

LONG-TERM SOURCES OF INVESTMENT RETURNS¹ AND A SIMPLE WAY TO ENHANCE EQUITY RETURNS

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SECTION 1: LONG-TERM RETURNS OF US EQUITIES

Over the last 130 years, U.S. equities² have generated a total return of 8.9% p.a. including dividends³. While there has been significant variation in year over year returns, the long-term picture is that of a consistent compounding of wealth as seen in Figure 1 below.

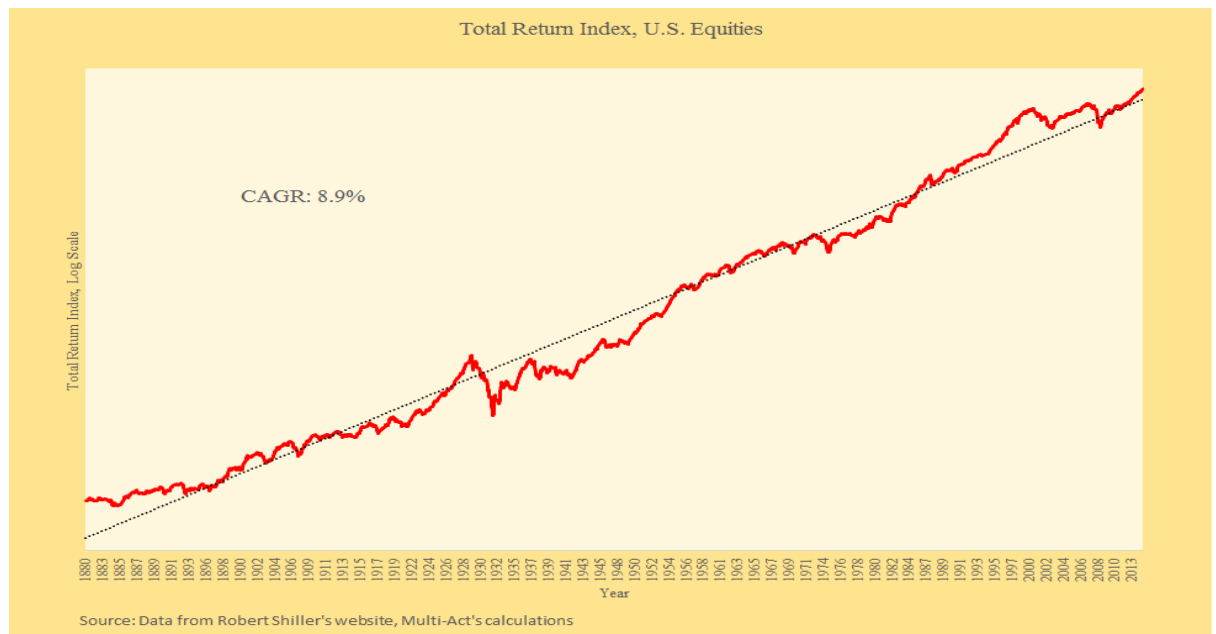


FIGURE 1: U.S. EQUITIES TOTAL RETURN INDEX

Components of Investment Returns

The total investment return from equities can be decomposed in four components, namely dividends⁴, inflation, real growth in business value of all listed businesses, and change in Mr. Market's⁵ "perception" of the value of those businesses. Equation 1 below formulates the decomposition of total investment returns among the four components mentioned above.

¹ In an editorial in the *Financial Analyst Journal* in 2003, titled *Dividends and Three Dwarfs*, Robert Arnott showed that US equities compounded investor's assets at 7.9% over 200 years from 1802 to 2002. This investment return consisted of a 5.0% return from dividends, a 1.4% return from inflation, a 0.8% return from real growth in dividends, and a 0.6% return from rising valuations.

² For the purposes of this paper, U.S. equities refer to S&P 500 and its components.

³ Using data provided on Robert Shiller's website <http://www.econ.yale.edu/~shiller/data.htm>

⁴ In *"The Triumph of Optimists: 101 Years of Global Investment Returns"*, Elroy Dimson Et al. showed that dividends account for a significant part of the total investment returns over long periods. From 1900 to 2000, a US portfolio that included reinvested dividends would have generated 86 times the wealth generated by the portfolio solely relying on capital gains.

⁵ Mr. Market is an allegory created by Benjamin Graham. While explaining the fluctuations in stock prices, Graham says that "Think of you as owning a share in a business in partnership with others. One of your partners, say Mr. Market, is somewhat of a neurotic who on any given day will offer to buy your share or sell you his at a specific price. His moods can fluctuate anywhere between incredible optimism and overwhelming depression. One day he will nominate a higher price to buy or sell, the next day he might increase it, lower it, or even appear uninterested in whether he buys or sells."

$$Total\ Return\ from\ Equities^6 = Dividend\ Yield + Inflation + Real\ Gr\ in\ Business\ Value + \Delta\ Valuation\ ascribed\ to\ Businesses \dots\dots\dots 1$$

While dividend yield and inflation are straightforward numbers, we need some proxies for growth in business value and changes in valuations ascribed by market participants to businesses. For the purpose of our analysis, we have used growth in cyclically adjusted earnings⁷ as the proxy for business value growth and changes in CAPE multiple as the proxy for changes in valuation ascribed to businesses by market participants. Table 1 below shows the contribution to total returns from U.S. equities from these four factors over the last 130 years. Clearly, dividends have been the largest component of the total investment returns.

	Annualized Returns
Multiple Expansion: CAPE	0.3%
Inflation	2.4%
CAE Growth: Real	1.6%
Dividends	4.4%
Annual Returns	8.9%

TABLE 1: DECOMPOSITION OF TOTAL RETURN FROM U.S. EQUITIES

Table 2 below shows decomposition of total returns for each decade. While Figure 1 earlier showed a rather consistent compounding of wealth by U.S. equities, the table below shows that while there were some decades that yielded extraordinarily high total returns (1921-1930, 1941-1950, 1951-1960, 1981-1990, and 1991-2000), there were decades that yielded very low total returns (1881-1890, 1911-1920, 1931-1940, and 2001-2010). In fact, decades of 1911-1920 and 2001-2010 were associated with negative real total returns of -4.9% and -1.2% respectively with the decade of 1971-1980 yielding a real total return of 0%. Interestingly, there isn't much to distinguish between decades with high total return and decades with low total return in terms of inflation or EPS growth. Further, dividends have made a much smaller contribution to total returns since the nineties.

⁶ There is also a residual component which is largely a factor of the geometric interactions of the various factors when they are compounded over the long-term. However, for the purposes of our analysis this has been ignored as it tends to be a very small component compared to the other four components.

⁷ Cyclically adjusted earnings (CAE) refer to the smoothed earnings measure popularized by Robert Shiller. It is calculated by taking a 10-year average of inflation adjusted trailing earnings. Cyclically adjusted PE (CAPE) is calculated by taking the inflation adjusted prices of S&P 500 and dividing it by CAE.

Decade	Total Return	Dividends	Inflation	CAE Growth - Real	Multiple Expansion
1881 - 1890	2.0%	5.1%	-1.8%	1.3%	-2.5%
1891 - 1900	8.7%	4.4%	-0.4%	0.8%	3.9%
1901 - 1910	7.5%	4.6%	2.0%	5.4%	-4.5%
1911 - 1920	3.3%	6.2%	8.2%	0.3%	-11.5%
1921 - 1930	14.4%	5.4%	-1.9%	-2.1%	13.0%
1931 - 1940	1.9%	5.8%	-1.4%	-1.2%	-1.5%
1941 - 1950	12.8%	5.9%	6.2%	3.0%	-2.4%
1951 - 1960	16.3%	4.6%	1.9%	4.8%	5.0%
1961 - 1970	8.1%	3.2%	3.0%	2.9%	-1.1%
1971 - 1980	8.4%	4.2%	8.4%	1.6%	-5.8%
1981 - 1990	13.9%	4.1%	4.7%	-0.7%	5.8%
1991 - 2000	17.5%	2.2%	2.7%	3.0%	9.6%
2001 - 2010	1.2%	1.9%	2.4%	2.2%	-5.3%
2011 - 2014	5.5%	0.7%	0.9%	2.4%	1.5%

TABLE 2: DECADE-WISE DECOMPOSITION OF TOTAL RETURN FROM U.S. EQUITIES

Modified Equation for Approximating Total Returns

While changes in valuations ascribed to businesses is an important driver of returns over short and intermediate terms, its impact on total investment return over very long periods should be insignificant. The reason why this proposition holds true over very long periods is that the two primary drivers of the multiples assigned by market participants to cash flows or assets of businesses, namely interest rates and growth expectations, tend to revert to mean over long-term.

Our contention that over very long periods changes in business valuations should be a tiny component of total returns is supported by Table 1 which shows that changes in valuation ascribed to businesses as proxied by changes in CAPE multiple was a very small contributor to total investment returns at 0.3%. With this insight in mind, the equation to approximate total return from equities can be rewritten as follows:

$$\text{Long-Term Total Return from Equities} \approx \text{Dividend Yield} + \text{Inflation} + \text{Real Gr in Business Value} \dots\dots\dots 2$$

Further, inflation *plus* real growth in business value approximate the nominal growth in the business value and so the equation above can be further modified as below:

$$\text{Long-Term Total Return from Equities} \approx \text{Dividend Yield} + \text{Nominal Gr (Business Value)} \dots\dots 3$$

Stock Price Appreciation and Business Value Growth

Given that the total return from equities are equal to the sum of dividend and stock price appreciation, equation 3 makes it clear that over very long periods, capital gains component of return from investing in equities is largely attributable to underlying business value growth. Using the data from Table 1 above, capital appreciation contributed about 4.0% to total return from equities (Inflation + CAE Growth: Real)⁸. From the discussion above, we

⁸ Note that we have excluded the impact of CAE multiple expansion which contributed 0.3% to the total returns.

deduce that the underlying business value growth of companies included in the S&P 500 has approximated to an annual average rate of 4.0% over this period.

This assertion that over long periods of time, price returns earned from investing in equities approximately equal the underlying business value growth is also supported from the Flow of Fund Accounts of the United States published by the Federal Reserve. Based on the data published in the Flow of Funds report⁹, the net worth of nonfinancial corporate businesses in the US grew at a CAGR of 7.1% between 1945 and 2014. As growth in net worth of all businesses is a good proxy for underlying business value growth, this tells us that the business value of nonfinancial corporate businesses in the US grew at about 7.1% over that time. Over this same time frame, S&P 500's price increased at a CAGR of 7.2%¹⁰!

We conclude this section with the assertion that price appreciation component of the total return from equities is largely composed of growth in underlying business value.

⁹ Table B.102: Balance Sheet of Nonfinancial Corporate Business, Net worth (historical cost), row number 46.

¹⁰ Over this time frame, CAPE multiple expansion accounted for 0.8% of total returns. Using equation 1, we can calculate that the change in SPX price that was related to nominal business value growth was 6.4%. We contend that the difference between the growth of net worth of all businesses of 7.1% and growth in business value of S&P 500 of 6.4% is primarily related to the fact that smaller sized businesses have enjoyed higher returns / business value growth over this time.

SECTION 2: A SIMPLE¹¹ WAY TO ENHANCE INVESTMENT RETURNS OVER LONG-TERM

It is important to note that the 7.2% return that we referred to earlier is the geometric mean of the S&P 500 yearly returns between 1945 and 2014. This of course doesn't mean that S&P 500 had a return of 7.2% in each one of those years. Much like any average, it lumps together numbers that were well below it as well as numbers that were significantly above it. Figure 2 below shows the distribution of S&P 500's yearly returns between 1880 and 2013. As can be seen, there were several observations that were in the negative territory. Similarly, the 7.2% price growth witnessed by the S&P 500 doesn't mean that every business that is included in the index grew at that pace. While there were several businesses that managed to grow at significantly higher pace, there were several others that grew at much worse rates.

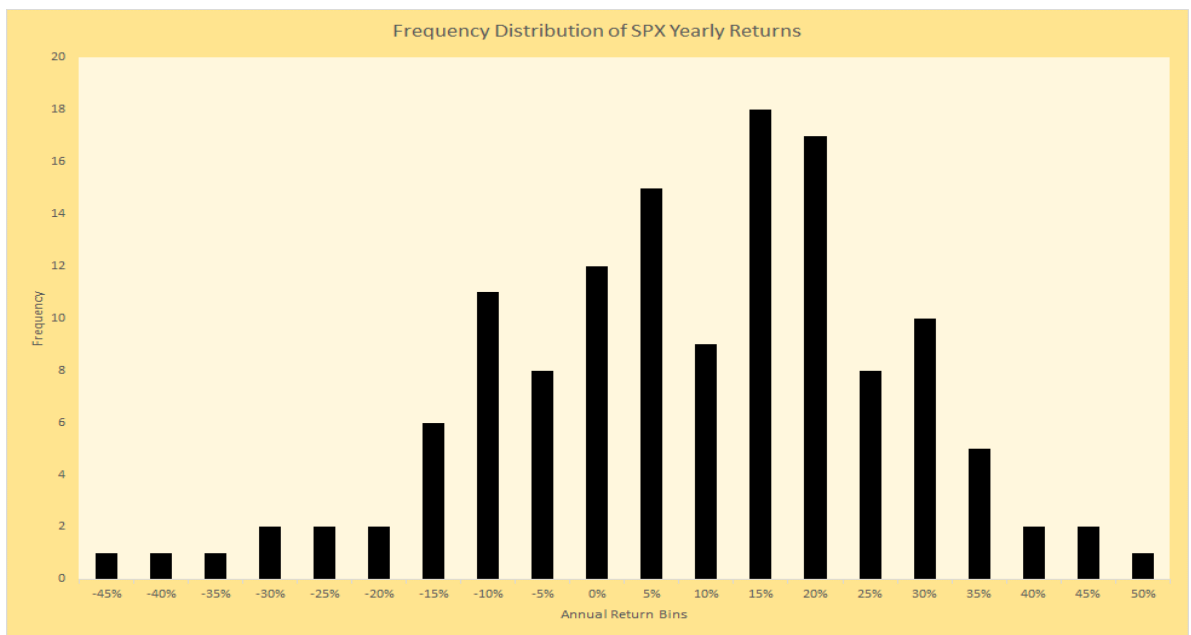


FIGURE 2: DISTRIBUTION OF S&P 500 PRICE RETURNS

Having established that over the long-term, price growth of a portfolio of equities approximates the underlying business value growth of the businesses included in the portfolio; it follows that an investment process that successfully identifies businesses that are able to grow their underlying business values at above average rates over long-term should generate superior long-term investment returns. The key is to be able to identify businesses that are to the far right of the underlying business value growth distributions and have the ability to stay in that zone.

It is important to understand that a business that is able to grow its business value at rates well above the average, is enjoying some sort of a “competitive advantage” at that point of time. However, the ability to stay in that zone depends on the “sustainability” of that competitive advantage.

Therefore, a simple way to enhance investment returns of a portfolio over the long-term is to invest in businesses that have the ability to grow their business values at above-average rates in a sustainable manner. Such businesses possess significant competitive advantages that are

¹¹ “Investing is simple but not easy.” – Warren Buffett

sustainable. We at Multi-Act refer to such businesses as High Quality (HQ) businesses and we further posit that High Quality is a distinct investment style, a topic that we will delve into in one of our subsequent papers¹².

¹² Warren Buffett has over time indicated this to be the best investment strategy through several of his quotes. Some of his quotes that suggest HQ as an independent investment strategy are: i. “Time is the friend of the wonderful business, the enemy of the mediocre”. ii. “Both our operating and investment experience cause us to conclude that turnarounds seldom turn, and that the same energies and talent are much better employed in a good business purchased at a fair price than in a poor business purchased at a bargain price.” iii. “When a management with a reputation for brilliance tackles a business with a reputation for bad economics, it is the reputation of the business that remains intact”.