

*Risk in the Gulf Countries from a  
regional perspective*

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# Outlook

1. Objectives: Assess empirically the Vulnerability to “Banking Crisis” of countries in the Region
2. Definition of Banking Crisis
3. Data and Methodology of “*ABI Country Risk Compass*”
4. Results and Outlook for 2009

# 1.Objectives

- Vulnerability to a Banking Crisis and derive a “rating” = Probability of a Crisis(one-year-ahead)
- Identify the crucial characteristics (“thresholds” for economic, political and institutional variables) that make a country “vulnerable” to a future crisis:
- “*Early Warnings*” (Manasse and Roubini, IMF Wp, 2005, forthcoming in JIE)

## 2. Definition

- Demiguc-Kunt, Detragiache, 1998: *Banking Crisis* such that either
  - Non Performing Assets/Total Assets  $\geq$  10%
  - Cost of Bail-Out  $\geq$  2% of GDP
  - Large Scale Nationalization of Banks
  - Bank run or emergency measures (deposit freeze, prolonged bank holidays)
  - Generalized Deposit Guarantee of the government in response to the events

### 3.Data and Methodology

- Source: Economist Intelligence Unit (EIU) Database
- 50 Emerging Markets, annual observations from 1993 to 2008 (about 900 obs)
- 134 explanatory variables (about 500 including lags, and transformations)  
macro variables, domestic and foreign debt and composition, monetary aggregates, fiscal stance, interest and exchange rates, banking sector's performance indicators, indexes of *governance* and institutions (property rights, corruption, public sector efficiency etc.)
- 78 episodi (9.7%) of banking crises

# 4. Methodology

Classification and Regression Trees (CART, Breiman et al, 1984):

“Artificial intelligence algorithms” for the analysis of very large data set with applications in genetics, medicine, biology, websearch, marketing, finance, military

Applied to Sovereign Default Crises (Manasse and Roubini (IMF Wp 2005, JIE (forth)), Capital Account Crises (Chamon, Manasse and Prati (IMF Wp 2007), Currency Crises (Frenkel et al, 2004)

=> The Algorithm selects a *combination* of indicators and *critical thresholds* for early warning of crisis

## Results:

Crucial Variables/Thresholds for Risks.

1. Non Performing Loans /Total Loans of Banking Sector ( $> 6.5\%$ )
  2. Short Term Debt/Int'l Reserves ( $> 31.5\%$ )
  3. Effective Interest on Ext Debt ( $> 3.8\%$ )
- EIU Index of Infrastructure Risk
  - Outflow Portfolio Investment/GDP
  - Effective Maturity of External Debt
- $\Rightarrow$  69 out of 78 crises satisfy the first 3 criteria alone (and represent 25% of all such observations)

# Main Lessons:

Vulnerabilities in Emerging Markets stem from from the interactions of Banking Sector's balance sheets and Liquidity/Solvency problems of External Debt (Twin Crises)

## Prediction Success

Actual Class	Total Cases	Percent Correct	0 N=525	1 N=277
0	724	71,27	516	208
1	78	88,46	9	69
Total:	802,00			
Average:		79,87		
Overall % Correct:		72,94		

	<b>Vulnerability to banking crisis 2008 /2009</b>	<b>S&amp;P T&amp;C Assessment (May 20, 2008)</b>	<b>Moody's Country Ceilings - Foreign Currency Bank Deposits (March 3, 2008)</b>
Algeria	0.02 / 0.02	n.a	n.a
Egypt	0.02 / 0.02	BBB-/--/--	Ba2/STA
Israel	0.01 /0.01	AA/--/--	A2/POS
Jordan	0.01 /0.01	BBB-/--/--	Ba3/STA
Lebanon	0.02 / 0.02	B+/--/--	B3/NEG
Morocco	0.02 / 0.02	BBB/--/--	Ba2/STA
<b>Tunisia</b>	<b>0.25/0.25</b>	<b>A-/--/--</b>	<b>Baa2/STA</b>
Turkey	0.01/0.01	BB+/--/--	B1/STA
United Arab Emirates	0.01/0.01	n.a	Aa2/STA

## Outlook for 2009

	Non Perf Loans /Tot Loans (-1) (6.5)	Short-Term Debt / Reserves(-2) (31.5)	Effective Interest Rate on Ext Debt(-2) (3.8)
Algeria	na	0.7	2.9
Egypt	24.7 (07)	3.9	2.4
Israel	1.8 (08)	41	8.7
Jordan	4.1 (08)	10.3	2.9
Lebanon	10.1 (08)	18.8	7.9
Morocco	7.9 (08)	7.7	3.7
Tunisia	17.3 (08)	51.4	3.7
Turkey	3.1	54.8	6.5
United Arab Emirates	6.3 (07)	40.6	6.6

## United Arab Emirates

year	npl(-1)	tstd/res(-2)	efir(-2)
2003	15.3	79.4	5
2004	14.3	79.5	2.7
2005	12.5	97.4	2.1
2006	8.3	108.7	2.5
2007	6.3	109.2	4.1
2008	.	91.3	6.6
2009	.	40.6	6.6

# UAE

- Strong improvements in current account and international reserves, however fall in oil prices...
- Positive trend in banking sector's soundness, however, interbank tight liquidity, danger of sharp correction in house prices...

# Appendix:

## Predicted Banking Crisis Probability in the Region

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Israel</b>	0,012	0,012	0,012	0,012	0,012	0,012	0,012	0,012	0,012
<b>Jordan</b>	0,025	0,020	0,020	0,020	0,020	0,020	0,012	0,012	0,012
<b>Lebanon</b>	0,020	0,020	0,249	0,020	0,020	0,020	0,020	0,020	0,020
<b>Tunisia</b>	0,249	0,249	0,249	0,249	0,249	0,249	0,249	0,249	0,249
<b>Turkey</b>	0,249	0,249	0,249	0,249	0,012	0,012	0,012	0,012	0,012
<b>UAE</b>	0,012	0,012	0,249	0,025	0,025	0,025	0,012	0,012	0,012