DATA UPDATE 4 FOR 2024: RISK = DANGER PLUS OPPORTUNITY

You cannot have one without the other!

The Lead In

- In my last two posts, I looked at how equity markets rebounded in 2023, driven by a stronger-than-expected economy and inflation coming down, and how interest rates mirrored this rebound.
- In this post, I look at risk, a central theme in finance and investing, but one that is surprisingly misunderstood and misconstrued and look at variations in risk across sectors and geographies, using both price-based and intrinsic measures of risk.
- There are wide variations in risk across companies and countries, and those variations can lead to differences in expected returns and hurdle rates, central to both corporate finance and investing judgments.

What is risk? Finance's Mistakes!

- First, it has put too much emphasis on market-price driven measures of risk, where price volatility has become the default measure of risk, in spite of evidence indicating that much of this volatility has nothing to do with fundamentals.
- Second, in our zeal to measure risk with numbers, we have lost sight of reality that the effects of risk are as much on human psyche as they are on economics.
- Third, by making investing a choice between good (higher returns) and bad (higher risk), a message is sent, perhaps unwittingly, that risk is bad, something to be avoided or hedged.

Risk: A Healthier Perspective

危機 = Danger + Opportunity

- Thinking of risk as a combination of danger and opportunity is, in my view, a perfect pairing. By linking the two at the hip, it sends the clear and very important signal that you cannot have one (opportunity), without exposing yourself to the other (danger.
- It also removes the negativity associated to risk, and brings home the truth that you build a great business not by avoiding danger (risk), but by taking the right risks, while getting fair returns for those risk.

Breaking down risk into buckets…

Estimation 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 why it helps…

1. Know when to stop: In a world, where data is plentiful and research is accessible, it is easy to put off a decision or a final analysis, while collecting more information. That is understandable, but digger deeper into the data will lead to better estimates, only if the risk that you are looking at is estimation risk. Much of the risk that we face when valuing companies or analyzing investment is economic uncertainty, impervious to more data and analysis. It is therefore healthy to know when to stop, accepting that your analysis is always a work-in-progress and that decisions have to be made in the face of uncertainty.
2. Don't overthink the discount rate: One of my contentions of discount rates is that they cannot become receptacles for all your hopes and fears. Analysts often try to bring company-specific components, i.e, micro uncertainties, into discount rates, and in the process, they end up incorporating risk that investors can eliminate, often at no cost.
3. Use more probabilistic & statistical tools: As noted in the table, the best tools for bringing in discrete risk are probabilistic, i.e., decision trees and scenario analysis. In fact, statistical tools are, for the most part, tailor-made for many of the problems that we face routinely in finance, and are underutilized.

Risk Measurement: The Markowitz Breakthrough!

The required return on an asset is determined by the "non-diversifiable" or "market" risk and that risk can be measured by looking at prices

DIVERSIFIED MARGINAL INVESTOR

The marginal investor, i.e., the investor who sets prices at the margin, is diversified.

INFORMATIVE MARKET PRICES

The movements in stock prices occur primarily because of fundamentals, with noise canceling out.

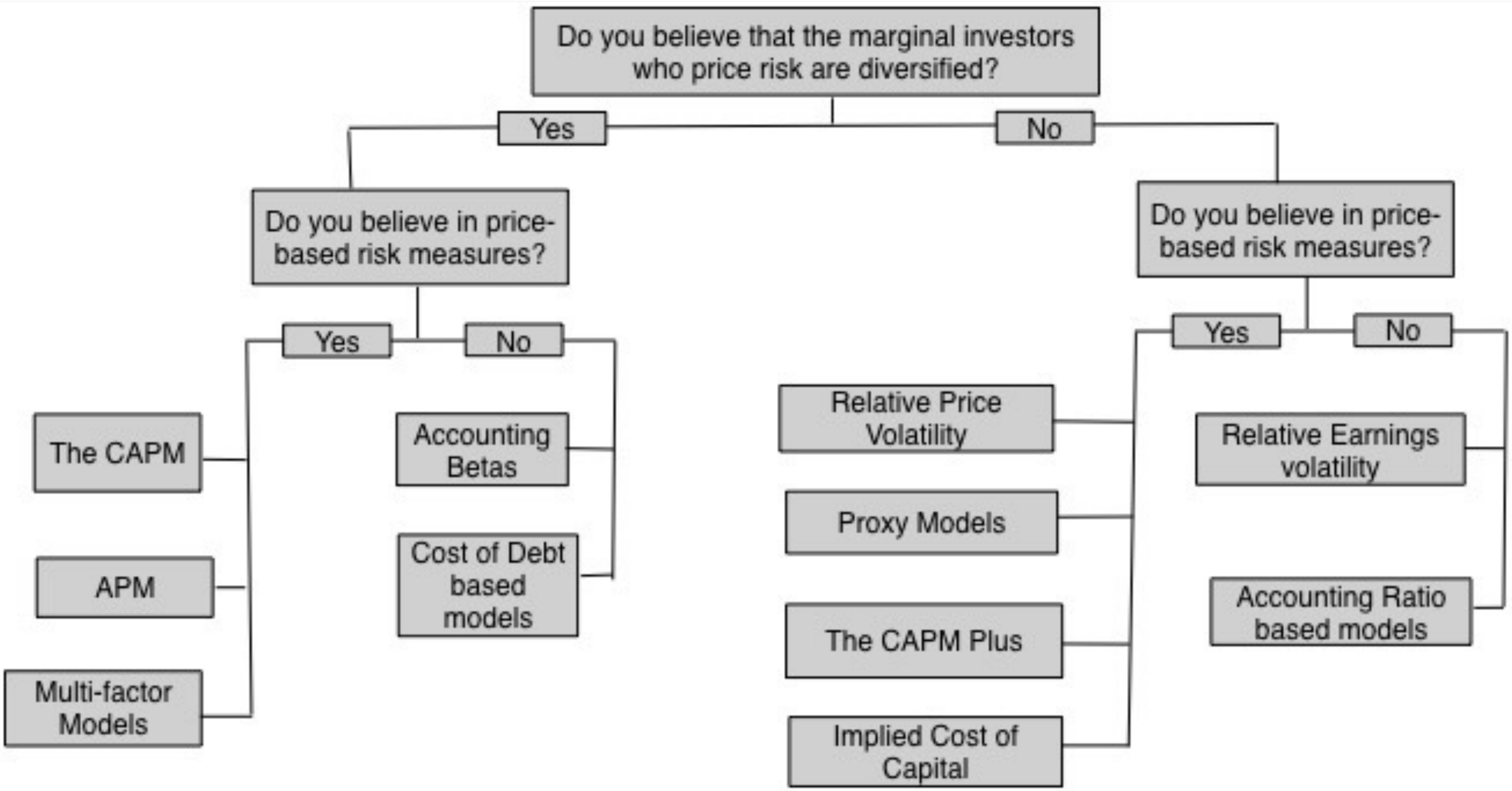
Since marginal investor holds multiple investments, risks that are firm or even sector specific get averaged out. **The only risk that gets incorporated is the risk that cannot be diviersified away, i.e., macroeconomic risk exposure**

The exposure to macroeconomic risk can be estimated by looking at how the price of the asset moves relative to the rest of the market.
CAPM: **Beta** against market portfolio
APM: **Betas** against unspecified statiistical market factors
Multi-factor: **Betas** against macroeconomic factors

Room to disagree?

- By building on the assumptions that the investors pricing a business are diversified, and price-based risk measures, modern portfolio theory has exposed itself to criticism from those who disagree with one or both of these assumptions.
  - Thus, there are old-time value investors whose primary disagreement is on the use of pricing measures for risk, arguing that risk has to come from numbers that drive intrinsic value - earnings and cash flows.
  - There are other investors who are at peace with price-based risk measures, but disagree with the "diversified marginal investor" assumption, and they are more intent on finding risk measures that incorporate not just the macro components of risk, but also their micro concerns. I do believe that the critiques of both groups have legitimate basis, and while I don't feel as strongly, I can offer modifications of risk measures to counter the critiques;

Modifications on Risk Measurement



Risk Differences across Companies – Price-based Risk Measures!

- My data universe includes all publicly traded companies, and since they are publicly traded, computing price-based risk measures is straight forward. That said, it should be noted that liquidity varies widely across these companies, with some located in markets where trading is rare and others in markets, with huge trading volumes.
- With that caveat in mind, I computed three risk-based measures -
  - *a simplistic measure of range*, where I look at the distance between the high and low prices, and scale it to the mid-point,
  - the *standard deviation in stock prices*, a conventional measure of volatility and
  - *beta*, a measure of that portion of a company's risk that is market-driven.

Price-based Risk: Sector Differences

		Hi-Lo Risk Measure			Standard Deviation (Stock Prices)			Beta		
Primary Sector	*# Firms*	*First Quartile*	*Median*	*Third Quartile*	*First Quartile*	*Median*	*Third Quartile*	*First Quartile*	*Median*	*Third Quartile*
Communication Services	2,218	0.23	0.36	0.52	22.57%	32.92%	45.04%	0.52	1.01	1.61
Consumer Discretionary	6,185	0.20	0.29	0.43	20.66%	28.44%	38.83%	0.47	0.94	1.48
Consumer Staples	3,115	0.17	0.26	0.42	17.64%	24.85%	37.16%	0.29	0.65	1.11
Energy	1,459	0.22	0.34	0.54	26.20%	36.10%	50.45%	0.48	0.96	1.48
Financials	5,317	0.15	0.24	0.38	15.78%	22.12%	33.62%	0.25	0.70	1.23
Health Care	4,545	0.25	0.40	0.62	26.18%	38.73%	57.11%	0.55	0.96	1.48
Industrials	8,590	0.19	0.28	0.41	19.94%	27.24%	37.57%	0.51	0.96	1.45
Information Technology	6,222	0.23	0.33	0.47	24.09%	31.50%	42.00%	0.74	1.21	1.81
Materials	6,433	0.22	0.35	0.52	23.33%	33.45%	52.56%	0.54	1.01	1.49
Real Estate	2,704	0.16	0.24	0.38	15.84%	22.60%	33.76%	0.38	0.83	1.32
Utilities	893	0.15	0.23	0.38	16.29%	21.74%	31.65%	0.35	0.68	1.12
All firms	47,698	0.20	0.30	0.46	20.53%	28.98%	42.12%	0.47	0.94	1.46

Price-based Risk: Regional Differences

		Hi-Lo Risk Measure			Standard Deviation (Stock Prices)			Beta		
Sub Group	*# Firms*	*First Quartile*	*Median*	*Third Quartile*	*First Quartile*	*Median*	*Third Quartile*	*First Quartile*	*Median*	*Third Quartile*
Australia & NZ	1,798	0.26	0.41	0.56	27.35%	43.03%	56.36%	0.41	0.74	1.14
Canada	2,791	0.35	0.51	0.69	39.84%	60.36%	82.64%	0.60	1.09	1.61
China	7,504	0.20	0.27	0.39	23.18%	29.15%	37.27%	0.59	1.01	1.45
EU & Environs	5,925	0.19	0.30	0.48	20.18%	27.58%	40.62%	0.46	0.90	1.42
Eastern Europe & Russia	325	0.09	0.16	0.29	14.49%	18.63%	27.04%	0.14	0.48	0.95
India	4,446	0.27	0.37	0.48	27.42%	36.37%	46.01%	0.29	0.84	1.35
Japan	4,020	0.14	0.21	0.30	13.14%	17.97%	25.77%	0.51	0.87	1.38
Latin America & Caribbean	984	0.17	0.26	0.41	20.27%	27.71%	39.62%	0.33	0.90	1.50
Small Asia	9,876	0.17	0.27	0.38	19.28%	26.85%	36.49%	0.53	1.08	1.71
UK	1,125	0.21	0.31	0.50	20.84%	27.92%	42.50%	0.54	1.02	1.56
United States	6,481	0.23	0.40	0.71	20.91%	32.83%	56.03%	0.47	0.95	1.39
All firms	47,698	0.20	0.30	0.46	20.53%	28.98%	42.12%	0.47	0.94	1.46

Price-based Risk: Age Deciles

		Hi-Lo Risk Measure			Standard Deviation (Stock Prices)			Beta		
decile(Company Age)	# Firms	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile
Bottom decile	4,192	0.26	0.45	0.65	27.43%	44.97%	65.21%	0.38	0.93	1.56
2nd decile	4,464	0.27	0.39	0.58	28.72%	40.18%	55.32%	0.54	1.07	1.64
3rd decile	4,082	0.24	0.35	0.51	26.11%	35.06%	48.42%	0.55	1.03	1.56
4th decile	5,136	0.22	0.31	0.46	23.68%	30.86%	41.41%	0.58	1.03	1.58
5th decile	3,920	0.20	0.29	0.44	22.27%	29.25%	39.66%	0.51	1.00	1.49
6th decile	5,128	0.20	0.29	0.43	22.12%	29.09%	40.16%	0.44	0.92	1.40
7th decile	4,261	0.20	0.30	0.43	21.36%	28.76%	39.91%	0.46	0.94	1.44
8th decile	4,636	0.17	0.26	0.39	18.56%	25.46%	35.67%	0.44	0.88	1.40
9th decile	4,719	0.16	0.23	0.34	16.78%	23.05%	31.67%	0.45	0.88	1.34
Top decile	4,591	0.15	0.21	0.29	15.29%	19.65%	25.74%	0.43	0.83	1.28
Missing	2,569	0.23	0.43	0.69	23.91%	42.07%	66.51%	0.35	0.85	1.40
All firms	47,698	0.20	0.30	0.46	20.53%	28.98%	42.12%	0.47	0.94	1.46

Intrinsic Risk Measures

- Price-based risk measures have their advantages, including being constantly updated, but they do have their limits, especially when liquidity is low or when market prices are not trustworthy.
- In this section, I will look at three measures of intrinsic risk –
  - *whether a company is making or losing money*, with the latter being riskier,
  - the *variability in earnings*, with less stable earnings translating to higher risk, and
  - *the debt load of companies*, with more debt and debt charges conferring more risk on companies.

Intrinsic Risk: Sector Differences

		Profitability		Coeff of Variation (Operating Income)			Coeff of Variation (Net Income)			Debt Load	
Primary Sector	# firms	Money making	Money losing	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile	Debt/EBITDA	EBIT/Int Exp
Communication Services	2,218	59.92%	40.08%	0.48	0.85	1.18	0.61	1.03	1.39	2.92	4.86
Consumer Discretionary	6,185	69.20%	30.80%	0.45	0.76	1.14	0.53	0.89	1.27	3.46	6.45
Consumer Staples	3,115	73.07%	26.93%	0.35	0.62	1.08	0.41	0.76	1.16	2.86	6.46
Energy	1,459	64.15%	35.85%	0.70	1.07	1.34	0.70	1.08	1.37	1.24	12.79
Financials	5,317	79.22%	20.78%	0.41	0.85	1.27	0.34	0.62	1.11	51.51	5.81
Health Care	4,545	44.38%	55.62%	0.41	0.66	1.05	0.45	0.72	1.12	2.93	5.82
Industrials	8,590	74.24%	25.76%	0.40	0.70	1.13	0.44	0.77	1.22	3.90	4.32
Information Technology	6,222	61.81%	38.19%	0.53	0.86	1.19	0.52	0.85	1.22	1.88	10.07
Materials	6,433	53.86%	46.14%	0.50	0.80	1.15	0.57	0.88	1.24	2.77	5.46
Real Estate	2,704	66.72%	33.28%	0.34	0.66	1.11	0.54	0.87	1.25	11.13	2.29
Utilities	893	81.30%	18.70%	0.26	0.46	0.84	0.35	0.62	1.09	4.90	3.35
All firms	47,698	65.59%	34.41%	0.44	0.76	1.15	0.47	0.82	1.22	7.01	5.72

Intrinsic Risk: Regional Differences

		Profitability		Coeff of Variation (Operating Income)			Coeff of Variation (Net Income)			Debt Load	
Region	# firms	Money making	Money losing	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile	Debt/EBITDA	EBIT/Int Exp
Africa and Middle East	2,423	75.15%	24.85%	0.41	0.71	1.13	0.42	0.79	1.19	2.96	9.76
Australia & NZ	1,798	32.93%	67.07%	0.50	0.83	1.19	0.59	0.91	1.29	8.57	6.99
Canada	2,791	25.55%	74.45%	0.60	0.91	1.26	0.66	0.99	1.34	7.97	3.49
China	7,504	67.80%	32.20%	0.51	0.80	1.16	0.47	0.78	1.23	10.09	3.83
EU & Environs	5,925	65.92%	34.08%	0.41	0.72	1.15	0.48	0.82	1.23	6.93	6.98
Eastern Europe & Russia	325	80.31%	19.69%	0.53	0.87	1.17	0.47	0.86	1.22	2.70	5.13
India	4,446	75.82%	24.18%	0.54	0.95	1.31	0.64	1.05	1.42	5.55	4.40
Japan	4,020	85.20%	14.80%	0.31	0.49	0.83	0.36	0.57	1.01	8.47	13.57
Latin America & Caribbean	984	74.90%	25.10%	0.37	0.64	1.05	0.43	0.77	1.19	4.99	3.13
Small Asia	9,876	71.24%	28.76%	0.48	0.82	1.18	0.49	0.85	1.21	6.42	3.36
UK	1,125	53.33%	46.67%	0.35	0.63	1.08	0.51	0.84	1.25	7.27	7.39
United States	6,481	57.63%	42.37%	0.39	0.69	1.11	0.46	0.76	1.16	6.40	6.40
All firms	47,698	65.59%	34.41%	0.44	0.76	1.15	0.47	0.82	1.22	7.01	5.72

Intrinsic Risk: Age Deciles

		Profitability		Coeff of Variation (Operating Income)			Coeff of Variation (Net Income)			Debt Load	
Age Decile	# firms	Money making	Money losing	First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile	Debt/EBITDA	EBIT/Int Exp
Bottom decile	4,192	43.44%	56.56%	0.47	0.85	1.29	0.62	0.98	1.35	6.21	1.99
2nd decile	4,464	51.66%	48.34%	0.59	0.91	1.27	0.61	0.91	1.27	7.15	2.10
3rd decile	4,082	57.86%	42.14%	0.53	0.85	1.21	0.57	0.88	1.25	6.23	4.09
4th decile	5,136	63.73%	36.27%	0.52	0.84	1.19	0.53	0.85	1.25	5.39	5.09
5th decile	3,920	66.43%	33.57%	0.51	0.84	1.19	0.51	0.85	1.26	5.28	5.19
6th decile	5,128	68.78%	31.22%	0.49	0.84	1.20	0.52	0.89	1.27	6.56	3.69
7th decile	4,261	69.00%	31.00%	0.47	0.79	1.19	0.52	0.89	1.27	6.09	4.67
8th decile	4,636	74.33%	25.67%	0.43	0.74	1.13	0.47	0.81	1.22	6.53	7.08
9th decile	4,719	80.86%	19.14%	0.36	0.64	1.05	0.40	0.73	1.16	4.91	5.81
Top decile	4,591	85.30%	14.70%	0.29	0.48	0.85	0.34	0.58	1.03	9.02	8.02
Missing	2,569	49.59%	50.41%	0.49	0.87	1.24	0.58	0.97	1.36	6.76	2.50
All firms	47,698	65.59%	34.41%	0.44	0.76	1.15	0.47	0.82	1.22	7.01	5.72

Risk Differences across Countries

Political Structure
- The degree of political freedom/democracy affects business risk, but the effects can cut both ways (good and bad).
- Democracies expose businesses to more continuous risk, as laws and regulations can change, when elections create government changes.
- Authoritarian regimes often offer the promise of predictability, and less risk on a period-to-period basis, but face more discontinous risk, since regime change is often violent and significantly disruptive.

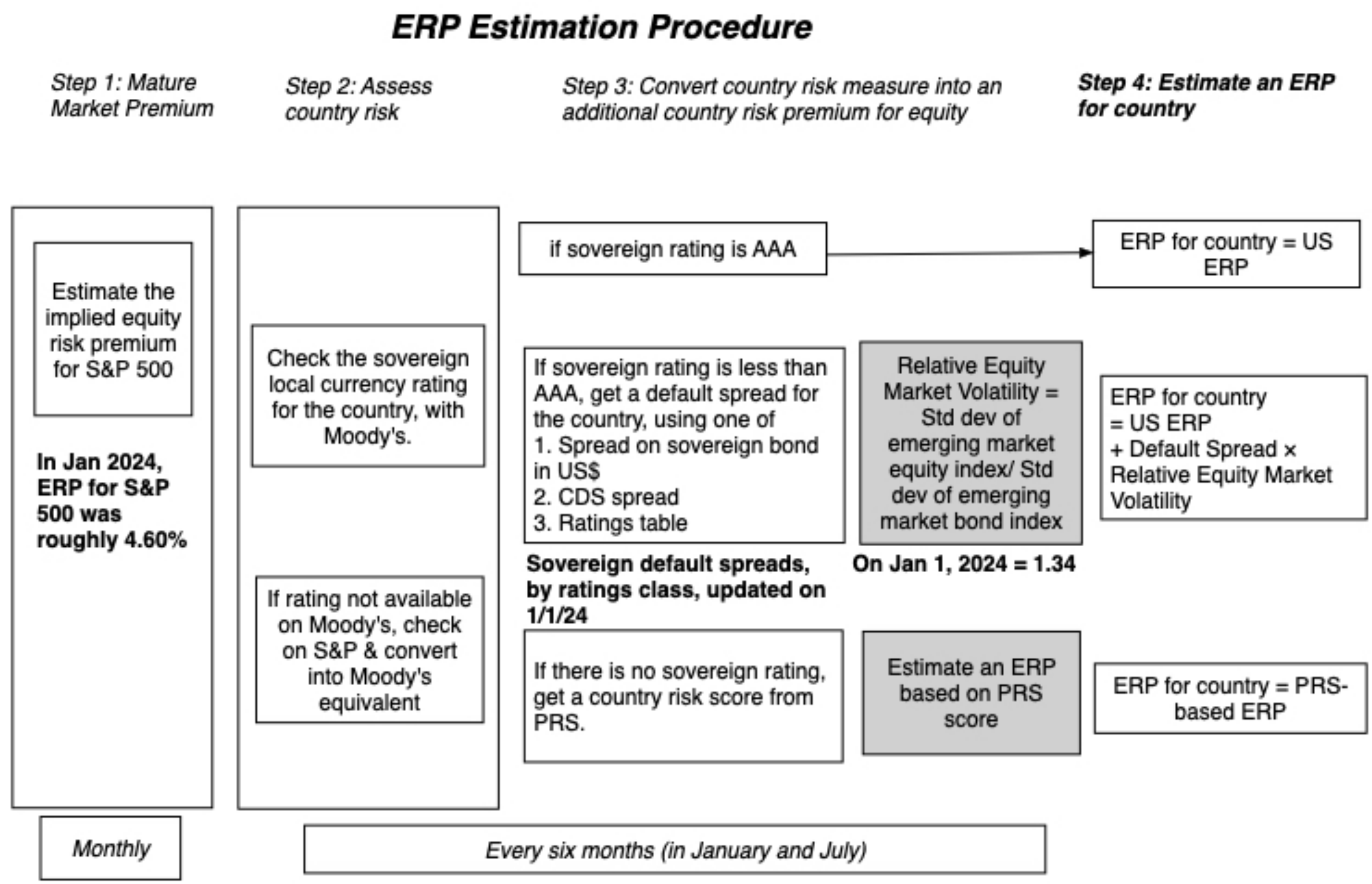
Corruption
- Corruption operates as a hidden tax, reducing profitability and value for private businesses
- Businesses operating in corrupt locales face a choice of either accepting corruption as part of the cost of doing business or operating at a disadvantage to competitors who are less scruplous.

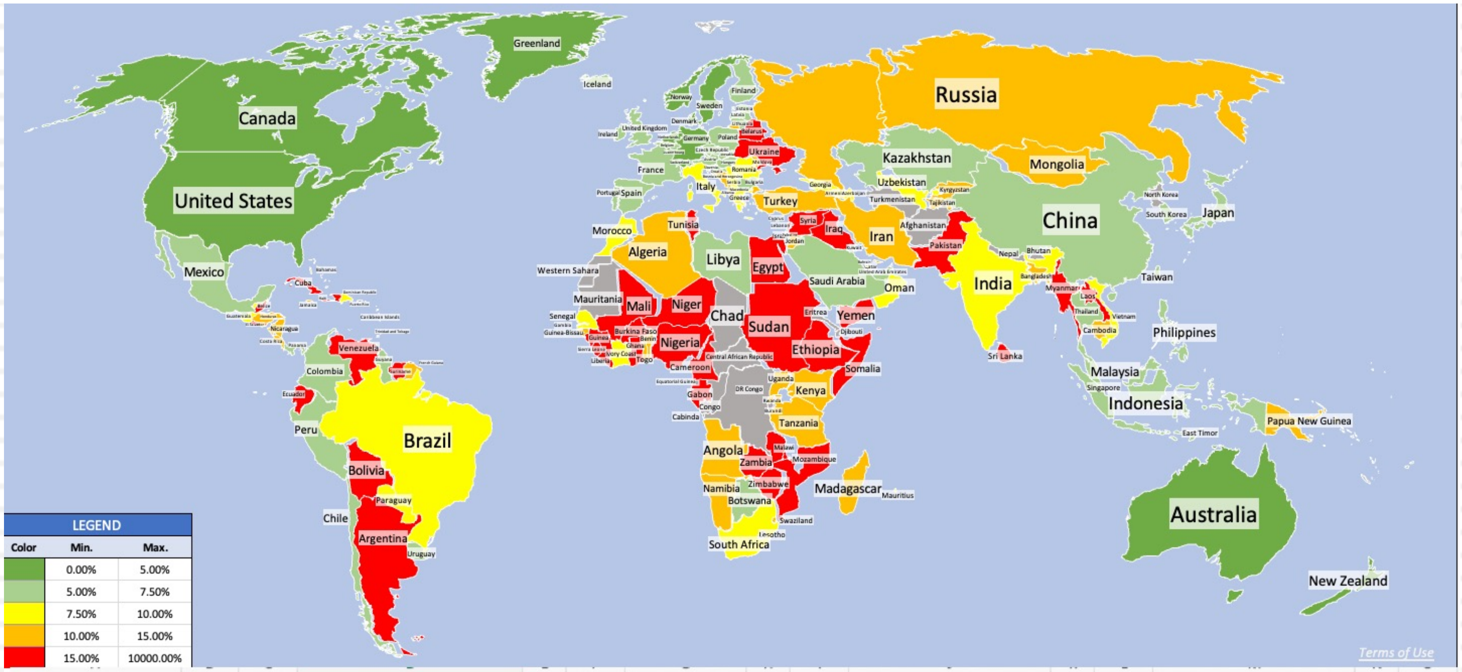
Country Risk

War & Violence
- Operating a business in a country that is more exposed to violence, from war, terrorism or internal strife, is more difficult than operating that business in a more peaceful environment.
- Businesses will face higher costs in operations and/or from trying to insure themselves against violence.

Legal & Property Rights
- The value of a private business is dependent on a legal system that respects property rights and enforces those rights.
- In a country where there are no or weak property rights or that has a legal system that does not enforce those rights, businesses face more risks and have less value.
- Timeliness in enforcing legal rights matters as much as the due process, since rights not enforced in a timely manner provide weak protection.

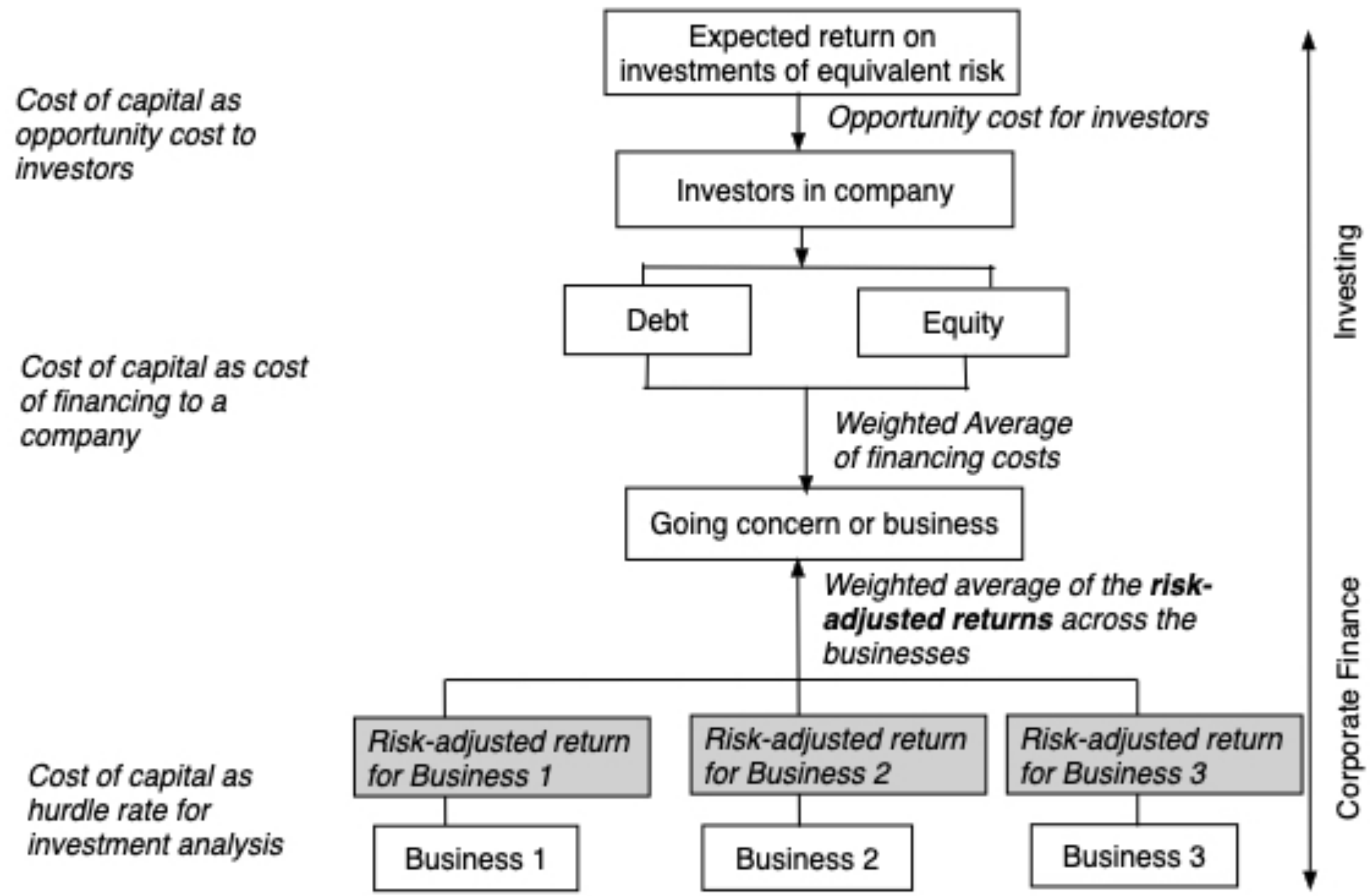
ERP, by Country: Computational Detail



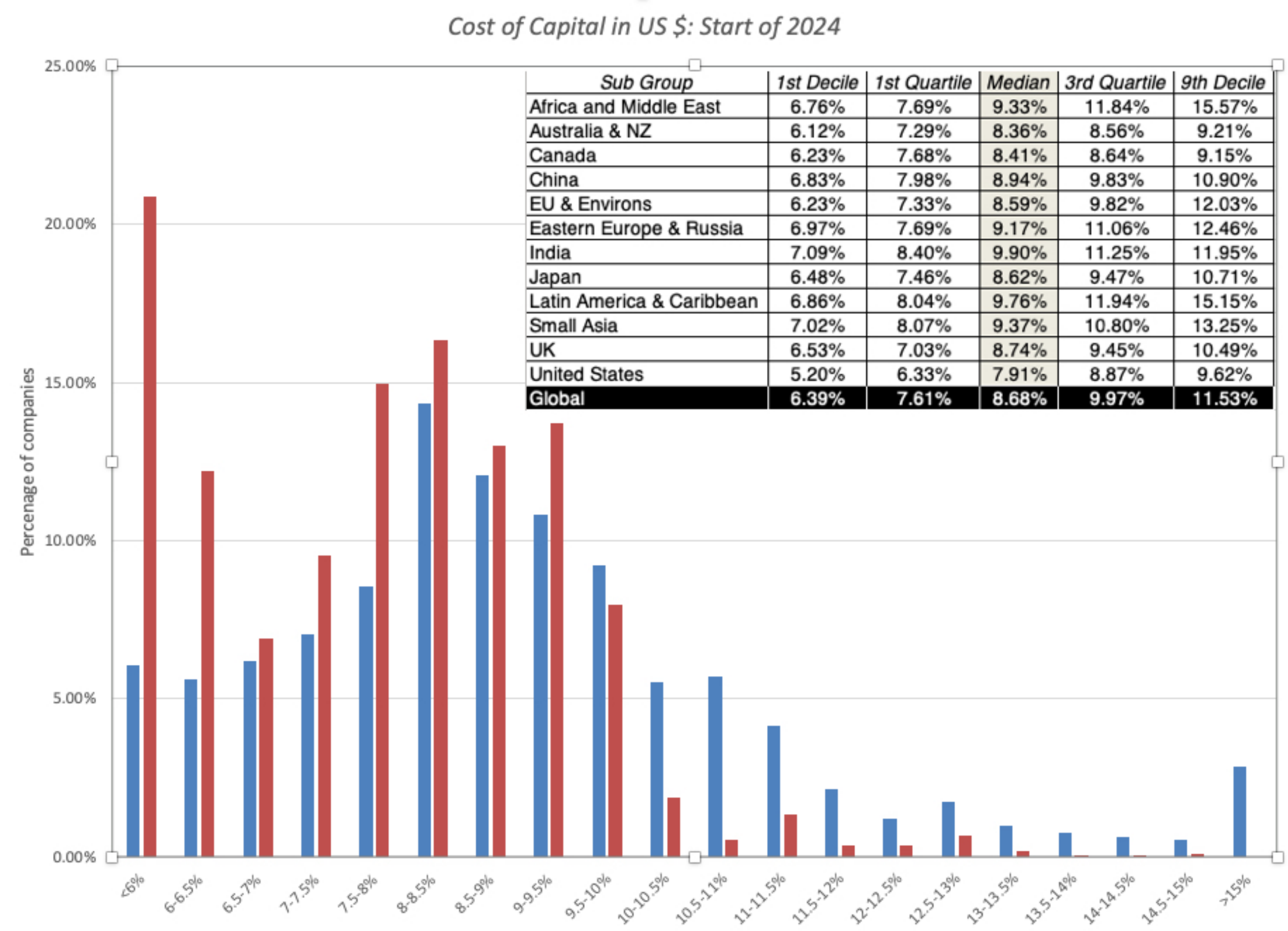


Country	Rating	ERP	Country	Rating	ERP	Country	Rating	ERP	Country	Rating	ERP	Country	Rating	ERP
Abu Dhabi	Aa2	5.32%	Colombia	Baa2	7.38%	Hungary	Baa2	7.38%	Mexico	Baa2	7.38%	Sierra Leone	NR	19.23%
Albania	B1	11.18%	Congo (Democratic Republic of)	B3	14.11%	Iceland	A2	5.84%	Monaco	NR	5.89%	Singapore	Aaa	4.60%
Algeria	NR	11.18%	Congo (Republic of)	Caa2	17.77%	India	Baa3	7.81%	Moldova	B3	14.11%	Slovakia	A2	5.84%
Andorra (Principality of)	Baa2	7.38%	Cook Islands	B1	11.18%	Indonesia	Baa2	7.38%	Mongolia	B3	14.11%	Slovenia	A3	6.35%
Angola	B3	14.11%	Costa Rica	B1	11.18%	Iran	NR	14.11%	Montenegro	B1	11.18%	Solomon Islands	Caa1	15.57%
Anguilla	NR	18.75%	Croatia	Baa2	7.38%	Iraq	Caa1	15.57%	Montserrat	Baa3	7.81%	Somalia	NR	22.15%
Antigua & Barbuda	NR	18.75%	Cuba	Ca	22.15%	Ireland	Aa3	5.48%	Morocco	Ba1	8.26%	South Africa	Ba2	9.00%
Argentina	Ca	22.15%	Curaçao	Baa2	7.38%	Isle of Man	Aa3	5.48%	Mozambique	Caa2	17.77%	South Korea	Aa2	5.32%
Armenia	Ba3	9.86%	Cyprus	Baa2	7.38%	Israel	A1	5.63%	Myanmar	NR	19.23%	Spain	Baa1	6.94%
Aruba	Baa2	7.38%	Czech Republic	Aa3	5.48%	Italy	Baa3	7.81%	Namibia	B1	11.18%	Sri Lanka	Ca	22.15%
Australia	Aaa	4.60%	Denmark	Aaa	4.60%	Ivory Coast	Ba3	9.86%	Netherlands	Aaa	4.60%	St. Maarten	Ba2	9.00%
Austria	Aa1	5.18%	Dominican Republic	Ba3	9.86%	Jamaica	B1	11.18%	Netherlands Antilles	NR	18.75%	St. Vincent & the Grenadines	B3	14.11%
Azerbaijan	Ba1	8.26%	Ecuador	Caa3	19.23%	Japan	A1	5.63%	New Zealand	Aaa	4.60%	Sudan	NR	28.09%
Bahamas	B1	11.18%	Egypt	Caa1	15.57%	Jersey (States of)	Aa3	5.48%	Nicaragua	B3	14.11%	Suriname	Caa3	19.23%
Bahrain	B2	12.64%	El Salvador	Caa3	19.23%	Jordan	B1	11.18%	Niger	Caa2	17.77%	Swaziland	B3	14.11%
Bangladesh	B1	11.18%	Estonia	A1	5.63%	Kazakhstan	Baa2	7.38%	Nigeria	Caa1	15.57%	Sweden	Aaa	4.60%
Barbados	B3	14.11%	Ethiopia	Caa2	17.77%	Kenya	B3	14.11%	Norway	Aaa	4.60%	Switzerland	Aaa	4.60%
Belarus	C	28.09%	Falkland Islands	NR	10.36%	Korea, D.P.R.	NR	28.09%	Oman	Ba1	8.26%	Syria	NR	28.09%
Belgium	Aa3	5.48%	Fiji	B1	11.18%	Kuwait	A1	5.63%	Pakistan	Caa3	19.23%	Taiwan	Aa3	5.48%
Belize	Caa2	17.77%	Finland	Aa1	5.18%	Kyrgyzstan	B3	14.11%	Palestinian Authority	NR	6.76%	Tajikistan	B3	14.11%
Benin	B1	11.18%	France	Aa2	5.32%	Laos	Caa3	19.23%	Panama	Baa2	7.38%	Tanzania	B2	12.64%
Bermuda	A2	5.84%	French Guiana	NR	10.36%	Latvia	A3	6.35%	Papua New Guinea	B2	12.64%	Thailand	Baa1	6.94%
Bolivia	Caa1	15.57%	Gabon	Caa1	15.57%	Lebanon	C	28.09%	Paraguay	Ba1	8.26%	Togo	B3	14.11%
Bosnia and Herzegovina	B3	14.11%	Gambia	NR	11.18%	Liberia	NR	22.15%	Peru	Baa1	6.94%	Trinidad &' Tobago	Ba2	9.00%
Botswana	A3	6.35%	Georgia	Ba2	9.00%	Libya	NR	7.38%	Philippines	Baa2	7.38%	Tunisia	Caa2	17.77%
Brazil	Ba2	9.00%	Germany	Aaa	4.60%	Liechtenstein	Aaa	4.60%	Poland	A2	5.84%	Turkey	B3	14.11%
British Virgin Islands	Ba2	9.00%	Ghana	Caa3	19.23%	Lithuania	A2	5.84%	Portugal	A3	6.35%	Turks & Caicos Islands	Baa1	6.94%
Brunei	NR	5.48%	Gibraltar	NR	5.89%	Luxembourg	Aaa	4.60%	Qatar	Aa3	5.48%	Uganda	B2	12.64%
Bulgaria	Baa1	6.94%	Greece	Ba1	8.26%	Macau	Aa3	5.48%	Ras Al Khaimah (Emirate of)	A3	6.35%	Ukraine	Ca	22.15%
Burkina Faso	Caa1	15.57%	Greenland	NR	Aa2	Macedonia	Ba3	9.86%	Reunion	NR	6.28%	United Arab Emirates	Aa2	5.32%
Cambodia	B2	12.64%	Guatemala	Ba1	8.26%	Madagascar	NR	14.11%	Romania	Baa3	7.81%	United Kingdom	Aa3	5.48%
Cameroon	Caa1	15.57%	Guernsey (States of)	A1	5.63%	Malawi	NR	22.15%	Russia	NR	11.18%	United States	Aaa	4.60%
Canada	Aaa	4.60%	Guinea	NR	17.77%	Malaysia	A3	6.35%	Rwanda	B2	12.64%	Uruguay	Baa2	7.38%
Cape Verde	B3	14.11%	Guinea-Bissau	NR	12.64%	Maldives	Caa1	15.57%	Saint Lucia	NR	18.75%	Uzbekistan	Ba3	9.86%
Cayman Islands	Aa3	5.48%	Guyana	NR	6.94%	Mali	Caa2	17.77%	Saudi Arabia	A1	5.63%	Venezuela	C	28.09%
Channel Islands	NR	5.89%	Haiti	NR	19.23%	Malta	A2	5.84%	Senegal	Ba3	9.86%	Vietnam	Ba2	9.00%
Chile	A2	5.84%	Honduras	B1	11.18%	Martinique	NR	0.00%	Serbia	Ba2	9.00%	Yemen	NR	19.23%
China	A1	5.63%	Hong Kong	Aa3	5.48%	Mauritius	Baa3	7.81%	Sharjah	Ba1	8.26%	Zambia	Caa3	19.23%
												Zimbabwe	NR	17.77%

Risk and Investing: Hurdle Rates!



Cost of Capital in January 2024



Sub Group	1st Decile	1st Quartile	Median	3rd Quartile	9th Decile
Africa and Middle East	6.76%	7.69%	9.33%	11.84%	15.57%
Australia & NZ	6.12%	7.29%	8.36%	8.56%	9.21%
Canada	6.23%	7.68%	8.41%	8.64%	9.15%
China	6.83%	7.98%	8.94%	9.83%	10.90%
EU & Environs	6.23%	7.33%	8.59%	9.82%	12.03%
Eastern Europe & Russia	6.97%	7.69%	9.17%	11.06%	12.46%
India	7.09%	8.40%	9.90%	11.25%	11.95%
Japan	6.48%	7.46%	8.62%	9.47%	10.71%
Latin America & Caribbean	6.86%	8.04%	9.76%	11.94%	15.15%
Small Asia	7.02%	8.07%	9.37%	10.80%	13.25%
UK	6.53%	7.03%	8.74%	9.45%	10.49%
United States	5.20%	6.33%	7.91%	8.87%	9.62%
Global	6.39%	7.61%	8.68%	9.97%	11.53%

What's coming?

- It is a given that things will change over the course of the year. Rephrasing an old saying, the only constant in markets is that they will change.
- If your question is how you prepare for that change, one answer is to be dynamic and adaptable, not only reworking hurdle rates as you go through the year, but also building in escape hatches and reversibility even into long term decisions.
- In case things don't go the way you expected them to, and you feel the urge to complain about uncertainty, I urge you to revisit the Chinese symbol for risk. We live in dangerous times, but embedded in those dangers are opportunities.
- If you can gain an edge on the rest of the market in assessing and dealing with some of these dangers, you have a pathway to success. I am not suggesting that this is easy to do, or that success is guaranteed, but if investment is a game of odds, this can help tilt them in your favor.