

# Withdrawal Strategies

## A Cash Flow Solution

HAROLD EVENSKY

Planning income for life involves a matrix of issues, many of which are unrelated to finance and investment strategies. Invariably, the crux of the problem hinges on how to get adequate cash flow out of an investment portfolio.<sup>1</sup> At a time when a significant portion of the population is rapidly aging and our clients are facing ever-increasing risks to their long-term financial well-being, this problem is becoming far more difficult to solve. This chapter introduces the Evensky & Katz Cash Flow Reserve Strategy (E&K-S), first implemented by our firm more than a decade ago. The years have proved it to be an extraordinarily effective strategy.

To make the case for the E&K-S and to provide a framework for evaluating alternatives, I'll first address issues that need to be considered in the development and selection of an effective sustainable cash flow strategy. I'll also discuss some of the market myths that hinder effective cash flow planning.

### Cash Flow Strategy: Clearing the Hurdles

Any strategy for generating cash flow must take into consideration the primary risk factors that can hobble an otherwise thoughtfully crafted solution. Once the risk factors are enunciated, practitioners have a set of criteria against which they may test proposed product and strategy solutions. The factors I recommend for consideration include several key risks and the client's unique needs.

### ***Longevity Risk***

Our clients' biggest economic fear should be living too long. Many years ago, a client visited me to complain about the poor return he was getting as he rolled over his one-year certificates of deposit. Because rates had dropped so significantly, his renewal yield was less than half the return he had received in the prior year. Rather naively, I began discussing a balanced total return portfolio. I had barely spoken the word "stock" before he threw up his hands and said, "No stock! That's too risky." I then suggested a bond portfolio alternative, but he terminated that discussion too. It seems that bonds were way too long a commitment for him. Finally, in frustration, I said, "I give up; why not just roll your CDs over from one-year to five-year maturities?" He looked at me incredulously and said, "Harold, five years? Long term for me is a green banana!" After a few seconds of reflection, I responded, "Go ahead; make my day—die.<sup>2</sup> If you die, I'll be very upset 'cause you're a good friend, but if there's money in the bank, at least I'll have done my job. What keeps me awake at night and ought to keep you awake is the possibility that you'll never die—at least not for a long while yet."

### ***Purchasing Power Risk (Inflation)***

Occasionally, media articles may continue to extol the power of the Federal Reserve, but inflation is not "dead and gone forever." If not today then tomorrow, we're sure to be reading headlines announcing, "Inflation once again rears its ugly head." Any cash flow strategy that ignores inflation ignores reality.

### ***Volatility***

Although most investors have little or no understanding of the concept of volatility drain on portfolio returns, they're even more clueless about the impact of volatility drain on cash flow. Unfortunately, we do not live in an average world; hence, volatility drain is a critical factor to be addressed in any successful cash flow strategy.

### ***Financial Flexibility***

Planners plan; after all, that's what our clients pay us to do. Unfortunately, we can only plan, not guarantee. Clients' needs and markets change; hence, a successful strategy must be flexible.

### ***Behavioral Risk***

As behavioral finance research has so eloquently demonstrated, our clients are not rational investors. They are human and, as such, subject to numerous behavioral heuristics<sup>3</sup> and dubious mental math.<sup>4</sup> Recognizing

and managing these behavioral issues is a necessity for a strategy to be effective.

### **Client Needs**

Our clients have a variety of needs—financial and behavioral. An effective strategy must meet those needs.

**Financial.** There are three aspects to consider:

❑ **Real cash flow.** As we've noted, the erosion of purchasing power is a major risk. Unfortunately, the risk is so insidious that many investors either forget it exists or pay only lip service to its impact.

❑ **Income (as in dividends and interest) versus cash flow (as from total-return portfolios).** The confusion of these two concepts—a problem exacerbated by the marketing of “income” portfolios—is the root of many strategy failures.

❑ **Tax and expense efficiency.** Clients' cash flow needs translate into a need for net-net real cash flow—net of expenses and net of taxes. In a low-return environment (as expected in the years ahead by many professionals), the impact of expenses and taxes mushrooms.<sup>5</sup> Thus, the management of expenses and taxes is another significant attribute of an effective strategy.

**Behavioral.** Good theory and good practice are not necessarily equivalents. This is often evident when the good theory conflicts with what our clients consider good sense. In planning for our clients' lifetime income needs, a major behavioral stumbling block is what my partner, Deena Katz, refers to as the “paycheck syndrome.” Until retirement, investors purchase their groceries, meals, mortgages, and vacations out of the proceeds from their paycheck. The excess (if any) is set aside for savings. As savings grow, it becomes corpus, or the “nest egg.” One spends a paycheck, never corpus. This is a classic example of a mental math concept that behavioral economists refer to as “separate pockets.” Although it may be intellectually obvious that spending 5 percent of a portfolio's assets derived from dividends and interest is economically equivalent to spending 5 percent of a fully reinvested, total-return portfolio, for most investors it will not feel the same. Dividends and interest feel like a paycheck. Selling assets to generate cash flow feels like invasion of corpus.

An effective cash flow strategy must incorporate the following primary elements of the paycheck syndrome:

❑ Paychecks are consistent; cash flow strategies need to provide consistent cash flows. Any strategy that results in significant variations in annual cash flow subjects the recipient to an unpleasant roller-coaster ride in their standard of living.

- ❑ Paychecks are independent of the market; cash flow strategies should be designed to insulate the client's cash flow from market volatility.
- ❑ The source of paychecks is visible and considered reliable; the source of cash flow should be visible and reliable.
- ❑ Clients understand paychecks; they need to be able to understand their cash flow strategy.
- ❑ An effective strategy should reframe the structure of the cash flow to actively incorporate a client's tendency to think in terms of separate pockets.

## Myths and Nonsense

"I'm retired," the client insists, "I need an income portfolio." The myth of the income portfolio is among the most damaging myths foisted on the public. An income portfolio is designed to provide an investor with an income stream generated by interest and/or dividend payments. The flaws associated with this strategy are numerous—and fatal.

### *Portfolio Design*

By constraining the portfolio design to generate cash flow solely from dividends and interest, an arbitrary limit is set on the allocation to equities. Consider a portfolio allocated between bonds and stocks with the bond investment in the Putnam Income Fund and the stock investment in the Fidelity Fund.<sup>6</sup>

Let's also assume that the cash flow design constraint is 5 percent. With those parameters, what would be the composition of the portfolio? Natu-

**FIGURE 11.1** *Recommended Allocations*

BASED ON	MAXIMUM ALLOCATION TO STOCK (%)
2004	N/A <sup>7</sup>
Prior 5 years	0
Prior 10 years	18
Prior 15 years	33
Prior 20 years	50

rally, the design will depend on the expected interest return on the Putnam allocation and the dividend return of the Fidelity allocation. **FIGURE 11.1** illustrates a range of recommended allocations, depending on the historical time frame selected for projecting future expected returns.

These allocation constraints, having been set by market forces, obviously have no relationship to the client's unique needs and risk tolerance.

### ***Inflation***

As experienced practitioners will recognize, the severely constrained stock allocations in Figure 11.1 are unlikely to provide the necessary growth to insure against long-term purchasing power erosion. Using the same investment choices, consider an income-portfolio investor implementing a conservative all-bond portfolio 20 years ago (1985). Unfortunately, due to inflation erosion, this conservative portfolio would have collapsed by October 2001.<sup>8</sup>

### ***Monte Carlo Saves the Day***

Although Monte Carlo analysis is often presented as if it's a new discovery that will solve all the ills associated with old-fashioned point-estimate planning, it is in reality a long-established mathematical tool that's been used in its modern form since the 1930s, when Enrico Fermi used *Monte Carlo* analysis in the calculation of neutron diffusion. Although very effective as an educational tool, in retirement cash flow planning, it is too often abused.

***Greater accuracy or more guesswork?*** In developing a point estimate (for example, to maintain an inflation-adjusted income of \$84,000 per year for the client's lifetime), the practitioner has to estimate at least three items: the return on the portfolio, the inflation rate, and the client's longevity. Each factor is obviously uncertain. Now consider how a planner using Monte Carlo analysis might report to her client: "You can maintain

**FIGURE 11.2** *Assumptions for Monte Carlo*

	EXPECTED	LOW	HIGH
Portfolio return (%)	8	6	9
Inflation (%)	3	2	4
Longevity (age)	87	82	92

a \$72,250-per-year inflation-adjusted income for life, with a 70 percent probability of success, or a \$67,530-per-year income, with an 85 percent probability.” What did the practitioner have to do to provide this more sophisticated analysis? She had to make a number of additional assumptions (see **FIGURE 11.2**).

Although the effort made to develop a probabilistic recommendation may be impressive, the reality is that rather than reaching a conclusion based on three estimates, this sophisticated solution is, in fact, based on nine additional estimates (that is, the end points of the range and the distribution of the range for each item). Most Monte Carlo simulations used by practitioners simplify this estimation process by assuming that all ranges are normally distributed; however, in many cases, there is little justification for this assumption (for example, the inflation distribution may well be positively skewed—expected 3 percent, low 2 percent, high 5 percent<sup>9</sup>). The point is that powerful analytics do not ensure accurate or even credible results. As with a Markowitz mean-variance optimization, Monte Carlo analysis may simply be an effective way to maximize errors.

**Costly comfort.** The introduction of probability via Monte Carlo analysis has also resulted in unrealistic targets for a “comfort level” of success. For example, in professional publications, it’s not uncommon to read such observations as “most clients are satisfied with a 90 percent to a 95 percent probability of success.” Although that statement is undoubtedly true, I believe that targeting such a high level of statistical success is dangerous to our clients’ well-being. Often, setting such a high threshold for success can be accomplished only by significantly reducing the recommendation for sustainable cash flow.<sup>10</sup> Advising clients to radically reduce their standard of living in order to protect against the unlikely probability of three standard deviation events is inappropriate.

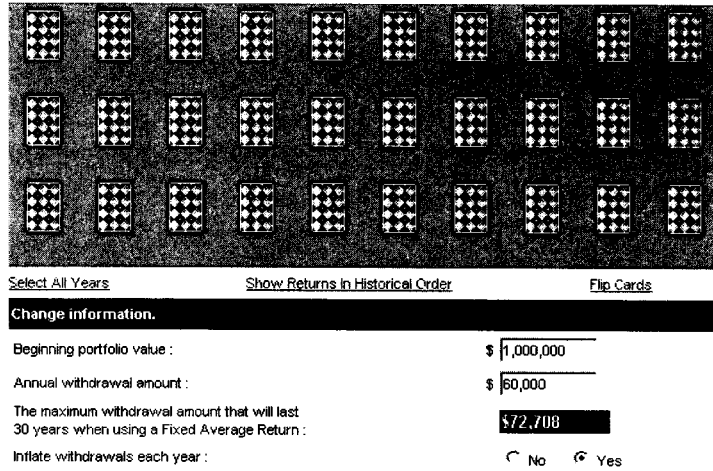
What’s more, the “chance of success” provides only a portion of the information necessary to make a knowledgeable decision. What’s missing is some measure of the significance of failure. If a portfolio has a 65 percent chance of success and a 35 percent chance that the client’s standard of living will fall to 50 percent or less than desired, the investment plan is unlikely to be a viable solution. However, if there is “only” a 65 percent chance of success but a 90 percent chance that the client can maintain 90 percent of the desired standard, then the portfolio may be quite appropriate.

Statistics may not lie; however, they may mislead. A clever educational tool called the Monte Carlo Card Game<sup>11</sup> developed by PIE Technologies puts this reality in perspective. **FIGURE 11.3** is a picture of table 50 (a portfolio composed of 50 percent bonds and 50 percent stock). The value \$72,708 is the traditional “point estimate” solution. It is the average real

dollar withdrawal rate that an investor could consistently withdraw annually without running out of funds (that is, a Monte Carlo simulation would conclude a 50 percent probability of success).

In this example, the client is uncomfortable with a 50 percent chance

**FIGURE 11.3** Scenario 1: Balancing Withdrawal Sustainability and Standard of Living



Source: Monte Carlo Card Game, PIE Technologies

**FIGURE 11.4** Scenario 1: 81 Percent Chance of Success Balancing Withdrawal Sustainability and Standard of Living Monte Carlo Simulation

Monte Carlo - Game 2 - Table 50

**Your Goal is for your Portfolio last at least 30 years.**

This assumes you started with \$1,000,000, withdrew \$60,000 per year (inflating each year) and earned the Historical Average Return each year, as shown in "Play Cards".

**What are the chances you will run out of money sooner?**

To find out, this Monte Carlo simulation will automatically "play" Game 2 a thousand times and calculate how many Games run out of money in less than 30 years.

How Many Games Ran Out of Money in Less Than 30 Years?

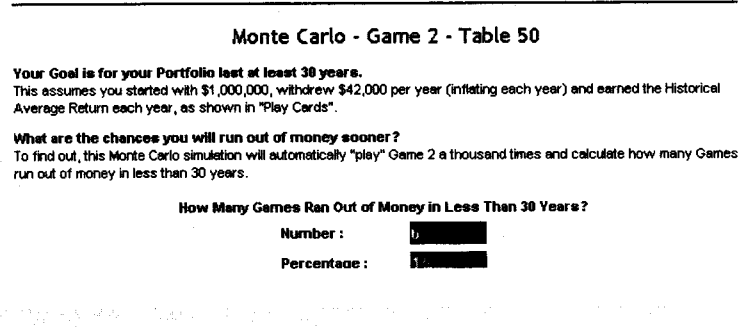
Number : 185  
 Percentage : 19%

Source: Monte Carlo Card Game, PIE Technologies

of failure, so Figure 11.3 reflects a reduced client goal of \$60,000 (a 17 percent reduction in living standard).

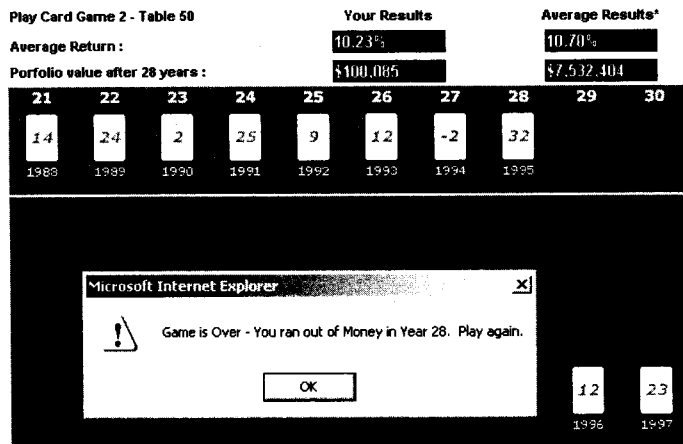
FIGURE 11.4 is a Monte Carlo simulation based on the \$60,000 withdrawal. Not surprisingly, the more modest withdrawal has an increased

**FIGURE 11.5** *Scenario 2: 99 Percent Chance of Success  
Balancing Withdrawal Sustainability and  
Standard of Living  
Monte Carlo Simulation*



Source: Monte Carlo Card Game, PIE Technologies

**FIGURE 11.6** *Scenario 2: 99 Percent Chance of Success  
Balancing Withdrawal Sustainability and  
Standard of Living  
Historical Test*



Source: Monte Carlo Card Game, PIE Technologies



likelihood of success (81 percent probability). Unfortunately, 81 percent falls well below the often-recommended 90 percent to 95 percent standard, so the withdrawal is reduced to \$42,000—a whopping 43 percent reduction in living standard. The client may not be able to spend much; however, as **FIGURE 11.5** illustrates, the likelihood of success is 99 percent. The client can now rest assured that his Alpo diet will remain fully funded, no matter what happens to the markets—or can he?

Monte Carlo is fun, but reality sometimes isn't. **FIGURE 11.6** is a test of how the \$42,000 withdrawal (that is, the 99 percent success scenario) would have performed during the last 30 years. The result shows that it would have failed.

The assumptions underlying Monte Carlo results are numerous and subject to significant estimation error. It's a danger to our clients' well-being to place inappropriate reliance on this soft foundation. Monte Carlo is an excellent educational tool for clients; it is not an answer to their retirement-income planning needs.

### Evensky & Katz Cash Flow Reserve Strategy

We developed the Evensky & Katz Cash Flow Reserve Strategy (E&K-S) in the mid-1980s. At that time, the traditional solution to providing cash flow from an investment portfolio was either a traditional income portfolio or a form of reverse dollar-cost averaging from market investments. We had already concluded that the constraints of the traditional income portfolio made no sense, and we were uncomfortable with the obvious disadvantages of reverse dollar-cost averaging (transaction costs, negative tax consequences, volatility drain, and the related conversion of the benefits of dollar-cost averaging into a negative<sup>12</sup>).

At the time, our firm had a long-established five-year philosophy. The mantra "five years, five years, five years" was frequently repeated to our clients to remind them that we believed the real risk faced by investors was having to sell at the wrong time. Consequently, we discouraged making any investment unless the client expected that the funds could remain invested for at least five years. For example, for a client with a \$1 million portfolio, who indicated a need for \$100,000 for a special purpose in three years, we would design a \$900,000 total-return portfolio and a separate portfolio with \$100,000 invested for a target maturity in three years. With a five-year window for the investment portfolio, we believed that it would be very unlikely that a client would have to sell a portion of his portfolio at a significant loss.

Although our mantra had been developed to protect a significant liquidation of corpus, we thought that the same concept might be applicable to our clients' regular, but more modest, cash flow needs. We first considered

**FIGURE 11.7** *Portfolio Allocation*

POSITION	INVESTMENT (\$)	%
<b>Bonds</b>		<b>40</b>
1-3 years (short term)	130,000	
3-5 Years (short-intermediate term)	135,000	
5-10 years (intermediate term)	135,000	
<b>Stock</b>	<b>600,000</b>	<b>60</b>

**FIGURE 11.8** *Portfolio Allocation: 5 Percent Annual Cash Flow Need*

POSITION	INVESTMENT (\$)	INVESTMENT PORTFOLIO (%)	TOTAL PORTFOLIO (%)
<b>Reserve</b>			
Money market	50,000		10
Short-term bonds	50,000		
<b>Bonds</b>		<b>27</b>	<b>23</b>
1-3 Years	80,000		
3-5 Years	80,000		
5-10 Years	80,000		
<b>Stock</b>	<b>660,000</b>	<b>73</b>	<b>66</b>

simply carving out five years' worth of our clients' cash flow needs, similar to the carve-out we would have proposed for a single goal. Unfortunately, our calculations indicated that the opportunity cost<sup>13</sup> would exceed the benefit. As we modeled various alternatives, we concluded that a two-year cash flow reserve's carve-out was both economically and behaviorally optimal.

### **The Strategy**

Conceptually, E&K-S is very simple. **FIGURE 11.7** shows a proposed portfolio allocation for Mr. Kiran, with \$1 million of investable assets and for whom the planning process has determined that a 40 percent bond/60 percent stock portfolio allocation will meet his long-term goals.

**FIGURE 11.8** shows the modification to the allocation for a client with the same assets but with a 5 percent annual cash flow need.

In implementing this strategy, we establish three separate accounts. One is the cash flow reserve (CFR) portfolio, the second is the investment portfolio (IP), and the third (which generally already exists) is a local checking account. As an example, in Figure 11.8, we've funded Mr. Kiran's CFR portfolio with \$100,000 and his IP with \$900,000. The allocation to equities in the IP has been increased by \$60,000 to offset the opportunity cost associated with placing the \$100,000 reserves in lower-return, short-term liquid investments. Mr. Kiran understands that the IP is long term, that is, it's being managed as a total-return portfolio with all dividends, interest, and capital gains reinvested and that the CFR portfolio is going to be the source of his cash flow.

Presenting the strategy to the client goes something like this:

Mr. Kiran, based on our discussions, we've mutually concluded that you need about \$4,200 per month (in real dollars) to supplement your other income [for example, Social Security benefits, pension, part-time work, rental income] to maintain your current lifestyle. Also, over time, you need to earn about 5 percent real return on your investments to maintain your lifestyle for the balance of your life. Here's how we're going to manage this.

We've opened three accounts for you: Kiran's cash flow reserve portfolio, Kiran's investment portfolio, and Kiran's local checking account. In the CFR account, we left \$50,000 in money market funds and invested \$50,000 in a very low-cost bond fund investing in high-quality short-term (duration about one year) municipal bonds. The CFR account is the one you can look to for your grocery money. Think of the CFR as your payroll account. Once a month, write yourself a paycheck for \$4,200 and deposit it into your checking account (increasing the withdrawal over time to compensate for inflation). You won't have to worry about where your next meal's coming from if the market's way down; the cash will be sitting there waiting for you.<sup>14</sup> The balance of your investments is in the IP account, and we've invested that money in the bonds and stock funds we discussed earlier.

As we go forward, our job will be to monitor and manage your IP, and your job will be to go out and enjoy your life. However, just to be sure you remain on course, we'll regularly review your IP to ensure that it remains properly invested. At the same time, we'll also take a look at your CFR bal-

ance. If we conclude that we need to make some changes in your IP, we may take the opportunity to fill your CFR back up to the original \$100,000. If we determine that the IP is fine and requires no attention and your CFR is funded with at least a year's worth of your cash flow needs, we won't do anything.

As time goes on, we may go for more than a year with no need to change your IP, but by then your withdrawals from your CFR portfolio may have reduced it to less than a year's reserve. If so, we'll review the positions in your IP, and if we can carve out funds without significant losses, we'll do so and bring the CFR balance back up to the two-year reserve of \$100,000.

What could go wrong? Because markets are fickle and occasionally treacherous, it's possible that we may go for well over a year when both stocks and bonds have significant losses. Should that happen—which is unlikely—we would then look to the short-term and short-intermediate-term bond investments in your IP. We refer to these funds as your second-tier emergency reserves. No matter how bad the markets get, these bond investments are unlikely to sustain significant losses, so we would begin to fund your CFR account by liquidating a portion of the bond positions. In doing so, there is a risk that the equity allocation might exceed our target; however, we will be buying valuable time to defer the sale of stock in the midst of a bear market. Between the initial CFR allocation (\$100,000) and the IP bond positions (\$240,000) you're covered for approximately 5½ years. Once again, although there are no guarantees, this five-year window is likely to be long enough to ensure that your cash flow needs are never likely to require a sale of assets at a significant loss in a bear market.

### **Evaluation**

Let's evaluate the E&K-S and see how well it protects against the risks we discussed earlier in this chapter.

**Purchasing power risk.** As the reserve requirement is reviewed regularly (in our practice, the review is quarterly), it's quite easy to increase the reserves to adjust for inflation. The strategy also provides the flexibility to increase the reserve by variable amounts to reflect an inflation factor unique to each client.<sup>15</sup>

**Volatility.** By providing significant control over the timing of investment liquidations, most volatility drain related to cash flow can be eliminated.

**Financial flexibility.** The strategy provides extraordinary flexibility in meeting the unique and changing needs of real clients. Experience has demonstrated that the most frequent adjustment required is to reduce the frequency and size of transfers to the CFR account. In the early stage of

planning, in an effort to be conservative, many investors overestimate their needs. Many cash flow strategies generate cash flow whether needed or not. The reinvestment of this unneeded cash flow results in unnecessary transaction and tax costs and, occasionally, in opportunity costs.

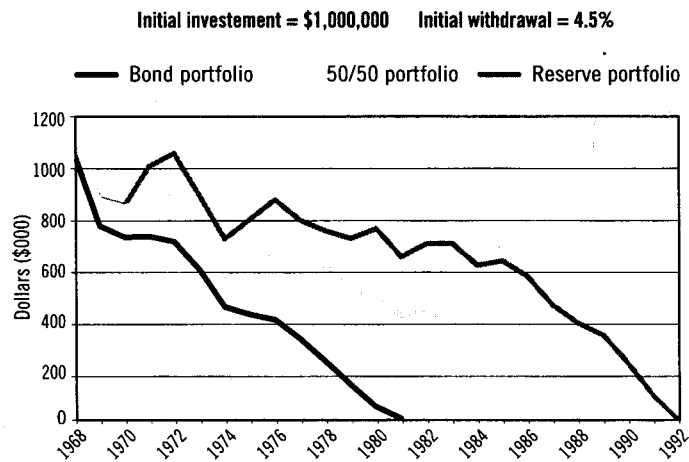
**Client needs—financial.** By providing for total flexibility, the E&K-S enables the practitioner to carefully calibrate and adjust the client's need for real cash flow. It also minimizes the frequency of transactions (reducing transaction costs) and enables an adviser to manage more efficiently the tax consequences of funding the client's cash flow needs.

**Client needs—behavioral.** The strategy manages the paycheck syndrome. Cash flow to the client is consistent and independent of market volatility. The source of the cash flow is visible and reliable (money market and short-term high-quality municipal bonds). Clients understand the strategy, and it frames the accounts in a manner consistent with a client's separate-pocket mentality.<sup>16</sup>

### **Does It Work?**

Indeed, the E&K-S works very well. We've used this strategy, with minimal modification, for more than a decade. It was seriously tested by two very different but equally trying market conditions—the panic after Black Monday in October 1987 and the bear market of 2000–2002. Our cash flow–dependent clients weathered these events without undue discomfort, and most attributed a significant degree of credit for that outcome to the E&K-S. They may not have understood what was going on in the market, but they did know that the funds for their next meal were safe, sound, and available in their money market accounts. Given that emotional anchor, our clients were able to appreciate our counsel: Although their IP was suffering along with the broad market, they owned small investments in thousands of companies around the world and the firms had not all gone bankrupt. Given time, the domestic and world economies would recover—and our clients had time to recover with them.<sup>17</sup>

I recognize that although the strategy was tested during the short but precipitous 1987 drop and the recent long and painful equity bear market of 2000–2002, we have not had occasion since the inception of the E&K-S to test it during a period similar to the early 1970s, when both bonds and stocks were devastated and inflation was rampant. So I prepared a hypothetical stress test for this period and compared the results of three strategies—income from an all-bond portfolio, regular equal withdrawals from a portfolio balanced 50 percent bonds/50 percent stock, and an E&K-S portfolio. The hypothetical investments were made in January 1968 and consisted of one or a combination of money market, Putnam Income Fund (for bond allocations), and Fidelity Fund (for stock alloca-

**FIGURE 11.9** *Test of Withdrawal Strategies*

tions). The cash flow withdrawal was set at a real annual after-tax rate of 4.5 percent, and withdrawals were monthly. Inflation was set at the rate for 1968 (slightly less than the subsequent 30-year average). The rebalance parameter for the two bond/stock portfolios was set at 10 percent, and the tax rate set at 30 percent for ordinary income and 20 percent for long-term capital gains. Commissions were eliminated. The results of this comparison are quite dramatic.

As shown in **FIGURE 11.9**, an attempt to provide real cash flow by withdrawals from a fixed-income portfolio ended with the complete erosion of the original investment by the close of 1980. The 50/50 balanced portfolio had a significantly longer survival rate; however, it met its demise by 1988. The good news is that the E&K-S portfolio was clearly a superior strategy during these trying times: it managed to sustain the real cash flow until 1992. The bad news is that it, too, could not overcome the early portfolio erosion and it ultimately failed in 1992.

NO WITHDRAWAL STRATEGY can guarantee protection for investors requiring income for life.<sup>18</sup> Reducing the withdrawal rate is certainly the most effective technique; however, for most investors, that's not a viable option. I believe the next best strategy is some form of an E&K-S. It provides significant behavioral benefits resulting in greater client com-

fort during trying market conditions, minimizes the impact of taxes and transaction costs, maximizes the withdrawal period, and maximizes planning flexibility.

### *Chapter Notes*

---

1. In this chapter, “income for life” and “cash flow” are used interchangeably to mean real (that is, inflation-adjusted) cash flow.
2. Although I was influenced by my appreciation of the finer points of quality films (that is, Clint Eastwood in *Dirty Harry*), my spontaneous response to my client was admittedly a bit brash. Because he was also a longtime friend, I was not surprised that he took my comment in the humorous manner it was intended. I was, however, surprised that my joking comment was so effective in getting his attention. I’ve subsequently used that story with new clients and found it an effective vignette for focusing their attention on longevity risk; I hope you too will find it of use.
3. We live in a complex and often confusing economic environment. To manage huge amounts of information and understand market complexity, investors use what behavioral finance calls judgmental heuristics (mental shortcuts).
4. The application of unsound but seemingly logical mathematical analysis.
5. In a study prepared for a presentation at the April 2002 Financial Planning Association retreat, I concluded that during the last 20 years, the net-net real return from a balanced portfolio was approximately 7.5 percent. Based on what I believe to be reasonable forward-looking projections, I concluded that the same portfolio, in today’s markets, will return approximately 2.5 percent.
6. These two funds will be used as examples throughout the chapter. They were selected because they have attributes that make them ideal candidates for demonstration purposes:
  - Both are publicly available to retail investors.
  - Both have extensive, well-documented histories. Putnam Income was established in November 1954 and Fidelity in April 1930.
  - Both are effective for general asset class investments. According to Morningstar Principia, Fidelity has a 36-month correlation with the Standard & Poor’s 500 index of 99 and Putnam Income has a 36-month correlation with the Lehman Brothers Aggregate Bond Index of 99. A 20-year correlation analysis indicates a still high correlation of 95 for Fidelity and the S&P and 93 for Putnam and the Lehman.
  - Fidelity has an  $R^2$  of 98 with the S&P 500, and Putnam 98 with the Lehman.
  - The analysis is based on purchase and sale at net asset value.

7. In 2004, the income return for Putnam was only 2.8 percent and 1.4 percent for Fidelity. There was no possibility of generating 5 percent from dividends and interest.
8. To avoid grossly exaggerating the impact of taxes, I used a 15 percent ordinary and capital gains tax to simulate a comparable tax-free portfolio return.
9. Reality is likely to be even more complex. For example, equity market returns are generally considered to be leptokurtic with a positive distribution skew.
10. Running a number of hypothetical portfolios, I estimate the reduction in sustainable cash flow to be approximately:

Increase Probability of Success		Reduction in Sustainable Cash Flow
From	To	
70%	90%	13%
60	90	25
60	95	44

11. The game allows a player to select one of 10 tables. Each table represents a portfolio, changing allocations between bonds and stocks in 10 percent increments, ranging from all bonds to all stock. For example, Table 60 represents a portfolio 40 percent bonds and 60 percent stock. Once a table is selected, 30 cards are displayed, face down. Each card's face value reflects the return on a 40/60 portfolio for one of the last 30 years.

12. Dollar-cost averaging is based on the purchase of larger quantities of a position when the price is low and smaller quantities when the price is high. The result, over a market cycle, is that the average price of the positions accumulated is lower than the average market price of that same position. Reverse dollar-cost averaging results in the average price of the positions sold being less than the average market price of the position over the cycle.

13. The opportunity cost is the difference between the expected total return on the investment portfolio and the expected (but lower) return on the funds invested in shorter-term, liquid investments times the value of the funds set aside for reserves.

14. Obviously, this example is greatly simplified. In practice, many clients fund their checking account only quarterly or intermittently. In some cases, we set up automatic monthly checks to transfer money from the CFR account to their checking account. In a surprising number of cases, the CFR funds last much longer than the anticipated two years, because clients often overestimate their cash flow needs.

15. Although the consumer price index is a handy measure for general planning, experienced practitioners recognize that the impact of inflation on an individual client depends largely on the nature of his personal expenses. For example, older retirees' effective inflation is often much higher than the reported CPI because so much of their expenses are related to health care costs.



16. One “pocket” is the source of the client’s grocery money—the CFR account. The investments are simple, nonvolatile, and comfortable. The second pocket is the IP. Because it’s clearly identified as a long-term portfolio (remember the five-year mantra) and the client is looking at his other pocket for spending money, the client tends to pay little attention to short-term market fluctuations in the IP.

17. On October 19, 1987, the morning of Black Monday, we called all of our clients. One of my first calls was to a retired widow. I was particularly concerned about her because she had been a 100 percent CD investor before working with us, and we had repositioned her investments to a 50 percent bond/50 percent stock portfolio. I began my call by saying she may have noticed a slight dip in the market. Before I could go on, she said, “So what? Remember five years, five years, five years. I have plenty of cash to last me for years in my other account. Don’t bother with me. Why don’t you call someone who’s worried?” I was flabbergasted. Even more amazing, her response turned out to be typical of those we heard throughout the day.

18. Of course, immediate annuitization, a subject addressed by other contributors in this book, is a potentially complementary strategy.