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THE EFFECT OF ASSET ALLOCATION FROM BEAR TO BULL MARKETS

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Abstract

This study focuses on the three market corrections during the decade of 2000-2009. This study attempts to examine whether the record flight to safety during the Credit Crisis yielded the best returns. The first objective was to find which stock portfolios performed better from the time period starting after the S&P 500 lost 20% of its value until three months after the market hit its correction trough. The two portfolios considered were an equal weighted stock portfolio and the S&P 500 index. For each period the equally weighted stock portfolio outperformed the S&P 500, and had positive returns. The Sharpe ratios for the two portfolios are indicative that during market corrections investors should seek to better diversify their equity positions by having a portfolio with stocks that are equally weighted in each industry sector.

The second objective was to find out whether allocating more assets to risk-free US Treasuries during these time periods yielded better returns than allocating more assets to stocks during the same periods. For all three periods back testing proved that reallocating a higher percent of assets into an industry equal weighted stock portfolio outperformed allocating assets to risk-free securities. These findings imply that for younger investors with a 10-15 year investment time frame, should allocate more of their assets during market corrections to capitalize on the subsequent rebound.

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Introduction

During the past decade the United States has witnessed two major stock market corrections due to speculative bubbles. Investopedia.com defines a speculative bubble as, "A spike in asset values within a particular industry, commodity, or asset class. A speculative bubble is usually caused by exaggerated expectations of future growth, price appreciation, or other events that could cause an increase in asset values" (Investopedia 1). These bubbles are not new to the United States, the Great Depression from the 1930's started from a stock market bubble. Not all economic recessions or market corrections can be attributed to speculative bubbles, they are usually caused by negative economic growth. It is normal for an economy to experience the expansion to peak, contraction to trough, typical business cycle. In fact this cycle has been evident throughout the United States' economic history.

The most recent speculative bubble to burst was the Housing bubble. Record low interest rates allowed banks and institutions to borrow and lend money easier and less expensively. This helped spur tremendous and rapid growth in the real estate sector and the housing industry. To make matters worse, mortgages brokers and other lenders were recklessly handing out loans without conducting enough due diligence. People who could not afford or sustain their respective mortgages were getting them regardless. Eventually housing prices decreased, leaving many borrowers with a negative home equity position. A large number of these homeowners defaulted on their mortgages, turning mortgage backed securities and collateralized debt obligations that many large banks and institutions held into non-performing assets. Mortgage brokers, banks, and other financial institutions were forced to write down billions of dollars on these non-performing assets.

The real estate boom and the securitization of real estate assets helped propel the Dow Jones Industrial Average to a record high closing of $14,164.53 on October 9th, 2007, according to Yahoo.finance.com. Once homeowners began defaulting and mortgage/credit securities stopped performing. Credit, which was previously free-flowing, completely froze up sending markets crashing. The Dow Jones closed on March 9th, 2009 at $6,547, over a 50% correction from its record high two years past. Trillions of dollars of value was erased worldwide from a result of crashed markets, huge asset write-downs, and international panic. Several large financial institutions became insolvent and collapsed; hedge funds that lost large sums of money had to shut down and liquidate. Along with the rest of the world, personal and family investing took significant hits and altered millions of peoples' financial and retirement plans.

Recessions usually coincide with, or are the result of some type of financial market correction. "A bull market is defined as a closing price rise of 20% that was preceded by a decline of 20%. A bear market is defined as a closing price decline of 20% that was preceded by a rise of 20%" (Bespoke 1). Between 1960, and the most recent correction lows of March 9th, 2009, there have been 9 bear markets, and 8 bulls. Table I[1] summarizes these swings and goes into further detail.

			Table I			
Type	Start	End	Length (# of Days)	Total Change	Ann. Change	
Bear	12/12/1961	6/26/1962	196	-27.970%	-52.087%	
Bull	6/26/1962	2/9/1966	1324	79.780%	21.994%	
Bear	2/9/1966	10/7/1966	240	-22.180%	-33.732%	
Bull	10/7/1966	11/29/1968	784	48.050%	22.370%	
Bear	11/29/1968	5/26/1970	543	-36.060%	-24.239%	
Bull	5/26/1970	1/11/1973	961	73.530%	27.928%	
Bear	1/11/1973	10/3/1974	630	-48.200%	-27.925%	
Bull	10/3/1974	11/28/1980	2248	125.630%	20.398%	
Bear	11/28/1980	8/12/1982	622	-27.110%	-15.909%	
Bull	8/12/1982	8/25/1987	1839	228.810%	45.414%	
Bear	8/25/1987	12/7/1987	101	-33.510%	-121.100%	
Bull	12/7/1987	3/24/2000	4494	582.150%	47.282%	
Bear	3/24/2000	9/21/2001	546	-36.770%	-24.581%	
Bull	9/21/2001	1/4/2002	105	21.400%	74.390%	
Bear	1/4/2002	10/9/2002	278	-33.750%	-44.312%	
Bull	10/9/2002	7/19/2007	1744	99.940%	20.916%	
Bear	7/19/2007	3/9/2009	599	-56.440%	-34.392%	
			AVERAGES			
	Length	Total Change	Ann. Average	St. Dev	Ann. St. Dev	
Bull	1687.375	157.411%	35.087%	170.783%	18.032%	
Bear	417.2222222	-35.777%	-42.031%	10.069%	29.792%	

[1] Data is from Bespoke Investment Group's article in Seeking Alpha, "An Historical Look At Past Bull and Bear Markets."

Background

Over the past two summers I have had internships with two asset management companies: Merrill Lynch's Global Wealth Management in 2008, and with the investments department at the Creative Financial Group in 2009. The internships have familiarized me with the business side of the field, the client/advisor relationship, and the way a financial advisor creates and manages portfolios for his/her clients. After my father passed away in the summer of 2004, my family hired a financial advisor to manage the money he left for us. This last fact is crucial because it has given me the insight and understanding of the worry and freight family (or personal) investors go through during bear markets.

As the market continued to drag down and several large companies collapsed or were massively bailed out, investors' psyche was in a panicked state. Investors as large as countries and as small as my family began selling off riskier assets and buying less risky assets, such as United States Treasuries to limit their losses. Amidst the credit freeze, there was also a flight from money market funds to Treasuries due to the concern that corporations faced the possibility of not being able to pay their commercial paper liabilities (Figure I). According to a December, 2008 issue of *The New York Times*, investors bid for zero or even negative yields on some Treasury auctions (Bajaj and Grynbaum 1).

MONEY FUND ASSETS
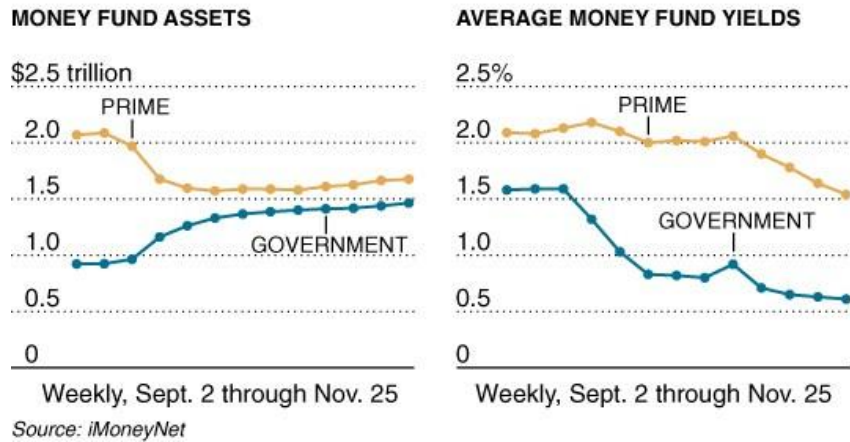
AVERAGE MONEY FUND YIELDS

Figure I depicts the Sept. 2 through Nov. 25, 2008 cash flows from Money Markets to Government securities, and their yields.

The investors who changed their asset allocations to hold more government securities had better peace of mind knowing their money was safe. Unfortunately, they did not realize the sizeable and quick rebounds the markets experienced after hitting their March 2009 lows. The change in asset allocation is the driving factor behind this study. This study is focused on determining whether an investor should allocate more capital into risk free securities after a 20% market correction in the S&P 500, or if there is an asset allocation during these times that have yielded better returns. Another question this study intends on answering is whether value weighted indexes outperform equal weighted indexes during corrections. This study is not focused on time diversification, the process in which investors change their investment product makeup and preference as they age or approach goals in their lives. The intended audience of this paper is younger investors, who have longer investment time horizons, and can bare the bumps and turns risky assets go through.

Literature Review

Before conducting any analysis or modeling of historical asset performances, I read several financial and economical papers to gain insight on this matter. Summers and Poterba's *Mean Reversion in Stock Prices* (1988) discusses whether or not stock prices in the United States or other countries are mean-reverting. Mean reversion, when applied to financial instruments, is the tendency assets have to return to historical averages in times of disparity. In their findings, Summers and Poterba claim, "Mean reversion is more pronounced for the equal weighted than for the value-weighted returns."

In Siegel's *Stocks for the Long Run,* (1998) he contends that the, "superiority of stocks to fixed-income investments over the long run is indisputable." Siegel does admit that in short periods of time stocks are "unquestionably" riskier than fixed-income assets. Through his research he did find that, "For ten-year holding periods, the worst stock performance has been better than that for bonds or bills… The fact that stocks, in contrast to bonds or bills, have never offered investors a negative real holding period return over periods of 17 years or more is extremely significant." Siegel concludes that younger investors should allocate a higher percentage of their portfolio in stocks. For an investor with a moderate risk tolerance he suggests 86% of the investor's portfolio to be allocated in stocks, based on historical data.

Another topic that I felt inclined to read up on before conducting the study was the effect of having money in risk-free assets, or what is commonly referred to as 'on the sidelines.' In an article in The Journal of Financial Advising by Gire, *Missing the Ten Best* (2005), Gite examines the truth behind the unquestioned idea that missing the ten best days in a time period can drastically lower a portfolio's returns. Gire examines a highly bullish 15-year period, 1984-1999, in the Dow Jones history. He found that missing the "10 best days reduced returns by 14.24%,

while missing the 10 worst days reduced returns by 24.17%." Gire recognizes that no investor has the proverbial crystal ball, and that it would be extremely difficult to create an investing strategy, "that can capture one (best days) and avoid the other (worst days)."

Objectives of Study

One objective is to determine whether value weighted portfolios or indexes perform

better than equal weighted indexes or portfolios during times of corrections. Many investors and

advisors divide the weights of stocks of a portfolio based on the weights of indexes. For

example, an investor may want to hold a portfolio with similar sector weights as the Down Jones

or the S&P 500. Neither index is equally weighted; therefore some sectors represent a larger

portion of the index and also have a larger impact on returns.

Another objective of this study is to determine how certain asset allocations of portfolios

fair after a 20% correction in the S&P 500. Siegel (1998) recommended young investors

Table Asset Allocation for the "Typical" Investor: The Broad Consensus			
	Stocks (%)	Bonds (%)	Cash (%)
High-risk investors; young investors	70 - 80	15 - 25	0 - 5
Medium risk investors; investors approaching retirement	60	30 - 40	0 - 10
Low-risk investors; retiring investors and retirees	40 - 50	40 - 50	5 - 20
Investors over age 70	20 - 30	60	10 - 20
Sources: The Vanguard Retirement Investing Guide (Irwin Press); T. Rowe Price Retirement Planning Kit; "The Wall Street Journal Guide to Planning Your Financial Future" (Lightbulb Press), by Kenneth M. Morris, Alan M. Siegel and Virginia B. Morris; "A Random Walk Down Wall Street" (Norton Press, 6th edition) by Burton G. Malkiel			

Table II shows a range of "typical" asset allocations from several investment guides.

allocate 86% of their assets in stocks, from my experiences and research that number is fairly

high. Using Table II's "typical" asset allocation for a young investor, I will use the averages of

the stock and bond ranges and the prescribed amount of cash (or T-bills), a 75%/20%/5% asset

allocation respectively, this will be known as the "Static" portfolio. I will then compare that

controlled portfolio with one portfolio that shifts to a 90%/10%/0% asset allocation, which will

be referred to as the "Dynamic Stock" portfolio, and another that is a 60%/20%/20% asset allocation. The last portfolio will be referred to as the "Dynamic Risk-Free" portfolio. Two sets of back testing the portfolios' allocations and returns will be conducted. One test will use the S&P 500 as its stock performance, the other Fama and French's 12-industry equal weighted portfolio. From the back tests, I will able to determine which allocation displays better returns using a nominal portfolio value of $1 million at the beginning of the correction. While conducting the study, taxes, commissions, fees, and inflation will be ignored. There will also be no short selling or leverage while constructing these portfolios. Often when calculating optimal risky portfolios short selling and/or the use of borrowing or lending at the risk-free rate are used. Legal constraints for retirement investing prohibit these practices.

Methodology

All modeling and calculations will be made utilizing Microsoft Excel, and I reference Benninga (2008) for formulas and functions provided in *Financial Modeling*. S&P 500 daily returns have been taken from Yahoo!Finance. An equal weighted, 12-industry set of daily returns will be used, which came from Fama and French's data library. The 12-industry portfolio assigns each stock traded on the NYSE, AMEX, or NASDAQ to a certain industry group, and each group holds equal weight. Vanguard's Total Bond Market Index (ticker: VBMFX) will be used to simulate bond returns during the periods, and that data will be taken from Yahoo!Finance. The risk-free security that some portfolios will be vested in is United States 3-month Treasury notes, the historical yields are via Bloomberg. The risk-free rate will be the 1-year Treasury note of the particular year, as suggested by Damodaran (2008), and will come from the Federal Reserve Board's website http://www.federalreserve.gov/.

The time period that these objectives will be tested will be during the three 20% or greater market corrections to the S&P 500 over the past decade, which was during 2001, 2002, and 2008-09. The time frame within each period will start once the market has sustained a 20% loss through the bottom (or trough) of the correction, and will continue for three months thereafter. The time period selected has been so because not only are they the most recent, but they have been caused by speculative bubbles, which now seem to be a normal part of the business cycle. The time frame within each period has been set because the focus of this study is to figure out the ideal actions an investor should take given this specific investing environment.

Each individual asset's beta will be calculated by taking the covariance of the assets returns and the S&P 500 market returns, and then dividing that number by the variance of the individual asset. Once the betas are calculated I will able to find each individual asset's expected

return by using the Capital Asset Pricing Model (CAPM). After finding each security's CAPM, I will be able to find its alpha, which is the difference of expected and actual returns.

Returns during the time period will be calculated using a geometric mean rather than an arithmetic for more transparent results. Standard deviations will be calculated by first finding the daily standard deviation, and then annualizing that number by multiplying it by $\sqrt{252}$, which is the annual number of trading days. Returns will also be annualized using Equation (1).

Equation: $A_n = (1 + a) \wedge (T/t) - 1$ (1)

Where: A_n = annualized return

a = expected return's daily geometric average

T = number of trading days per year

t = number of trading days observed

In order to determine whether the S&P 500 outperformed Fama and French's equal weighted 12 industry portfolio, I will utilize matrix algebra on Excel to combine the 12 separate industry returns and volatilities into an equal weighted portfolio. Then, to analyze which portfolio performed the best I will use the Sharpe ratio to compare them $S = \dfrac{R - R_f}{\sigma_R}$.

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Equation: $S = \dfrac{R - R_f}{\sigma_R}$ (2)

Where: S = Sharpe ratio

R = expected return of asset

R_f =risk-free asset

σ_r = asset's standard deviation

The Sharpe ratio incorporates both the market premium one should expect for holding a

particular asset, as well as that assets perceived risk (standard deviation). It is the most

appropriate way to measure risk/reward scenarios between two assets, or in this case portfolios.

Data

The following section contains several figures and tables that give further understanding into the research and analysis that was conducted. In the subsequent pages Figures II and III depict the two back tests that were taken. Figure II is the back test using the equal weighted 12 industry portfolio taken from Fama and French's data library for stocks held during the periods. Figure III is the back test using the S&P 500 for stocks held during the periods. Table III depicts the differences in returns, standard deviations, and Sharpe ratios between the S&P 500 and the equal weighted portfolio. Tables IV through Table VI show each asset's performance during the respective correction.

For the last three tables, each of the 12 industry names stand for a group of company types. Non Durable is for companies whose business focus is around food, tobacco, textiles, apparel, leather, and toys. Durable is for companies whose business focus is around cars, televisions, furniture, and household appliances. Manuf, which is short for manufacturing, consists of companies that are involved with machinery, trucks, planes, office furniture, paper products, and commercial printing. Energy consists of companies involved with oil, gas, coal extraction, and products from those resources. Chemicals stand for any chemical or allied products company. Bus. Eq., which is abbreviated for business equipment includes all companies involved with computers, software, and electronic equipment meant for businesses. Telecom, which is short for telecommunications, includes companies that deal with telephone and television transmission. Utilities include all utilities companies. Shops are any type of wholesale, retail companies, but also include some services such as laundries and repair shops. Health which is short for healthcare consists of prescription drug companies, medical equipment companies, and other healthcare companies. Money refers to any financial company. Other includes

companies involved with mining, construction, building materials, transportation, hotels, and
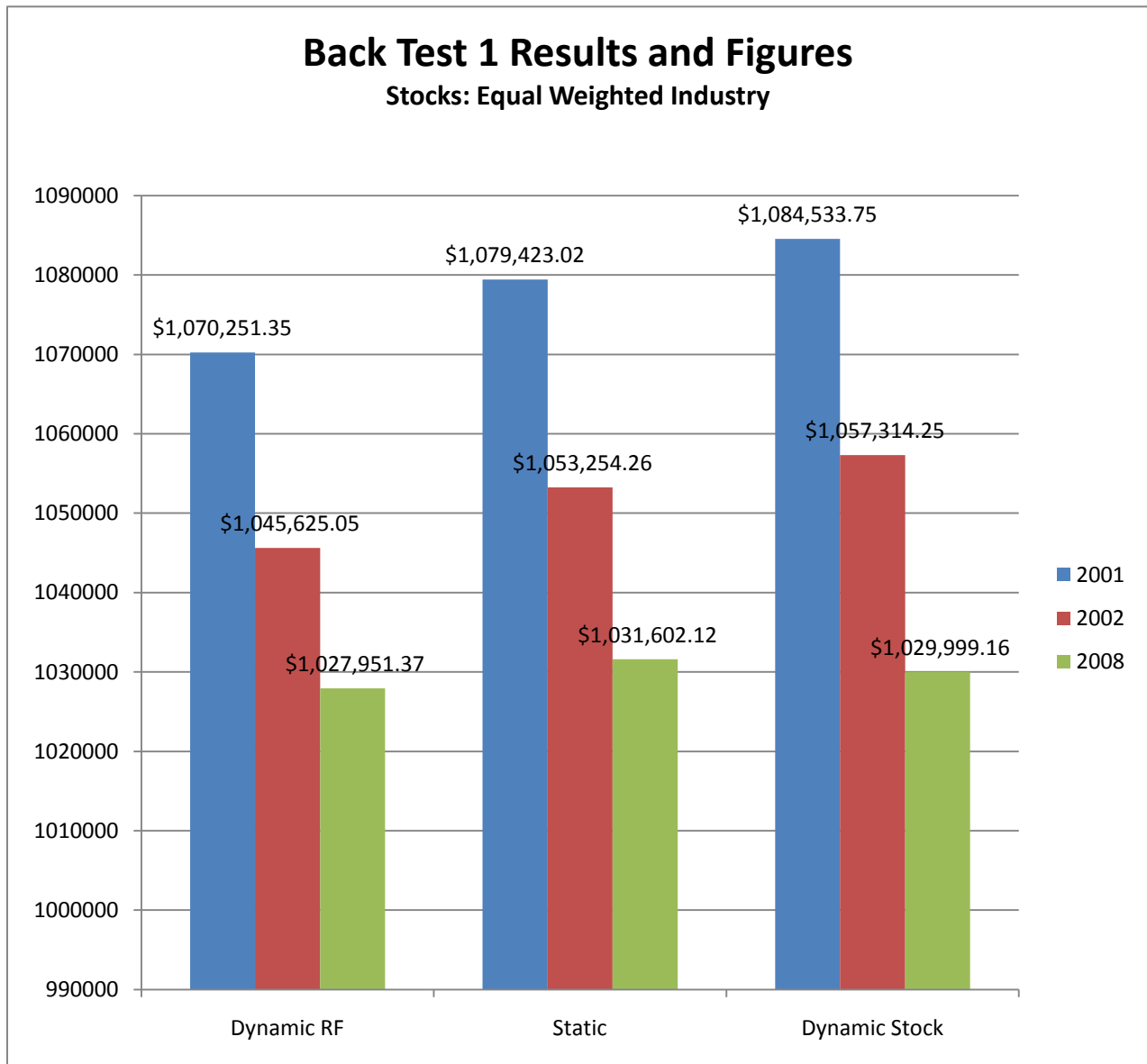
entertainment.

Back Test 1 Results and Figures

Stocks: Equal Weighted Industry

Figure II depicts the back tested asset allocations over the different corrections. The daily movements of assets were multiplied by the amount of money invested in each asset. For this set of back test the equal weighted portfolio was used for the stock allocation. During each correction all of the portfolios made positive returns. The Dynamic Stock portfolio performed the best in 2001, 2002, but was second best in 2008. The Dynamic Risk-Free portfolio made gains in every period, but performed the worst compared to the other two portfolios.

Back Test 2 Results and Figures
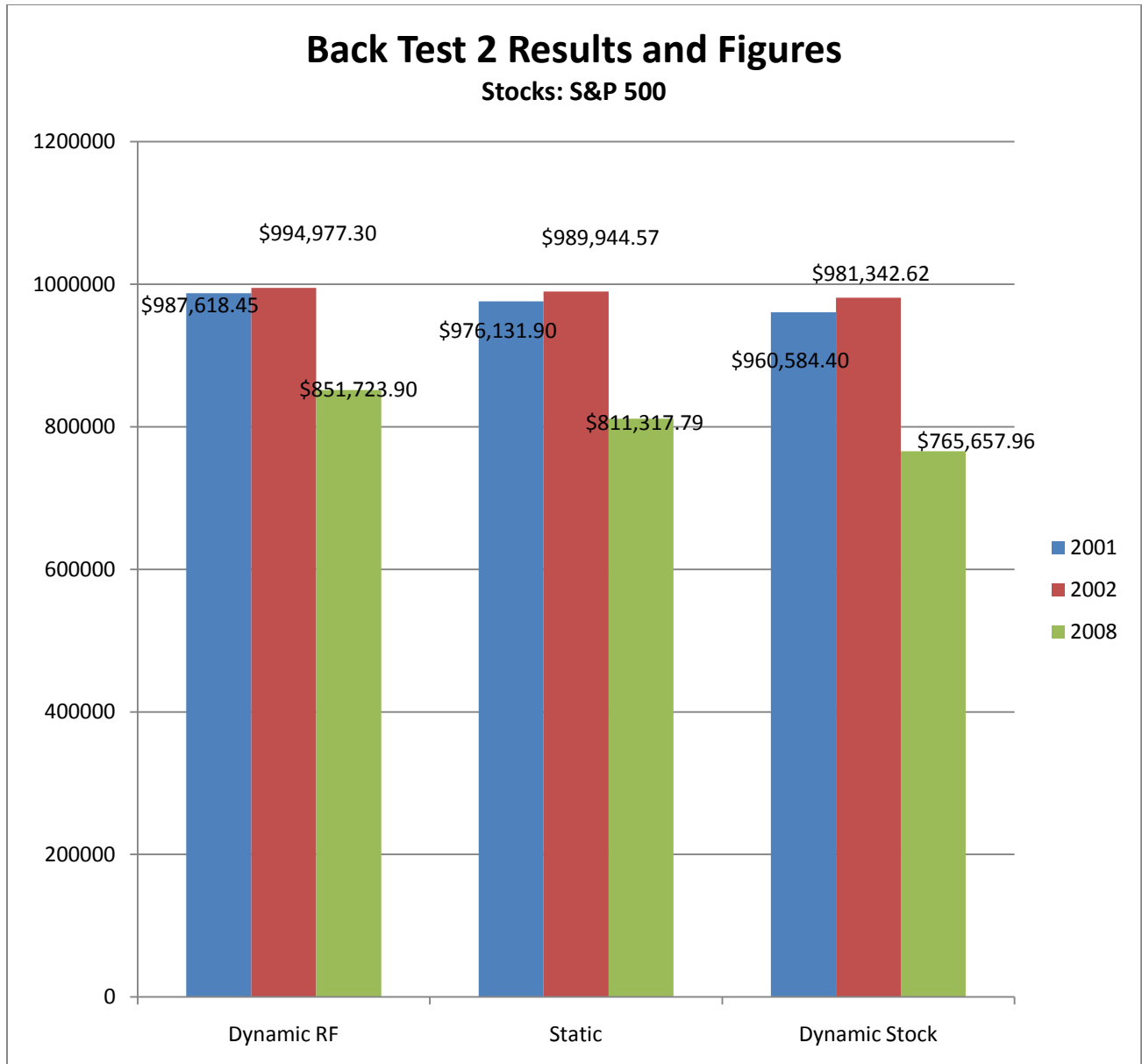### Stocks: S&P 500

Figure III depicts the back tested asset allocations over the different corrections. The daily movements of assets were multiplied by the amount of money invested in each asset. For this set of back test the S&P 500's daily returns were used for the stock allocation in each portfolio. Since the S&P 500 had negative returns in each period, each portfolio declined in value.

<div align="center">

Table III

S&P vs Equal Wieghted Portfolio

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Year	2001			Year	2002			Year	2008-09	
Asset	S&P500	12-Industry		Asset	S&P500	12-Industry		Asset	S&P500	12-Industry
Return	-5.11%	8.66%		Return	-2.56%	5.88%		Return	-26.65%	0.74%
Standard Dev.	22.28%	17.47%		Standard Dev.	31.61%	21.86%		Standard Dev.	45.85%	40.27%
Sharpe	-0.38165	0.30158104		Sharpe	-0.13408292	0.192245364		Sharpe	-0.60183	-0.00505387

Table III depicts the breakdown between the S&P 500 versus the equal weighted portfolio which was found in Fama and French's data library. During each correction, the equal weighted portfolio had positive and therefore higher returns, while having a lower standard deviation. Although the equal weighted portfolio's Sharpe ratio was negative during the recession spanning over 2008-2009, the portfolio's Sharpe ratio was higher than the S&P 500's during each period.

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Table IV

2001 Correction

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ASSET	SP500	Non Durable	Durable	Manuf	Energy	Chemicals	Bus. Eq	Telcom
Actual Returns	-5.113%	14.081%	11.145%	2.740%	-17.360%	6.528%	15.348%	-22.286%
Ann. Returns	-6.936%	19.773%	15.571%	3.771%	-22.983%	9.047%	21.598%	-29.200%
St. D Ann	22.281%	13.470%	20.930%	16.903%	24.706%	16.219%	34.000%	32.788%
Beta	1	0.467555247	0.750945	0.6348653	0.45520247	0.5765697	1.247435	1.141751
CAPM Expected	-5.11%	-0.59%	-3.00%	-2.01%	-0.48%	-1.51%	-7.22%	-6.32%
Alpha	0.00%	14.67%	14.14%	4.75%	-16.88%	8.04%	22.57%	-15.97%

ASSET	Utilities	Shops	Health	Money	Other	Bonds
Actual Returns	-1.30%	24.89%	38.54%	22.81%	8.76%	6.61%
Ann. Returns	-1.78%	35.59%	56.27%	32.50%	12.19%	9.16%
St. D Ann	14.41%	17.61%	23.05%	10.19%	18.91%	4.78%
Beta	0.33950085	0.645084596	0.8631264	0.3871276	0.69636985	-0.031111
CAPM Expected	0.50308%	-2.09543%	-3.94953%	0.09809%	-2.53153%	3.65455%
Alpha	-1.80242%	26.99002%	42.48672%	22.71456%	11.29449%	2.95067%

Table IV shows the performance of all of the assets during the 2001 correction. The correction was caused to a bursting of the 'Dot-Com' bubble. Telecommunication and energy companies performed the worst during this period, while healthcare and financial firms performed the best. Three out of the twelve industry sectors were negative, as was the S&P 500 as a whole.

Table V

2002 Correction

ASSET	SP500	Non Durable	Durable	Manuf	Enrgy	Chemicals	Bus. Eq.	Telcom
Actual Return	-2.558%	4.232%	-6.919%	-3.665%	2.996%	0.566%	22.351%	39.787%
Ann. Returns	-5.051%	8.642%	-13.359%	-7.195%	6.082%	1.135%	49.698%	95.403%
St. Dev. Ann.	31.609%	17.256%	22.969%	22.944%	22.593%	22.434%	31.301%	37.886%
Beta	1	0.425759947	0.5775413	0.57113	0.50917	0.54329382	0.687891	0.7594588
CAPM Expected	-2.558%	-0.124%	-0.768%	-0.741%	-0.478%	-0.623%	-1.235%	-1.539%
Alpha	0.000%	4.356%	-6.151%	-2.924%	3.474%	1.188%	23.587%	41.325%

ASSET	Utilities	Shops	Health	Money	Other	Bonds
Actual Return	1.819%	-7.006%	9.438%	4.855%	2.144%	4.366%
Ann. Returns	3.670%	-13.520%	19.767%	9.945%	4.334%	8.923%
St. Dev. Ann.	29.634%	22.485%	21.317%	14.264%	22.360%	4.459%
Beta	0.64495673	0.561075403	0.4917999	0.36496	0.5575	-0.0694418
CAPM Expected	-1.053%	-0.698%	-0.404%	0.133%	-0.683%	1.974%
Alpha	2.872%	-6.308%	9.843%	4.722%	2.827%	2.392%

The 2002 correction was an extension of the Dot-Com bubble bursting. After the economic stimulus that was provided by record tax refunds in 2001 lost steam the markets headed for another correction. Shops, durable goods, and manufacturing companies performed the worst respectively, and were the only three industries to report negative returns. Telecommunication companies, which performed the worst during the last correction, had the highest returns out of all other industries and the other two assets.

Table VI
2008-2009 Correction

ASSETS	SP500	Non Durab	Durable	Manuf	Energy	Chemicals	Bus. Eq,	Telcom
Actual Returns	-26.653%	4.098%	-2.520%	-18.155%	-48.807%	-10.626%	16.567%	8.806%
Ann. Returns	-27.587%	4.271%	-2.622%	-18.830%	-50.204%	-11.040%	17.307%	9.186%
St. Dev. Ann.	45.852%	40.695%	58.383%	54.669%	80.001%	50.546%	41.628%	51.617%
Beta	1	0.80308	1.113135	1.104599	1.49309	1.00895339	0.8268302	1.007214
CAPM Expected	-26.65%	-21.22%	-29.78%	-29.54%	-40.26%	-26.90%	-21.87%	-26.85%
Alpha	0.00%	25.32%	27.26%	11.38%	-8.55%	16.27%	38.44%	35.66%

ASSETS	Utilities	Shops	Health	Money	Other	Bonds
Actual Returns	-15.41%	24.26%	42.18%	17.02%	15.20%	5.54%
Ann. Returns	-15.99%	25.38%	44.26%	17.79%	15.87%	5.77%
St. Dev. Ann.	39.19%	46.90%	37.19%	45.68%	43.12%	5.96%
Beta	0.772760917	0.921715	0.6894186	0.894885	0.850704	-0.0386007
CAPM Expected	-20.38%	-24.49%	-18.08%	-23.75%	-22.53%	2.01%
Alpha	4.97%	48.75%	60.26%	40.78%	37.73%	3.53%

Table VI depicts the market correction that was caused by the Credit Crisis. At the worst point of this correction major indices lost over 50% of their value. Prior to the market correction the price of oil and energy commodities were approaching record highs. The Credit Crisis significantly lowered the prices of these commodities which badly hurt energy companies, the worst performing asset during this period. Three months after the S&P hit its trough it was still over 26% lower than when the correction began.

Conclusion

This thesis was intended on shedding light to investment strategies during market corrections. The last market correction impacted almost everyone in the world one way or another. For families like mine, there were severe financial implications. This thesis was written for a younger audience who would not plan on using any of the money in their investment portfolios to finance their daily lives in any way. It was also written for an audience whose investment time frame was at least 10 to 15 years.

The data and analysis was glaringly clear that equally weighted portfolios dominated a value weighted index such as the S&P 500. For each period the S&P 500 yielded negative returns while the equal weighted portfolio had positive returns. During each period the equal weighted portfolio had a lower standard deviation than the S&P 500, which correlated into a higher Sharpe ratio for each period as well. If the next market corrections show similar characteristics to the past three corrections it would be wise to hold an equal weighted portfolio of stocks rather than a portfolio with weights modeled after a value weighted index.

Regardless of the total asset allocation, portfolios holding the same types of stocks, and the same weighs as the S&P 500 lost value. Back test two shows that reallocating a larger portion of their portfolios into risk-free assets outperformed the other portfolios that moved to riskier and value weighted assets. The Dynamic Risk-Free portfolio performed the best compared to the other two portfolios, while the Dynamic Stock portfolio performed the worst during each correction in back test two. It was quite the contrary for back test one, which held an equal weighted industry portfolio of stocks. In back test one the Dynamic Stock portfolio outperformed the Dynamic Risk-Free portfolio in all three periods. The Dynamic Stock portfolio did not outperform the Static portfolio in 2008-2009. That correction was longer than the previous two

corrections. This could be a potential reason for the inconsistency in results. The three month time period after the market hit its trough, which was studied and analyzed during each other correction, was not proportional due to the extended length.

From my findings it is evident that allocating a higher percentage of a portfolio's assets into equities will outperform the strategy of allocating more assets into risk free securities, if the equities that are being held are equally weighted by industry. It is apparent that a more diversified portfolio will fare better during market corrections and rebounds. There are so many previous studies that show in the long run, stocks outperform other asset classes. If younger investors can view difficult economic times as investing opportunities rather than nightmares, allocating more capital into stocks appears to be the best decision.

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ACADEMIC VITA

Zachary A. Agins

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EDUCATION

The Pennsylvania State University	University Park, PA
Schreyer Honors College	Class of 2010
Smeal College of Business	B.S. Finance
Thesis: The Effects of Asset Allocation from Bear to Bull Markets	Two-Piece Sequence in Real Estate
Thesis Advisor: Jingzhi Huang	
Honors Advisor: James Miles	

WORK EXPERIENCE

Creative Financial Group – Summer Intern, Investments Department   Newtown Square, PA
- The Creative Financial Group is a subsidiary of MetLife and New England Financial.   July – August 2009
    - Prepared two projects: a financial analysis for potential clients and a marketing presentation for Regal Cinemas Entertainment.
    - Created and managed all marketing material for the agents in the department. Reviewed investments and funds held by clients. Accompanied my mentor on several client meetings, which yielded agent-client experience.

Met Life Financial Fellowship
- The internship program included a week long, in-residence conference, which consisted of daily lectures and exercises.
    - The Fellowship focused on various types of insurances, financial products and solutions, as well as derivatives.
    - It was culminated by a final project in which teams prepared financial advice for a married couple.

Merrill Lynch & Co. – Summer Intern, Global Wealth Management Division   Elkins Park, PA
- Directed Marketing and Prospecting campaigns for my employer.   May - August 2008
- Collaborated with senior management to ensure that all marketing materials were compliance approved.
- Made direct prospecting calls to business owners, publicizing the value and benefits of being partnered with Merrill Lynch.
- Valuated mutual funds' performances in preparation for client meetings.

ACTIVITIES

Penn State Investment Association   2007 - Present
- Analyst in the Utilities Sector.
    - Conducted research and analysis for stocks within the Utilities Sector.
    - Pitched certain stock recommendations to the PSIA via presentations.
    - Gained experience creating DCF models and using a Bloomberg Machine.

Sigma Alpha Mu Fraternity   University Park, PA
- Academic and Alumni Chairperson   2008 - Present
    - Offered Tutoring and advice to fellow brothers, in charge of keeping relations between brothers and alumni.
- Active participant in fundraising events for Penn State Dance Marathon.

Relevant Courses Work

Fin 406: Security Analysis and Portfolio Management	**Fin 410**: Speculative Markets
Fin 408: Markets and Institutions	**Econ 333**: International Economics
Fin 414: Financial Trading and Applications	**R Est 301**: Real Estate Fundamentals
R Est 420: Analysis of Real Estate Markets	**BA 412H**: Honors Thesis Research