The effect of commission versus non-commission benefits on customer value: the case of life insurance policy performance

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Abstract

In selling life insurance, some degree of negotiation of commission between sales person and consumer takes place in the form mixing permanent with term insurance in one policy, the term coverage carrying no commission to the agent, allowing the agent to trade off compensation in favor of enhanced cash value performance. Looking only at cash-on-cash return—premium contributions versus cash surrender value—this article finds that this form of commission negotiation does enhance client value in life insurance to varying degrees, but not in a predictable, consistent or statistically significant fashion. © 2007 Academy of Financial Services. All rights reserved.

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1. Introduction

In financial services, sales commissions are earned by stockbrokers, real estate agents, and insurance agents, among other categories of salespeople. Provision is made in all of these examples for some degree of negotiation of commissions between the vendor's representative (agent or broker) and the consumer (client). As an example, commission agreements in real estate sales are susceptible to negotiation between seller and agent (Goldberg, 1987; Zeigler, 1985; Sichelman, 1984). It has been debated as to how much of a sales commission is absorbed, indirectly, by the buyer, in terms of the eventual sales price (Kamath & Yantek,

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1982), and so it is analogous to the study herein that there may not be a full reflection in consumer value for any degree of change in sales commission amount or percentage. Therefore, the issue under study is, "what effect does decreasing agent commission have on client net worth"? This research carves out life insurance as a distinct object for study within financial services, while recognizing the potential relationship to other financial products and services (Black, Ciccotello & Skipper, 2002).

Commissions paid to agents for the sale of life insurance products to consumers comprise a large percentage of the first year premium that consumers pay for these products. As the marketplace for financial assets becomes ever more information-perfect, a marketplace pressure to allow agents and their clients to negotiate commissions has developed. This pressure has emerged despite the regulatory environment at state insurance departments discouraging the "rebating" of commissions to consumers and the concerns some insurance carriers have over the discrimination between two similarly situated clients who get different values from their policies based solely on negotiated commissions. Despite these concerns, this research studies whether there is a valuable negotiating tool in the agent commission area from products that allow the mixing of a non-commissionable term rider with a fully commissionable base coverage in a single, permanent life insurance policy. This study examines the dynamic between agent commission and policy performance primarily from the agent's point of view, in that the agent is the party generally making the decision to reduce compensation for policy performance. The agent holds that decision making power because of the informational inefficiency (albeit declining inefficiency) remaining in the life insurance marketplace—through which the agent possesses superior information about life insurance policies available, their features, and their usage in financial planning strategies— such as retirement planning. The basic life insurance pricing model is used to test the extent to which the lowering of commissions has any predictable effect on policy cash value performance over long durations; predictable effect being measured by a constant coefficient of change in cash value given a degree of commission change.

The pace of product development in life insurance occurs at a hectic speed, given the combination of competitive pressures, the growing access to information by the consumer, and the maturing of the industry that has lead to the consolidation of insurance firms. Added to this pace of change, clients today have multiple channels through which to purchase life insurance, such as the Internet, allowing clients to purchase insurance directly from a carrier, with or without benefit of an agent. This has led some carriers (though not many) to offer no or low load life insurance products, in which much of the distribution margin (commission) has been extracted from the pricing for the product. The effect of this development has been to enhance the pressure on agents to price their services, including their commissions, to account for this competing channel; especially in response to the threat that agents will "educate" their clients about the life insurance product, only to lose the sale when the client takes that information and purchases his or her policy online (Laury & McInnes, 2003).

The research herein has practical significance to a large segment of consumers of financial products and services. A confluence of aging baby boomers (people age 40–60) and their membership in a mass affluent socio-economic category (household earnings in excess of $200,000/year) has caused financial planners to find innovative ways to plan for the most critical living need for these clients. Once they have managed to pay for a child's college

education, the next stage of life is retirement. Millions of Americans fall into this category, creating a lucrative target market for financial vendors of all varieties: banks, wire houses, mutual fund managers, real estate investment trusts, limited partnerships, and life insurance and annuity carriers. As the competition for retirement planning dollars has grown over the recent years, the margins earned by financial asset vendors and their distributors have experienced downward pressure.

To what extent is the use of non-commissionable term rider actually being used to add living value to life insurance policies for retirement supplement funding? Exact statistics have been hard to come by, because of the lack of reporting information made by carriers to industry sources, such as LIMRA International (the Life Insurance Marketing and Research Association). Nevertheless, LIMRA (in its most recent report) reveals that use of high cash value universal life is an important product in the industry today (LIMRA, 2004). The companies chosen for study in this research acknowledge, anecdotally and through sales figures, that the product features studied herein are part of a major sales concept used to provide funding for retirement supplement and college planning, by focusing on the cash value accumulation. Industry consultants likewise have reported a "trend away from needs-based life insurance and toward asset accumulation" among high net worth individuals over the past decade (Milliman USA, 2002). The importance of this study reaches beyond the academic, because, if negotiating commission using a non-commissionable term rider has little effect on living values in the policy, one would have to question whether this form of negotiation of commission is worth employing.

The rest of this article features a literature review (Section 2), a methodological discussion (Section 3), a review of findings from the research (Section 4), conclusions from the research (Section 5), and suggestions for future research (Section 6).

2. Literature review

2.1. Retirement planning

In this research, the client is assumed to be looking to build a non-qualified retirement supplement using an over-funded universal life policy. Retirement planning strategies are most recently outlined in several works in which affluent clients search for methods to build retirement assets beyond what is allowed by law in qualified retirement plans, such as IRAs, 401(k) plans, and defined benefit pensions. Retirement planning goes beyond simply accumulating funds for that purpose; it also has to do with identifying what income needs the client expects to have at retirement (Bernicke, 2005; Lahey, Kim & Newman, 2003). This research assumes no goal meeting retirement income needs can be accomplished without the accumulation of funds. Thus, this research contributes to retirement planning strategies, albeit only as to accumulation, not as to income identification.

2.2. Time horizon

A critical factor identified in the literature regarding expected returns and volatility of those returns on investment (ROI) come from the time that the investor has between today (time zero) and when the accumulation of funds is needed for distribution at retirement (Chen, Wong & Lee, 2001). Retirement planning is acutely involved with time horizon; the earlier the investor begins a program of saving for retirement, the easier it is to achieve this financial planning goal (Booth, 2004). The purchase of a life insurance policy is likewise about time horizon. Although the death benefit is payable at a time that is indeterminable, it is predicted by actuaries in terms of probabilities and life expectancies. Thus, the pricing of the policy is geared to those probabilities. The cash value becomes an asset to the policy-holder-client that grows over a relatively long duration of time. Most of today's permanent life insurance products assure that long time horizon by imposing substantial surrender charges for cashing in the policy prematurely, inside of 10 to 15 years. These surrender charges are akin to penalties for early withdrawals from other tax deferred savings vehicles (Horan, 2004; Prakash & Smyser, 2003).

2.3. Taxes: the "Roth" model

Critical to the use of life insurance as a financial planning funding vehicle is the role taxes play in determining retirement income accumulation. Cash value life insurance analogizes to a Roth IRA, in terms of taxation, in that the client deposits investments (premiums) into the policy with after tax dollars, but the accumulations in the cash value grow tax deferred, and the distributions of cash value to the client at retirement have the potential of being received tax-free. The so-called Roth Model, therefore, applies as follows:

$$FV_{\text{Roth}} = I_{\text{BT}} (1 - T_0) (1+r)n \qquad (1)$$

Where the future value of the Roth IRA account is determined by the investment (I) reduced by the marginal tax bracket (T) in the initial year, multiplied by the return, compounded by "n" years (Horan, 2003).

2.4. Negotiation

The meeting between agent and client, in which the sales presentation of costs and benefits of the life insurance policy are presented and absorbed involves a distributive negotiation, as that term has been defined in several treatments (Lewicki & Litterer, 1985; Lewicki, Saunders & Minton, 1997).[1] A key concept to this negotiation process is the use of informational and expert power. Defined by Lewicki and Litterer (1985), informational power refers to the accumulation and presentation of information that will change the other's point of view or position on an issue. Combined with the concept of expert power, the position of the agent as a perceived expert in insurance planning, the informational power tilts in the direction of the agent as the party with superior information and a degree of control over what and how that information is shared with the client.

2.5. Disintermediation

Channel disintermediation comes into play as a resulting downward pressure on agent commissions because of the emerging channel challenges to intermediaries that come from e-commerce; namely, Internet outlets for insurance purchases (Clemons, Hit, Gu, Thatcher & Weber, 2002). Specific to financial services, there has been a reported trend of a power shift in the sales process away from the sales representative and his or her provider and toward the consumer. However, this trend may be overstated, as the providers continue to obfuscate costs and benefits of products by providing dissimilar comparisons of product features and information power continues to favor the sales representative; the majority of financial services consumers do not have the access or inclination to master the information necessary to match that of the sales representative, making the decision of who to use as a financial advisor a critical decision for the consumer (Harrison, 2003). Attempts by internet insurance vendors to emulate some of the services offered by agents, such as financial needs calculations to determine amounts of coverage to be purchased, have met with some criticism in terms of reliability and quality; so much so, that recent studies have included evaluation models for these internet-based calculators (Adelman, Dorfman & Wells, 2003).

2.6. Product: life insurance

Of all the various financial assets that have been studied in the past, life insurance has received relatively little attention. Some may argue that life insurance is not worthy of consideration as an investment asset, when compared to stocks, bonds, mutual funds, limited partnerships, and other commonly used assets to fund a financial plan (Carson & Forster, 1996), although recognizing that the cash value of life insurance has taken on an asset building quality beyond a side fund for the termination of premium payments (Pritchett, Schmit, Doerpinghaus & Athearn, 1996).

Criticism of insurance as investment stems from the very low initial rates of return (Carson & Forster, 1996) and how long it takes (and how uncertain it is) for those returns to become positive. Others may feel that all the working parts of a life insurance policy make financial comparisons difficult. For example, one of the reasons that credited interest rates on policies are not utilized as an independent variable in this study is that the credited interest rate is generally not a determining factor in universal life policy performance (Carson & Forster, 1996). This is because there is much more (e.g., cost of insurance rates) that go into policy performance. As mentioned, above, credited rates are generally presented to clients in policy illustration proposals as a constant, even though the only constant in such assumptions is that those are sure to have variance from actual experience. Those interest rates will change (Pritchett, 1997), just as with a planner's assumptions about rates of return, inflation, and income replacement ratios (Greninger, Hampton, Kitt & Achacoso, 1996, Greninger, Kitt, Hampton & Jacquet, 2000; Brown, 2002).

3. Research methodology

Pilot studies in life insurance product follow comparisons based on methodology used by Carson and Forster (1996), using computer generated product proposal illustrations used by agents to propose product solutions for clients. That same methodology will be used here.

3.1. Methodological objectives

The research is performed to test two main hypotheses to demonstrate this commission-for-cash-value exchange:

1. We will use the assumption that there is no statistically significant effect on cash values as the null hypothesis and test to see if the use of this kind of rider actually has an effect worth considering. **Null Hypothesis I states that there is no effect of non-commissionable term rider on cash values.**
2. We use the insurer's assumption that commission tradeoff and performance gains are proportional and linear and test for whether either party is giving up more than the other gets in return when mixing base and term coverage. **Null Hypothesis II: There is no differential effect of mixing base and term coverage on agent compensation versus cash value performance.**

3.2. Life insurance pricing model

In this research, we will test the basic pricing model for life insurance (Carson & Forster, 1996), as applied to the lowering of distribution margin (commissions) through the use of non-commissionable term rider. That basic model works as follows:

Premiums (client contributions) inflows to policy:
Deductions =

- Premium loads.
- Cost of insurance (price per thousand of coverage at attained age, health status, etc.).
- Administration expenses (flat dollar and/or per thousand of coverage).
- Other expenses.

Additions =

- Interest crediting to cash value (net of investment spread) compounded monthly.

Agent commission is derived from a combination of the different charges (deductions) listed above. Each carrier allocates the distribution margin differently, according to how the carrier wishes to position the product. For example, one carrier may quote relatively high interest crediting rates on cash value, but also have a relatively high cost of insurance rate structure; indicating that the spread (interest earned by the carrier on invested cash values less the crediting rate to the policyholder) is thin and may not be where a significant portion of the distribution margin is derived. In this case, most of the agent's commission is priced into the cost of insurance rate. Another carrier, with an otherwise similar product, may quote

a lower crediting rate (even though the carrier's investments backing the cash values are virtually identical) but have a lower set of cost of insurance rates. In that case, one may imply that at least some of the distribution margin is in the spread. Nevertheless, both products may perform almost identically on a projected illustrated basis. What is being tested, regardless of where the distribution margin comes from, is what happens to the cash value over time as some or most of that margin is extracted from the policy through the use of a non-commissionable benefit, such as a term rider.

This pricing model for life insurance is commonly used in universal life products (Carson & Forster), validated in interviews with pricing actuaries from the companies studied. The model suggests that a deposit into the policy, a premium, has certain deductions taken out for loads, cost of insurance (COI), policy administration expenses; and then is credited with interest on the net that goes into the cash value.

3.3. Data

The data required are cash values generated on a projected basis on a typical universal life policy. Two different products from two different carriers are chosen, both having a non-commissionable term rider available with which to negotiate agent compensation. The source of product information and illustrated values comes from a series of illustration proposals using the carrier's own computer illustration system for proposing policies for clients. These proposals conform to state and federal regulations, including all due disclosures of limitations in the numbers being presented. Data collection generates proposals on each of 384 sample cases being observed in this study. Although this sample size is small compared to all the differing combinations of ages, health classifications, funding levels, total death benefits available, it is large enough (when variables are made nominal) to assume normality of distribution in results. Two different carriers are chosen to observe, to create a control group (Group B) of illustrations from the second carrier against which to duplicate results derived from the first carrier (Group A), on a parallel set of variables.

3.4. Statistical significance

The analytical procedure chosen for the evaluation of statistical significance is "multiple regression" (Mason & Perreault, 1991). The independent variables selected are listed below:

- **Age** (45 and 55), all males. These ages are representative of the age ranges where retirement planning becomes a major concern.
- **Death benefit type**, level or modified increasing (defined as initial death benefit plus accumulation value for the later of the first 20 years or age 65, then level coverage). This modified form of increasing death benefit is a typical coverage design for clients desiring to maximize the accumulation of cash value in the policy.
- **Face amount** of coverage, $500,000 or $1 million. Most universal life products have breakpoints in cost of insurance rates at specific sizes of coverage. The insurers chosen have breakpoints at $500,000 or $1 million.
- **Client health status** (underwriting class) as preferred non-tobacco (best class) and

standard risk (tobacco). To evaluate the statistical significance of base or term mixes of coverage relative to other environmental factors, one of the most common factors that cannot be controlled by the agent is client health. Difference based upon tobacco use is a way to evaluate the effect of this factor in a relatively small increment.

- **Premium funding level** (target premium, then level maximum premium under IRC Sec. 7702 defining life insurance by premium funding tests). Not all clients will see the wisdom of over-funding a life insurance policy, regardless of the tax shelter opportunities. Thus, it is important to evaluate the relative change in cash values that occur when the base and term elements are manipulated at the target premium for an all-base policy, as opposed to when the tax shelter is being maximized.
- **Six different mixes of base and term coverage** to make up the total death benefit—all base; 80% base/20% term rider; 60/40; 50/50; 40/60; and 20% base/80% term. It is important to have sufficient points along the continuum between all-base and maximum term allowed by these products (usually 20% base coverage) to evaluate whether a trend is present, such as a constant regression coefficient. However, this study is not about finding the exact "efficient frontier," where we get the greatest incremental benefit for the client, after which additional tradeoffs of compensation are getting decreasing incremental cash value additions, which "sweet spot" will vary from product to product.

These variables were chosen as being ones directly influencing cash value performance. Each one of these independent variables affects the cost of insurance rate being charged by the carrier. Cost of insurance rates, in flexible premium policies such as those studied herein, rise with the attained age of the insured, as they would in yearly renewable term insurance. Likewise, cost of insurance rates vary based on health of the insured; non-smokers get lower rates than smokers, for example. Death benefit type drives cash value performance in this model by causing, in increasing death benefit designs, the net amount at risk to remain constant, whereas in level designs the increases in cash value lower the net amount at risk and thereby lower the thousands of coverage against which the cost of insurance rate is charged. Cost of insurance is a rate per thousand of coverage; the more coverage, the more thousands the rate applies to and the higher the absolute dollar cost. Premium contribution level will also drive cash value performance; some charges are flat dollar amounts, after which the charge is not applied to additional premium contributions. Finally, using non-commissionable term rider instead of all-base coverage lowers the distribution margin built into the product. The lower the distribution margin, the lower the cost of carrying the policy; a corollary of this is that, at the same level of premium contribution, less of it is going to pay insurance charges, leaving more funds to build up cash value.

All of the independent variables, while in some cases having numerical values, are transformed into nominal variables, for the purpose of limiting the number of cases observed. This creates a 2-times-2-times-2-times-2-times-2-times-6 combination of values to each variable, creating the 192 cases for each insurance carrier.

The independent variables are observed against two interval dependent variables:

- **Cash surrender value in the 20th duration** (year) of the policy; and
- **Cash surrender value at client age 95** (assuming the client is still alive).

3.5. A DCF model

The second part of the analysis (without regard to the results of the statistical analysis performed above) is to look at the degree, in absolute dollars and in percentages, of the tradeoff between the agent giving up compensation and the client gaining cash value. This will consist of creating a discounted cash flow (DCF) model of the dollars given up versus the dollars gained, to reduce all cash flow to present value.

The DCF model manipulates the amount of term rider, making agent commissions the independent variable. The resulting cash value projected in the policy will be the dependent variable. From the client's point of view, cash flow will be measured, year-by-year, with premium contributions to the policy being the outflows and cash value accretions being the inflows. From the agent's point of view, cash flow is measured by the change in compensation received in the form of commissions over an assumed 20 years the policy is in force, earned on the same policy designed six different ways: an all-base (permanent) coverage; 80/20 mix of base to term rider; a 60/40 mix; a 50/50 mix; a 40/60 mix; and a 20/80 mix of base and term rider. Discounting these cash flows allows evaluation of the tradeoff of commission for policy values in terms of today's dollars, using an assumed inflation or discounting rate to accomplish that evaluation.

The DCF model provides for an assumed marginal tax bracket totaling 33%, although there are no taxes assumed on the client's cash values (as they are tax sheltered and potentially tax-free). The agent's compensation reduction must, however, be accounted for on an after-tax basis, meaning that the after-tax loss in income will be only two-thirds of the gross amount. A discount factor of 5% will be used throughout, arrived at from comparing the 10-year, U.S. Treasury Note rate at the time of analysis (2005) as a benchmark for a "risk-less" rate of return and the current crediting rates on the policies analyzed. Personal observation of computer generated sales illustration proposals from the carriers in this study reveals that 5% is also the discount figure used in their cost and surrender index tables.

3.6. Scope of the study: limitations and delimitations

3.6.1. Term rider

The use of a term rider, rather than other forms of negotiating commissions, has been selected for analysis. Because of regulatory, legal, and other limitations on negotiating commissions, the use of non-commissionable term rider to adjust agent compensation has become the most popular method in actual practice for facilitating this negotiation.

3.6.2. Two carriers for replication

Two different carriers with similar products and product features are being used; one, to replicate the results observed from the other. We assert that observations from two leading, mainline carriers offering this product and features are sufficient, as multiplicity of carriers creates the opportunity for other variables to enter into the analysis and taint the results. These carriers are among the leading sellers of universal life generally, and this form of retirement supplement funding specifically, as measured by recent industry sales figures.

3.6.3. Universal life as policy choice

The analysis and conclusions herein are limited to using a particular form of permanent insurance (universal life) as this form of base coverage is the most common form carrying the non-commissionable term rider.

3.6.4. Choice of independent variables

This research holds constant the credited interest rate on the policy. We employ the current interest rate being credited on the policy at the time of the analysis, although the idea of assuming a constant crediting rate into the indefinite future has its limitations (Pritchett, 1997). Economic environmental factors are held constant, as they cannot be controlled either by agent or client. A constant assumed crediting rate is exactly how most life insurance is proposed today. Whether this is a sound practice (Carson & Forster, 1996) can be debated; but it is the way life insurance is being proposed, compared and sold in the marketplace. A consideration in leaving out variances in interest crediting rates comes from the fact that crediting rates (while affecting cash values) have no direct effect on agent commissions.

3.6.5. Closed-end sale process model

Each transaction between agent and client is seen separate from all other clients with whom the agent deals. The agent could make up the lost revenue on the sale by increasing the volume of sales, on the assumption that lowering the price raises the number of sales the agent will make. However, we cannot know from this research whether that assumption is valid. If, for example, the agent is lowering price simply to preserve market share (defensive), rather than to acquire market share, the lost revenue will not be made up in increased sales.

4. Findings and results

4.1. Statistical significance

The regression models reveal no statistical significance between 20-year or age 95 cash values and the use of non-commissionable term rider. Although there is a positive correlation between term rider and the resulting values, when measured against the other independent variables, the effect that this rider has on result is relatively weak. The model was run converting the year 20 and age 95 cash values into log20 and log95 values, respectively, to account for scale differences between independent and dependent variables. This method resulted in $p = .177$, seen in Table 1, insufficient to reject the null hypothesis.

Also, statistical significance does not result when age 95 values are tested, with a $p = .665$. It appears that the longer period between issue of the policy and the measuring point for cash values allows other factors to intercede and affect the result. This conclusion appears validated by the occasional lapsing of the policy because of zero values before reaching age 95 (this happened in several target premium funding cases where the death benefit type was increasing, then switching to level at 20 years), resulting in less of a positive correlation between the perm or term mix and the cash values at age 95.

Table 1   Dependent variable—log20

Model		Unstandardized coefficients		Standardized coefficients		
		B	Std error	Beta	t	Sig.
1	(Constant)	5.013	0.030		168.610	0.000
	Age	0.184	0.020	0.230	9.371	0.000
	DB type	0.222	0.020	0.277	11.279	0.000
	Face	0.296	0.020	0.369	15.040	0.000
	Class	0.059	0.020	0.074	3.004	0.003
	Prem	0.555	0.020	0.693	28.234	0.000
	Perm/term mix	0.008	0.006	0.033	1.354	0.177
	Control	0.114	0.020	0.142	5.775	0.000

The regression models having failed to disprove the null hypothesis, the null hypothesis has not been positively proven either. A test for the potential for collinearity for year 20 cash values reveals some collinearity between certain of the control variables; the ones other than perm or term mix. However, the mix variable does not show collinearity with the control variables. The collinearity does suggest an overlap of effect from various combinations of control variables. As these variables are the major factors in the pricing model that affect cash value performance, deleting some of them would result in an incomplete model. The solution: a second test, in which the regression model is run without the perm or term mix variable, to determine the resulting residual component on cash value (the dependent variable). Taking that residual value and plugging it in as the dependent variable to a regression test in which perm or term mix is the only independent variable, the result should reveal whether statistical significance is hidden in the original model. The result of that test results in a significance of $p = .173$, virtually unchanged from the original model. A similar outcome resulted from running this on the age 95 cash value as a dependent variable.

4.2. Discounted cash flow (DCF) models

4.2.1. Case 1: group A

In Case Profile 1, we look at a male client, age 45, buying a total insurance coverage of $500,000, which stays level. The client qualifies for the most preferred insurance rates the carrier has available and will pay, on an annual basis, the target premium (the premium ceiling at which—given an all-base policy—the agent earns full commission) for this coverage. The results are listed in Table 2.

Although the nominal cash value results at year 20 seem to show only small amounts of positive change at each tested increment of perm or term mix, the changes in NPV at year 20 are rather pronounced. For example, the change from using 80% base to 60% base in the profile above resulted in only a $7,104 improvement in cash at year 20. Yet, the net present value change was over 130%, or more than double the NPV at 60% that the client experienced at 80%. For this result, the agent lost $404 in compensation, and doubled his or her percentage loss in compensation, from just over 10% from the all-base case to over 20% of that all-base case. Scaled as a graph, the inverse relationship is seen in Fig. 1.

Table 2   A. Male 45, $500,000 of level coverage, best underwriting class, paying target premium.

Case	Base %	Cash value, year 20	Cash value, age 95	IRR CV20	IRR CV95	NPV CV20	Incr. change	NPV CV95	Incr. change
1	100	164,540	1,230,935	3.84%	7.98%	(1,018)	N/a	127,687	N/a
9	80	171,639	1,278,493	4.88%	8.42%	3,641	457.48%	138,963	8.83%
17	60	178,743	1,325,490	6.07%	8.93%	8,389	130.44%	150,246	8.12%
25	50	182,298	1,348,683	6.76%	9.22%	10,832	29.11%	155,906	3.77%
33	40	185,856	1,370,773	7.52%	9.53%	13,276	22.56%	161,367	3.50%
41	20	192,467	1,409,905	9.29%	10.25%	18,073	36.14%	171,410	6.22%

This result is explained by observing the year-by-year cash flows of these policies, which reveal that the largest change occurs in the early years of the policy. This is logical, as the agent's loss of income in this model is experienced in first year commissions on the target premium, not as much in excess premium compensation or renewal compensation.

4.2.2. Case 1: Group B

Group B varies only in that a different life insurance carrier and product are being used. The results, with the same case specifications, are listed in Table 3.

Then, viewing the two dimensions—net present value of cash to the client (NPV CV20) and compensation to the agent—together is seen in Fig. 2.

4.3.3. Case 2: Group A

In the second profile, or case, we use an example of someone buying $1 million in coverage and paying the maximum level premium allowed by law (to maximize the tax
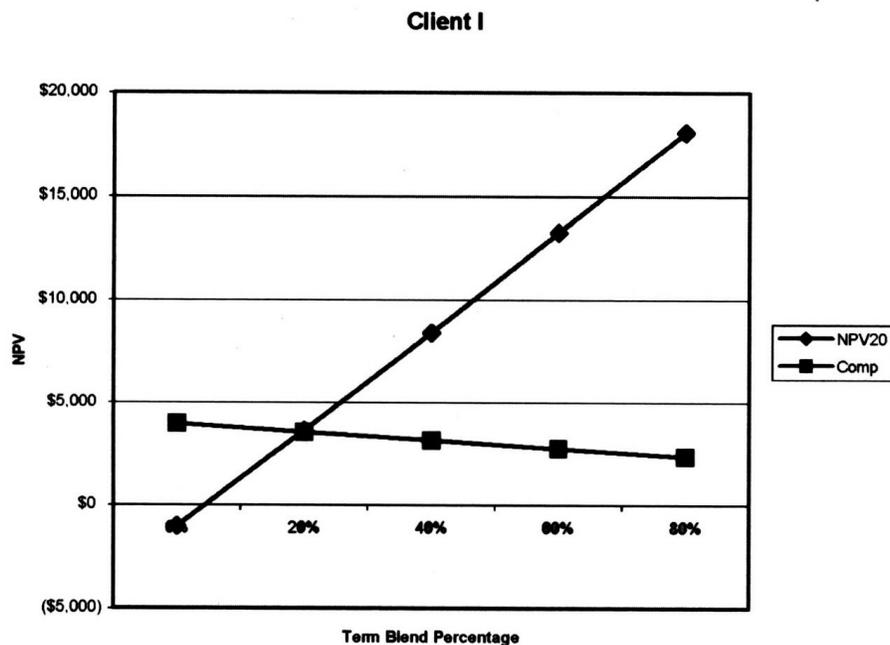

Fig. 1. Relationship of cash value and agent compensation, Client 1, Group A.
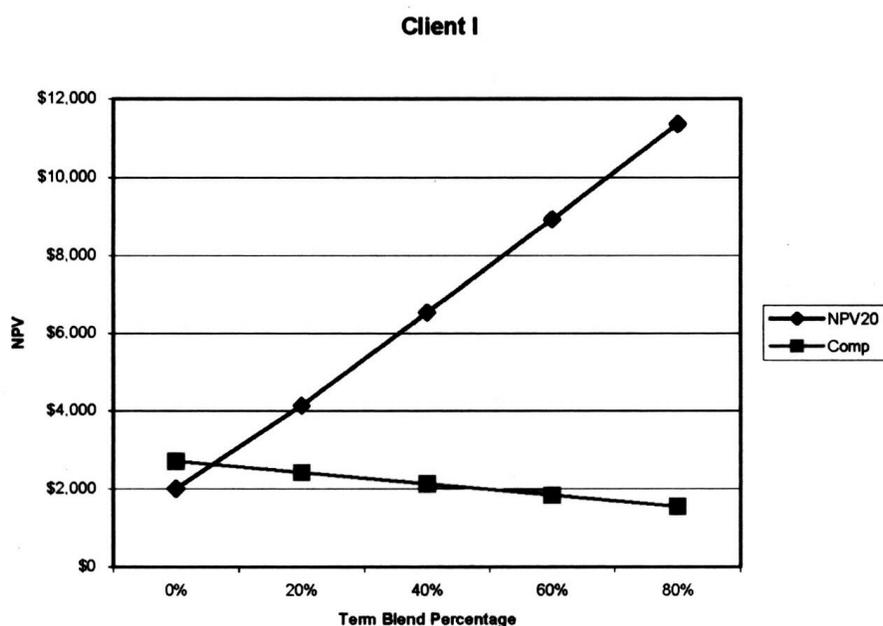
Client I

Fig. 2. Relationship of cash value and agent compensation, Case 1, Group B.

shelter opportunity). The client is a 45-year-old male, qualifying for the best insurance rates the carrier offers. The results are illustrated in Table 4.

The profile above reveals a total change in NPV after 20 years of 12.67%, compared to a loss of income to the agent, in present dollars, of 14.75%. The result is a fairly close to even trade of values for compensation.

In Fig. 3, client cash values (represented by NPV CV20) are compared to agent compen-

Table 3   A. Male 45, $500,000 of level coverage, best underwriting class, paying target premium

Case	Base %	Cash value, year 20	Cash value, age 95	IRR CV20	IRR CV95	NPV CV20	Incr. change	NPV CV95	Incr. change
1	100	118,637	732,511	4.45%	7.45%	2,012	NA	72,368	NA
9	80	121,225	751,347	5.17%	7.85%	4,147	106.15%	77,005	6.41%
17	60	123,813	769,834	6.06%	8.31%	6,533	57.51%	81,851	6.29%
25	50	125,107	779,000	6.59%	8.58%	7,738	18.46%	84,278	2.97%
33	40	126,401	788,087	7.20%	8.88%	8,944	15.58%	86,695	2.87%
41	20	128,989	806,031	8.75%	9.61%	11,356	26.97%	91,503	5.55%

B. Case 1, Group B agent compensation changes

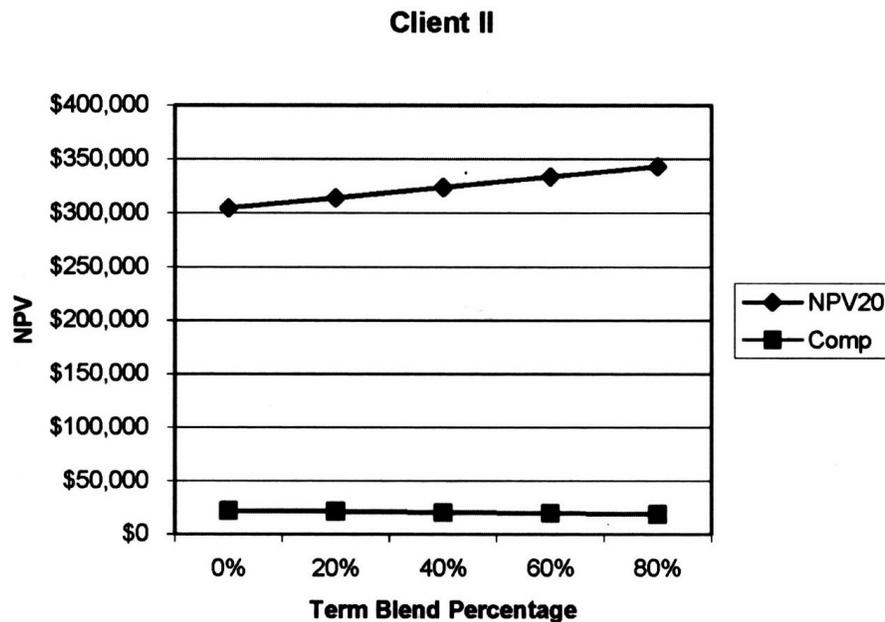| Comp model	AFYC	Excess	PV renew	Total	Change	
	50%	3%	3%			
Case #1	1,554	0	1,162	2,717		
Case #9	1,244	19	1,162	2,424	(292)	−10.76%
Case #17	933	37	1,162	2,132	(584)	−21.51%
Case #25	777	47	1,162	1,986	(731)	−26.89%
Case #33	622	56	1,162	1,840	(877)	−32.27%
Case #41	311	75	1,162	1,548	(1,169)	−43.03%

Client II

Fig. 3. Relationship of cash value and agent compensation, Case 2, Group A.

sation (comp), both discounted to present value. Relatively modest changes are illustrated by the relatively flat slope of each line.

4.3.4. Case 2: Group B

The same test of term rider percentages, just with the second carrier's product, reveals a larger proportionate loss of income to the agent for the gain in value to the client. The net total improvement in NPV is 4.46%, as compared to a loss of income to the agent of 11.69%.

The slope of the lines for cash value in year 20 and compensation are flatter with Client 2 than with Client 1 (Fig. 4). This again suggests that the tradeoff of compensation for improved product performance has a greater impact where the policy is funded at the target premium rather than at the maximum premium.

Similar results were observed from other case profiles that were tested by the same discounted cash flow model.

5. Discussion

Statistical significance of mixing term and base coverage and its effect on variance in client value was not proven in this study. The research yields a positive correlation between mean client values and mixture of coverage, but the regression model shows no statistically significant explanation of the variances from the perm or term mix. Explanation: The positive correlations show the correlation itself, not an explanation of the variance from those mean values. It seems that other variables furnish a more exacting explanation of the wide variance in client value results.
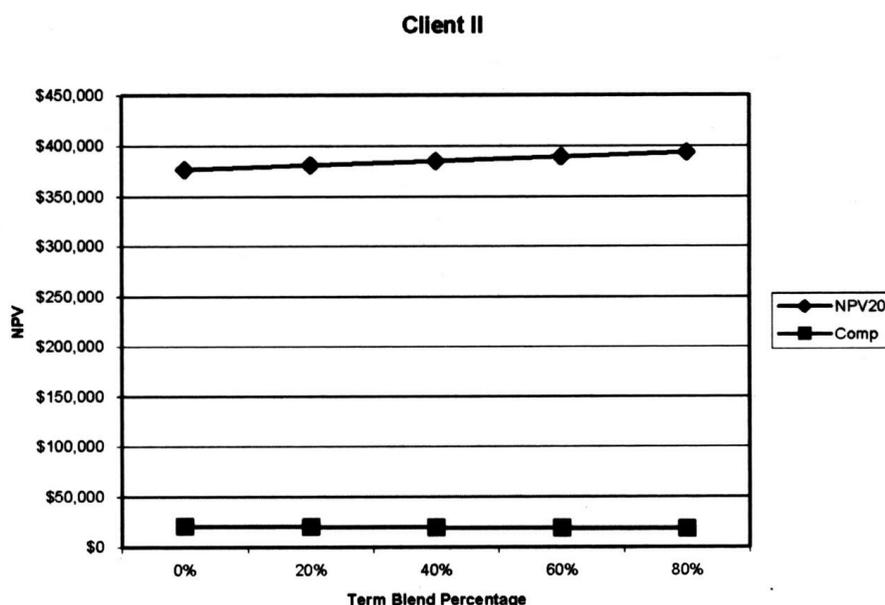
Client II

Fig. 4. Relationship of cash value and agent compensation, Case 2, Group B.

The complexity of the life insurance pricing model itself reveals how it is possible for a reduction in agent compensation to result in varying degrees of improvement in product performance. Unlike other financial assets sold by intermediaries, life insurance has so many moving parts, compensation being only one.[2] Our results suggest that individuals utilizing the living benefits of life insurance have a tool to leverage the equity buildup of these

Table 4   A Male 45, $1,000,000 increasing coverage, best underwriting class, paying DEFRA guideline level premium

Case	Base %	Cash value, year 20	Cash value, age 95	IRR CV20	IRR CV95	NPV CV20	Incr. change	NPV CV95	Incr. change
54	100	2,128,959	15,826,497	11.73%	10.94%	304,492	N/a	2,098,863	N/a
62	80	2,141,337	15,893,731	12.18%	11.12%	314,140	3.17%	2,117,710	0.90%
70	60	2,153,715	15,961,161	12.66%	11.31%	323,789	3.07%	2,136,579	0.89%
78	50	2,159,904	15,994,661	12.92%	11.41%	328,609	1.49%	2,145,952	0.44%
86	40	2,166,093	16,026,431	13.18%	11.51%	333,437	1.47%	2,155,044	0.42%
94	20	2,178,471	16,089,171	13.75%	11.73%	3343,081	2.89%	2,173,026	0.83%

B. agent compensation changes

Comp model	AFYC	Excess	PV renew	Total	Change	
	50%	3%	3%			
Case #54	4,533	1,064	16,654	22,251		
Case #62	3,672	1,115	16,643	21,430	(821)	−3.69%
Case #70	2,811	1,166	16,633	20,609	(1,641)	−7.38%
Case #78	2,380	1,191	16,628	20,199	(2,051)	−9.22%
Case #86	1,950	1,217	16,623	19,789	(2,461)	−11.06%
Case #94	1,089	1,268	16,612	18,969	(3,282)	−14.75%

policies, but the research indicates that the degree of change in client value is less predictive than other, environmental factors, and negotiating commission should not be seen as a panacea to attain cash accumulation goals in these products.

At target premium funding levels, the proportion of improvement to the client, compared to cost to the agent, implies that it costs the agent relatively little to generate measurable value to the client.[3] This result did not occur at maximum funding levels. A possible explanation is that at maximum funding, sometimes five or six times the target premium, adjustments to target by mixing in term rider have proportionately little effect on result.

Yet, sales of flexible premium life insurance motivated by tax shelter of cash accumulation would be expected to be at maximum funding at a given face amount of coverage. The client, motivated by cash value, not death benefit, in these situations, would tend to buy the smallest policy that will allow all the advantages of life insurance and accommodate the premium contribution the client wishes to make to the insurance program.

This research is instructional for practitioners looking for some perspective on what the use of a non-commissionable term rider means in terms of leveraging client value for the compensation loss. However, practitioners should beware the negotiation of commissions using non-commissionable term rider in these situations.

What do the results in this research mean to insurance carriers? Does the mixing of base and term coverage as shown above mean that such a life insurance product is less or more profitable to the carrier when the coverage is mixed than when an all-base policy is sold? Have actuaries taken this leverage of compensation for cash value into account? Do carriers consciously price to the results seen in this study? This research should challenge carriers to reconsider pricing models that show an expense neutral result for mixing base and term coverage at all funding levels.

This research serves to some extent as a cautionary tale to consumers and insurance agents alike, in that we have found that negotiation over the price of a policy does not necessarily result in a predictable tradeoff of compensation for performance, as might be the case in other financial asset purchases. For example, in real estate transactions, the commission foregone by the agent can be translated into a dollar-for-dollar offset against the purchase price paid by the buyer and received by the seller. Reductions in transaction costs in securities trades directly affect, in a predictable way, the cost basis the buyer will have in the purchase and the gain or loss the seller will experience. The research herein does not suggest such a predictable relationship, although a somewhat direct relationship is shown. Nevertheless, there is no reason to conclude that negotiation over insurance agent commission will not continue, just as it does in other financial transactions.

6. Conclusions and future research

This study reports a lack of predictable relationship between commission and product performance in the realm of permanent life insurance. The use of a non-comissionable term rider to mix base, permanent insurance coverage with term coverage in a single policy resulted in an explanation of variance in cash value results that is insufficient to refute the null hypothesis. Although a positive correlation is shown, the commission negotiation via

term rider seems less of a factor than other variables in determining the variance in performance of life insurance products. The discounted cash flow model demonstrates this positive correlation as well, but suggests that over-funding of life insurance policies (expected in retirement planning uses of life insurance) will generate only small improvements in long-term cash value accumulation for fairly large amounts of commission reductions. Therefore, the null hypothesis relating to degree of commission reduction for degree of cash value performance improvement likewise was not refuted.

Failure to refute the null hypotheses in this study, however, is not failure of the study itself, insofar as helping agents and consumers understand the limits of commission negotiation in the purchase and sale of life insurance. The research provides a deeper understanding of the multiple moving parts of the product that can only partially be explained by the pricing for compensation.

Future study could enlarge sample size. We would recommend that the number of carriers under study remain the same, but add a more varied assortment of clients.

Qualitative research should study at least three questions that arise from this study:

1. How to address the ethical questions regarding discrimination between clients when we negotiate with one and not the other and both are similarly situated?
2. To what degree is client satisfaction of a life insurance purchase defined (operationalized) in terms of living benefits (cash value) within the policy?
3. What are the skills an agent must have in the sales process to successfully negotiate commissions and still be able to operate a profitable practice; and do these skills reside in the kinds of agents and financial planners who offer these products today?

Notes

1. Distributive, as opposed to integrative, in that there are two parties negotiating over a zero-sum model; one in which the more one party receives as value, the less the other receives. This insurance purchase negotiation, inasmuch as it hypothetically changes nothing in the profitability of the sale from the carrier's point of view, resembles the model of an agent adding value to the contract at the expense of his or her selling commission.
2. Compare this phenomenon to real estate for example: Let's assume a property for sale at $1 million, listed by an agent contractually because of earn a total of 6% commission on the sale if he or she brings the buyer in as well. The qualified buyer is hesitant to pay the asking price. The agent then negotiates with the seller to reduce the price to $970,000, by accepting a reduced commission of 3%. The seller is whole, on a net-of-commission basis, as the agent has reduced his or her commission by $30,000, allowing the asking price to go down by a like amount. What we've seen in life insurance, by contrast, is that an agent commission reduction of ½ (reducing the target premium by putting in 50% term rider into the contract) does not result in a 50% gain in cash value to the client; not in nominal dollars, not in discounted dollars.
3. An explanation of this phenomenon goes back to the fundamentals of the time value of money. What the agent is trading off is compensation in the first year. What the

client is gaining is a faster accumulation of cash value. This dynamic means that the distribution margin is lower in year zero, and thus magnifies the accretions of equity to the client in all subsequent years.

Acknowledgments

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