

CIOVACCO

CAPITAL MANAGEMENT

Multiple Asset Class Approach To Investing

Our approach to investing has evolved over many years. As we begin 2008, it may be helpful to provide an overview of our current strategy. The objective is to provide the rationale and benefits of multiple asset class investing.

Asset Allocation and Portfolio Management Statement of Purpose

To give CCM clients a reasonable probability of producing superior full-market cycle returns under varied market conditions while reducing volatility and providing numerous safeguards against the loss of purchasing power due to inflation and a weak U.S. dollar.

Managing Long-Term Risk Based On Individual Needs

For the sake of simplicity, we will explain the CCM approach to investing from the perspective of a growth investor. The same concepts can be applied with some adjustments to more conservative as well as more aggressive investors. To meet the needs of each individual investor, we begin with a CCM Base Allocation. A CCM Base Allocation is one which performed well from 1970-2006 under various market conditions. CCM Base Allocations are developed for each client using both historical data (1970-2006) and future simulations which are based on historical data (1970-2006). Since the CCM Base Allocation is developed to perform well in a wide range of environments, we adjust it to best meet the needs of the current environment. The adjusted allocation is termed the CCM Current Allocation. The CCM Rebalancing Model is used to assist in the ongoing management of the client's asset allocation.

Understanding Risk/Reward 1970-2006

The bear markets in U.S. stocks in the early 1970s and 2000s showed investors the importance of protecting their nest egg from large losses from which it may take years to recover. To illustrate, assume you plan to retire on your 65th birthday, which happens to fall on December 31, 2010. As of January 1, 2008, you have amassed \$1,000,000 in your investment portfolio, which you plan to use as a source of income during retirement. Your projections assume 10% pre-retirement growth in 2008, 2009, and 2010, which means you hope to have \$1,331,000 heading into retirement in 2011. During retirement, you plan to cut back on your exposure to risk reducing your expected return to 8% per year. The results of your retirement projections are shown in Table 1.

The Real World Can Throw You a Curve Ball

In a possible real world scenario, you head into 2008 with your retirement plan neatly filed away. Unfortunately in 2008, 2009, and 2010 we get the same gut-wrenching S&P 500 returns we had in 2000, 2001, and 2002, which were losses of 10.14%, 13.04%, and 23.37% respectively. Under this scenario, it would take annual returns of 10% in 2011, 2012, 2013, 2014, 2015, and 2016 **just for you to get back to break even**. The results of the hypothetical real world retirement scenario are shown in Table 2.

Table 1 Typical Retirement Projection

Status	Age	Years	Year	Projected Return	Projected Result
					\$1,000,000
Working	63	1	2008	10.00%	\$1,100,000
Working	64	2	2009	10.00%	\$1,210,000
Working	65	3	2010	10.00%	\$1,331,000
Retired	66	4	2011	8.00%	\$1,437,480
Retired	67	5	2012	8.00%	\$1,552,478
Retired	68	6	2013	8.00%	\$1,676,677
Retired	69	7	2014	8.00%	\$1,810,811
Retired	70	8	2015	8.00%	\$1,955,676
Retired	71	9	2016	8.00%	\$2,112,130

Table 2 2000-2002 For First Three Years

Status	Age	Years	Year	Actual Return	Actual Result	
					\$1,000,000	
Working	63	1	2008	-10.14%	\$898,600	
Working	64	2	2009	-13.04%	\$781,423	
Working	65	3	2010	-23.37%	\$598,804	
Retired	66	4	2011	10.00%	\$658,685	9 Years To BREAK EVEN
Retired	67	5	2012	10.00%	\$724,553	
Retired	68	6	2013	10.00%	\$797,008	
Retired	69	7	2014	10.00%	\$876,709	
Retired	70	8	2015	10.00%	\$964,380	
Retired	71	9	2016	10.00%	\$1,060,818	

Your planning process projected you would have \$1,331,000 heading into retirement on January 1, 2011 (Table 1). The real world scenario resulted in you having only \$598,804 heading into retirement (Table 2). Your planning process projected you would have \$2,112,130 at the end of 2016. The real world scenario resulted in you having only \$1,060,818 at the end of 2016. These examples show the importance on focusing on your potential gains **and losses** in both good **and bad times** for investors. Most people cannot afford to sustain large principal losses so close to retirement. Regardless of your age, Table 1 and Table 2 demonstrate the difficulty in recovering your original principal after sustaining large losses.

Same Scenario with 65% Stocks / 35% Bonds

The standard industry response to reduce volatility in a stock portfolio is to add bonds. In this case, assume you plan to retire on your 65th birthday, which happens to fall on December 31, 2010. We will use the same assumptions as above with the following exceptions:

- Instead of investing in 100% stocks, you invest in 65% stocks and 35% bonds in an effort to protect your nest egg.
- Since you have decided to be more conservative, we will see how many years it takes to get back to break even at an 8% return instead of a 10% return.

Table 3 below shows the actual returns for the Vanguard 500 Index Fund and the Vanguard Total Bond Market Index Fund. The Vanguard 500 Index Fund holds the 500 stocks that make up the S&P 500 Index. The Vanguard Total Bond Market Index holds a diversified portfolio of bonds. In this scenario, the 65% stock / 35% bond investor still experienced losses of 1.90%, 4.86%, and 11.51% in 2000, 2001, and 2002 respectively.

Table 3 2000-2002 with 65% Stocks / 35% Bonds

Year	Vanguard Index 500	Vanguard Total Bond	65% Index 500	35% Total Bond	Blended Total Return
2000	-9.06%	11.39%	-5.89%	3.99%	-1.90%
2001	-12.02%	8.43%	-7.81%	2.95%	-4.86%
2002	-22.15%	8.26%	-14.40%	2.89%	-11.51%

Table 4 shows the results with a 65% stock / 35% bond portfolio. Even with some bonds in the portfolio, it takes almost six years to get back to the original \$1,000,000 in principal.

Table 4 2000-2002 with 65% Stock / 35% Bonds

Status	Age	Years	Year	Actual Return	Actual Result	
					\$1,000,000	Even
Working	63	1	2008	-1.90%	\$980,975	With
Working	64	2	2009	-4.86%	\$933,275	35%
Working	65	3	2010	-11.51%	\$825,888	Bonds,
Retired	66	4	2011	8.00%	\$891,959	6 Yrs To
Retired	67	5	2012	8.00%	\$963,316	BREAK
Retired	68	6	2013	8.00%	\$1,040,381	EVEN
Retired	69	7	2014	8.00%	\$1,123,611	
Retired	70	8	2015	8.00%	\$1,213,500	
Retired	71	9	2016	8.00%	\$1,310,580	

High Inflation – Case One 65% Stocks / 35% Bonds

As a retiree or someone who is approaching retirement, a return to 1970s style inflation may represent the greatest threat to your standard of living. Assume you plan to retire on your 65th birthday, which falls on December 31, 2010. As of January 1, 2008, you have amassed \$1,000,000 in your 65% stock / 35% bond portfolio, which you plan to use as a source of income during retirement. Your retirement projections assume 8% growth and 4% inflation from 2008-2019. Assuming no portfolio withdrawals for simplicity, you hoped to have \$2,518,170 in nominal dollars and \$1,601,032 in inflation-adjusted dollars (purchasing power) at the end of 2019. These retirement projections are shown in Table 5.

Table 5 Typical 8% Return and 4% Annual Inflation Rate Projection

Status	Age	Years	Year	Assumed Return	Assumed Inflation	Nominal Portfolio	Inflation Adjusted
Working	63	1	2008	8.00%	4.00%	\$1,080,000	\$1,040,000
Working	64	2	2009	8.00%	4.00%	\$1,166,400	\$1,081,600
Working	65	3	2010	8.00%	4.00%	\$1,259,712	\$1,124,864
Retired	66	4	2011	8.00%	4.00%	\$1,360,489	\$1,169,859
Retired	67	5	2012	8.00%	4.00%	\$1,469,328	\$1,216,653
Retired	68	6	2013	8.00%	4.00%	\$1,586,874	\$1,265,319
Retired	69	7	2014	8.00%	4.00%	\$1,713,824	\$1,315,932
Retired	70	8	2015	8.00%	4.00%	\$1,850,930	\$1,368,569
Retired	71	9	2016	8.00%	4.00%	\$1,999,005	\$1,423,312
Retired	72	10	2017	8.00%	4.00%	\$2,158,925	\$1,480,244
Retired	73	11	2018	8.00%	4.00%	\$2,331,639	\$1,539,454
Retired	74	12	2019	8.00%	4.00%	\$2,518,170	\$1,601,032

Unfortunately 2008-2019 produces the same results as 1970-1981 for stock returns, bond returns, and inflation (see Table 6). Under these real world conditions and using a 65% stock / 35% bond blend, your nominal portfolio value at the end of 1981 would have been \$2,100,278 with an inflation-adjusted purchasing power of only \$798,932 (Table 7).

This means the actual purchasing power produced after being invested in 65% stocks and 35% bonds from 1970-1981 (Table 7) would have been **50% lower than a projection using an average annual return of 8.0% and average annual inflation rate of 4.0% (Table 5).** Said another way, **this means your standard of living would be 50% lower than you projected.** Tables 6 and 7 use large company stock returns, long-term government bond returns, and annual inflation rates (1970-1981) (SOURCE: Ibbotson Associates).

Table 6 Inflation, Stocks, and Bonds 1970-1981

Year	Inflation	Stocks	Bonds	65%	35%	Total Return
				Stocks	Bonds	
1970	5.49%	4.01%	12.11%	2.61%	4.24%	6.85%
1971	3.36%	14.31%	13.23%	9.30%	4.63%	13.93%
1972	3.41%	18.98%	5.69%	12.34%	1.99%	14.33%
1973	8.80%	-14.66%	-1.11%	-9.53%	-0.39%	-9.92%
1974	12.20%	-26.47%	4.35%	-17.21%	1.52%	-15.68%
1975	7.01%	37.20%	9.20%	24.18%	3.22%	27.40%
1976	4.81%	23.84%	16.75%	15.50%	5.86%	21.36%
1977	6.77%	-7.18%	-0.69%	-4.67%	-0.24%	-4.91%
1978	9.03%	6.56%	-1.18%	4.26%	-0.41%	3.85%
1979	13.31%	18.44%	-1.23%	11.99%	-0.43%	11.56%
1980	12.40%	32.42%	-3.95%	21.07%	-1.38%	19.69%
1981	8.94%	-4.91%	1.86%	-3.19%	0.65%	-2.54%
7.96%				Average		7.16%

Table 7: 65% Stocks / 35% Bonds During 1970's Inflation

Status	Age	Years	Year	Actual Return	Actual Inflation	Nominal Portfolio	Inflation Adjusted
Working	63	1	1970	6.85%	5.49%	\$1,068,450	\$1,013,550
Working	64	2	1971	13.93%	3.36%	\$1,217,306	\$1,120,703
Working	65	3	1972	14.33%	3.41%	\$1,391,728	\$1,243,066
Retired	66	4	1973	-9.92%	8.80%	\$1,253,704	\$1,010,395
Retired	67	5	1974	-15.68%	12.20%	\$1,057,085	\$728,667
Retired	68	6	1975	27.40%	7.01%	\$1,346,727	\$877,242
Retired	69	7	1976	21.36%	4.81%	\$1,634,367	\$1,022,412
Retired	70	8	1977	-4.91%	6.77%	\$1,554,144	\$903,010
Retired	71	9	1978	3.85%	9.03%	\$1,613,994	\$856,243
Retired	72	10	1979	11.56%	13.31%	\$1,800,499	\$841,220
Retired	73	11	1980	19.69%	12.40%	\$2,155,027	\$902,550
Retired	74	12	1981	-2.54%	8.94%	\$2,100,278	\$798,932

High Inflation – Case Two 100% Stocks

The typical Wall Street response to high inflation is to reduce your bond exposure and increase your stock exposure. Table 8 assumes a portfolio of 100% stocks from 1970-1981. During this period of high inflation, the results would have been almost identical to the investor with 65% stocks and 35% bonds. The 100% stock investor would have had \$838,334 in purchasing power after investing \$1,000,000 from 1970-1981. The 65% stock / 35% bond investor would have had \$798,932. The point of the exercise is to illustrate **in the 1970s, a period with high inflation, both stock and bond investors struggled to protect and grow their purchasing power.**

Table 8: 100% Stocks During 1970's Inflation

Status	Age	Years	Year	Actual Return	Actual Inflation	Nominal Portfolio	Inflation Adjusted
Working	63	1	1970	4.01%	5.49%	\$1,040,100	\$985,200
Working	64	2	1971	14.31%	3.36%	\$1,188,938	\$1,093,079
Working	65	3	1972	18.98%	3.41%	\$1,414,599	\$1,263,272
Retired	66	4	1973	-14.66%	8.80%	\$1,207,219	\$966,908
Retired	67	5	1974	-26.47%	12.20%	\$887,668	\$593,005
Retired	68	6	1975	37.20%	7.01%	\$1,217,880	\$772,033
Retired	69	7	1976	23.84%	4.81%	\$1,508,223	\$918,951
Retired	70	8	1977	-7.18%	6.77%	\$1,399,933	\$790,757
Retired	71	9	1978	6.56%	9.03%	\$1,491,768	\$771,226
Retired	72	10	1979	18.44%	13.31%	\$1,766,850	\$810,789
Retired	73	11	1980	32.42%	12.40%	\$2,339,663	\$973,109
Retired	74	12	1981	-4.91%	8.94%	\$2,224,786	\$838,334

CCM's Approach to Inflation, Principal Protection, and a Weak U.S. Dollar

Table 9 shows the worst annual returns for the S&P 500 Index from 1970-2007. Index returns do not include dividends where as total returns do include dividends.

Table 9: S&P 500 Index Returns

1973	-17.10%	1990	-6.58%
1974	-29.56%	2000	-10.14%
1977	-11.36%	2001	-13.04%
1981	-10.03%	2002	-23.37%

We have shown via examples even when you add bonds to a stock portfolio the losses can have lasting negative impacts on your portfolio and standard of living. The multiple asset class approach developed

by CCM attempts to minimize the probability of sustaining prolonged and painful losses. Table 10 shows **the worst** published annual inflation rates from 1970-2007.

Table 10: Published U.S. Inflation Rates

SOURCE: Ibbotson Associates

1970	5.49%	1979	13.31%
1973	8.80%	1980	12.40%
1974	12.20%	1981	8.94%
1975	7.01%	1987	4.41%
1976	4.81%	1988	4.42%
1977	6.77%	1989	4.65%
1978	9.03%	1990	6.11%

As outlined in a recent article on debt and the wealth effect, a return to 1970s style inflation is well within the bounds of reality. CCM's multiple asset class approach includes several portfolio elements which can help clients protect their purchasing power in periods of high inflation and a weak U.S. dollar.

Asset Class Correlations Can Help Protect Principal

By adding additional assets classes to a traditional mix of U.S. stocks and U.S. bonds, an investor can have a realistic probability of avoiding the large losses which can occur during a bear market. A CCM multiple asset class portfolio has exposure to the following investments which when used in a diversified portfolio can reduce volatility and risk of substantial principal loss.

- Large-Cap Dividend Stocks
- U.S. Mid-Cap Growth Stocks
- Hedged U.S. Large-Cap Stocks – Bear Market Slant
- Hedged U.S. Large-Cap Stocks – Bull Market Slant
- Global Stocks
- Emerging Market Large-Cap Stocks
- U.S. Treasury Bonds - Long Maturities
- U.S. Treasury Inflation Protected Bonds - Gold Stocks
- U.S. Intermediate Bonds
- Global Bonds – Short Maturities – Gold Stocks
- Emerging Market Bonds - Intermediate Maturities
- Physical Commodities
- Commodity Stocks
- Physical Gold and Silver
- Precious Metals and Mining Stocks
- Timberlands
- U.S. Commercial Real Estate
- Foreign Commercial Real Estate
- CDs and Money Markets

The CCM model is built around a CCM Base Asset Allocation which produced attractive historical annual returns, relatively low volatility, and protection from inflation from 1970-2006. In order to become

better prepared for the future, we collected historical data for the asset classes above going back to 1970. The actual daily historical data for specific investments was used when available. Since many of the investments we use today were not in existence in 1970, proxies were used where needed, usually in the form of annual mutual fund returns found in old Morningstar Mutual Fund Surveys. For example, the specific intermediate term bond fund used in our multiple asset class portfolios has an inception date of June 1984. In our historical asset class database, we used daily returns for this specific bond fund as far back as available. When daily data was not available, we used the historical annual returns for the specific bond fund investment. Prior to the funds inception date in 1984, we used returns from a similar intermediate term bond fund as a proxy. Therefore, the returns in the database are after all investments expenses such as annual mutual fund management fees.

The returns in Table 11 compare the CCM Base Allocation (Multiple Asset) to the returns for Large Cap U.S. stocks (S&P 500). To make the comparison more meaningful, we used the total returns from the Vanguard Index 500 Fund and the total returns of Ibbotson Large Company Stocks going back to 1970. As stated above, unlike pure index returns, total returns include both appreciation and dividends. The Multiple Asset annual returns are **reduced** by 0.65%, which is the current CCM management fee for the CCM Base Allocation used in this example. Actual client management fees may be higher or lower based on their specific needs and allocation.

Table 11: Multiple Asset Class Core Portfolio vs. S&P 500 - Total Returns

	Multiple Asset	S&P 500		Multiple Asset	S&P 500
1970	2.20%	3.83%	1989	22.11%	31.31%
1971	10.78%	14.13%	1990	7.03%	-3.35%
1972	31.55%	18.80%	1991	24.89%	30.37%
1973	9.14%	-14.84%	1992	7.12%	7.49%
1974	2.56%	-26.65%	1993	34.82%	9.81%
1975	21.11%	37.02%	1994	-3.77%	1.14%
1976	17.53%	23.66%	1995	20.91%	37.46%
1977	4.93%	-7.36%	1996	16.78%	22.85%
1978	9.40%	6.38%	1997	10.61%	33.18%
1979	35.22%	18.26%	1998	5.69%	28.63%
1980	25.77%	32.24%	1999	6.37%	21.07%
1981	2.88%	-5.09%	2000	15.04%	-9.05%
1982	20.80%	21.23%	2001	12.50%	-12.03%
1983	7.97%	22.33%	2002	10.39%	-22.17%
1984	3.82%	6.09%	2003	22.76%	28.51%
1985	12.07%	31.98%	2004	9.24%	10.74%
1986	17.07%	18.29%	2005	6.79%	4.77%
1987	18.35%	5.05%	2006	12.97%	15.65%
1988	0.43%	16.63%			

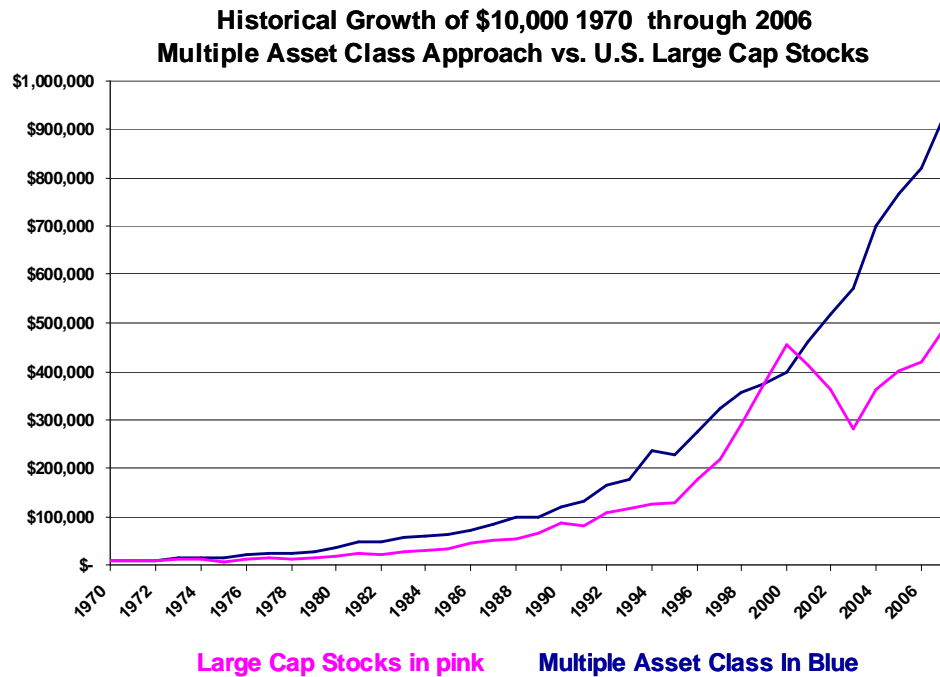
Table 11-A

	Multiple Asset	S&P 500
Average Annual Return	13.40%	12.39%
Standard Deviation	9.53%	16.80%

Past performance does not guarantee future returns. For illustrative purposes only.

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With exposure to many asset classes which can perform well in an inflationary environment, the multiple asset class approach was able to produce favorable returns during the period of 1970-1981. Having assets which exhibited a low or negative correlation to U.S. stocks enabled a multiple asset class approach to produce positive returns during the 2000-2002 bear market.

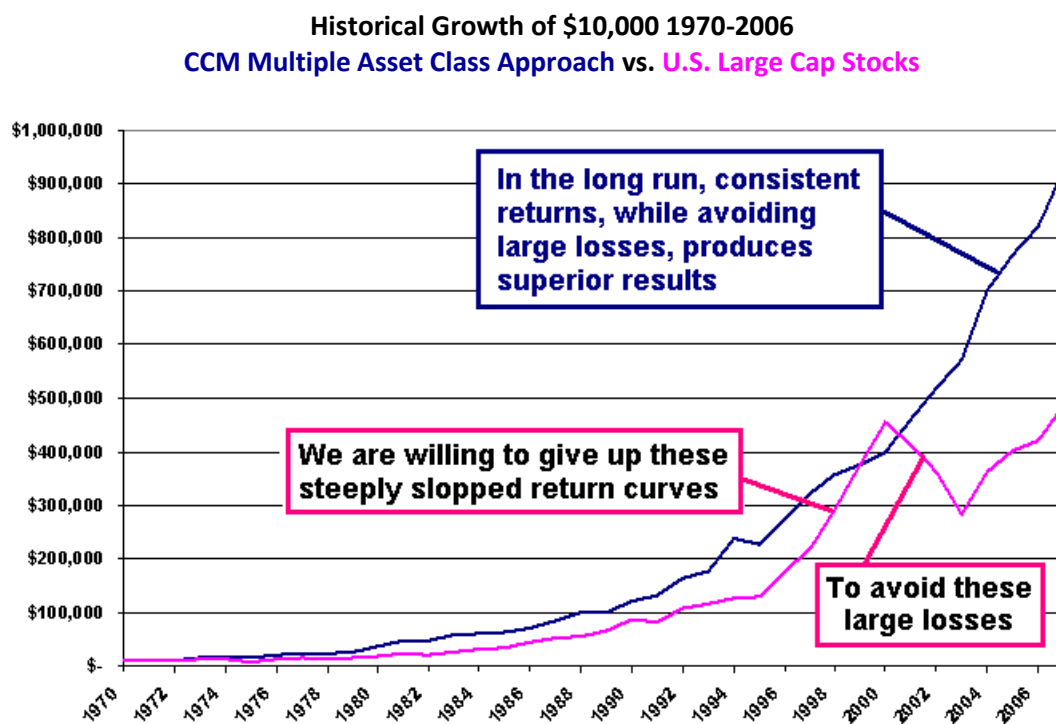
Graph 1 – Base Allocation

Large cap stock returns used above are based on actual total returns for the Vanguard 500 Index Fund and Ibbotson Large Cap Stocks. Historical returns for specific investments typically implemented by CCM clients were used in the Multiple Asset Class calculations whenever available. When data was not available for specific investments, reasonable proxies were used. Mutual fund and ETF annual operating fees are included in the return figures quoted above. Multiple Asset Class returns are reduced by 0.65% annually, which is the approximate annual CCM management fee for the asset allocation used in this example. Actual client fees may be higher or lower based on their particular needs and allocation. Custodian trading costs, such as commissions for transactions are not included in the figures presented above. These figures are presented for illustrative purposes only. Use this graph at your own risk. Attached legal disclaimers apply in the paper, article, or Internet posting apply.

The CCM Base Allocation used in these examples trailed the S&P 500 in 23 of the 37 years shown. Conversely, it outperformed the S&P 500 14 of the 37 years shown. **The key to successful long-term investing and the CCM approach is consistency of returns while reducing the probability of large portfolio losses, which applies to someone in their 70s as well as someone in their 20s.** This is clearly illustrated in Graphs 1 and 2.

The CCM Base Allocation does not attempt to outperform the S&P 500 every year. However the CCM Current Allocation, which is the CCM Base Allocation adjusted for the current environment, does attempt to capitalize on current trends. The adjustments made when creating the CCM Current Allocation take the client's circumstances and risk tolerance into account. The CCM Current Allocation can be tailored to fit a very conservative or fairly aggressive investor. Graphs 1 and 2 assume buy-and-hold. The CCM Rebalancing Model is one of many tools used to adjust the CCM Base Allocation. Rebalancing produces an asset mix which is more in line with the current environment. Therefore, in years where the buy-and-hold CCM Base Allocation (Multiple Asset) lags the market, the CCM Rebalancing Model would attempt to improve upon those returns via allocation adjustments.

Graph 2



Large cap stock returns used above are based on actual total returns for the Vanguard 500 Index Fund and Ibbotson Large Cap Stocks. Historical returns for specific investments typically implemented by CCM clients were used in the Multiple Asset Class calculations whenever available. When data was not available for specific investments, reasonable proxies were used. Mutual fund and ETF annual operating fees are included in the return figures quoted above. Multiple Asset Class returns are reduced by 0.65% annually, which is the approximate annual CCM management fee for the asset allocation used in this example. Actual client fees may be higher or lower based on their particular needs and allocation. Custodian trading costs, such as commissions for transactions are not included in the figures presented above. These figures are presented for illustrative purposes only. Use this graph at your own risk. Attached legal disclaimers apply in the paper, article, or Internet posting apply.

NOTE: Graphs 1 and 2 were produced using annual returns, which does not take into account intra-year volatility. Graphs using daily performance data would show intra-year price volatility which is more indicative of the real world. Since returns are not produced in straight lines from year to year, an investor's experience in both the S&P 500 and CCM Multiple Asset Class Approach has been more volatile than what is depicted in Graphs 1 and 2.

Like any investment strategy, a long-term focus is vital to success. Warren Buffet lagged the off the charts technology returns of the late 1990s. His patience and consistent approach enabled him to have the last laugh after the 2000-2002 bear market. While it is easy to look at the returns of the multiple asset class strategy and the graphs above and say, "I want to invest this way," it is quite different to stay with the strategy in years where the general stock market has produced superior returns.

Prior to discussing some asset allocation statistics, it may be helpful to compare in simple terms the historical results of the CCM Base Growth Allocation to the general stock market. Of the 23 years the multiple asset class strategy underperformed the S&P 500, the average annual return for the CCM Allocation and average lag vs. the market was 12.84% and 8.72% respectively. In the 14 years the general stock market trailed the multiple asset class strategy, the stock market's average annual return and average lag vs. the multiple asset class strategy was -2.67% and 17.01% respectively. This means when the multiple asset class approach trails the S&P 500, it still returns on average 12.84% vs. the general stock market's average of 21.56%. However, in the years the S&P 500 trails the multiple asset class strategy; it produces a loss of 2.67% vs. the multiple asset class' average gain of 14.33%. These figures also point to the importance of consistency of returns and loss minimization.

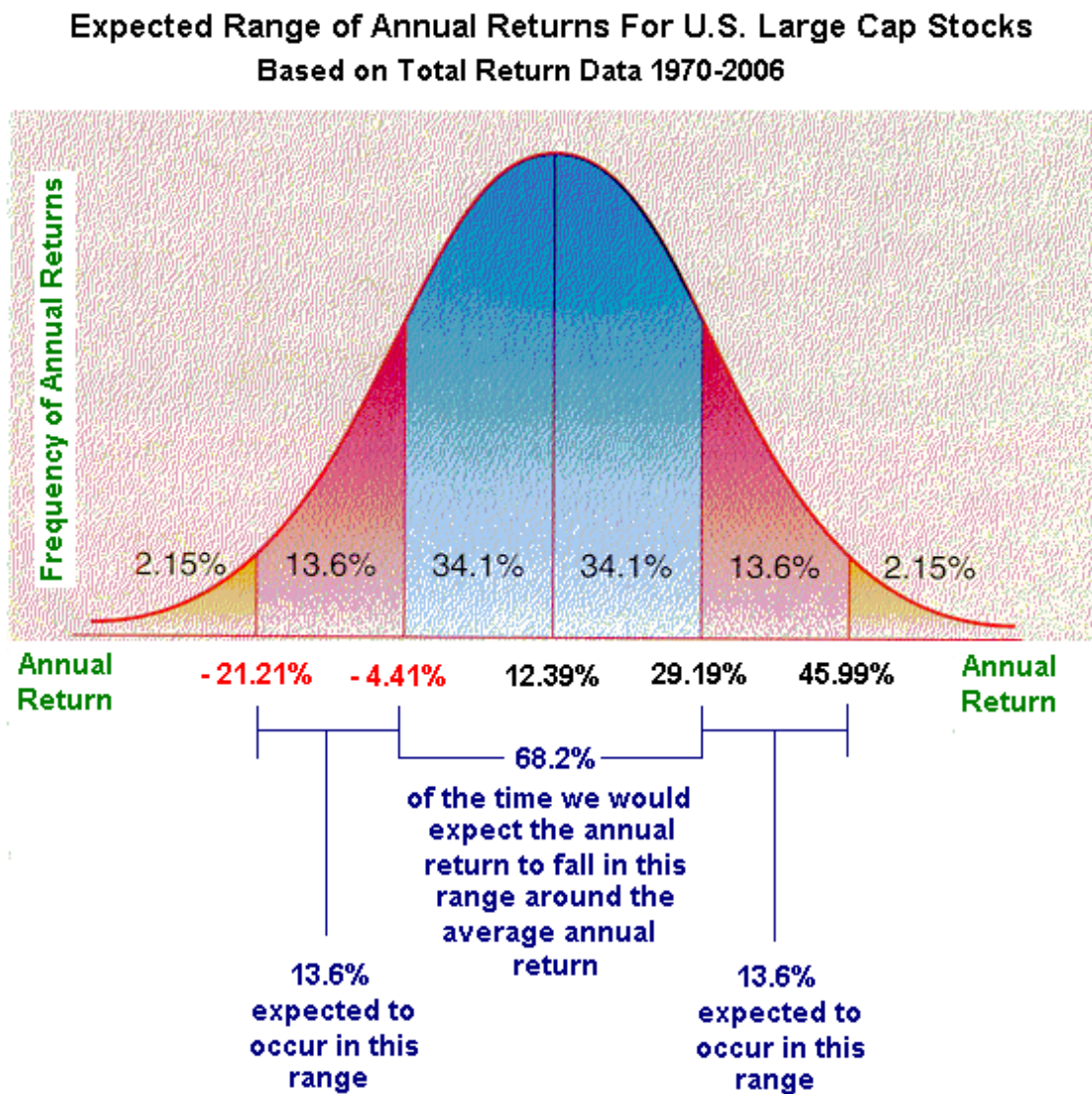
To put our 2007 calendar year returns in the context of risk/reward, it is helpful to review the concepts of average annual return and standard deviation. Standard deviation can help us understand the level of uncertainty associated with achieving a stated average annual return. The concepts are illustrated in Graphs 1-A and 1-B, compare the historical performance from 1970-2006 for large-cap U.S. stocks (similar to the S&P 500) and the CCM Base Growth Asset Allocation (Multiple Asset). In the investment world, we use historical standard deviations along with the average annual returns of specific asset allocations to help us better understand the possible range of future returns.

From 1970-2006, U.S. large-cap stocks had an average annual return of 12.39% with a standard deviation of 16.80%. From a statistical standpoint, this tells us from 1970-2006 the annual return for U.S. large-cap stocks fell between a loss of 4.41% (one standard deviation below the average) and a gain of 29.19% (one standard deviation above the average) sixty-eight percent of the time. Thirty-two percent of the time the annual return was either worse than a loss of 4.41% or better than a gain of 29.19%. Moving two standard deviations away for the average tells ninety-five percent of the time the annual return fell between a loss of 21.21% and a gain of 45.99%.

Since investment markets do not produce returns based on a symmetrical normal distribution, there are some limitations to this quick risk/reward analysis. However, it does help us understand the probabilistic range of possible future outcomes based on 37 years of historical data. If we use historical figures for U.S. large cap stocks to help us gain a better understanding of possible future returns, we can say there is a 68% probability the average annual return will fall between a loss of 4.41% and a gain of 29.19%. Similarly, we can say with a 95% probability the annual return will fall between a loss of 21.21% and a gain of 45.99%.

The average annual historical return from 1970-2006 for the CCM Base Growth Allocation used in these examples was 13.40% and the standard deviation was 9.53%. If we use these historical figures to help gain a better understanding of possible future returns, we can say there is a 68% probability the average annual return will fall between a gain of 3.87% and a gain of 22.93%. Similarly, we can say with a 95% probability the annual return will fall between a loss of 5.66% and a gain of 36.33%.

Graph 1-A



While investment returns do not fit neatly into a normal distribution, we can illustrate the concept of standard deviation and expected frequency of annual returns around the mean return of 12.39% in the figure above.

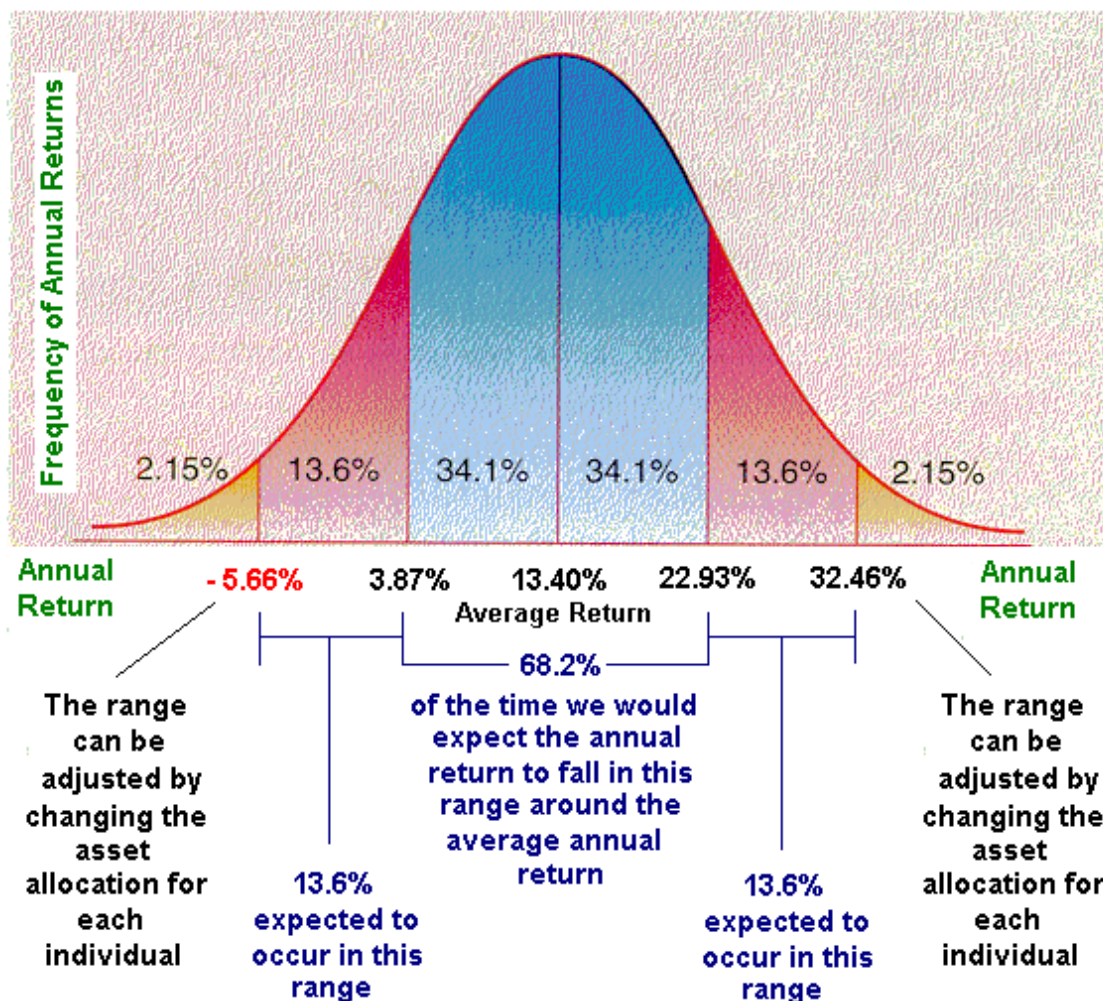
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Understanding the limitations of assuming returns are based on a normal distribution, it is helpful to look at the risk of each strategy from an actual historical perspective as well. We use a historical

Graph 1-B

**Expected Range of Annual Returns For Multiple Asset Class
Portfolio Based On Ciovacco Capital Management Approach
Using Total Return Data 1970-2006**



While investment returns do not fit neatly into a normal distribution, we can illustrate the concept of standard deviation and expected frequency of annual returns around the mean return of 13.40% in the figure above.

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measure termed “maximum historical draw down” (Max Draw Down) to describe an asset allocation’s worst historical performance from a market peak (top) to a market trough (bottom). Since we only have daily data going back to 1995 for the wide variety of asset classes, the Max Draw Down /Loss figures below are for the period 1995-2006. The total return investor in the S&P 500 from March of 2000 to October of 2002 lost roughly 47%. 47% is said to be the maximum portfolio draw down for the S&P 500 during the period from 1995-2006. Over the same period, the CCM Base Growth Allocation’s maximum portfolio drawdown was 12.50%, which occurred from April 1998 to August 1998.

Table 12: Historical Risk/Reward 1970-2006	S&P 500 Total Return Large-Cap Stocks	Multiple Asset Class Strategy
Average Annual Return (1970-2006)	12.39%	13.40%
Standard Deviation Returns	16.80%	9.53%
68% Probability Range	-4.41% to 29.19%	3.87% to 22.93%
95% Probability Range	-21.21% to 45.99%	-5.66% to 32.46%
Max Draw Down (1995-2006)	- 47.74%	-12.50%

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What it all comes down to is risk adjusted returns. When S&P 500 makes 8.0% in a given year you must take the return in the context of how much risk you exposed yourself to in order to get the 8.0%. In the worst case scenario from 1995-2006, the risk historically for the S&P 500 is you would have lost 47.74% of your capital from the S&P 500’s high in March of 2000 to the low in October of 2002. When earning 8.0% in the Multiple Asset Class Strategy, your worst high to low loss would have been 12.50% over the same period.

Simulating Possible Future Outcomes to Assist in Risk Management

The historical analysis above is very relevant since it draws on asset class correlations and investment performance over a 37 year period (1970-2006). However, it is also limited since we know the future will be different from the past. For example:

- Unlike 2000-2002, what happens if the next bear market in stocks lasts five years instead of three years?
- What happens if the next ten years have inflation rates well above the historical average?
- What happens if we get abnormally low inflation adjusted returns during the first ten years of your retirement or investment program?

A money manager’s greatest fear is to invest a client’s hard earned money just prior to a prolonged period of poor performance for the general stock market.

The CCM Investment Simulator

The CCM Investment Simulator is a detailed investment allocation simulator which helps us better understand the realistic range of possible future outcomes, both favorable and unfavorable, for a particular asset allocation. The model simulates the future using over 75,000 historical records of returns, inflation, and taxes dating back 37 years (1970-2006).

Monte Carlo simulation is a method that estimates possible outcomes from a set of random variables by simulating a process a large number of times and observing the outcomes. In our case, the Monte Carlo simulator is a computerized technique, which is the basis for probabilistic risk analysis, which replicates real life occurrences by mathematically modeling projected events, such as investment cycles, annual returns, and annual inflation rates. Monte Carlo simulation uses pre-defined probability distributions of risk variables to perform random modeling over many simulations.

The CCM Simulator allows the investor to examine multiple future investment paths based on varied market conditions, annual rates of return, and inflation. A conventional financial projection, which might assume annual fixed inflation of 4% and fixed annual growth of 10%, cannot take into account the variability that occurs in the real world.

Simulator – Basic Input and Assumptions

Historical data was collected for our investments/asset classes (or meaningful proxies) from 1970 to 2006 (37 years). The period 1970-2006 was selected since it includes several different investment climates. Prior to running simulations, the investor's current portfolio size, net future deposits, and anticipated withdrawals are entered, along with an asset allocation. The basic logic of the CCM Investment Simulator is outlined below:

- Based on a historical probability distribution, choose which period of time below will be most similar to the **first year** of investing:
 - 1970-1981 This period of higher inflation and slower economic growth helped coin the term “stagflation”. It was a difficult time for both stock and bond investors. Stocks produced poor returns of -14.84% in 1973, -26.65% in 1974, -7.36% in 1977, and -5.09% in 1981. Commodity investments provided an alternative to help combat what was at sometimes double-digit inflation. Inflation ran at 12.20% in 1974, 13.31% in 1979, and 12.40% in 1980. If you think the returns above are painful, try adjusting them downward for inflation. The model refers to this period as BEAR MARKET ONE.
 - 1982-1999 This period was marked by low inflation, strong economic growth, and excellent stock market returns. It is often referred to as the greatest investment boom in history. Commodity investors, for the most part, did not fare well. The model refers to this period as BULL MARKET ONE.
 - 2000-2002 Technology bubble bursts – bear market in stocks, favorable period for commodities and bonds, low inflation. The World Trade Center attacks added to the bearish tone. Stocks returned -9.05% in 2000, -12.03% in 2001, and -22.17% in 2002. To give you an idea of how difficult it is to recover

from serious investment losses, the NASDAQ is still roughly 50% below its March 2000 high of 5,048. Think about that – it is almost eight years later and a NASDAQ investor in March of 2000 would still have a 50% loss today. The model refers to this period as BEAR MARKET TWO.

2003-2007 Bull markets in most asset classes, rapid expansion of credit and money supply contribute to a weakening U.S. Dollar. This is the current bull market, which officially started in October of 2002. It is highlighted by the Federal Reserve flooding the system with money and credit via interest rates being reduced to 40-year lows. Globalization has also played a major role during an unprecedented environment of synchronous global growth. The model refers to this period as BULL MARKET TWO.

- How long will the cycle chosen above last? The length of the next cycle is determined randomly using a probability distribution for each of the four cycles. The probability distributions are based on the actual length of the four cycles (1970-1981, 1982-1999, 2000-2002, and 2003-2006).
- Simulate a future annual return based on the mean (MEAN) and standard deviation (STD DEV) of the selected allocation's actual historical return for each respective cycle. For example, the MEAN annual return from 1970 to 1981 for the S&P 500 was 8.36% and the STD DEV (a measure of the uncertainty of the MEAN return) was 18.51%. The simulator randomly assigns an annual return based on the actual historical profile for each of the four cycles.
- Simulate the annual inflation rate based on the mean and standard deviation of actual inflation rates for each of the four cycles. When the model is in the BEAR MARKET ONE (1970-1981) cycle, the inflation profile (MEAN & STD DEV) for this specific period is used.
- Continue to simulate annual returns and annual inflation rates until the length of the current cycle in years has been reached.
- Begin the process over again by selecting which of the four cycles (1970-1981, 1982-1999, 2000-2002, and 2003-2006) will occur next.

The model simulates annual returns and inflation rates for up to 65 years. It can also take into account other important factors such as taxes, withdrawals, and the effect of inflation on your purchasing power.

NOTE: In an effort to capture more realistic volatility in the simulator, 12-month rolling returns are used as input for both the S&P 500 and the CCM Base Allocation from 1995-2006. Annual returns are used in both cases from 1970-1994. This causes a slight variance in historical annual returns and standard deviations for both the S&P 500 and CCM Base Allocation when compared to calculations based solely on annual returns. Using 12-month rolling returns allows us to capture intra-year volatility that may not show up in an annual return.

Using the CCM Simulator to Assess Risk-Reward Profiles

Graphs 3 and 4 show the results of 100 simulations for both the CCM Base Allocation and the S&P 500 Index (a 100% stock portfolio). While the simulator runs for 65 years, only the first 10 years are shown to make it easier to discern the differences in the uncertainty between the outcomes. The top of page (Graph 3) shows the S&P 500 Index and bottom (Graph 4) shows the CCM Current Base Allocation. More conservative investors have a lower risk allocation and more aggressive investors have a more aggressive allocation than the allocation used in this example.

Some comments about Graphs 3 and 4 – Simulation Results:

- The CCM Base Allocation, under simulated future conditions was able to post better average, median, and worst-case results than the S&P 500 index.
- Showing there is no perfect way to invest, the investor in the S&P 500 may be compensated with a better best case outcome, which is in line with risk-reward investing. I think most will agree the overall CCM Base Allocation risk-reward profile is more desirable than the uncertainty and risk associated with the S&P 500 Index.
- While the model can show purchasing power based on simulated future inflation, the results in Graphs 3 and 4 are not adjusted for inflation.

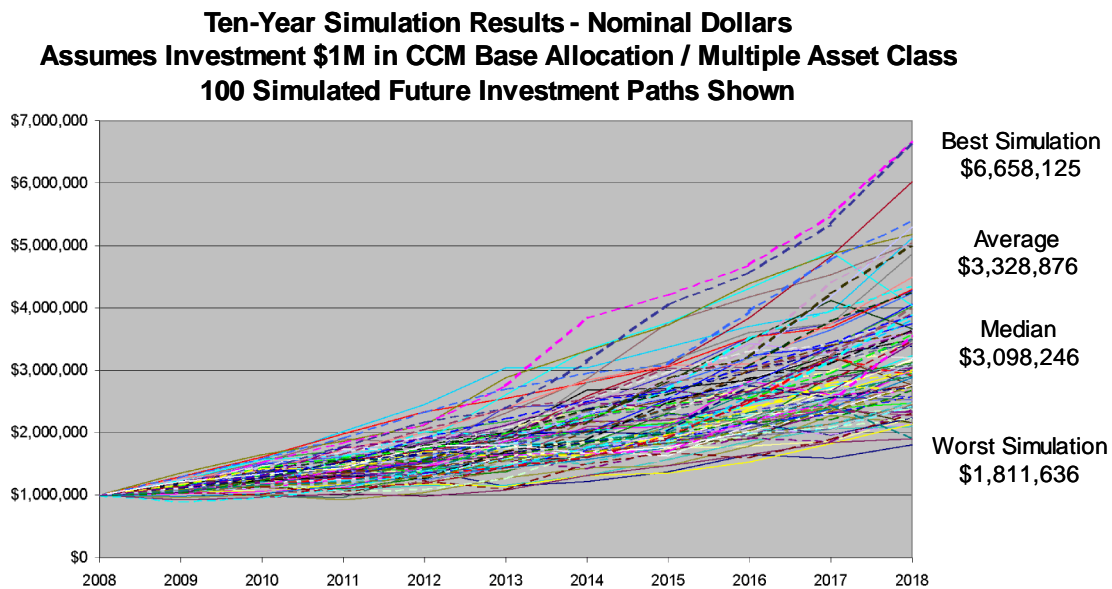
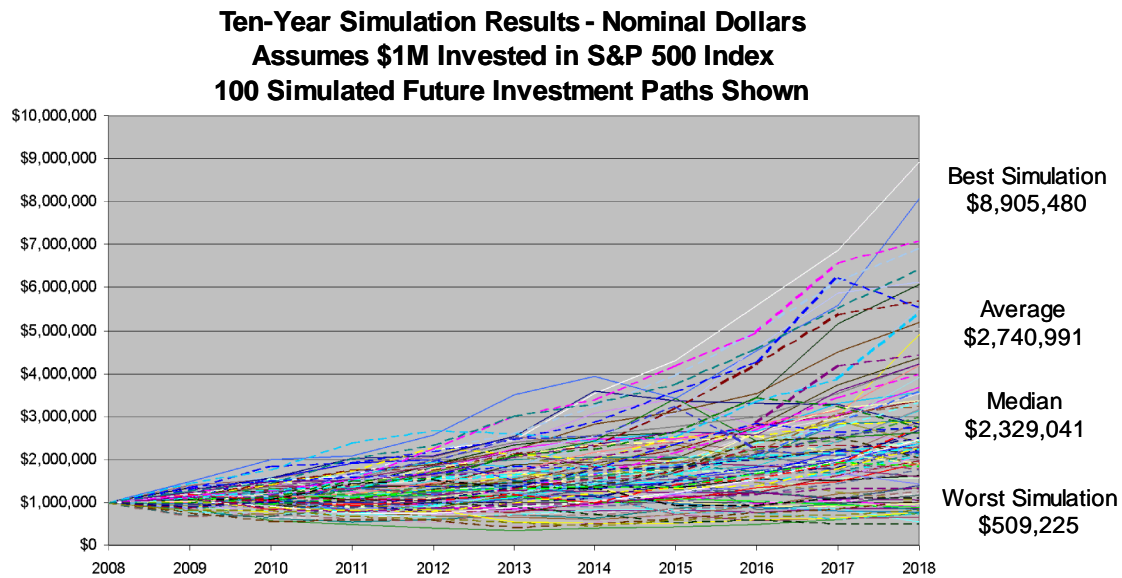
Simulating Real-World vs. Published Inflation

Since inflation is a significant long-term concern, the model can be set to simulate true inflation rates rather than published inflation rates. True inflation rates refer to what consumers actually experience in the checkout line. The model uses actual published inflation rates from 1970-1982 and adjusted historical inflation figures based on changes made to the CPI since 1982 (1983-2006). The adjusted figures are based on research by John Williams of Shadow Government Statistics. The U.S. government published an average inflation rate of 3.07% between 1983 and 2006. Over the same period, Williams' research concluded the real figures produce an average inflation rate of roughly 7.03%. Similarly, between 1970 and 2006, his research concluded the average inflation rate was roughly 7.24% vs. the published average of 4.68%. You can learn more using the links below:

<http://www.shadowstats.com/cgi-bin/sgs/article/id=343>

<http://www.shadowstats.com/>

Graphs 3 and 4 – Simulations



Large cap stock returns used above are based on actual total returns for the Vanguard 500 Index Fund and Ibbotson Large Cap Stocks. Historical returns for specific investments typically implemented by CCM clients were used in the Multiple Asset Class calculations whenever available. When data was not available for specific investments, reasonable proxies were used. Mutual fund and ETF annual operating fees are included in the return figures quoted above. Multiple Asset Class returns are reduced by 0.65% annually, which is the approximate annual CCM management fee for the asset allocation used in this example. Actual client fees may be higher or lower based on their particular needs and allocation. Custodian trading costs, such as commissions for transactions are not included in the figures presented above. These figures are presented for illustrative purposes only. Use this graph at your own risk. Attached legal disclaimers apply in the paper, article, or Internet posting apply.

CCM Rebalancing Model – Incremental Shifts to Capture Long-Term Trends

A simple example can illustrate the basic concepts behind the CCM Rebalancing Model, which is used periodically to adjust the client's CCM Current Allocation. Assume you began investing in 1970. You talked to three advisors one who said "put your money in stocks", another who said "put your money in bonds", and a third who said "put your money in commodities". Since you had conflicting advice, you decided to place 33% of your portfolio in stocks, 33% in bonds, and 34% in commodities. Every six months, you stack ranked the performance of the three asset classes and made relatively small adjustments to your allocation based on performance. The performance in the first six months was commodities up 3%, stocks up 2%, and bonds down 2%. You decided to reallocate your portfolio to 37% commodities, 35% stocks, and 27% bonds. You reduced exposure to the weaker asset class (bonds) and increased exposure to the stronger asset classes (stocks and commodities). The reason you decided to make small incremental shifts was to avoid overreacting to what may turn out to be a short-term trend.

Assuming you had used this incremental rebalancing strategy every six months based on the relative performance of the three asset classes, you would have been over weighted in commodities, and underweighted in stocks and bonds from 1970-1982. In 1982, you would have begun to shift your allocation away from commodities and toward stocks and bonds. When the stock market topped in March of 2000, you would have had a large percentage of your portfolio in stocks, a moderate allocation to bonds, and almost no exposure to commodities. After the dot-com bubble began to burst in the 2nd half of 2000, you would have started reducing your allocation in stocks and increasing your allocation to bonds and commodities. After the stock market bottomed in October of 2002, you would have begun migrating some of your bond allocation to stocks.

Unbelievably, there have only been three major shifts in asset class leadership since 1970:

1970-1982	Commodities lead – Stocks and Bonds Lag
1982-2000	Stocks and Bonds Lead – Commodities Lag – Shift One
2000-2002	Commodities and Bonds Lead – Stocks Lag – Shift Two
2002-2007	Commodities and Stock Lead – Bonds Lag – Shift Three

In order to avoid being shaken out of a winning asset class during sharp corrections in an ongoing bull market, the CCM Rebalancing Model call for incremental asset allocation shifts, which are proportional to the magnitude of gains and losses being experienced. If an asset class is experiencing large losses, the magnitude of the incremental shifts would be increased. If the losses in the asset class are relatively small, the incremental shifts would be smaller in magnitude.

The stock market crash in 1987 did not signal the end of the 1982-2000 bull market in stocks. Therefore, a wholesale shift away from stocks into bonds in the fall of 1987 would have been a mistake in the context of the long-term up trend for stocks. Therefore, if an investor would have shifted 10% of their assets from stocks to bonds as the first incremental shift late in 1987, they would still have kept enough exposure to stocks to continue participating in what turned out to be a continuing bull market. However, in March of 2000, the first incremental shift away from stocks would have been the correct move and would have been followed by subsequent reductions in your stock allocation as the bear market continued. The rebalancing strategy allows for some pain at major market tops since more often than not the first signs of weakness tend to be false alarms followed by a resumption of the current trends.

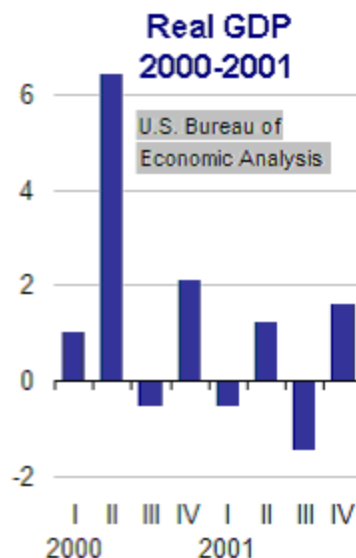
The Development of the CCM Rebalancing Model

The CCM Multiple Asset Class Approach to investing gives us a unique window into the financial markets. Since allocations include exposure to stocks, bonds, commodities, precious metals, timber, etc., we have one of the best economic forecasters built right into our portfolios. If we follow the relative movements of this wide variety of asset classes, we can garner some meaningful insight into the current, and possibly future, state of the world. Using an oversimplified example, assume you have just four asset classes; U.S. stocks, U.S. bonds, foreign stocks, and foreign bonds. In good economic times, the stocks should outperform the bonds. In less than ideal economic times, the bonds should outperform stocks or at least begin to close the return gap. The beauty of financial markets is they tend to perform based on anticipated future economic conditions vs. solely relying on current conditions. The skeptics in the crowd will counter, “Yeah, but what if the market is wrong?” From a risk management perspective, our multiple asset class strategy may offer some balance in the event that the market misreads the tea leaves in the short term, which it will from time to time. As you will see below, by focusing our attention on long, intermediate, and short-term asset class trends, we also have the ability to adjust to changing market conditions by rebalancing our portfolios based on three distinct time horizons.

To illustrate the financial market’s ability to look forward, here is a statement taken directly from the Federal Reserve Bank of Philadelphia’s website:

“The persistent strength in the U.S. economy continues to surprise forecasters; therefore, the survey’s panelists are, again, revising upward their expectations for growth in real GDP in 2000. In the current quarter, the forecasters expect real GDP to grow at an annual rate of 4.2 percent, marking an upward revision of 1.1 percentage points from the previous survey’s estimate of 3.1”

The statement above was posted on May 22, 2000. The portion “the U.S. economy continues to surprise on the upside”, means economic numbers published in April and early May 2000 were strong. On that basis, one might guess that May of 2000 must have been a good time to be in stocks.

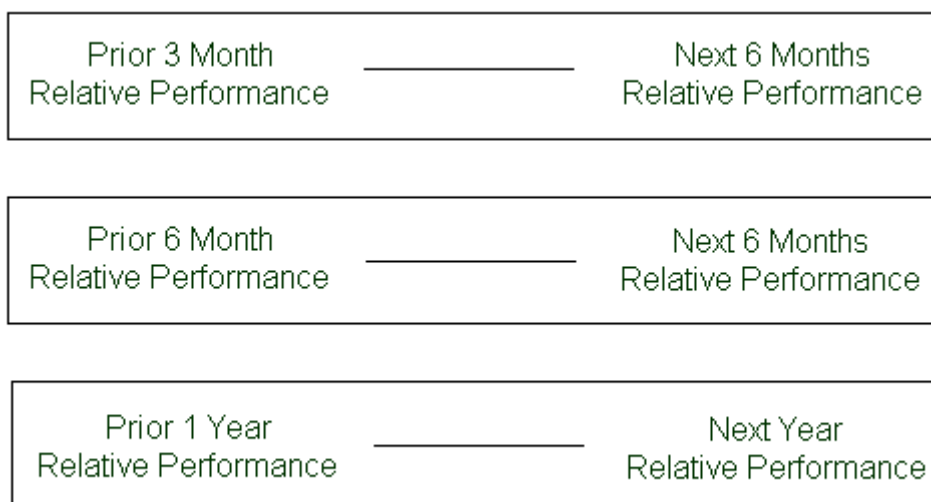


As we know in May of 2000, the financial markets were not as upbeat as the Fed or the recent economic numbers. The Dow had topped four months earlier in January of 2000. The S&P 500 and the NASDAQ had also made major tops two months earlier in March of 2000. Was the market right? Soon after May of 2000, the U.S. entered a recession with three of the next five quarters posting negative GDP figures. Even as the FED made rosy economic statements in May of 2000, the major U.S. stock indices had already entered a bear market that would see the Dow fall 38%; the S&P 500 Index drop 49%, and the NASDAQ plummet 78%. 2002 would become a backbreaker for many investors. Although this particular example is almost eight years old, it none-the-less reflects how the financial markets have historically reacted to the U.S. economy.

Using the daily prices (1995-2006) of all investments utilized in the CCM Multiple Asset Class Approach, the relative price movements of each investment/asset class were studied. The goal was to see if there was a meaningful, and more importantly useful, correlation between recent relative asset class performance and future performance. The basic premise of the study was to better understand how relative asset class past performance correlates to future performance as illustrated below.

Gain Last Six Months		Gain Next Six Months	
1. Stocks	8%	1. Timber	9%
2. Timber	6%	2. Real Estate	7%
3. Real Estate	5%	3. Stocks	6%
4. Commodities	4%	4. Bonds	4%
5. Precious Metals	1%	5. Commodities	3%
6. Bonds	0%	6. Precious Metals	1%

The study analyzed three separate correlations using three separate time periods as shown in the rectangles below.



In order to capture both longer, intermediate, and shorter-term asset class trends in the real world, a simple average of the three-month, six-month, and one-year recommended allocations from the study is used to produce a single recommended asset allocation

To increase your confidence in the basic theory, it may be helpful to know that stock prices are one of the major components in the Conference Board's Leading Economic Indicators (LEIs), a widely used barometer of future economic activity. The CCM Rebalancing Model produces a recommended asset allocation for the next 6 to 12 months based on recent relative performance of the asset classes.

Sample of Model Output

Global Stocks	Overweight
Global Bonds	
Dividend Stocks	
Foreign Real Estate	
Emerging Mkt Bonds	
Emerging Mkt Stocks	
U.S. Intermediate Bonds	
Mid-Cap Stocks	
Commodity Stocks	
Physical Gold & Silver	Underweight
U.S. Short-Term Bonds	
Timber	
Gold Stocks	
Long-Term U.S. Bonds	
Hedged U.S. Stocks	
U.S. Real Estate	

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Risks and Limitations to the CCM Approach

While the CCM approach to investing can reduce risk from a historical and simulated perspective, it can by no means eliminate risk. Examining historical returns and simulating future returns is beneficial, but both rely on historical correlations between asset classes which change over time. Several factors have contributed to an environment where stocks, bonds, and commodities have all performed well from 2002-2007. This is an unusual situation which points toward changing correlations between asset class price movements. As a result, the risks in the current market are most likely higher than the historical data suggests. As asset managers, we must be prepared to adjust to an ever changing investment landscape. Obviously, investing in the asset markets will be difficult going forward for all participants,

including those who utilize the CCM Multiple Asset Class Approach and models. However, the concepts presented here should help investors improve their odds of protecting and growing their assets on an inflation-adjusted basis. All market based investment portfolios are subject to principal loss, including a multiple asset class portfolio.

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