

Investment lessons from ‘God’s portfolio’

In 2016 investment firm **Alpha Architect** published a paper analysing the performance of a hypothetical investment portfolio built by a clairvoyant active manager - a ‘God like’ **manager with perfect insight on stock future returns**. Today, I’d like to complement that study with some other analysis to see if we can learn some lessons for investors.

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Alpha Architect’s exercise was to build a US stock portfolio, employing a ‘crystal ball’ that would allow the portfolio manager to know in advance which stocks would perform best in the following five years. The exercise was carried out over a very long time period, rebalancing the portfolio every five years, to include only the best performing stocks in the subsequent five-year period.

The performance of “God’s portfolio” over a period of almost 90 years (1927 to 2016) was almost **+30% annualised** over the period, **outperforming the market (S&P 500) by around +20% per annum**.

God’s Portfolio Performance (1927 to 2016)

	GOD’S PERFORMANCE	S&P500
Annualized Return	29.37%	9.87%
Standard Deviation	22.41%	18.96%
Sharpe Ratio (RF=T-Bills)	1.12	0.42

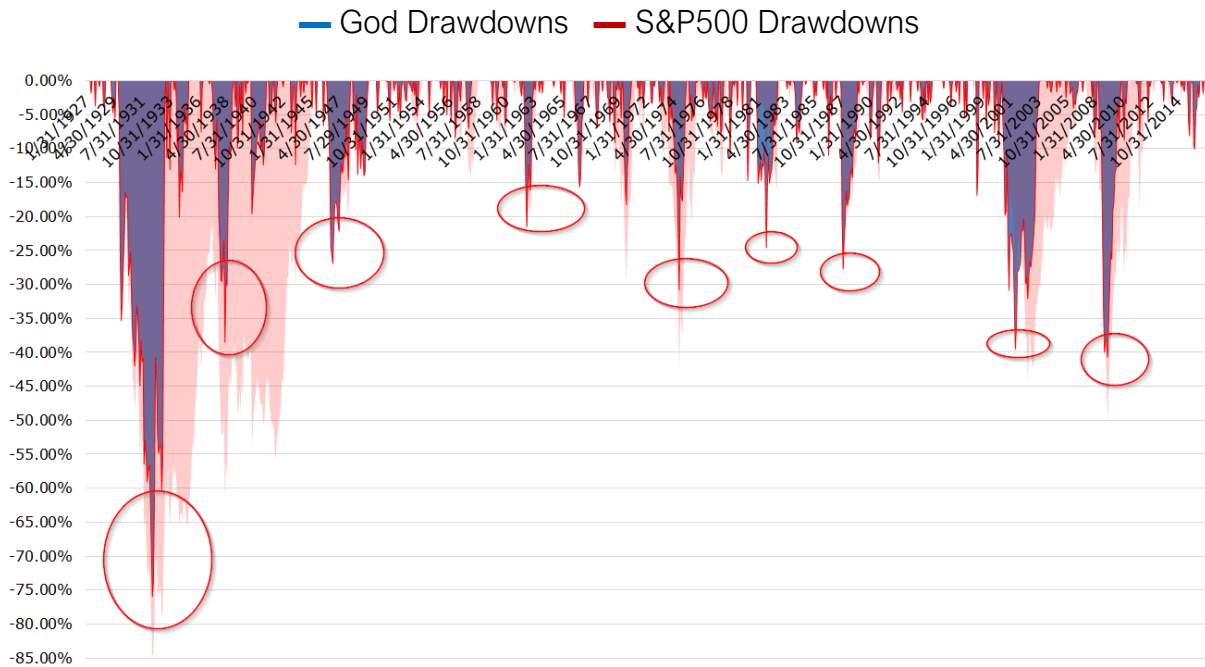
Source: Alpha Architect, Feb 2016

Brilliant! We found the ‘perfect’ active portfolio manager - someone who would eventually own the whole market, were it not for this being a theoretical exercise.

So what can **investors learn from this** 90 year journey? How would they have navigated it?

Surprisingly, the short answer is, ‘with a lot of pain’! For the **maximum drawdown** (peak to trough return) on ‘God’s Portfolio’ is a **massive 75.94%**. Moreover, there are **ten periods with drawdowns of -20% or more while** the portfolio’s volatility is higher than that of the market.

God's Portfolio – Drawdowns

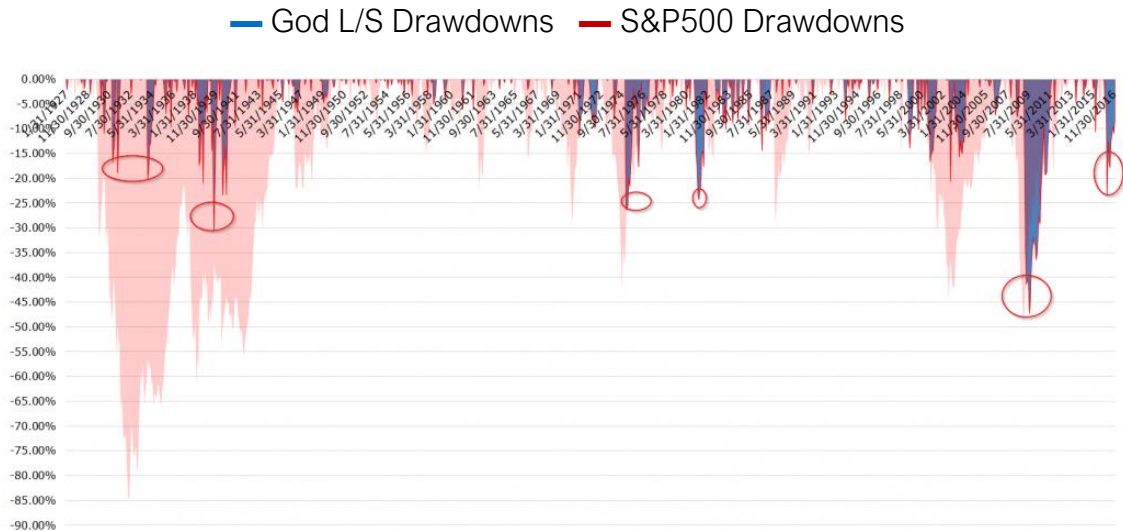


Drawdown Rank	Drawdown	Date of Prior Peak	Date of Low	Date of Recovery	Peak to Low (days)	Low to Recovery (days)	Peak to Peak (days)
1	-75.94%	8/30/1929	5/31/1932	6/30/1933	1005	395	1400
2	-40.75%	5/31/2008	2/28/2009	3/31/2010	273	396	669
3	-39.51%	8/31/2000	9/30/2001	9/30/2003	395	730	1125
4	-38.54%	2/27/1937	3/31/1938	12/31/1938	397	275	672
5	-30.81%	12/31/1973	9/30/1974	4/30/1975	273	212	485
6	-27.69%	8/31/1987	11/30/1987	1/31/1989	91	428	519
7	-26.94%	5/31/1946	11/30/1946	4/30/1948	183	517	700
8	-24.61%	11/30/1980	9/30/1981	8/31/1982	304	335	639
9	-21.53%	2/28/1962	6/30/1962	1/31/1963	122	215	337
10	-20.13%	3/31/1934	7/31/1934	4/30/1935	122	273	395

Source: Alpha Architect, Feb 2016

Going a step further, Alpha Architect decided to create the **perfect long-short portfolio** to analyse if temporary losses could have been mitigated by shorting stocks. Using perfect insight on both the 'longs' (winner stocks) and 'shorts' (loser stocks) this hedge fund would have achieved an **outstanding +46% annualised**. However, the bad news was that the **maximum drawdown would have been a painful -47%**, with several periods of losses beyond -20%.

God's long/short Portfolio – Drawdowns (Long 5-year decile winners; short 5-year decile losers)

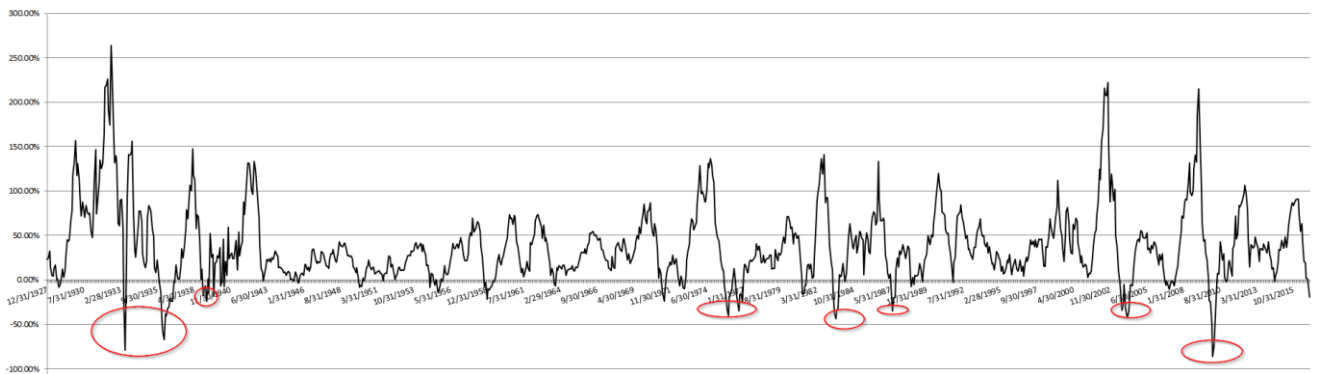


Source: Alpha Architect, Feb 2016

What is even more interesting is that the 'perfect' long-short portfolio would have delivered many underperforming one-year return periods relative to the market (S&P 500). Sure, it would have outperformed in most occasions - sometimes by huge margins - and definitely the manager would feature in the Financial Times' front page as the greatest investment guru of all time! But, the reality is that the fund would have frequently lagged behind a passive alternative - on occasions by a massive difference of 50% or more. Certainly, in such circumstances, God would have been vilified in the media and fired as a portfolio manager.

God's long/short vs S&P500

— God L/S 1-year Rolling CAGR Relative to S&P500



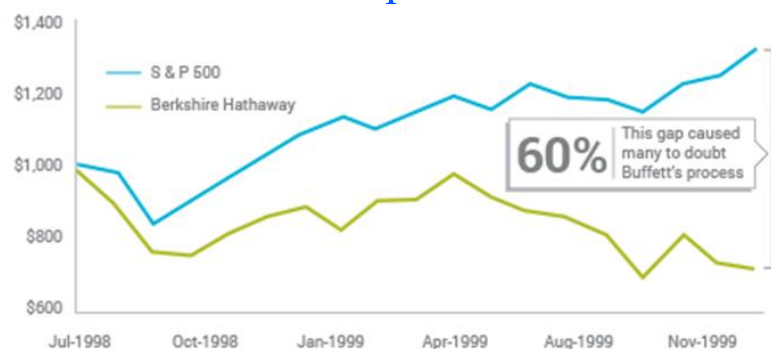
Source: Alpha Architect, Feb 2016

Coming back to the real world, we find that even the most legendary investor has suffered this type of scenario. According to analysis carried out by Eric Crittenden (Longboard Asset Management), taking daily, weekly, quarterly or six-monthly periods, even the great Warren **Buffett has had more underperforming than outperforming periods**. And yet, under Buffett's leadership (1965 to 2018) an investor in Berkshire Hathaway has turned 1,000 dollars into almost 25 million dollars, compared with around 150,000 dollars that would have been achieved investing in the S&P 500 Index (source: Berkshire Hathaway's annual letter).

So, the question our analysis raises for investors (particularly those who support active management) is.... should Buffett have changed his investment process when his style was out of favour and his portfolio underperforming?

In the following chart we can readily see an especially difficult period for Buffet and for many other portfolio managers that applied a similar investment style:

Berkshire's short-term underperformance in the late 1990's



Source: Longboard.com

During the tech bubble, in the late nineties, rather than changing his strategy in the middle of the game, Buffett **stuck to his philosophy and investment process** despite a brutal underperformance and strong criticism from market commentators (Wall Street Journal, December 1999: [What's wrong, Warren?](#)). Over the following three years (2000-2002) Buffet proves his doubters wrong by delivering a **+53% return, while the S&P 500 dropped by 25%**.

This dogged approach was not only shared by Warren Buffett. According to the Longboard Asset Management study, if you take the best investors in history, it turns out that they too experienced many periods of benchmark underperformance.

Sadly, many investors have tended to chase recent past performance, getting in and out of investment funds with inappropriate timing (buying high and selling low) – this is usually a **recipe for disaster**. This seems to have happened to Peter Lynch - one of the world's best investors. His Fidelity Magellan fund delivered around 30% per annum, but market commentators have suggested (although to our knowledge Fidelity never confirmed it), that most investors in the fund lost money, due to poor entry and exit timing. The empirical

evidence is that the vast majority of funds have suffered from this *behaviour gap*, as shown by the Morningstar research paper [“Mind the Gap”](#).

It is critical to understand that performance tends to come through in very short periods of time. Morningstar’s paper [“Is there a good time to buy or sell actively managed funds?”](#), analysed those **funds that have outperformed their benchmark in the last 15 years** (Nov 2003 to Oct 2018). The study demonstrates that those funds that managed to outperform the market, **generated their excess return, on average, in less than 5% of the time**. In other words, over a 15-year period, the outperformance came through, on average, in just 7.4 months.

Exhibit 2 Critical Months Statistics for Funds that Outperformed Their Benchmarks, Aggregate

Mean	Median	25th Percentile	75th Percentile
7.43	6	3	10

Source: Morningstar Direct, Authors' Calculations.

Exhibit 3 Critical Months Statistics for Funds that Outperformed Their Benchmarks, Grouped by Region

Region	Fund Count	Mean	Median	25th Percentile	75th Percentile
Asia–Developed	178	7.49	5	3	9
Canada	304	7.78	5	3	12
Europe–ex Euro	307	9.22	8	4	13
Eurozone	1430	7.40	6	3	10
United Kingdom	388	8.71	8	4	12
United States	1146	6.44	5	2	9

Source: Morningstar Direct, Authors' Calculations.

So what should we conclude from these findings? Clearly, it’s impossible to predict when we might see months of excess return, so **if our purpose is to capture an active manager’s alpha, then we must remain invested for the long-term**, staying still during periods of poor absolute or relative performance. Those underperforming periods may feel **PAINFUL**, but are **NECESSARY**, if we are to beat the market in the long run. Moreover, it’s critical to invest in a manager that will not change solid investment principles when the market, for what they believe to be ‘the wrong reasons’, is not rewarding his or her strategy. **All managers have rough performance periods** and they need to have **the temperament to consistently execute** the stated investment process, even when they are navigating through the storm.

For their part, fund investors should not buy or sell a fund based on its recent performance. Nobody knows on what date and time outperformance will crystallise and even the best long-term managers are frequently in line or below the market. In poor performing periods, fund investors should analyse if there have been any investment mistakes (defined as a permanent loss of capital) and why. If there are no mistakes, it may even be a good (or great) opportunity to take or increase positions in the fund.