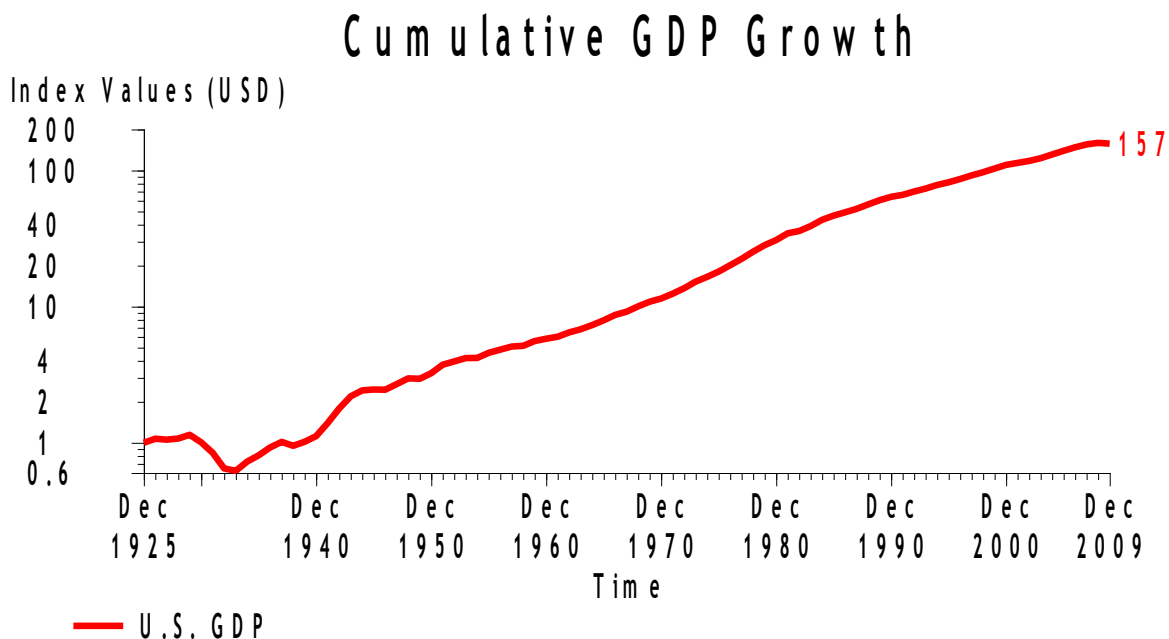




## The Real Deal

It is easy to forget the picture of long-term economic growth given today's turbulent markets. In 1925, the U.S. gross domestic product was \$90.6 billion. By 2009, the GDP had grown to \$14.3 trillion. This equates to a staggering 157-fold increase as a 6.2% annual average growth compounded over 84 years (see the following graph). Even the Great Depression appears as a transitory drop in this economic ascent while the -1.3% decline in 2009 barely registers. Today, there are 25 U.S. corporations that have market capitalizations in excess of the GDP in 1925.



GDP growth was driven by three factors - inflation, labour force growth and productivity improvements. Although inflation of 2.8% per annum was a significant part of the 6.2% annual GDP growth, labour force and productivity increases accounted for the bulk of economic growth. Real GDP per capita, the most relevant measure of economic prosperity and a rough proxy for productivity, grew at 2.1% annually.

Ever-increasing corporate productivity fostered by competitive, open markets is the engine of long-term real wealth creation. Investors' returns from dividends and

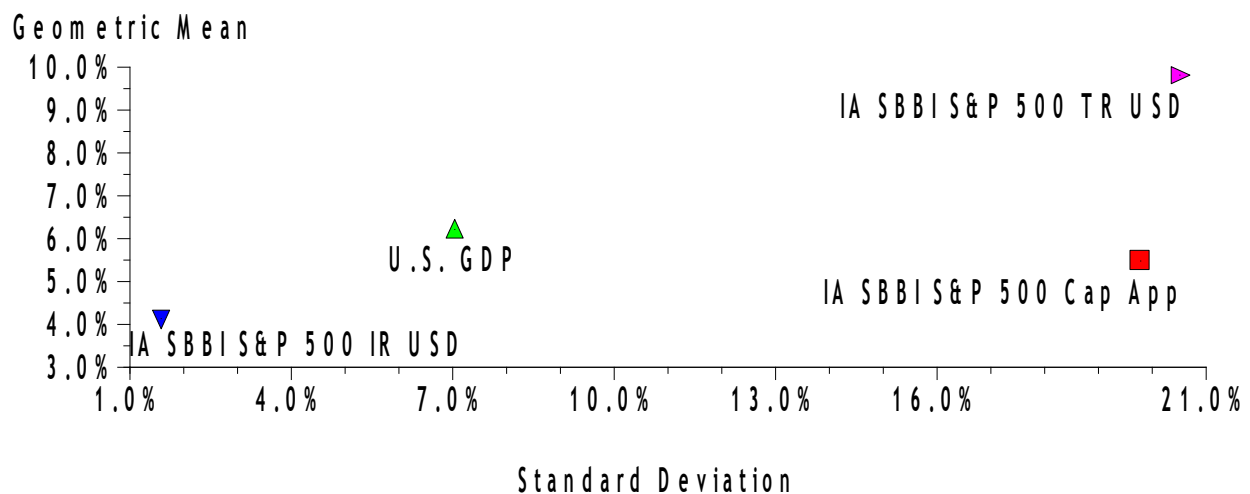


capital appreciation reflect the growth in corporate earnings as rising prices, an expanding population and labour force, and productivity improvements lift GDP.

Ultimately, the same factors that drive GDP growth drive stock returns. As shown in the following graph, long-term capital appreciation from U.S. stocks of 5.5% annually (in red) approximates U.S. GDP growth of 6.2% annually (in green). The difference is primarily due to the impact of dilution<sup>i</sup> and valuation changes<sup>ii</sup>. Combined with income returns from dividends (in blue), the total return from stocks has been 9.8% per annum (in pink).

## U.S. Equity Returns and GDP Growth

December 1926 - December 2009



Notably, stock returns are three times more volatile than GDP growth. This is in part due to the swings in corporate earnings but it also reflects the tremendous variation in what investors are willing to pay for stocks.

In fact, investors who are disappointed with stock market returns this decade shouldn't blame the real economy as the cause of their despair. Despite two recessions, the U.S. economy grew 43% over the past decade. It was the collapse in stock market valuations from a cyclically adjusted price-earnings ratio peak of 44 in 1999 to 20 in 2009 that eviscerated returns. Investors' animal spirits during the tech boom, not the real economy, are to blame for the Lost Decade.

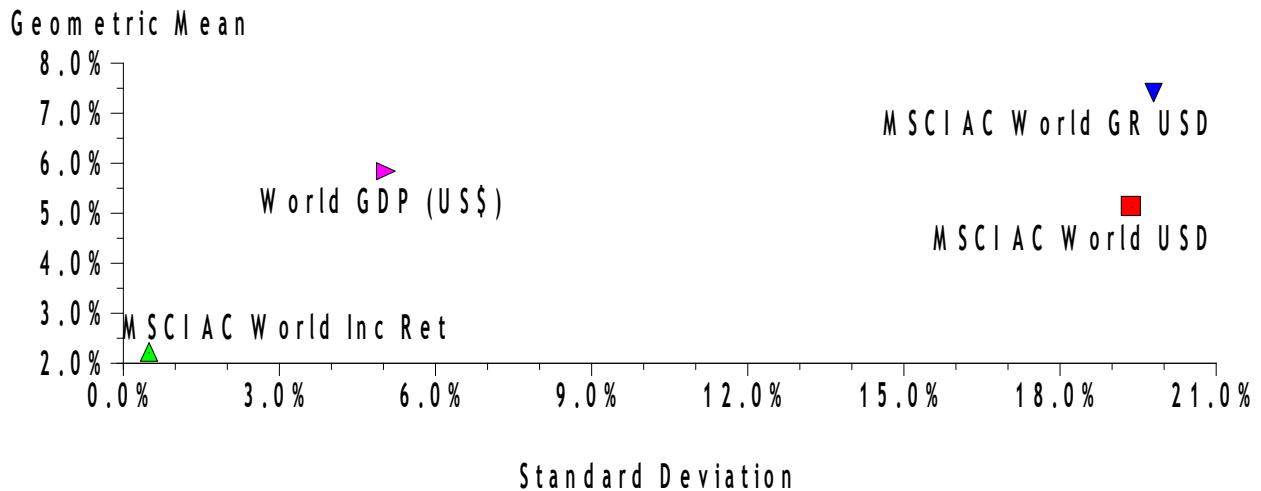
As illustrated in the following graph, since 1988, world GDP growth rates (in pink) and



capital appreciation from global equities (in red) have also increased in tandem. The same factors - rising prices, labour force growth, and productivity increases - that propel world GDP growth drive world equity returns.

## World Equity Returns and GDP Growth

December 1988 - December 2009



Many investors are rightfully concerned about reduced growth prospects in the U.S. and other advanced nations due to aging populations, higher taxes and the burden of social entitlements. These worries obscure the fact that the world population is expected to grow 50% over the first half of this century<sup>iii</sup>. The locus of growth for the world economy is shifting to developing nations that offer the prospects of more rapid labour force growth, higher rates of capital investment founded on cultures of thriftiness as well as the continued adoption of technological advances.

Investors will face turbulent markets over the next several years as the world's credit implosion, now mutated to a sovereign debt crisis, plays out. Broad global asset class diversification is essential to riding out this storm. However, in the long run, it is the real economy that matters to equity returns. In today's climate of uncertainty, long-term investors should take heart that the drivers of world GDP growth - labour force growth and productivity increases - remain intact.

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<sup>i</sup> Corporate earnings growth and hence, long-run capital appreciation will lag GDP growth by approximately 2% annually due to dilution as new companies are capitalized with equity. See Bernstein, William J., and Robert D. Arnott. 2003. “Earnings Growth: The Two Percent Dilution.” *Financial Analysts Journal*, vol. 59, no. 5 (September/October):47-55.

<sup>ii</sup> Changes in valuation also impact capital appreciation. According to *2010 Ibbotson S&P Classic Yearbook* (Chicago: Morningstar, Inc., 2010), 127, changes in the price-earnings ratio from 1926 to 2009 added 1.07% per year to capital appreciation from 1926 to 2009.

<sup>iii</sup> Based on U.S. Census Bureau estimates. See [http://en.wikipedia.org/wiki/World\\_population](http://en.wikipedia.org/wiki/World_population).