



EQUITY VALUATION

for
10 Minute Stock Trader
w/ Christopher Uhl

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AGENDA

THESIS

US Equity prices do not incorporate sustained inflation

- * CPI 7.5% last 12 months
- * High single digit going forward
- * 10 Year bond yields = 1.55%
- * High Yield Bonds (HYG) = 4.2%
- * Bond Investors are losing purchasing power

VALUATION APPROACH

Intrinsic

- * Present Value of Future Cash Flows to Equity Holders
 - * Dividends
 - * Share Repurchases
 - * Asset Sales

Result

Investors are Overexposed to Stocks
Stock Prices are too high

Time Value of Money

Money in Hand Today is worth more than money in the Future

What is \$100 worth today if we must wait 5 years to get our hands on it and the going rate of interest is 5%?

$$\textit{Present Value} = \frac{C_n}{(1 + r)^n}$$

$$\textit{Present Value} = \frac{\$100}{(1 + 0.05)^5} = \$78.35$$

INTRINSIC VALUE

Definition: Present Value of Future Cash Flows

$$\textit{Intrinsic Value} = \frac{C_1}{(1+r)} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \dots + \frac{C_n}{(1+r)^n}$$

Simplifying Assumptions: Cash flows grow at a constant rate

$$IV = \frac{C_0(1+g)}{(1+r)} + \frac{C_1(1+g)^2}{(1+r)^2} + \frac{C_2(1+g)^3}{(1+r)^3} + \dots + \frac{C_n(1+g)^{n+1}}{(1+r)^n}$$

INTRINSIC VALUE

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With some mathematical gymnastics, this simplifies to

$$IV = \frac{C_0(1+g)}{(r-g)}$$

What is an Appropriate Risk Premium & Discount Rate?

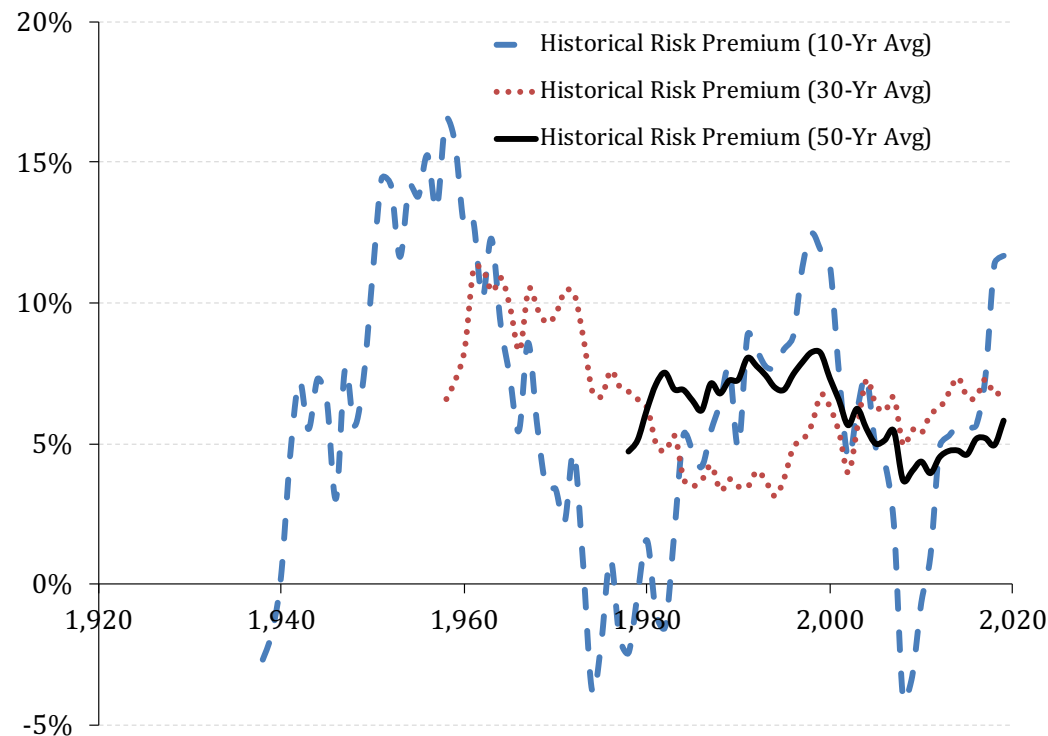
Risk Adjusted
Discount Rate

=

Risk-Free Rate

+

Equity Risk
Premium



Risk Adjusted Discount Rate = 0.4% + 6.47% = 6.87%

INTRINSIC VALUE S&P 500 (SPY)

Assumptions

- * Dividend Last 12 Months = \$5.72
- * Average Dividend Growth rate = 5.62% (Ave since 1990)
- * Discount Rate = 6.87%
- * Investment Horizon: Forever

$$\textit{Intrinsic Value} = \frac{5.72(1 + 0.0562)}{(0.0687 - 0.0562)} = \$483$$

INTRINSIC VALUE
S&P 500 (SPY)

$$\text{Intrinsic Value} = \frac{5.72(1 + 0.0562)}{(0.0687 - 0.0562)} = \$483$$

Current value of SPY = \$450

Potential Conclusions

- * Stock are under value by 7.4%
- * Investors assume a growth rate = 5.53% (9 basis points less)
- * Investors assume discount rate = 6.96% (9 basis points more)
- * Investors assume dividends next 12 months = \$5.33 (\$0.39 less)

INTRINSIC VALUE What about inflation?

T- Bill Investors deserve a positive after-tax rate of return

- * Inflation = 7.5%
- * Income Tax Rate = 25%

$$T - \text{Bill Yield} = \frac{\text{Inflation}}{(1 - \text{Income Tax Rate})}$$

$$T - \text{Bill Yield} = \frac{7.5\%}{(1 - 0.25)} = 10\%$$

What is an Appropriate Discount Rate

Risk Adjusted
Discount Rate

=

Risk-Free Rate

+

Equity Risk
Premium

$$\text{Risk Adjusted Discount Rate} = 10.0\% + 6.47\% = 16.47\%$$

The question under debate: Will inflation persist or is it transient?

- * Inflation = 7.5%
- * Inflation since 2000 = 2.25% (implied zero real after tax return = 3.00%)
- * Income Tax Rate = 25%

$$\text{Risk Adjusted Discount Rate} = 3.0\% + 6.47\% = 9.47\%$$

INTRINSIC VALUE
S&P 500 (SPY) = \$450

$$\text{Intrinsic Value} = \frac{5.72(1 + 0.0562)}{(0.0947 - 0.0562)} = \$157$$

		Growth Rate					
		4.00%	5.62%	6.00%	7.00%	8.00%	9.00%
Required Return on S&P500	6.87%	\$207	\$483	\$697			
	7.00%	\$198	\$438	\$606			
	8.00%	\$149	\$254	\$303	\$612		
	9.47%	\$109	\$157	\$175	\$248	\$420	\$1,327
	10.00%	\$99	\$138	\$152	\$204	\$309	\$623
	11.00%	\$85	\$112	\$121	\$153	\$206	\$312
	11.47%	\$80	\$103	\$111	\$137	\$178	\$252



Equity (S&P500/SPY) Valuation

Potential Conclusions

- * Stocks do not price in the possibility of higher persistent inflation
- * T-Bill yields do not reflect the possibility that fixed income investors will demand a fair rate of return or the Fed will normalize monetary policy

Potential Unknown

- * How will higher inflation affect growth rates?

<https://theoptionsedge.com/2022/01/01/is-this-1989/>

Biography

Mark W. Guthner, CFA



Mark W. Guthner is an Associate Professor of Finance at Rutgers Business School and a consultant to the CFA Institute. In addition, Mark is a 30-year veteran of the financial services industry. His experience traversed equity, equity derivatives fixed-income and fixed-income derivative securities.

He is the author of "Quantitative Methods in Debt Valuation & Management," published by McGraw-Hill. The book presents a model that allows institutional investors to derive the value of corporate bonds from equity and equity options prices. It therefore, allows investors to synthetically create corporate debt securities from stock, options and US Treasury Bonds.

He is the author of "The Options Edge," which shows self directed investors properly use options to hedge positions and take directional risk. He is also the Editor of theOptionsEdge.Com, where he share his insights and trading suggestions with subscribers.

Mark was previously a Principal, Portfolio Manager and Equity Derivative Strategist at Banc of America, CRT Capital Group LLC and Dash Financial. He has also held various senior positions at Standard Chartered Bank, ANZ Investment Bank, Midland Investment Bank and Prudential.

Mark holds a BSE in Mechanical Engineering and an MBA in Finance from the University of Michigan, Stephen M. Ross School of Business.