

# CREATIVE WEALTH MAXIMIZATION STRATEGIES

MARCH 2011

## Getting Slapped by the “Fat Tail”

**People aren’t rational.** That’s the basic conclusion of all sorts of studies in behavioral finance, a discipline which tries to understand what motivates and determines people’s financial decisions. Greed, fear, the inability to delay gratification, and a host of other character flaws are the reasons most people stumble through their financial lives, missing opportunities, wasting money, and never quite achieving their financial dreams.

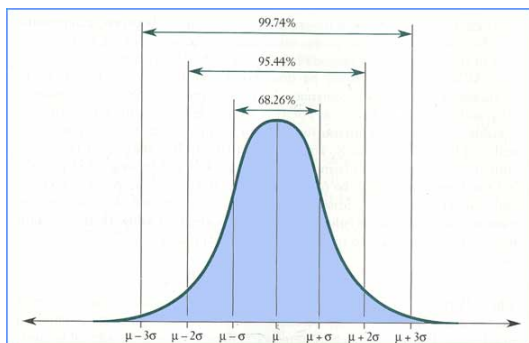
But, in an ironic twist, it also appears that one of the factors in poor decision-making may be an **over-reliance on logic and science**. This is a result of believing that “scientific” economic models can provide an accurate picture of the truth, when in fact these mathematical and statistical studies often distort or misrepresent economic reality.

### The Bell Curve

Carl Friedrich Gauss (1777-1855) was a German mathematician who today is considered one of history’s most influential mathematicians. Sometimes called the “Prince of Mathematicians,” Gauss’ work has had a remarkable ongoing influence in many fields of mathematics and science.

Some of Gauss’ study involved statistics and the patterns of probability. Working from a basic question, “Given a range of possible outcomes, which ones are most likely to occur?” Gauss developed a model, known as a Gaussian distribution, to identify, explain and predict outcomes. Today, this model is also often referred to as the Bell Curve, because of the shape of the graph that results. Of all possible outcomes, the **most likely** results are clustered at the center of the data range, while the **least probable events are set at either end**, sometimes referred to as the “tails”.

A simple version of the Bell Curve is mapping the possible numerical outcomes from rolling two six-sided dice.



The most likely outcome from a random throw is 7 (which will occur 16.67% of the time, while the least likely combination is either 2 or 12 (only 2.78%). The second most likely outcomes are 6 and 8, which are each likely to appear 13.89% of the time. This means that 45% of all throws will be 6, 7, or 8. (If you have any experience with the game of craps, these probability

distributions are probably already evident.)

### The Bell Curve as a Predictive Tool

There are many statistical mappings that result in this bell-shaped format, with the high probability outcomes at the center, and low probability events at either end. This is sometimes referred to as a “normal distribution,” and when it appears, analysts in

In theory, there is  
no difference between  
theory and practice.  
In practice, there is.

*Yogi Berra*

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statistics, natural sciences, and social sciences often use the Bell Curve as a simple model for complex phenomena.

In the financial arena, probability models are pervasive, used by everyone from fund managers to individuals planning for retirement. And therein lies a problem: Sometimes these simple models just don't do an adequate job of analyzing the "complex phenomena" that impact financial outcomes.

### It's the Improbable Event That Matters

Nassim Taleb is a Lebanese philosopher, author, and statistician, currently serving as a Distinguished Professor of Risk Engineering at the New York University, Polytechnic Institute. Taleb's 2007 book about unpredictable events, "The Black Swan," was cited by the *New York Times* as one of the 12 most influential books written since World War II.

The major premise of the Black Swan is that **the impact of rare events is huge and highly underrated, and because we are not conditioned to expect them, we are poorly equipped to handle them, which makes their impact even greater.** These rare events are said to have a "fat tail" – the outcomes might appear at the tails of the distribution, but when they occur, their impact is enormous.

In fact, the impact of a fat tail financial event is so great that preparing for the possibility of it occurring is much more important than preparing for other far more likely scenarios. Thus, while a global stock market meltdown might be unlikely, preparing to effectively deal with it is more important than making financial decisions based on more probable, yet less dramatic situations.

In light of his Black Swan thesis, Taleb has called normal distribution assumptions a "great intellectual fraud. Despite the shortcomings of the bell (normal distribution) curve, reliance on it is accelerating... Finance academia is too entrenched in the paradigm to stop calling it an acceptable approximation."

Taleb's criticism isn't simply an intellectual spat between math nerds over minute details. The real issue is how these ideas have permeated individual financial planning processes. Probability models for retirement, risk tolerance, and portfolio allocation frequently use these normal distribution models to make projections and guide decisions. The danger: Because these are the most *likely* outcomes, **people assume these will be their outcomes.** When something else happens, they are ill-prepared.

Some other financial experts support Taleb's perspective. Howard Marks, a prominent Los Angeles hedge fund manager and writer, said in a February 5, 2011, keynote address at the Columbia Investment Management Association\* that successful investors need to develop "second-level thinking," which goes beyond a mechanistic approach that views financial decision-making as a "recipe from a cookbook," and instead focuses on weighing the consequences of other possible outcomes as well.

Marc Gross of London's FinAnalytica Research (*The Truth About Fat Tails and Black Swans*, October 2008) states that good decision making comes from "robust, fat-tailed

distributions in our modeling process." Supporting this emphasis on dealing with fat-tail events, Gross writes,

**"According to normal distribution, each of the market crises observed over the past decade should only have occurred once every 1,000 years or so. Clearly, the normal distribution completely misses the likelihood of market crisis and therefore provides risk estimates that dangerously underestimate true risk."**

\*Notes from this speech were posted in a review from Ravi Nagajaran, on [www.seekingalpha.com/article/251099](http://www.seekingalpha.com/article/251099)

### Fat-Tail Risk Management: Protecting Against What We Don't Know

Here's a summary statement from Nassim Taleb's personal web page ([www.fooledbyrandomness.com](http://www.fooledbyrandomness.com)):

**...while most human thought (particularly since the Enlightenment) has focused us on how to turn knowledge into decisions, I focus on how to turn lack of information, lack of understanding, and lack of "knowledge" into decisions – how not to be a "turkey."**

Taleb, Marks, Gross, and other experts have come through the recent recession with a sharpened focus on the critical need to manage risk in financial programs, both for institutions and individuals. Most "big scary events" may have a low

probability of happening, but because the consequences are too great, it is foolish to simply ignore them just because of their "once-in-a-blue-moon" nature. As Van Mueller, a veteran life insurance representative from Wisconsin, put it in his February 2011, commentary, *Van's 10 Ideas and Views* - February 2011, the primary goal **"is not to make people rich, but to keep them from being poor."**

### FAT TAILS & SECOND-LEVEL THINKING...

**IS YOUR FINANCIAL PROGRAM INCORPORATING THESE CONCEPTS?**

**OR ARE YOU STILL WORKING FROM A "NORMAL DISTRIBUTION" MODEL?**

### Increased Saving: An Economic Stimulus Plan That Moves the 'ANIMAL SPIRITS'

S. Mitra Kalitia is a *Wall Street Journal* real estate reporter. Two recent articles, one on February 8, the other on February 16, 2011, highlight dramatic changes in the housing market: more buyers are paying for their real estate purchases in cash, and those

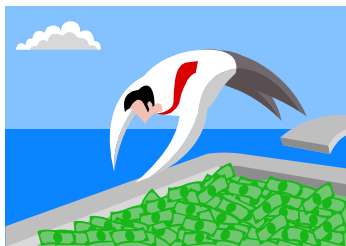


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who borrow to buy a home are coming up with larger down payments.

The switch to cash purchases is especially prevalent in real estate markets hardest hit by the recent recession. The National Association of Realtors reports that in 2010, 54.2% of homes purchased in Miami were cash transactions. In Las Vegas, 45.9% of home purchases were paid in cash, while Phoenix had 35.6%. It is true that many of these transactions involve foreclosed or distressed properties selling at a discount. However, Mr. Kalita noted that downtown Miami real estate prices rose 15% in the past year. This isn't just scavenger activity. **People are seeing opportunities, and finding cash reserves are the best way to purchase them.**

As for the trend toward larger down payments, the move is "driven mostly by banks, who have found that larger down payments discourage delinquencies by increasing the buyers' exposure to loss and reducing the impact of



**People are seeing opportunities, and finding cash reserves are the best way to purchase them.**

declining prices." Banks have also tightened their lending standards, making it harder for individuals to qualify for mortgages even if they have substantial down payments. Both actions have prompted buyers to bring more cash to the table, as the median down payment rose to 22% of the purchase price in 2010, the highest percentage since 1997. (In the fourth quarter of 2006, the average down payment was just 4%, and near zero in some overheated markets.)

Along with this information, the articles contain two cogent observations. The first is **value of cash in hand**. Virginia Hall-Busch, a cash buyer in the February 8 article said, "When you have a bad economy, it's hard on lots of people. But right now, if you've got the money to put down on a house, long term, it's going to be a good thing."

The second comment comes from Mr. Kalita, who states the "jump in real-estate purchases made with cash is another sign of the revival of animal spirits returning to the economy." "Animal spirits" refers to a phrase first used by 1930s economist John Maynard Keynes to describe the economic confidence that prompts people to spend money. For Keynes, one of the functions of government-controlled monetary policy was to encourage the animal spirits – to provide economic stimulus packages, in today's vernacular.

But this current revival of animal spirits has nothing to do with government and financial institution policies. In fact, just the opposite: Banks and government agencies, through higher down payments and tighter lending standards, are making it harder to buy a home. **The "stimulus" is coming from individuals with cash savings.**

This movement reflects some comments made in our January 2011 issue:

**Eventually, the increase in cash reserves will resolve some of the uncertainties in the economy.** In times of financial uncertainty, one of the best long-term responses, both for businesses and individuals, is to save...While tax breaks, subsidies, and monetary

policies can definitely influence economic growth, the foundation for long-term financial prosperity and stability, both individually and nationally, is built on a solid base of saving.

Establishing and maintaining healthy cash reserves not only improves your individual financial health, collectively it strengthens the economy and energizes the "animal spirits."

**IF YOU DON'T SEE INVESTMENT OPPORTUNITIES RIGHT NOW, KEEP SAVING.**

**WHEN YOU FIND AN OPPORTUNITY, CONSIDER THE BENEFITS OF PAYING CASH FOR THE PURCHASE INSTEAD OF BORROWING.**

**Ignorant Certainty:**  
("I know I don't like it, even though I don't know what it is.")



The French essayist Michel de Montaigne (1533-1592) sagely observed: "Nothing is so firmly believed as what is least known." Although Montaigne's comments are more than four centuries old, they still apply today – especially when the topic is cash value life insurance.

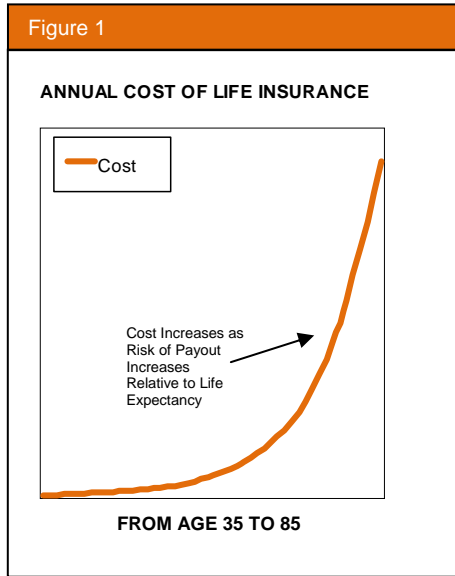
In the United States, the first forms of cash value life insurance appeared around the time of the American Civil War. Given its long history, it would seem that cash value life insurance would be a well-understood financial product with a clearly-established position in personal financial programs. Yet a quick online search reveals many financial commentators have a strong distrust and outright animosity toward cash value life insurance. Why? Some of the problem is simply financial ignorance, and the tendency to denigrate what is not easily understood.

**Cash value life insurance is a complex financial product.** But like many complex instruments, cash value life insurance is the *integration of several simple financial concepts*. The function and logic of cash value life insurance can be reduced to three fairly straightforward financial concepts.

**Concept #1. It makes sense that the cost of life insurance increases with age.** A basic concept of insurance is spreading the risk of individual financial loss across a large number of people. The cost of insurance is based on the probability of a loss occurring; greater probability equals higher premiums.

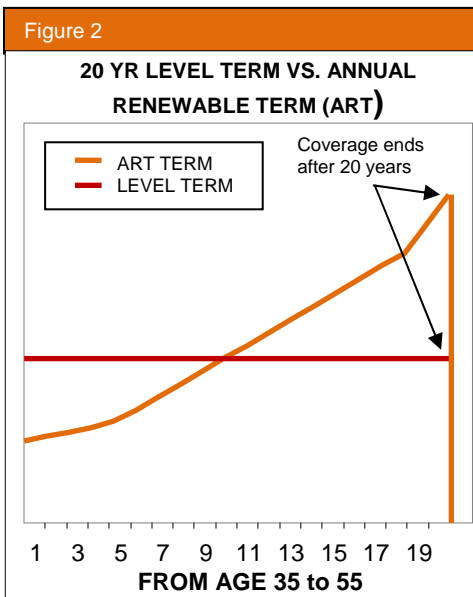
Other factors being equal, *the likelihood of dying increases with age*. Thus, the cost of securing life insurance on an annual basis increases with age. The result of this age-based pricing structure is a hockey stick shaped graph – see

the example below (Figure 1) -- with low rates of increase through age 50, then climbing dramatically as one approaches life expectancy.



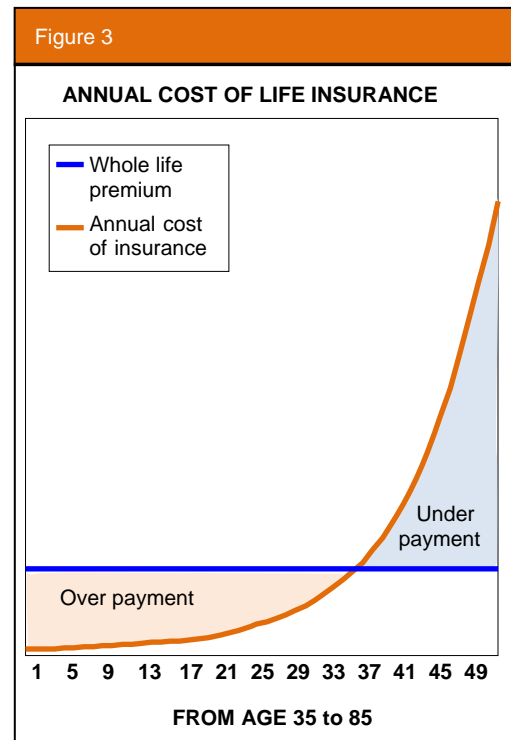
**Each year, it becomes more costly to protect against an event that is more likely to occur.**

**Concept #2.** It makes sense to pay for life insurance with level premiums over specified periods. The reality of increasingly costly premiums as one gets closer to dying creates a financial dilemma: **Each year, it becomes more costly to protect against an event that is more likely to occur.** One way to resolve this issue is to simply drop the coverage. The other is to establish a level premium structure. In this arrangement, premiums are fixed for a specified term, typically for 10, 15 or 20 years. During the early portion of the term, the annual premium is greater than the actual cost of insurance. The insurance company collects this surplus and invests it. Later in the term, the annual premium is less than the actual cost, but the surplus collected from the early years (plus the investment earnings) makes up the difference (see Fig. 2).



For those who want life insurance for term periods ending before the hockey stick of insurance costs starts to bend sharply upward, level term premiums may be a satisfactory financial strategy. However, at older ages many individuals find that the up-front overpayment required for level premiums is just too expensive. Yet unlike other forms of insurance, the probability of loss of life is 100 percent – eventually, everyone dies. Understanding this reality, **many people recognize the potential value of keeping life insurance in force for one’s entire life**; doing so not only results in a return (to your beneficiary) from premiums paid, but also provides for a greater degree of financial certainty at the end of life. The challenge is how to overcome the financial hurdle of keeping the life insurance in force through old age.

**Concept #3.** For longer term periods, it makes sense to give policyholders access to their excess premium deposits in the form of cash values. A level premium required to maintain life insurance for one’s entire lifetime is substantially higher than shorter term plans, because the surplus premiums accumulated in the early years of the policy must be substantial to cover the steep costs of insurance later in life (see Fig. 3). For example, a level premium life insurance policy calculated to remain in force until age 100 for a 35-year-old represents a **65-year term period**, which is much longer than a 10-, 15- or 20-year term plan.



For many policyholders, placing this much excess premium with an insurance company represents a significant “opportunity cost” to their personal finances, e.g. “What could that money be worth to me if I didn’t use it to build a surplus account for the insurance company to pay the cost of life insurance in my old age?”

Recognizing this issue, life insurers give policyholders **co-ownership of these excess premiums – and the**

**earnings from the investment of them – in the form of cash values.** Subject to the terms of the policy, these cash values *can be accessed by the policyholder in a variety of ways* while still maintaining a life insurance benefit.

In policies issued by well-managed insurance companies, it is quite likely that cash value balances will, over time, exceed the premiums that have been paid. Dividends, i.e., the non-guaranteed earnings on the excess premiums, can be received by the policyholder, used to pay future premiums, allowed to accumulate and compound, or applied to the purchase of additional paid-up insurance.

This arrangement is reasonable and equitable for both the policyholder and the insurance company. The cash value feature gives the policyholder a rationale for placing the excess premiums with the insurance company. Larger premiums give the insurance company greater investment capital, longer time periods and greater flexibility to meet the obligation of future claims. At the same time, competition among insurers provides incentives for companies to maximize their cash value accumulations and account features for the benefit of the policyholder.

Even from this brief overview, it should be apparent that combining the three variables of age-based insurance costs, level premiums, and cash value accounts makes for a complex financial product. Some of the distaste for cash value life insurance is probably due to the product's complexity. Financial literacy in the United States is often sorely lacking. A popular on-line financial advice website dismisses cash value life insurance this way: "In general, this is a very complicated topic and well beyond the scope of what we can easily cover here." So, if the concepts are over your head, forget it? (Just because most people don't initially understand how to operate an automobile doesn't mean they should settle for riding a bike the rest of their lives. That's why we have driver's education classes.)

Another reason some financial experts are antagonistic toward cash value life insurance is their belief in the **probabilities** of not needing life insurance as opposed to the **possibilities** of really needing it. This is very similar to the mindset of those people who ignore the fat tail consequences of once-in-a-lifetime events (as discussed in the previous article). Using this type of thinking...

You **probably** think you don't need life insurance – **yet**. (After all, you're still alive.)

You **probably** think you won't need or want life insurance in your old age because...

You **probably** think you will have saved enough for retirement, and...

You **probably** think you won't have an estate tax issue, but...

You **probably** think you will have other assets to leave as an inheritance.

Of course, it is likely that one or more of those probable outcomes won't come to pass. And then the probability of really wanting life insurance could be much greater.

In contrast, the structure of a cash value life insurance policy makes it possible for individuals to keep life insurance in force for as long they live, using a level premium format. Before the end of life, the excess premiums and their earnings are available to the policyholder in the form of cash

values. This results in the following benefits:

The **certainty** that the annual cost of insurance is level and fixed, and not subject to change in the future.

The **certainty** that premiums paid will eventually deliver a benefit.

The **certainty** that excess premiums deposited with the insurance company (as well as the dividends that may result) can be accessed by the policy owner.

The **certainty** that these features are specifically enumerated and contractually guaranteed.

Cash value life insurance is a complex financial product designed to provide financial certainty to effectively address the worst that could happen, yet provide options for a range of other events as well. Even if hindsight might indicate that other strategies may have been more profitable – *in the past* – , cash value life insurance continues to have financial relevance because its format recognizes the importance of responding to *future* unknowns.

**READY TO LEARN MORE ABOUT HOW CASH VALUE LIFE INSURANCE COULD MAKE A DIFFERENCE IN YOUR FINANCIAL PLANS?**



## Re-shuffling the Reverse Mortgage

**Some changes in the reverse mortgage market may make it easier for seniors to access their home equity, but they also protect lenders from declining values in the real estate market.**

A reverse mortgage allows people age 62 or older to convert equity in their home to cash, in the form of a lump sum, a line of credit or monthly distributions. Borrowers using a reverse mortgage do not have to make monthly repayments. The loan is due, with interest, when the borrower dies, moves, sells the house or fails to pay property taxes or homeowner's insurance. To qualify for a reverse mortgage, the property must be the borrower's primary residence, and must either be held free and clear or be paid off with a portion of the proceeds from the reverse mortgage. The amount received depends on the property's value and the age of the recipient.

While reverse mortgages can provide a much needed source of retirement income for retirees, some commentators have criticized their upfront fees, which can total as much as 5% of a home's value. The Federal Housing Administration, which has oversight responsibility for reverse mortgages,

also provides insurance to lenders should the future value of the property be *less than the amount owed when the loan comes due*. To cover this risk, FHA collects an up-front insurance fee, which can be as high as 2% of the property's value, according to a January 8, 2011, *Wall Street Journal* report by Anne Tergesen. In addition, banks also typically add transaction and service fees for originating a reverse mortgage. Thus, the transaction costs for a reverse mortgage on a \$500,000 property could approach \$25,000.

As a result of the recent decline in housing prices, it is likely that many current reverse mortgagees *will owe more than the value of their property*, which leaves the FHA on the hook to make up the difference. To minimize this occurrence going forward, the agency has authorized a new reverse mortgage format. In exchange for receiving a smaller percentage of equity from their reverse mortgage, FHA has lowered their insurance premium to 0.01% of the property value. In addition, some banks have either lowered or waived fees, provided that the borrower takes a lump-sum payment (thus accruing interest on the full amount of the reverse mortgage loan). The interest charged for a no-fee loan is typically higher as well.

While these provisions may lower up-front costs to consumers, they also either lower the risk for lenders, or increase potential returns for lenders. In some circumstances, individuals may find the older, "more expensive" format is actually a better value in the long run.

**Given these new variables, a consultation with your trusted financial specialist is recommended before considering a reverse mortgage. And the FHA actually has a nationwide network of approved reverse mortgage counselors.**



## **DID YOU KNOW?...**

### **Early life insurance policies covered the Pope and government officials**

Some of the first recorded life insurance contracts were owned by Italian bankers that insured the lives of religious and government officials.

The account books of Bernardo Cambia, a banker with the powerful Italian family, the Medicis, show premiums paid for Pope Nicholas V, the Doge of Venice and the King of Aragon. F. E. de Roover, author of the 1945 book "Early Examples of Maritime Insurance," comments that these contracts were essentially personal wagers on the lives of these men, as there were no life expectancy tables on which to calculate the insured's health or longevity (although Pope Nicholas served just eight years and died while in office, so the Medicis may have collected on their investment).

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