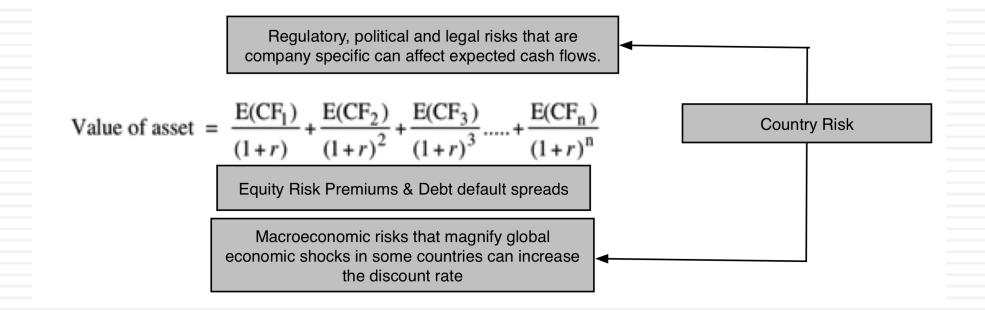
# DATA 2017 UPDATE 4: COUNTRY RISK

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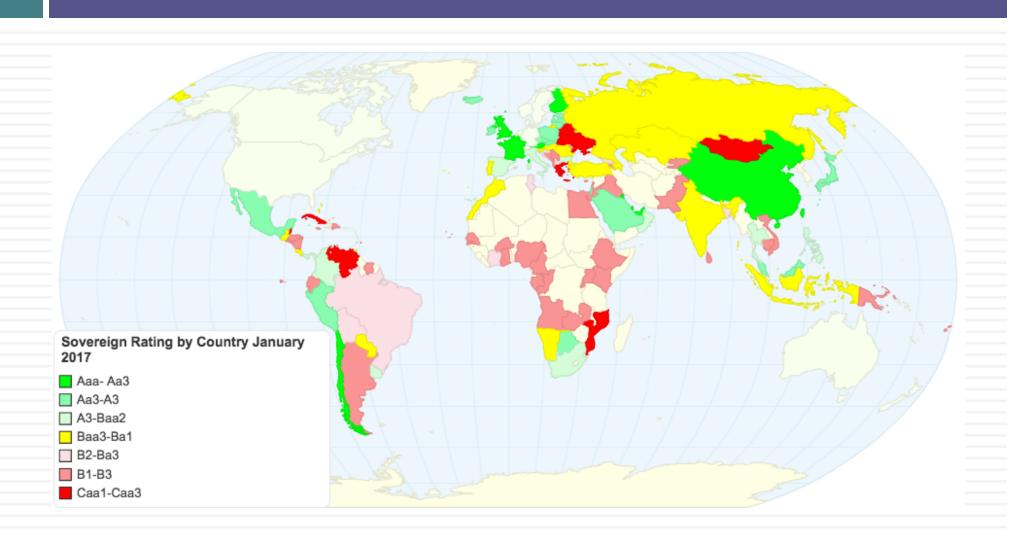
## Proposition 1: It's where you operate, not where you incorporate

- It is where a company operates that determines its risk exposure, not just where it is incorporated.
- Thus, you can have US companies like Coca Cola (through its revenues) and Exxon Mobil (from its oil reserves) with substantial emerging market exposure and emerging market companies like Tata Consulting Services and Embraer with significant developed market exposure.
- In fact, what we face in valuation increasingly are global companies that through the accident of history happen to be incorporated in different countries.

### Proposition 2: Country Risk affects Value



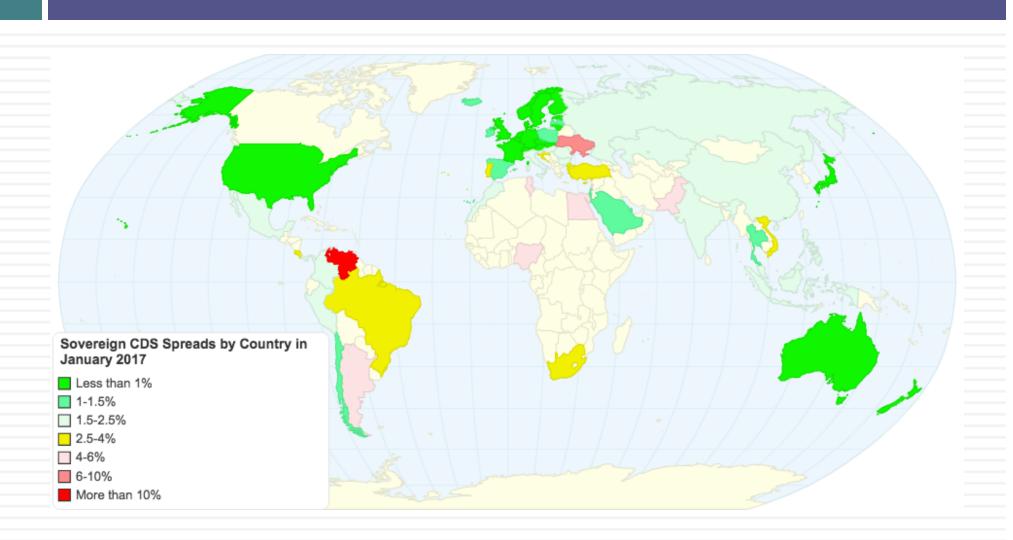
# Measuring Country Risk – Sovereign Ratings



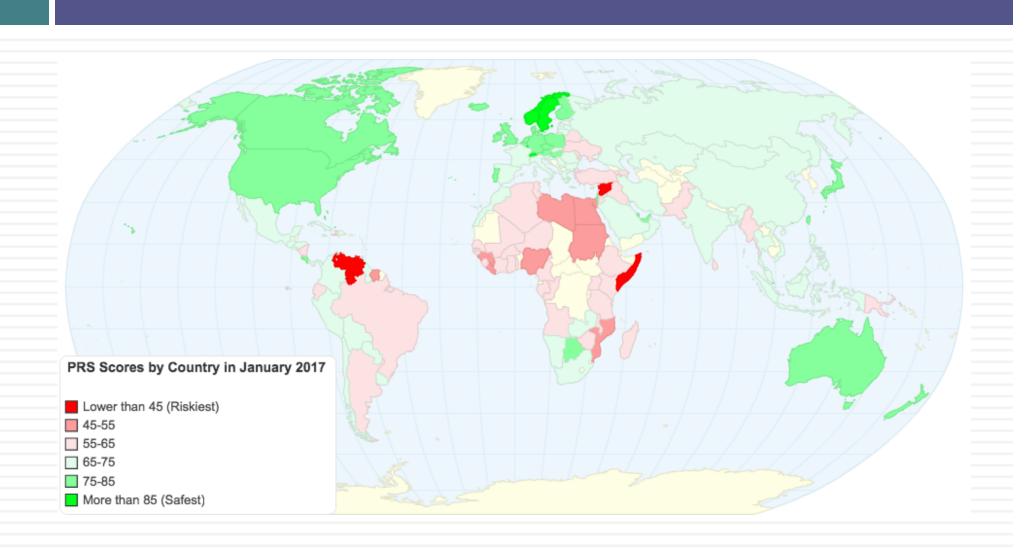
# Measuring Country Risk – Government Bond Default Spreads

Country	Maturity	US\$ Bond rate	US T.Bond rate (same maturity)	Default Spread
Argentina	10 years	6.81%	2.45%	4.36%
Brazil	10 years	5.08%	2.45%	2.63%
Chile	10 years	3.14%	2.45%	0.69%
Colombia	10 years	3.84%	2.45%	1.39%
Indonesia	10 years	3.99%	2.45%	1.54%
Mexico	10 years	4.16%	2.45%	1.71%
Peru	10 years	3.34%	2.45%	0.89%
Russia	10 years	4.27%	2.45%	1.82%
Ukraine	10 years	8.44%	2.45%	5.99%
Venezuela	10 years	21.91%	2.45%	19.46%

# Measuring Country Risk with Sovereign CDS Spreads



### Beyond Default Risk – Country Risk Scores



### Measuring Country ERP

- There are many who use country default spreads as a proxy for the additional risk that you would demand for investing in equity in that country, adding it on to a base equity risk premium (ERP) that they have estimated for a mature market (usually the US).
  - ERP for Country A = ERP for US + Default Spread for Country A
- I use a variant where I adjust the default spread for the additional risk of equity:

$$ERP_{Country A} = ERP \text{ for Mature Market} + Default Spread_{Country A} * \left[ \frac{\sigma_{Country A Equity}}{\sigma_{Country A Govt Bond}} \right]$$

### Moving on to Equity Risk

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#### **ERP Estimation Procedure**

Step 1: Mature Market Premium Step 2: Assess country risk

Step 3: Convert country risk measure into an additional country risk premium for equity

Step 4: Estimate an ERP for country

ERP for country = US

**ERP** 

Estimate the implied equity risk premium for S&P 500

In January 2017, ERP for S&P 500 was roughly 5.69%

If sovereign rating is less than AAA, get a default spread for the country, using one of

if sovereign rating is AAA

- 1. Spread on sovereign bond in US\$
- 2. CDS spread3. Ratings table

Market Volatility =
Std dev of
emerging market
equity index/ Std
dev of emerging
market bond index

Relative Equity

ERP for country
= US ERP

+ Default Spread \*
Relative Equity Market
Volatility

In January 2017 = 1.23

If rating not available on Moody's, check on S&P & convert into Moody's equivalent

Check the sovereign

local currency rating

for the country, with

Moody's.

If there is no sovereign rating, get a country risk score from PRS.

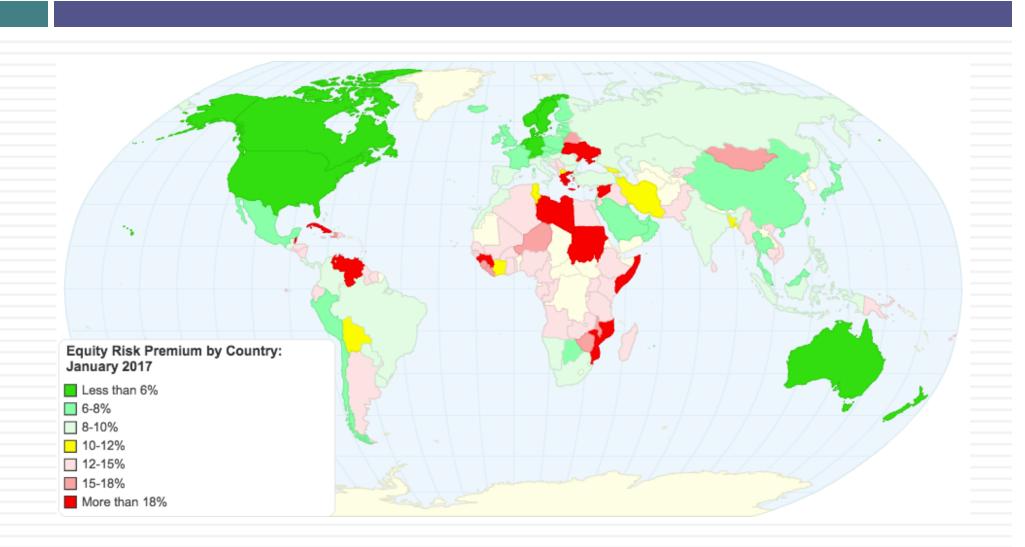
Estimate an ERP based on PRS score

ERP for country = PRSbased ERP

Monthly

Every six months (in January and July)

### Equity Risk Premiums in January 2017



### From Country to Company Risk

- The one prediction that we can also safely make for next year is that just as we have each year since 2008, there will be at least one and perhaps even two major shocks to the global economic system, precipitated by politics or by economics or both.
- Those shocks affect all markets globally, but to different degrees and it behooves us to not only be aware of the impact after they happen but be proactive and start building in the expectation that they will happen into our required returns and values.
- In short, we no longer have the luxury of being just domestic-market focused even if every company that we invest in is just a domestic company.