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EVALUATION OF THE PERFORMANCE OF WHOLE LIFE INSURANCE VERSUS BUY TERM INSURANCE AND  
INVEST THE DIFFERENCE

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## Abstract

Whole life insurance is one of the longest-lived financial contracts an investor could enter during one's life. It also is one of the most complex investment vehicles available in the vast financial marketplace. This is partly because whole life insurance combines an investment element within the insurance contract. This paper attempts to analyze how that investment value, also known as cash value, performs over the life of the insurance contract. One of the main purposes of life insurance is to provide dependents of insured replacement of the insured lost income in the event of premature death. Therefore, this has to be taken into account when analyzing the performance of whole life insurance. The analysis of the whole life insurance contract will be done by comparing it to an alternative option for insurance protection.

Because the insurance coverage is the primary function of the insurance policy, an insurance element would have to be included for the alternative option. This requirement is satisfied by term insurance, which does not have the permanent protection of whole life. However, it is significantly cheaper. The cost savings from purchasing term insurance will be invested for long term future use. Essentially, this is creating a proxy whole life policy where the investor takes the burden of the investment risk. This paper will show multiple models comparing whole life and the buy term/invest the difference strategy explained above. I will use my access to insurance data from my work experience at Northwestern Mutual to determine the insurance premiums. The results should serve as a useful guide for life insurance purchasing decisions.

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## CHAPTER 1: INTRODUCTION TO LIFE INSURANCE

### Basic Terms of Life Insurance

Before I dive into a deeper discussion of life insurance, some clarification is needed for terms. There are three very important terms regarding a life insurance policy. The first is the premium, which is the amount of money a policyholder pays annually into the policy. This number is not fixed for any one person, and there are a number of factors that go into it. Age, medical history, smoking habits, gender, and body composition are just a few of the ways that premium prices can fluctuate. There is usually an age where premiums payments stop, depending on the contract.

The next term that needs to be defined is death benefit. The death benefit is what a policyholder's beneficiary would receive if he or she died while the life insurance contract is in effect. This is different than the cash value of an insurance policy. The cash value is the three important term regarding life insurance. I will describe the difference in the next section, where there will be a quick overview between the characteristics of a whole life policy and a term life policy.

### Whole Life vs. Term Life

There are two major types of life insurance. The first type of life insurance is term life insurance. This is intended to cover a person for a specific period of time, and the contract expires after that period of time elapses. At that point, the insured would have to buy a new policy and go through the underwriting process a second time. An example would be buying a policy to cover a mortgage on a house. There are many appealing characteristic of term life insurance. The first is it is very cheap for most people. This is due to the fact that the policy will cover the insured for a limited period of time, and the likelihood of most adults dying in that specified period slim. The second appealing fact is insurance companies do not require many medical examinations, unless the term policy gets into the \$500,000 death benefit range. This opens the door for adverse selection and moral hazard, but because the policy is a limited scope, insurance companies absorb the risk. Term life policies have low premiums

if the insured is young (young meaning roughly 50 years old or younger). However, the premiums will gradually increase every year, because the likelihood of the insured dying increases every year. There are level premium term contracts available, but they still build in the increasing premiums in their calculation. The other main feature of term insurance is that the death benefit stays constant. This means that the death benefit actually decreases in real terms when inflation is factored into the equation.

The other major type of life insurance contract is whole life insurance. Much like the name implies, this type of life insurance is meant to cover the insured for the entirety of their life. The premiums are fixed for the life of the policy, and usually stop at a specific age, such as 65 or 90. The major difference between the features of term and whole life is the cash value contained within the whole life insurance contract. Cash value is equity built into the whole life policy, akin to equity built inside of a house financed by a mortgage. Cash value starts increasing very slowly at the beginning of the contract, but it grows at a faster rate as the policy matures. The reason for this is that there are heavy costs at the inception of the policy including commissions, medical exams, and clerical expenses. These factors disappear as the policy becomes older, and the cash value continues to increase until the policy ends. When endowment occurs, the cash value is equal to the death benefit. This endowment occurs whenever the insurance company's mortality table ends (usually at age 121). Cash value, and thereby the death benefit, is often increased by dividends paid by mutual insurance companies. Now, I will like to describe how those dividends are used by insurance companies.

#### Dividends in Whole Life Insurance

Dividends are given by mutual companies as a refund of part of the annual premium (Northwestern Mutual, 2011). If the insurance company makes gains in investment income, mortality estimates, and expense savings, they can refund the premium in the form of a dividend. Because it is legally considered a refund of premium, the dividend payments are tax free distributions. This runs

opposite to dividends received from a publicly traded stock or bonds. Investment income is made by the performance of the insurance company's investment portfolio. This will be discussed later in the paper. An important point, dividends are not required to be paid by the insurance company. They reserve the right to declare no dividends if they suffer losses. Dividends would not be given if the insurance company would suffer heavy mortality or investment losses.

Dividends can be used for two major purposes. One is to reduce the premium payment of the life insurance policy. At a certain point, the dividend payment could be enough to sustain the policy without any premium payment from the insured. In this case, the excess dividend would be used to increase the cash value and death benefit of the policy. Many policyholders choose this option because they enjoy pocketing the premium money. The second major way dividends can be used is to just increase the cash value and death benefit. This feature is what can make whole life insurance an investment vehicle. The dividends also can make it that the death benefit outpaces inflation, an attractive quality when the reason for whole life insurance is to have funds going to beneficiaries when the insured dies. Dividend scales are used to by the insurance company to pay the dividends to policyholders. Once the dividends are paid to the cash value, the cash value cannot decrease. As was stated before, an insurance company may opt to abstain from a dividend payment, but cash value will not decrease once a dividend is added to the policy. Going forward in the paper, I will examine the performance of a whole life insurance policy with the dividends being used to increase the cash value and death benefit of the policy. Next, let's examine some of the reason it could be possible for whole life insurance to perform better than other investment vehicles.

#### Advantages of Life Insurance Compared to Other Investments

The first and main advantage that life insurance has over other investments is its tax status. Life insurance dividends receive favorable tax status compared to dividends of stock in a company and bonds. Dividends given by life insurance companies are viewed as a refund of premium, which arises

because of over estimating expenses that the insurance company incurred. Dividends from stocks or interest from bonds are taxed as ordinary income. This means an investor would only get 70%-80% of a dividend or interest payment over the life of the investment. This demonstrates a large advantage for life insurance.

Another advantage life insurance has over other investments is the cash value does not decrease once the insurance company pays a dividend. The dividend payment itself is not guaranteed, but the cash value can never decrease in value. This brings a layer of protection to the policyholder if the general stock or bond markets fall in value. The cash value also grows tax deferred, along with the dividends, which represents a great difference compared to other investments. The reason for this is premiums for life insurance have to be paid in after tax dollars, thus the policyholder has already paid an indirect tax on the premium dollars. While not directly relevant to cash value, another advantage is the death benefit of life insurance is received free of income tax to the beneficiaries. There might still need to be an estate tax paid on it, but income taxes are not allowed to be taken on the funds. Next, the options of gaining access to the cash value of life insurance will be discussed.

#### Methods to Access Cash Value

Gaining access to the cash value of life insurance is a downside to the life insurance contract. Let's keep in focus here what the main purpose of life insurance is: to protect the beneficiaries of the insured in the event of the death of the insured. Therefore, cash value is usually a secondary consideration of the insured. However, cash value is what is needed to be examined when looking at whole life insurance as an investment. There are a few options to gain access to the cash value prior to the insured dying. One is forfeiting the life insurance contract. If this is done, there is a cash surrender value that the insured will receive. The down side of surrendering the contract is that the insured would be taxed on the excess cash value above the premium outlay. Another way to gain access to the cash value is taking a loan out against the policy. The policyholder can take a loan of up to 90% of the cash



value against the policy tax free. This is a better option than surrendering the policy in terms of immediate dollars received. The negative part of this strategy is that the policyholder has to make interest payments on the loan to the insurance company. Another tactic to access cash value is to annuitize the life insurance contract. Creating an annuity protects some of the tax advantages of life insurance, but the cash distributions are received very slowly. The last way to get immediate cash from a life insurance policy is to sell the policy to a viatical company. This plan may make the policyholder the highest amount of money, but it is not guaranteed that the insured can find a viatical company to enter into a contract to transfer ownership of the life insurance. Now, the previous research conducted on life insurance will be discussed.

## CHAPTER 2: LITERATURE REVIEW

There have been a number of research papers written on the features of cash value life insurance, but I did not find a current paper regarding the direct examination of performance between investment vehicles. Research conducted by Sauter, Walliser, and Winter from the University of Mannheim in Germany states that whole life insurance is a mixture of term insurance and a savings element (Sauter, Walliser, & Winter, 2010). The paper also states two major reasons people invest in life insurance are due to the tax advantages for the savings element (cash value) and it can be bought at a young age without restrictions unlike other investments. While this is a German study, Germany's life insurance products and the taxation methods are very similar to those in the United States.

Another paper by Stuart Schwarzschild creates a complex model for determining the rate of return on different classes of life insurance policies (Schwarzschild, 1967). He states that one of the problems determining the rate of return is that life insurance policies combine a savings element and protection to get one face amount (death benefit). His model compares a consumer's choice between a term life policy and a whole life policy. He claims the rate of return on a whole life policy can appear very high. This is because the term insurance element is large in comparison to the savings element. When the term component is subtracted from the savings element, it significantly lowers the basis for the cash value. The model is not transferable to my research question, but it is useful to look at some of the inputs Schwarzschild used for life insurance policies.

Research by Dr. Richard Goode examines the tax advantages of the savings element of whole life insurance, which are no taxes prior to maturity, redemption, or surrender of the policy (Goode, 1962). Dr. Goode claims this is a very advantageous tax status compared to the tax status of other investments. He declares the loophole in the tax status should be addressed for other investments to get more equitable treatment.

Another paper by Henry Hansmann examines the differences between stock life insurance companies and mutual life insurance companies (Hansmann, 1985). He states that mutual life companies operate by charging a premium based on a very pessimistic forecast of mortality, and then returns the excess premium as a form of dividends (this way, dividends are not subject to tax). He believes that mutual companies have some advantages over stock insurers because the mutual companies are not subject to hostile takeover attempts or proxy battles since their ownership is not traded on a secondary market.

More research about the rate of return on whole life insurance was done by Mark Warshawsky (Warshawsky, 1985). He points out that return on cash value is closely tied to the insurer's general portfolio performance. He also states there is a considerable time lag in interest rate fluctuations between market interest rates and the company's general portfolio rates because of the bond heavy portfolio held by mutual life insurance companies. He asserts the time lag occurs because the insurance company does not adjust its investment portfolio quickly enough as interest rates are changing.

Itzhak Venezia's paper tries to determine an economic reason for the savings element cash value life insurance contract (Venezia, 1991). Dr. Venezia asserts the savings element is a method for the insurance company to control adverse selection and moral hazard due to asymmetric information. He points to the preference for customers with higher probabilities for mortality to purchase insurance on a year by year basis. Therefore, the cash value is used as an incentive for higher risk customers to self-select a multi-period life insurance product.

A book I studied was Why Waste Your Money...on Life Insurance by James Stowers (Stowers, 1967). As the title suggests, this book takes aim at certain types of life insurance policies to see what gives the customer the most value. There is a section in the book about life insurance dividends, where the author states dividends are just a portion of overcharge premium given back to the policyholder by a

mutual life insurance company. He correctly states that these dividends are not taxable because they are a refund of premium.

Another piece of literature I will discuss is a book written by Joseph Belth called A Report on Life Insurance (Belth, 1967). The author's goal is to explain the fundamentals of life insurance principles and to help customers choose a policy that fits their needs. In a section discussing participating whole life policies, Belth states that buying a policy from a solid life insurer is vital for the cash value to grow at a rate exceeding the inflation rate. One problem Belth faced in his research was companies were not cooperative in providing information for his studies. He states that this lack of information reflects the difficulties a consumer would face in making a life insurance purchasing decision.

Investing in life insurance is also discussed in a section of a Consumer Reports book (Rankin, 1994). The author claims that investors should not purchase life insurance until all other investment options are researched. The claims for this rationale are life insurance products are hard to understand and there are many fees attached to insurance policies. This is a warning that life insurance is not a short term investment. The author also claims that insurance products' returns lag behind comparable investments and states that tax advantages are the major reason to consider life insurance. The author describes that whole life insurance rates of return are measured by the Linton Yield and does not elaborate on the equation.

Perhaps the most relevant literature relating to my research is a book entitled Life Insurance and/or Mutual Funds by Herbert Denenberg and Robert Ferrari (Denenberg & Ferrari, 1967). Written in 1967, it attempts to compare the rates of return of buying whole life insurance as opposed to periodic purchases of mutual funds with purchasing a term insurance. The book does not try to compare the historical returns of whole life insurance versus the buy term and invest the difference approach. The book mainly gives specific rates of return and shows how the protection and investment values fluctuate. The fluctuation occurs with the age of the insured/investor and the expense associated with

the purchase of investments. The authors point to the lack of a life settlement option for mutual funds and lack of rate guarantees as downsides to the buy term and invest the difference strategy. This is a good basis for my research to continue since it is the only literature I have found attempting to compare the performance and features of whole life insurance with mutual funds.

### CHAPTER 3: MODEL FOR WHOLE LIFE INSURANCE VS. TERM INSURANCE AND INVEST THE DIFFERENCE

In the complicated world of life insurance, there is a motto that is often used by mutual fund employees stating an investor should, “buy term insurance and invest the difference.” Of course, this investment would most likely be in a mutual fund. In the effort to compare the performance of whole life insurance to the buy term and invest the difference strategy, a very specific model has to be created.

The key to evaluating the performance between these two strategies is to make sure the amount of insurance needed stay constant through the years. The investment amount (term option) and cash value (whole life option) will be the performance measure of the two strategies. A certain set of assumptions have to be created for this model so the insurance amounts stay constant and to explore other factors:

1. Dividends paid on whole life policies will be used to reduce premium, thus eliminating any increase in death benefit.
2. Once the dividend becomes larger than the premium, the difference will be added to the cash value and will not affect the death benefit of the policy.
3. A \$500,000 whole life insurance policy will be used and that insurance amount will held constant for the duration of the model.
4. The investor in term insurance will buy enough insurance to have a sum of \$500,000 between insurance and their investments, meaning that they can continue to purchase one year term insurance policies without restriction.
5. Two different ages will be used to show the effect of insurance as one gets older. One model will be start with a 20 year old, and another with a 40 year old.
6. All life insurance contracts are assumed to be male, non-smoking adults in great health.

7. There will be multiple rates of return of the investment with the term strategy. One will be a fixed percentage, and another will be a portfolio of mutual funds that is modeled after Northwestern Mutual's general portfolio.

In explaining the logic behind this set of assumptions, the dividend assumption is necessary because it will keep the death benefit from growing on the whole life policy in the beginning of the policy. At some point, the dividend will become larger than the premium. When this happens, I will apply the remaining dividend to the cash value, while keeping the death benefit at \$500,000. This is typically not how insurance performs in the real world, but it is an attempt to keep the comparison on even terms.

The whole life insurance contract's cash value will be an equivalent for the investment value of the policy. As the cash value grows, the amount of insurance that the insurance company has to provide decreases by the difference between the death benefit and the cash value. Because of this decreasing insurance liability, the renewable term insurance will decrease in amount every year on the buy term and invest the difference model. Poor health will not affect the decreasing term amount because it is renewable. The amount of insurance purchase each year will be the difference between \$500,000 and the amount of the investment account at the beginning of the year. The amounts invested in the mutual fund account will be the difference between the premium of the whole life contract (with the dividends reduction included) and the premium for the one year term contract. There will be some point where it is more expensive to buy term insurance than whole life because of the dividends reducing the premium of the whole life contract. When this occurs, the difference will be withdrawn from the investment account. These assumptions should accurately reflect the amount of insurance needed.

The age of the customer greatly affects the price of insurance. For this reason, two ages are going to be tested for performance. One age that will be tested is a 20 year old. This was chosen to

reflect saving for one's whole adult lifetime. The other age chosen is a 40 year old. This is illustrating waiting to invest until the middle of one's working life. Both models will show that the cost of waiting to invest in either mutual funds or insurance is high.

There are a couple methods that the rate of return of the investment account will be determined. One method is simply having a fixed return each year. Multiple fixed returns will be used to show the effect on the insurance needed. This is not how the equity market performs. There are fluctuations between positive and negative annual returns. For this reason, another model will mimic the Northwestern Mutual general portfolio with two mutual fund families. The years selected are 2001-2011, which nicely illustrates the expansions, peaks, contractions, and troughs of the business cycle.

#### Note on Taxes

One of the greatest advantages whole life insurance has over other investments is the cash value grows tax deferred. I have made the decision not to include taxes in my model. This is partly because the tax rate on dividends is proposed to change from 15% to 43.4% in the next year (Hough, 2012). With 2012 being an election year, I do not know if that tax rate will survive for long. Another reason I did not include taxes is the difficulty determining between dividend appreciation and capital appreciation in the mutual funds I selected. Capital gains are realized only when a security is sold, and therefore are not relevant for the model until the terminal time period. Dividends are taxes as distributed, and would affect the model. This could be an area of future research in the field.



## CHAPTER 4: RESULTS OF VARIOUS ASSUMPTIONS FOR THE MODEL

### Fixed Return Model

Following the assumptions I set for the model, the next step is to examine what happens when the numbers are computed. The first model is an insurance program starting at the age of 20. The return on investments is set at 5%. Looking at the whole life insurance account, the \$500,000 death benefit is constant for all years. The dividends are used to reduce the premium payment, and increase annually. Notice in year 40 in Appendix C, the dividend becomes enough to completely cover the premium payment. After this point, the remaining dividend is added to the cash value. For the sake of comparison, the death benefit is assumed to remain at \$500,000. This is not realistic, as the cash value becomes larger than the death benefit, but it keeps the comparison alive in the process. By the time the investor is 80 years old, he has \$570,000 in cash value. Let's compare that to the buy term and invest the difference strategy.

As previously mentioned, the key assumption in this part of the model is a 5% fixed return. The goal is to always have \$500,000 in assets available if death occurred. This is why only \$496,000 of insurance is needed in the beginning of the first year, because \$4,000 difference in cost between the term premiums and the whole life premiums would be placed in an investment account at the beginning of the year. The cost difference between the term and the whole life insurance is invested and grows at 5%. The amount of term insurance needed decreases annually as investments are made and grow. The annual premium for the term insurance decreases for 16 years of the investor's life. At age 37, the insurance premium start to rise because of the increased likelihood of death outweighs the decreases to coverage. It takes 56 years to accumulate the desired \$500,000 of cash assets in this model, and therefore insurance is not purchased after that date.

Examining the results, the buy term and invest the difference model outperforms the whole life insurance model. When the investor is 80 years old, he would have \$65,685 more in assets than under

the whole life insurance plan. This is the amount in the difference between the cash value and the value of the investments. Not only does the buy term and invest the difference strategy outperform the whole life insurance in the long run, but also the greatest difference in cost occurs in the beginning of the investor's life. Using simple time value of money principles, these cash flows would be the most costly to the investor. In fact, the whole life insurance policy only outperforms the investment account in one year (year 45). Based on this model, buying term insurance and investing the difference is the clear winner.

Next, an examination of the effect of age will be conducted. Now, the model will be run with starting at the age of 40. One obvious effect is the cost of insurance will greatly increase with the 20 year difference. In fact, the whole life policies' premiums almost double in price for the same \$500,000 policy. The higher premium also makes the dividends grow at a faster rate, so that they become large enough to cover the premiums in year 27 of the policy. The amount of cash value when the investor is 80 years old (\$395,672) is significantly less than the 20 year old investor.

Even with changing the age variable, the term insurance and investment mix still outperforms the whole life option. Unlike the 20 year old model, insurance is needed until the end of the model when the investor is 80 years old. It would be unlikely for the investor to have term insurance after his 80<sup>th</sup> birthday, but there is almost enough in the investment account to cover the \$500,000 target. As was the case with the previous model, whole life insurance gets outperformed on an annual basis. At the end of the model, there is \$64,146 more in the investment account than in the cash value of the whole life policy. One difference with the changing age is the premium for term insurance is always increasing on an annual basis. This is because the increasing odds of death outweigh the decreasing insurance amount. One detail that should not be ignored is the term insurance premiums had to be assumed because the software at Northwestern Mutual would not allow that amount of insurance to be shown to a customer.

A 5% return is a high constant rate to achieve for a long period of time, especially in today's market with interest rates set very low. For this reason, I also created a 3% fixed return model for a 20 year old and a 40 year old. The results can be seen in Appendices E and F. A 3% return vastly changes the results of buy term and invest the difference plan. The investment account outperforms the whole life insurance cash value for 20 years, but it then lags behind until an investor would end up losing \$757 if they continued the strategy of keeping \$500,000 of assets in place (Appendix E). The increase in the cost of term insurance rises too rapidly for a 3% perpetual return to make economic sense. The investor does not owe money in the 40 year old model, but it greatly lags in performance to the whole life insurance (Appendix F).

Another fixed return scenario which merits discussion is a shifting return model. As the average person ages, he or she becomes more risk averse, and would more likely achieve a lower rate of return. Using this theory, I created a model where a 20 year old would achieve 5% return in the first 20 years, 3% in years 21-40, and 1% from years 41-60. As seen in Appendix G, the results show that an investor would lose \$67,000 if they employed the buy term and invest the difference design. The reason for such a loss is ironic. While the average person becomes more risk averse (i.e. accepts lower returns) when getting older, the cost of insurance skyrockets. Another point that should be made is with lower returns in the investment account; an investor would actually have to purchase more term life insurance coverage as they got older. This becomes troublesome if the investors have a medical condition, where insurance coverage could be denied. I also created another model that illustrates a 40 year old with changing returns. I used a 5% return in the first 20 years, and a 1% in the last 20 years. The results in Appendix H once again show that the buy term and invest the difference strategy fails to compete with the whole life contract with the returns being so low.

### Mutual Fund Return Model

The fixed return model is a good measuring stick for the performance of whole life insurance, but it is not representative of market performance. For this reason, I gathered data from mutual funds to better represent the market. I chose funds from two mutual fund families: Vanguard and Fidelity. The funds were chosen to mimic the composition of the Northwestern Mutual general portfolio. I wanted to keep the same general risk profile for the investments to accurately illustrate the risk/return profile of an insurance company. I calculated the returns by weighing their returns to the Northwestern Mutual general portfolio, and then subtracted the expense ratio. The mutual funds that I chose can be found in Appendix A. I collected return data from 2001 through 2011. I think this is a good representation of the market cycle. Using those years, I created models for both mutual fund families if an investor were to buy term and invest the difference as a 20 year old and a 40 year old. This is consistent with the fixed return models.

### Vanguard

Using the same 90 Life policy as in the fixed return model, I compared how buying the term and investing the difference in a set of Vanguard mutual funds would perform as a 20 year old investor. The results show that buying term and investing the difference greatly outperforms whole life insurance. Under this model, the investor would not need life insurance after he turned 61, as his investment value would exceed the \$500,000 desire in the event of his death. If the investments are untouched at the age of 80, they would outperform the life insurance policy by 328%. Looking at how the performance changes as a 40 year old, Vanguard still beats the life insurance policy. The 40 year old investor would only need term insurance in force until he turned 70. The set of mutual funds outperformed the cash value of the insurance by 243%. What makes the set Vanguard funds unique is that they did not suffer a year of negative return, even during the financial crisis in 2008. The next set of mutual funds from

Fidelity did suffer a loss in 2008, so let's see how that affects the decision to buy term insurance. The results of these models can be found in Appendices I and J.

#### Fidelity

Over the 11 year market cycle I used, Fidelity underperformed compared to Vanguard on a return basis. The most noticeable difference was during 2008, where Fidelity posted a negative return. Using the same model as Vanguard, Fidelity's mutual fund outperformed the Northwestern Mutual portfolio in both the 20 year old and 40 year old case. An interesting fact arises from these sets of models. Using a fixed return model or Vanguard mutual funds, there was no need to ever increase the insurance amount because the investment account kept growing. However, with Fidelity having a negative return in one of the years, it becomes necessary to purchase more insurance. This can become problematic if the insured is not healthy because the insurance company could deny his application. The results from the models are in Appendices K and L.

## CHAPTER 5: CONCLUSION

Through a number of models, I believe it has been shown that an investor can buy term life insurance and invest the difference to outperform a whole life insurance contract. The hurdle rate for beating a whole life insurance contract is above 3%, where the buy term and invest the difference strategy failed to outperform the whole life contract. The effect of age on the models was relatively minor. The results seemed to follow a pattern despite the 20 year age gap of the models. The one area that I did not examine is if the tax advantage whole life insurance holds over other investments would make a difference in the calculations. The dividend tax rate would be the major component of any effect. Hopefully this paper simplifies some of the results for the performance of whole life insurance. One of the many major risks life insurance companies undertake is management of their investment portfolio. As Northwestern Mutual's portfolio demonstrates, they are very conservative in nature. However, using readily available mutual funds that mimic the composition of a life insurance company's portfolio, an investor can outperform the life insurance company while buying cheap term life insurance. It is an increase in risk taken by the insured, which could be a reason it is not done more often. A major purpose of whole life insurance is to eliminate risk to the insured, and it could be considered a premium being paid by the policyholder for peace of mind, even though there are stronger alternatives in the market place.

CHAPTER 6: BIBLIOGRAPHY

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Appendix A: Northwestern Mutual's General Portfolio and Proxy Mutual Funds

Type of Security	% of NWM Portfolio	Vanguard Fund	Fidelity Fund
Corporate Bonds	47%	VWESX	FTBFX
Commercial Mortgage Loans	14%	VFIIX	FMSFX
Residential MBS	14%	VFIIX	FMSFX
U.S. Government & Agencies	4%	VUSTX	FTBFX
Commercial MBS	2%	VFIIX	FMSFX
Municipal Bonds	2%	VPAIX	FPXTX
Asset-backed Securities	2%	VDIGX	FTBFX
Money Market	1%	VUSXX	FDRXX
Private Equity	5%	VSLIX	FCPVX
Public Common Stock	5%	VFIAX	FUSVX
Real Estate Equities	4%	VGSLX	FRESX

Appendix B: Returns for Vanguard and Fidelity

Year	Return for Vanguard	Return for Fidelity
2001	6.09%	6.14%
2002	8.72%	4.85%
2003	7.31%	6.08%
2004	7.68%	6.15%
2005	4.67%	3.37%
2006	5.66%	6.88%
2007	4.42%	1.93%
2008	0.44%	-7.60%
2009	9.89%	17.30%
2010	10.21%	9.66%
2011	11.96%	6.02%



Appendix C: 20 Year Old with 5% Fixed Return Model

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 4,315	\$ 450	\$ 496,000	\$ 264	\$ 4,254
5	\$500,000	\$ 3,600	\$ 11,180	\$ 480,000	\$ 258	\$ 20,969
10	\$500,000	\$ 2,820	\$ 27,295	\$ 456,000	\$ 249	\$ 43,712
20	\$500,000	\$ 1,437	\$ 69,764	\$ 405,000	\$ 270	\$ 95,126
30	\$500,000	\$ 137	\$ 127,388	\$ 339,000	\$ 498	\$ 161,071
40	\$500,000	\$ -	\$ 214,070	\$ 246,000	\$ 803	\$ 254,007
50	\$500,000	\$ -	\$ 355,721	\$ 102,000	\$ 1,494	\$ 398,225
60	\$500,000	\$ -	\$ 570,384	\$ -	\$ -	\$ 636,069

Appendix D: 40 Year Old with 5% Fixed Return Model

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 8,905	\$ 596	\$491,000	\$ 329	\$ 9,005
5	\$500,000	\$ 7,719	\$ 26,321	\$455,000	\$ 427	\$ 45,557
10	\$500,000	\$ 5,954	\$ 63,406	\$406,000	\$ 572	\$ 94,305
20	\$500,000	\$ 2,198	\$151,862	\$304,000	\$ 946	\$196,699
30	\$500,000	\$ -	\$254,623	\$191,000	\$ 2,289	\$309,428
40	\$500,000	\$ -	\$395,672	\$ 41,000	\$ 4,670	\$459,818

Appendix E: 20 Year Old with a 3% Fixed Return Model

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 4,315	\$ 450	\$496,000	\$ 264	\$ 4,173
5	\$500,000	\$ 3,600	\$ 11,180	\$481,000	\$ 258	\$ 19,730
10	\$500,000	\$ 2,820	\$ 27,295	\$462,000	\$ 252	\$ 38,801
20	\$500,000	\$ 1,437	\$ 69,764	\$427,000	\$ 300	\$ 73,091
30	\$500,000	\$ 137	\$127,388	\$397,000	\$ 546	\$103,007
40	\$500,000	\$ -	\$214,070	\$372,000	\$ 1,157	\$128,762
50	\$500,000	\$ -	\$355,721	\$356,000	\$ 4,265	\$144,152
60	\$500,000	\$ -	\$570,384	\$500,000	\$ 56,952	\$ (757)

Appendix F: 40 Year Old with 3% Fixed Return Model

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 8,905	\$ 596	\$492,000	\$ 330	\$ 8,832
5	\$500,000	\$ 7,719	\$ 26,321	\$458,000	\$ 429	\$ 42,869
10	\$500,000	\$ 5,954	\$ 63,406	\$417,000	\$ 587	\$ 83,647
20	\$500,000	\$ 2,198	\$151,862	\$351,000	\$ 1,092	\$149,392
30	\$500,000	\$ -	\$254,623	\$318,000	\$ 3,811	\$182,773
40	\$500,000	\$ -	\$395,672	\$421,000	\$ 47,954	\$ 79,555

Appendix G: 20 Year Old with Changing Rates of Return

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 4,315	\$ 450	\$496,000	\$ 264	\$ 4,254
5	\$500,000	\$ 3,600	\$ 11,180	\$480,000	\$ 258	\$ 20,969
10	\$500,000	\$ 2,820	\$ 27,295	\$456,000	\$ 249	\$ 43,712
20	\$500,000	\$ 1,437	\$ 69,764	\$405,000	\$ 270	\$ 95,126
30	\$500,000	\$ 137	\$127,388	\$368,000	\$ 554	\$132,668
40	\$500,000	\$ -	\$214,070	\$332,000	\$ 1,174	\$168,811
50	\$500,000	\$ -	\$355,721	\$342,000	\$ 4,746	\$158,760
60	\$500,000	\$ -	\$570,384	\$568,000	\$ 64,698	\$(67,189)

Appendix H: 40 Year Old with Changing Rates of Return

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 8,905	\$ 596	\$491,000	\$ 329	\$ 9,005
5	\$500,000	\$ 7,719	\$ 26,321	\$455,000	\$ 427	\$ 45,557
10	\$500,000	\$ 5,954	\$ 63,406	\$406,000	\$ 572	\$ 94,305
20	\$500,000	\$ 2,198	\$151,862	\$304,000	\$ 946	\$196,699
30	\$500,000	\$ -	\$254,623	\$298,000	\$ 3,571	\$202,491
40	\$500,000	\$ -	\$395,672	\$434,000	\$ 49,435	\$ 66,927

Appendix I: 20 Year Old with Vanguard Funds

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 4,315	\$ 450	\$ 496,000	\$ 264	\$ 4,254
5	\$500,000	\$ 3,600	\$ 11,180	\$ 480,000	\$ 258	\$ 20,969
10	\$500,000	\$ 2,820	\$ 27,295	\$ 456,000	\$ 249	\$ 43,712
20	\$500,000	\$ 1,437	\$ 69,764	\$ 405,000	\$ 270	\$ 95,126
30	\$500,000	\$ 137	\$ 127,388	\$ 339,000	\$ 498	\$ 161,071
40	\$500,000	\$ -	\$ 214,070	\$ 246,000	\$ 803	\$ 254,007
50	\$500,000	\$ -	\$ 355,721	\$ 102,000	\$ 1,494	\$ 398,225
60	\$500,000	\$ -	\$ 570,384	\$ -	\$ -	\$ 636,069

Appendix J: 40 Year Old with Vanguard Funds

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 8,905	\$ 596	\$491,000	\$ 329	\$ 9,098
5	\$500,000	\$ 7,719	\$ 26,321	\$453,000	\$ 426	\$ 47,929
10	\$500,000	\$ 5,954	\$ 63,406	\$398,000	\$ 563	\$102,589
20	\$500,000	\$ 2,198	\$151,862	\$259,000	\$ 835	\$241,848
30	\$500,000	\$ -	\$254,623	\$ 40,000	\$ 710	\$460,490
40	\$500,000	\$ -	\$395,672	\$ -	\$ -	\$960,857

Appendix K: 20 Year Old with Fidelity Funds

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 4,315	\$ 450	\$496,000	\$ 264	\$ 4,300
5	\$500,000	\$ 3,600	\$ 11,180	\$479,000	\$ 258	\$ 21,014
10	\$500,000	\$ 2,820	\$ 27,295	\$456,000	\$ 249	\$ 44,915
20	\$500,000	\$ 1,437	\$ 69,764	\$404,000	\$ 270	\$ 96,382
30	\$500,000	\$ 137	\$127,388	\$349,000	\$ 509	\$151,651
40	\$500,000	\$ -	\$214,070	\$217,000	\$ 731	\$283,886
50	\$500,000	\$ -	\$355,721	\$ 16,000	\$ 496	\$483,694
60	\$500,000	\$ -	\$570,384	\$ -	\$ -	\$803,026

Appendix L: 40 Year Old with Fidelity Funds

Years	Face Amount of Whole Life	Whole Life Premium	Cash Value of Whole Life	Term Insurance Needed	Term Premium	Investment Account Balance
1	\$500,000	\$ 8,905	\$ 596	\$491,000	\$ 329	\$ 9,102
5	\$500,000	\$ 7,719	\$ 26,321	\$455,000	\$ 427	\$ 45,652
10	\$500,000	\$ 5,954	\$ 63,406	\$404,000	\$ 569	\$ 96,862
20	\$500,000	\$ 2,198	\$151,862	\$301,000	\$ 938	\$199,445
30	\$500,000	\$ -	\$254,623	\$205,000	\$ 2,283	\$294,302
40	\$500,000	\$ -	\$395,672	\$ -	\$ -	\$550,592

# SHAWN WENDEL'S ACADEMIC VITA

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**EDUCATION**    **The Pennsylvania State University**  
Smeal College of Business  
Bachelor of Science in Finance  
Minor in Political Science

University Park, PA

**WORK EXPERIENCE**    **Schreyer Honors College**    August/2008 to May /2012  
**Northwestern Mutual**    Pittsburgh, PA  
Financial Representative    Summer 2010-2011

- Developed a financial clientele while analyzing their financial needs and recommending financial products and services to minimize their risk and start their accumulation of assets

## LEADERSHIP EXPERIENCE

**Wall Street Boot Camp**  
Student    September/2009 to December/2009

- Selected to participate in this extracurricular group introducing students to Wall Street careers and networking skills necessary to succeed in a fast-paced business environment

**Wishvast Business Plan**  
Team Member    January/2010 to May 2010

- Contributed to a 5 person team assigned with creating a functional business plan for an entrepreneur to implement a cell phone based social network in Kenya
- Process provided invaluable insight to business phases in real life scenario
- Created a 60 page extensive business plan which included projected financial statements which were used onsite in Kenya

**PNC Leadership Assessment**  
Student    October/2011 to November/2011

- One of 12 students selected to perform a mock company simulation used to assess leadership skills

## CERTIFICATIONS & LICENSES

- Pennsylvania Life Accident and Health Examination
- Series 6, 7, and 63 Examinations