DATA UPDATE 3: THE PRICE OF RISK

Danger and Opportunity

The Trade off on Risk

- When investing, risk is a given and if you choose to avoid it, at any cost, you will and in the last decade, you have borne a staggering cost in terms of returns unearned.
- At the other extreme, seeking out risk for the sake of taking risk is more suited to casinos than to financial markets, and as in casinos, the end game is almost always disastrous.
- The middle ground on risk is to accept that it is part and parcel of investing, to try to gauge how exposed you are to it and to make sure that your expected return is high enough to compensate you for taking that risk.

Defining Risk

- There are almost as many definitions of risk, as there are investors, but I find many of them wanting.
  - There is, of course, the definition of risk as uncertainty, a circular play on words, since it just replaces one nebulous word (risk) with another.
  - There is the definition of risk as encompassing all the bad outcomes you can have on an investment, which by making risk into a negative and something to be avoided, leads you right into the arms of those selling your protection against it (in the form of hedging).
  - In finance, we have become so used to measuring risk in statistical terms that we have taken to defining risk with these measures, an arid and antiseptic view of risk.
- Risk, at least in business, is neither a good nor a bad, but a given. It is a combination of danger (the likelihood that bad things will happen to you) and opportunity:

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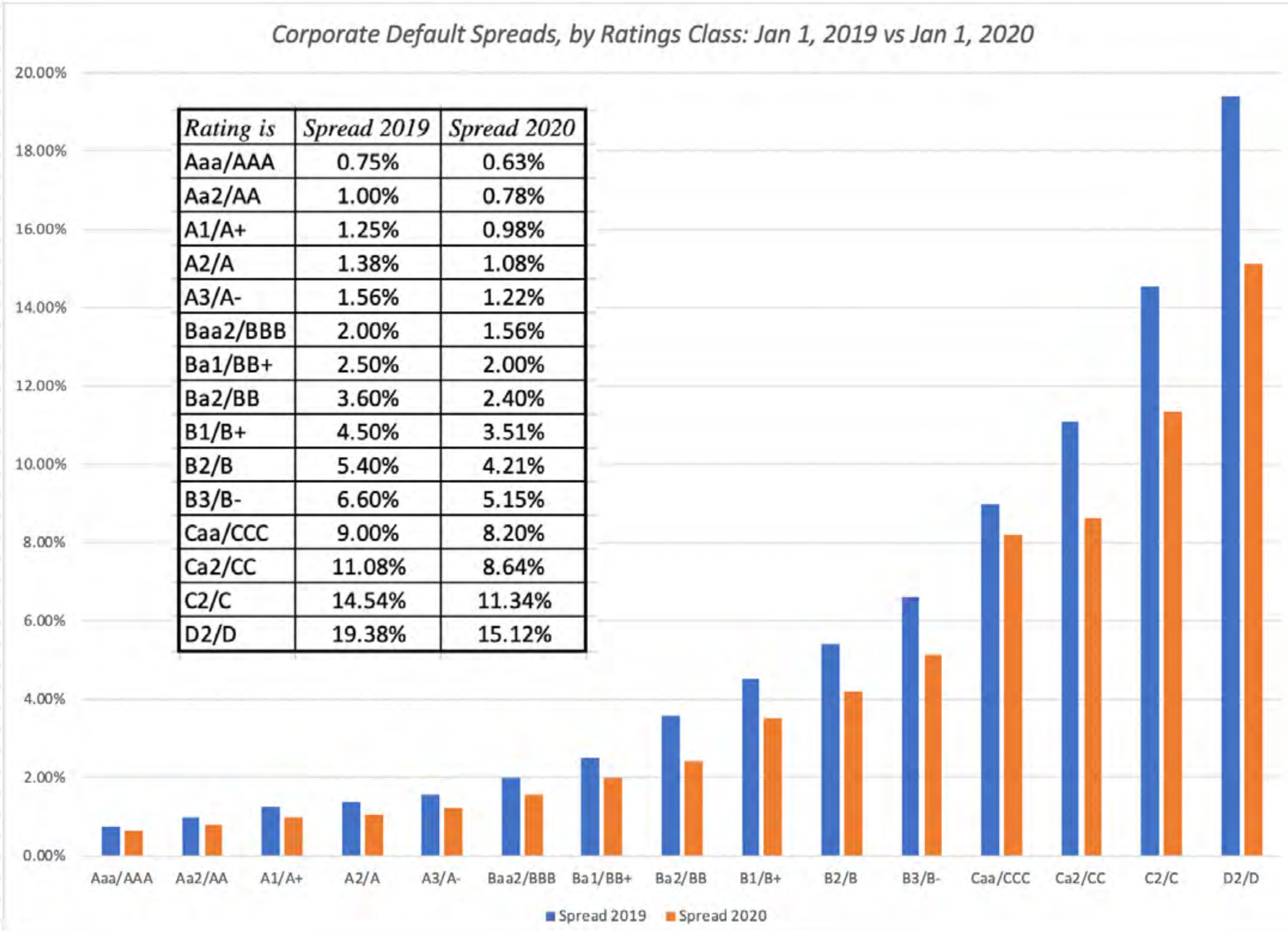
The Price of Risk

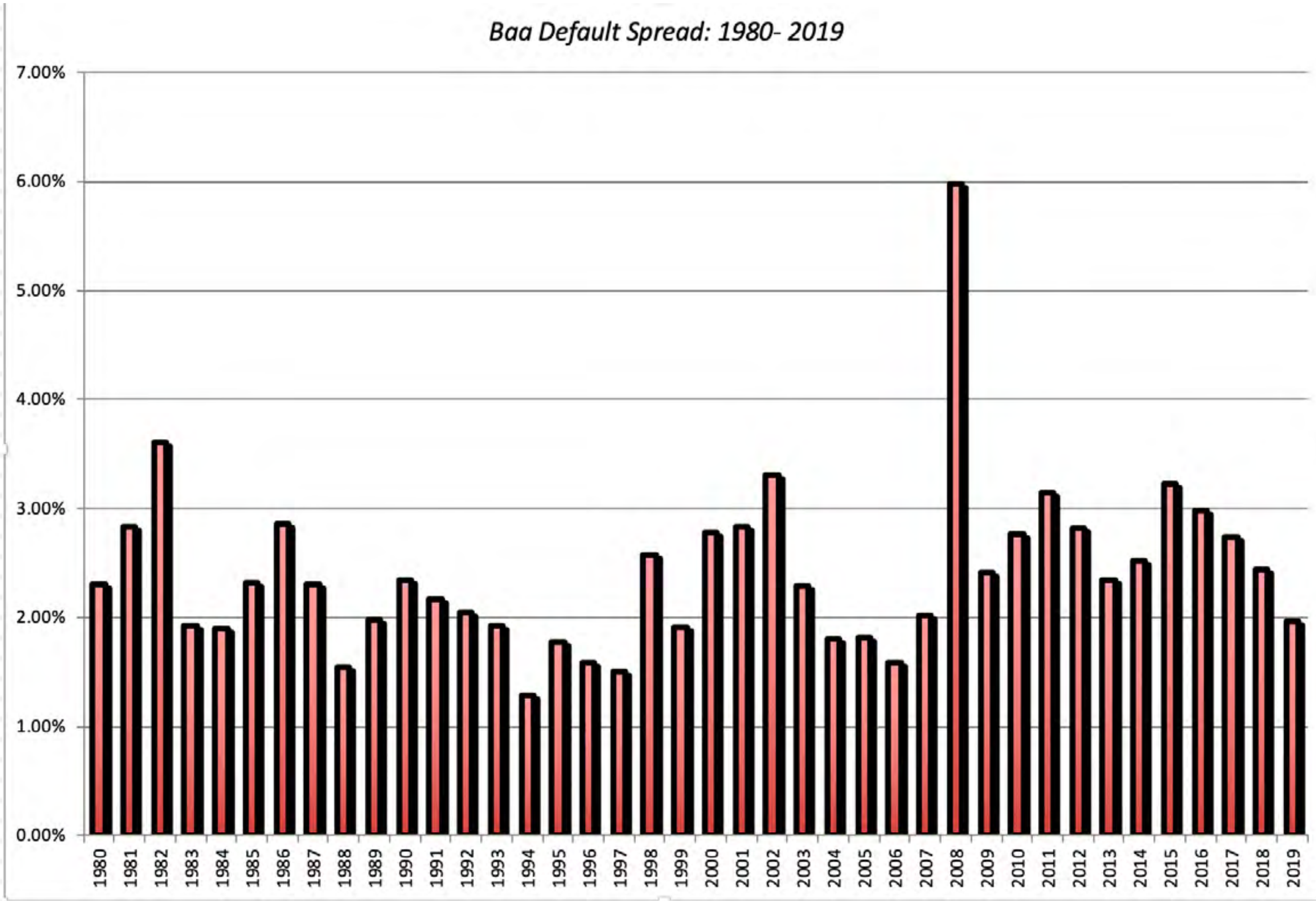
- When you invest in fixed income securities (bonds), your compensation takes the form of a default spread, i.e., what you charge over the riskfree rate to invest in that bond.
- When you invest in equities, the payoff to taking risk comes in the form of an equity risk premium, i.e., the premium you demand over and above the risk free rate for investing in equities as an asset class.
- The default spread is a function of what investors believe is the likelihood that borrowers will fail to make their contractually obligated payments, and it will rise and fall with the economy. The equity risk premium is a more complex number and I think of it as the receptacle for everything in the market.

The Default Spread in 2019



Rating is	Spread 2019	Spread 2020
Aaa/AAA	0.75%	0.63%
Aa2/AA	1.00%	0.78%
A1/A+	1.25%	0.98%
A2/A	1.38%	1.08%
A3/A-	1.56%	1.22%
Baa2/BBB	2.00%	1.56%
Ba1/BB+	2.50%	2.00%
Ba2/BB	3.60%	2.40%
B1/B+	4.50%	3.51%
B2/B	5.40%	4.21%
B3/B-	6.60%	5.15%
Caa/CCC	9.00%	8.20%
Ca2/CC	11.08%	8.64%
C2/C	14.54%	11.34%
D2/D	19.38%	15.12%

And over time….



The US Equity Risk Premium

	Arithmetic Average		*Geometric Average*	
	Stocks - T. Bills	Stocks - T. Bonds	Stocks - T. Bills	Stocks - T. Bonds
1928-2019	8.18%	6.43%	6.35%	4.83%
Std Error	*2.08%*	*2.20%*		
1970-2019	7.26%	4.50%	5.93%	3.52%
Std Error	*2.38%*	*2.73%*		
2010-2019	13.51%	9.67%	12.93%	9.31%
Std Error	*3.85%*	*4.87%*		

Using a backward-looking number with a large estimation error (see the standard errors in the table above) as an expectation for the future cuts against the very essence of an equity risk premium as a number that should be dynamic and constantly changing, as new information comes into markets.

A Forward-looking Estimate

Base year cash flow (last 12 mths)
Dividends (TTM): 57.71
+ Buybacks (TTM): 92.80
= Cash to investors (TTM): **150.50**

Expected cashflow growth in next 5 years
Cash flow growth = Top down analyst estimate of earnings growth for S&P 500 = 3.96%

	Last 12 months	*2020*	*2021*	*2022*	*2023*	*2024*	*Term Year*
Expected Earnings	153.52	159.59	165.90	172.47	179.29	186.38	189.96
Expected Dividends + Buybacks	150.50	156.46	162.65	169.08	175.77	182.73	186.24

Earnings and Cash flows grow @1.92% (set equal to risk free rate) a year forever.

S&P 500 on 1/1/20= **3230.78**

$$3230.78 = \frac{156.46}{(1+r)} + \frac{162.25}{(1+r)^2} + \frac{169.08}{(1+r)^3} + \frac{175.77}{(1+r)^4} + \frac{182.73}{(1+r)^5} + \frac{182.73\ (1.0192)}{(r-.0192)(1+r)^5}$$

The last term in this equation is the expected index level at the end of year 5 (capturing price appreciation)

Solve for r

r = Implied Expected Return on Stocks = 7.12%

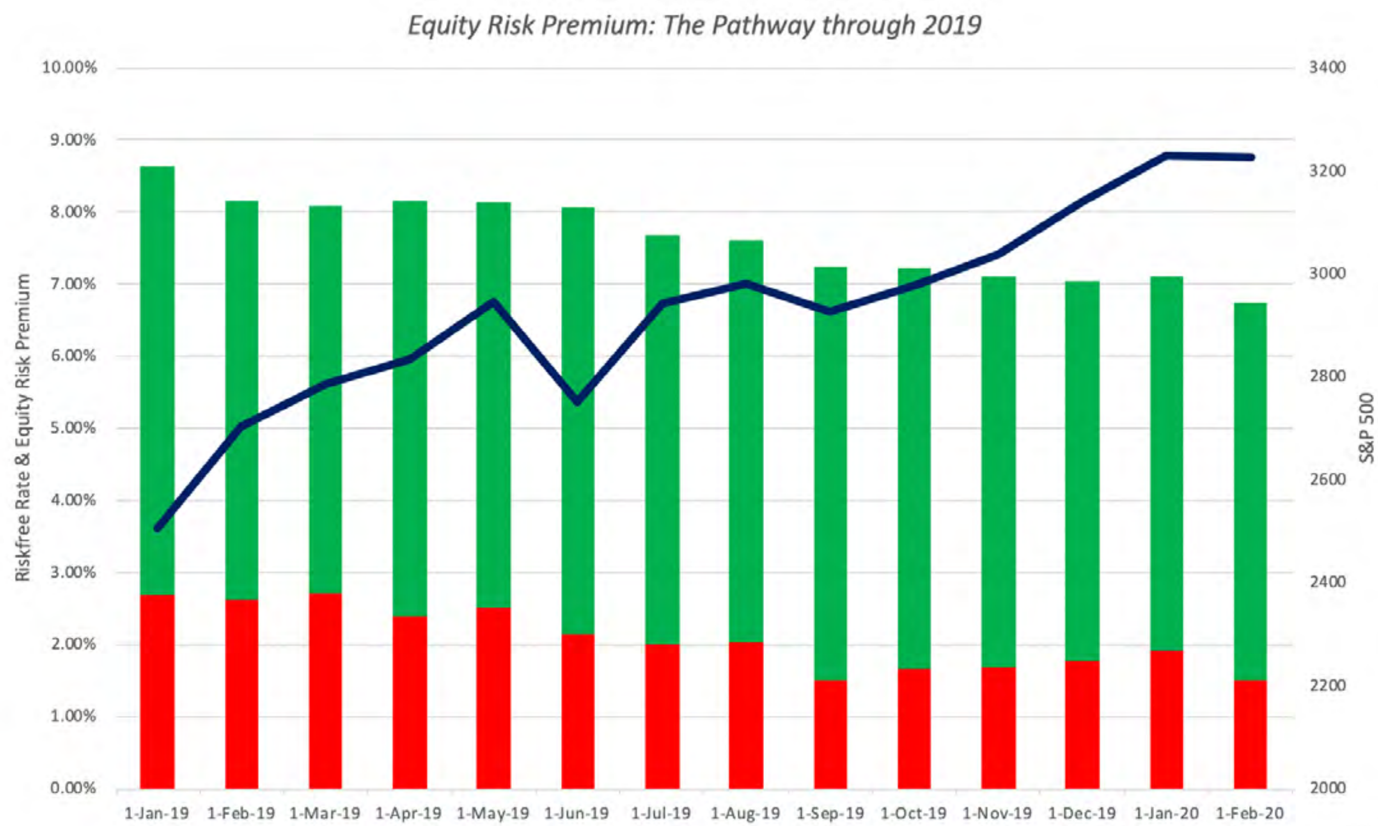
Minus

Risk free rate = T.Bond rate on 1/1/20= 1.92%

Equals

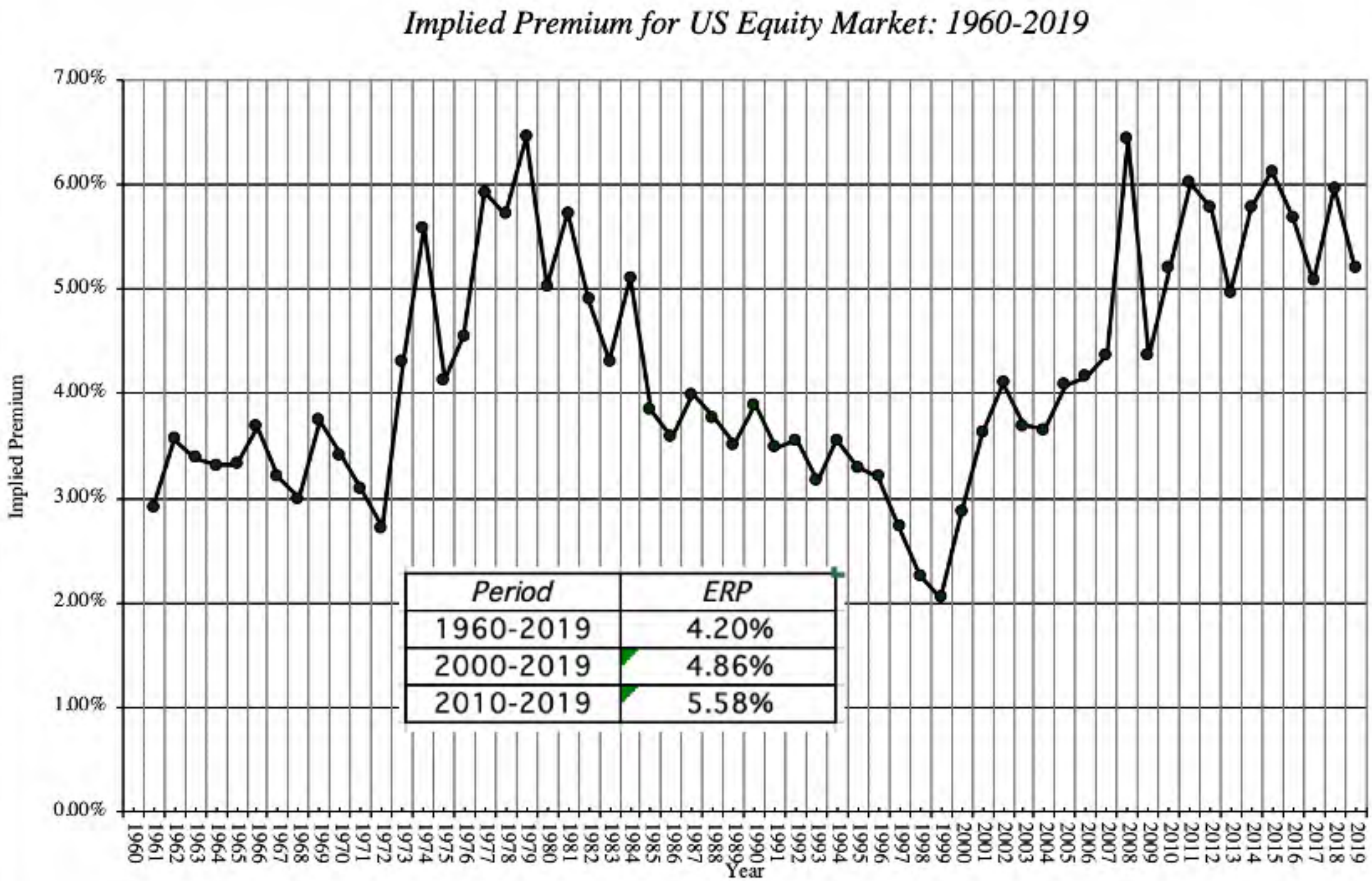
Implied Equity Risk Premium (1/1/20) = 7.12% - 1.92% = **5.20%**

The ERP's Path in 2019



	1-Jan-19	1-Feb-19	1-Mar-19	1-Apr-19	1-May-19	1-Jun-19	1-Jul-19	1-Aug-19	1-Sep-19	1-Oct-19	1-Nov-19	1-Dec-19	1-Jan-20	1-Feb-20
ERP	5.96%	5.53%	5.36%	5.75%	5.62%	5.93%	5.67%	5.59%	5.75%	5.55%	5.44%	5.25%	5.20%	5.24%
T.Bond Rate	2.68%	2.63%	2.72%	2.40%	2.51%	2.14%	2.00%	2.02%	1.50%	1.67%	1.68%	1.78%	1.92%	1.51%
S&P 500	2507	2704	2785	2834	2945	2752	2942	2980	2926	2977	3038	3141	3231	3226

And over time…



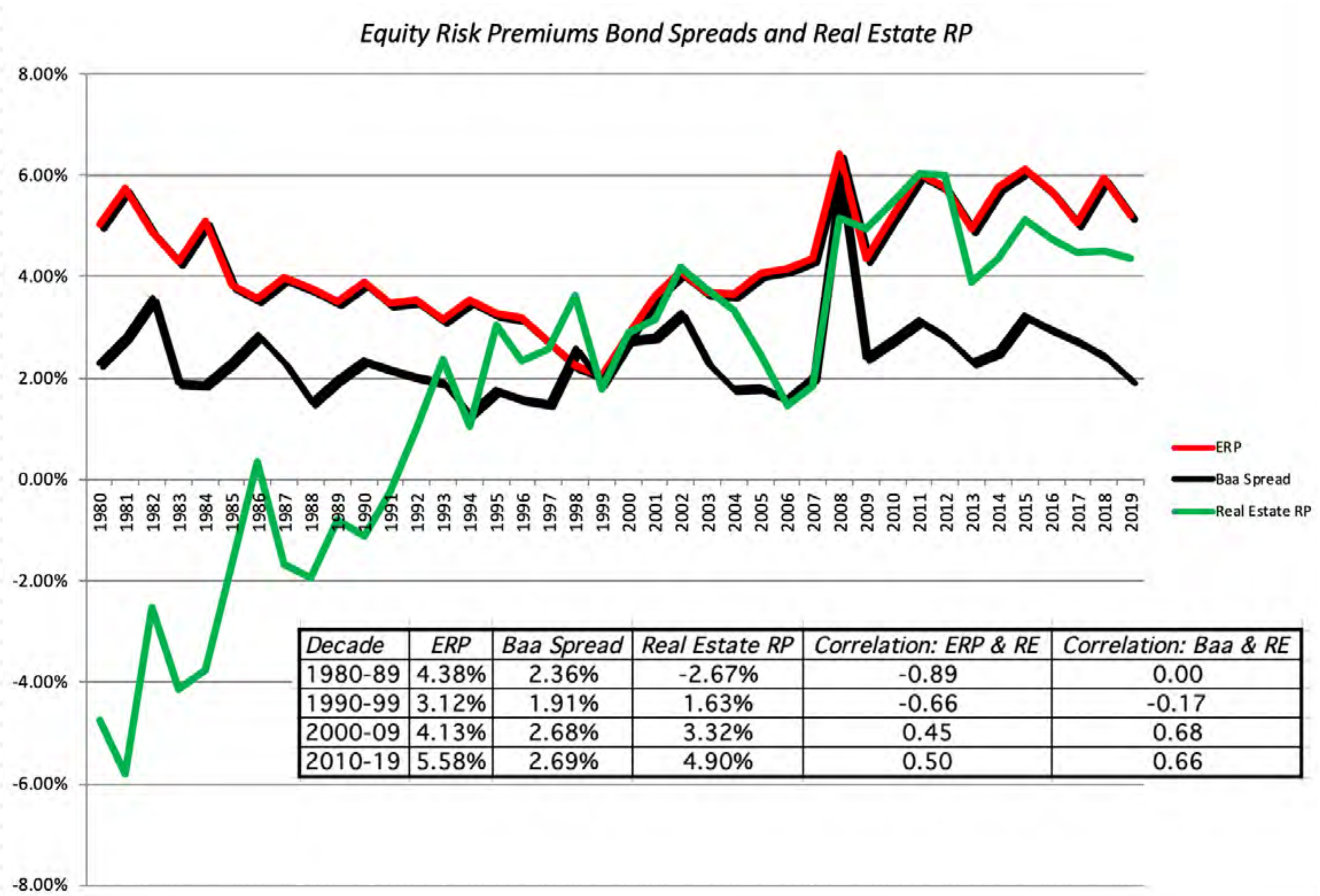
Period	ERP
1960-2019	4.20%
2000-2019	4.86%
2010-2019	5.58%

A Real Estate Risk Premium

- Every risky asset class has a price for risk, i.e., a risk premium, though measuring that price can be difficult, when liquidity is lacking.
- Consider the real estate market, perhaps the biggest asset class outside of stocks and bonds. Investors in commercial real estate attach prices to properties, based upon their expectations of income from the properties and capitalization rates.
  - Thus, a property with expected income of $10 million and a capitalization rate of 8% will be valued at $125 million = $10/.08.
  - Since the capitalization rate is effectively a measure of expected return on real estate, subtracting out the risk free rate should yield a measure of the risk premium in real estate.

Risk Premium for Real Estate = Cap Rate – Risk free rate

A Comparative Analysis



Decade	ERP	Baa Spread	Real Estate RP	Correlation: ERP & RE	Correlation: Baa & RE
1980-89	4.38%	2.36%	-2.67%	-0.89	0.00
1990-99	3.12%	1.91%	1.63%	-0.66	-0.17
2000-09	4.13%	2.68%	3.32%	0.45	0.68
2010-19	5.58%	2.69%	4.90%	0.50	0.66

In conclusion..

- The debate about equity risk premiums is not an abstract one, since which side of the debate you come down upon is going to drive your asset allocation judgments.
  - If you are market neutral, like me, you are effectively taking the market price of risk, as it is set today, to be right and valuing companies with that equity risk premium.
  - If you are a bear, you believe that equity risk premiums should be higher, either for fundamental reasons or instinct, and you should put less of your wealth into stocks than you normally would, given your age, liquidity needs and risk aversion.
  - If you are a market bull, your story has to be one of declining equity risk premiums, perhaps because you think in your own version of mean reversion or because of continued economic growth.
- If you build in your market views into every valuation that you do, your findings will jointly reflect both your market views and your views of the company.