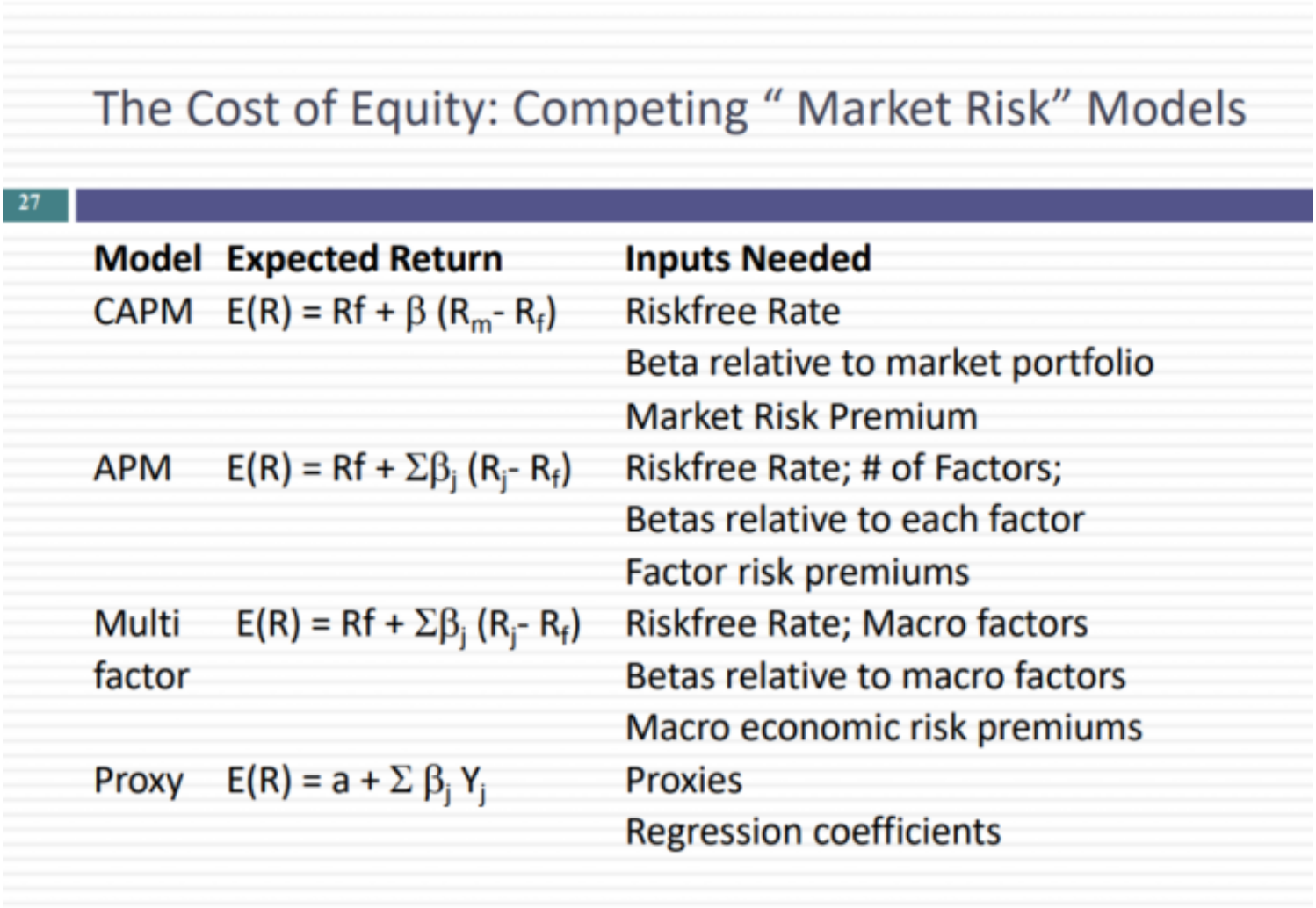
KE

KE- COST OF EQUITY

what is it ? - investor expectation , rate of return expected by a diersified marginal investor
why do we want it? - it helps us to get to PV of the firm/ asset that we want, by the way of FCFE
How do we get it ? - well, there are many models to calculate ke, the OG CAPM , APM , PROXY etc



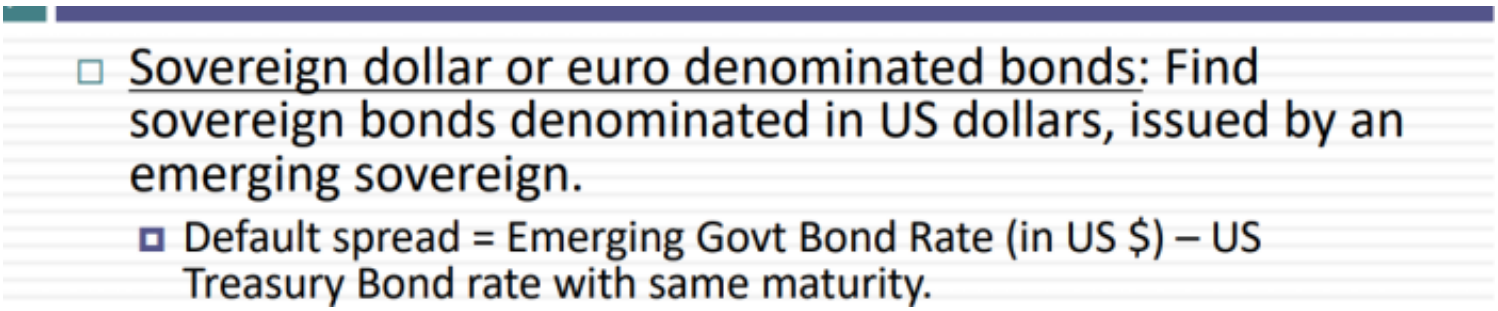
CAPM - CAPITAL ASSET PRICING MODEL

- ***ke= Rf+ Beta(Rm-Rf)***

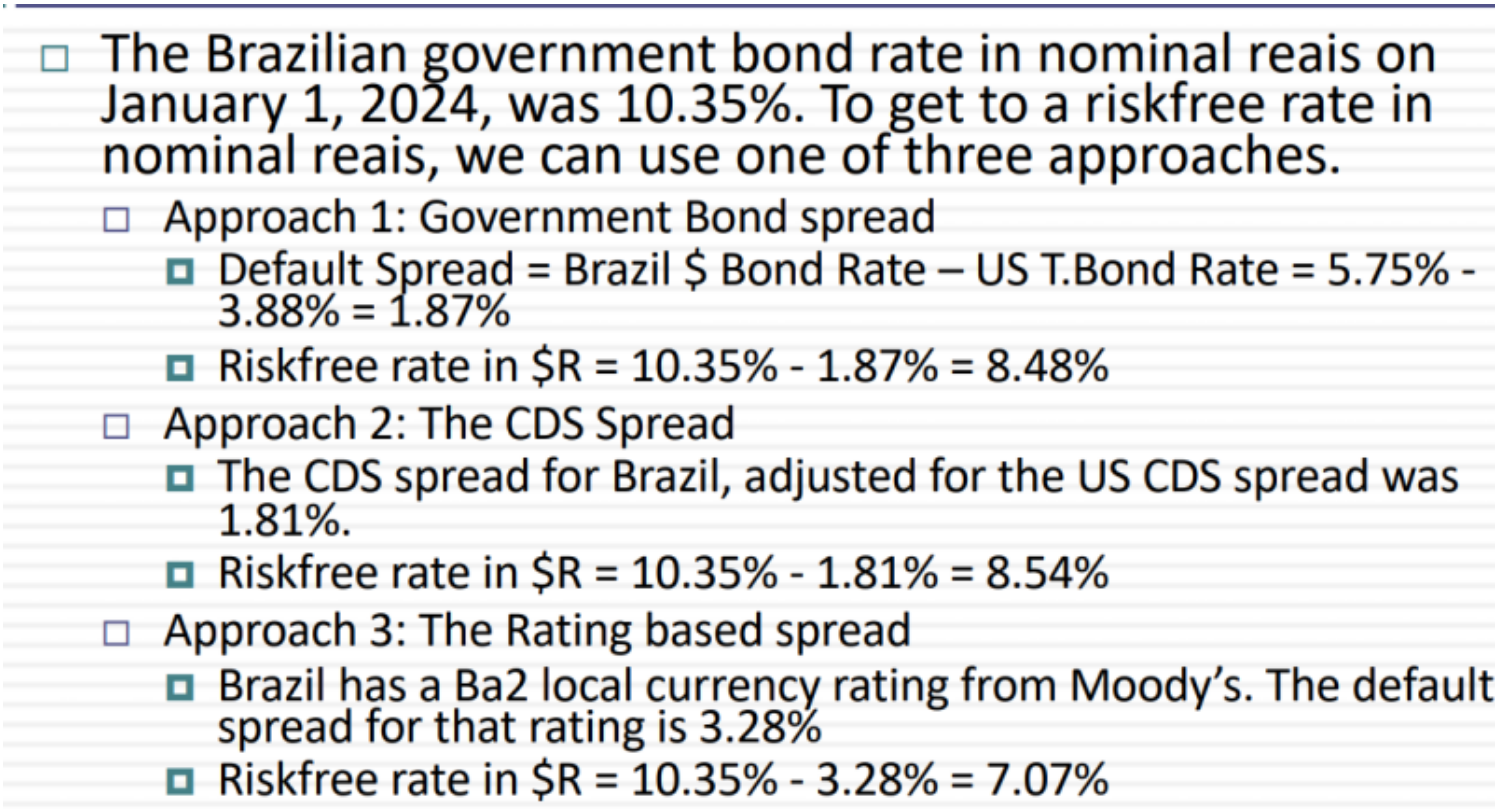
• risk free rate essentially forms the basis of CAPM and essentially DCF, it depeneds on the currency in which all of this shenanigan is being done, and the time horizon on hand becuase risk free rate will vary for three months, 10 years or 30 years and similarily it will vary if the cashflows are in rupee, dollor or yen.
• generally, a 10-year bond yeild is prescribed of whatever nation's currency cashflows are in. -
• and here comes DEFAULT RISK in discount rate- which is country risk.- it has to be taken out from riskfree rate of bond to make it actually risk free
• ***Rf= yeild of 10yr bond- default spread*** (moody's website)

ESTIMATION OF DEFAULT SPREAD: what is it you may ask, it is the component of long term bond rate in x currency of x govt, which has to be substracted to find our RISK free rate
you can find out default spread in no. of ways;

1. you find out if the desired country's (herein after x) has issued bonds in US/ euros- if they have congratulations! youre saved a hell lot of extra work. you find out what x is offering on dollor - US treasury of same period.



2.CDS - CREDIT DEFAULT SWAPS MARKETS- its a Listing that hepls people to buy insurance and stuff and you can find it
3.MOODY'S ratings



ALL IN ALL, these above methods require that YOU have ***X country's issue long term bonds rate*** to give you a starting point, ki chalo isme se default spread minus karke ill get to my risk free rate, but what if the country at hand doesnt issue long term bonds or even if they do , the rate is not fair(set by demand and suppy) but unfair (set by govt or any other entity) and basically biased? untrue, whateves. ***SO YOU CANT TRUST IT.*** then what you do :

- You can scale up the riskfree rate in a base currency ($, Euros) by the differential inflation between the base currency and the currency in question. In US $:

$$\text{Risk free rate}_{\text{Currency}} = (1 + Riskfree\ rate_{US\ \$}) \frac{(1 + Expected\ Inflation_{Foreign\ Currency})}{(1 + Expected\ Inflation_{US\ \$})} - 1$$

- Thus, if the US $ risk free rate is 2.00%, the inflation rate in Egyptian pounds is 15% and the inflation rate in US $ is 1.5%, the foreign currency risk free rate is as follows:

$$\text{Risk free rate} = (1.02) \frac{(1.15)}{(1.015)} - 1 = 15.57\%$$

so here i can open my eyes and see how we can calculate in case the govt is untrustworthy

(epectation of inflationary numbers can be found on IMF website)

• "With a real risk-free rate of 1.5%, discount rates drop, making valuations balloon, and equities appear overpriced relative to fundamentals. Analysts fearing inflated valuations sometimes use a normalized 4% real risk-free rate to bring valuations down artificially. But Damodaran warns that the risk-free rate is not yours to normalize. If you think equities are overpriced, rotate into bonds, and the market itself will push bond yields up over time, naturally correcting valuations. Don't fudge the inputs."

excercise: figure out risk free rate: (SDG) - SINGAPOREAN DOLLARS
on jun 13 sdg 10year bond yeild= 2.277% and its AAA rating , so according to data the default spread is 0.45% making the final risk free rate to be 1.827%