

# Variable Annuities: From Controversial to Mainstream Using a Two-Bucket Strategy, Part 2

by Ty A. Bernicke, CFP®

## Executive Summary

- This is the second of a two-part paper challenging conventional wisdom that suggests investors allocate their portfolio with lower-cost investment products that diversify unwanted stock market risk by allocating monies to fixed accounts and bonds.
- Part 1 (August 2007) introduced and described the general philosophies of the conventional mutual fund approach versus a two-bucket variable annuity strategy, which shifts a portion of an investor's stock market risk for an extra cost to a variable annuity with lifetime withdrawal benefits. Part 1 also outlined the specific rules and definitions surrounding the research.
- Part 2 systematically back tests the alternative two-bucket strategy against the lower-cost traditional mutual fund strategy over every 30-year time horizon from 1926 through 2004. The results show that the two-bucket strategy with a variable annuity achieved an 18 percent higher average income and a 369 percent greater average inheritance with the assumptions tested.
- These findings might alleviate some of the negative stigma surrounding variable annuities based on previous controversial benefits that many financial advisors feel do not justify the extra costs.
- This research introduces an alternative strategy that investors and advisors can use to transfer stock market risk, potentially maximizing income and leaving a larger inheritance for one's beneficiaries.

Ty A. Bernicke, CFP®, provides comprehensive planning services for affluent investors at Bernicke & Associates Ltd. of Eau Claire, Wisconsin. He can be reached at [ty.bernicke@siionline.com](mailto:ty.bernicke@siionline.com).

Part 1 of this article, published in the [August 2007](#) issue of this journal, described a traditional investment strategy designed for producing retirement income within a hypothetical investor's risk tolerance. This strategy diversifies the investor's unwanted stock market risk to bonds and fixed investments. This technique was contrasted against a two-bucket strategy that diversifies unwanted stock market risk to an insurance company through a variable annuity with lifetime withdrawal benefits (LWB) for an extra cost. It is assumed that this transfer of risk would comfortably enable the investor to allocate a higher percentage of his or her portfolio to stocks. The following results illustrate whether the benefits gained exceed the higher costs involved with this technique.

Results of the income comparison between the traditional mutual fund strategy and the two-bucket strategy are listed in Table 2 (Table 1 appeared in Part 1). Table 2 contrasts the total income received over the course of each respective 30-year period using the two different strategies. This table also shows a breakdown of the total income received from each bucket for the two-bucket strategy. The highest income-producing strategy (mutual fund versus two-bucket) is highlighted in green for each respective 30-year time horizon.

<b>Table 2:</b>		<b>Total Income Received Comparison</b>		
From	Mutual Fund Strategy	Two-Bucket Strategy		
		LWB Bucket	Flex Bucket	Total
1926-1955	\$782,298	\$604,585	\$186,436	\$791,020
1927-1956	\$808,211	\$600,000	\$213,149	\$813,149
1928-1957	\$841,495	\$600,000	\$244,175	\$844,175
1929-1958	\$742,633	\$600,000	\$217,134	\$817,134
1930-1959	\$883,054	\$600,000	\$266,693	\$866,693
1931-1960	\$960,937	\$600,000	\$276,440	\$876,440

1930-1959	\$883,054	\$600,000	\$266,693	\$866,693
1931-1960	\$960,937	\$600,000	\$276,440	\$876,440
1932-1961	\$1,088,466	\$1,364,674	\$16,435	\$1,381,110
1933-1962	\$1,246,479	\$1,797,558	\$30,944	\$1,828,502
1934-1963	\$1,273,840	\$1,183,979	\$249,602	\$1,433,581
1935-1964	\$1,281,697	\$1,402,752	\$176,363	\$1,579,115
1936-1965	\$1,149,821	\$955,848	\$144,377	\$1,100,225
1937-1966	\$790,912	\$621,414	\$113,932	\$735,345
1938-1967	\$1,290,456	\$1,566,220	\$128,074	\$1,694,294
1939-1968	\$1,196,509	\$1,346,168	\$134,142	\$1,480,310
1940-1969	\$1,297,109	\$1,562,226	\$142,985	\$1,705,211
1941-1970	\$1,446,853	\$1,955,028	\$77,091	\$2,032,119
1942-1971	\$1,360,126	\$2,615,017	\$33,717	\$2,648,734
1943-1972	\$1,282,385	\$2,434,782	\$33,986	\$2,468,769
1944-1973	\$1,284,414	\$2,131,211	\$79,720	\$2,210,931
1945-1974	\$1,305,737	\$1,744,850	\$95,803	\$1,840,653
1946-1975	\$1,047,196	\$1,299,148	\$142,723	\$1,441,871
1947-1976	\$1,166,760	\$1,582,402	\$31,809	\$1,614,211
1948-1977	\$1,111,574	\$1,811,503	\$25,809	\$1,837,312
1949-1978	\$1,127,572	\$2,085,061	\$25,755	\$2,110,816
1950-1979	\$1,204,388	\$1,721,015	\$39,845	\$1,760,860
1951-1980	\$1,199,689	\$1,436,116	\$82,646	\$1,518,762
1952-1981	\$1,196,890	\$1,239,231	\$148,992	\$1,388,222
1953-1982	\$1,252,797	\$1,290,485	\$146,635	\$1,437,120
1954-1983	\$1,314,312	\$1,539,858	\$122,246	\$1,662,104
1955-1984	\$1,381,809	\$991,221	\$328,574	\$1,319,795
1956-1985	\$1,165,189	\$877,867	\$199,126	\$1,076,994
1957-1986	\$1,382,162	\$878,593	\$222,300	\$1,100,893
1958-1987	\$1,532,762	\$1,218,259	\$408,703	\$1,626,961
1959-1988	\$1,281,167	\$924,680	\$209,397	\$1,134,077
1960-1989	\$1,300,410	\$830,008	\$177,333	\$1,007,341
1961-1990	\$1,323,745	\$936,920	\$192,468	\$1,129,388
1962-1991	\$1,034,858	\$829,073	\$136,259	\$965,332
1963-1992	\$1,307,955	\$1,005,614	\$184,490	\$1,190,104
1964-1993	\$1,133,671	\$905,191	\$153,972	\$1,059,163
1965-1994	\$991,368	\$905,497	\$120,095	\$1,025,591
1966-1995	\$886,184	\$819,721	\$111,844	\$931,565
1967-1996	\$1,135,477	\$1,088,277	\$130,036	\$1,218,313
1968-1997	\$894,210	\$830,527	\$116,847	\$947,374
1969-1998	\$839,765	\$749,197	\$113,903	\$863,100
1970-1999	\$1,432,306	\$1,120,351	\$132,172	\$1,252,523
1971-2000	\$1,846,553	\$1,322,934	\$129,620	\$1,452,554
1972-2001	\$1,435,130	\$1,272,395	\$116,123	\$1,388,518
1973-2002	\$1,240,832	\$1,166,872	\$103,735	\$1,270,607
1974-2003	\$1,983,917	\$1,887,160	\$129,854	\$2,017,014
1975-2004	\$1,835,511	\$3,259,782	\$67,985	\$3,327,767

Table 2 illustrates that of the fifty 30-year time horizons analyzed, income was greater with the traditional mutual fund strategy 16 times. The two-bucket strategy resulted in greater income for the remaining 34 time horizons analyzed. The greater income resulted because of the LWB bucket's step-ups—at least one step-up occurred 90 percent of the time during the fifty 30-year time horizons.

Table 2 also illustrates the large income fluctuations that can occur during various 30-year time horizons from the different buckets with the two-bucket strategy. These large discrepancies can be explained by extreme market conditions. For example, \$276,440 was withdrawn for income from the flex bucket from 1931 to 1960 versus \$16,435 during the 1932–1961 time horizon. This significant decrease from one 30-year period to the next can primarily be attributed to the large stock market drop that occurred in 1931. This market drop hindered the LWB bucket's ability to step up the investor's guaranteed income stream during the entire 30-year time horizon. The lack of step-ups with the LWB bucket caused all inflationary pressures to be absorbed by the flex bucket from 1931 to 1960. In contrast, the 1932–1961 time horizon avoided the large stock market drop of 1931, enabling the LWB bucket to grow significantly in future years as the market rebounded. This ultimately provided for step-ups on the LWB bucket that were large enough to accommodate for almost all remaining income needs after the first fifth-year anniversary step-up, which significantly reduced the necessary withdrawals from the flex bucket during the 1932–1961 time horizon.

## Unusual Situations

Table 2 also illustrates a few unusual situations where the amount of income taken from the flex bucket was extremely low. This is most noticeable in the 30-year periods starting in 1932, 1948, and 1949. This occurred for two primary reasons.

Each respective time horizon had very low inflation or deflation at the onset, significantly reducing the withdrawal needs required from the flex bucket. In fact, during the 1932–1961 period, deflation actually reduced the amount of income required from the flex bucket to less than the initial demand (\$5,000) placed on this bucket.

Each of these time horizons also exhibited strong stock market returns at the onset. This provided for enhanced income from the LWB bucket due to the five-year step-up described when comparing the two strategies. These step-ups provided an income stream exceeding the investor's inflation-adjusted spending needs for most years, thereby substantially reducing distributions from the flex bucket after the first step-up occurred on the LWB bucket at the beginning of the fifth year.

Figure 4 (Figures 1–3 appeared in Part 1) contrasts the average income received over the fifty 30-year periods using each method.

**Figure 4: Average Income Received Over Fifty 30-Year Periods**

Figure 4 shows that the average income over the fifty 30-year periods was \$218,483 greater using the two-bucket strategy. This represents approximately 18 percent greater income on average when compared with the traditional mutual fund strategy.

Although income was greater a significant percentage of the time with the two-bucket strategy, there was one significant limitation: the flex bucket portion of the two-bucket strategy ran out of money in twenty-six of the fifty 30-year time horizons due to the additional inflationary pressure of the entire income stream being placed exclusively on this bucket. This would have limited the investor's income flexibility and inflation protection during those 30-year time horizons.

The traditional mutual fund strategy also had drawbacks. It ran out of funds in twenty-four of the fifty 30-year time horizons analyzed. But unlike the two-bucket strategy, this would have completely eliminated the investor's income stream by the end of those 30-year time horizons. During those same fifty 30-year time horizons the LWB bucket portion of the two-bucket strategy produced a lifetime income stream 100 percent of the time.

It should be noted that even though the two-bucket strategy provides a steady income stream in worst-case scenarios, this could still spell potential disaster for the hypothetical investor as the lifetime withdrawal benefits of \$20,000 could substantially lag behind the investor's inflation-adjusted income needs throughout retirement. Despite this drawback, the two-bucket strategy still produced significantly more income on average due in part to the five-year step-up feature, which frequently enabled the hypothetical investor to take a higher annual income stream from this account than was necessary to maintain the inflationary/deflationary adjusted-income needs.

## Inheritance Available for Beneficiaries

Income is not the only factor analyzed in this study. Many investors also seek to provide an inheritance for their beneficiaries. The amount of inheritance that may transfer to the investor's beneficiaries can be measured through total wealth accumulation. Table 3 measures total wealth accumulation by illustrating the total value remaining in the investor's account at the end of each respective 30-year period net of income withdrawals. This balance will presumably transfer to the investor's heirs. Table 3 also shows if a strategy or bucket runs out of

money during the 30-year time horizons analyzed, and the year this depletion occurred. Highlighted in green is the highest total wealth accumulation strategy for each respective 30-year time horizon.

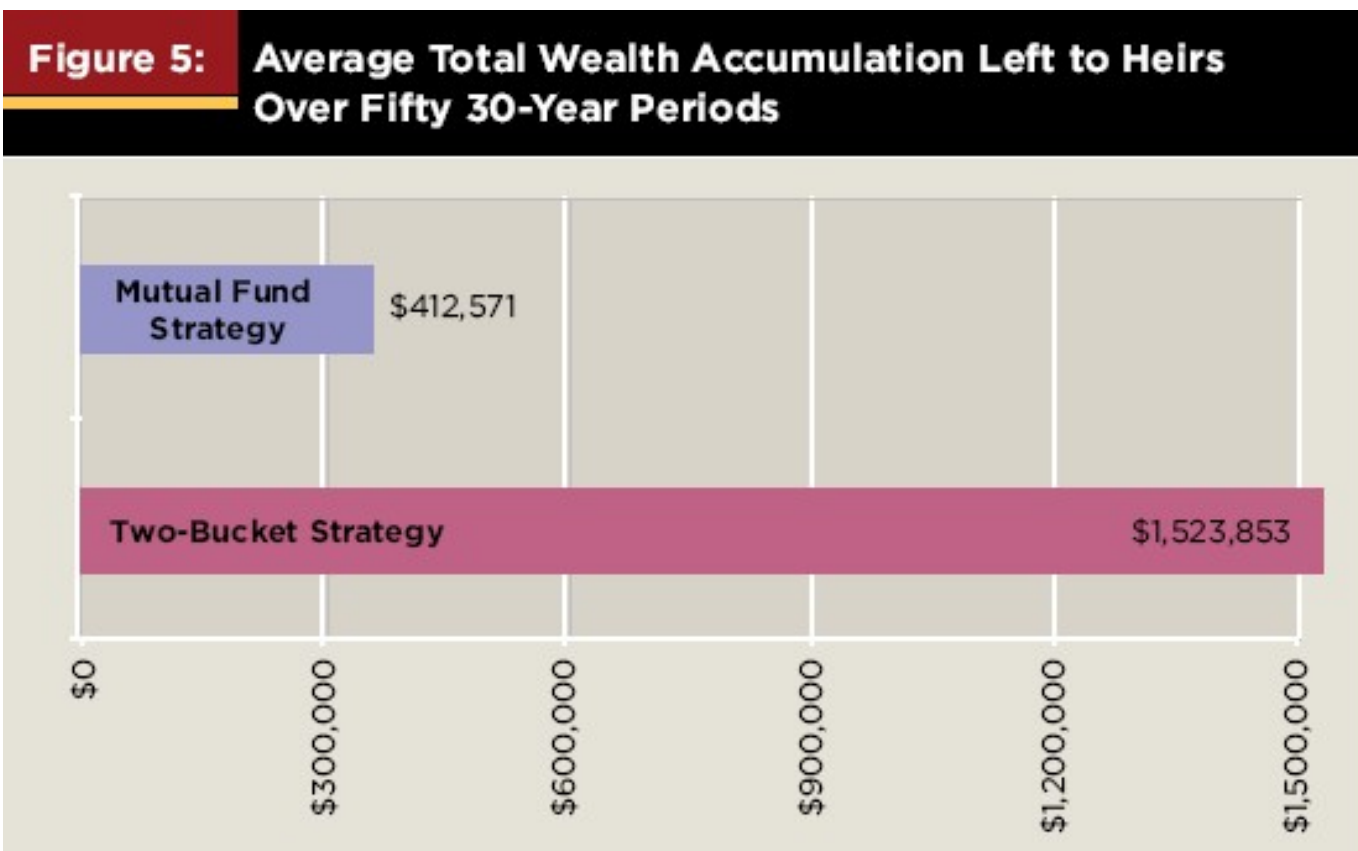
**Table 3: Total Wealth Accumulation**

From	Mutual Fund Strategy	Two-Bucket Strategy		
		LWB Bucket	Flex Bucket	Total
1926-1955	\$861,782	\$41,232	\$360,654	\$401,886
1927-1956	\$730,863	'55 \$0	\$273,541	\$273,541
1928-1957	\$255,999	'43 \$0	\$83,306	\$83,306
1929-1958	'55 \$0	'38 \$0	'56 \$0	\$0
1930-1959	\$162,867	'42 \$0	'59 \$0	\$0
1931-1960	\$537,609	\$153,122	'57 \$0	\$153,122
1932-1961	\$1,741,206	\$681,085	\$1,110,396	\$1,791,481
1933-1962	\$1,437,023	\$2,877,622	\$966,896	\$3,844,517
1934-1963	\$375,571	\$1,737,693	\$352	\$1,738,045
1935-1964	\$451,639	\$2,016,250	\$237,631	\$2,253,881
1936-1965	'63 \$0	\$1,290,441	'49 \$0	\$1,290,441
1937-1966	'57 \$0	\$431,161	'47 \$0	\$431,161
1938-1967	\$422,522	\$2,734,097	\$227,538	\$2,961,635
1939-1968	'66 \$0	\$2,172,818	'49 \$0	\$2,172,818
1940-1969	'68 \$0	\$1,835,136	'51 \$0	\$1,835,136
1941-1970	\$163,482	\$1,853,604	\$424,361	\$2,277,965
1942-1971	\$1,005,928	\$2,800,187	\$800,889	\$3,601,076
1943-1972	\$1,046,182	\$2,937,727	\$809,820	\$3,747,547
1944-1973	\$493,073	\$1,621,896	\$397,033	\$2,018,929
1945-1974	\$195,378	\$918,958	\$218,358	\$1,137,317
1946-1975	'71 \$0	\$765,064	\$27,333	\$792,396
1947-1976	\$476,225	\$1,148,439	\$574,154	\$1,722,592
1948-1977	\$822,783	\$1,103,355	\$589,835	\$1,693,190
1949-1978	\$983,660	\$1,023,830	\$596,624	\$1,620,454
1950-1979	\$736,089	\$1,211,449	\$537,088	\$1,748,537
1951-1980	\$558,758	\$1,091,228	\$493,050	\$1,584,278
1952-1981	\$544,124	\$946,609	\$370,099	\$1,316,708
1953-1982	\$528,553	\$891,102	\$417,210	\$1,308,311
1954-1983	\$774,221	\$892,841	\$553,670	\$1,446,511
1955-1984	'84 \$0	\$877,220	'83 \$0	\$877,220
1956-1985	'82 \$0	\$848,105	'78 \$0	\$848,105
1957-1986	'85 \$0	\$1,128,176	'79 \$0	\$1,128,176
1958-1987	\$474,406	\$1,210,067	\$61,615	\$1,271,682
1959-1988	'85 \$0	\$708,577	'81 \$0	\$708,577
1960-1989	'86 \$0	\$1,251,521	'78 \$0	\$1,251,521
1961-1990	'87 \$0	\$1,023,918	'80 \$0	\$1,023,918
1962-1991	'84 \$0	\$1,153,089	'75 \$0	\$1,153,089
1963-1992	'87 \$0	\$1,147,234	'80 \$0	\$1,147,234
1964-1993	'86 \$0	\$818,725	'79 \$0	\$818,725
1965-1994	'85 \$0	\$1,104,274	'75 \$0	\$1,104,274

1965-1994	'85	\$0	\$1,104,274	'75	\$0	\$1,104,274
1966-1995	'84	\$0	\$1,238,857	'75	\$0	\$1,238,857
1967-1996	'88	\$0	\$1,688,939	'77	\$0	\$1,688,939
1968-1997	'86	\$0	\$1,388,382	'76	\$0	\$1,388,382
1969-1998	'86	\$0	\$1,200,778	'77	\$0	\$1,200,778
1970-1999	'93	\$0	\$2,494,013	'79	\$0	\$2,494,013
1971-2000	'99	\$0	\$2,407,320	'79	\$0	\$2,407,320
1972-2001	'95	\$0	\$1,753,616	'79	\$0	\$1,753,616
1973-2002	'94	\$0	\$1,043,826	'79	\$0	\$1,043,826
1974-2003		\$965,290	\$1,902,267	'81	\$0	\$1,902,267
1975-2004		\$3,883,322	\$2,997,000		\$1,498,335	\$4,495,334

The traditional mutual fund strategy had a balance remaining in 52 percent of the fifty 30-year time horizons as shown in Table 3. The two-bucket strategy had a remaining balance 96 percent of the time, but because of the LWB benefit, it was still able to provide income to the investor 100 percent of the time. For example, from 1929 to 1958, the two-bucket strategy ended with a \$0 balance. In this scenario the lifetime withdrawal benefits would have kicked in, providing the investor with a minimum of \$20,000 in income (5 percent of \$400,000) for the rest of the investor's life.

Figure 5 shows the average balance left to one's heirs at the end of the fifty 30-year time periods analyzed.



The average balance left to the investor's heirs net of the income distributions would have been \$1,111,282 more with the two-bucket strategy, as shown in Figure 5. This represents an approximate 369 percent greater balance left to the investor's heirs on average. Although it was assumed this money was left to the investor's heirs, this would not be the only option for the two-bucket-strategy investor. The hypothetical investor could have potentially used all or a portion of this money for additional income above and beyond the inflation-adjusted income needs. In reality, the investor would have to be careful when taking these withdrawals, as excess withdrawals could

potentially have negative ramifications on the lifetime withdrawal benefits provided. Table 4 illustrates the extremes of the two techniques.

**Table 4: Income and Wealth Accumulation Summary**

	Mutual Fund Strategy	Two-Bucket Strategy
Most income received in one 30-year period	\$1,983,917	\$3,327,767
Least income received in one 30-year period	\$742,633	\$735,345
Highest balance remaining at the end of a 30-year period	\$3,883,322	\$4,495,334
Lowest balance remaining at the end of a 30-year period	\$0	\$0

The most income received using the traditional mutual fund strategy was \$1,983,917, compared with \$3,327,767 for the two-bucket strategy. The least income received was \$742,633 using the traditional mutual fund strategy versus the two-bucket strategy's \$735,345.

The traditional mutual fund strategy's highest and lowest balance remaining was \$3,883,322 and \$0 respectively, compared with the two-bucket strategy's \$4,495,334 and \$0.

Despite the higher average total wealth accumulation and greater average income with the two-bucket strategy, there are drawbacks. One is the potentially large compromises in purchasing power because of inflation during certain 30-year time horizons. Many investors might view this as an unacceptable compromise. To address this potential investor concern, success must first be defined.

## Success Defined Many Ways

By analyzing the results of the two strategies, success could be defined in many ways. This analysis defines success as providing inflation-adjusted income throughout a 30-year time horizon with the specific rules being applied. By using this definition of success, the mutual fund strategy had a success rate of 52 percent. The two-bucket strategy had a similar success rate at 48 percent. The 48 percent success rate was derived from the flex bucket running out of money in 26 of the 50 trials, rendering the two-bucket strategy unable to maintain the investor's purchasing power during those time horizons despite the fact that income was still being collected.

Although the mutual fund strategy had a slight edge when comparing the two strategies with the definition of success as provided, the two-bucket investor would have another option. This investor could take withdrawals from the variable annuity in excess of the 5 percent guaranteed LWB amount to accommodate for inflation during the time horizons when the flex bucket runs out of money. This is called "blowing up the contract" because it could potentially jeopardize the income guarantees provided by the variable annuity company. Although this technique would likely be controversial to many investors, it is one of the few ways to make a direct comparison with the rules established in this analysis. It is also yet another alternative an investor may find beneficial when determining which strategy may best be used to meet his or her unique income needs.

To see how this approach would affect an investor choosing this option, the program was rerun assuming the investor blew up his or her contract during the time horizons when the flex bucket ran out of money. To make a direct comparison to the mutual fund strategy, only inflation-adjusted income withdrawals were made, even when the variable annuity's guaranteed income stream from step-ups exceeded the investor's inflation-adjusted needs. Table 5 illustrates total wealth accumulation when blowing up the contract and specifies the year each strategy runs out of money. An income graph was not included because during the successful time horizons, it would have been identical to the mutual fund strategy described earlier. Highlighted in green is the highest total wealth accumulation strategy for each respective 30-year time horizon.

**Table 5: Ending Account Balance Comparison After 'Blowing Up' Contract**

From	Mutual Fund Strategy	Two-Bucket Strategy		
		LWB Bucket	Flex Bucket	Total
1926-1955	\$861,782	\$128,290	\$360,654	\$488,945
1927-1956	\$730,863	\$22,552	\$273,541	\$296,094
1928-1957	\$255,999	'43 \$0	\$83,306	\$83,306
1929-1958	'55 \$0	'39 \$0	'56 \$0	\$0
1930-1959	\$162,867	'42 \$0	'59 \$0	\$0
1931-1960	\$537,609	\$62,339	'57 \$0	\$62,339
1932-1961	\$1,741,206	\$3,576,390	\$1,115,686	\$4,692,077
1933-1962	\$1,437,023	\$4,199,244	\$966,896	\$5,166,140
1934-1963	\$375,571	\$1,930,552	\$352	\$1,930,904
1935-1964	\$451,639	\$2,461,639	\$237,631	\$2,699,270
1936-1965	'63 \$0	\$618,114	'49 \$0	\$618,114
1937-1966	'57 \$0	'54 \$0	'47 \$0	\$0
1938-1967	\$422,522	\$3,447,138	\$227,538	\$3,674,676
1939-1968	'66 \$0	\$1,830,759	'50 \$0	\$1,830,759
1940-1969	'68 \$0	\$2,107,899	'52 \$0	\$2,107,899
1941-1970	\$163,482	\$2,783,336	\$434,051	\$3,217,387
1942-1971	\$1,005,928	\$5,541,929	\$800,889	\$6,342,818
1943-1972	\$1,046,182	\$5,262,535	\$809,820	\$6,072,355
1944-1973	\$493,073	\$2,884,994	\$397,033	\$3,282,028
1945-1974	\$195,378	\$1,513,373	\$218,358	\$1,731,732
1946-1975	'71 \$0	\$911,778	\$34,312	\$946,090
1947-1976	\$476,225	\$1,981,777	\$574,154	\$2,555,931
1948-1977	\$822,783	\$2,284,919	\$589,835	\$2,874,753
1949-1978	\$983,660	\$2,749,221	\$596,624	\$3,345,845
1950-1979	\$736,089	\$2,537,231	\$545,818	\$3,083,049
1951-1980	\$558,758	\$2,013,867	\$547,175	\$2,561,042
1952-1981	\$544,124	\$1,420,104	\$466,572	\$1,886,676
1953-1982	\$528,553	\$1,300,840	\$476,083	\$1,776,923
1954-1983	\$774,221	\$2,028,846	\$644,105	\$2,672,951
1955-1984	'84 \$0	\$869,837	'84 \$0	\$869,837
1956-1985	'82 \$0	\$234,039	'79 \$0	\$234,039
1957-1986	'85 \$0	\$434,617	'80 \$0	\$434,617
1958-1987	\$474,406	\$1,562,659	\$178,968	\$1,741,627
1959-1988	'85 \$0	'88 \$0	'82 \$0	\$0
1960-1989	'86 \$0	'87 \$0	'79 \$0	\$0
1961-1990	'87 \$0	\$47,421	'81 \$0	\$47,421
1962-1991	'84 \$0	'84 \$0	'76 \$0	\$0
1963-1992	'87 \$0	'91 \$0	'80 \$0	\$0
1964-1993	'86 \$0	'86 \$0	'79 \$0	\$0
1965-1994	'85 \$0	'84 \$0	'75 \$0	\$0
1966-1995	'84 \$0	'82 \$0	'75 \$0	\$0

1966-1995	'84	\$0	'82	\$0	'75	\$0	\$0
1967-1996	'88	\$0	'88	\$0	'77	\$0	\$0
1968-1997	'86	\$0	'83	\$0	'76	\$0	\$0
1969-1998	'86	\$0	'83	\$0	'78	\$0	\$0
1970-1999	'93	\$0	'90	\$0	'80	\$0	\$0
1971-2000	'99	\$0	'96	\$0	'79	\$0	\$0
1972-2001	'95	\$0	'93	\$0	'79	\$0	\$0
1973-2002	'94	\$0	'90	\$0	'79	\$0	\$0
1974-2003	\$965,290		\$1,027,612		'81	\$0	\$1,027,612
1975-2004	\$3,883,322		\$5,313,355		\$1,498,978		\$6,812,333

After implementing these modifications, Table 5 shows the success rate of the two-bucket strategy increasing to 66 percent. By blowing up the contract, the investor would have increased his or her success rate 27 percent higher than the traditional mutual fund strategy. After applying the blow-up rule, the discrepancy in average total wealth accumulation actually increased from \$1,523,853 to \$1,543,352, representing approximately 374 percent greater wealth accumulation than the mutual fund strategy. This can be attributed to the investor only withdrawing what was needed to maintain their purchasing power rather than withdrawing the full amount of the lifetime withdrawal benefit when it exceeded their inflation-adjusted spending needs, as illustrated in the first analysis. This change represents one of many potential modifications that could be made to accommodate an investor's unique income needs.

## Two-Bucket Strategy: Infinite Possibilities

The two-bucket strategy was designed to illustrate a new technique that investors can use to help reach retirement goals. This technique may be effective for investors willing to be flexible with their inflation-adjusted spending needs during times of extreme market conditions. The investor described in this study is not the only type of investor who could benefit from the two-bucket strategy.

The first analysis and the blow-up option illustrated two of the many ways that this technique can be used. Other modifications could be used to accomplish a variety of different investment goals. These goals might include increasing an investor's income success rate or maximizing an investor's total wealth accumulation for their beneficiaries. They could achieve these various goals through modifications to the two-bucket strategy by capping the annual inflation rate, lowering the sustainable withdrawal rate, changing the percentage allocated to the various buckets, or altering the investment allocations.

One example of how a small change to the two-bucket strategy makes a noticeable difference can be seen by implementing a 4 percent cap on inflation in any one year. For example, according to Ibbotson and Associates, in 1950 inflation was 5.79 percent. During this year, it was assumed that the investor would step up his or her income stream by 4 percent, not the full 5.79 percent. This was done for each year when inflation was greater than 4 percent. This small rule change increases the 30-year income success rate for the two-bucket strategy in Table 4 from 66 percent to 92 percent.

## Limitations

When contrasting the two-bucket strategy against the mutual fund strategy, one stand-out feature is the higher average wealth accumulation with the two-bucket strategy. For the purpose of this research it was assumed that this money was accumulated and not used for additional income, in which case it would pass to the beneficiaries. In reality, additional rules could be applied to the income strategy to allow the investor to potentially spend this extra wealth accumulation safely during their retirement years without compromising income security.

This research was conducted as a potential investment income strategy for pre-retirees and retirees, not younger individuals. For example, it would be unlikely that younger investors with a significant portion of their portfolio in equities would benefit from the extra costs of a variable annuity during the accumulation phase of their life.

The research is also predicated on the fact that investors would be comfortable enough to allocate a higher percentage of their portfolio to stocks if guaranteed an income stream for life. Although this seems likely, it still is an assumption. Perhaps this assumption could become fact by addressing the two-bucket strategy alternative with investors by modifying traditional risk tolerance questionnaires. The questionnaires could potentially be modified by including questions that address historical comparisons of the two strategies. This could help gauge which strategy is more appropriate for each investor's unique risk tolerance.

Another important item to consider is tax treatment. This study assumes that results would have consistent conclusions if the impact of taxes for IRAs, Roth IRAs, and other tax-qualified retirement plans were included in the results. On assets invested outside of these accounts the results could potentially be materially different. Nonqualified variable annuities provide tax deferral that could be a tax benefit. Investors also have the ability to rebalance sub-accounts within variable annuities without creating taxation. Disadvantages of variable annuities appear upon withdrawals. Appreciation is usually withdrawn first and is taxed at ordinary income tax rates, which are less favorable when compared with the current long-term capital gains or qualified dividend tax rates common with nonqualified mutual funds. Additionally, the tax liability due on unspent appreciation is transferred to the next generation upon inheritance with nonqualified variable annuities.

Mutual funds owned outside of IRAs, Roth IRAs, and other tax-qualified investments also have advantages and disadvantages. One disadvantage with nonqualified mutual funds is that they can only defer tax on a portion of their appreciation and none of the tax on the dividends. Additionally, nonqualified mutual funds can trigger taxation when they are rebalanced. Advantages include favorable current tax rates on long-term appreciation and qualified dividends when compared with ordinary income tax rates. Nonqualified mutual fund beneficiaries also frequently benefit from a step-up in cost basis, which can significantly reduce the tax burden on these inherited investments.

When comparing nonqualified mutual funds to nonqualified variable annuities, a number of additional assumptions would need to be made in order to more accurately reflect net spendable income, including the investor's current and future income tax rates, alternative minimum tax rates, capital gains tax rates, and dividend tax rates. Each investor's situation is unique and should be treated as such. It is likely that either variable annuities or mutual funds could have outperformed the other under various conditions, depending on the tax assumptions used.

In real life, most variable annuities allow the owner to withdraw more than the guaranteed income amount without annuitization. But excessive distributions in any year have the potential to incur surrender charges and decrease the guarantees over the life of the variable annuity. This is the reason for having a flex bucket for the two-bucket strategy. Unlike the study, the flex bucket could be used for a multitude of purposes such as increased spending in the investor's early, more active retirement years; unforeseen expenses; required minimum distributions; and, as used in the study, inflation protection. The percentage of retirement funds allocated to the flex bucket also could be altered to potentially achieve higher retirement income success rates or total wealth accumulation depending upon each investor's unique financial goals.

For this study a number of assumptions were required regarding portfolio allocations, indices used, expense ratios, and risk tolerance. Defenders of either approach could make an educated argument as to why the various assumptions are not fair. The author believes that small to moderate changes of these assumptions would not affect the underlying premise of the research. The underlying premise is designed to encourage sophisticated planners to take an open-minded alternative view when thinking about how one transfers or avoids stock market risk.

## Further Implications

In 2004, Dalbar completed a study on real investor returns from January 1984 through December 2003. The study found the average equity investor made 3.51 percent annually, compared with the S&P 500 Index's 12.98 percent annually. The conclusion for these "paltry" returns: investors are motivated by fear and greed, which causes them to pour money into equity funds on market upswings and quickly sell during downturns.<sup>1</sup> It seems reasonable to assume many investors would be more willing to ride out severe market downturns if guaranteed an income stream for life, which could equate to higher equity returns net of any extra fees. Many investors are already using other products that guarantee a lifetime income stream.

Immediate annuities are one product that guarantees a lifetime income stream. These products seem to be growing in popularity as life expectancies increase and traditional pension plans continue to disappear. Despite the popularity of immediate annuities, these products frequently offer little, if any, upside potential; are at risk under high inflationary periods; and frequently leave an investor's nonspousal beneficiaries with nothing. A quick comparison of a current immediate annuity payout for a baby-boom-age investor would lag in income and inheritance left when compared with the two-bucket strategy in nearly every 30-year period analyzed in this study. Further analysis would have to be done on this topic to more accurately compare the benefits versus the disadvantages of these products.

## Conclusions

To increase the perceived value of variable annuities, education is critical. A surprising 68 percent of financial advisors gave themselves a grade of C, D, or F in terms of explaining annuities to consumers.<sup>2</sup> Perhaps a portion of the negative stigma surrounding variable annuities is the lack of justification and knowledge regarding the product's extra costs. Previous research has failed to effectively explain the benefits to most mainstream financial media, consumers, and many financial advisors. The perception has been that the extra costs associated with variable annuities are in absence of value. This research shows a much different story than what conventional wisdom suggests.

Conventional wisdom suggests that to satisfy investors' threshold for risk, they should allocate more of their investments into bonds and fixed accounts with a traditional lower-cost mutual fund portfolio. This analysis introduces a different strategy, which shifts stock market risk to a variable annuity company for an extra cost via lifetime withdrawal benefits. This shift may comfortably allow investors to contribute a higher percentage of their portfolio to stock sub-accounts within a variable annuity that provides lifetime withdrawal benefits. Thus, while the additional fees imposed by variable annuities have fostered a negative perception of this product in the minds of many advisors and investors alike, these results challenge conventional thinking and suggest these increased benefits outweigh the extra fees for some investors.

## Endnotes

1. Dalbar press release, "Dalbar Study Shows Market Times Lose Their Money," April 1, 2004.
2. Lisa Shidler. "Advisers Humble About VA Skills," *Investment News*, May 30, 2006.

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