DATA UPDATE 4 FOR 2022: RISK AND HURDLE RATES!

Risk = Danger + Opportunity

A reminder on risk, in case you needed it…

- In the first few weeks of 2022, we have had repeated reminders from the market that risk never goes away for good, even in the most uplifting markets, and that when it returns, investors still seem to be surprised that it is still there.
- Investors all talk about risk, but there seems to be little consensus on what it is, how it should be measured and how it plays out in the short and long term.
- In this post, I will start with a working definition of risk that we can get some degree of agreement about, and then look at measures of risk, both at the company and country level, and converting those measures into "hurdle rates".

An Ages-old Definition of Risk

- In the four decades that I have been teaching finance, I have always introduced my discussion of risk with a Chinese symbols for crisis, as a combination of danger plus opportunity:

- Over the four decades, though, I have been corrected dozens of times on how the symbols should be written, with each correction being challenged by a new reader. That said, though, thinking about risk as a combination of danger and opportunity is both healthy and all encompassing

Implications for risk taking…

- Opportunity, without danger, is a delusion: If you seek out high returns (great opportunities), you have to be willing to live with risk (great danger).
- Danger, without opportunity, is foolhardy: In investing, taking on risk without an expectation of a reward is a road to disaster. If you are investing in a risky project or investment, your expected return should be higher to reflect that risk, even though fate may deliver actual returns that are worse than expected.
- It is uncertainty about outcomes, not expected outcomes, that comprise risk: In investing, we often make the mistake of assuming that risk comes from bad outcomes, when it is uncertainty about this expectation that drives risk.
  - It is not high inflation that is risk, but uncertainty about that inflation.
  - If a firm is badly managed, and you expect it to remain badly managed, you can and should build in that expectation into your forecasts of that company's earnings and value. Thus, a badly managed firm, where you expect the management to continue to remain in that state, will be less risky than a well managed firm, where there is much more uncertainty about management turnover and actions.
- Risk is in the future, not the past: Risk is always about the future, since the past has already revealed its secrets. That said, many of our perspectives about and measures of risk come from looking backwards, using the variability and outcomes of past data as an indicator of risk in the future.
- Upside versus Downside Risk: If risk comes from actual outcomes being different from expectations, it is worth noting that those outcomes can come in better than expected (upside) or worse than expected. Since the entire basis of investing in risky assets is to benefit from the upside, it is downside risk that worries us, and in keeping with this perspective, there have to been attempts to derive risk measures that focus only on or more on downside risk.

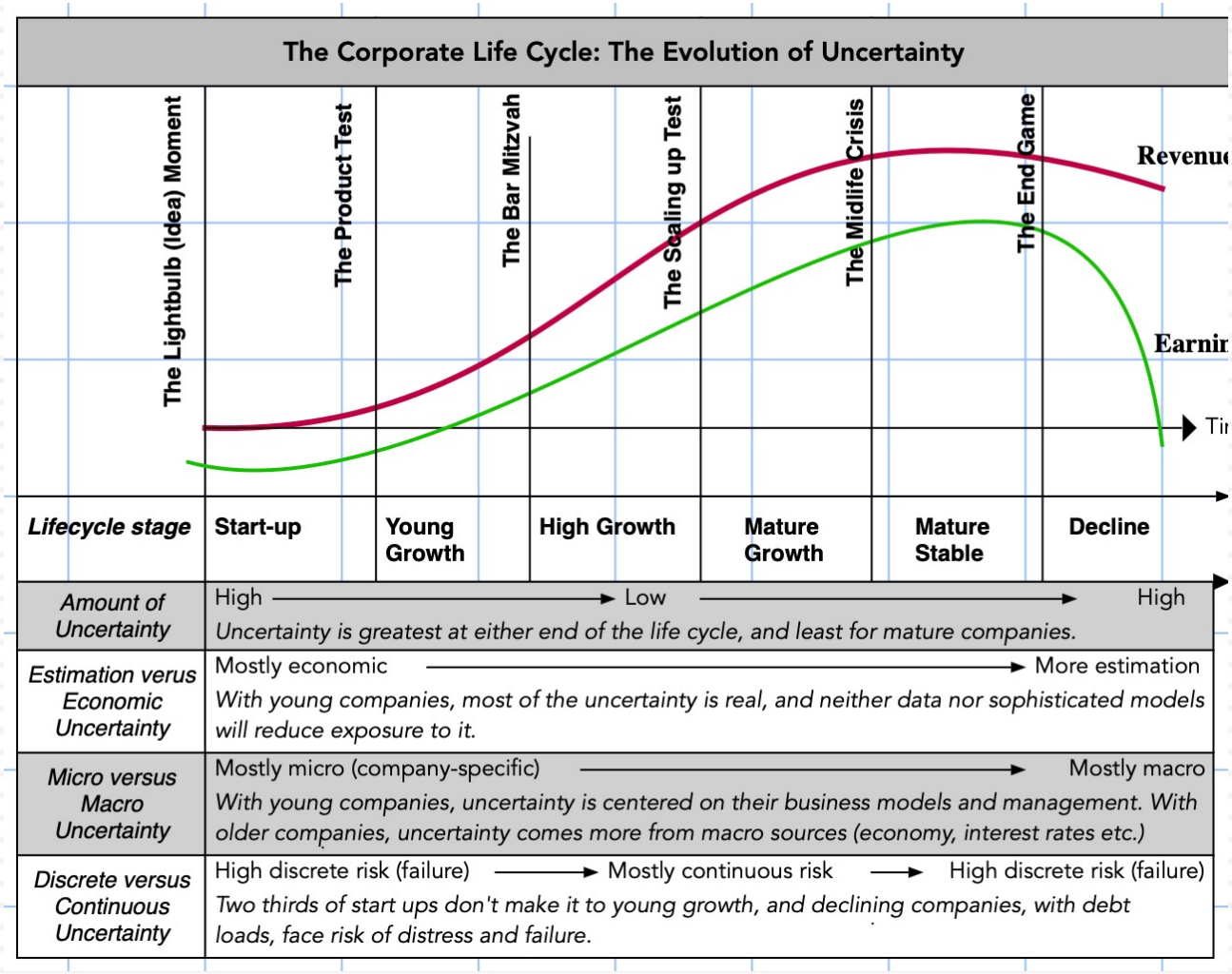
Finance's Risk Perspective

- As someone who works in, and teaches finance, I am grateful for what the discipline has done to advance the study of risk, but I would be remiss if I did not point out that it has come with some not-so-desirable side effects.
  - One is the tunnel vision that comes from thinking of risk purely in terms of statistical measures, with standard deviation and variance leading the way.
  - The other is the dangerous notion that measuring risk is the same as managing that risk and, in some cases, the even more insane view that it removes that risk.

Risk: In many forms…

Estimatiion versus Economic Risks		
Estimation Risks are risks that you can reduce or mitigate by collecting more data or doing more research.	Economic Risks are risks that will exist no matter how much research you do or data you collect.	If the bulk of the risk in a company is economic risk, your valuation will be imprecise, no matter how hard you try.
Micro versus Macro Risks		
Micro Risks are risks that are specific to the company or the sector it operates in, from business models to management quality.	Macro Risks are risks that come from movements in the economy, interest rates, inflation or from acts of God	If you hold a diversified portfolio, micro risks will average out across your portfolio, and only macro risk has to be incorporated into your discount rate.
Continuous versus Discrete risks		
Continuous Risks are risks that affect a firm through time, affecting earnings, cash flows and value on a continuous basis.	Discrete Risks are risks that lie hidden for periods before emerging suddenly and sometimes in catastrophic form.	Continuous risk are easier to hedge, plan for and incorporate into valuation than discrete risks.

And across the life cycle…



From risk to hurdle rates, for equity investors…

- To get from these general risk categories into explicit risk measures and required returns, I adopt a simple structure (perhaps even simplistic), where I accept that I am a price taker when it comes to some risks (interest rates and risk premiums) and focus on the components of risk that companies can change through their choices on business, geography and debt load:

Return Required on an Equity Investment	=	Risk free Rate	+	Relative Risk Measure	X	Equity Risk Premium (Price of Risk in Equity Market)
Cost of equity *to firms &* ***required return*** *for equity investors*		*Depends on* ***currency*** *of analysis*		*Determined by* ***businesses*** *that you choose to enter &* ***debt load*** *you carry.*		*Function of the* ***geographies*** *that you operate in.*

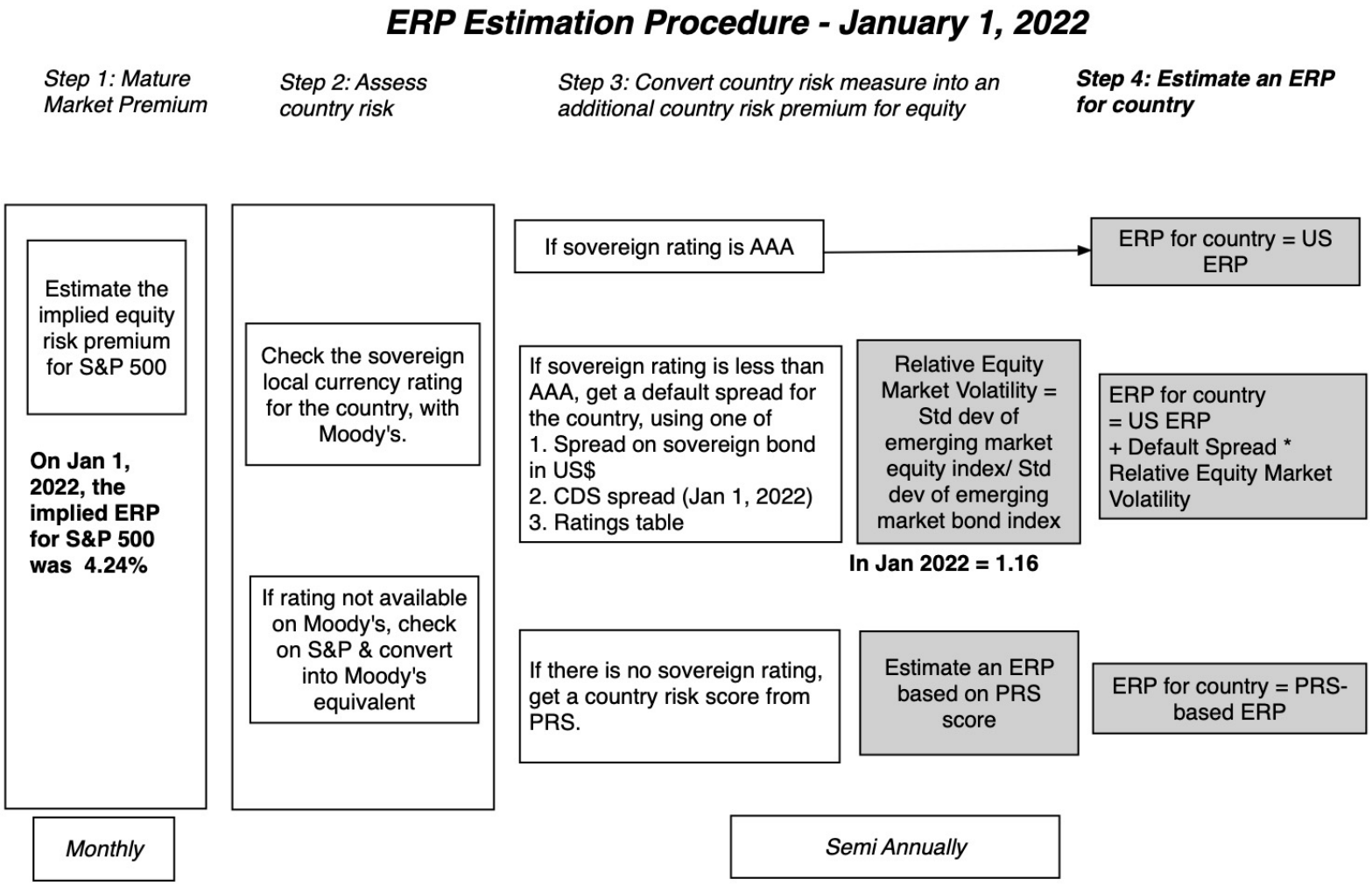
1. Measuring Relative Risk

- Not all stocks are equally risky, and some stocks are more risky than others, and the objective of a relative risk measure is to capture that relative risk.
- The disagreements rise in how to measure this relative risk, and risk and return models in finance have tried, with varying degrees of success, to come up with this measure.
- The most widely model for risk, in practice, is the capital asset pricing model, and beta is the relative risk measure.
- Embedded in its usage is the assumption that the marginal investors in a stock, i.e., those large investors who set prices with their trading, are diversified, and that you can estimate the "non-diversifiable" risk in a stock, by regressing returns on a stock against a market index.

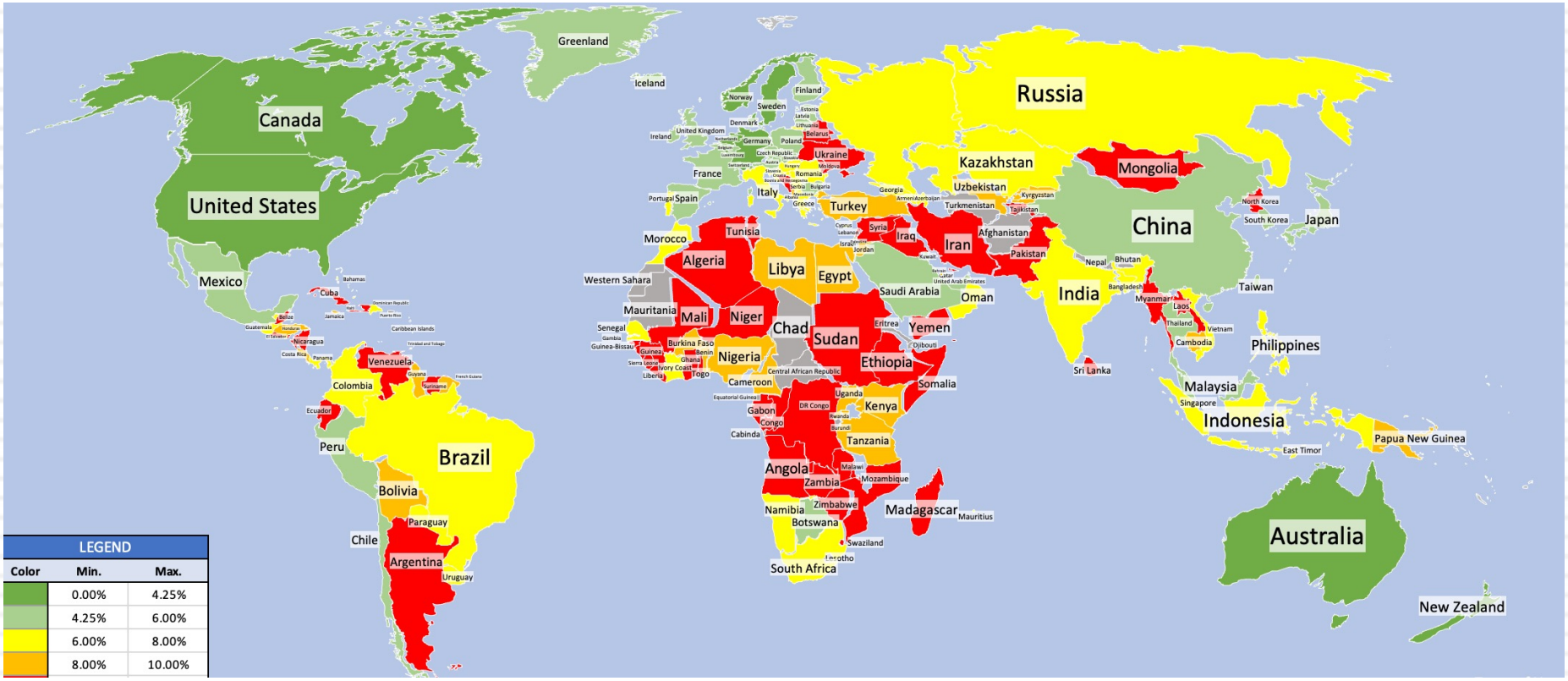
Better Betas?

Lowest Unlevered Beta			Highest Unlevered Beta		
Industry Name	*Beta*	*Unlevered beta*	*Industry Name*	*Beta*	*Unlevered beta*
Financial Svcs. (Non-bank & Insurance)	0.93	0.15	Homebuilding	1.69	1.45
Retail (Grocery and Food)	0.30	0.20	Retail (Building Supply)	1.52	1.39
Telecom. Services	0.85	0.49	Hotel/Gaming	1.79	1.34
Bank (Money Center)	1.12	0.50	Publishing & Newspapers	1.69	1.34
Brokerage & Investment Banking	1.17	0.50	Restaurant/Dining	1.56	1.30
Rubber& Tires	1.16	0.54	Semiconductor Equip	1.34	1.29
Power	0.83	0.55	Oil/Gas (Integrated)	1.47	1.23
Banks (Regional)	0.70	0.56	Computers/Peripherals	1.29	1.22
Utility (General)	0.89	0.59	Trucking	1.44	1.21
Utility (Water)	0.77	0.61	Software (Entertainment)	1.20	1.19

Country Equity Risk Premiums…

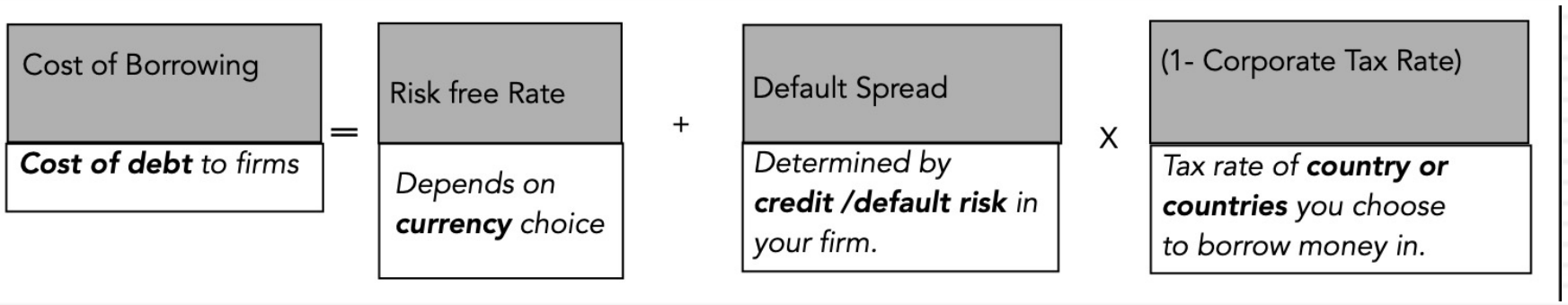


The ERP World…

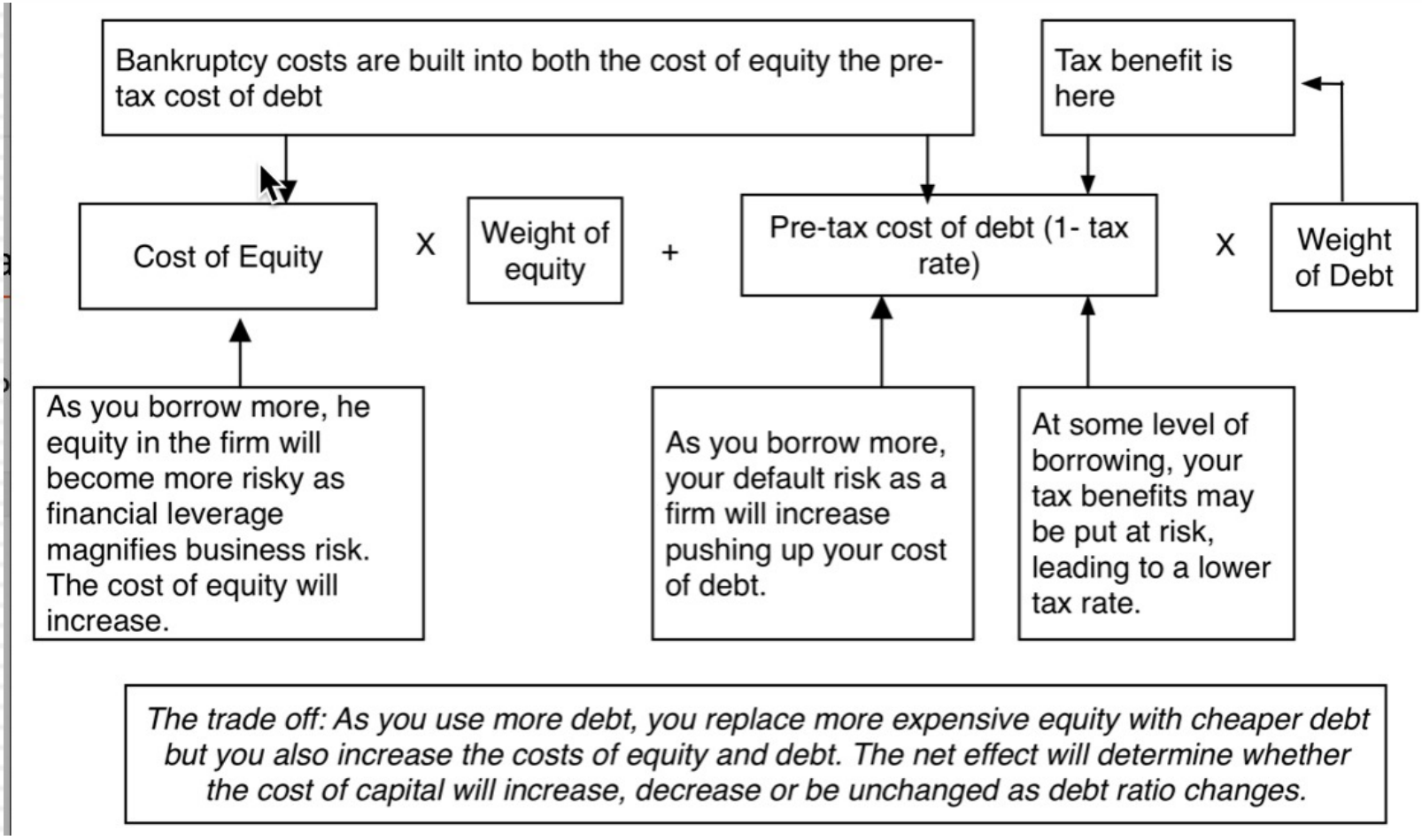


Debt, the other ingredient of capital

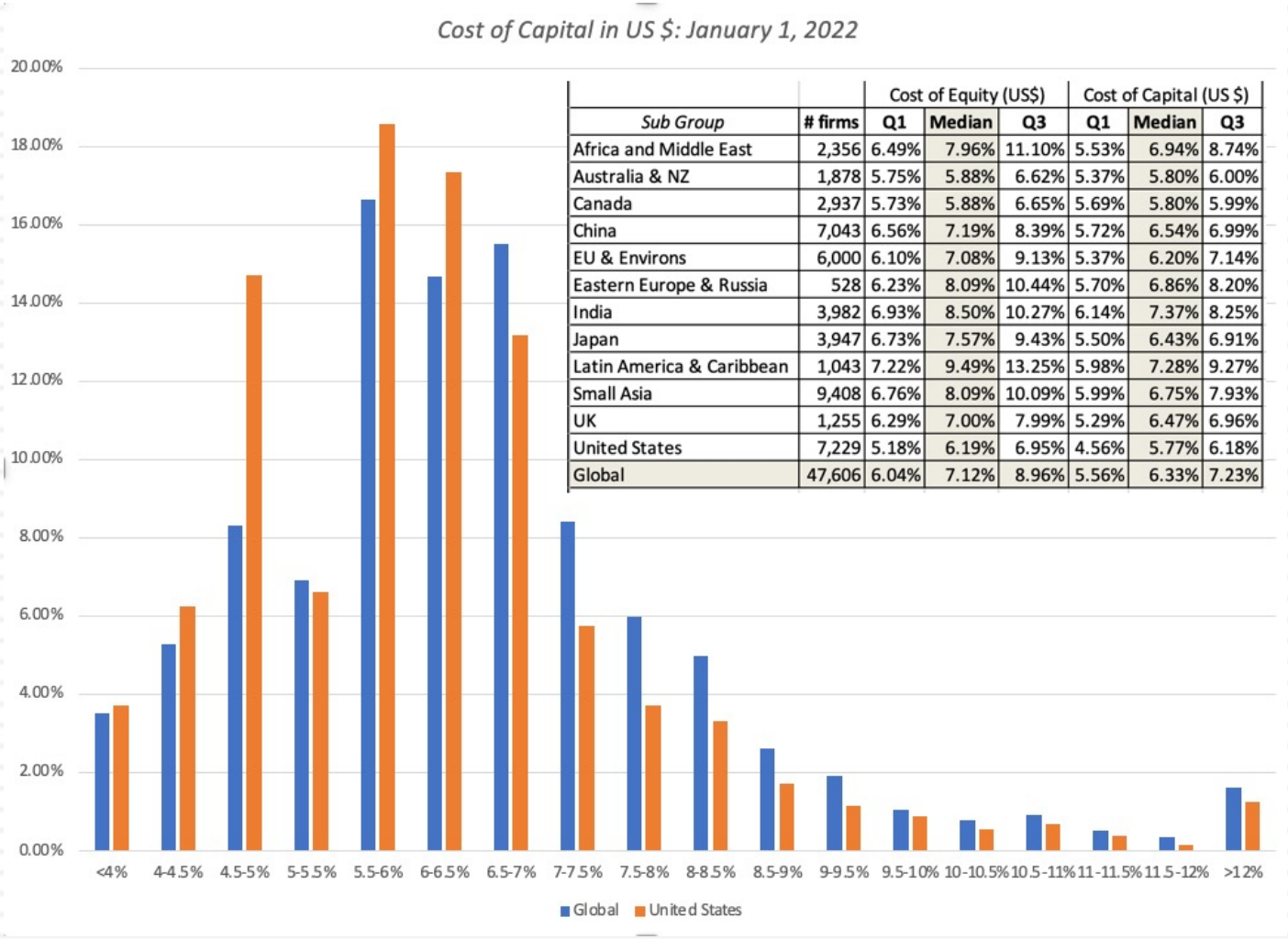
- The cost of debt for a company is the rate at which it can borrow money, long term, and today, and not the cost of the debt that is already on its books.
- The build up to a cost of debt is simple:



Funding Mix and Cost of Capital



Cost of Capital in January 2022



		Cost of Equity (US$)			Cost of Capital (US $)		
Sub Group	**# firms**	**Q1**	**Median**	**Q3**	**Q1**	**Median**	**Q3**
Africa and Middle East	2,356	6.49%	7.96%	11.10%	5.53%	6.94%	8.74%
Australia & NZ	1,878	5.75%	5.88%	6.62%	5.37%	5.80%	6.00%
Canada	2,937	5.73%	5.88%	6.65%	5.69%	5.80%	5.99%
China	7,043	6.56%	7.19%	8.39%	5.72%	6.54%	6.99%
EU & Environs	6,000	6.10%	7.08%	9.13%	5.37%	6.20%	7.14%
Eastern Europe & Russia	528	6.23%	8.09%	10.44%	5.70%	6.86%	8.20%
India	3,982	6.93%	8.50%	10.27%	6.14%	7.37%	8.25%
Japan	3,947	6.73%	7.57%	9.43%	5.50%	6.43%	6.91%
Latin America & Caribbean	1,043	7.22%	9.49%	13.25%	5.98%	7.28%	9.27%
Small Asia	9,408	6.76%	8.09%	10.09%	5.99%	6.75%	7.93%
UK	1,255	6.29%	7.00%	7.99%	5.29%	6.47%	6.96%
United States	7,229	5.18%	6.19%	6.95%	4.56%	5.77%	6.18%
Global	47,606	6.04%	7.12%	8.96%	5.56%	6.33%	7.23%

Hurdle Rate Delusions

- The two biggest forces driving corporate financial and investor decision making are me-too-ism and inertia.
- Both individual investors and companies seem to operate under the delusion that hurdle rates should reflect what they want to make on investments, rather than what they need to make.
  - Individual investors who demand unrealistically high returns in a market that is priced to deliver 6-7% returns on stocks will end up holding cash, and many of them have been doing so for the bulk of the last decade.
  - Companies that institute hurdle rates that are too high will be unable to find investments that can deliver higher returns, and will lose out to competitors who have more realistic hurdle rates.
- In short, companies and investors, demanding double digit returns, have to decide whether they want to remain delusional and be shut out of investing, or recalibrate their expectations to reflect the world we live in.