equity risk premium

THE PERIL OF EQUITY RISK PREMIUM

It basically refer to what people investing in equity make over if they had gone risk free and invested in bonds (ignore defaualt risk for now). what more im making if im assuming extra risk and investing in equity. now it can be calculated historically but only in US becuase you need long enough history to even trust these numbers

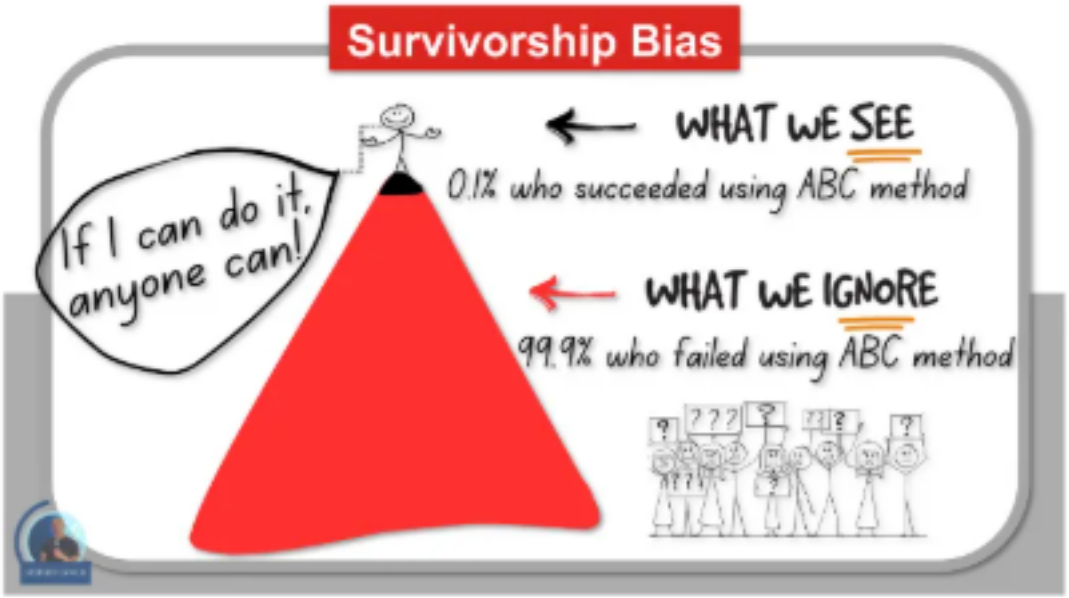
While the users of historical risk premiums act as if it is a fact (rather than an estimate), it is sensitive to

- How far back you go in history...
- Whether you use T.bill rates or T.Bond rates
- Whether you use geometric or arithmetic averages.

For instance, looking at the US:

	Arithmetic Average		*Geometric Average*	
	Stocks - T. Bills	Stocks - T. Bonds	Stocks - T. Bills	Stocks - T. Bonds
1928-2023	8.32%	6.80%	6.50%	5.23%
Std Error	*2.03%*	*2.14%*		
1974-2023	8.18%	5.95%	6.79%	4.97%
Std Error	*2.45%*	*2.73%*		
2014-2023	11.70%	11.17%	10.63%	10.44%
Std Error	*4.97%*	*3.86%*		

it can be observed that, using historical risk premiums is extremely noisy due to lack of historical data, different types of averages and *STANDARD ERRORS.* and secondly *SURVIVORSHIP BIAS*:



bacically means we cant be just looking at winners to draw general conclusion

SO HOW DO WE CALCULATE EQUITY RISK PREMIUM

1. ERP of a mature market (US)+ Default spread of the country we are valuing = ERP of the country (now this is very simplistic)

PROBLEM WITH THIS MEASURE: *ok for starting point we have the ERP of US markets and we are adding default spread of the country, which is what is the risk that country will default on bond payment, now equities are riskier than bonds, so this methods understates the risk preimium and overall KE, And overstates the value of the company. so hence BOO!*

2. This methods aims to improve on the fact that yes, default risk of the bonds and risk of equities are highly correlated but they are not equal. so what we do is scale the default spread with the riskiness of equity as compared to bonds this makes the extra component that will be paid on top of mature market's permium

$$ERP\ of\ country = US\ market\ ERP + default\ spread_{country} \frac{\sigma_{country's\ equity}}{\sigma_{country's\ bonds}}$$

this method works fine, and can be used

3. DEVELOPED BY GOLDMAN, They basically dont wanna talk about bonds and default spread, they are like the question is about equity lets dont meddle with bonds here. so what they did for base they assumed equity risk premium offered by US markets and then scale it up by riskiness of that country's equity as compared to US market equity

$$ERP\ of\ country = risk\ premium\ of\ mature\ market(US) + \frac{\sigma_{country's\ equity}}{\sigma_{US\ equity}}$$

PROBLEM WITH THIS MEASURE: the basic problem when comparing any base equity market with US equity market is of liquidity, for underdeveloped / struggling economies where liquidity is not as high as of US, the standard deviation will also eb low, furthur reducing the ERP . for eg= lets try to calculate ERP for sudan(KSE)- WHICH IS VERY *ILLIQUID*

FROM ALL THESE ABOVE METHOD WE ARE GETTING COUNTRY ERP OR CRP , HOW DO WE BOIL DOWN TO A SPECIFIC COMPANY'S ERP

Not all companies are exposed to same country risk, even when the are situated in same company, for eg- HUL and infosys, where hul is mostly indian operations and consumption, infy gets only 3% of revenue from india, so obviously they are not equally exposed to risk assumed by country thats india. now if we assume same ERP (BY DAMODARAN'S METHOD OF CRP) while valuing both these companies, Then we are fools.

DAMODARAN SAYS: AND OBVIOUSLY WE AR TAKING 3RD APPROACH , ***SO LETS CALCULATE LAMBDA***

From Country Equity Risk Premiums to Corporate Equity Risk premiums

- Approach 1: Assume that every company in the country is equally exposed to country risk. In this case,
  - E(Return) = Riskfree Rate + CRP + Beta (Mature ERP)
- Approach 2: Assume that a company's exposure to country risk is similar to its exposure to other market risk.
  - E(Return) = Riskfree Rate + Beta (Mature ERP+ CRP)
- Approach 3: Treat country risk as a separate risk factor and allow firms to have different exposures to country risk (perhaps based upon the proportion of their revenues come from non-domestic sales)
  - E(Return)=Riskfree Rate+ β (Mature ERP) + λ (CRP)

Mature ERP = Mature market Equity Risk Premium

CRP = Additional country risk premium

ofc approach 1 is bullshit,