THE COST OF CAPITAL: MISUNDERSTOOD, MISESTIMATED AND MISUSED!

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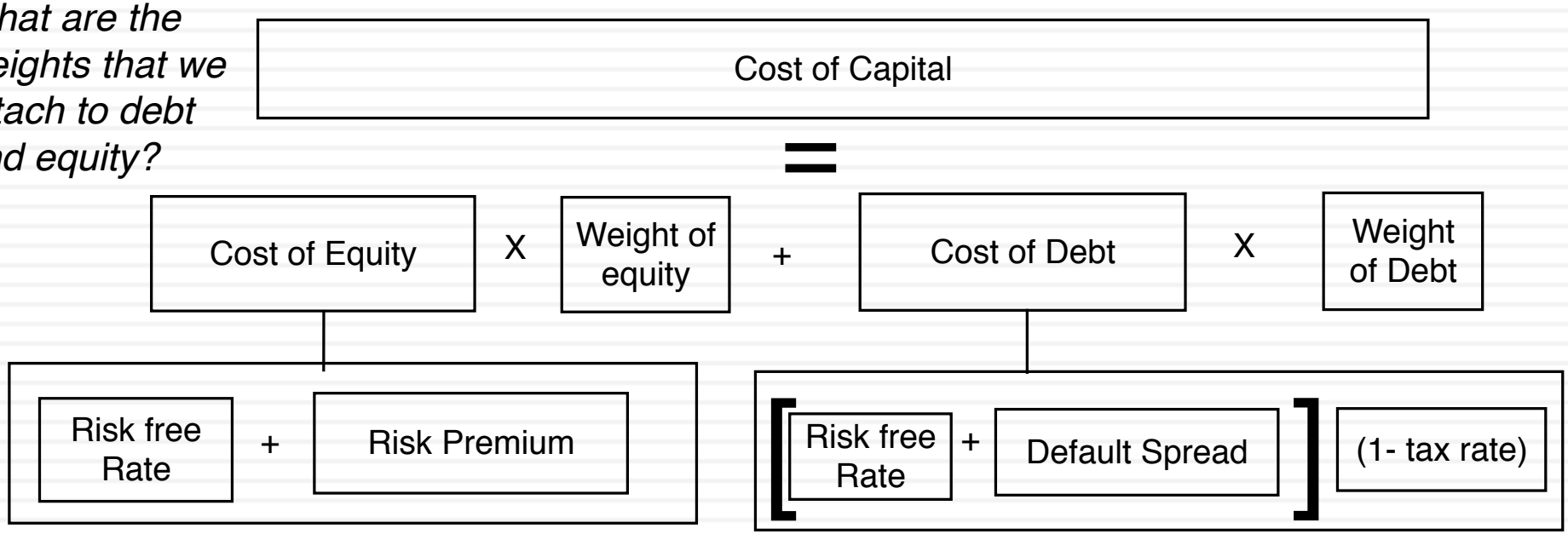
The Mechanics of Computing the Cost of Capital

What are the weights that we attach to debt and equity?



What should we use as the risk free rate?
What equity risks are rewarded?
Should we scale equity risk across companies?
How do we measure the risk premium per unit of risk?

How do we estimate the default spread?
What tax rate do we use?

In investment analysis: The cost of capital as a hurdle rate & opportunity cost

Accounting Test
Return on invested capital (ROIC) > Cost of Capital

Time Weighted CF Test
NPV of the Project > 0

Time Weighted % Return
IRR > Cost of Capital

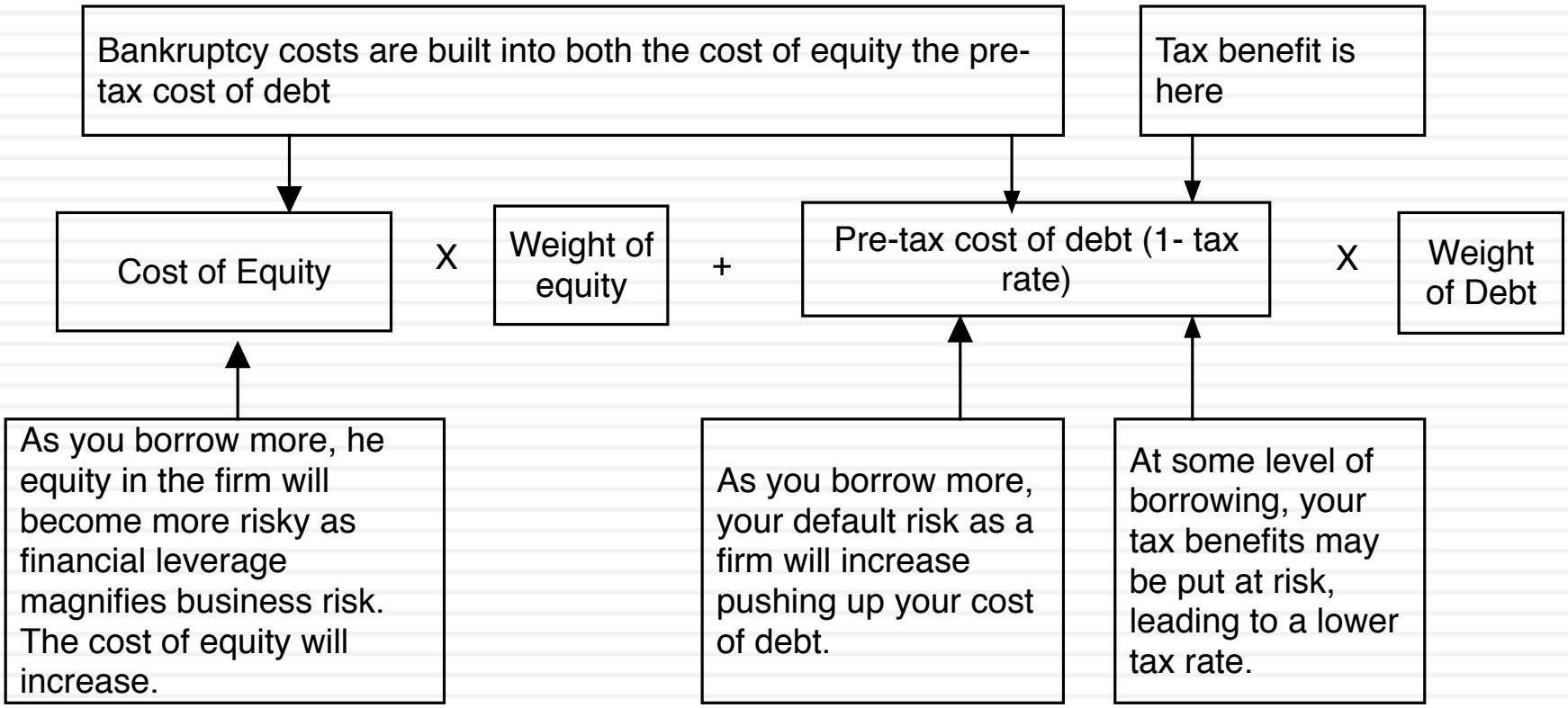
The Hurdle Rate

The cost of capital for an investment
Should reflect the risk of the investment, not the entity taking the investment. Should use a debt ratio that is reflective of the investment's cash flows.

No risk subsidies
If you use the cost of capital of the company as your hurdle rate for all investments, risky investments (and businesses) will be subsidized by safe investments.(and businesses).

No debt subsidies
If you fund an investment disprportionately with debt, you are using the company's debt capacity to subsidize the investment.

In capital structure: The cost of capital as "optimizing" tool

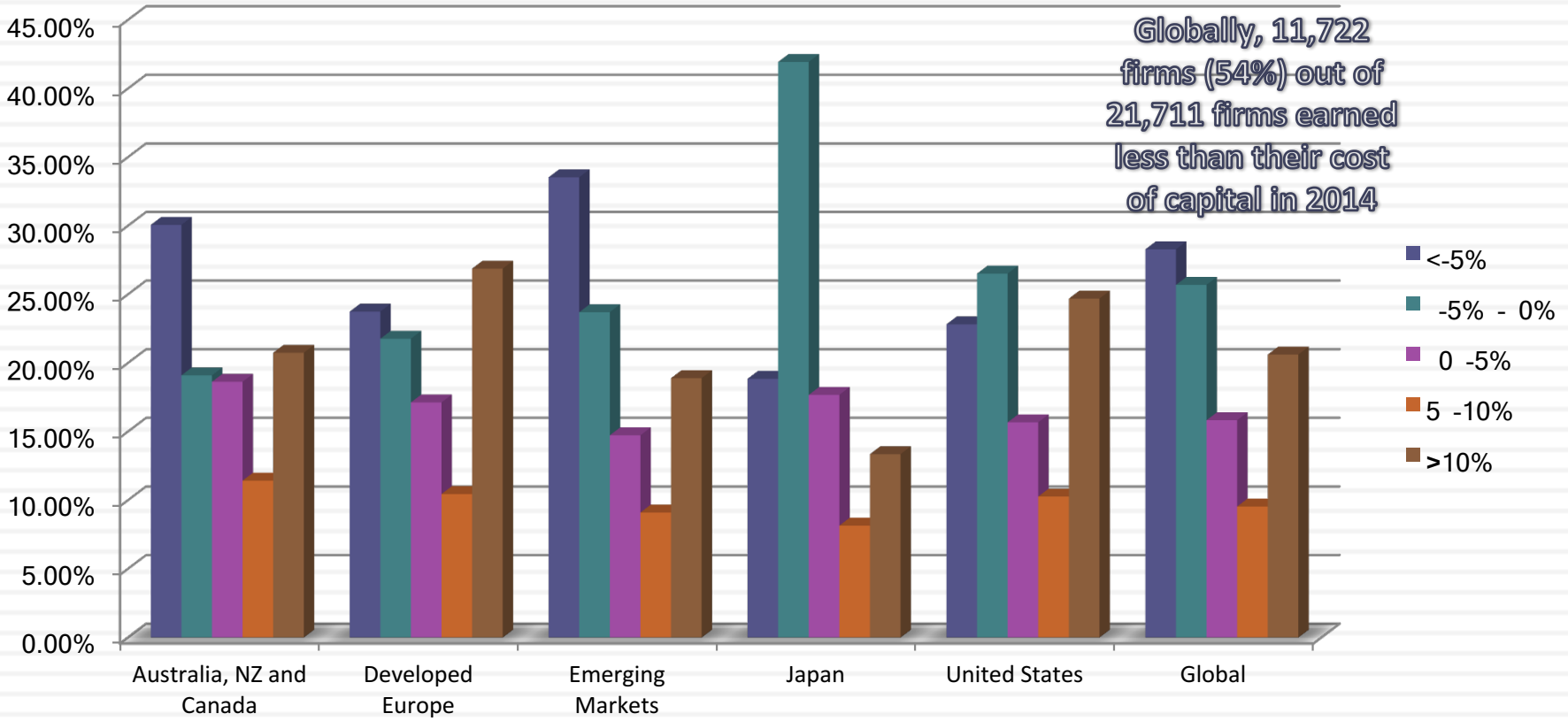


The trade off: As you use more debt, you replace more expensive equity with cheaper debt but you also increase the costs of equity and debt. The net effect will determine whether the cost of capital will increase, decrease or be unchanged as debt ratio changes.

The optimal debt ratio is the one at which the cost of capital is minimized

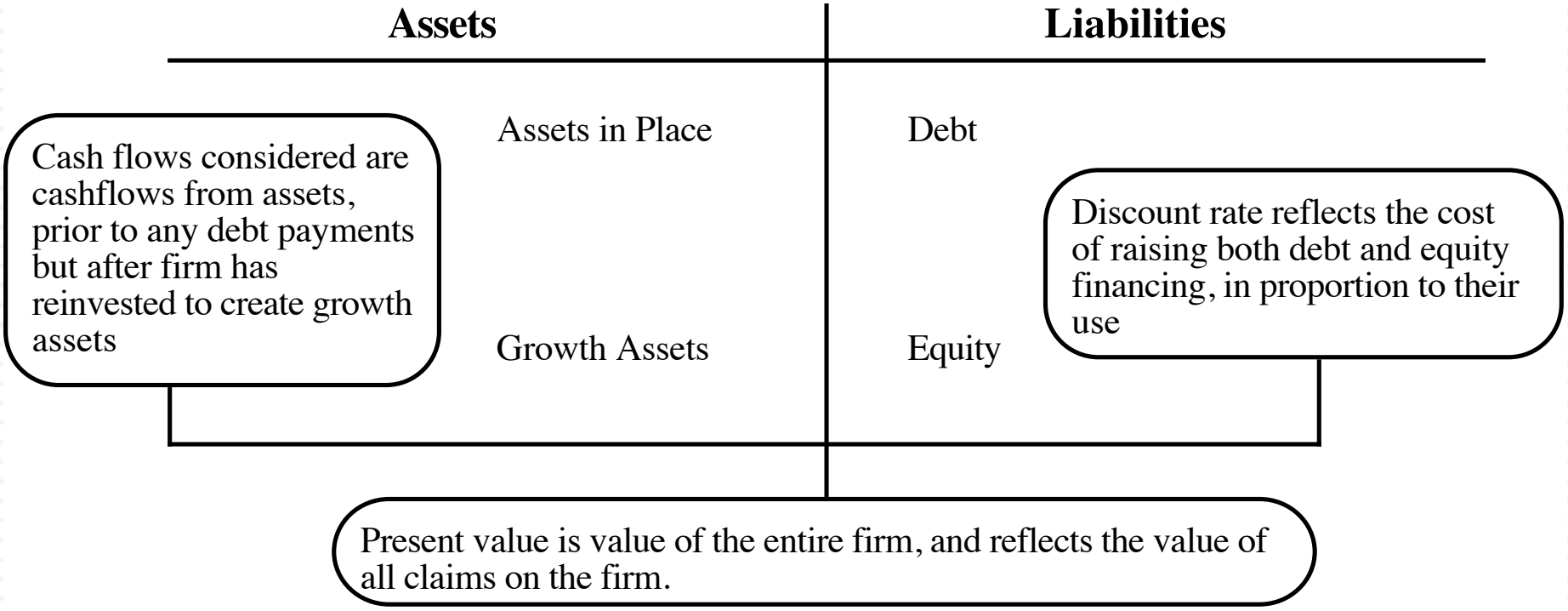
In dividend policy: It is the divining rod for returning cash

Excess Return (ROC minus Cost of Capital) for firms with market capitalization> $50 million: Global in 2014



In valuation, it is the mechanism for adjusting for risk..

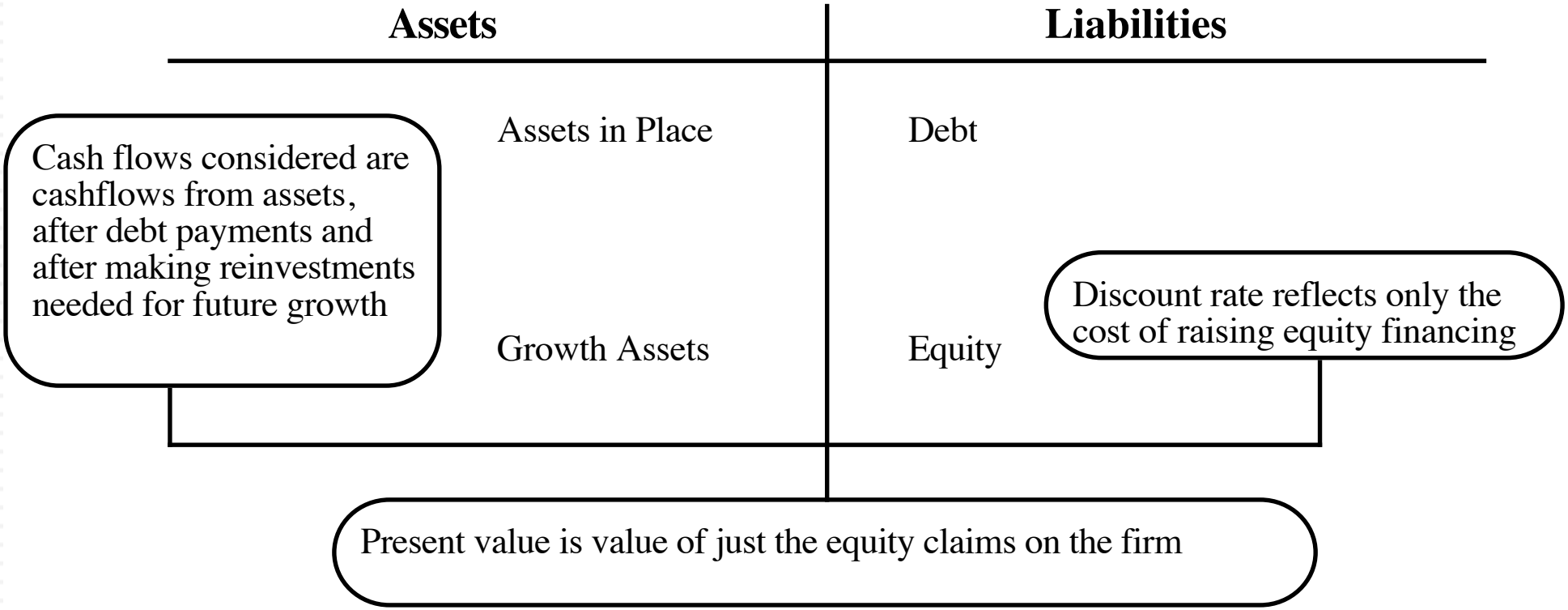
Figure 5.6: Firm Valuation



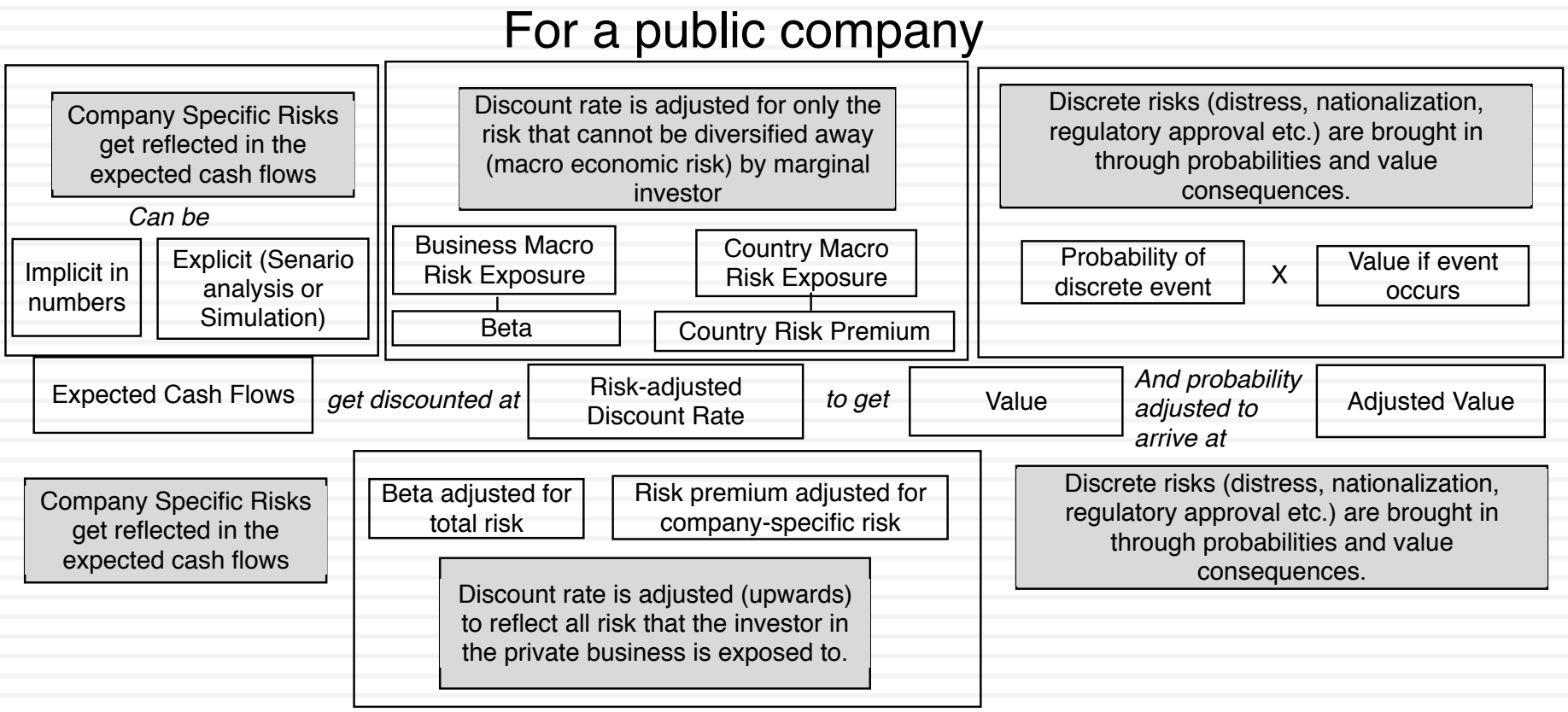
$$\text{Value of asset} = \frac{E(CF_1)}{(1+r)} + \frac{E(CF_2)}{(1+r)^2} + \frac{E(CF_3)}{(1+r)^3} \ldots\ldots + \frac{E(CF_n)}{(1+r)^n}$$

Though you can value with just an equity focus..

Figure 5.5: Equity Valuation



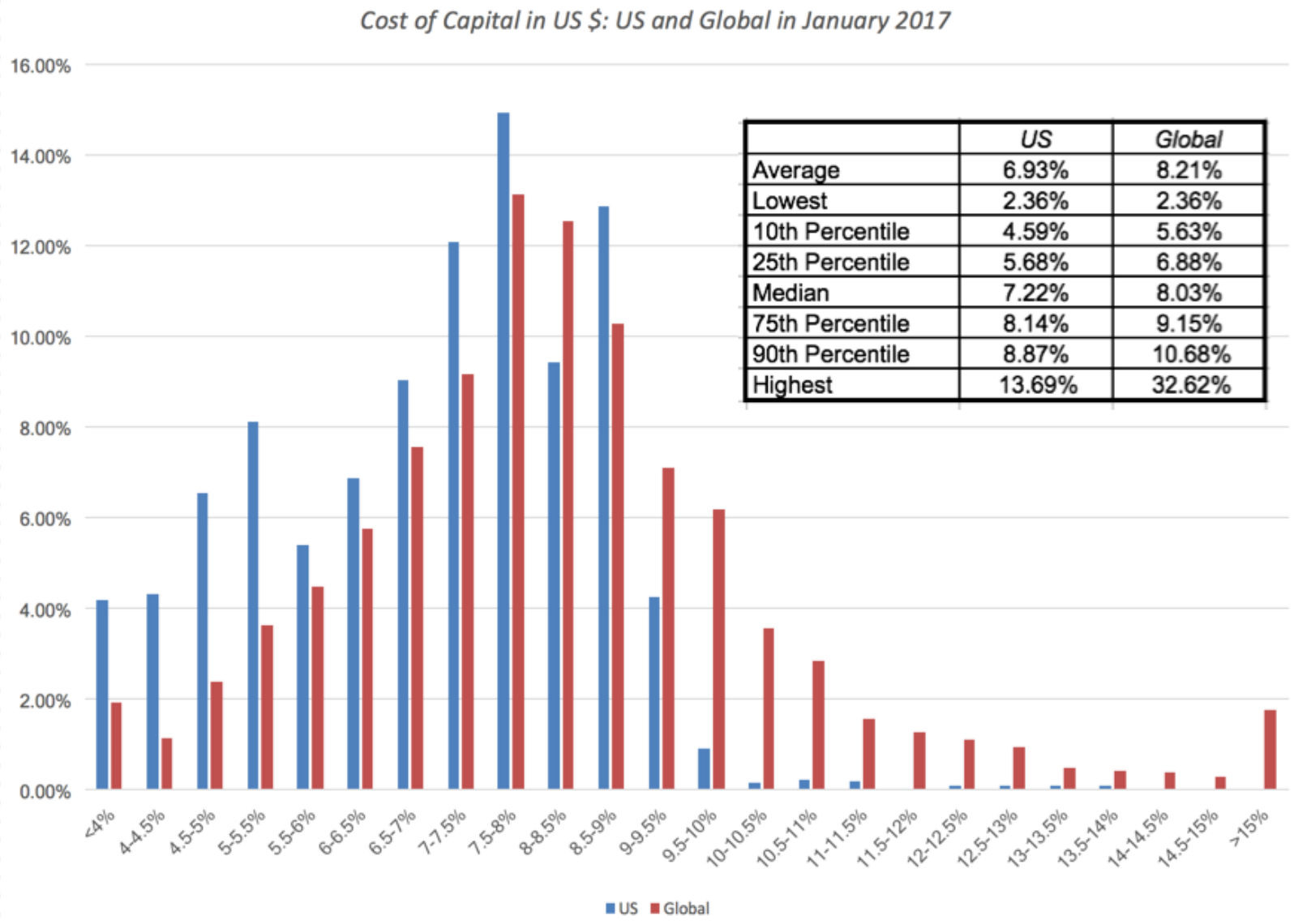
A Template for Risk Adjusting Value



What the cost of capital is not..

1. It is not the cost of equity: There is a time and a place to use the cost of equity and a time a place for the cost of capital. You cannot use them interchangeably.
2. It is not a return that you would like to make: Both companies and investors mistake their "hopes" fore expectations. The fact that you would like to make 15% is nice but it is not your cost of capital.
3. It is not a receptacle for all your hopes and fears: Some analysts take the "risk adjusting" in the discount rate too far, adjusting it for any and all risks in the company and their "perception" of those risks.
4. It is not a mechanism for reverse engineering a desired value: A cost of capital is not that discount rate that yields a value you would like to see.
5. It is not the most important input in your valuation: The discount rate is an input into a discounted cash flow valuation but it is definitely not the most critical.
6. It is not a constant across time, companies or even in your company's valuation.

A Distribution of Cost of Capital



	US	*Global*
Average	6.93%	8.21%
Lowest	2.36%	2.36%
10th Percentile	4.59%	5.63%
25th Percentile	5.68%	6.88%
Median	7.22%	8.03%
75th Percentile	8.14%	9.15%
90th Percentile	8.87%	10.68%
Highest	13.69%	32.62%