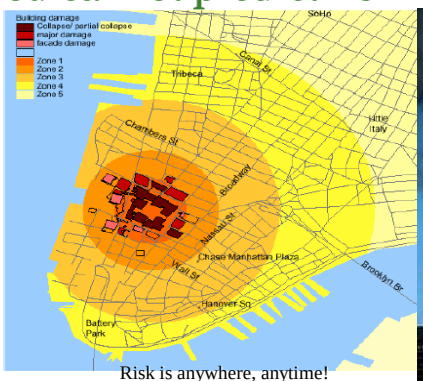
Challenge of Global Country Risk Assessment

October 2014
www.developingfinance.org

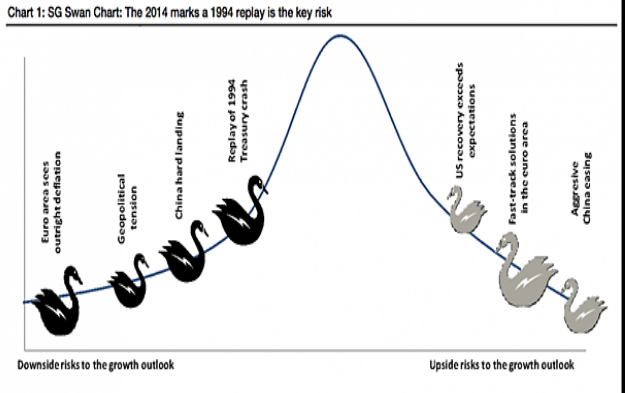
Risk = Uncertainty = Information deficit

You cannot predict risk



Risk is anywhere, anytime!

How does a global bank like SocGen anticipate « black swans »?



What is Risk about?

☞ **Risk stems from a situation of <u>uncertainty</u> regarding current or future situations, where information about the situation's outcome is insufficient, lacking or simply wrong!**

☞

- Information availablility is, in itself, a measure of risk (BOP, debt data, governance…)
- Information scarcity then requires taking action that might produce negative and costly consequences (investigation time, transaction cost, delays…)

Risk has to do with **uncertainty** regarding the future, hence the need of tackling future prospects!

« Ancient times » = circular time (until the Middle Age)

XVI° century Renaissance= « Modern time » = linear time of … Economic & Financial Time!

The « discovery » of risk

Pascal 1654

Fermat 1654

Leibniz 1703

Markowitz 1952

M. Scholes 1997

B. Mandelbrot 1990s

Risk & Uncertainty

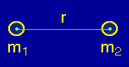
- **Frank Knight**: 1921 Risk, Uncertainty and Profit: Risk stems from **outcomes that are unknown** but can be tackled with probability distribution…. Uncertainty stems from a deficit of information, hence randomness of results
- **Harry Markowitz**: Risk = probability of loss = historical volatility in returns as measured by standard deviation or Beta. But risk diversification and tolerance also matter!
- **J M. Keynes:** Treatise on Probability 1921: role of animal spirits in volatility spill-over and herd behavior. Non-linear nature of risks and danger of expecting the future as a simple projection of the past
- **Ulrich Beck**: 2010: « we live in a global risk society where current decisions and technological developments trigger long-term global impact » (warming, terrorism, pollution, financial deregulation…)

Isaac Newton's Law!

Law of Universal Gravitation

Every object in the Universe attracts every other object with a force directed along the line of centers for the two objects that is proportional to the product of their masses and inversely proportional to the square of the separation between the two objects.

$$F_g = G\frac{m_1 m_2}{r^2}$$



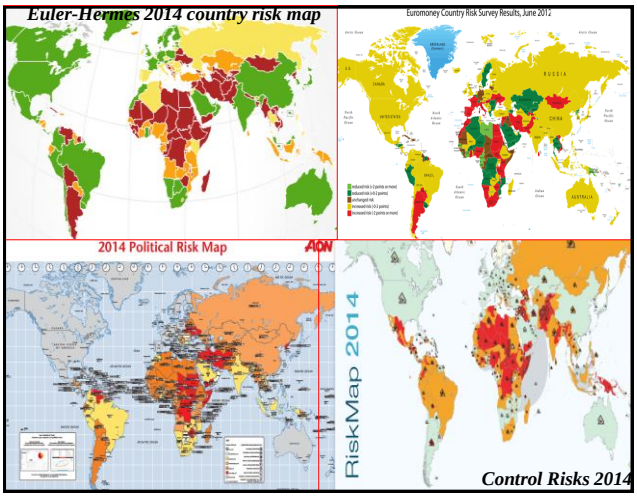
F_g is the gravitational force
m_1 & m_2 are the masses of the two objects
r is the separation between the objects
G is the universal gravitational constant

Country risk analysis?

- **Assessment of a foreign entity's ability and willingness to meet its external obligations in full and in time**
- Foreign entity? Private firm, country government, bank, supplier, client, partner..
- Country risk is composed of a complex combination of **political, financial and macro-economic risk**

What country risk is **NOT**

- Country risk is NOT a monopoly of foreign creditors, exporters, importers, or investors
- Domestic residents (households, investors, corporate sector) also face country risk from their own country's socio-economic situation: The country's goverment can take **arbitrary** decisions that will affect the residents' situation
- The country can be **contaminated** by negative regional or global forces
- A deterioration in the risk perception by capital markets and rating agencies will **feedback** on domestic residents' socio-economic environment and well-being: capital flight!



Tackling country risk

COUNTRY + RISK

- Country = sovereign entity, culture and values, geographical distance, national laws and regulations, socio-political parameters
- Risk = lack of perfect information in real time, spill-over effect, abrupt changes

Country risk

- **Country risk results from a set of complex and interdependent socio-economic, financial and political factors, specific for a particular country, that can quickly worsen given the country's global integration**

Interplay of **country risk** with the **global economy**

How does Country Risk materialize?

1. **CREDITOR = P**ayment arrears, default, rescheduling, write down and/or write off
2. **INVESTOR = Capital control: Limits on dividend and capital repatriation**
   Contractual obligations and legal commitment : contract repudiation, bureaucracy, political upheaval
   Business climate: corruption, weak infrastructure and institutions, strikes
   Public guarantees: unilateral suspension
3. **TRADE PARTNER = Supply and purchases** (imports of goods & services) = delays, defective merchandise, exchange rate overvaluation
   Sales (exports of goods & services) = payment arrears

Risk Analysis and Project Evaluation: "does a risky investment create value?"

- Evaluating alternative or simultaneous investment decisions in an efficient market:

1. Payback period (cash inflows/cash outflows)
2. Net present value (discounting future cash flows)
3. Internal rate of return
4. Profitability index

Risk Analysis and Project Evaluation
Discount Rate?

Example:

- Assume an oil investment project with expected $100 in perpetual cash flows
- If located in the **OECD** zone, the discount rate would be, say, 4% and

  NP Value= $100/0.04= $2,500

Risk Analysis and Project Evaluation
Discount Rate

Example 2:

- Project is located in a "risky" country
- If we reflect the country risk (rating, spread, secondary market debt price, volatility) in the discount rate, the rate might rise then to 10% in China and … 20% in RCI

  Value = $100/0.10 = $1000

  - Discount rate for Ivory Coast risk? 60%?
  - Value = $100/0.20 = $500

  - The discount rate is one accounting way for reflecting country risk but the point remains to anticipate and assess country risk!
  - How to determine the **appropriate** discount rate?

Calculating an investment return with Net Present Value (NPV)

Number of Periods

$$NPV = \sum_{t=0}^{T} \frac{CF_t}{(1+r)^t}$$

Cash Flow in *t*

Cost of Capital

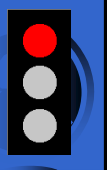
- The NPV is an "objective" criterion:
  - If NPV ≥ 0: The project creates value.
  - If NPV < 0: The project destroys value.

Risk Analysis and Project Evaluation: "Does a risky investment create value?"

PROBLEM:

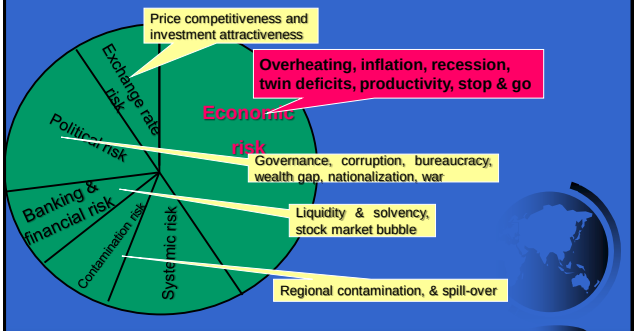
In many emerging markets, the cost of capital is not the adequate discount factor

Markets might no be « efficient »!



Main Country Risk Components

- Globalization= volatility + spill-over of risk parameters!



Main components of global risk

- **Economic risk**
- **Financial and transfer risk**
- **Exchange risk**
- **Commodity risk**
- Political risk
- Cultural environment risk
- Operational risk
- Legal and contractual risk
- (repudiation, confiscation, bribes...)
- Regional contamination risk
- (spill-over effect)
- Systemic risk (global crisis)

Quantifiable but ultimately judgmental

Subjective, insurable and diversifiable

Country risk assessment

Reliable and updated information

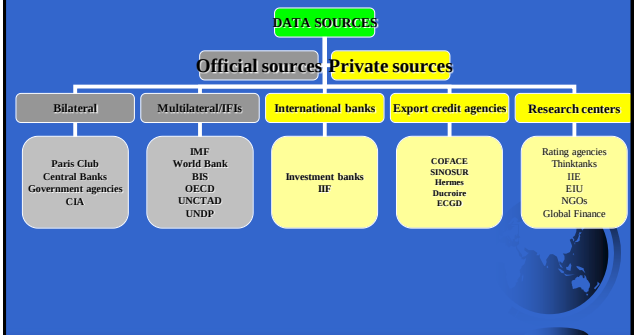
= Economic intelligence

☞ **Robust risk analysis**

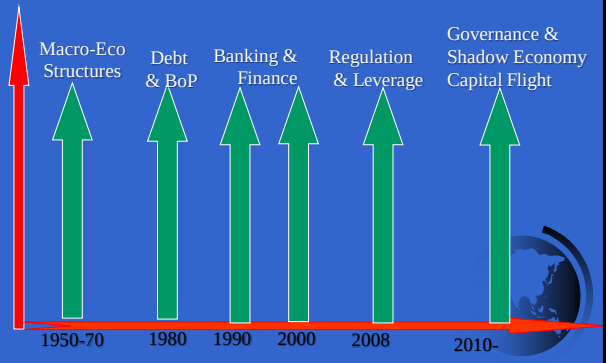
Analysis and information sources

IMF, World Bank & MIGA
UNCTAD
BIS
OECD
EBRD
Coface
Moody's, S&P, Fitch
CIA & US State Dept
Transparency International
Hiscox
DEFI www.developingfinance.org

Major sources of country risk intelligence

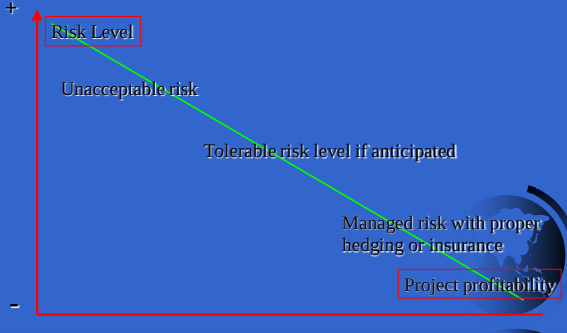


Economic Intelligence= Transforming Information into Risk strategy

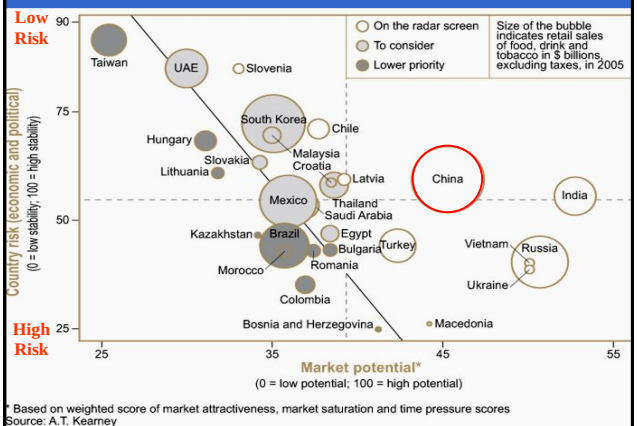


Risk Assessment

- Is the risk high and is it acceptable?



Most attractive emerging markets



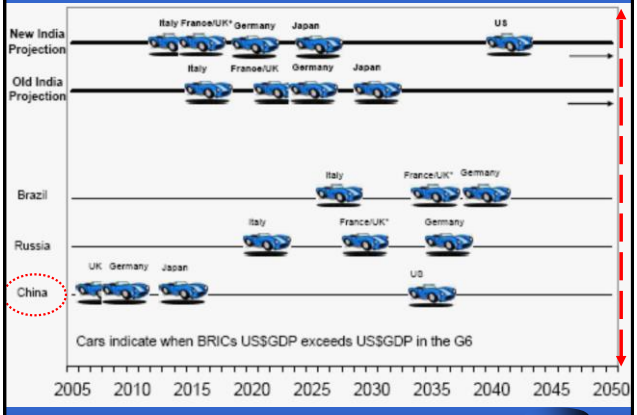
Assessing country risk
= Assessing LT opportunities

The future global leaders?

- The BRICs: « **Toward 2050** » : Goldman Sachs
  Brazil, Russia, China & India's GDP > G7 in US$

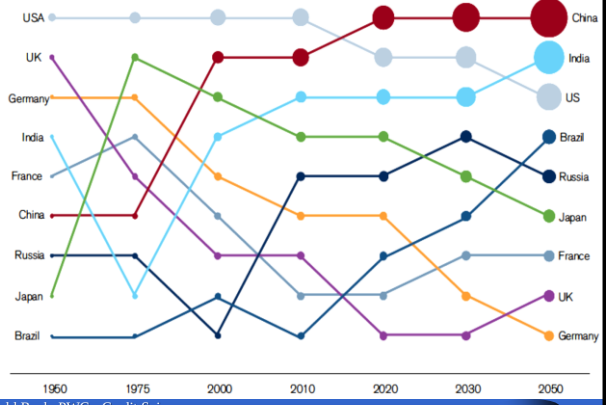
Challenge: how to forecast the « Top 10 » in 2050?

BRICs' « catch up process »



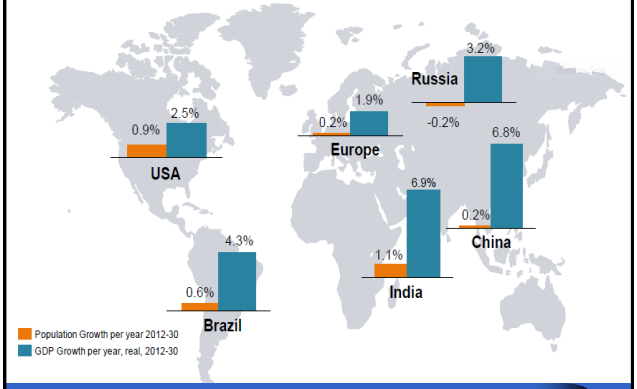
Goldman Sachs 2007

The Top Global GDPs 1950-2050



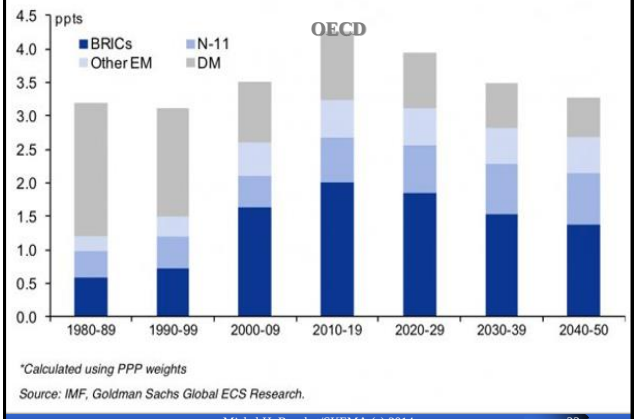
World Bank, PWCs, Credit Suisse

Nothing new on the West front: markets are shifting East = outside the OECD



Source: Siemens 2013

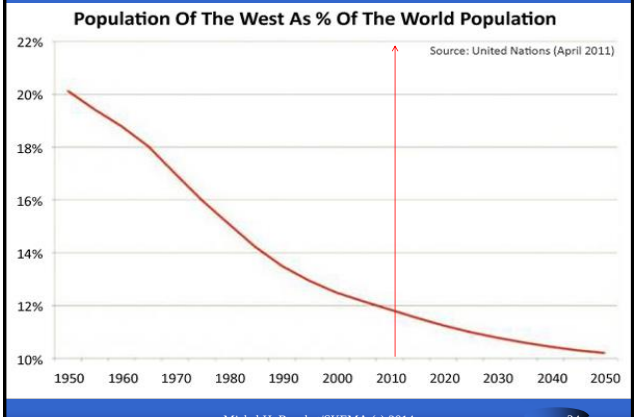
Global Growth Potential



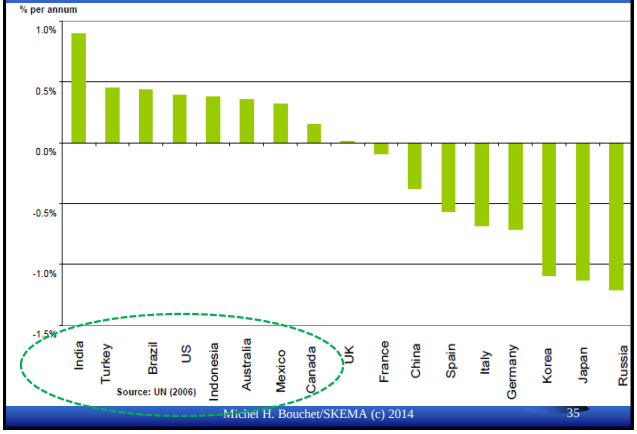
*Calculated using PPP weights

Source: IMF, Goldman Sachs Global ECS Research.

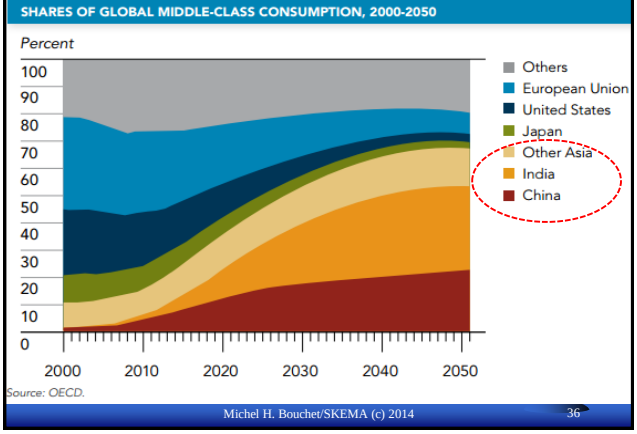
The balance of power in the XXI° century



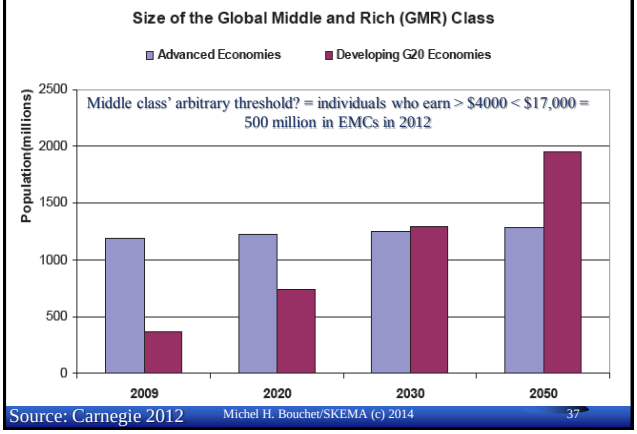
Demographic Growth 2006-2050



Targetting the growing middle-class?

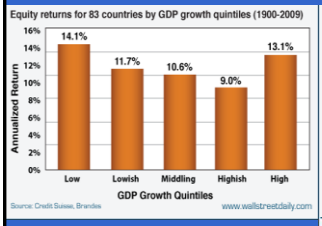


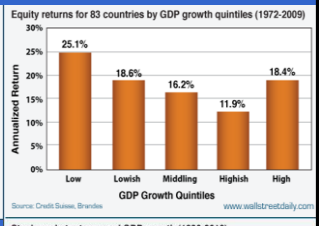
Potential market demand OECD & EMCs ?



Source: Carnegie 2012

Slow but **sustainable** growth = **high stock returns**





No evidence of outperformance by high-growth countries:
High GDP growth is not a prerequisite for higher stock market investment returns.

Why? Volatility, inflation, stop & go

Approaches to country risk assessment

1. **Qualitative approach**: financial, macroeconomic, legal, regulatory and political parameters
2. **External debt analysis**: liquidity and solvency
3. **Quantitative approach** : rating and scoring
4. **Econometric approach** and modelization

1. Qualitative approach to Country risk

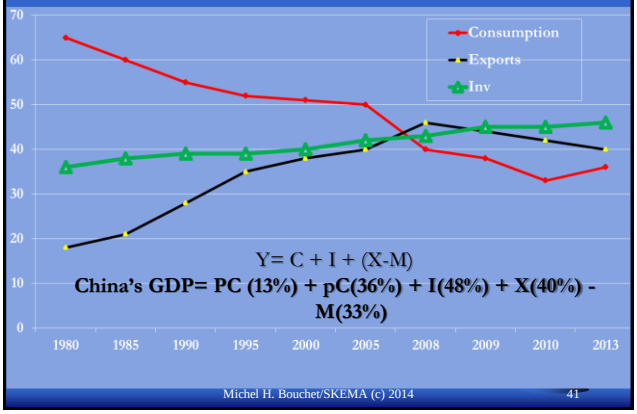
☞ Structural issues

- GDP Growth engines (I, C, X)
- Demography (working population, GDP per capita)
- Trade and commodities
- Shadow economy
- Global openness

☞ **Policy issues**

- Stop & go
- Inflation
- External deficit
- Governance
- Political balance

Declining productivity of investment and GFCF =Economic restructuring challenge
2 unsustainable growth engines: foreign demand + public investment



Y= C + I + (X-M)

China's GDP= PC (13%) + pC(36%) + I(48%) + X(40%) - M(33%)

EMCs & Shadow Economy

Country↓	% GNP Informal Economy
Georgia	67.3
Bolivia	67.1
Panama	64.1
Azerbaijan	60.6
Peru	59.9
Zimbabwe	59.4
Tanzania	58.3
Nigeria	57.9
Thailand	52.6
Ukraine	52.2
Guatemala	51.5
Uruguay	51.1
Honduras	49.6
Zambia	48.9
Belarus	48.1
Armenia	46.3
Russia	46.1
Benin	45.2
Nicaragua	45.2
Moldova	45

Sources: World Bank, July 2010
Hernando de Soto

2. BOP & External Debt Analysis

Key Objectives:

- Examining the robustness of the **growth engine** and the sources of **financial vulnerability**
- **Focusing on the Balance of payments**
- Assessing debt servicing **sustainability**
- Analyzing **liquidity & solvency** prospects:
- **How much is too much?** (debt sources, maturity, mismatch…)

External Finance Analysis:
The dual face of Country Risk

Liquidity Risk

- Debt Service Ratio: (P+I/X)
- Interest Ratio (I/X)
- Current account/GDP
- Reserve/Import ratio
- Elasticity of exports
- Growth rate of exports/ Average external interest rate

Solvency Risk

- Debt/Export ratio
- Debt/GDP ratio
- Debt/Reserves
- ST Debt/Reserves

Liquidity and Solvency Thresholds

Stock variable

- **Solvency** = Debt/GDP < 100%

Debt/Exports < 150%

Reserves/months of Imports > 6 months

Flow variable

- **Liquidity** = Debt Service ratio < 33% of X
  Interest/X ratio < 25%

Rogoff & Reinhart

The **debt trap** in a nutshell

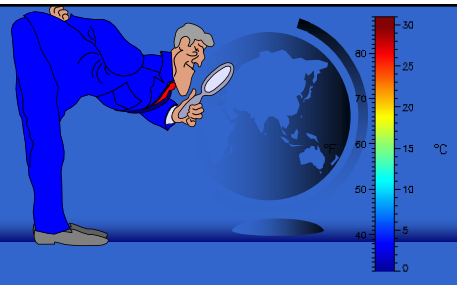
« **Expansionary austerity** »

- Deficit shrinking with spending cuts + wage reduction + tight fiscal and monetary policy = **GDP fall** =
- solvency ratios worsening = **Rating downgrading** = Higher borrowing costs

« **Deficit-driven expansion** »

- Large primary fiscal deficit = higher consumption = larger external deficit = larger unfunded financing requirements =
- GDP rise = « stop & go » =
- **Rating downgrading!**

= Higher borrowing requirements

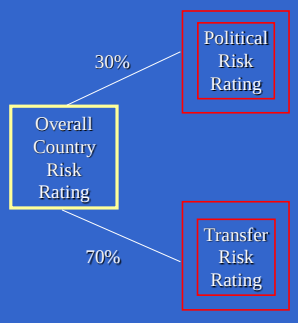


3. **SOVEREIGN RISK RATING**

Quantitative approach: Rating

- Means: Transforming a number of observations (Delphi method, surveys) or quantitative indicators into **one** single number.
- The various indicators can be weighted regarding their impact on creditworthiness and risk.
- **End-product**: one single grade to assess past and current country risk situation with possible cross-country comparisons across time

Quantifying Country Risk



Political Factors	Weights
Political factor A	30%
Political factor B	50
Political factor C	20

Financial Factors	Weights
Financial factor A	30%
Financial factor B	40
Financial factor C	30

Country Risk Rating

Advantages/ Pros

- simple
- shrinks a large number of variables into one single grade
- cross-country comparison
- comparison across time
- reliable for smooth risk evolution

Shortcomings/Cons

- "reductionist"
- over-simplistic
- risk of self-fulfilling prophecy
- little predictive value
- weighted average tends to bury salient trends
- gives "market consensus" often made of herd instinct

Shortcomings of rating agencies?

- **Criticisms:**

- * Quasi monopoly, power without accountability
- * Conformity bias (herd instinct) hence followjng the majority opinion of market participants
- * Sociocultural bias
- * Punishment of disobedient firms/countries that do not request a rating
- * Procyclical bias
- No early warning signals nor predictability track record
- Spill-over effect!

Euromoney

Rating Methodology

- 185 countries
- Delphi Technique: Panel of 32 leading economists in international financial institutions evaluing performance in the financial markets (market access, bond issue, spreads, selldown, terms and maturity…)
- Scoring between **100** (excellent) and **0** (high risk)
- Panel of political analysts to measure short-term risk of destabilization

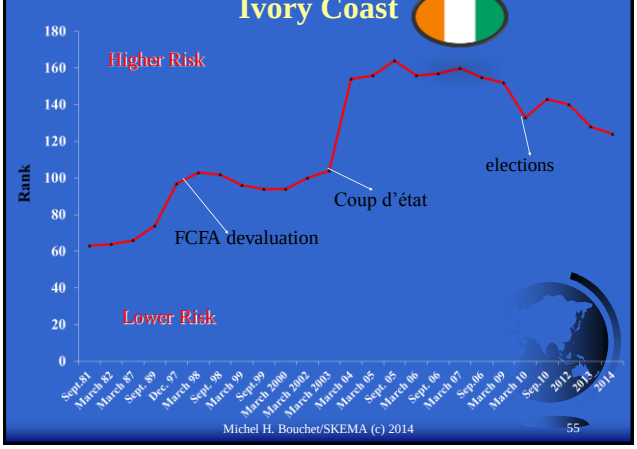
EUROMONEY
Rating weights

1. Growth performance: 25% (GDP projection)
2. Political risk: 25%
3. External debt indicators: 10% (debt/GDP and debt/X)
4. External payment default and rescheduling: 10%
5. Credit rating Moody 's or S&P: 10%
6. Short-term credit market access: 5%
7. Commercial bank MT credit: 5%
8. Capital markets access: 5%
9. Spread over US Treasury bills: 5%

Institutional Investor magazine
Scoring/Rating of Country Risk

- 0-100 semi-annual Rating of 179 countries' creditworthiness based on survey of 100 leading **international bankers**
- **Best** : Switzerland, Finland, Norway, Germany, Netherlands, France, US, UK, Luxembourg… Singapore, Australia, Taiwan, Chile
- **Worst**: Cuba, Myanmar, Cambodia, Nicaragua, Rwanda, Ivory Coast, Sudan, Iraq, Congo, Sierra Leone, North Korea, Liberia

Institutional Investor Risk Rating 1981-2014
Ivory Coast



Institutional Investor
Risk Rating of ASIA 2014

- **Norway = 1**
- Singapore = 9
- Australia = 12
- HK= 17
- Japan = 18
- Taiwan = 21
- South Korea = 22
- China = 25
- Malaysia= 33
- India = 57
- Thailand = 52
- Indonesia= 59
- Philippines=61
- Vietnam= 74
- Pakistan= 84
- Sri Lanka= 97
- Cambodia= 152
- Laos= 152
- Myanmar= 174
- North Korea= 175

COFACE

155 countries

Country risk + Business climate ratings:

- **Investment grade**
- A1= steady economic and political situation
- A2= weak default probability
- A3= adverse circumstances may lead to worsening payment record
- A4= patchy payment record could be worsened by adverse economic/political developments
- **Speculative grade**:
- B= unsteady economic and poltical environment
- C= bad payment record
- D= high risk profile and very bad payment record

Coface credit Rating (2014)

- Canada= A1
- Australia = A1
- Japan= A1
- USA= A2
- Korea= A2
- Chile = A2
- Malaysia= A2
- China= A3
- Brazil = A3
- India= A3
- Mexico= A4
- Tunisia= B
- Egypt= B
- Russia= B
- Algeria= B
- Vietnam= C
- Ukraine = C
- Venezuela = C
- Argentina = C
- Bolivia= C
- Cuba = D
- RCI = D
- Nigeria = D

Coface 2013 Risk Assessment of Tunisia

MAJOR MACRO ECONOMIC INDICATORS

	2010	2011	2012(e)	2013(f)
GDP growth (%)	3.0	-1.9	3.6	3.4
Inflation (yearly average) (%)	4.4	3.5	5.6	6.0
Budget balance (% GDP)	-2.9	-3.5	-6.5	-6.0
Current account balance (% GDP)	-4.8	-7.4	-8.1	-7.3
Public debt (% GDP)	40.5	44.5	48.0	50.0

(e) Estimate (f) Forecast

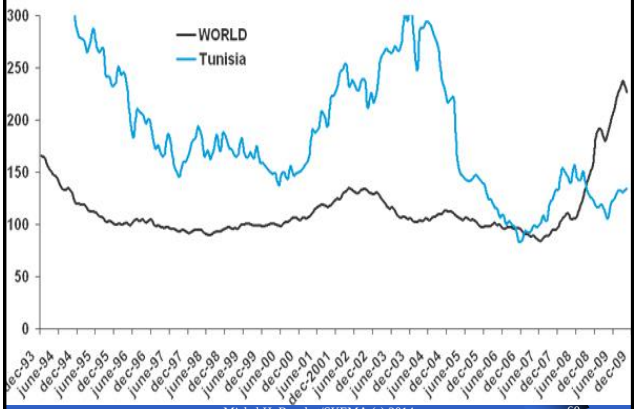
STRENGTHS

- Natural resources (gas, phosphates), agricultural resources and tourism
- Relatively diversified economy and fairly skilled labour force
- Proximity to European market and association agreement with the EU
- Gradual upgrading of infrastructures, industry and financial sector

WEAKNESSES

- Great social and geographic inequalities
- High unemployment, mainly among the young and especially university graduates
- Economic importance of agriculture
- Tourism sector facing increased competition and political uncertainties
- Significant fault lines dividing society between Islamists and secularists, as well as between tradition and modernity
- Scale of informal economy (around 40% of GDP) and business climate in need of improvement

Coface rating of corporate payment arrears



Source: Coface: Index 100= 1995

How assessing corruption?

Transparency International's CPI

- Germany-based NGO, founded in 1993
- Global network with national chapters in >70 countries
- Annual **Corruption perception index** ranking 180 countries
- Annual Bribe index

CPI is a composite index: poll of polls conducted over a 3-year period, drawing on 13 surveys from 8 independent organizations

Measuring Corruption? CPI

1	Denmark
1	Finland
1	New Zealand
4	Sweden
5	Singapore
6	Switzerland
7	Australia
7	Norway
9	Canada
9	Netherlands
11	Iceland
12	Luxembourg
13	Germany
14	Hong Kong
15	Barbados
16	Belgium
17	Japan
17	United Kingdom
19	United States
20	Chile

Brazil= 69
China= 80
India= 94
Russia= 133

162	Guinea-Bissau
162	Kyrgyzstan
162	Venezuela
168	Burundi
168	Equatorial Guinea
168	Guinea
168	Haiti
168	Iran
168	Turkmenistan
174	Uzbekistan
175	Chad
176	Iraq
176	Sudan
178	Myanmar
179	Afghanistan
180	Somalia

UNDP Human Development Index

- What is development?
- **Economic growth** + those conditions that make growth **sustainable** over the long-term =
- Σ life expectancy, education, health, infrastructure, institutions, governance…

1	Norway
2	Australia
3	New Zealand
4	United States
5	Ireland
6	Liechtenstein
7	Netherlands
8	Canada
9	Sweden
10	Germany
11	Japan
12	Korea
13	Switzerland
14	France
15	Israel
16	Finland
17	Iceland
18	Belgium
19	Denmark
20	Spain

65. RUSSIA
73. BRAZIL
89. CHINA
119. INDIA
155. Gambia
156. Senegal
157. Eritrea
158. Rwanda
159. Nigeria
160. Guinea
161. Angola
162. Tanzania, U. Rep. of
163. Benin
164. Côte d'Ivoire
165. Zambia
166. Malawi
167. Congo, Dem. Rep. of the
168. Mozambique
169. Burundi
170. Ethiopia
171. Chad
172. Central African Republic
173. Guinea-Bissau
174. Burkina Faso
175. Mali

Conclusion
Assessing country risk?
Economic Intelligence!

1. Macroeconomic analysis
2. Balance of payments analysis: liquidity & solvency
3. Socio-political analysis
4. Market consensus: rating agencies
5. Business environment: corruption, bureaucracy, institutions, transpareny
6. Interplay country-global system