

# Arbitrary versus Prudent Asset Allocation

February 16, 2022

## Abstract

This paper examines the strengths and weaknesses of current asset allocation practices and presents a simple, low cost alternative approach that is in the best interest of investors.

Current practices, described as being arbitrary fails to consider the specific need of investors for cash that is required to meet personal choices and obligations and the accessibility of cash assets contained within investment accounts.

The Prudent Asset Allocation presented here protects cash required for forecasted needs, captures gains when available and avoids losses by enabling investors to wait for investments to recover their value before making withdrawals.

## Warning

This paper, the historical data, analysis, findings, conclusions and practices discussed are based on the laws, regulations, political structure, legal system, currency, investments, liquidity, market structure and culture in the United States. Application to other jurisdictions may or may not produce comparable results.

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### Introduction

Asset allocation has been practiced in an arbitrary way since the dawn of the Modern Era<sup>1</sup>. While thought to be beneficial, great improvements to current practices are possible. These improvements are critically important for fiduciaries and experts who have the duty to act in an investors' best interest with care, loyalty and diligence.

### Benefits of Asset Allocation

Asset Allocation is expected to deliver two benefits to investors:

- **Economic:** Increase returns by limiting losses at times when funds are needed. The intent is that Asset Allocation will smooth performance so that values are not depressed when funds are needed.
- **Emotional:** Alleviate the fear of loss that leads to imprudent decisions. The intent is to achieve emotional stability by reducing the shock caused by market volatility.

The investment theories supporting these practices are sound, but the unanswered question is whether desirable outcomes have been produced at a reasonable cost.

Current asset allocation practices are described here as Arbitrary Asset Allocation ("AAA"). AAA is an investment blend of Growth<sup>2</sup> and Preservative<sup>3</sup> assets that is intended to provide appreciation produced from the Growth component and the protection of the Preservative component. The challenge has historically been determining what allocation will provide adequate protection with acceptable loss in return that is in the investors' best interest. Current practices do not consider the investor's need for cash or the accessibility of cash held.

### Returns for Stocks, Bonds and Cash

Stocks, bonds and cash have earned very different amounts for the investor since the birth of the modern stock market in 1940. This is the year when today's regulatory foundation<sup>4</sup> was laid.

If we compute the results of \$1,000 invested in 1940, we find the following:

- \$4,932,436 for stocks (as indicated by the S&P 500)
- \$57,563 for bonds (based on the 10 Year US Treasury Bonds)
- \$17,751 for cash (base on US Treasury Bills)

It is evident that \$1,000 invested in stocks produced far more favorable results (nearly \$5 million). It is also clear that an investor loses an enormous opportunity on funds held in cash (\$4,914,685 lost) or bonds (\$4,874,873 lost).

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<sup>1</sup> The Modern Era is defined as starting in 1940 when the principal securities regulations were in place under the control of the Securities and Exchange Commission and its associated regulators.

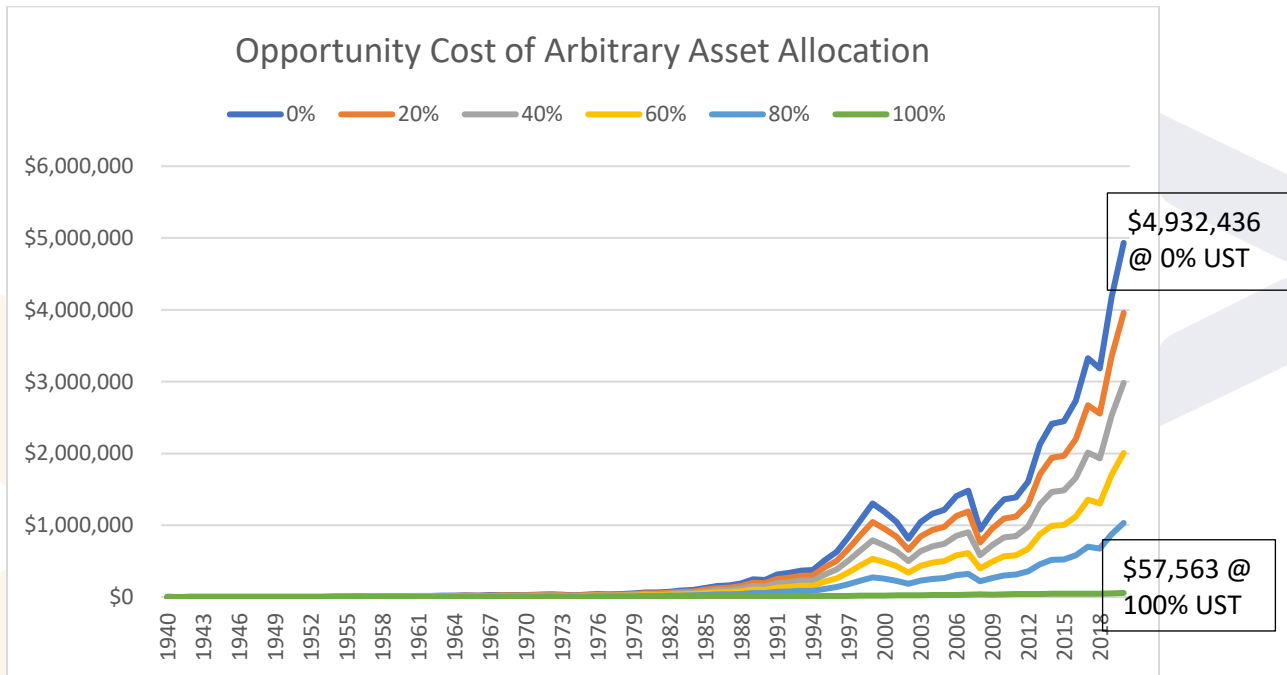
<sup>2</sup> Growth investments primarily consists of equity securities, equity mutual funds and other securities, whose primary goal is appreciation.

<sup>3</sup> Preservative investments are typically bonds, bond mutual funds, money market funds, bank deposits, annuities, guaranteed contracts and other investments that are designed to prevent loss.

<sup>4</sup> The regulatory foundation consists of four acts of Congress: Securities Act of 1933, Securities Exchange Act of 1934, Investment Company Act of 1940 and Investment Advisers Act of 1940.

## Returns of Arbitrary Asset Allocation

The cost of asset allocation is not in fees or expenses but in the lost opportunity to participate in the higher returns of long term investments. The chart below illustrates the returns revealed in this study using different levels of arbitrary allocations. The S&P 500 was used for the equity portion and 10 Year US Treasuries represents the bond component.



The calculated lifetime opportunity cost (after 80 years) and working life (after 40 years) at each level of allocation, starting with \$1,000, was:

Allocation to US Treasuries	Lifetime Cost (80 Years)	Cost after Most Recent 40 Years
20%	\$974,975	\$15,825
40%	\$1,949,949	\$31,650
60%	\$2,924,924	\$47,475
80%	\$3,899,898	\$63,301
100%	\$4,874,873	\$79,126

## Comparing AAA to PAA

Prudent Asset Allocation (“PAA”), improves on AAA and does not seek an arbitrary allocation but instead protects the assets necessary to fund investor needs. These Preservative assets are independent of market performance. The assets to meet investors’ needs have maximum protection and all remaining assets take full advantage of long term market performance. The needs are calculated for a period sufficiently long to escape the effect of market decline and recovery. PAA gives investors access to cash without the losses suffered by untimely withdrawals.

AAA differs from PAA in several fundamental ways:

- AAA allocations are based on an arbitrary standard, set and changed by the allocator. PAA allocations are based on funding the needs of the investor and on changes in those needs.
- AAA sets allocations of a *blended risk tolerance*<sup>5</sup>, the passage of time, simulations or institutional guidelines. PAA sets allocations based on the cash needs of the investor and historical ability of markets to recover from severe declines.
- AAA uses an allocation target for all or each class or age of investor, regardless of individual needs. PAA calculates and protects the needs of each investor.
- AAA locks in low yields at levels that often exceed what is required for protection. PAA releases unnecessary low yielding assets to be invested in a Growth component.
- AAA seeks to periodically rebalance to the arbitrary allocation. PAA changes the level of protection as needs are met and when changes occur in the investor’s situation.
- AAA does not have a response to insufficient assets to fund investor needs. PAA permits up to 100% of assets to protected.
- AAA cannot maintain a designated allocation as assets are withdrawn to meet investor needs. PAA anticipates usage and maintains funds to meet future needs, independent of the allocation percentage.
- AAA cannot adapt to emergencies without disruption of the Growth component. PAA permits the investor to borrow from future needs for emergencies without disruption of long term Growth component. Borrowed funds are replenished in a non-disruptive way.
- AAA puts the entire portfolio at risk from low short term persistency. PAA relies on greater long term persistency for the Growth component and takes advantage of superior short term consistency for the Preservative class.
- AAA is vulnerable to negative investor experience when the allocated portfolio is compared to benchmarks. PAA protects the investor from disappointment by clear delineation of Growth from Preservative components.

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<sup>5</sup> A blended risk tolerance refers to an individual’s tolerance for financial risk, regardless of the level of dependency on specific funds for specific purposes and the urgency of each purpose.

## Arbitrary versus Prudent Asset Allocation

- AAA does not include consideration of assets held outside of the investment portfolio. PAA requires the consideration, evaluation and possible restructuring of Preservative assets.

Historically and structurally, the performance of the Preservative class is far more persistent and therefore more predictable than Growth counterparts. This is advantageous to the PAA since the most time-critical Preservative asset is less exposed to an unexpected decline in return.

AAA is used in a variety of applications including individual portfolios, balanced funds, target date funds and other blended investments. In all these cases, a blend of Growth and Preservative classes is set without reference to the short term funds available, amount needed, when needed or time required for recovery from a decline. The effect of AAA is that some investors have excessive protection while others are overexposed.

On the other hand, PAA is based on protecting the assets that require protection and permitting the Growth assets to appreciate at the maximum rate. There is no need for rebalancing with PAA since the allocation is based in the funds actually needed by the investor.

## Access to Cash

Investments must generally be converted to cash for them to be useful to investors. Cash is useful since it can be spent for goods and services and to meet obligations. This conversion to cash needs to occur only when and as needed so that remaining investments can continue to grow at the maximum rate possible.

While certain AAA arrangements do provide accessible cash, several require often untimely liquidation of growth assets in order to access cash. Examples of inaccessible cash arrangements include:

- Balanced Funds... in which cash is held inside the fund where it is inaccessible to the investor without liquidating growth components as well.
- Rebalancing... has the effect of transferring gains earned by the growth component to a lower earning conservative investment, regardless of when the cash is needed by the investor.
- Target Date Funds... degrade returns by automatically transferring growth assets into lower earning conservative investments based on the passage of time on the basis of the assumption that all investor's needs for cash uniformly increases with time.
- Target Risk Funds... alter allocations to limit volatility with no consideration for the immediacy of the investors' need for cash.
- Managed Account Arrangements... sometimes release cash for investors' use, this is generally on demand and does not anticipate this demand nor consider the No-Sell Zone (market conditions at the time of the demand).

In contrast the PAA approach:

- Makes cash allocated for spending easily accessible to investor.
- Volatility is limited only in preservative investments.
- Returns are not degraded by excessive conservative investments.
- Gains in growth component are transferred only when appropriate and when needed.
- There is no rebalancing but instead uses a continuously rolling forecast (forward looking) to anticipate and supply the required cash.

## Arbitrary versus Prudent Asset Allocation

- Enables the investor to delay withdrawals until a market recovery restores value, thus avoiding realized losses.
- Identifies ahead of time, when spending exceeds potential future cash supply and permits adjustments to be made when needed.
- Permits mid-course corrections.

## Study Method

This paper examines the effectiveness and cost of AAA in relation to PAA.

The time frame of the study is the Modern Era (starting in 1940) to use an adequately large sample to capture major events and avoid distortions that existed before modern regulatory framework was in place.

For purposes of this study, Growth investments are represented by the S & P 500 (“S&P”)<sup>6</sup> and Preservative investments by 10 Year US Treasuries (“UST”). The Persistence (probability of repeating performance in a succeeding period) was calculated for the S&P and UST.

Arbitrary allocations tested were 0%, 20%, 40%, 60%, 80% and 100% of UST.

These allocations were tested for normal conditions (median) and extreme conditions (high and low cases).

One set of calculation determined a return for each tested blend for every year. The result showed the loss in return suffered at each blend, yielding the cost of that blend. Median, high and low years are identified.

A second set of calculations examined the S&P for every year in the Modern Era and categorized each as either:

- Expected... an increase in value or decline of less than 10%.
- Unexpected... a decline in value of 10% or more. This decline is considered to be the “Shock Level” for most investors. Two determinations were then made:
  - Number of years until the value was restored to the level before the Shock (“Recovery Period”) for each blend.
  - Number of cases that changed from “Unexpected” to “Expected” as a result of each blend.

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<sup>6</sup> The Poor’s Investment and other large cap indices are used for periods before the S&P 500 was established.



## Findings

### Economic

The economic benefit of Asset Allocation is the reduced loss when there is a market decline. If funds are needed before the market recovers, the investor suffers a real and unrecoverable loss. Asset Allocation places limits on such losses.

There were 8 years where losses reached Shock Levels during the 81 years of the Modern Era. This represents 9.9% of the years. The S&P fully recovered its value in each of these 8 cases. For these years, recovery times and allocations were:

Year	% S&P Decline	Recovery Time (Years)	Composite Return at Various Bond Allocations					
			0%	20%	40%	60%	80%	100%
1940	(10.7%)	3	(10.7%)	(7.5%)	(4.2%)	(1.0%)	2.2%	5.4%
1941	(12.8%)	2	(12.8%)	(10.6%)	(8.5%)	(6.3%)	(4.2%)	(2.0%)
1957	(10.5%)	1	(10.5%)	(7.0%)	(3.6%)	(0.1%)	3.3%	6.8%
1973	(14.3%)	4	(14.3%)	(10.7%)	(7.1%)	(3.5%)	0.1%	3.7%
1974	(25.9%)	1	(25.9%)	(19.6%)	(13.3%)	(7.0%)	(0.7%)	5.6%
2001	(11.8%)	5	(11.8%)	(8.4%)	(4.9%)	(1.4%)	2.1%	5.6%
2002	(22.0%)	1	(22.0%)	(14.5%)	(7.1%)	0.3%	7.7%	15.1%
2008	(36.6%)	5	(36.6%)	(25.2%)	(13.9%)	(2.6%)	8.8%	20.1%
<b>Annual Median Adjusted Return</b>			14.8%	12.5%	10.2%	7.8%	5.5%	3.2%
<b>Annual Cost</b>			0.0%	(2.3%)	(4.6%)	(7.0%)	(9.3%)	(11.6%)
<b>Cost after 81 Years*</b>			0.0%	(85.1%)	(97.9%)	(99.7%)	(100.0%)	(100.0%)

\* Percentage of initial portfolio value lost to Arbitrary Asset Allocation

From a purely economic perspective:

- The probability of experiencing a Shock Loss in any given year is 9.9%. This makes it unlikely that the need for cash would coincide with market declines. The probability is that needs would coincide with gains 10 times more frequently than coinciding losses.
- An allocation that would avoid any loss would have to exceed 80% to UST, which would eliminate 80% of the S&P gains.
- The cost of an Arbitrary Allocation at 40% for the entire Modern Era is 97.9% of initial portfolio value or a net gain of 2.1%. The investor is left with no gains with any higher bond allocation.
- The median wait time for recovery is 2.5 years. If waiting for recovery is not feasible, then sufficient funds should be held in Preservative assets.

### Emotional

For the asset allocation strategy to change the emotional response and associated investment behavior that follows a market decline, combination of the following conditions is necessary:

- Confidence in the strategy being deployed, demonstrated by past success. Confidence is gained through a clear delineation of a valid strategy.
- Opportunity that exceeds any losses experienced, based on expected returns. Opportunity is made credible when a statistically valid forecast is provided with a calculated probability of occurring (Persistence).
- Personal protection from material loss, if investor's own situation was unaffected. Personal protection is achieved if assets are not depressed when needed.
- Expectation of timely recovery, based on historical record. One year would ordinarily be considered timely, but timeliness is primarily based on the ability of the investor to function comfortably without the using the depressed assets.
- Losses were significantly mitigated, when assets are prudently allocated. Significant mitigation is generally recognized when a net loss it transformed into a net gain.
- No effective peer pressure to abandon the existing strategy, peers use an inferior investment strategy. Overcoming peer pressure requires a clear understanding of the strategy being deployed and how it applies to current market conditions.

Achieving these conditions require effective communication supported by credible data.

The emotional perspective is seldom clear and must be evaluated by the individual investor involved. The determination can be made based on response to key questions:

- What portion of future returns (estimated at 14.8% per year) are you willing to forfeit to avoid waiting for a normal 2.5 year market recovery?
- Would you be willing to secure the funds needed for the next five years and invest any remaining assets to achieve stock market returns with the associated volatility?

### Comparing Results

PAA was tested against AAA to determine the historical benefit over the past 20 years. The following assumptions were made for the tests:

- Investor five year spending requirements were the same for both PAA and AAA
- These spending requirements are funded by deposit accounts (Checking, Saving and CDs)
- AAA assets were in a target date fund split 60/40 in equities and bonds
- Both methods were tested each year from 2001 to 2020 for both one year and ten year time horizons
- For the growth class, the same investments were used in the same proportions for both PAA and AAA.

### Key Observations:

- For 13 of 20 cases (65%) total return for the one year time horizon was superior for PAA
- For 12 of 20 cases (60%) total return for the ten year time horizon was superior for PAA
- In cases where AAA was superior, PAA permitted the investor to wait (up to five years) for a market recovery and avoid selling in a down market
- For the period ending 2020:
  - PAA outperformed AAA in one year returns (23.78% to 15.58%)
  - PAA outperformed AAA in ten year returns (98.62% to 60.94%)

### Test Results

#### Comparison of Arbitrary & Prudent Asset Allocation

For Year	2020	1 Year Return	10 Year Return	Arbitrary Allocation			Prudent Allocation			1 Year Winners		10 Year Winners	
				% of Holdings	1 Year Return %	10 Year Return %	% of Holdings	1 Year Return %	10 Year Return %	Arbitrary	Prudent	Arbitrary	Prudent
	<b>Portfolio Holdings</b>												
	Deposit Accounts	0.09%	4.91%	25%	0.02%	1.23%	25%	0.02%	1.23%				
	DALBAR 10 Year US Treasury	11.33%	26.32%	27%	3.06%	7.11%	0%	0.00%	0.00%	3.06%		7.11%	
	<b>Conservative Holdings</b>			<b>52%</b>	<b>3.08%</b>	<b>8.33%</b>	<b>25%</b>	<b>0.02%</b>	<b>1.23%</b>	<b>3.08%</b>		<b>8.33%</b>	
	DALBAR Balanced Fund	14.67%	63.95%	15%	2.20%	9.59%	0%	0.00%	0.00%	2.20%		9.59%	
	DALBAR Large Cap Equities	18.01%	101.58%	16%	2.88%	16.25%	37%	6.67%	37.58%		6.67%		37.58%
	DALBAR Growth	43.64%	157.39%	17%	7.42%	26.76%	38%	16.58%	59.81%	16.58%		59.81%	
	<b>Aggressive Holdings</b>			<b>33%</b>	<b>10.30%</b>	<b>43.01%</b>	<b>75%</b>	<b>23.25%</b>	<b>97.39%</b>	<b>23.25%</b>		<b>97.39%</b>	
	<b>Total Portfolio</b>			<b>100%</b>	<b>15.58%</b>	<b>60.94%</b>	<b>100%</b>	<b>23.27%</b>	<b>98.62%</b>		<b>23.27%</b>		<b>98.62%</b>

### Conclusion

The historical analysis shows no economic advantage for an Arbitrary Asset Allocation. On the contrary, AAA is a highly ineffective and costly practice. It can therefore be concluded that from the economic perspective an arbitrary asset allocation is imprudent.

A Prudent Asset Allocation on the other hand is highly effective in circumstances where it is needed.

It is far more prudent to experience a temporary loss and wait for a recovery than to use a UST allocation to attempt to avoid a loss that cannot be avoided or materially reduced.

## Preservation & Growth Investments

Investments used for preservation and those used for growth have historically displayed characteristics that show their relative suitability. DALBAR's *Persistence Analysis* reports on the characteristics of five investments that are most widely used. The time frame of the analysis is from 1928 through 2021. These results inform the use of these and comparable investments for preservation and growth.

### Preservative Characteristics

The characteristics shown indicate the strengths of each investment to preserve assets. Preservative characteristics are examined over a short time frame (one year) since the purpose is to make withdrawals beginning immediately.

Investment	Guaranteed at Maturity	Maximum Decline in Any Year	Frequency of a One Year Loss	Median One Year Return 1928-2021
Treasury Bills	By US Government	No Declines	0.0%	3.0%
10 Year US Treasuries	By US Government	(11.1%)	18.3%	3.6%
Baa Corporate Bonds	No	(15.7%)	16.1%	6.5%
S&P 500	No	(43.8%)	26.9%	14.2%
NASDAQ	No	(40.5%)	26.5%	15.4%

#### Most Suitable for Preservation

- Treasury Bills are most suitable for preservation since there has never been a decline in value. This protection comes with median low returns of only 3%. The T Bill rate is currently below the median, close to zero percent.
- U.S. Treasury Series I Saving Bonds, commonly called I Bonds
- 10 Year US Treasuries provides the next best protection with a somewhat higher return but a substantial increase in risk.
- Other alternatives to consider, depending on prevailing interest rates, are guaranteed annuities and FDIC insured bank deposits.

#### Least Suitable for Preservation

- Equity investments (S&P 500 and NASDAQ) are unsuitable due to high probability of a loss in any one year.
- Many derivatives and other speculative investments are also unsuitable for asset preservation.

## Growth Characteristics

The measures shown here indicate the ability of investments to produce longer term returns. For this reason, every ten year return over the entire study period is used. Investments for the long haul (ten years or longer) can tolerate severe declines when there is a high probability of full recovery before the funds are actually needed by the investor.

Investment	Median Ten Year Return	Probability of Achieving Ten Year Return	Frequency of One Year Loss	Frequency of One Year Recovery	Frequency of Five Year Recovery
Treasury Bills	36.5%	51.8%	0.0%	N/A	N/A
10 Year US Treasuries	49.1%	36.1%	18.3%	88.2%	100%
Baa Corporate Bonds	97.8%	36.1%	16.1%	86.1%	100%
S&P 500	156.4%	24.1%	26.9%	68.0%	100%
NASDAQ	190.3%	25.6%	26.5%	76.9%	100%

### Most Suitable for Growth

- As evidenced by the S&P 500 and NASDAQ, equity investments are the clear choice for growth due to superior returns and recovery that has consistently occurred in one to five years.
- Corporate bonds are a weak second choice and are mentioned only because of a higher probability of achieving the historical returns.
- More speculative investments can be considered for situations where investors are prepared to suffer permanent losses. These include individual securities, non-diversified investing, leveraged investing, options, currencies, commodities, etc.

### Least Suitable for Growth

- The low ten year returns of Treasury Bills and 10 Year Treasury Bonds rule them out as growth investments.
- Blended investments such as balanced funds and target date funds
- High yield bond funds

## Integrating PAA

PAA is designed to integrate with generally accepted principles and practices. Changes are required however, to take advantage of key PAA features, such as:

- Top priority given to fully funding the Preservative component.
- Maximum protection of Preservative component.
- Ready access to funds in the Preservative component.
- Aggressive investments for Growth component.
- Delaying withdrawals from the Growth component until favorable conditions return.
- Regular reviews and transfers between Preservative and Growth components.

## Retirement Plans

PAA can overcome several concerns that exist with retirement plans. These include:

- Assets within the plan and distributions from the plan are included in the financial strategy even when they are held separately and potentially at different institutions
- Limits on contributions... after reaching the legal limits, additional savings are made outside of the plan
- Restrictions on withdrawals... Funds needed for expenditures, commitments and emergencies are held outside of the plan
- Adapting to changes
- Funding emergencies

### *DC Plans*

401(k), 403(b) and other similar plans provide tax deferral and employer contributions or in the case of Roth, elimination of taxes on income and gains. These benefits come with limits to accessibility and enormous cost of arbitrary asset allocation that is unsuited for most participants.

PAA does enable the benefits without the disadvantages. The assets in the DC plans are held as Growth assets. The losses due to arbitrary asset allocations are avoided by using no blended investment options that are available in the plan (Target Date Funds, Blended Funds, Risk Based Funds and managed accounts). Using the plan for Growth does not require assets to be removed or withdrawn but investment changes are often necessary.

When the participant reaches age 59½ and depending on the specific plan provisions funds may become accessible and qualify as Preservative. At this point, a portion of these assets can be converted to usable Preservative assets, depending on the need. As Preservative assets, withdrawal from the plan may be necessary to meet spending needs.

### *DB Plans*

Pension plans typically offer a choice of postretirement income or a lump sum payment. PAA treats the postretirement income as additions to the Preservative component. Lump sum payments are allocated to the Preservative component if needed with any balance going to the Growth component.

## Arbitrary versus Prudent Asset Allocation

### *IRAs*

While accumulation of IRA assets do not necessarily involve an employer, the use of these assets are similar in most ways to DC Plans.

### *Rollovers*

Rollovers are non-taxable transfer of assets among retirement plans or IRAs.

Rollovers affect PAA to the extent that the Rollover assets have restrictions relating to Roth on withdrawals. These restrictions need to be considered if a Roth IRA is being considered as a Preservative asset.

## Using Annuities

Annuities are investments that transform assets into an income stream. As such, annuities can supply a portion or all the cash required to meet an investor's future needs. In order to take advantage of annuities, it is necessary to treat the investment aspect of annuities as the Growth component and the income stream as the Preservative component for future cash. Each of three types of annuities (Variable, Fixed and Indexed) require separate considerations.

### *Variable Annuities*

- The Growth component of the Variable Annuity mirrors the returns of the portfolio on which it is based. The portfolio is selected by the investor in much the same way any Growth investment is selected, except that the initial investment is often guaranteed (Return of Premium).
- The growth continues until annuitization at which time the value is transformed into an income stream of cash that continues for a fixed period of time or for the life of the investor.
- The Preservative component is the income stream that is guaranteed by the annuity company.

Variable annuities are best suited to investors that seek the added protection of their initial investment in the Growth component with the ease of conversion to a Preservative income stream when cash is needed (usually for retirement). These investors pay a premium for these benefits.

### *Fixed Annuities*

- Fixed annuities have a Growth component that is established when the annuity is obtained. This is an interest rate that is applied until annuitization.
- The Preservative component is the income stream that is guaranteed by the annuity company.

Fixed annuities are best suited to investors who seek to avoid all exposure to market risk in exchange for the limitations on long term growth.

### *Indexed Annuities*

- Similar to variable annuities, the growth depends on market conditions, but unlike the variable counterparts, the Indexed annuity is partially guaranteed against losses in value.
- Like other annuities, Indexed annuities delivers an income stream of cash.

Indexed annuities are ideally suited for investors who are willing to pay for a guaranteed return but can also participate in market appreciation.

## 529 Plans

529 Plans are used as Growth assets until they are used for education funding. At that point they become Preservative assets. The conversion to Preservative assets begins five years before the actual use to limit the exposure to a down market.

## Reverse Mortgages

While real estate is a viable Growth asset, their use is outside the scope of PAA. On the other hand, the cash flow generated from a reverse mortgage are additions to the Preservative component. In this way, reverse mortgages lower the amount that needs to be transferred from the Growth component.

## Behavioral Benefits

PAA is designed to discourage investment behaviors that have historically caused investors to forfeit gains. These behaviors include:

- **Overly Aggressive Investing...** including taking concentration risks and making investment choices based on factors that have been shown to be unreliable indicators of future results. PAA requires a disciplined approach to investment selection and monitoring.
- **Panic Selling...** making withdrawals after a market decline, before the market is able to recover. This behavior is enabled when the investor loses confidence that the funding of short term needs is at risk
- **Risk Tolerance...** failing to protect needed assets simply because the investor is emotionally capable of suffering a loss. On the other hand, Risk Tolerance avoids taking long term risks that are needed to accumulate assets for future needs.
- **Adapting to Change...** circumstances change with the passage of time and this requires regular reassessments and adjustments. Annual reassessments are necessary to detect gradual changes such as aging, new responsibilities and personal preferences. Dramatic changes such as income loss, financial windfall, getting married, having children or changes in health call for immediate reassessment

## Investor Profile

PAA is beneficial to a large number of investors but there are conditions where it is not recommended. Most notably, PAA is not advantageous if:

- A long term down market is encountered. In this case no known alternative would be beneficial.
- Preservative component produces higher returns than the Growth.

The following profiles highlight how PAA may be applicable:

### *Starting Career*

PAA directs the investor to fund short term needs before making Growth investments.

### *Mid-Career*

PAA provide the optimum balance required for short term spending and long term needs.



## Arbitrary versus Prudent Asset Allocation

### *Pre-Retirement*

PAA begins the transition to retirement income five years before funds are actually needed.

### *Retired*

PAA warns when midcourse corrections are necessary to prevent over-spending or to enhance the quality of life.

### *Received Windfall*

A windfall can be the result of inheritance, sale of business or property, betting, gambling or lottery winning. PAA will direct the investor to reassess their lifestyle and then determine the funding required. After allocating funding to meet the adjusted need, the remainder is put in the Growth component.

### *Financial Hardship*

Financial hardship often requires a change in lifestyle but funding is required during the transition. PAA provides a five year buffer to transition to the new lifestyle.

### *Emergency*

It is impossible to accurately quantify the cost of an unexpected emergency. Since it is not practical to ignore the possibility, it necessary to make some provision. With PAA that provision is the forecasted five years of expenditures.

## Deployment

The goal of the Prudent Asset Allocation strategy is to optimize the use of financial assets to achieve two separate but critical goals:

- Use income and assets to fund current expenses that investor considers to be important, taking as little risk as possible with the income and assets designated for that purpose. These are the Preservative class.
- Maximize growth of the remaining assets over a longer period of time, never withdrawing while in the No-Sell Zone. Withdrawals are made when needed to replenish the Preservative class or at the investor's discretion. These are Growth class.

## Prudent Procedure

The procedure is intended to continuously deplete the Preservative assets at a rate that is slower than the long term growth of the Growth class. When market conditions are favorable, Growth assets are used to replenish the Preservative class. This process protects investors from shocks to the Preservative class while benefiting from the long term returns of the Growth class.

The No-Sell Zone is considered to be the time immediately following a decline but before a full recovery is achieved.

If there is a buildup of Preservative assets from income or unplanned events, or less likely from appreciation in the Preservative class, the excess is transferred to the Growth class during an annual reevaluation.

These steps make the best use of principles of Prudent Asset Allocation and provides the supporting documentation for the decisions that are made.

### *Step 1 -Collect Key Data*

- Identify and obtain all information required by Prudent Asset Allocation Worksheet<sup>7</sup>. This will include available information, estimates, forecasts and guesses. Note that a wild guess is far more useful than an omission when the information is unavailable or difficult to obtain.
- This initial information is modified as needed in Step 2 and in future years so it need only be approximate at this point.
- Enter the information into the Worksheet and examine the result.

### *Step 2 -Evaluate Worksheet Results*

- The feasibility of the results from the initial information provided is reviewed. There are three possible outcomes:
  1. No changes required
  2. Increase Assets in Preservative class
  3. Increase Assets in Growth class
- Test the feasibility by changing estimates and guesses and observe the results. Continue to test until a comfortable scenario is found.

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<sup>7</sup> See Sample Worksheet

## Arbitrary versus Prudent Asset Allocation

- Changes to controllable factors may require reducing spending to affordable levels or forgoing planned expenditures.
- The evaluation may also indicate that spending can be comfortably increased in the near future or as far out as five years.

### *Step 3 -Implement Preservative Strategy*

- The next decision is the deployment of the Preservative class of assets. These would be low yielding with minimal risk of a decline in value.
- Alternatives include:
  - Principal Guaranteed investments
  - Guaranteed Income investments
  - FDIC insured investments
  - United States Treasury Securities
  - Money Market funds
  - Other cash equivalent securities
- Any one or a blend of these investments are suitable for Preservative class.

### *Step 4 -Implement Growth Strategy*

- A prudent growth strategy utilizes investments with historical evidence of potential for significant growth and the ability to recover value within five years of a decline.
- Growth investments should be diversified across uncorrelated asset classes to limit exposure to concentration risk.
- The Growth strategy should take into consideration the possibility of overspending the Preservative assets (Factors such as the persistence of income, level of discretionary spending and potential obligations such as emergencies and health care).
- The investor has the discretion to make non-conforming growth investments without violating the Prudent Principles, if funds in excess of long term needs are used.

These steps are repeated annually and at any other time that there are material changes, market declines or cash shortages. Any necessary revisions are made at these times.

## What If Considerations

Several events can occur that change the Preservative class requirements after the initial determination. Each such event requires a reevaluation with possible need for adjustments.

### *What If... A substantial portion of my expected income is lost?*

Loss of income can occur at any time so investors should continue to set aside a portion of income received in the event that the income source is lost. This set aside is held in Preservative assets until there is sufficient excess to transfer into Growth.

If income loss occurs before this cushion can be accumulated, the investor must transfer assets from the Growth class. Such transfers should be delayed if in the No-Sell Zone at the time that the income loss occurs.

## Arbitrary versus Prudent Asset Allocation

### *What If... The expenditures in the current year exceed the Worksheet estimate?*

This will occur from time to time since no one has a crystal ball. The Prudent Asset Allocation process anticipates this and retains cash to survive for five years. When over-spending occurs, the investor can borrow from future years and replenish the funds from Growth assets when market conditions are favorable.

### *What If... An unexpected expenditure arises?*

This, of course depends on the magnitude of the expenditure. This situation is best handled by an immediate reevaluation.

### *What If... There is a substantial inheritance?*

New funds received are best treated as Preservative assets until such time as the investor decides the desired course of action:

- Add to Growth assets
- Change lifestyle
- Make major purchase(s)
- Pass on to heirs

### *What If... My family situation changes?*

Births, deaths, marriages, divorces all change the financial picture and require a reevaluation of the Prudent Asset Allocation.

### *What If... The value of my Growth assets declines significantly?*

Significant declines are to be expected roughly every 10 to 20 years. Fortunately, broad markets recover from declines within five years and usually in two or three. With such a short recovery time and the availability of the Preservative assets, the best course of action for the Prudent Asset Allocator is to wait out the decline until there is a full recovery.

**This does not apply to non-conforming Growth investments.**

### *What If... The market does not recover in five years?*

In the unlikely event that there is no recovery after five years, it may be necessary to withdraw necessary funds from Growth assets.

### *What If... The value of my Preservative assets declines significantly?*

Economic conditions can materially lower the value of even the least risky asset. Since this is unprecedented, the course of action will depend on an examination of other factors such as:

- The need for immediate cash
- The condition of the Growth assets
- The reason for the decline of the Preservative assets

### *What If... The market never recovers (in my lifetime)?*

Inform heirs of the Prudent Asset Allocation strategy and advise continuing it.

## Appendix A: Sample Worksheet

The following is an example of the use of PAA to determine whether an investor is over-protected and should transfer assets from a Preservative class into a Growth class or vice versa.

Prudent Asset Allocation Worksheet					
For: <b>Charlie Fontuli</b>					
For Year: <b>2022</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
Enter approximate or estimated amounts in thousands for the years they are most likely to take place					
<b>Beginning</b>					
Bank Deposits	\$25				
Government Bonds	\$100				
Other Protected Assets	\$10				
<b>Additions</b>					
Income	\$45	\$47	\$50	\$52	\$54
Expected Payments	\$80	\$80	\$80	\$80	\$80
Other Additions	\$0	\$55	\$0	\$0	\$0
<b>Usage</b>					
Living Expenses	\$97	\$101	\$105	\$107	\$109
Major Purchases	\$0	\$65	\$0	\$0	\$0
Taxes	\$17	\$17	\$17	\$17	\$17
Other Expenditures	\$0	\$0	\$0	\$0	\$0
<b>Recap</b>					
Beginning Balance	\$135				
Additions	\$125	\$182	\$130	\$132	\$134
Usage	\$114	\$183	\$122	\$124	\$126
<b>Actions</b>					
Transfer from Growth					
Addition to Growth	\$169				

Includes checking, saving and CDs  
 All US bond funds and other US bonds  
 Other forms of low risk assets  
 Take home pay, distributions or other  
 Annuity payments, inheritance, refunds, etc.  
 Any payments not included above  
 All routine expenses  
 Additional outlays planned  
 Taxes owed in excess of withholding  
 Any expenses not included above

## Appendix B: Investor Guides for Using PAA

The use of PAA is supported by the following briefs that are intended to aid investors to most effectively use PAA.

### **PAA -The Best Way to Make Your Retirement Funds Work for You**

For investors who are preparing for retirement and are concerned with using their retirement funds to maximize their retirement lifestyle.

### **PAA -Capturing Your Fair Share of Stock Markets**

For investors who seek to maximize returns and are willing to have a modest lifestyle to achieve these returns.

### **PAA -Always Having Cash When You Need It**

For investors whose lifestyle is at risk based on the funds available use this brief to find ways of lowering the lifestyle risk.

### **PAA -Bridging Those Market Valleys**

For investors whose major concern is a prolonged decline of investment markets.

### **PAA -The Target Date Replacement**

For investors who were automatically enrolled in a retirement plan and recognize that the default investment is incompatible with their personal situation.

### **PAA -Estimating Future Cash Needs**

For investors who are unsure about how much cash they will need in the next five years and need some assistance with forecasting this need.

### **PAA -Starting a New Savings Program**

For investors with little or no savings or investments and need help to determine what to do.

### **PAA -What Is an Imprest Fund?**

For investors with an accounting background and recognize the method used in PAA as employing the Imprest fund approach.

### **PAA -What to Do with that Windfall**

For investors who receive or expect to receive substantial sums and seek to use it wisely. Windfalls include inheritance, sale of property, sale of business, etc.

### **PAA -Selecting Preservative Assets**

There are several alternatives for Preservative assets and combinations of these alternatives. This brief is intended for investors with a predisposition for or against any alternative.

### **PAA -Selecting Growth Assets**

Potential growth assets number in the millions. This brief helps investors to limit choices to those that are most applicable.