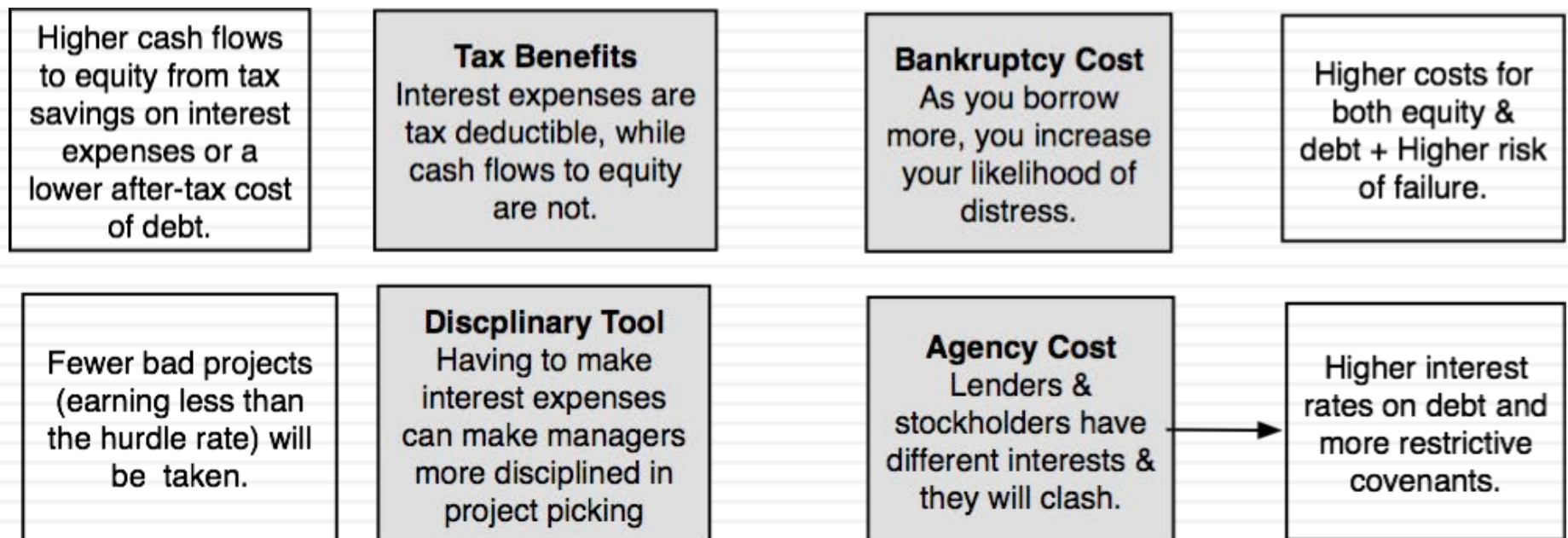




DATA 2017 UPDATE 8: DEBT, THE DARK AND LIGHT SIDES

Aswath Damodaran

Debt versus Equity: The Real Factors



Debt versus Equity: The Illusory Factors

ROE will generally increase as you borrow money, but so will your cost of equity.

Higher ROE
Using more debt in funding investments will increase ROE.

Lower Net Income
As you borrow, the resulting interest expenses will lower net income.

Net income will be lower, but you will also have less equity invested in the business.

As you borrow money, you are replacing more expensive equity with cheaper debt, but increasing the costs of both.

Cheaper Debt
Since the cost of debt is lower than the cost of equity, using more debt will lower your cost of capital.

Lower Ratings
Borrowing will lower bond ratings & increase cost of debt.

Your cost of debt rises as you borrow more, but it will still be replacing more expensive equity.

Debt versus Equity: The Transient Factors

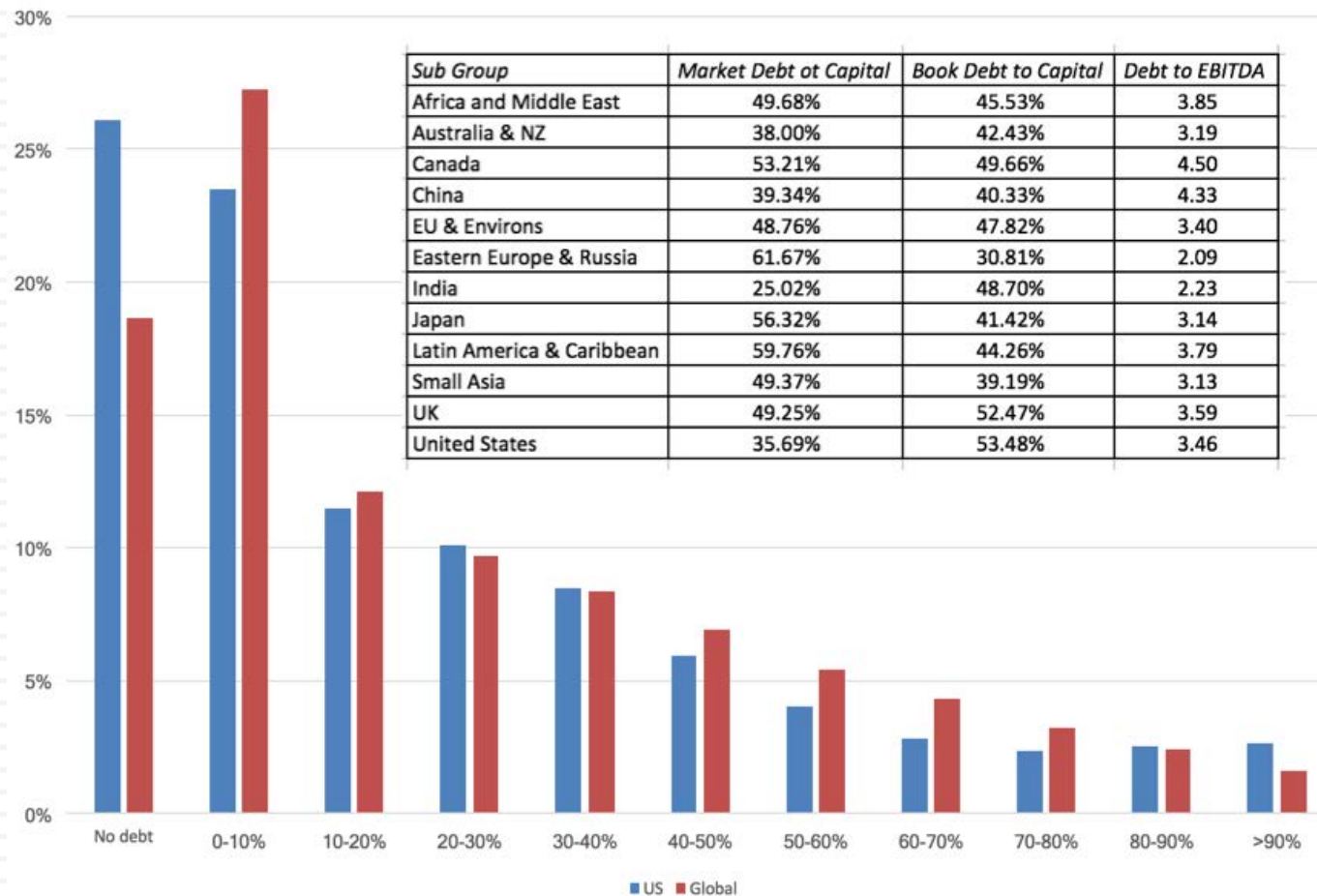
- To the extent that your equity is mis-priced or your debt carries the wrong interest rate, market frictions can affect your debt/equity mix, in either direction:
 - ▣ If equity is over priced and debt carries too high an interest rate, you will use more equity & less debt
 - ▣ If equity is under priced and debt carries too low an interest rate, you will use more debt & less equity.
- This requires the firm to be able to determine what the right value for its equity is and what interest rate it should be paying on its debt.

Measures of Financial Leverage

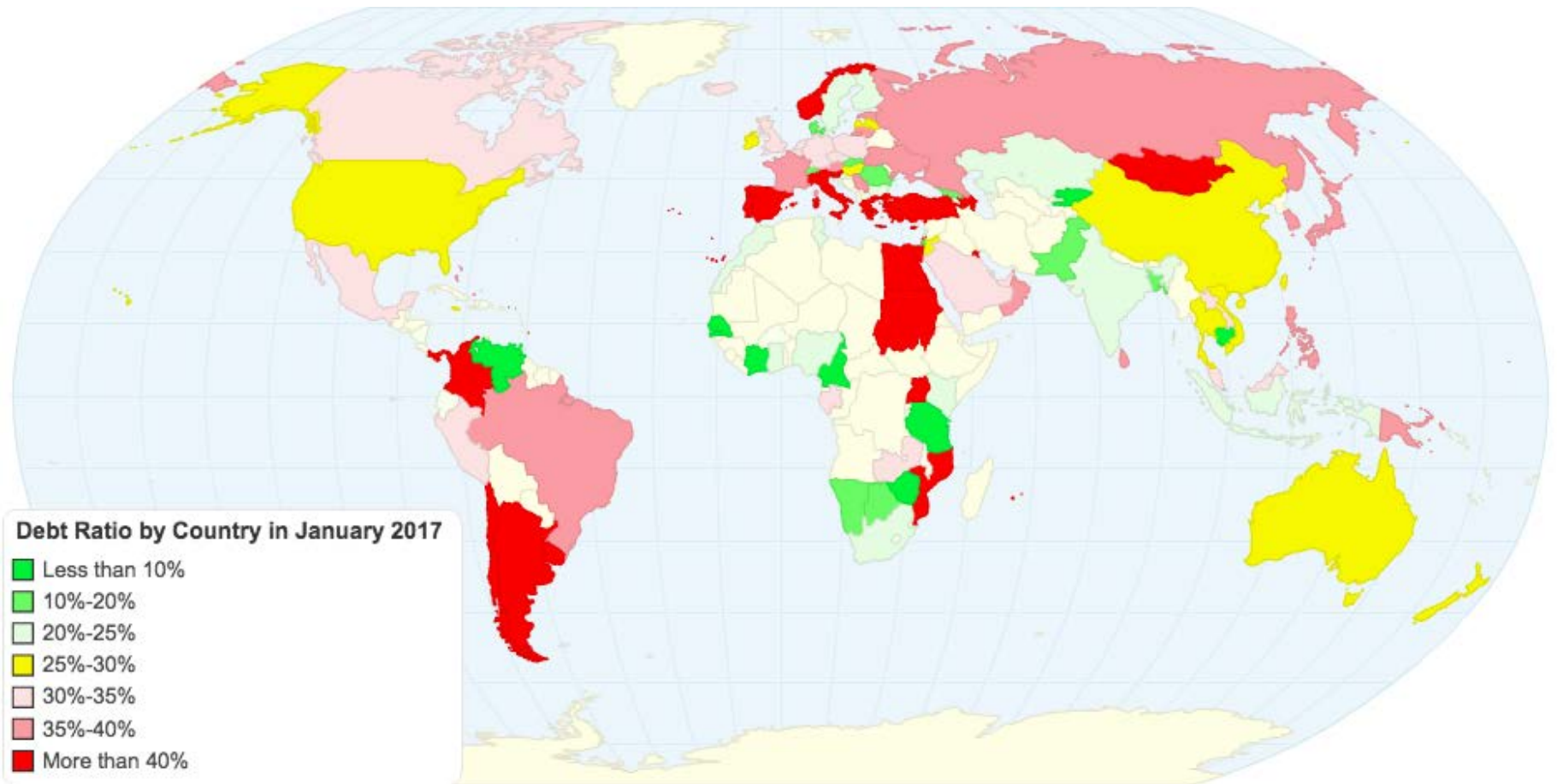
- Debt to Capital = $\text{Debt} / (\text{Debt} + \text{Equity})$: This is a measure of how much of the capital in a company comes from debt. It can be measured as accountants see value (with book values for debt and equity) or as the market sees it (with market values for debt and equity).
- Debt to Equity = $\text{Debt} / \text{Equity}$: This is a close variant of debt to capital, with debt stated as a percent of equity, again in book value or market value terms.
- Debt to EBITDA = $\text{Debt} / \text{EBITDA}$: This measures how much debt a company has relative to the cash it generates from operations, before taxes and capital expenditures.

The Cross Sectional Distribution

Market Debt to Capital Ratios - US and Global in January 2017



A Country-by-Country Look



Most and Least Levered Sectors

<i>Most lightly levered</i>			<i>Most highly levered</i>		
<i>Industry</i>	<i>Book Debt to Capital</i>	<i>Market Debt to Capital</i>	<i>Industry</i>	<i>Book Debt to Capital</i>	<i>Market Debt to Capital</i>
Software (Internet)	11.25%	4.09%	Oil/Gas Distribution	53.92%	43.52%
Retail (Online)	44.56%	8.78%	R.E.I.T.	60.46%	44.28%
Shoe	22.40%	9.30%	Power	61.61%	46.61%
Semiconductor	31.51%	12.35%	Trucking	72.95%	47.59%
Drugs (Pharmaceutical)	36.74%	12.72%	Broadcasting	82.98%	48.96%
Software (Entertainment)	34.94%	12.85%	Telecom (Wireless)	60.85%	53.40%
Semiconductor Equip	37.17%	14.05%	Coal & Related Energy	78.50%	58.08%
Oil/Gas (Integrated)	22.44%	14.46%	Auto & Truck	73.26%	60.07%
Tobacco	79.51%	14.66%	Hospitals/Healthcare Facilities	83.73%	63.07%
Electronics (General)	27.69%	15.16%	Green & Renewable Energy	54.56%	63.55%

A Year of Change?

- Tax changes coming: The coming year is likely to be one of change, at least for the US tax code and almost every version of tax reform that is being talked about will reduce the marginal tax rate and therefore the tax benefits of debt. In fact, there are some versions where the entire tax benefit of debt will be removed.
- With big consequences: While I believe that this will be healthier in the long term, it will be a seismic shift that will have massive effects not just on corporate borrowing but on the corporate bond market.
- We're not ready: I am not sure that we are ready for that big a change. So, small steps way from the status quo, which is skewed strongly towards borrowers, may be all that you can expect to see.