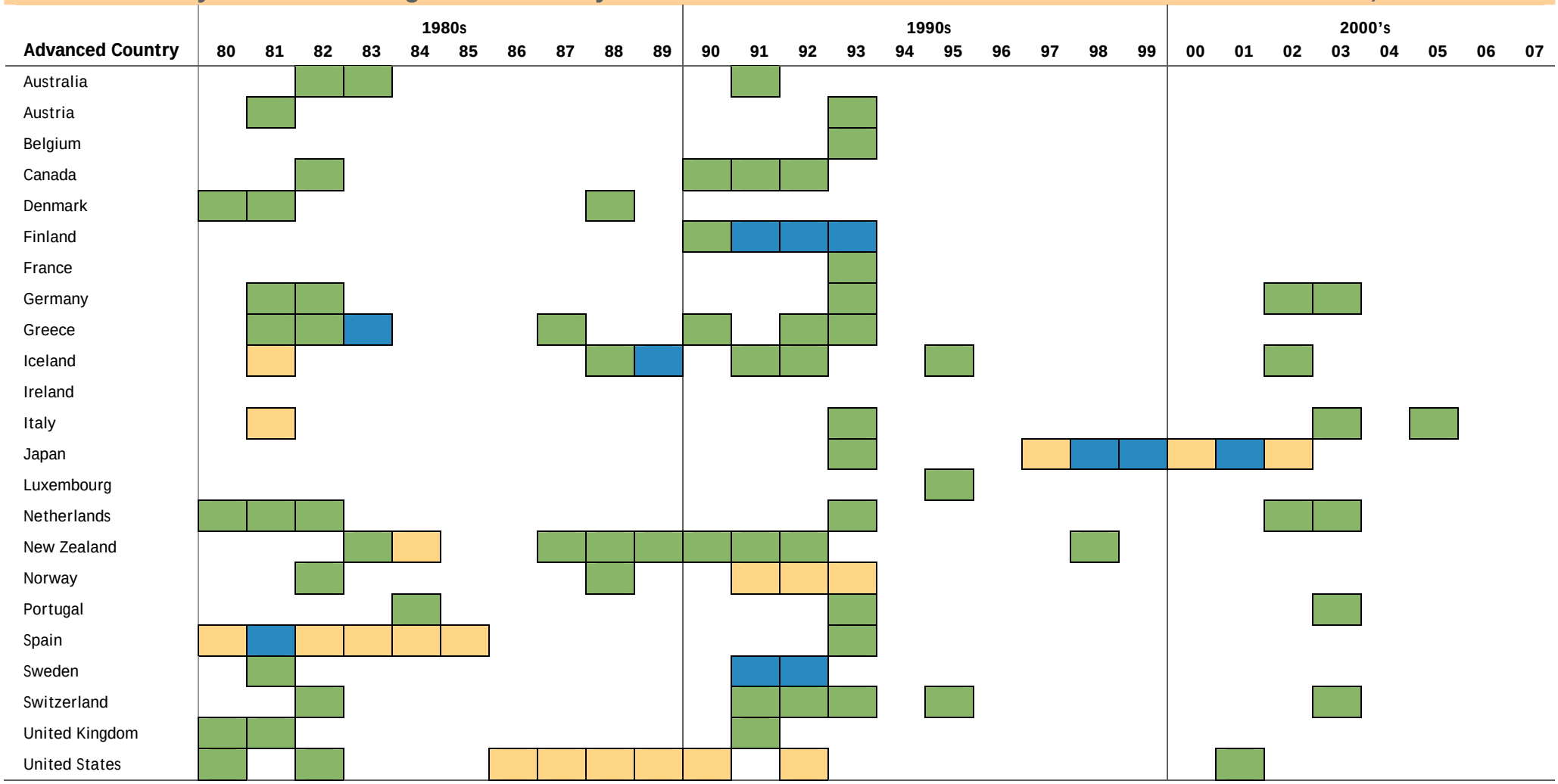
In order to gain an additional insight about the volatility of default rates in "stress" periods versus "non-stress" times, we also estimate default rates in emerging market and in advanced countries during economic recessions. We define economic recessions as negative growth of real GDP per capita and use the IMF World Economic Outlook database as data source. Appendix II lists the years identified as economic recessions in emerging market countries and in advanced countries, and the information is also plotted in Exhibits 23 and 24.

Exhibit 23: Sovereign Crises and Economic Recessions in Emerging Market Countries, 1995-2007



Note: Yellow denotes sovereign crisis, green denotes recession, and blue denotes both.

Exhibit 24: Systemic Banking and Currency Crises and Economic Recessions in Advanced Countries, 1980-2007



Note: Yellow denotes sovereign crisis, green denotes recession, and blue denotes both.

Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

As illustrated by Exhibits 23 and 24, years of economic recessions have generally, but not always, coincided with years of sovereign crisis events. The emerging markets crises and recessions have been clustered at the end of the 1990s. The advanced countries business cycle is clearly visible in Exhibit 24 as crises and recessions have clustered at the beginning of the 1980s, then at the beginning of the 1990s, and then at the beginning of the 2000s.

The record is almost half-half in terms of whether an event has started as a sovereign crisis which turned into an economic recession or whether it is the economic downturn that precipitated a sovereign crisis. In emerging market countries, of the cases which involved both a sovereign crisis and an economic recession, 30% of the cases have started with the economic recession, 30% of the cases have started with the sovereign crisis, and in 40% of the cases the crisis and the recession have developed together. In advanced countries, in 50% of cases the economic recession had come first, in 38% of cases the banking or currency crisis had come first, and in the other 12% of cases the crisis and the recession have developed simultaneously.

On a country by country basis, the peak of the corporate and sub-sovereign default rate for rated issuers generally coincides with the years of sovereign crises and/or recessions in both emerging market and advanced countries, although in a few cases the peak in the corporate default rate either precedes or, more often, trails the observed fall in GDP by a year.

Exhibits 25 and 26 show the cumulative default rates in years of recessions versus non-recession years for emerging market and advanced countries' rated issuers. We observe that the impact of recessions is much more severe in emerging markets: the overall 4-year default rate increases from 6.4% outside recessions to 29.3% during economic recessions (Exhibit 25). In advanced countries, the overall 4-year default rate increases from 5.8% in non-recession times to 6.0% during economic recessions (Exhibit 26). The speculative-grade 4-year default rate rises from 10.7% to 33.5% in recessions in emerging market countries (Exhibit 25), and from 17.4% to 19.5% in advanced countries (Exhibit 26).

Exhibit 25: Cumulative Corporate and Sub-Sovereign Default Rates in Emerging Market Countries during Economic Recessions, 1995-2007

Emerging Markets	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
All										
Non-recession	1.77%	3.44%	4.80%	6.44%	9.42%	12.21%	14.76%	15.30%	15.30%	15.30%
Recession	7.19%	14.99%	23.07%	29.26%	29.54%	29.89%	29.89%	31.94%	33.76%	33.76%
Investment grade										
Non-recession	0.11%	0.25%	0.43%	0.90%	1.52%	1.92%	1.92%	1.92%	1.92%	1.92%
Recession	1.16%	2.39%	3.72%	6.55%	6.55%	6.55%	6.55%	6.55%	6.55%	6.55%
Speculative grade										
Non-recession	3.04%	5.90%	8.19%	10.72%	15.43%	19.80%	24.06%	24.96%	24.96%	24.96%
Recession	8.24%	17.20%	26.55%	33.45%	33.80%	34.25%	34.25%	36.73%	38.91%	38.91%

The magnitude of the rise in default rates during economic recessions is broadly similar to the increase in default rates during sovereign crises. This is consistent with our observation above that years of economic recessions have largely, although not always, coincided with years of sovereign crises. The recession speculative-grade default rate is broadly similar to the crisis speculative-grade default rate in both emerging markets and in advanced countries: 33.5% recession (Exhibit 25) and 28.6% crisis (Exhibit 15) speculative-grade 4-year default rates in emerging markets and 19.5% recession (Exhibit 26) and 21.1% crisis (Exhibit 19) 4-year speculative-grade default rates in advanced countries.

Exhibit 26: Cumulative Corporate and Sub-Sovereign Default Rates in Advanced Countries during Economic Recessions, 1980-2007

Advanced Countries	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year10
All										
Non-recession	1.36%	2.92%	4.41%	5.78%	6.92%	7.92%	8.74%	9.40%	9.96%	10.45%
Recession	2.48%	4.09%	5.32%	6.04%	6.82%	7.39%	8.04%	8.62%	9.45%	10.29%
Investment grade										
Non-recession	0.06%	0.18%	0.37%	0.62%	0.85%	1.08%	1.32%	1.54%	1.73%	1.94%
Recession	0.14%	0.36%	0.56%	0.67%	0.84%	1.02%	1.23%	1.49%	2.07%	2.44%
Speculative grade										
Non-recession	3.96%	8.64%	13.17%	17.40%	21.17%	24.60%	27.46%	29.73%	31.82%	33.59%
Recession	7.97%	13.02%	16.98%	19.45%	22.15%	23.93%	26.14%	28.19%	30.33%	33.74%

Crisis versus Non-Crisis Recovery Rates

Further, we compare recovery rates from corporate and sub-sovereign defaults during sovereign crises with recovery rates from defaults in non-crisis years. The detailed defaulted debt data on which the estimates of emerging market recoveries are based is presented in Appendix III and Appendix IV. As shown in Exhibit 27, we find that emerging market recovery rates on senior secured bonds are more than two times lower in crises years, and recovery rates on senior unsecured bonds are more than 1.5 times lower in crisis years.

Controlling for economic recessions instead of sovereign crises results in similar variation in emerging market recovery rates for senior secured bonds – recovery rates are about twice as low during recessions. However, recovery rates on senior unsecured bonds appear to be similar in recession and non-recession years.

For emerging market countries, there is a larger differentiation in recovery rates on senior secured versus senior unsecured debt in years with no sovereign events or recessions. In the presence of sovereign crises and/or recessions, recovery rates compress towards the lower end of the scale, so that bonds with different seniority levels have similar recovery rates.

Exhibit 27: Emerging Markets Recovery Rates Based on 30-Day Post-Default Trading Prices, 1995-Sept. 2008

	Emerging Markets				
Lien Position	**Average**	**Non-crisis**	**Crisis**	**Non-recession**	**Recession**
Bonds					
Sr. Secured	39.35	56.20	24.90	48.09	25.37
Sr. Unsecured	33.03	42.79	27.01	36.59	30.83
Subordinate	48.00*	48.00*	...	48.00*	...
Bank Loans					
Sr. Secured	65.00*	65.00*	...	65.00*	...

** Based on only one issuer*

Exhibit 28: Advanced Countries' Recovery Rates Based on 30-Day Post-Default Trading Prices, 1980-Sept. 2008

	Advanced Countries				
Lien Position	**Average**	**Non-crisis**	**Crisis**	**Non-recession**	**Recession**
Bonds					
Sr. Secured	51.15	51.49	49.44	53.43	40.44
Sr. Unsecured	36.51	35.22	41.53	39.19	26.83
Subordinate	31.06	29.99	33.05	33.47	25.48
Bank Loans					
Sr. Secured	67.00	66.61	70.46	67.26	65.43

The cyclicality in recovery rates of corporate and sub-sovereign debt seems to be better captured when controlling for sovereign crises in emerging market countries, but when controlling for economic recessions in advanced countries. We see in Exhibit 28 that advanced countries' corporate and sub-sovereign recovery rates do not vary significantly between crisis and non-crisis years, reflecting both relatively lower frequency of sovereign crises in advanced countries during the period of study and the lower severity of the impact on the corporate sector. Advanced countries' recovery rates vary more with the economic cycle, but even in economic recessions the cyclicality of recovery rates seems to be smaller than in emerging market countries. The recovery rate on bonds is about 1.3 times lower during recessions, while the recovery rate on bank loans seems to remain more stable.

Survey of the Factors Leading to Corporate and Sub-Sovereign Defaults

In order to get a better understanding of which aspects of country risk affect corporates and sub-sovereigns, we survey the 100 Moody's-rated defaulters in emerging market countries for which we have detailed information on the reasons for the default. The 100 rated defaults represent 61 industrial corporate defaults, 17 financial sector defaults, 9 public utility defaults, and 12 regional and local government defaults. Moody's-rated issuers are generally among the largest companies in each country and the market leaders in their respective industry. Sixty-one of the rated defaults have occurred during sovereign crises and 39 have occurred outside of sovereign events. We classify the reasons for default into three categories: country risk, industry risk, and firm risk.

The country risk category encompasses:

- Economic recession or deterioration of the operating environment
- Currency devaluation and the presence of large foreign exchange exposures
- Large exposure to the public sector
- Government imposed payments moratoria or deposit or foreign exchange controls
- Other disturbances, including bank runs, civil disturbances, political crisis
- Government regulation, change in government regulation, or withdrawal of government support.

The industry risk category includes:

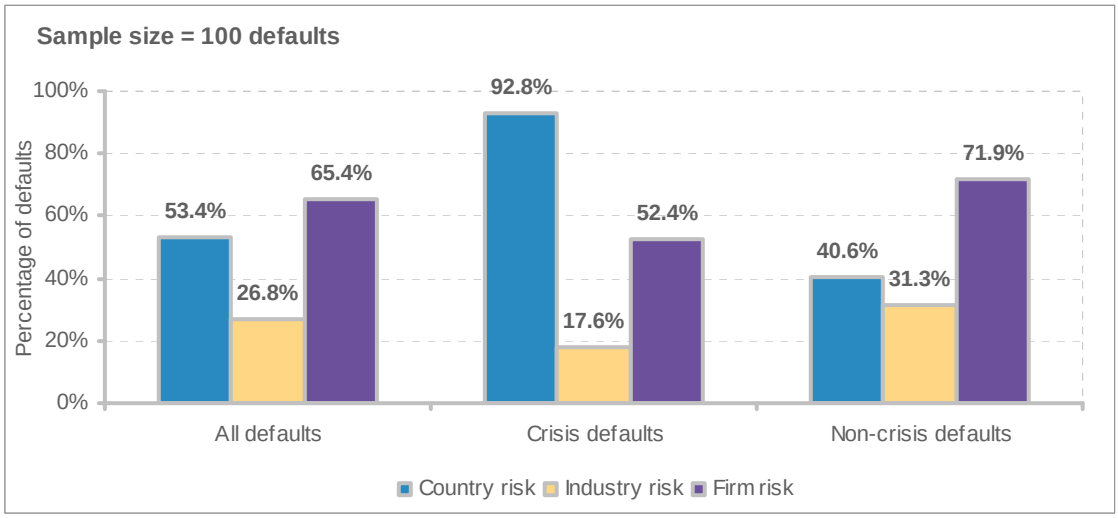
- General industry downturn or the build-up of industry over-supply
- Competition.

Finally, in the firm risk category we include all firm-specific factors:

- High leverage
- High short-term debt and inability to refinance short-term debt
- Weak fundamentals, including operating difficulties or unsuccessful business strategy
- Counterparty or parent distress.

In order to avoid our survey findings being driven by the countries with the largest number of rated defaults – Argentina, Indonesia, Russia, and Mexico, we look at what percentage of defaults in each country happened due to country risk, industry risk, and firm-level risk and then compute a cross-country average, giving each country equal weight. As we see in Exhibit 29, country risk has had overriding importance in corporate and sub-sovereign defaults during sovereign events, being a major factor in 93% of emerging market crisis defaults and causing almost twice as many defaults as firm-specific risk. Moreover, country risk has been very important outside of sovereign events as well, being a major factor in 40% of emerging market non-crisis defaults.

Exhibit 29: The Role of Country Risk, Industry Risk, and Firm Risk in Explaining Emerging Markets Defaults



Exhibits 30 and 31 break down the components of country, industry, and firm risk that have influenced emerging markets corporate and sub-sovereign defaults. The same methodology is followed in creating these exhibits: first, we find the percentage of defaults influenced by each factor in each country, and then we compute an equal-weight average across countries.

Currency devaluations have been a major reason for emerging markets defaults, being a major cause in 46% of crisis-time defaults and almost as detrimental as economic recessions - which in turn have caused 56% of defaults. This vulnerability to currency crises has emerged from large and often unhedged foreign exchange exposures of corporates, as many companies have expanded borrowing in foreign currency while earning revenue in local currency.

Political and civil disturbances and bank runs have been a significant factor in almost 40% of crisis defaults, emphasizing the importance of political risk. External payments moratoria and foreign exchange controls were imposed in Argentina in 2001-2002 and in Russia in 1998, and were a factor in 30% of Argentinean and 100% of Russian rated crisis corporate defaults. The external payments moratoria in Russia and Argentina affected the corporate and banking sectors, but were not extended to the sub-sovereign sector.

While weak fundamentals, unsuccessful business strategy, and operating problems - along with industry downturns and competitive pressures - have driven emerging market defaults outside of sovereign events, high leverage has been very important risk factor both during crises and outside sovereign events.

Exhibit 30: Country Risk Factors Leading to Emerging Markets Defaults

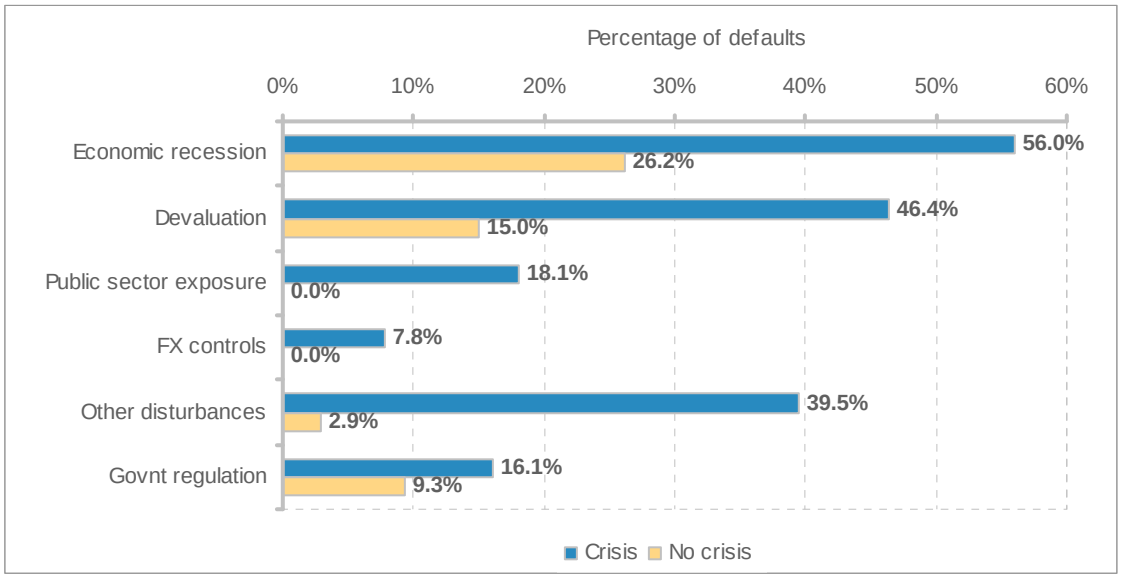
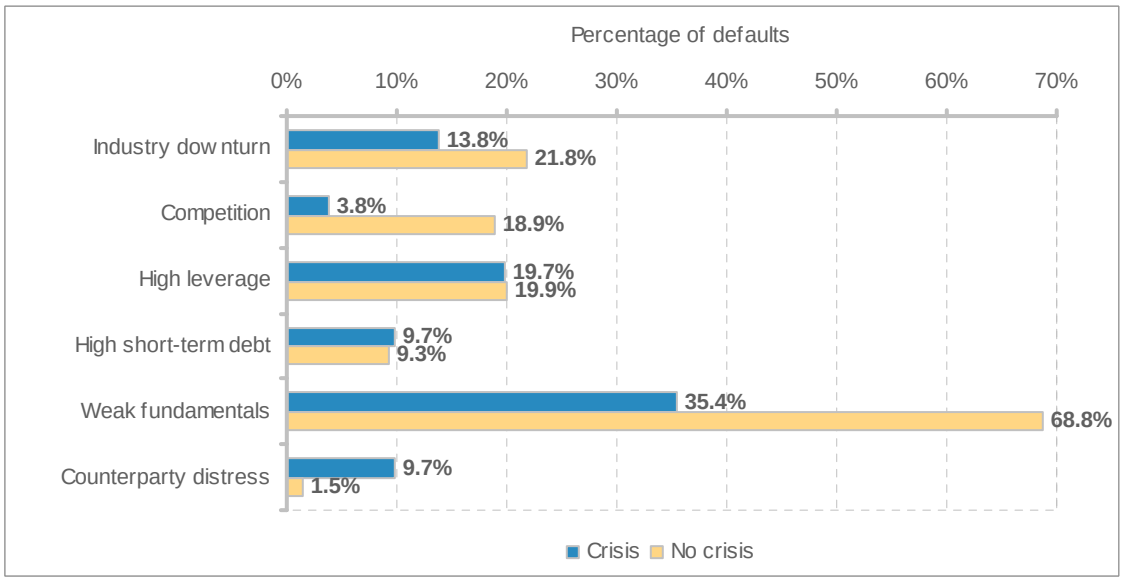


Exhibit 31: Industry and Firm-level Risk Factors Leading to Emerging Markets Defaults



Corporate Experience during Selected Sovereign Crises

In this section we study in detail the crises of Indonesia in 1997-2002, Russia 1998-1999, and Argentina 2001-2002. We describe how the crises developed and focus on their impact on the banking and on the corporate sectors, in order to better understand how country-specific circumstances influenced the magnitude of the spillovers into the corporate sector.

We choose to review three of the most severe sovereign crisis to date. Additionally, the three countries represent very different examples of how the corporate sector was affected. Indonesia represents a case where the external shock from the Asian crisis in Thailand combined with banking and corporate sector vulnerabilities and caused banking and corporate sector crises, which subsequently transmitted to the

sovereign and lead to a sovereign restructuring of loans owed to official creditors (Paris Club).[13] Indonesian corporations also restructured external debt owed to private creditors. At the same time, the specific institutional and political structure of the country contributed to prolonging the economic crisis beyond the duration of the crises in Thailand and Korea and to deepening the impairment of the corporate sector beyond what was implied by the existing vulnerabilities, initially viewed as more benign than the vulnerabilities of Thailand and Korea.

In Russia and Argentina, on the other hand, the government was part of the problem as the weak government position spilled over into a banking and currency crisis. The sovereign default severely affected the banking sector in both countries, but the impact on the corporate sector in Russia was much more limited than in Argentina, particularly due to the low dependence of the Russian corporate sector on bank financing or on international financing. At the same time, government policy in Argentina during the crisis was especially harmful to banks, and the corporate sector was affected not only by the currency devaluation but also by the difficulties in obtaining credit.

The institutional and political structure of the countries also affected the policy-making frameworks and their ability to re-establish investor confidence, which proved crucial in jump-starting the recovery process.[14]

A. Indonesia 1997-2002

The Asian crisis was triggered by the collapse of the Thai baht peg in July 1997.[15] When the baht floated, the Indonesian rupiah, along with the other regional currencies, came under severe attack. The replacement of the managed floating exchange rate regime with a free float on 14 August 1997, and the $23 billion IMF rescue package in November 1997 were not enough to restore confidence amid fears over corporate debts, massive selling of rupiah, and strong demand for dollars.

In June 1997, Indonesia seemed far from crisis. Unlike Thailand, Indonesia had low inflation, a trade surplus of more than $900 million, more than $20 billion of foreign exchange reserves, a relatively good banking sector, and few economic links with Thailand. Moreover, the credit boom of previous years and corporate leveraging were less sizeable in Indonesia than in Thailand and Korea. However, the crisis revealed underlying vulnerabilities in the corporate and banking sectors. During the preceding years, as the rupiah had strengthened against the dollar, a large number of Indonesian corporations had borrowed in U.S. dollars. The unhedged foreign exchange exposures of the corporate sector had coupled with weak supervision of the banking sector. Since 1988, the government had launched a deregulation of the financial sector and the number of commercial banks had expanded suddenly, without adequate supervision and transparency. Banks ignored the fact that lending in foreign exchange involved substantial credit risk and maturity mismatches in banks' portfolios further aggravated the problem. Of the US$118 billion corporate debt in 1997, nearly 60 percent was owed to foreign creditors and about half of the domestic debt was denominated in foreign currency.

The devaluation of the currency caused the unraveling of an enormous internal debt crisis (Exhibit 32). In June 1997, the banking sector in Indonesia was largely solvent, with a surplus of assets compared to liabilities of 8%. By October 1997, 50 banks were considered insolvent. The crisis intensified in November when the effects of the devaluation materialized on corporate balance sheets. Companies that had borrowed in dollars faced higher debt costs, and many reacted by buying dollars through selling rupiah, further undermining the value of the currency. The inflation of the rupiah and the resulting steep hikes in food prices led to riots throughout the country. More than 500 people died in Jakarta alone. Nominal US dollar GDP per capita fell 42.3% in 1997.

The political and institutional structure of the country exacerbated the underlying problem of investor confidence, prolonged the crisis, and compounded the economic damage. After a series of decisive actions at

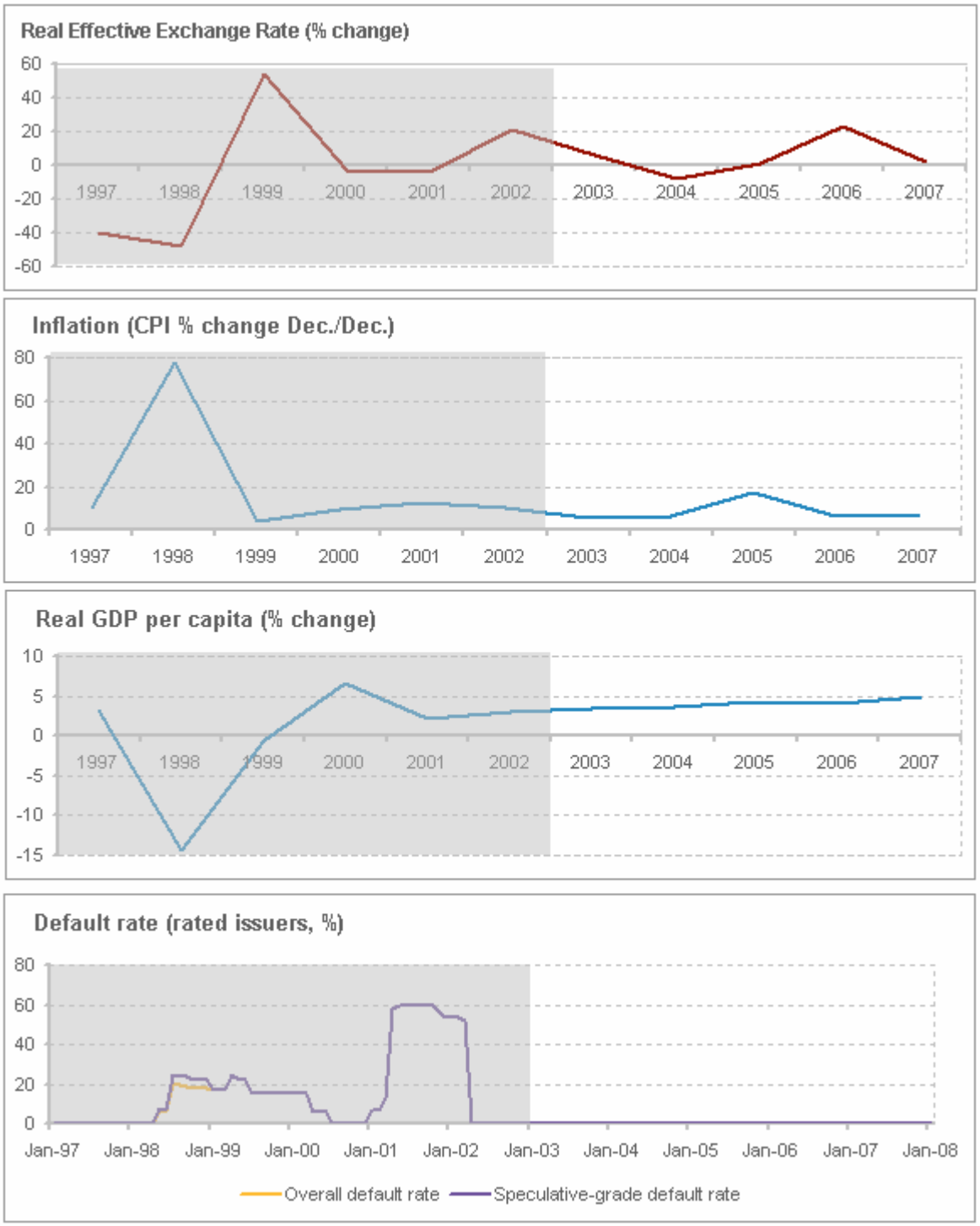
13 A smaller amount of syndicated London Club bank debt was also restructured in line with Paris Club comparability of treatment requirements.

14 For an insight on political risk, see Moody's Methodology "Sovereign Bond Ratings", September 2008 and Moody's Special Comment "Politics and Sovereign Ratings: The case of Argentina and Venezuela", November 2008.

15 Sources for this section include: Arellano, C. and Kocherlakota, N., 2008, "Internal Debt Crises and Sovereign Defaults", NBER Working paper 13794, February; Kawai, M., 2000, "The Resolution of the East Asian Crisis: financial and corporate sector restructuring", Journal of Asian Economics 11, p.133-168; Pempel, T., 1999, "The Politics of the Asian Economic Crisis", Cornell University Press; Moody's reports.

the outset of the crisis, toward the beginning of 1998 the policy of the government became increasingly unpredictable, prompting further investor exit.

Exhibit 32: Indonesian Crisis, 1997-2002



With the currency having depreciated by as much as 86% since the outbreak of the crisis, the formal economy ground to a halt. Almost half of Indonesian corporations were driven into insolvency and many more faced difficulties in meeting debt-servicing obligations. As the cost of servicing dollar-denominated loans increased several times, even the healthiest of firms stopped repayments. The domestic banking system was by now at the brink of systemic insolvency. All local lending had stopped. Given the limitations of the distressed banking

system, the prospects for new corporate financing were limited. Similarly, corporate recapitalization plans that relied heavily on equity markets' capacity were not realistic in the depressed stock market environment.

Trade fell rapidly as imported goods became prohibitively expensive. Companies faced both decreased revenue as domestic demand declined, and higher input costs. Many exporters suffered as well, as international banks declined to open letters of credit with Indonesian firms. Moreover, with a significant share of exports sold to neighboring countries, the regional recession had impacted the demand for exports. Inflation had begun to accelerate rapidly, and as firms began to cut back operations or close down, unemployment accelerated as well.

By now, the crisis was as much political as economic. The economy could not recover until the exchange rate recovered; the exchange rate could not recover until investors again had some confidence in the direction of government policy. The same institutional structure that had permitted the government to respond decisively to the initial stages of the crisis, proved a devastating liability once local and foreign investors concluded that President Suharto could no longer be counted on to deliver stable policy environment. As Thailand and Korea began to stabilize in the first half of 1998, Indonesia went from bad to worse.

President Suharto's credibility was damaged, but since he effectively controlled the presidential selection process and the military, a waiting process followed where rapidly rising economic hardship and dislocation generated mounting protests, violence, and elite disaffection. Finally, in late May 1998 Suharto stepped down amid a sea of violence.

The large private sector defaults and bank failures generated extensive pressure for the government to transfer funds to banks. By January 1998, the government had provided liquidity to banks that amounted to 7% of 1997 GDP. By March 1998 the number of insolvent banks increased to 154, which accounted for half of the banking system. These banks had large levels of non-performing loans, in some cases exceeding 90% of loans. By March 1999 the banking system had a deficit of assets compared to liabilities of -34%. In the meantime, government debt had ballooned, in large part because of the fiscal burden associated with bailing out the banks. In September 1998, a part of government official external debt to Paris Club creditors was rescheduled.[16]

In Indonesia, liquidation of a given debt book took much longer because many debts were in default simultaneously. Initially, only courts handled liquidations of failing firms. But as courts quickly became overloaded with bankruptcy cases to resolve, the Jakarta Initiative Task Force (JITF) was created as a way to allow for less formal workouts. However, both the court system and the JITF had very limited success in expediting the processing of non-performing loans. By October 1999, only 69 cases were settled out of the 462 cases filed in courts and JITF. The institutional capacity was insufficient to meet the extraordinary demand for debt settlement posed by the massive bankruptcies.

The overall slow pace of corporate restructuring in Indonesia could be attributed to several factors. First, the sheer number of debtors and creditors involved. Second, the paucity of information on many firms – creditors, particularly foreign creditors who held 60 percent of corporate debt, did not have access to full information on the financial conditions of their debtor corporations. Third, apprehension about strategic defaults – foreign creditors believed that providing a haircut (i.e., debt relief) would induce further strategic defaulting. Fourth, the distress in the banking system – domestic banks were largely undercapitalized or insolvent and did not have sufficient financial capacity to strike a negotiation deal. Fifth, the weakness of the judicial system. Corporate debtors felt a lack of pressure to take necessary action because bankruptcy and foreclosure laws were not an effective threat to them and because there were not enough economic incentives for debt negotiation. Finally, domestic political uncertainty also dampened the pace of debt agreements, and perhaps the secondary priority accorded to corporate sector debt restructuring by the international community played a role as well.

At the end, Indonesia suffered a massive economic contraction. Before the crisis, the exchange rate between the rupiah and the dollar was roughly 2000 rupiah to 1 US$. The rate had plunged to over 18,000 rupiah to 1 US$ at various points during the crisis. Real GDP declined by 13.1% in 1998. Estimates suggest that per

16 Further government debt rescheduling followed: Paris Club official debt in 2000 and 2002, and a smaller amount of London Club commercial bank debt in 1999, 2000 and 2002, in line with comparability of treatment requirement of Paris Club reschedulings.

capita purchasing power parity income in Indonesia did not recover to 1997 levels until 2002. Indeed, in nominal dollar terms, the economy of Indonesia was still smaller in 2002 than it had been in 1997.

B. Russia 1998-1999

The Russian default was the next stage in the global financial contagion that began with the devaluation of the Thai baht in July 1997.[17] The devaluations in Asia contributed to a slide in world commodity prices. The price of oil plunged towards the end of 1998 and along with the slide in nonferrous metals demand seriously affected Russian budget revenues. Furthermore, the exogenous shocks and the shifting investor confidence in the aftermath of the Asian crisis combined with stagnating domestic economic activity, chronic budget deficits in the years preceding the crisis, and uncertainty about the sustainability of domestic policies. In 1998, declining productivity, an artificially high exchange rate to avoid public turmoil, inconsistent fiscal and exchange rate policies, non-payment of taxes by the energy and manufacturing industries, growing government debt on wages - especially in the remote regions, and the $5.5 billion cost of the first war in Chechnya were the background to the meltdown.

Russia had escaped a ruble devaluation thanks to previously pledged IMF support and investor demand for high-yield Russian treasury bonds. But in mid-1998, as the ruble came under pressure from Russia's large budget deficit and first post-communist trade deficit, investors panicked. As investors pulled out of domestic markets, securities and equity prices collapsed. As the central bank intervened to support the domestic currency, capital outflows put pressure on reserves.

In June 1998, in an effort to prop up the currency and stem the flight of capital, GKO interest rates were hiked to 150%. In July, despite the IMF bailout, monthly interest payments on Russia's debt rose to a figure 40 percent greater than its monthly tax collections. Additionally, on July 15 the State Duma refused to adopt most of the government anti-crisis plan so that the government was forced to rely on presidential decrees. The manifest inability of the Russian government to implement a coherent set of economic reforms led to a severe erosion in investor confidence. Investors fled the market by selling rubles and Russian assets (such as securities), which also put downward pressure on the ruble. This forced the central bank to spend its foreign reserves to defend the ruble, which in turn further eroded investor confidence and undermined the ruble. It is estimated that between October 1, 1997 and August 17, 1998, the central bank expended approximately $27 billion of its U.S. dollar reserves to maintain the floating peg.

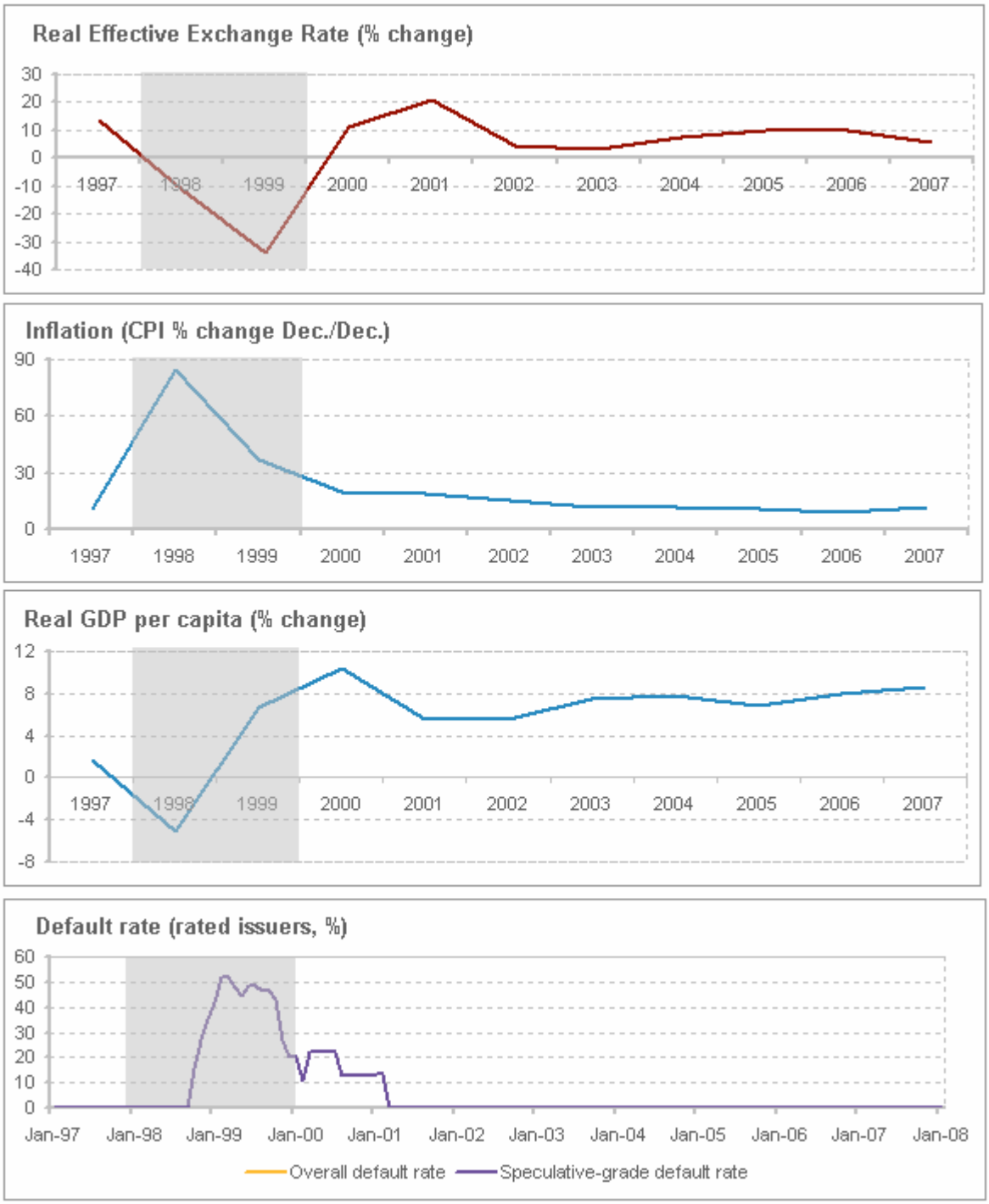
On August 13, 1998, the Russian stock, bond, and currency markets collapsed as a result of investor fears that the government would devalue the ruble, default on domestic debt, or both. Annual yields on ruble-denominated bonds were more than 200 percent. The stock market had to be closed for 35 minutes as prices plummeted. When the market closed, it was down 65 percent with a small number of shares actually traded. From January to August the stock market had lost more than 75 percent of its value.

Pressure on the banking sector had started in December 1997 as depositors started withdrawing their funds, but accelerated in July-August 1998 and affected many banks, including the state-owned Sberbank which held 85% of total household deposits. On 17 August 1998, forced by the escalating payments crisis, the government announced a series of emergency measures: a large devaluation of the ruble, unilateral restructuring of ruble-denominated sovereign debt, and a 90-day partial moratorium on private sector payments on external liabilities enforced through extensive capital and exchange controls. The controls extended to all legal entities – banks and corporates, and covered principal payments on foreign loans with initial maturity over 180 days, and payments of foreign currency under forward contracts, insurance payments on collateral credits, and repurchase agreements. Interest payments were not restricted. The moratorium, in addition to bank exposures to sovereign debt and the ruble devaluation, contributed to the defaults on foreign obligations of many Russian banks. At the same time, conversion operations for non-resident accounts used for investing in ruble-denominated government securities were suspended. Other controls were also tightened: export surrender requirements were increased from 50% to 75%, and a 100% deposit requirement on advance payments for imports was introduced.

17 Sources for this section include: IMF, 2003, "Crisis Resolution in the Context of Sovereign Debt Restructuring: A Summary of Considerations", January 28; Gelpern, A., 1999, "Domestic Bonds, Credit Derivatives, and the Next Transformation of Sovereign Debt", Chicago-Kent Law Review, vol. 74, p.101-133; Moody's reports.

The announcement of the default, followed by the dissolution of the existing government, increased pressures on the already weak banking system and triggered a severe banking crisis. Deposit withdrawals continued and in June-September 1998 Sberbank lost approximately 19% of its domestic deposits. Interbank market activity and the payments system slowed dramatically, and foreign credit lines dried out. The ruble, which was considered significantly overvalued at the time of default, depreciated sharply despite the exchange controls. On 2 September 1998, the currency was officially floated. The depreciation passed on to prices and inflation surged (Exhibit 33). As food prices rose, social protests were held in many cities.

Exhibit 33: Russian Crisis, 1998-1999



In the run-up to the 1998 crisis, foreign investors had bought local-currency treasury bills (GKOs), which were hedged using forward currency contracts with Russian banks. The banks promised to deliver dollars in

exchange for rubles at a set rate in the future, taking the risk if the ruble loses value. In this strategy to shift ruble risk from the foreign investors back to the Russian government via the Russian banks, market participants widely assumed that the banks had implicit government backing. The move backfired as the government-imposed exchange controls caused banks to breach their forward contracts. Even though the moratorium on external private sector payments lasted only 90 days, it contributed to the default of many Russian banks. The experience also pointed to the fact that the willingness of local counterparties to take local risks comes with embedded exposure to local institutions.

Subsequently, the central bank announced a blanket guarantee for all household deposits, and required that deposits held by six large Moscow banks (13% of total deposits) be transferred to Sberbank. The central bank provided considerable support to Sberbank and selected financial institutions, including through the creation of an overnight unsecured loan facility and an easing of required reserves. In subsequent months, the authorities put in place a comprehensive bank restructuring strategy, which involved closing a large number of banks and helping rebuild a core group of viable institutions.

Another sector that was seriously affected in Russia was the sub-sovereign sector as the devaluation of the ruble and the general economic deterioration put regional revenues and expenditures under pressure. The economic and finanical crisis at the national level coupled with poor budget revenues, increases in tax arrears in the regions, and restricted revenue base or revenues concentrated in volatile sectors. Responsibilities associated with repaying debt were not respected by certain regions and they did not adequately provision or plan in advance. Moreover, the low payment discipline on the sovereign level was followed by some regions. In addition, political considerations played a role as many regions refused to assume responsibility for some of the debt obligations "offloaded" to them by the central government. The crisis resulted in a sector-wide default of Russian regions, ultimately involving more than 50 regions (out of total of 89), RUB 1-2 billion of domestic agro-bonds, and more than RUB 22 billion of total debt.

The magnitude of the spillover of the Russian financial crisis to the corporate sector was limited as the banking system was not a major source of credit to private firms and as relatively few firms had access to international finance. In Russia, domestic credit was less than 10% of GDP and the external debt of banks and firms was also under 10% of GDP, concentrated in the oil sector. As a result, Russia's sovereign default and the associated banking crisis had a comparatively limited impact on the corporate sector. Some external corporate debt was rescheduled informally, but no systemic framework was put into place.

Russia recovered fast from the 1998 finanical crisis aided by the rise of world oil prices in 1999-2000 and the infusion of funds in the economy. Russia ran a large trade surplus in 1999 and 2000. Domestic industries, such as food processing, benefited from the devaluation, which caused a steep increase in the prices of imported goods. The large dependency on barter and non-monetary instruments of exchange had limited the impact of the financial crisis on many producers. Finally, since the 1998 crisis, the ability of the Russian government to keep social and political pressures under control has played a vital role in bringing about the economic recovery.

C. Argentina 2001-2002

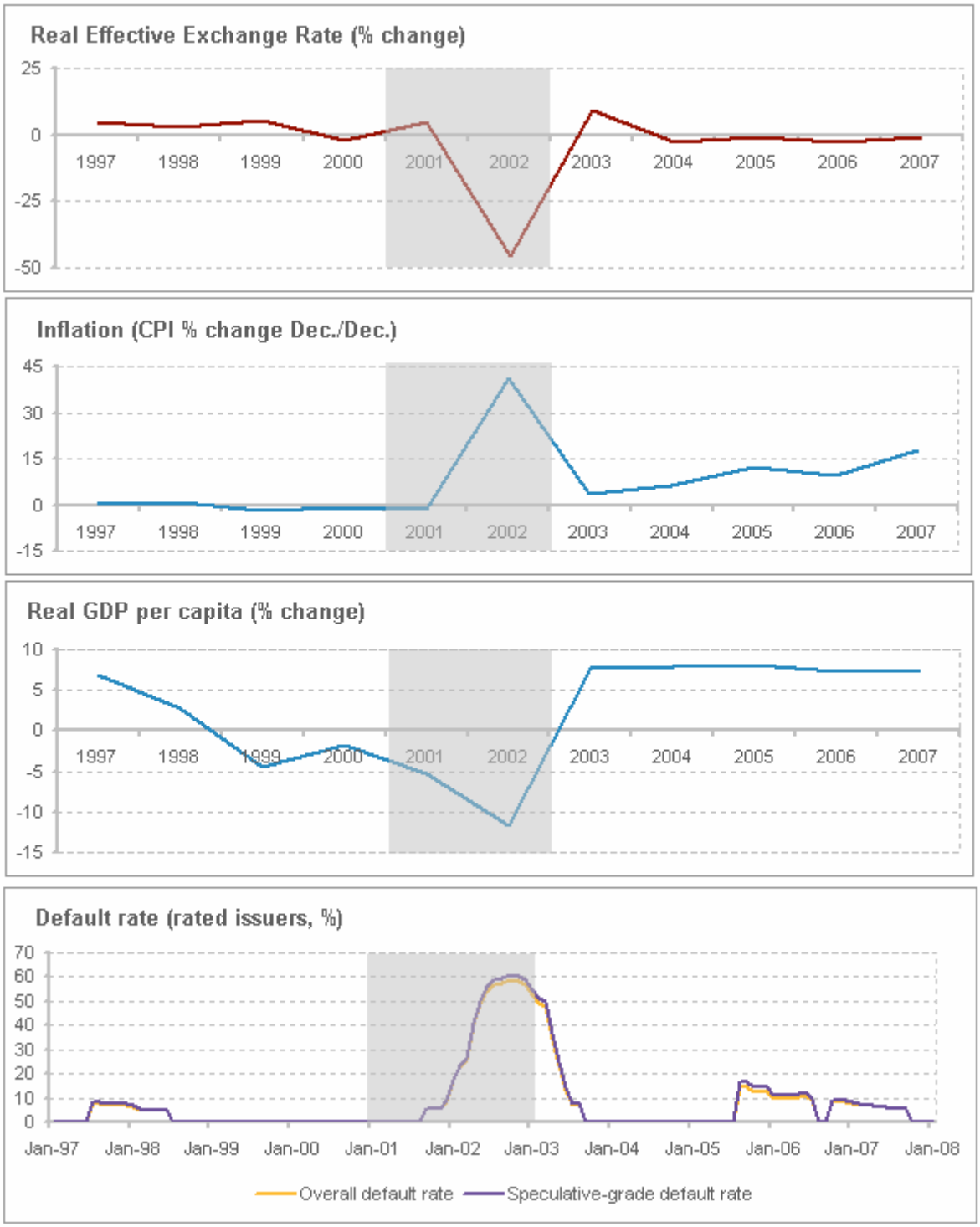
The severity of the 2001-2002 Argentinean crisis was striking as the crisis became a combination of a severe systemic banking crisis, a sovereign debt crisis, a currency crisis, and a severe political crisis.[18]

The Argentinean crisis of 2001 was rooted in fiscal imbalances, real overvaluation, and self-fulfilling investor pessimism triggering a capital flow reversal. Three key vulnerabilities, independently not higher than those affecting other countries in the region, reinforced each other in a perverse way and jointly led to a much larger vulnerability to adverse external shocks than in any other country in the region: the hard peg adopted in a

18 Sources for this section include: Edwards, S., 2002, "The great exchange rate debate after Argentina", North American Journal of Economics and Finance 13, p.237–252; IADB, 2005, "Unlocking Credit: The Quest for Deep and Stable Bank Lending", Chapter 5: Banking Crisis Resolution; IMF, 2003, "Crisis Resolution in the Context of Sovereign Debt Restructuring: A Summary of Considerations", January 28; IMF, 2003, "Lessons from the Crisis in Argentina", October 8; Jobst, A., 2006, "Sovereign Securitization in Emerging Markets", Journal of Structured Finance, vol. 12 (3), p.2-13; Perry, G. and Serven, L., 2003, "The Anatomy of a Multiple Crisis: Why Was Argentina Special and What Can We Learn from It", World Bank Research Working Paper 3830, June; Moody's reports.

context of wage and price inflexibility; fragile fiscal position; and pervasive mismatches in the portfolios of banks' borrowers.

Exhibit 34: Argentinean Crisis, 2001-2002



In 1999 Argentina entered a recession which was to last three years and end in a collapse (Exhibit 34). Argentinean exports were harmed by the devaluation of the Brazilian real in 1999 and the considerable international revaluation of the dollar, effectively revaluing the peso against its major trading partners, Brazil and the euro area. Unemployment had risen to a critical point. Policy choice, however, presented a dilemma. From the point of view of the real economy, the Argentinean trade structure made a peg to the dollar highly

inconvenient. From a financial point of view, the strong preference of Argentineans for the dollar as a store of value - after the hyperinflation and confiscation experiences of the 1980s - had led to a highly dollarized economy in which a hard peg or even full dollarization seemed reasonable alternatives. Moreover, the possible solution - abandonment of the exchange peg and a voluntary devaluation of the peso - was considered a political suicide.

Throughout its currency board experience, Argentina had a highly dollarized economy - a high percentage of banks' portfolios was dollar-denominated, and more than 80% of public debt was foreign currency-denominated. Banks were exposed to exchange rate risk as large amounts of dollar lending was extended to borrowers with peso-denominated sources of income, and also became increasingly exposed to government risk.

Capital flow retrenchment that had started after the Russian crisis combined with the fragile fiscal position, the vulnerability of the Argentinean banking system, and weak policy responses and escalated into a banking crisis in 2001. Bank runs had started in November 2000. Earlier runs perceived foreign and public banks as stronger and thus affected only weaker banks. However, the combination of growing public debt, increasing overall fiscal deficits, and no sign of economic recovery during 2001 fueled perceptions of government default and abandonment of convertibility, and exposed the risks in banks' balance sheets. The waves of bank runs that followed in March 2001, July 2001, and November 2001 became systemic and affected all banks. Central bank liquidity support had begun in July 2001; however, a significant withdrawal of deposits took place and the banking system lost about 20% of deposits by end-2001.

The bank runs of November 2001 resulted in bank and capital controls, sovereign default, devaluation, and the fall of the government. In the midst of a four-year recession and increasingly contentious disagreements with the provinces regarding revenue transfers, spreads of over 2,000 bps were making it increasingly difficult to meet debt-service payments on rolled-over debt. In November 2001 Argentina announced a restructuring of roughly US$100 billion domestic and external sovereign debt owed to private creditors.

On 1 December 2001, the authorities imposed deposit withdrawal restrictions (*corralito*). The measures effectively froze all bank accounts for twelve months, allowing for only minor sums of cash to be withdrawn. Mass protests followed the deposit freeze.

On December 20, President de la Rua resigned. In two weeks, three presidents followed in quick succession, until Eduardo Duhalde was appointed interim President. The new authorities were quick to denounce the "old" economic policies - including the currency board - as inefficient, recessionary, and corrupt. In designing a new policy, however, they did not follow any of the blueprints that had been thoroughly discussed in preceding months. Instead, they implemented a series of contentious measures: The peso was devalued, most of public debt was repudiated, and dollar-denominated private debts were "pesoized" at different and arbitrary rates. Moreover, the deposit freeze was generalized and strengthened, and the public was forbidden to transfer deposits across banks. This only caused political instability to grow as public demonstrations intensified, and generated a massive collapse in the demand for money.

Due to the severe government funding constraint following the exclusion of Argentina from international capital markets, the authorities had not put in place a serious and comprehensive program for bank restructuring to address bank solvency issues. Moreover, regulatory independence - a necessity for credible restructuring programs - had been significantly weakened during 2001 with the limitations imposed on the autonomy of the central bank and the dismissal of its president.

Government policy at the beginning of 2002 severely damaged the banking sector and destroyed the franchise value of banks by rendering the payments system ineffective. First, banks' soundness was hampered by an exchange of government bonds held by banks for illiquid government bonds. Second, the government imposed an asymmetric exchange of dollar bank assets and liabilities into pesos. Dollar-denominated loans were converted into pesos at the pre-devaluation exchange rate of 1 to 1, while dollar-denominated deposits were converted into pesos at the rate of 1.4 pesos per dollar. This policy benefited borrowers, but had severe consequences for banks' capital. Third, banks' foreign obligations remained in foreign currency, while banks assets were converted to pesos, introducing a large foreign currency exposure into banks' balance sheets.

Fourth, a tighter freeze was imposed on time deposits as the government focused on containing deposit losses rather than restoring banking system solvency. In the process, banks lost their franchise value as the payments system became impaired. Fifth, in February 2002, the government introduced more exchange and capital controls in an attempt to contain deposit losses and limit the effect of the outflows on the exchange rate. This further complicated banks' operations because payments abroad needed the approval of the central bank. The combination of all the measures implied a breach of existing contracts and significant legal uncertainty, which prompted the headquarters of foreign banks to deny financial support to their branches and subsidiaries. By mid-2002, the payments system was completely inoperative and banks' loan portfolios continued to deteriorate because no restructuring program was in place. Large deposit losses occurred in 2002, even with the comprehensive restrictions on withdrawals.

With a more competitive and flexible exchange rate, stabilization began in end-2002. Several domestic debt operations were conducted in May-September 2002, including deposit exchange schemes and bonds issued to banks to compensate them for the asymmetric pesoization of assets and liabilities. The runs on banks stabilized following a number of measures, including the capital controls, the gradual lifting of the deposit freeze, and the voluntary swaps of time deposits for government bonds. The monthly cash withdrawal limits on the *corralito* were relaxed in October 2002 and sight deposit restrictions were fully lifted in December. Frozen time deposits were gradually liberalized over 2003. However, little progress had been made in restructuring foreign-held sovereign debt; indeed, a successful foreign debt restructuring was not concluded until 2005.

Argentina's sovereign crisis spilled over into the corporate sector. Firms had borrowed extensively from the local banking system - domestic credit was in excess of 20% of GDP, and the private sector's external debt exceeded 20% of GDP. Because of the relatively small scale of Argentina's exports, slightly over 9% of GDP in 2000, and extensive liability dollarization, many firms without export earnings had foreign currency-denominated debts. The sharp depreciation following the abandonment of the currency board arrangement presented a significant threat to the solvency of many firms. Argentina "pesoized" the domestic debts of Argentine firms in order to try to limit these pressures.

In addition to the rising burden of servicing debt in foreign currency, the corporate sector was negatively affected by the higher cost of imported materials and by difficulties obtaining credit. The peso's huge depreciation prompted inflation as Argentina depended heavily on imports (Exhibit 34). Further, during the economic collapse, many business owners and foreign investors had transferred their funds overseas. As a result, many small and medium-size enterprises closed due to lack of capital.

Finally, the exchange and capital controls imposed in January 2002, affected many firms. A dual exchange rate regime was introduced, as well as prior authorization requirements for transfers abroad, and import payment restrictions. Deposits restricted by the *corralito* could be used to purchase foreign exchange for payments of imports of goods and services, profits and dividends, financial obligations (interest and principal) and other current account operations, particularly for trade-related operations. However, prior authorization from the central bank was needed for most international transfers: debt service, profit remittances and dividends, purchase of foreign securities and other portfolio investment abroad, and foreign exchange sales to non-residents above certain limits.[19] As a result, the exchange and capital controls along with the pesoization of contracts and the significant devaluation contributed to corporate defaults during the crisis.

The sub-sovereign sector in Argentina was also heavily affected by the economic crisis at the national level. As tax revenues were shrunk by the deepening recession, the public sector borrowed more and more to cover deficits. In light of the overall reduction of tax revenue flows and the peso devaluation, several provinces defaulted on their debts, including the Province of Buenos Aires - the largest non-US sub-national default in history.[20] At the height of its national crisis in early January 2002, the Argentinean government abstained from restricting all other public sector debtors from honoring their own debts with foreign creditors or denominated in foreign currency. However, as business activity came to be virtually paralyzed as a result of the freezes on bank deposits and the civil unrest, many provincial and municipal governments ultimately defaulted on their debt payments.

19 Other exchange controls included surrender requirements on export proceeds and new foreign financing, the control of import financing including minimum maturity financing, restrictions on prepayments, and strict limitations on interbank currency trading.

20 The Province of Buenos Aires was the largest sub-national debtor outside North America by April 2002. It had to suspend payments on its US$5 bn bonded debt on tax coparticipation revenues.

D. Crisis Spillovers into the Corporate Sector

As the case studies above illustrate, even though non-financial firms are not major direct creditors of the sovereign, sovereign crises can trigger financial distress in the corporate sector through a number of channels:

- Exchange rate depreciation: As many corporates have unhedged foreign exchange exposures due to combining foreign exchange borrowing with earnings in local currency, sharp depreciation can increase the burden of servicing foreign currency denominated debt and undermine firms' net worth.
- High interest rates: As rising interest rates are used as a defense against the exchange rate depreciation, cost of funds for firms increases and firms with short-duration local currency debt can be adversely affected.
- Domestic credit constraints: As banking sector weaknesses may create a domestic credit crunch, corporate access to domestic credit could be impacted, exacerbating the impact of reduced access to external credit.
- Limited external market access: Macroeconomic instability can create difficulties accessing capital markets and rolling over short-term debts.
- Delayed payments: Repayments from domestic customers could be delayed, including sovereigns themselves and sovereign-owned entities.
- Inflation: Inflation fuelled by exchange rate depreciation can raise firm's input costs.
- Falling demand: As unemployment increases and domestic incomes shrink, domestic demand falls. In addition, regional contagion could reduce export demand as well.
- Government interference: As the government tries to prevent capital outflows, the imposition of external payments moratoria could directly trigger corporate defaults on external obligations, as could forced conversion of foreign currency-denominated obligations into local currency.
- Changes in regulation: Unfriendly changes in regulations, including hikes in export tariffs and taxes could affect corporates adversely.
- Labor relations: Civil disturbances or prolonged labor strikes with excessive demands will also impact corporates adversely.

The magnitude of the spillovers of sovereign crises into the corporate sector has varied across countries and not surprisingly seems to have been more limited in countries with underdeveloped domestic financial systems and limited access to external market financing for corporate borrowers, although it is not always clear whether the causality of the crisis has gone from the sovereign to the corporate sector or the other way around.[21]

The combination of increased real debt burden and difficulties rolling over short-term debts have often called for some form of corporate debt restructuring after a sovereign crisis. The approaches followed have generally depended on the country's bankruptcy legislation and the established system of creditor rights, which have provided the basic framework for restructuring corporate external and internal debt. In circumstances of widespread financial distress, in order to mitigate the problem of a large number of firms entering bankruptcy procedures at the same time, processes for encouraging out-of-court agreements have been established. These frameworks have typically focused on replicating "out of court" the basic features of bankruptcy regimes—creditors have agreed to refrain from litigation and provide new financing while restructuring terms were negotiated.

The existence of a consistent policy framework has been key to successful bank and corporate restructuring in a systemic crisis; however it has often been missing due to political economy factors, and has often come with significant fiscal costs.[22]

21 See also IMF, 2003, "Crisis Resolution in the Context of Sovereign Debt Restructuring: A Summary of Considerations", January 28.
22 See Claessens, S., Klingebiel, D. and Laeven, L., 2001, "Financial Restructuring in Banking and Corporate Sector Crises: What Policies to Pursue?", NBER Working paper 8386, July.

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Appendix I. Number and Rating Distribution of Issuers in the Sample

Exhibit 1.1: Number of Issuers in Each Country in the Sample, Dec. 2007

Emerging market country	Number of rated issuers in sample	Advanced country	Number of rated issuers in sample
Argentina	22	Australia	125
Brazil	44	Austria	22
Bulgaria	2	Belgium	22
Chile	14	Canada	252
China	11	Denmark	22
Colombia	3	Finland	17
Czech Republic	3	France	129
Dominican Republic	2	Germany	123
Egypt	1	Greece	8
Hungary	7	Iceland	6
India	13	Ireland	51
Indonesia	6	Italy	88
Israel	3	Japan	202
Korea	36	Luxembourg	85
Malaysia	17	Netherlands	214
Mexico	54	New Zealand	23
Panama	5	Norway	24
Philippines	7	Portugal	22
Poland	3	Spain	65
Russia	42	Sweden	34
South Africa	14	Switzerland	27
Taiwan	3	United Kingdom	306
Thailand	8	United States	3635
Turkey	0		
Ukraine	22		
Uruguay	3		
Venezuela	2		
Total	347	Total	5502

Exhibit 1.2: Rating Distribution of Emerging Market Issuers, Dec. 2007

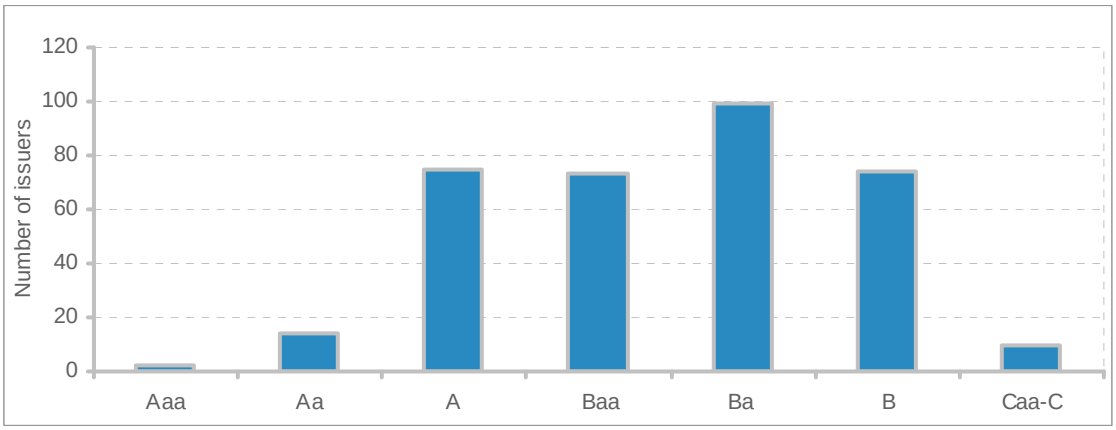
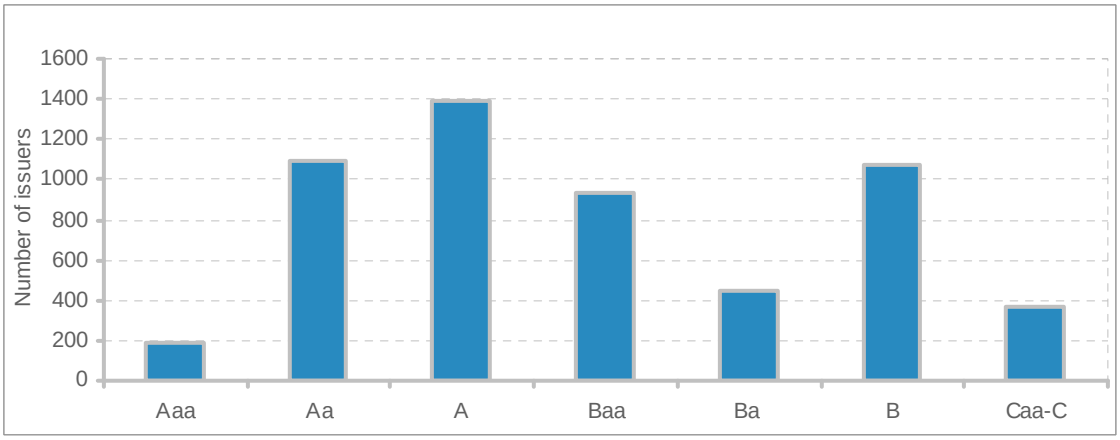


Exhibit 1.3: Rating Distribution of Advanced Countries' Issuers, Dec. 2007



Appendix II. Economic Recessions

Emerging Market Country	Recessions
Argentina	1995, 1999-2002
Brazil	1998-1999, 2001, 2003
Bulgaria	1995-1997
Chile	1999
China	
Colombia	1998-1999
Czech Republic	1997-1998
Dominican Republic	2003-2004
Egypt	
Hungary	
India	
Indonesia	1998-1999
Israel	2001-2003
Korea	1998
Malaysia	1998, 2001
Mexico	1995, 2001-2002
Panama	1995, 2000-2001
Philippines	1998, 2001
Poland	
Russia	1995-1996, 1998
South Africa	1998
Taiwan	2001
Thailand	1997-1998
Turkey	1999, 2001
Ukraine	1995-1998
Uruguay	1995, 1999-2002
Venezuela	1996, 1998-1999, 2002-2003

Advanced Country	Recessions
Australia	1982, 1983, 1991
Austria	1981, 1993
Belgium	1993
Canada	1982, 1990-1992
Denmark	1980-1981, 1988, 1993
Finland	1990-1993
France	1993
Germany	1981-1982, 1993, 2002-2003
Greece	1981-1983, 1987, 1990, 1992-1993
Iceland	1983, 1988-1989, 1991-1992, 1995, 2002
Ireland	1983
Italy	1993, 2003, 2005
Japan	1993, 1998-1999, 2001
Luxembourg	1995
Netherlands	1980-1982, 1993, 2002-2003
New Zealand	1983, 1987-1992, 1998
Norway	1982, 1988
Portugal	1984, 1993, 2003
Spain	1981, 1993
Sweden	1981, 1991-1993
Switzerland	1982, 1991-1993, 1995, 2003
United Kingdom	1980-1981, 1991-1992
United States	1980, 1982, 1991, 2001

Appendix III. Defaulted Emerging Market Debt – Crises Years

Defaulting Issuer	Country	Debt Type	Seniority	Coupon	Maturity Date	Default Date	Default Amount (US$)	Default Price (US$)
ACINDAR Industria Argentina de Aceros S.A.	Argentina	Bond	Sr. Unsecured	11.25	2/15/2004	12/19/2001	100	23
APP International Finance Company B.V.	Indonesia	Bond	Sr. Secured	11.75	10/1/2005	3/12/2001	450	20
Autopistas Del Sol SA	Argentina	Bond	Sr. Unsecured	9.35	8/1/2004	2/1/2002	170	23
Autopistas Del Sol SA	Argentina	Bond	Sr. Unsecured	10.25	8/1/2009	2/1/2002	210	22
Banco Comercial S.A.	Uruguay	Bond	Sr. Unsecured	8.875	5/15/2009	11/15/2002	100	35
Banco de Galicia y Buneos Aries	Argentina	Bond	Sr. Unsecured	9	11/1/2003	6/1/2002	200	20
Banco Hipotecario S.A.	Argentina	Bond	Sr. Unsecured	12.625	2/17/2003	3/15/2002	125	25
Buenos Aires, City of	Argentina	Bond	Sr. Unsecured	11.25	4/11/2007	4/11/2002	250	15
Buenos Aires, City of	Argentina	Bond	Sr. Unsecured	9.5	7/7/2003	4/11/2002	88.4	30
Buenos Aires, Province of	Argentina	Bond	Sr. Unsecured	12.75	8/1/2003	1/30/2002	100	20
Cablevision SA	Argentina	Bond	Sr. Unsecured	12.5	3/2/2003	2/15/2002	100	22
Cablevision SA	Argentina	Bond	Sr. Unsecured	13.75	4/30/2007	2/15/2002	250	22
Cablevision SA	Argentina	Bond	Sr. Unsecured	13.75	5/1/2009	2/15/2002	275	22
Compania de Alimentos Fargo S.A.	Argentina	Bond	Sr. Unsecured	13.25	8/1/08	2/1/2002	120	15
Compania Latinoamericana Infraestructura & Servicios S.A.	Argentina	Bond	Sr. Unsecured	11.625	6/1/2004	12/1/2002	100	10
CTI Holdings S.A.	Argentina	Bond	Sr. Unsecured	0	4/15/2008	3/28/2002	262.8	5
Daewoo Corporation	Korea	Bond	Sr. Unsecured	5	10/18/2049	10/18/1999	111.3	84.5
Daewoo Corporation	Korea	Bond	Sr. Unsecured	0	12/31/2007	10/18/1999	55	66
Daewoo Corporation	Korea	Bond	Sr. Unsecured	0	12/31/2004	10/18/1999	75	31
FSW International Finance Company B.V.	Indonesia	Bond	Sr. Secured	12.5	11/1/2006	4/23/1998	135	20
Globo Comunicacoes e Participacoes S.A.	Brazil	Bond	Sr. Unsecured	10.5	12/20/2006	10/30/2002	250	19
Globo Comunicacoes e Participacoes S.A.	Brazil	Bond	Sr. Unsecured	10.625	12/5/2008	10/30/2002	500	19
Globo Comunicacoes e Participacoes S.A.	Brazil	Bond	Sr. Unsecured	9.875	12/20/2004	10/30/2002	100	18
IMASAC S.A.	Argentina	Bond	Sr. Unsecured	11	5/2/2005	4/30/2002	80	30
IMPSAT Fiber Networks, Inc.	Argentina	Bond	Sr. Unsecured	12.125	7/1/2003	12/17/2001	125	4
IMPSAT Fiber Networks, Inc.	Argentina	Bond	Sr. Unsecured	13.75	2/15/2005	12/17/2001	300	4
IMPSAT Fiber Networks, Inc.	Argentina	Bond	Sr. Unsecured	12.375	6/15/2008	12/17/2001	225	3
Indah Kiat Finance Mauritius Limited	Indonesia	Bond	Sr. Unsecured	10	7/1/2007	3/12/2001	600	20

Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

Defaulting Issuer	Country	Debt Type	Seniority	Coupon	Maturity Date	Default Date	Default Amount (US$)	Default Price (US$)
Indah Kiat International Finance Company B.V.	Indonesia	Bond	Sr. Secured	11.875	6/15/2002	3/12/2001	200	28
Indah Kiat International Finance Company B.V.	Indonesia	Bond	Sr. Secured	12.5	6/15/2006	3/12/2001	150	27
Inversora Eletrica de Buenos Aires S.A.	Argentina	Bond	Sr. Unsecured	9	9/16/2004	3/14/2002	130	3
Mastellone Hermanos S.A.	Argentina	Bond	Sr. Unsecured	11.75	4/1/2008	3/26/2002	225	22
Mendoza, Province of	Argentina	Bond	Sr. Unsecured	10	9/4/2007	3/4/2002	250	20
Multicanal S.A.	Argentina	Bond	Sr. Unsecured	13.125	4/15/2009	8/18/2001	175	52
Multicanal S.A.	Argentina	Bond	Sr. Unsecured	9.25	2/1/2002	8/18/2001	125	82
Multicanal S.A.	Argentina	Bond	Sr. Unsecured	10.5	2/1/2007	8/18/2001	125	47
Multicanal S.A.	Argentina	Bond	Sr. Unsecured	10.5	4/15/2008	8/18/2001	150	33.5
Net Servicos de Comunicacao S.A.	Brazil	Bond	Sr. Unsecured	12.625	6/18/2004	12/1/2002	97.7	30
P.T. Inti Indorayon Utama	Indonesia	Bond	Sr. Unsecured	9.125	10/15/2000	3/19/1999	110	15
Pecom Energia, SA	Argentina	Bond	Sr. Unsecured	8.125	7/15/2007	8/2/2002	400	60
Pecom Energia, SA	Argentina	Bond	Sr. Unsecured	9	5/1/2006	8/2/2002	200	54
Pecom Energia, SA	Argentina	Bond	Sr. Unsecured	9	1/30/2004	8/2/2002	300	61
Pindo Deli Finance Mauritius Limited	Indonesia	Bond	Sr. Unsecured	10.25	10/1/2002	3/12/2001	100	15
Pindo Deli Finance Mauritius Limited	Indonesia	Bond	Sr. Unsecured	10.75	10/1/2007	3/12/2001	450	14
Pindo Deli Finance Mauritius Limited	Indonesia	Bond	Sr. Unsecured	11.75	10/1/2017	3/12/2001	100	16
Polysindo International Finance Company B.V.	Indonesia	Bond	Sr. Secured	11.375	6/15/2006	6/15/1998	260	26
Polysindo International Finance Company B.V.	Indonesia	Bond	Sr. Secured	13	6/15/2001	6/15/1998	122.5	26
Polysindo International Finance Company B.V.	Indonesia	Bond	Sr. Secured	9.375	7/30/2007	6/15/1998	250	27
Polytama International Finance B.V.	Indonesia	Bond	Sr. Secured	11.25	6/15/2007	6/15/1998	200	28
Sharp Do Brazil S.A.- Equipamentos Eletronicos	Brazil	Bond	Sr. Unsecured	9.625	10/30/2005	10/30/1999	120	40
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	9.5	7/2/2004	4/2/2002	167.5	35
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	8.375	4/8/2004	4/2/2002	176.3	33.5
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	12	11/15/2002	4/2/2002	128	25
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	7.25	7/1/2002	4/2/2002	220.3	28
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	7.625	4/7/2003	4/2/2002	220.3	33
Telecom Argentina Stet-France Telecom SA	Argentina	Bond	Sr. Unsecured	8.875	5/30/2007	4/2/2002	182.1	29
Telefonica de Argentina	Argentina	Bond	Sr. Unsecured	9.125	5/7/2008	5/2/2002	400	45
Telefonica de Argentina	Argentina	Bond	Sr. Unsecured	11.875	11/1/2004	5/2/2002	300	47
Tjiwi Kimia Finance Mauritius Limited	Indonesia	Bond	Sr. Unsecured	10	8/1/2004	2/1/2001	600	24

Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

Defaulting Issuer	Country	Debt Type	Seniority	Coupon	Maturity Date	Default Date	Default Amount (US$)	Default Price (US$)
Tjiwi Kimia International Finance Company BV	Indonesia	Bond	Sr. Unsecured	13.25	8/1/2001	3/12/2001	200	14
Transener S.A.	Argentina	Bond	Sr. Unsecured	8.625	4/1/2003	4/1/2002	100	24
Transener S.A.	Argentina	Bond	Sr. Unsecured	9.25	4/1/2008	4/1/2002	150	26
Tri Polyta Finance B.V.	Indonesia	Bond	Sr. Secured	11.375	12/1/2003	6/1/1999	185	32.5
Tricom SA	Dominican Republic	Bond	Sr. Unsecured	11.375	9/1/2004	9/2/2003	200	53
Tucuman, Province of	Argentina	Bond	Sr. Secured	9.45	8/1/04	2/1/2003	200	20
TV Filme, Inc.	Brazil	Bond	Sr. Unsecured	12.875	12/15/2004	6/15/1999	120	29
UNEXIM International Finance B.V.	Russia	Bond	Sr. Unsecured	FLT	1/24/2000	1/27/1999	50	20.25

Appendix IV. Defaulted Emerging Market Debt – Non-Crisis Years

Defaulting Issuer	Country	Debt Type	Seniority	Coupon	Maturity Date	Default Date	Default Amount (US$)	Default Price (US$)
Alestra, S. de R.L. de CV	Mexico	Bond	Sr. Unsecured	12.625	5/15/2009	11/15/2002	300	36
Altos Hornos de Mexico, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	11.375	4/30/2002	4/30/1999	200	39
Altos Hornos de Mexico, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	11.875	4/30/2004	4/30/1999	225	34
Altos Hornos de Mexico, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	5.5	12/15/2001	4/30/1999	85	29.5
APP China Group Limited	China	Bond	Sr. Unsecured	14	3/15/2010	3/12/2001	403	12.5
Barak I.T.C.	Israel	Bond	Subordinated	12.5	11/15/2007	11/15/2004	183	48
Buenos Aires Embotelladora S.A.	Argentina	Bond	Sr. Unsecured	8.5	12/29/2000	6/30/1997	60	70.3
CANTV Finance Ltd.	Venezuela	Bond	Sr. Unsecured	9.25	2/1/2004	8/1/2003	100	99.5
Central Termica Guemes S.A.	Argentina	Bond	Sr. Unsecured	12	11/26/2001	5/18/1999	60	15
Corporacion Durango S.A. de C.V.	Mexico	Bond	Sr. Secured	13.125	8/1/2006	1/15/2003	301.8	43
Corporacion Durango S.A. de C.V.	Mexico	Bond	Sr. Unsecured	13.75	7/15/2009	1/15/2003	175	40.5
Corporacion Durango S.A. de C.V.	Mexico	Bond	Sr. Unsecured	12.625	8/1/2003	1/15/2003	117.9	44
Corporacion Durango S.A. de C.V.	Mexico	Bond	Sr. Unsecured	13.5	8/1/2008	1/15/2003	10.4	41
Edelnor SA	Chile	Bond	Sr. Unsecured	7.75	3/15/2006	9/17/2002	250	35
Edelnor SA	Chile	Bond	Sr. Unsecured	10.5	6/15/2005	9/17/2002	90	35
Fujian International Trust & Investment Corporation	China	Bond	Sr. Unsecured	7.375	8/25/2007	1/24/2001	0.85	37
Grupo Azucarero Mexico, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	11.5	1/15/2005	5/13/1999	77.9	44.8
Grupo Cydsa, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	9.375	6/25/2002	4/5/2002	200	45
Grupo Iusacell, SA De C.V.	Mexico	Bond	Sr. Unsecured	14.25	12/1/2006	6/1/2003	350	32
Grupo Mexicano de Desarrollo, S.A.	Mexico	Bond	Sr. Unsecured	8.25	2/17/2001	8/17/1997	250	45
Grupo TMM, S.A.	Mexico	Bond	Sr. Unsecured	10	11/15/2006	5/15/2003	200	72
Grupo TMM, S.A.	Mexico	Bond	Sr. Secured	9.25	5/15/2003	5/15/2003	200	75
Guangdong International Trust & Investment Corporation	China	Bond	Sr. Unsecured	8.75	10/24/2016	10/6/1998	200	60.1
Hidroelectrica Piedra del Aguila S.A.	Argentina	Bond	Sr. Unsecured	10.625	10/9/2001	4/5/1999	100	40
Hylsa, S.A. de C.V.	Mexico	Bond	Sr. Unsecured	9.25	9/15/2007	3/11/2002	300	57
Hynix Semiconductor, Inc.	Korea	Bond	Sr. Secured	8.625	5/15/2007	12/30/2002	200	66.0
Hynix Semiconductor, Inc.	Korea	Bond	Sr. Secured	8.25	5/15/2004	12/30/2002	200	80.4
Kremikovtzi AD	Bulgaria	Bond	Sr. Secured	12	5/4/2013	5/9/2008	503.8	61
Netia Holdings B.V.	Poland	Bond	Sr. Unsecured	10.25	11/1/2007	1/14/2002	200	17

Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

Defaulting Issuer	Country	Debt Type	Seniority	Coupon	Maturity Date	Default Date	Default Amount (US$)	Default Price (US$)
Netia Holdings B.V.	Poland	Bond	Sr. Unsecured	11.25	11/1/2007	1/14/2002	193.6	17
Netia Holdings II B.V.	Poland	Bond	Sr. Unsecured	13.125	6/15/2009	11/12/2001	100	17.5
Panda Global Energy Company	China	Bond	Sr. Secured	12.5	4/15/2004	12/12/2000	153.6	45
Satelites Mexicanos, S.A. De C.V.	Mexico	Bond	Sr. Unsecured	10.125	11/1/2004	8/1/2003	320	47.5
Supercanal Holding S.A.	Argentina	Bond	Sr. Unsecured	11.5	5/15/2005	5/15/1999	300	51.5
Transportadora De Gas del Sur S.A.	Argentina	Bond	Sr. Unsecured	10.375	4/15/2003	3/18/2003	150	48
Transtel Pass Through Trust	Colombia	Bond	Sr. Secured	12.5	11/1/2007	5/1/2000	150	40
YUKOS Oil Company	Russia	Bank Loan	Sr. Secured	FLT	9/24/2006	12/27/2004	500	65

Emerging Market Corporate and Sub-Sovereign Defaults and Sovereign Crises: Perspectives on Country Risk

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