

De-Risking Concentrated Stock Positions

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Executives and employees of public companies often accumulate company stock over the course of their careers. Company stock can be acquired through grants, as well as stock-linked compensation such as restricted stock, restricted stock units, stock appreciation rights, incentive stock options, non-qualified stock options and employee stock purchase plans. Although the number is declining, many employers offer their own public company stock as one of the investment options in their defined contribution retirement plans, and encourage company stock ownership by plan participants—as of 2015, the largest 100 DC plans of public companies held just over \$200 billion in company stock, or 18% of total plan assets.¹ It's also not unusual for senior management of public companies to establish company policy to adhere to the recommendations of the influential corporate governance and proxy voting firms such as ISS and Glass Lewis, which recommend that senior executives retain ownership of a stated minimum amount

of company stock. For instance, as of 2014, 41% of Fortune 500 companies required their CEOs to retain company stock until they had accumulated an amount equal to five times their base salary, and 40% required a multiple of six.² And of course, company “insiders”³ are subject to securities laws and regulations that place additional significant limitations and restrictions on if, when, and how much company stock they can sell. As a result, public company executives, employees, and retirees often find themselves owning or otherwise exposed to an amount of company stock that comprises the bulk of their net worth.

Of course, investors often obtain their concentrated positions through other means. Some acquire their positions through inheritance or gift. Others secure stock through a liquidity event borne out of entrepreneurial success. Additionally, some investors embrace a fundamental research-driven, long-term, buy and hold strategy to accumulate their huge gains.

With global stock markets hitting new peaks, interest rates ratcheting up, and risks seemingly lurking everywhere around the globe, prudence might suggest that investors should sell or otherwise divest of some or all of their highly appreciated shares. In fact, many executives, investors and trusts with highly appreciated stock positions heed this advice and do diversify out of some portion of their positions over time using outright sales, as well as other tools such as exchange funds,⁴ equity derivatives,⁵ and charitable remainder trusts.⁶

But most are reluctant to diversify out of their positions entirely, and for a variety of reasons. Some find the dividend yield on their stock attractive relative to current fixed-income yields. Many feel a strong emotional connection to the stock because they helped build the business, spent their career there, or received their shares from a loved one who had a close relationship to the company. Others face restrictions on selling their shares, constrained by either securities laws or contractual provisions, such as post-IPO lock-up agreements, merger agreements, and employment contracts. For many, tax and estate planning considerations are presenting an increasingly powerful deterrent to selling their stock outright.

Tax and estate planning considerations

Even those investors who seem the most pre-disposed to sell their shares tend to freeze like deer in headlights when they learn the all-in tax expense of selling their shares, and realize its potential impact on their net worth.

For instance, for those in the highest marginal federal income tax bracket in the U.S., long-term capital gains are currently taxed at 20 percent, and are also subject to the 3.8 percent federal Medicare surtax, for an all-in federal tax rate of 23.8% (nearly 60% higher than its still recent low of 15%).⁷ In the U.S., long-term capital gains are also subject to state tax in most states. According to The Tax Foundation, in 2016 43 of the 50 states levied a tax on capital gains, averaging just over 6 percent for taxpayers in the highest marginal brackets, resulting in an average all-in, combined federal and state capital gains tax rate of almost 30%.

Investors from many countries other than the US are similarly exposed to significant capital gains tax rates. For instance, according to The Tax Foundation⁸, the capital gains tax rate is 34.4% in France, 28% in the UK, 27% in Spain, 26% in Italy, 25% in Germany and Israel, 24.5% in Australia, 22.6% in Canada and 20.3% in Japan.

Many individuals and families with highly appreciated positions--especially those who believe that more upside remains in the stock--are often reluctant to trigger an immediate income tax expense of this size.

This is especially so in the US, where investors must consider the possibility that, upon the current shareholder's death, the shares received by his/her estate or beneficiary(ies) will qualify to receive an adjusted tax-cost basis equal to the fair market value of the stock.⁹ The "step-up" in basis, unique to the US tax system, offers investors both an opportunity and incentive to maintain ownership of their shares until death in order to eliminate the capital gains tax on their accrued gains.

The prospect of the step-up in basis, combined with what most believe is a currently generous estate tax exemption (set at nearly \$11 million for a married couple in 2017), has caused many investors and financial advisors to ask themselves, with good reason, "is it better to sell now and incur a sizeable capital gains tax -- or wait until death to avoid paying the capital gains tax and the estate tax as well?"¹⁰

The inclination or pre-disposition of many US investors to sell highly appreciated shares prior to 2013, in order to "lock-in" the then historically low capital gains rate of 15%, has long since dissipated in today's higher tax rate environment. Today, investors and their advisors are more thoughtfully considering and employing tax-cost-basis management and preservation strategies (due to the increased value of the step-up in basis upon death) as part of the tax and estate planning process. And with President Trump in office, a Republican-controlled Congress, and the possibility of tax reform still "in the air" (which might include a reduction in the capital gains tax rate, as well as the elimination of the estate tax and possibly the step-up in tax-cost-basis at death), many investors with appreciated stock are more apt to take a "wait and see" approach until this tax ambiguity is sorted out. In doing so, they continue to benefit from any future appreciation, and are able to defer -- and potentially eliminate -- the capital gains tax on their shares. The downside, of course, is that they remain exposed to the idiosyncratic risks of their stocks.

Creation of substantial wealth

Another reason some investors continue to own their company stock positions is simply because they remain bullish on their stock. It's done well for them, they believe they have a solid understanding of the stock, and they are confident that it will appreciate further. They may view its upside potential as a means of not only securing a comfortable retirement for themselves, but also building a legacy for the next generation.

Along these lines, it's important to note that completely diversifying out of a concentrated position is not necessarily the best course of action for all investors who hold appreciated company stock. Investment strategies which entail building and/or retaining single-stock concentrations are often looked upon skeptically by proponents of the Efficient Market Hypothesis and/or Modern Portfolio Theory (MPT), both of which are based upon the premise that the stock market is efficient (i.e., that investors can't "beat the market") and that diversification is the essential ingredient for successful long-term investing. Diversification is, without question, a worthy and critical goal. However, diversification can sometimes be overdone--as with the many investors and advisors who've shifted almost entirely into passive investment strategies--index mutual funds and index exchange traded funds--in recent years, often with little thought given to what exactly the investment into those passive strategies is intended to accomplish. While this method of diversification can satisfy an investor's goal of wealth preservation, this practice can actually prevent certain investors from pursuing all of their investment objectives, such as creating sufficient wealth to guard against longevity risk or to pass a substantial amount of money onto their heirs, thereby leading to less than optimal outcomes. Here's why.

Biggest Losers

50 Worst-Performing S&P 500 Stocks from 2006 - 2016

Major “household” names that had catastrophic losses over a 5-year period – ranging from 78% to 100%

Company Name	% Decline	Company Name	% Decline
1. Alpha Natural Resources Inc.	-100	26. Countrywide Financial Corp.	-88
2. RadioShack Corp.	-100	27. SuperValu Inc.	-87
3. Ambac Financial Group Inc.	-100	28. Sprint Nextel Corp.	-87
4. Lehman Brothers Holdings Inc.	-99	29. Freeport-McMoRan Inc.	-86
5. Peabody Energy Corp.	-99	30. AK Steel Holding Corp.	-86
6. Circuit City Stores Inc.	-99	31. United States Steel Corp.	-86
7. Washington Mutual	-99	32. Merrill Lynch & Co Inc.	-84
8. Freddie Mac	-98	33. Avon Products Inc.	-84
9. Cliffs Natural Resources Inc.	-98	34. Wachovia Corp.	-84
10. Fannie Mae	-97	35. Monster Worldwide Inc.	-83
11. Eastman Kodak Co.	-97	36. CONSOL Energy Inc.	-83
12. E-Trade Financial Corporation	-96	37. MBIA Inc.	-83
13. MEMC Electronic Materials Inc.	-96	38. KB Home	-82
14. American International Group	-96	39. Apollo Education Group, Inc.	-82
15. Office Depot Inc.	-94	40. Regions Financial Corp.	-81
16. Bear Stearns Companies Inc.	-93	41. Sears Holdings Corp.	-81
17. MGIC Investment Corp.	-93	42. Southwestern Energy Co.	-81
18. Dynegy Inc.	-92	43. Bank of America Corp.	-81
19. Caesars Entertainment Corp.	-92	44. Chesapeake Energy Corp.	-80
20. Clear Channel	-90	45. PulteGroup Inc.	-80
21. National City Corp.	-90	46. Liz Claiborne Inc.	-79
22. Citigroup	-89	47. Terex Corp.	-79
23. Santander Holdings USA Inc.	-89	48. J. C. Penney Company, Inc.	-79
24. Denbury Resources Inc.	-89	49. Genworth Financial Inc.	-79
25. OfficeMax Inc.	-89	50. Centex Corp.	-78

Source: Standard & Poor’s “Total Shareholder Return” Data

Within a goals-based wealth planning framework, which has been almost universally adopted by the wealth management community and is used by many investors and their financial advisors, the purpose of investing is to create wealth that’s commensurate with an investor’s future spending needs and desires. Most financial advisors recommend to their clients with concentrated stock positions that their primary objective should be to diversify out of their stock positions in a timely manner. This is often accomplished by the outright sale of some shares, and the subsequent investment of the after-tax proceeds into a broadly diversified portfolio of stocks, such as passive index mutual funds or index ETFs. In the US, this is also sometimes accomplished through the use of an exchange fund.¹¹ Indexing (and other broad diversification strategies) are intended help preserve investors’ standard of living by delivering market-level returns, and belong in their mental “market risk” bucket. On the other hand, investment strategies with the potential to generate sizeable wealth and substantially improve investors’ standard of living have a higher risk/reward profile, and belong in investors’ mental “aspirational risk” bucket.

Along these lines, many investors agree that substantial aspirational wealth cannot be generated through indexing and other strategies that rely on broad diversification, but they are loathe to simply “give up” on their goal of creating aspirational wealth. That said, owning a concentrated stock position or concentrated stock portfolio is one investment strategy that can potentially produce substantial wealth. Investors who already own company stock that they understand and continue to believe in,

and who are pursuing the creation of aspirational wealth as one of their investment objectives, might wish to consider retaining an allocation of company stock within their aspirational risk bucket. It’s worth noting that advocates of concentrated stock investing point out that there is considerable empirical evidence found in academic studies in support of concentrated portfolios’ outperformance.¹²

As an alternative to allocating all (or nearly all) of their investable assets to index investing, investors might employ indexing strategies for most (i.e., perhaps 80-90%) of their investable assets, and allocate a portion (i.e., perhaps 10-20%) to concentrated stock ownership. The downside, of course, is that investors remain exposed to their company-specific risk. Many investors with concentrated stock positions do this intuitively in that they diversify out of their positions over time using outright sales and the other tools mentioned above. However, they typically retain a significant portion of their concentrated positions as core, long-term holding that’s left unhedged and remains a major risk exposure relative to their net worth.

Reconciling the risks and rewards of single stock positions

Indeed, holding a concentrated position for a long-term period without protection is probably riskier than most investors realize. The “Biggest Losers” chart above depicts the 50 worst performing stocks in the S&P 500 Index from 2006-2016. Each of these household names experienced a catastrophic loss ranging from 78 percent to 100 percent. According to J.P. Morgan, since 1980, approximately 320 stocks were removed from the S&P 500 Index

due to “business distress.”¹³ And according to Goldman Sachs, over the past 30 years, 25% of the stocks in the Russell 1000 Index (representing about 90% of the investable U.S. equity market) suffered a permanent loss of capital (i.e., lost more than 75% of their value and did not recover to 50% of their original value within the last 30 year period as of December 2015).¹⁴

That said, if the idiosyncratic risk associated with a concentrated stock position can be significantly diminished, continuing to hold a portion of the position could be an attractive and prudent investment strategy for those funds that investors wish to allocate to potentially build substantial aspirational wealth. This could be particularly appealing to those investors worried about outliving their retirement savings, and interested in mitigating their longevity risk.

Along these lines, ideally, investors holding highly appreciated stock that they don’t wish to currently sell would ideally like to:

- Preserve unrealized gains at an affordable cost
- Retain all upside potential, including dividends
- Defer the capital gains tax, and avoid other adverse tax outcomes
- Potentially eliminate the capital gains tax through a step-up in tax-cost-basis at death (in the US)
- Avoid a reportable event for securities law purposes (if a company insider)

Traditional single-stock risk management approaches

The availability of liquid public capital markets makes it possible for many investors who hold highly appreciated positions in publicly-traded stock to use equity-based derivatives to help manage the risk of their positions. In fact, for decades investors have used) equity derivatives (such as puts, calls, collars, forward contracts, and permutations thereof) to manage single-stock risk. Investors can use puts and collars to implement both strategic and tactical hedging programs.

Put option protection

Strategic hedging involves having the single-stock position continuously hedged and entails regularly buying put options to protect it. However, put options can be quite expensive,¹⁵ and very few investors employ this strategy for a long-term period; most conclude it simply isn’t cost-effective. Tactical hedging, on the other hand, involves opportunistically purchasing put options to hedge the single-stock position when it’s perceived that the stock price is in danger of dropping precipitously. Tactical hedging with put options can be cost-effective, but only if the investor is able to properly time his entry (buying puts) and exit (selling puts) of the hedge. Therefore, it’s not at all surprising that, in practice, many investment professionals find this extremely difficult to accomplish.

Equity collar protection

Having concluded that the cost drag of regularly purchasing put options to protect a single-stock position over a longer term period of time, even in a period of upward price momentum, is too expensive, and that the tactical use of put options is very

difficult to properly time, what’s an investor to do? To lessen the upfront cost of purchasing puts, some investors consider selling call options (with a strike price above the market price of the stock) to partially or fully finance the purchase of the puts (with a strike price at or more typically below the market price of the stock). The combination of long puts and short calls to hedge a single-stock position is commonly known as an “equity collar.”

Unfortunately, as is the case with puts, most investors who evaluate long-term, strategic hedging with collars conclude that collars are too costly (i.e., involving the forfeiture of a substantial portion of the upside potential associated with regularly selling call options over a long-term period of time),¹⁶ and most investors who consider tactical hedging with collars conclude that, in practice, timing the entry and exit of the collar is much easier said than done.

Other traditional single-stock protection strategies

A prepaid variable forward (PVF)¹⁷ can be used to hedge (and also monetize, if that’s desired) an appreciated stock position; however, an investor using a PVF faces the same challenges as described above for collars (i.e., they are expensive due to the forfeiture of a significant portion of the upside potential associated with regularly selling the embedded call options over a long-term period of time to fund the purchase of the embedded put options). An exchange fund could be used, but an exchange fund isn’t a hedge; rather, it’s a tax-deferred exchange of a single stock for an interest in a fund (a fund which is 20% leveraged with debt), comprised of a diversified portfolio of stocks (contributed by investors who wish to dispose of their stocks) and commercial real estate. Therefore, this approach appeals to investors who wish to eliminate their single-stock exposure in a tax-efficient manner and, instead, invest in a diversified portfolio of stocks and investment real estate.

Other challenges with traditional approaches

Beyond the expense and timing issues associated with the traditional approaches, investors find it difficult to make regular and consistent use of these tools and strategies due to a number of other factors:

- Using equity derivatives to manage single-stock risk can be tax-inefficient. For instance, in the US, generally, 1) gains are taxed as short-term capital gains (effectively converting what would have been long-term capital gain on the appreciated shares into short-term capital gain on the derivative); 2) losses aren’t currently deductible (instead they are added to the tax-cost-basis of the hedged shares, meaning those losses will never be utilized if the investor holds the shares to achieve the step-up in basis; the result is simply less tax forgiven at death); and 3) any dividends received while a stock is hedged are taxed as ordinary income instead of long-term capital gain.¹⁸
- The shares being hedged must be pledged to, and held in custody with, the derivative dealer.
- As such, the owner can’t sell the shares until the hedge matures or is otherwise terminated.¹⁹
- The investor can be exposed to the credit risk of a single dealer counterparty.

- Investors are exposed to such counterparty risk if an over-the-counter (OTC) equity derivative is used, which is often the case due to the greater tax-efficiency and customization that's possible with OTC equity derivatives (versus exchange-traded derivatives).
- The pricing of OTC derivatives (as opposed to exchange-traded derivatives) is inherently not a fully transparent process. Derivatives are complex financial instruments with many moving parts and can sometimes be difficult to understand, even for professional investors and advisors. Considerable effort should be undertaken to assure that full price discovery is achieved.

As a result, many investors with concentrated stock positions are currently holding their shares unhedged, because they are unable or unwilling to diversify out of the positions entirely (given the tax consequence of doing so, or any of the other reasons discussed above), and they cannot justify the cost of rolling puts or collars over an extended period of time in order to reduce their downside risk.

Enter stock protection funds

The convergence of asset management, on the one hand, and risk pooling and insurance on the other, is catalyzing the creation of non-traditional solutions to financial challenges that have long perplexed financial advisors and investors, including single-stock concentration risk management. That said, a non-traditional approach—called a Stock Protection Fund (“Protection Fund”)—has recently been developed,²⁰ which allows investors to mitigate their specific company risk over a longer time period (that is, five years or more) and in a more cost-effective and tax-efficient manner than they otherwise would be able to achieve using the traditional tools. Investors can continue to own their single-stock positions to benefit from continued price appreciation and dividend growth, and yet, at the same time, obtain the benefit of diversification and the reduction of downside risk similar to that achieved through a mutual fund or exchange-traded fund. Protection Funds can be helpful to investors who, for whatever reason, wish to keep some or all of their company stock position as a core, long-term holding, as it enables them to affordably preserve their unrealized gains and keep all of their stock's upside potential.²¹

Participating investors, who each own a different stock in a different industry, contribute a modest amount of cash into a fund that's invested, conservatively, in government bonds. After a period of several years, the fund is liquidated and the cash is used to reimburse each of the investors whose designated stock has declined in value (on a total return basis). The Protection Fund methodology is rooted in the principles of modern portfolio theory (“MPT”) and risk pooling and insurance, and enables investors to diversify or mutualize—and therefore substantially reduce—a stock's downside risk, while retaining its full upside potential and all dividend income.

Risk pooling makes it possible to cost-effectively spread similar financial risk evenly amongst participants in a self-funded plan designed to protect against catastrophic loss.

MPT reveals that over time there will be substantial dispersion in individual stock performance. That is, with respect to portfolio construction, as securities are added to the portfolio, the standard

deviation of the portfolio declines. An important question is: How many stocks are required to reduce the level of diversifiable risk in equity portfolios? Much research has been done to answer this decades-old question. Most of these studies focus on the US markets.²²

The pioneering paper by Evans and Archer (1968) was the first study to evaluate the reduction in portfolio risk as portfolio size increased. Since then, although no definitive conclusion has been reached, the consensus among both investors and academics is that, in the US market, to achieve diversification, about 20 equal-sized and well-diversified stocks are necessary, and further increases in the number of holdings do not produce any significant additional risk reduction.²³

There have also been a number of studies of non-U.S. markets.²⁴ A fairly recent paper by Alexeev and Tapon²⁵ details perhaps the most extensive study of developed markets, and its findings are consistent with those of the above-referenced studies of the US and non-US markets, in that the portfolio size to achieve a 90% reduction in diversifiable stock risk was 23 stocks in the US, 21 in the UK, 19 in Japan, 25 in Canada and 24 in Australia.

Based on the relatively consistent findings of the studies of the US and non-US developed markets, the authors believe it is reasonable to assume that, for purposes of this paper, in the developed markets, 20 equal-sized, well-diversified stocks will achieve most of the benefits of diversification, and further increases in the number of holdings will not produce significant additional risk reduction.²⁶

That said, in such portfolios, over a period of time there will be a substantial dispersion in individual stock performance. Some stocks in the portfolio will outperform achieving large gains, most will perform in line with the market and some will underperform, losing substantial value. After a period of years, the dispersion of the total returns of a diversified 20-stock portfolio will bear resemblance to a normal or bell curve, with the big winners reflected on the right tail, the inline performers in the middle of the curve and the big losers on the left tail.

A Protection Fund combines these key elements of MPT with the concept of a risk-sharing cash pool to eliminate or substantially truncate left tail risk. By integrating these principles, Protection Funds provide downside protection akin to that of at-the-money or slightly out-of-the-money, European-style put options, but at a fraction of the cost.²⁷

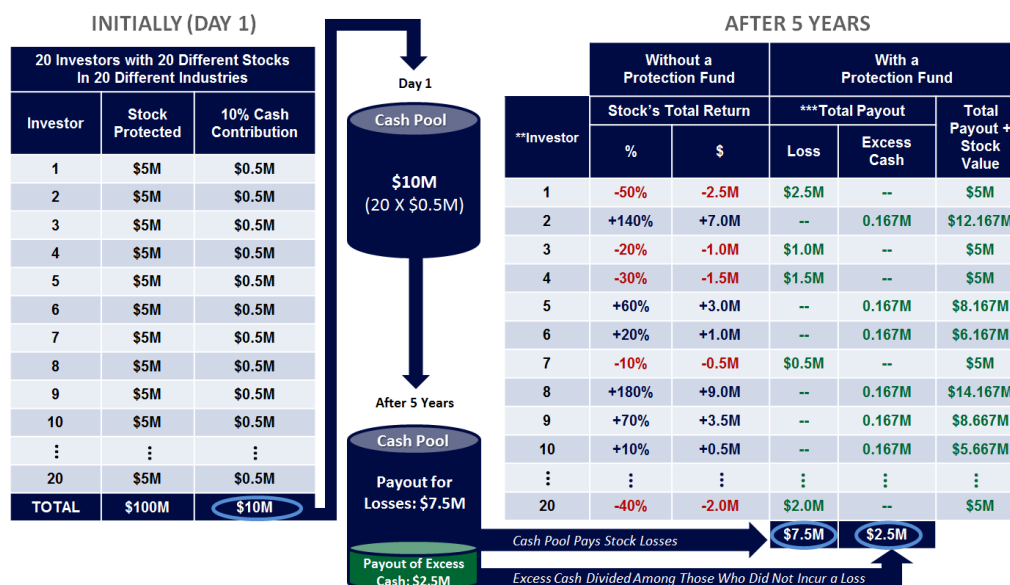
Mechanics and economics

“The Mechanics and Economics” chart on the next page depicts how Protection Funds work. In this example, 20 investors, each owning a different stock in a different industry and each protecting the same notional amount of stock contribute cash (not their shares, which are not touched) equal to 10 percent of the notional value²⁸ into a Protection Fund, which will terminate in five years. The cash is invested solely in U.S. government bonds that mature on or just prior to the date the Fund terminates.

Upon termination, the cash proceeds are distributed to those investors whose stock lost value on a total return basis. Losses are paid until the cash is depleted. If, as in our example, the cash pool exceeds total losses (i.e., approximately a 70% probability based on extensive back-testing²⁹), all losses will have been eliminated,

The Mechanics and Economics

Showing a Cash Contribution of 2% per annum or \$0.5 Million Paid Up-Front by 20 Investors – Each Protecting a \$5 Million Stock Position for 5 Years
 ...Resulting in a Maximum Stock Loss of 0% (i.e. All Losses are Fully Reimbursed by the Cash Pool)*



* Gross of Protection Fund fees

**Assumes Investors 11-19 have positive total returns

***Assumes the annual cost of operating the Protection Fund is fully paid for by the interest income generated by the Cash Pool

and the excess cash is returned to the investors. If total losses exceed the cash pool (i.e., approximately a 30% probability based on extensive back-testing³⁰), large losses are substantially reduced.

More specifically, upon termination of the Fund, the largest loss incurred among the group of 20 investors' individual stocks is first identified. Using funds in the cash pool, this loss is reduced (that is, reimbursed) to the level of the second largest loss incurred among the other 19 stocks. Next, these two losses are reduced to the level of the third largest loss among the other 18 stocks, and so on. This process, which can be visualized as a "reverse waterfall" or "rising tide" methodology, continues until either all losses have been reimbursed or the cash pool has been depleted.³¹ The largest remaining loss at this point defines the "maximum stock loss" for all investors incurring losses (which is stated as a percentage of the beginning notional amount of protected stock

value). To illustrate, if the maximum stock loss was 15 percent, an investor whose stock lost 80 percent of its value would receive reimbursement from the cash pool reducing his loss from 80 percent to 15 percent. This can be thought of as akin to an out-of-the-money put option struck at 85% of the notional value of stock protected. If the maximum stock loss was 0 percent (i.e., all losses are reimbursed and analogous to an at-the-money put option struck at 100% of the notional value of stock protected), the investor's stock loss of 80 percent would be fully reimbursed by the cash pool. In the example in "The Mechanics and Economics" chart, the maximum stock loss is zero.

Backtesting the methodology

The "Backtesting 5-Year Stock Protection Funds" chart above depicts the results of extensive historical backtesting of this methodology. The assumptions used were:

Backtesting 5-Year Stock Protection Funds

Historical Backtesting from December 31, 1972, to December 31, 2016 – Cash Contribution of 2% per year (payable up-front) of the Protected Stock Position for a Term of 5-Years

Based on 8 million data points – 400,000 random computer simulations using 1972 - 2016 S&P 500 database (10,000 simulations per 5-year period and 20 stocks per simulation)

	Percentage of Investors Losing 60% or More		Percentage of Investors Losing 30% or More		Average Size of Investor's Loss (%)	
	Without Protection Funds	With Protection Funds*	Without Protection Funds	With Protection Funds*	Without Protection Funds	With Protection Funds*
Average of All 5-Year Periods 1972 - 2016	4.6%	0.0%	10.9%	1.6%	-35%	-5%

Backtesting uses historical market data in an effort to model historical performance and confirm value of a particular strategy. The results above are NOT actual results. Actual results could differ significantly from the theoretical results presented. For actual results, please see "Actual Performance Results: 5-Year Stock Protection Fund" chart below.

- 20 S&P 500 Index stocks are associated with each Protection Fund;
- The stocks are randomly selected;
- Each of the 20 stocks is in a different industry, each with a different Global Industry Classification Standard (GICS) Industry code;
- The amount of protected stock value is the same for each investor;
- The term of each Protection Fund is 5-years;
- An up-front cash contribution equal to 10% (2% per annum) of protected value is made;
- The period tested is 1972 to 2016
- Based on 8 million data points: 400,000 random computer simulations using 1972 to 2016 S&P 500 Index database; and
- 10,000 simulations per 5-year period and 20 stocks per simulation.

For stocks held during a 5-year period, the use of a Protection Fund reduced the average stock loss from 35 percent to 5 percent, representing more than an 85 percent reduction in downside risk. The risk of a catastrophic stock loss greater than 60 percent was virtually eliminated, from a frequency of 4.6 percent to 0 percent. And, the risk of a loss greater than 30 percent was reduced from a frequency of 10.9 percent to just 1.6 percent, a reduction of more than 85 percent.

The “Risk Transformation” chart below provides a graphic depiction of the back-testing results.

These test results appear to validate the risk mitigation efficacy of the Stock Protection Fund methodology in that both the

frequency and amount of losses were greatly reduced, or stated another way, left tail risk was substantially truncated.

Actual audited performance results

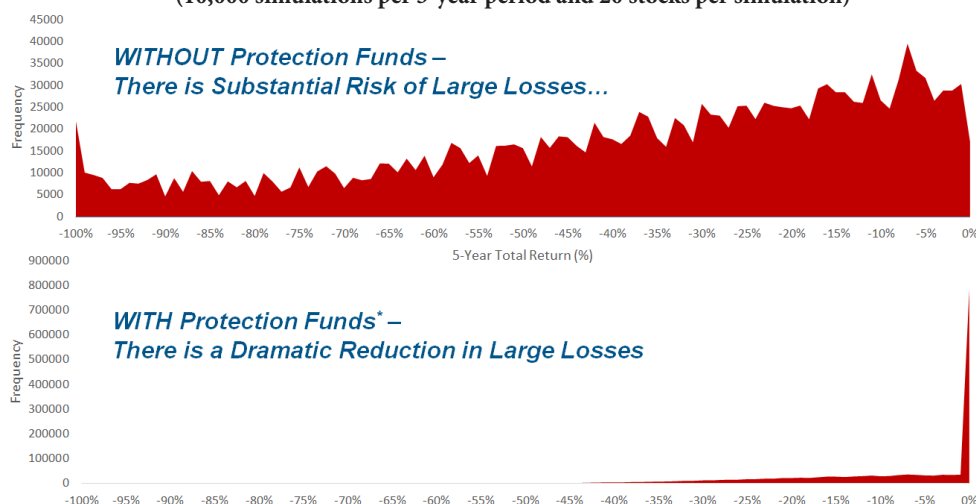
On June 1, 2006, a Stock Protection Fund was formed with a 10 percent up-front cash contribution (2% per annum for 5 years) and a 5-year term, protecting 20 investors (each a “Certificate Holder”) who owned stock positions in 20 different industries (each a “Designated Security”), and who were each protecting the same notional amount of stock. The Fund operated from June 1, 2006 through June 1, 2011, and thus ran throughout the entire Financial Crisis. The “Actual Performance Results: 5-Year Stock Protection Fund” chart on the next page compares the stocks’ total return with and without the Protection Fund. The maximum stock loss was 0 percent, meaning that the cash pool eliminated all stock losses (i.e., all 20 investors achieved downside protection equivalent to that of an at-the-money put option). 31% of the cash originally contributed to the Fund was left over after all stock losses were eliminated, and all of this excess cash was returned to the investors. Therefore, the “all in” cost of the protection (based on the original notional amount of protected stock) was 6.9 percent, or 1.38 percent per annum, when amortized over the 5-year period. Consistent with the backtesting results summarized above, the Protection Fund performed as expected and delivered effective and cost-efficient protection throughout the Financial Crisis.

Although the backtesting and actual performance results discussed on the next page are specific to the US stock market, the authors hypothesize that similar results should be achieved in non-US developed markets, given that the concept of risk mutualization which this strategy leverages is equally applicable to non-US markets, and the primary tenet of MPT that it relies upon (i.e., that the performance of a diverse group of 20 stocks over a period of several years should exhibit substantial dispersion such that a graph of their returns should resemble a normal

Risk Transformation

Historical Backtesting from December 31, 1972, to December 31, 2016 – Cash Contribution of 2% per year (payable up-front) of the Protected Stock Position for a Term of 5-Years

Based on 8 million data points – 400,000 random computer simulations using 1972 - 2016 S&P 500 database (10,000 simulations per 5-year period and 20 stocks per simulation)



Backtesting uses historical market data in an effort to model historical performance and confirm value of a particular strategy. The results above are NOT actual results. Actual results could differ significantly from the theoretical results presented. For actual results, please see “Actual Performance Results: 5-Year Stock Protection Fund” chart below.

Actual Performance Results: 5-Year Stock Protection Fund

“Maximum Stock Loss” = 0%*

Actual Cost of Protection: 1.38% per annum

Stock Protected	Stock's Total Return (%)		
	Without the Protection Fund	With the Protection Fund*	Loss Elimination With Protection Fund*
Best Buy Co., Inc.	-36.7	0	36.7
General Electric Co.	-32.1	0	32.1
Toyota Motor Corp.	-24.2	0	24.2
Harley-Davidson, Inc.	-18.2	0	18.2
Amgen, Inc.	-12.5	0	12.5
Eli Lilly & Co.	-7.7	0	7.7
Goldman Sachs Group, Inc.	-5.3	0	5.3
People's United Financial, Inc.	-1.1	0	1.1
Boeing Co.	3.3	3.3	N/A
Time Warner, Inc.	9.5	9.5	N/A
MDU Resources Group, Inc.	11.4	11.4	N/A
Microsoft Corp.	18.9	18.9	N/A
3M Co.	25.5	25.5	N/A
EnCana Corp.	25.6	25.6	N/A
UIL Holdings Corp.	31.7	31.7	N/A
Procter & Gamble Co.	40.2	40.2	N/A
E. I. du Pont de Nemours & Co.	49.4	49.4	N/A
RLI Corp.	55.8	55.8	N/A
Humana, Inc.	56.5	56.5	N/A
Dow Jones & Co., Inc.	100.4	100.4	N/A

*Gross of Protection Fund fees

distribution) has been found to be relatively consistent across non-US developed markets, per the findings of Alexeev and Tapon's study referenced above.³²

Tax considerations for US investors

The utilization of Protection Funds by investors in different countries can result in different tax consequences. Tax regimes are complex and can change rapidly, and therefore, a comprehensive analysis of the tax consequences of the use of Protection Funds by investors in different countries is well beyond the scope of this paper. That said, this section identifies the issues US investors should consider when evaluating the tax implications of investing in a Protection Fund:

1. Should holding a Designated Security and Certificate result in a constructive sale of the Designated Security by the holder?
2. Should holding a Designated Security and Certificate constitute a tax straddle?
3. Should holding a Designated Security and Certificate suspend the holding period for purposes of determining if a dividend received on the Designated Security is qualified dividend income (QDI) to the holder?
4. Should a distribution to a Certificate holder be taxable as long-term capital gain if the distribution exceeds the holder's tax-cost-basis (the Certificate's purchase price) and currently deductible long-term capital loss if such distribution is less than the Certificate holder's cost basis?

Tax analysis for US investors

Holding Designated Security and Certificate is not a constructive sale

There are two sets of “constructive sale” rules. The courts and the IRS developed a doctrine, referred to as the “common law”

constructive sale rules, under which a transaction not structured as a sale is treated as a sale for federal income tax purposes. Separately, Code Sec. 1259 contains “statutory” constructive sale rules under which certain identified transactions are deemed sales for federal tax purposes.

When investors purchase a Certificate to protect their Designated Security they continue to possess all incidents of ownership with respect to their Designated Securities.³³

The right of a Certificate holder to receive a payment upon a total return loss on his Designated Security resembles the acquisition of a cash-settled put option, and an arrangement that is economically similar to an at-the-money put option does not transfer ownership upon acquisition.³⁴

Rev. Rul. 2003-7 concludes that a hedging transaction limiting an investor's downside in exchange for relinquishing the right to share in future appreciation above a certain point does not result in a constructive sale. The Protection Fund potentially limits the loss that would be sustained by a Certificate holder in exchange for the cost of the Certificate (all of which, except for the placement fee, may be returned to the Certificate holder, depending upon the losses sustained on all Designated Securities). As in Rev. Rul. 2003-7, the Protection Fund does not limit a Certificate holder's right to receive dividends or vote his shares, a Certificate holder remains entitled to all of the future appreciation of his Designated Security, in no instance will a Certificate holder be required to deliver shares of his Designated Security, and legal title to the shares of the Designated Securities will not be transferred to the Series.³⁵

For these reasons, the use of a Protection Fund should not trigger a common law constructive sale.³⁶

Likewise, the use of a Protection Fund should not cause a statutory constructive sale. The risk mitigation afforded by a Protection Fund resembles that of a cash-settled put option, in

that the investor is entitled to receive a payment upon a total return loss on his stock and, in addition, retains all upside potential. The Blue Book explanation of the statutory constructive sale rules explains that “Congress intended that transactions that reduce only risk of loss...will not be covered. Congress did not intend that a taxpayer who holds an appreciated financial position in stock will be treated as having made a constructive sale when the taxpayer enters into a put option with an exercise price equal to the current market price (an “at the money” option). Because such an option reduces only the taxpayer’s risk of loss, and not its opportunity for gain, the above standard would not be met.”³⁷

Holding Designated Security and Certificate is not a straddle

A Designated Security protected by a Certificate should not create a straddle because the positions don’t vary inversely. Rather, the value of an investor’s Certificate depends mainly on the: (1) change in value of that investor’s Designated Security, (2) change in value of the other 19 investors’ Designated Securities, and, to a lesser extent, (3) change in value of the cash pool. Investment into a Series of a Protection Fund is economically similar to an investment in a diversified portfolio comprised of 20 unrelated stocks, with the risk reduction due to the changes in value of the individual stocks in the portfolio over time (i.e., the dispersion of stock returns).

That said, special rules have been promulgated--for offsetting positions that reference any group of stock of 20 or more unrelated issuers--that determine whether such positions create a straddle with the actual stock positions.³⁸ Under rules for portfolio or “basket” transactions, a position will be considered offsetting if there is a “substantial overlap” between the investor’s long stock position(s) and the offsetting position. An investor’s stock position(s) and offsetting position will be considered to substantially overlap if the quotient obtained by dividing the fair market value of the stock(s) held by the investor by the fair market value of all of the stocks referenced by the offsetting position is equal to or greater than 70%.³⁹

Since there are 20 equally weighted Designated Securities referenced by a Series, and assuming a Certificate holder does not hold any of such Designated Securities other than his Designated Security, the overlap between the basket of Designated Securities referenced in the Series and the Certificate holder’s Designated Security is 5%. Since 5% is below the 70% threshold specified for substantial overlap, the basket of Designated Securities referenced by the Series and the Certificate holder’s Designated Security should not be considered to substantially overlap, and therefore should not be considered offsetting positions for the purpose of determining whether a straddle exists.

Therefore, if a Certificate holder borrows against his Designated Security to fund the purchase of a Certificate, the interest expense incurred in connection with such borrowing should be currently deductible against investment income.

Also, if a Certificate holder purchases a Certificate before he owns his Designated Security for one year, the Certificate holder’s holding period in his Designated Security should not be reset for the purpose of determining whether gain or loss on the Designated Security will qualify for long-term capital gain treatment.

Holding period in Designated Security is not tolled when determining whether dividends constitute QDI

QDI is taxed at the lower long-term capital gains rate. For dividends to constitute QDI, a holder must satisfy a holding period test.⁴⁰ The holding period is tolled for each day during which the investor “has diminished his risk of loss by holding 1 or more other positions with respect to substantially similar or related property.”⁴¹ As with the straddle rules, if the offsetting position references 20 or more stocks, the diminution in risk test is undertaken by determining whether the substantial overlap test described in the preceding section is met.⁴²

In the case of the Protection Fund, the substantial overlap test would not result in more than a 5% overlap (assuming that a Certificate holder does not hold any of the referenced Designated Securities of a Series other than his Designated Security). The substantial overlap test requires a 70% or greater overlap. As a result, the substantial overlap test should not be met. Therefore, the holding period for purposes of determining whether any dividends paid on a Designated Security constitute QDI should not be tolled by reason of a Certificate holder holding a Certificate.

Distribution in excess of basis is long-term capital gain and distribution less than basis is deductible long-term capital loss

The Certificates should constitute capital assets in the hands of investors. As amounts paid to Certificate holders will be paid only upon a liquidation of a Series, the amounts paid should be treated as payment in full in exchange for their Certificates.⁴³ Accordingly, if a Certificate holder receives more than his cost in exchange for a Certificate, that amount should be a long-term capital gain. If a Certificate holder receives less than his cost, the result should be a long-term capital loss.

Code Sec. 331 provides that a shareholder who surrenders stock in complete liquidation of a corporation is treated as receiving the proceeds in “exchange for the stock.”⁴⁴ Gain or loss is long-term capital gain or loss if the stock has been held for more than one year.⁴⁵ As mentioned above, the holding period of a position (including stock) can be tolled if the taxpayer enters into a straddle with respect to such property before the long-term capital gain holding period has been met.

As analyzed above, the holding of a Certificate and a Designated Security should not constitute a straddle. As a result, the holding period of a Certificate should not be tolled for a Certificate holder by reason of his holding of a Designated Security. Based upon the assumption that each Certificate holder will have held his Certificate for the five-year life of the Series, each Certificate holder should meet the long-term capital gain or loss holding period. Thus, if a Certificate holder receives an amount in exchange for his Certificate that exceeds the amount that he paid for the Certificate, he should recognize a long-term capital gain. Conversely, if a Certificate holder receives less than the amount that he paid for his Certificate, he should recognize a long-term capital loss.

Same tax rules apply to stock-linked compensation

Executives of public companies often receive compensation designed to incentivize their job performance (including incentive stock options, non-qualified stock options, restricted stock,

restricted stock units, stock appreciation rights and employee stock purchase plan shares), the value of which is derived from, or linked to, the price of the company's publicly-traded common stock ("Stock-Based Compensation"). If an employee holds stock acquired pursuant to the exercise of incentive stock options ("ISOs"), a disposition of such stock before the expiration of statutory holding periods can result in adverse tax consequences. Applicable regulations define a disqualifying disposition as "a sale, exchange, gift or any transfer of legal title."⁴⁶

The same rules that are discussed above should apply to Stock-Based Compensation that is a Designated Security. Given that a Protection Fund transaction should not be treated as a statutory or common law constructive sale, the entry into such a transaction should not be treated as a disqualifying disposition of a Designated Security that has been acquired pursuant to an ISO. Since a Protection Fund transaction should not result in a constructive sale or a tax straddle, the holding of a Certificate and a Designated Security that is Stock-Based Compensation should not result in adverse tax consequences to the holder of the Stock-Based Compensation, or result in a loss of holding period for the purpose of determining whether a dividend constitutes QDI.

Comparative tax analysis

Investor pays \$120K to acquire a Certificate in a Protection Fund to protect his \$1 million position in publicly-traded ABC Corp. stock with a zero basis, which he's held longer than one year. The straddle and dividend holding period rules do not come into play.

- ABC Corp.'s stock price decreases and Investor receives a distribution of \$400K upon the termination of the Fund. He realizes a \$280K long-term capital gain (\$400K amount realized less \$120K basis).
- ABC Corp.'s stock price increases, and Investor does not receive any distribution. He realizes a \$120K capital loss (\$0 amount realized less \$120K basis) that's currently deductible.
- ABC Corp. pays dividends that would constitute QDI to Investor. His ownership of a Certificate in a Protection Fund does not "disqualify" the dividends, which are taxed as long-term capital gains.

Assume Investor pays \$120k to acquire a put option in order to protect that \$1 million stock position in ABC Corp. instead. The straddle rules and dividend holding period rules do come into play.

- ABC Corp.'s stock price decreases and Investor sells the put for \$400K. He realizes a \$280K short-term capital gain (\$400K amount realized less \$120K basis), even though he's held the ABC stock for more than a year. In effect, Investor has converted \$280K of long-term capital gain on his stock to short-term capital gain on the put.⁴⁷
- ABC Corp.'s stock price increases and the put expires worthless. Investor realizes a \$120K long-term capital loss (\$0 amount realized less \$120K basis) that's not currently deductible; rather, the deduction is deferred and effectively increases Investor's cost basis by \$120k.⁴⁸ If Investor holds his shares until death to take advantage of the step-up in basis, the deduction is never used (i.e., it's simply less tax forgiven at death).

- If ABC Corp. pays dividends that would constitute QDI to Investor, his ownership of the put "disqualifies" the dividends, which are taxed at the ordinary rate.⁴⁹

Although the above tax analysis focused on US investors, a similar analysis should be performed by investors, in conjunction with tax counsel, in non-US countries who are contemplating the use of Protection Funds.

Retirement planning considerations

The old rule of thumb for retirees, suggesting that equities should represent a portion of one's portfolio equal to 100%-minus-one's-age, no longer seems to resonate with retirees and their advisors. For instance, in the US, in addition to retirement savings, retirees can rely on Social Security, dividends and pensions to satisfy current income needs. Once sufficient funds have been set aside to cover their liquidity needs, an increasing number of retirees and pre-retirees throughout the world have begun investing more aggressively. In fact, after retirement, it's worth noting that the majority of wealthy investors actually plan to maintain or increase their equity exposure to pursue long-term growth of assets.⁵⁰ Given today's low interest rates, many feel an even greater need to seek higher returns in order to mitigate longevity risk and support a retirement that may last decades. Many wealthy retirees are also investing more aggressively to build a legacy for future generations.

That said, executives, employees, and retirees with highly appreciated company stock positions that they believe will outperform the market might wish to consider retaining a portion of their company stock as a core, long-term holding, but also protect their heretofore unrealized gains via a Stock Protection Fund. In doing so, they maintain the potential to create meaningful wealth by participating in any future appreciation in the stock, while muting much of the downside risk associated with it.

Other Considerations

For company insiders in the US, the use of a Protection Fund does not cause a reportable event (however, they can voluntarily disclose, if they'd like to). In addition, company insiders and employees can use a Protection Fund to shield both stock and stock-linked compensation (assuming company policy allows), including company shares held within a defined contribution plan.

The shares needn't be pledged, are not encumbered in any way, and can be held in custody wherever the investor desires. Therefore, the investor can sell, gift, donate, borrow against or otherwise dispose of his shares at any time.

If desired, investors can borrow against their stock to fund their investment into a Protection Fund, so as to not disturb their asset allocation.

Protection Funds are easy to understand, transparent, and entail no counterparty credit risk.

Summary

Protection Funds add a new and desirable dimension to the wealth planning and portfolio construction process for public company executives, employees and retirees, as well as other

investors and trusts, with concentrated stock positions. These investors can continue to “chip away” at and diversify their concentrated stock positions over time using the traditional tools, while using a Protection Fund to cost-effectively and tax-efficiently de-risk that portion of their position that they wish to retain as a core, long-term holding in order to potentially generate aspirational wealth to partake in a better lifestyle, reduce longevity risk, or pass on a legacy to heirs. Of course, investors can also use a Protection Fund to protect new concentrated stock investments they make based on fundamental equity research, to satisfy those same objectives.

Endnotes

1. Steyer, R. (2017). “Passive investment train overtakes active in corporate DC plans,” *Pensions & Investments*. Retrieved from <http://www.pionline.com/article/20170320/PRINT/303209986/passive-investment-train-overtakes-active-in-corporate-dc-plans>.
2. Yu, J. (2015). “Executive Compensation Bulletin: Stock Ownership Guidelines and Retention Policies – Creating Stronger Links Between Executives and Shareholders.” Retrieved from <https://www.towerswatson.com/en-US/Insights/Newsletters/Global/executive-pay-matters/2015/Executive-Compensation-Bulletin-Stock-Ownership-Guidelines-Retention-Policies-Stronger-Links>.
3. In the US, the SEC defines corporate insiders (i.e., “affiliates”) as “a company’s officers and directors, and any beneficial owners of more than ten percent of a class of the company’s equity securities registered under Section 12 of the Securities Exchange Act of 1934.” While it’s not completely clear what is meant by a company’s “officers”, most securities lawyers take the position that company insiders include senior-level executive officers, directors and 10% owners.
4. Exchange Funds, also known as swap funds, allow investors to exchange a large holding of a single stock for an ownership interest in a diversified portfolio, while deferring any capital gains tax. This provides investors with a tax-efficient means of diversifying out of highly appreciated single-stock positions.
5. Equity derivatives, such as put options, call options, collars, prepaid variable forwards, and permutations thereof, are instruments that can be used to hedge single-stock positions, the price of which is derived from or linked to the price of the underlying asset, which is an equity security.
6. A charitable remainder trust (CRT) is an irrevocable trust that generates an income stream for the investor who funds the trust (the donor), and/or other beneficiaries chosen by the donor, during his (or their) lifetime, and then contributes any remainder assets to the charity(ies) of the donor’s choice. CRTs are a tax-efficient means of diversifying out of a single stock position for those investors who are charitably inclined, as any capital assets (including publicly traded stock) that are sold by the CRT (i.e., after a donor has contributed the assets to the CRT) are not subject to capital gains tax. In addition, donors are eligible to take a partial income tax deduction based upon the type of trust, the term of the trust, the projected income payments, and IRS interest rate assumptions (which estimate a certain growth rate with respect to the trust assets).
7. The American Taxpayer Relief Act of 2012, enacted January 2, 2013, increased the top tax rate on long-term capital gains to 20% for high-income earners. In addition, beginning in 2013 long-term capital gains became subject to an additional 3.8% surtax, enacted as part of the Health Care and Education Reconciliation Act of 2010.
8. <https://taxfoundation.org/high-burden-state-and-federal-capital-gains-tax-rates-united-states>
9. See Code Section 1014.
10. For example, assume Investor purchased shares of ABC Corp. many years ago for \$100,000 (i.e., the original tax-cost-basis of those shares), and that Investor still owns those shares that are currently worth \$1 million. If Investor sells the shares for \$1 million (i.e., the amount realized on the sale), he will incur a long-term capital gains tax on his gain of \$900,000 (i.e., the amount realized less his original tax-cost-basis or \$1 million less \$100,000). Should Investor instead decide to hold the shares until his death, his estate or beneficiaries will receive the shares with an adjusted tax-cost-basis equal to fair market value. In this case, assuming the shares are worth \$1 million upon Investor’s death, his estate or beneficiaries could sell the shares for \$1 million (i.e., the amount realized on the sale), but incur zero capital gains tax because in this case there is no gain (i.e., the amount realized less the now adjusted tax-cost-basis or \$1 million less \$1 million is zero). Although the value of those shares would still be subject to the estate tax, assuming that Investor’s estate is worth less than \$5.49 million (i.e., the estate tax exemption for individuals for 2017), Investor’s \$900,000 gain would avoid both the capital gains tax and the estate tax.
11. Exchange Funds, also known as swap funds, allow investors to exchange a large holding of a single stock for an ownership interest in a diversified portfolio, while deferring any capital gains tax. This provides investors with a tax-efficient means of diversifying out of highly appreciated single-stock positions.
12. See Cohen, Randolph, Christopher Polk, and Bernhard Silli. “Best Ideas.” Working paper, London School of Economics, May 2010. Cremers, K.J. Martijn and Antti Petajisto. “How Active Is Your Fund Manager? A New Measure That Predicts Performance.” *Review of Financial Studies*, September 2009. Elton, Edwin J., Martin J. Gruber, Stephen J. Brown, and William N. Goetzmann. *Modern Portfolio Theory and Investment Analysis*. John Wiley & Sons, 2009. Petajisto, Antti. “Active Share and Mutual Fund Performance,” *Financial Analysts Journal*, July/August 2013. Yeung, Danny, Paolo Pellizzari, Ron Bird, and Szali Abidin. “Diversification versus Concentration ...and the Winner is?” Working paper series, University of Technology Sydney, September 2012. See also Allen C. Benello, Michael van Biema, and Tobias E. Carlisle, *Concentrated Investing: Strategies of the World’s Greatest Concentrated Value Investors*, Wiley & Sons, 2016.
13. “The Agony & The Ecstasy--The Risks and Rewards of a Concentrated Stock Position,” by J.P. Morgan Asset Management, September 2014.
14. Goldman Sachs Asset Management, FactSet, 2016.
15. Prior to the financial crisis equity derivatives were commonly used as part of a long-term, strategic approach to managing single-stock risk. In recent years, however, due to the

convergence of several factors, including historically low interest rates, an unfavorable volatility skew (making puts much more expensive relative to calls than they had been in the past), and the ramifications of Dodd-Frank on derivative dealers, equity derivatives have become much more expensive. Consequently, the strategic utilization of equity derivatives to manage the risk of a concentrated stock position on a long-term basis is simply not practical. Equity derivatives are now primarily used in a tactical manner for short-term protection and/or income generation.

16. Ibid.

17. A prepaid variable forward (PVF) is an over-the-counter (OTC) equity derivative that combines the economics of a collar and a borrowing against the hedged stock position in a single financial instrument.

18. These unattractive tax results occur because, in most instances, the stock position, when combined with the derivative hedging instrument, will be deemed a “straddle” under Internal Revenue Code Section 1092; further, the dividend holding period requirements of IRC Section 1(h)(11)(B)(iii)(I) won’t be satisfied.

19. If an investor purchases put options to protect his stock (and does not borrow against the protected shares in order to fund the purchase price), the protected shares do not need to be pledged to, or held in custody by, the dealer, and the shares can be sold (or otherwise disposed of) at any time.

20. See U.S. patents: Nos. 7,720,736; 7,739,177; 7,987,133; 8,229,827; and 8,306,897.

21. See CFA Institute, “Innovations in Managing Concentrated Single-Stock Positions,” Take 15 Series: http://players.brightcove.net/1183701590001/rkcysOOFe_default/index.html?videoId=5377678349001. See also Kochis, Timothy, *Managing Concentrated Stock Wealth*, (2nd ed., Wiley, 2016, pages 160-162). “For clients who own highly appreciated stock and for certain reasons wish to keep some portion of their concentrated position as a core, long-term holding, a Stock Protection Fund can be a very attractive alternative and an excellent choice.” Janus Capital Group, “2017 Wealth Advisor’s Guide,” page 19. “A Stock Protection Fund is a new tool that allows a group of investors to continue to own their shares and retain all of the upside potential while mutualizing the downside risk.” Kennedy, William, “Bear Cage,” *Fieldpoint Private*, Spring 2016 “A Stock Protection Fund is a simple, transparent and repeatable strategy for mitigating this risk without incurring excessive expenses or taxes”.

22. See John L. Evans and Stephen H. Archer, “Diversification and the Reduction of Dispersion: An Empirical Analysis,” *Journal of Finance* 23, no. 5 (December 1968), at pp. 761-767; Thomas M. Tole, “You Can’t Diversify Without Diversifying,” *Journal of Portfolio Management* 8, no. 2 (Winter 1982), at pp. 5-11; and Meir Statman, “How Many Stocks Make a Diversified Portfolio?” *Journal of Financial and Quantitative Analysis* 22, no. 3 (September 1987), at pp. 353-363.

23. See Frank Reilly and Keith Brown, (5th ed), at pp. 284-285, summarizing the relevant research studies and findings. *Investment Management and Portfolio Management*

24. Solnik (1974) analyses markets in the US, UK, Germany, France, Switzerland, Italy, Belgium and the Netherlands; Bird

and Tippet (1986) and Brands and Gallagher (2005) report on Australia; Copp and Cleary (1999) and Kryzanowski and Singh (2010) studied Canada; Byrne and Lee (2000) studied the UK.

25. Discussion Paper, Tasmanian School of Business & Economics, No. 2013-16, “Equity Portfolio Diversification: How Many Stocks are Enough? Evidence from Five Developed Markets,” Vitalie Alexeev and Francis Tapon.

26. The authors do not extrapolate these developed markets findings to emerging markets due to a dearth of academic studies and evidence in the literature, although it would not be terribly surprising if a similar number (i.e., approximately 20) of stocks is necessary to achieve diversification.

27. StockShield, LLC: StockShield, LLC: www.stockshield.com. Based on extensive back-testing performed, the amortized cost of such protection is expected to be approximately 1.25 percent per annum. In addition, a Protection Fund was operated during the 5-year period from June 1, 2006, to June 1, 2011. The Fund protected 20 investors with 20 stocks in different industries, each looking to protect the same notional amount of stock. The upfront cash contribution was 10% (2% per annum for 5 years) of the notional value of the stock being protected. Of the 20 stocks protected, eight incurred losses (37%, 32%, 24%, 18%, 13%, 8%, 5%, and 1%). For investors participating in the Fund, all stock losses were reimbursed (i.e., the maximum stock loss was 0%) and the remaining cash was returned to the investors. Each of the 20 investors received the economic equivalent of 5-year “at-the-money” put protection on their stock, and the amortized cost of that protection was 1.38% per annum pre-tax or about 1% after-tax.

28. The cash contribution is 2% per year for 5-years (which can be thought of as akin to an annual “premium”). The cash is contributed upfront to eliminate any counterparty risk (i.e., the risk that one or more of the 20 investors might default on his/her obligation to make one or more annual contribution payments).

29. StockShield, LLC: www.stockshield.com.

30. Ibid.

31. In a scenario in which the calculated maximum loss is 0.0%, any remaining cash will be distributed such that any certificate holder whose designated security did not suffer a loss (“gainer”) will be refunded an amount equal to the amount reimbursed to the certificate holder whose designated security had the smallest loss (“smallest loser”) to the extent funds are available. Otherwise, the gainers will split the remaining cash on a pro-rata basis. If any cash remains once all gainers have received a distribution equal to the smallest loser’s reimbursement, all gainers as well as the smallest loser will then each receive an additional share of the excess cash in an amount that will make the total distribution he/she has received equal to the amount reimbursed to the certificate holder whose designated security had the second-smallest loss (“second-smallest loser”) to the extent cash is available. Otherwise, the gainers and the smallest loser will split the remaining Series Pool Assets on a pro-rata basis. This “waterfall” methodology continues until no cash remains. A certificate holder who has had the loss on his/her designated security fully reimbursed will only receive a share of the excess cash if all certificate holders whose designated securities incurred a smaller loss (or did not incur a loss at all) have first received a share of the

excess cash equal to the reimbursement the certificate holder with a loss has already received.

32. Discussion Paper, Tasmanian School of Business & Economics, No. 2013-16, "Equity Portfolio Diversification: How Many Stocks are Enough? Evidence from Five Developed Markets," Vitalie Alexeev and Francis Tapon.

33. After purchasing a Certificate, each holder of a Designated Security retains legal title to his shares, retains the absolute right to keep, sell, pledge, gift, borrow against, or otherwise dispose of his shares at any time, keeps all future appreciation, retains all dividends and distributions, maintains voting rights, does not pledge his shares to the Fund, will not be required to deliver shares of his Designated Security to the Fund under any circumstances (and the Fund will not obtain the use of or have the right to re-hypothecate his shares), remains entitled to a potential distribution even if he no longer owns his shares at the conclusion of the five-year term of the Fund, and may be entitled to receive back some or all of the price paid for the Certificate, excluding the placement fee.

34. *Lucas v North Texas Lumber*, 281 U.S. 11, 50 S. Ct. 184, 74 L. Ed. 668 (1930).

35. The conclusion that the principle of Rev. Rul. 2003-7 should apply to a Protection Fund transaction should not be affected by the negative conclusions in TAM 20060433, A.M. 2007-004 and *Anschutz*, because the Fund will not obtain the use of the Designated Securities or have the right to re-hypothecate such Designated Securities.

36. See "Leeds, Mark, and Boczar, Thomas, "The 21st Century Tontine Lookalike: Tax Aspects of Stock Protection Funds," *Taxes—The Tax Magazine*, CCH Tax and Accounting/Wolters Kluwer, September, 2017 issue, for an in-depth analysis of the case law and other legal authorities which support the conclusion that a holder of a Designated Security who acquires a Certificate should not be considered to have undertaken a common law constructive sale of his shares of the Designated Security.

37. Joint Committee on Taxation, General Explanation of Tax Legislation Enacted in 1997 (JCS-23- 97), Dec. 17, at 177 (the "Blue Book"). "The Congress anticipated that future Treasury regulations will treat as constructive sales other financial transactions that, like those specified in the provision, have the effect of eliminating substantially all of the taxpayer's risk of loss and opportunity for income and gain with respect to the appreciated financial position. Because this standard requires reduction of both risk of loss and opportunity for gain, the Congress intended that transactions that reduce only risk of loss or only opportunity for gain will not be covered. Thus, for example, the Congress did not intend that a taxpayer who holds an appreciated financial position in stock will be treated as having made a constructive sale when the taxpayer enters into a put option with an exercise price equal to the current market price (an "at the money" option). Because such an option reduces only the taxpayer's risk of loss, and not its opportunity for gain, the above standard would not be met."

38. Reg. §1.246-5(c)(1).

39. Reg. §1.246-5(c)(1)(iii)(B).

40. Code Sec. 1(h)(11)(B)(iii) provides that a dividend will not constitute QDI unless the holding period requirements for common stock provided in the dividend received deduction (or DRD) rules are met by substituting 60 days for 45 days and substituting 121 days for 91 days, in each place that such number appears. The DRD holding period rules, as modified by the QDI rules, require that a shareholder hold a share of stock paying a dividend more than 60 days during the 121-day period beginning on the date that is 60 days before the ex-dividend date in order for a dividend to be treated as QDI. The DRD holding period rules provide that the holding period is tolled for each day during which the "taxpayer has diminished his risk of loss by holding 1 or more other positions with respect to substantially similar or related property." If the offsetting position references 20 or more stocks, the diminution in risk test is undertaken by determining whether the substantial overlap test is met.

41. *Ibid.*

42. *Ibid.*

43. These results are achieved because each Series of a Protection Fund elects to be treated as an association taxable as a "C" corporation. Therefore, Certificate holders will be treated as shareholders and their ownership interests as stock that they purchased in the corporation. On the termination date, a complete liquidation of the corporation will occur under Code Section 331. Therefore, the cash distribution will be treated as the proceeds of a purchase of the shareholder's stock by the corporation and will qualify for long-term capital gain or loss treatment, provided that the stock of the liquidating corporation is a capital asset in the hands of the investor.

44. Reg. §1.331-1(a) (amounts received by a shareholder in a complete liquidation "shall be treated as full payment in exchange for the stock").

45. Code Secs. 1222(3), 1222(4).

46. Reg. §1.422-1(c).

47. This result is achieved because under Section 1092(b)(1) and Temp. Reg. Section 1.1092(b)-2T(a)(1), the investor's holding period in the put cannot "age," with the result that any gain on the put will be short-term capital gain. Thus, even though this gain is, in an economic sense, simply the long-term gain built into the ABC Corp. stock at the time the hedge was established, the holding period termination rule renders that gain short-term. The investor could have avoided this result by physically settling the put by delivering the shares to the seller of the put upon exercise. Because the gain with respect to the put is "merged" into the sale of the ABC Corp. stock, the resulting gain would be long-term rather than short-term.

48. The loss is long-term because, under Temp. Reg. 1.1092(b)-2T(b)(1), the shares being hedged satisfied the one-year long-term holding period requirement, and therefore the loss on the put (i.e. a position in the straddle) is deemed to be a long-term capital loss regardless of holding period. The loss is deferred due to the loss disallowance rule of Section 1092(a)(1) because the unrecognized gain in the stock exceeds the realized loss on the put.

49. See IRC Section 1(h)(11)(B)(iii)(I). The put purchase tolls the dividend holding period.

50. "Retiring Old Clichés," UBS Investor Watch, UBS Wealth Management Americas, 3rd Quarter, 2017. Based on a survey of 2,028 affluent and high net worth investors (with at least \$1 million in investable assets) from June 8 – 13, 2017, including 475 with at least \$5 million.

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Tom Boczar, CFA, CPWA, LLM, is CEO of Intelligent Edge Advisors. Tom is expert in the discipline of single-stock risk management, and has structured and arranged the execution of billions of dollars of single-stock hedging and monetization transactions. Tom is a prolific researcher and has authored over fifty published articles, a number of which have won prestigious awards, on issues related to concentrated wealth and the taxation of financial instruments, products and transactions. Tom holds an LL.M. (Taxation) from NYU School of Law, and a J.D., MBA and Masters in Professional Accounting from the University of Miami. Tom holds an Advanced Professional Certificate in Estate Planning from NYU School of Law, and earned the CFA Institute's CFA designation and IMCA's CPWA designation. Tom is admitted to the bar in NY and CT.



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