

“Essentially, all models are wrong, but some are useful” George E. P. Box

Country Risk Premium: yes for risk, no for premium

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Emerging markets price discount

LUKOIL P/E=5.5

ConocoPhillips P/E=10

Why is such huge difference?

Plausible answers:

- a) Inefficiency
- b) Additional risks, thus rational discount
- c) ...

Modeling EM discount in DCF

$$P = \sum \frac{CF_i}{(1+K)^i}$$

1. Risk = **higher discount rate**

– *Ad-hoc* “country risk premium”.

See Damodaran textbooks

– “EM beta” (greater than DM beta)

2. Risk = **lower cash flows expectations**

– “Scenario approach”. Value is a mix of 1) “Business-as-usual” + 2) “Downside scenario”

McKinsey EM-company DCF valuation

EXHIBIT 33.13 **ConsuCo: Scenario DCF Valuation**

reais, million

	2009	2010	2011	2012	2013	2014	...	2019	...	2024
Base case										
<i>Nominal projections</i>										
Free cash flow	(63)	(136)	(94)	(91)	(85)	113	...	301	...	516
WACC (percent)	11.1	9.5	9.3	9.2	9.1	9.0	...	9.0	...	9.0
<i>Real projections</i>										
Free cash flow	(60)	(125)	(83)	(77)	(68)	87	...	187	...	257
WACC (percent)	6.0	5.1	4.9	4.7	4.5	4.4	...	4.4	...	4.4
DCF value	14,451									
Nonoperating assets	1,139									
Debt and debt equivalents	(5,605)									
Equity value	<u>9,985</u>									
Value per share	42.4									
Downside scenario										
<i>Nominal projections</i>										
Free cash flow	(149)	(777)	(2,533)	(4,504)	(2,677)	(558)	...	250	...	834
WACC (percent)	11.1	29.4	76.7	76.4	28.7	9.5	...	9.0	...	9.0
<i>Real projections</i>										
Free cash flow	(142)	(593)	(1,105)	(1,123)	(534)	(106)	...	38	...	102
WACC (percent)	6.0	3.5	1.0	0.8	2.9	4.3	...	4.4	...	4.4
DCF value	6,313									
Nonoperating assets	1,139									
Debt and debt equivalents	(5,605)									
Equity value	<u>1,847</u>									
Value per share	7.9									

Value per share	32	↑	Probability 70%	Base case
			Probability 30%	Downside scenario

Both ways are dubious

1. Higher discount rate

EM risk may be diversified away, so CAPM tells us CRP is not justifiable

2. Scenario probabilities

Pure discretion on 1) probability weights and on 2) how bad must be “downside scenario”

Simplest DCF + CRP model

“Twin” DM and EM companies having the same “expected” cash flow profile

$$P_{DM} = \frac{E(FCFE_1)}{COE_{DM} - g}$$

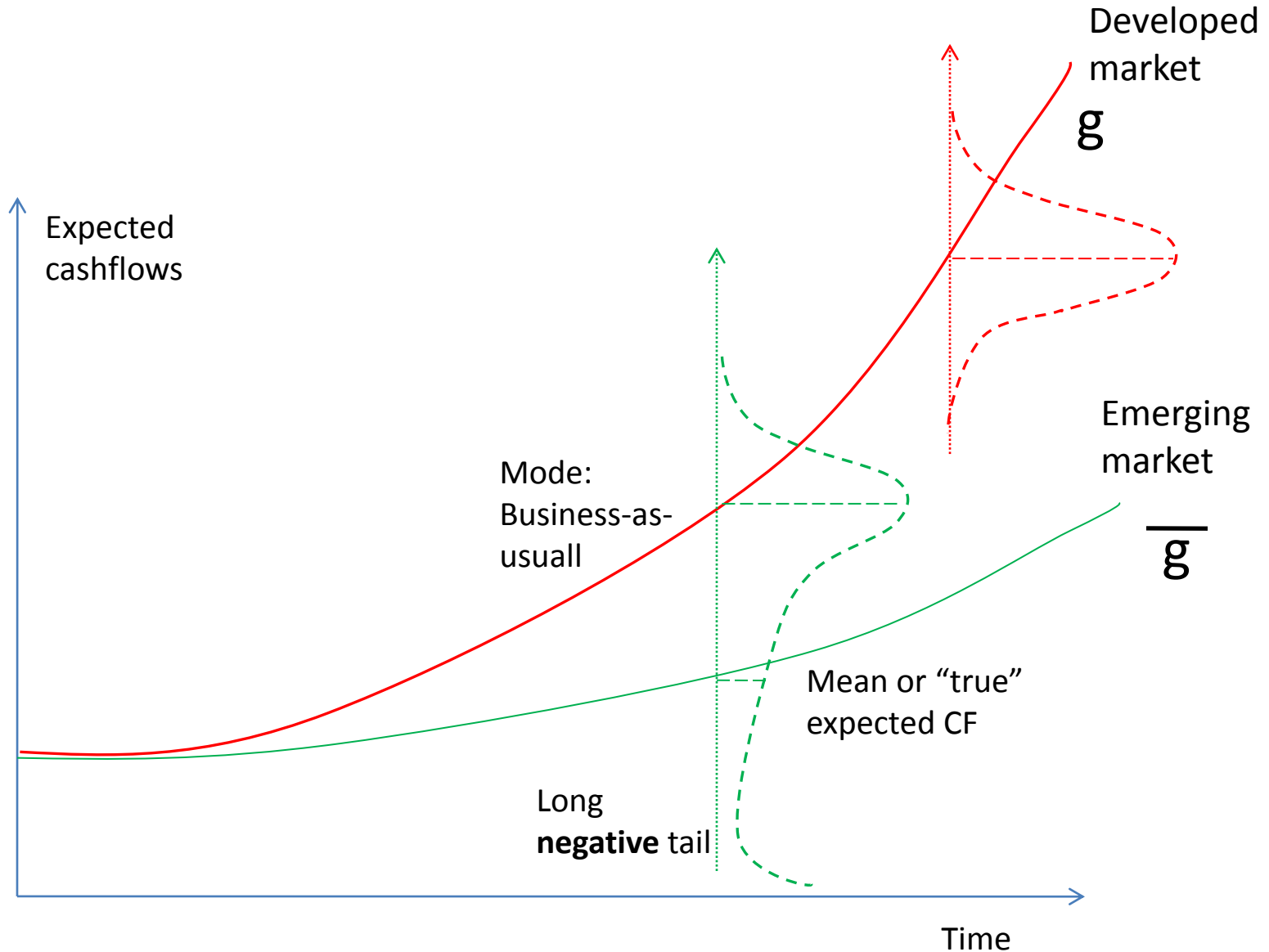
$$P_{EM} = \frac{E(FCFE_1)}{(COE_{DM} + CRP) - g} = \frac{E(FCFE_1)}{(COE_{DM} - (CRP - g))} = \frac{E(FCFE_1)}{COE_{DM} - g_{EM}}$$

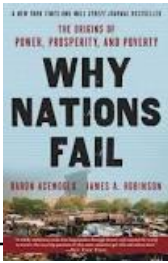
Obviously $g > g_{EM} = g - CRP$

Implicit CRP assumption:

expected growth rate for EM company is lower
than for DM company

A graphical interpretation





Why nations fail

		Economic institutions	
		“Extractive”	“Inclusive”
Political institutions	“Extractive”	Growth is problematic (N.Korea)	Growth is restricted (China, Russia)
	“Inclusive”	Growth is restricted (India)	The only way up from “middle income trap”

Hard target indeed: Government must subjugate itself under the rule of law but still has to be able to enforce the law (checks and balances)

Inclusive politics?

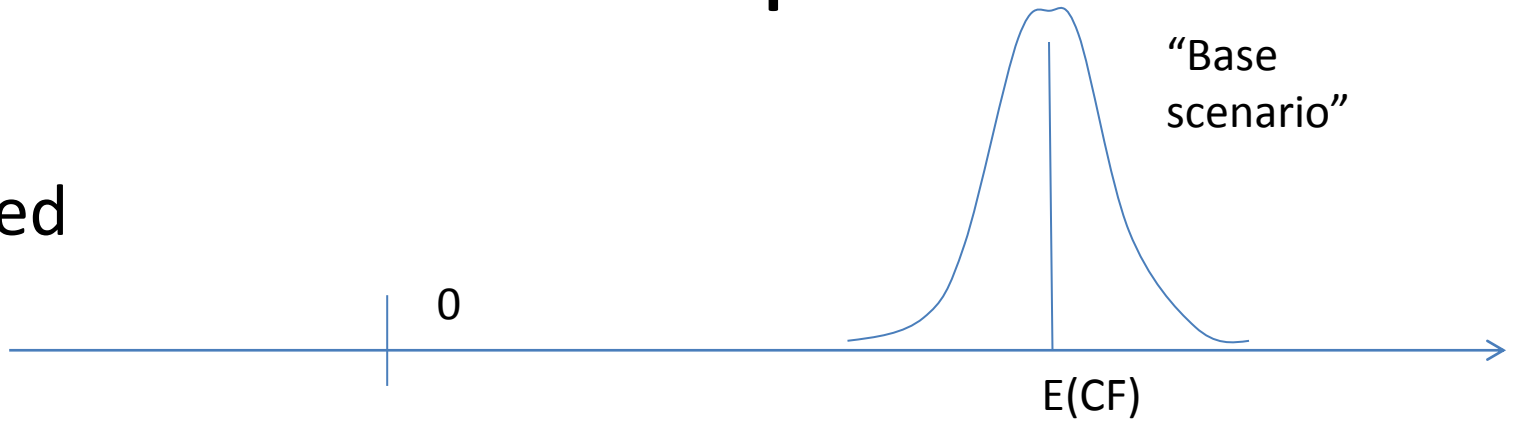
- “Creative destruction” changes distribution of power. Incumbents often loose
- Newcoming wealth claims right for power
- Incumbents deter competition in order to keep it’s rent and status intact
- That suppresses innovation and
economy stagnates

What is emerging country risk?

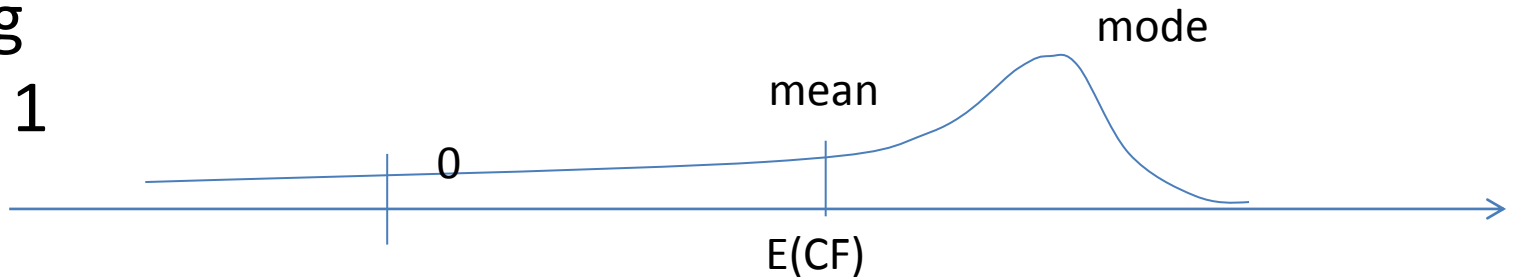
- “YUKOS case” after Khodorkovsky showed his political ambitions
- Argentina’s 2012 YPF nationalization because of “underinvestment” and “excessive dividend”
- Hugo Chavez has nationalized about 1000 enterprises while being in power
- Seemingly forced sales of VSMO-Avisma, Silvinit and Uralkaly (all local enterprises)

EM risks simplified

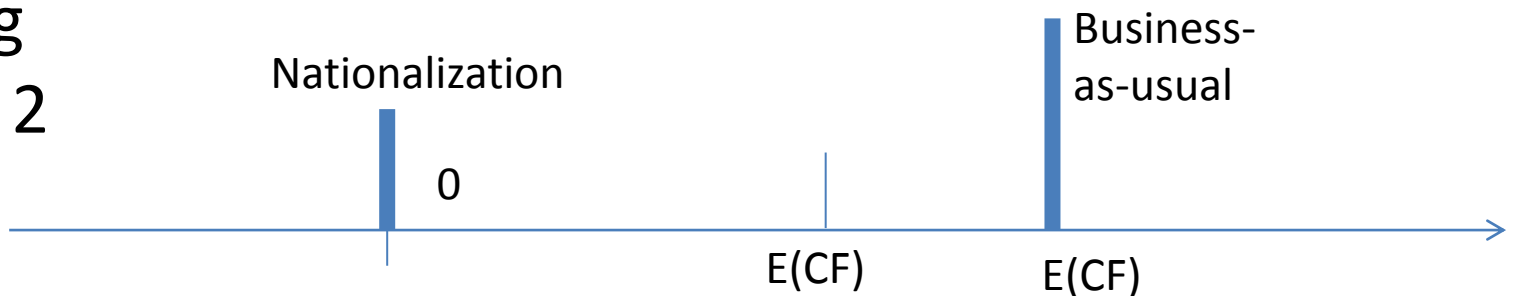
Developed market



Emerging market - 1



Emerging market - 2



Theoretical solution

- **Real-option-like model** is a more rigorous way to take into account the asymmetry
- It like that government “holds” an option to acquire (confiscate) EM company value
- Source of risk is a political process
- It’s challenging to model and that’s nearly impossible to “calibrate”

Practical solution

- Use “emerging market discount” to an “ideal DCF value” (“business-as-usual” + no CRP)
- Then apply **EM discount**
(LUKOIL P/E = 50% “ideal LUKOIL” P/E \approx 50%
ConocoPhillips P/E)
- EM discounts are observable and measurable
- Never use CRP
(+Damodaran is wrong)