The Retirement Conundrum: Untying the Gordian Knot

Executive Summary

Marc Odo, CFA®, CAIA®, CIPM®, CFP®
THE RETIREMENT CONUNDRUM: UNTYING THE GORDIAN KNOT

Content Summary

This paper seeks to address what might appear to be an insurmountable problem: the myriad of challenges facing the baby boom generation as they head into retirement.

These problems include:
1. The current and forecasted market, economic, and demographic conditions.
2. The inadequacies of traditional solutions like standard asset allocation models or target date funds to meet the needs of retiring investors.
3. The inclusion of real-world “X-factors” that are often excluded from standard analysis, including elements such as forced selling in a down market, the impact of poor timing or “bad luck”, and the danger of emotion-driven investing.

Individually any of these challenges would be daunting, but combined they may seem overwhelming.

Swan believes the solution to this conundrum requires innovative thinking and bold action. Therefore, the Defined Risk Strategy was designed to create consistent returns by minimizing the impact of bear markets yet still have meaningful up market participation.

This executive summary outlines how the Defined Risk Strategy addresses all of the concerns listed above. A more comprehensive, in-depth version of the paper is also available.
The term “Gordian Knot” is sometimes invoked to describe a seemingly insurmountable problem that is solved by innovative thinking and bold action. It is based upon a legendary tale when Alexander the Great solved a supposedly impossible ancient puzzle with a literal stroke of his sword.

Like the Gordian Knot, the problems facing the baby boom generation as they enter retirement may seem insurmountable. Although well documented, it is worth outlining the obstacles baby boomers face in maintaining a happy, healthy lifestyle through the decades of their retirement. These include:

- The diminished role of public and private pensions and the greater importance of “do it yourself” defined contribution and IRA plans
- Increased longevity risk as people are living longer than ever before

Any of these problems individually would be a challenge, but the combined effect of several or all of these issues pose a problem that might appear insurmountable. Tangled together into a big knot, it is difficult to know where to even start to find a solution.

THE ROLE OF FIXED INCOME IN A PORTFOLIO

Traditionally, fixed income has performed two roles in a portfolio: income and capital preservation. Over the last 30 years, fixed income has performed both roles admirably. The Barclays U.S. Aggregate Bond index has returned an average annualized 7.84% between 12/31/78 and 9/30/2015. However, with rates at historic lows it is difficult to see how bonds would be able to provide much income or capital preservation going forward. A newly issued 10-year Treasury bond locks in a yield of 2.17% over the next decade, which is unlikely to cover the expected rate of inflation.

Moreover, the ripple effect of the extremely cheap money since the Financial Crisis of 2007-08 has led to some very unusual conditions, all of which should be of concern to the fixed income investor.

- As interest rates rise it is inevitable that the prices of bonds will fall. The duration of the average intermediate-term investment grade bond fund in Morningstar is 4.88 as of 9/30/2015, meaning a 1% rise in interest rates should correspond to a 4.88% price drop.
- Central banks around the globe have embraced quantitative easing. The Federal Reserve Bank, the Bank of England, the Bank of Japan, and the European Central Bank all saw their balance sheets balloon by trillions. Just how the world’s central banks plan to unwind such enormous positions without adversely impacting the markets or the global economies has been the topic of much speculation.
- Low rates have undoubtedly punished savers. Money has flowed into a wide variety of spread products chasing yield. An estimated cumulative flow of $550bn into “spread” debt securities like high yield bonds, emerging market debt, world bond funds, bank loan funds, “non-traditional” and “multi-sector” bonds funds, has occurred since January 2007. These spread securities tend to perform
much worse in poor markets or economic conditions.

- Bond inventories kept on the books of the major banks and brokerages have shriveled. Under pressure to decrease holdings of non-Treasury debt, banks have been pushed out of their traditional market-maker role in fixed income. If a run on fixed income occurs, the liquidity of the bonds might be severely tested.

Given current market conditions, it appears highly unlikely that bonds will provide anything close to the same levels of income or capital appreciation enjoyed over the last three decades. Sadly, the outlook for equities isn’t much better.

EQUITY MARKETS: RECENT HISTORY AND OUTLOOK

Certainly the U.S. equity markets have been on a remarkable bull run since bottoming out in March 2009. Cumulatively, the S&P 500 has gained just over 200% between March 2009 and September 2015 and has not experienced a 20% drop during that time. At over six and half years, it is the third-longest bull market in the history of the U.S stock market1.

Unfortunately, the outlook for the coming decade is not as rosy.

As the following chart shows, many leading investors in the world have recently spoken about the low level of expected returns for both equities and bonds going forward. Most of these expert forecasts are based upon fundamentals. On the equity side, their forecasts are based upon dividend yields, earnings growth, and economic conditions. On the fixed income side, their expectations are built upon current yields and eventual rate increases.

<table>
<thead>
<tr>
<th>Source</th>
<th>Organization</th>
<th>Equities</th>
<th>Bonds</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Bogle2</td>
<td>Vanguard</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Bill Gross3</td>
<td>Janus</td>
<td>5%-6%</td>
<td>2%-4%</td>
</tr>
<tr>
<td>Rob Arnott4</td>
<td>Research Affiliates</td>
<td>4%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Ray Dalio6</td>
<td>Bridgewater Associates</td>
<td>4%</td>
<td>“worse than equities”</td>
</tr>
<tr>
<td>Mebane Faber7</td>
<td>Cambria Investment Mgt</td>
<td>3.5%</td>
<td>2.25%</td>
</tr>
<tr>
<td>“Long-Term Asset Class Forecasts”, 3/31/158</td>
<td>State Street Global Advisors</td>
<td>6.2%</td>
<td>3.1%</td>
</tr>
<tr>
<td>“Ten Year Capital Market Assumptions”, 20159</td>
<td>BNY Mellon Investment Management</td>
<td>7.4%</td>
<td>2.7%</td>
</tr>
</tbody>
</table>

Table 1

1 Source: Morningstar Direct
5 In the article, Mr. Arnott stated his return expectations in real, non-inflation adjusted terms, 1.0% for equities and 0.5% for bonds. Assuming a modest 3% rate of inflation would produce nominal returns of 4.0% and 3.5%, respectively.
7 Global Asset Allocation: A survey of the World’s Top Asset Allocation Strategies
If the experts are right in predicting fixed income returns between 2% and 4% and equities somewhere between roughly 4% and 6%, there is no possible combination of those returns that would get to the double-digit returns experienced in many recent years. It appears that we’ve painted ourselves into a corner and it is unclear how we will get out the next time a crisis hits.

A BETTER SOLUTION: THE DEFINED RISK STRATEGY

Swan Global Investments sought to address the shortcomings of traditional asset allocation all the way back in 1997. Swan identified the biggest risk to an investor’s portfolio; the large bear markets that periodically devastate an investor’s wealth. Swan built the Defined Risk Strategy (DRS) to directly address this risk via a simple and elegant hedging strategy. With an 18 year track record starting in July 1997, the DRS has delivered upon its goal of outperforming the broad market and a traditional 60/40 portfolio on an absolute, relative, and risk-adjusted basis. The graph below shows the cumulative performance of a hypothetical $100 investment in the DRS as well as the performance of various market indices.

Growth of $100 Initial Investment
July 1997 - September 2015 (Single Computation)
Swan’s motto is: “Always invested, always hedged.” The majority of the DRS assets are always invested in the markets. However, we also always hedge our portfolio by placing downside protection on our equity holdings. When markets sell off massively like they did in 2000-02 or 2007-08, the hedge protects on the downside and provides a smoother return. Moreover, the DRS has historically used major market sell-offs as an opportunity to sell the hedge at a large profit and re-invest those profits back into the market when the markets were at a low point. This sets up the strategy well when the market rebounds. By design, the DRS is built to “buy low, sell high.” Put options, given their very nature, are inversely correlated to the market. While historically bonds have had low or negative correlations to the equity market, there is no guarantee the equity and fixed income markets can’t both enter bear territory simultaneously.

**TWO CURVEBALLS: WITHDRAWALS AND TIMING**

Whenever one sees investment performance reported in the financial industry, it is always presented in a bit of a sterile environment. However, in the real world retirees will most likely be taking money out of their investment portfolios and will retire at different points in time.

**WITHDRAWALS**

One typically sees examples where an initial investment is made, the investment is allowed to grow over the years, returns compound upon each other, and at the end of the analysis a final value is given. The dotted lines in the graph below illustrate this compounding from 1998 to 2014 for Swan's DRS and the S&P 500.

![Impact of Annual Withdrawals on Investment](chart2.png)

**Chart 2**
Source: Swan Global Investments, LLC and Zephyr StyleADVISOR
But in the real world investors are likely to take money out of an account. The solid lines are the results for the Swan DRS and the S&P 500 if the investor takes out $50,000 at the end of every year and grows that by 3% a year to account for inflation.

As one can see in the previous chart, the sequence or timing can have an extreme impact on the value of an investment.

Why?
For the retiree, bear markets are no longer a golden buying opportunity. An investor in the distribution stage of their life cycle is forced to liquidate holdings at a market low. If the market sells off 45% over the course of three years, like it did in 2000-2002, the principal left to make a recovery will be much diminished if the investor was taking out an additional 5% each year to meet living expenses. In other words, withdrawing funds in a bear market just makes the hole deeper.

By design, the DRS was meant to minimize losses. One of the core beliefs of Swan Global Investments is that the best way to make money is to not lose it in the first place.

This is especially important for those investors in the retirement stage, drawing down their accounts to fund living expenses. That is why the DRS always hedges the portfolio against catastrophic market losses.

Table 2
Source: Swan Global Investments, LLC and Zephyr StyleADVISOR

<table>
<thead>
<tr>
<th>1998-2014</th>
<th>Initial Value</th>
<th>Ending Value without Withdrawals</th>
<th>Cumulative Value of $50K Annual Withdrawals, compounded by 3% inflation</th>
<th>Ending Value with Withdrawals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swan DRS</td>
<td>$1,000,000</td>
<td>$3,892,141</td>
<td>$1,088,079</td>
<td>$1,828,614</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>$1,000,000</td>
<td>$2,902,205</td>
<td>$1,088,079</td>
<td>$836,559</td>
</tr>
</tbody>
</table>
TIMING

The other large variable often ignored in standard analysis is the timing of an initial investment. A year or two’s difference when it comes to the timing of an initial investment can have an extreme impact on the longer-term results.

The chart below shows results for successive ten-year periods for the S&P 500. Each period starts at the beginning of a calendar year and extends out for a decade. The first stretches from January 1998 to December 2007; the last one runs from January 2005 to December 2014.

There is a wide degree of variation in ten-year returns.

![S&P 500: Various Ten-Year Returns](image-url)

**Chart 3**

Source: Swan Global Investments, LLC and Zephyr StyleADVISOR
The best decade is the most recent one, ending December 2014 with an annualized return of 7.67%. Conversely, the worst decade runs from January 1999 to December 2008 and includes both the dot-com bear market and the credit crisis bear market. The S&P 500 in that date range lost an average of 1.38% per year, or almost 13% cumulatively - truly a “lost decade.” A hypothetical $1,000,000 investment ranged from a high of $2,094,637 to a low of $870,063. Certainly, one might conclude that timing is indeed everything.

So how does one solve this problem?

At Swan, we would argue that the best solution to the timing issue is consistency. If one can decrease volatility by providing consistent returns, the importance of timing, or the impact of the sequence of when you enter or exit the market relative to the market movements, fades away.

Next, we chart those same ten-year investment periods for the DRS:

The DRS returns display a remarkable degree of long-term consistency.

The worst return from these eight periods was 7.45%; the best was 9.15%. The range of outcomes on an initial $1,000,000 investment is a low of $2,051,104 to a high of $2,401,063.
It is also important to note that the above investment periods include not only the major bear markets of 2000-02 and 2007-08, but also numerous short-term corrections like the Russian default/LTCM crisis of 1998, the “flash crash” in May 2010, and the US debt downgrade in August 2011.

The DRS has successfully weathered such events and has historically provided very smooth returns.

**CONCLUSION**

The challenges facing investors entering retirement are vast. Market conditions, portfolio construction, and investor psychology are all individually challenging, but together they form a massive, complex knot.

At Swan Global Investments we believe the traditional stock/bond portfolio will not hold up well when the next crisis hits. We believe that traditional asset allocation strategies failed to deliver adequate protection for the average investor in 2000-02 and 2007-08, and there is no reason to believe they will fare any better during the next crisis. In an environment where market experts are forecasting long-term 4-6% nominal returns in equities and a worse outlook for fixed income, we believe the traditional 60% equity/40% bond model will fall far short of meeting the needs of this generation of retirees.

Therefore, we believe that bold new thinking is required to meet the demands of today’s retirees. The Gordian Knot was not undone by applying the same failed solutions over and over again. The solution was two-fold: bold action and innovative thinking. Alexander solved the riddle of the Knot by attacking it directly, and using a solution no one else had considered.
IMPORTANT DISCLOSURES/NOTES:

Swan Global Investments, LLC is a SEC registered Investment Advisor that specializes in managing money using the proprietary Defined Risk Strategy (“DRS”). SEC registration does not denote any special training or qualification conferred by the SEC. Swan offers and manages the DRS for investors including individuals, institutions and other investment advisor firms. Any historical numbers, awards and recognitions presented are based on the performance of a (GIPS®) composite, Swan’s DRS Select Composite, which includes nonqualified discretionary accounts invested in since inception, July 1997, and are net of fees and expenses. Swan claims compliance with the Global Investment Performance Standards (GIPS®). All data used herein; including the statistical information, verification and performance reports are available upon request. The S&P 500 Index is a market cap weighted index of 500 widely held stocks often used as a proxy for the overall U.S. equity market. Indexes are unmanaged and have no fees or expenses. An investment cannot be made directly in an index. Swan’s investments may consist of securities which vary significantly from those in the benchmark indexes listed above and performance calculation methods may not be entirely comparable. Accordingly, comparing results shown to those of such indexes may be of limited use. The adviser’s dependence on its DRS process and judgments about the attractiveness, value and potential appreciation of particular ETFs and options in which the adviser invests or writes may prove to be incorrect and may not produce the desired results. There is no guarantee any investment or the DRS will meet its objectives. All investments involve the risk of potential investment losses as well as the potential for investment gains. Hypothetical withdrawal performance analysis is not actual performance history. Actual results may materially vary and differ significantly from the suggested hypothetical analysis performance data. This analysis is not a guarantee or indication of future performance. Prior performance is not a guarantee of future results and there can be no assurance, and investors should not assume, that future performance will be comparable to past performance. All investment strategies have the potential for profit or loss. Further information is available upon request by contacting the company directly at 970.382.8901 or visit swanglobalinvestments.com. 068-SGI-123015
Randy Swan started Swan Global Investments in 1997 looking to supply investment management services that were not available to most investors. Early in his financial career, Randy saw that options provided an opportunity to minimize investment risk.

His innovative solution was the proprietary Swan Defined Risk Strategy, which has provided market leading, risk-adjusted return opportunities through a combination of techniques that seek to hedge the market and generate market-neutral income.