

# RECORD OF SOCIETY OF ACTUARIES 1994 VOL. 20 NO. 2

## WHAT'S NEW WITH TERM INSURANCE?

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A discussion of issues relating to term insurance to include product design, pricing, compensation, and reserving issues.

MS. KATHERINE A. ANDERSON: I'm from the reinsurance division of Transamerica. I'm joined by two distinguished panelists from well-respected companies that participate in the term marketplace. Tom Phillips is from The Principal Financial Group in Des Moines, Iowa, and Bill Bolton is from Transamerica Occidental in Los Angeles, California.

The topic of this session is what's new with term insurance. We'd like to share with you our knowledge of the term products in the respective market. We'd like to cover the market, the product design, the pricing, and the reserve methods for these product types.

Before introducing the other panelists, I'd like to tell you a little bit more about myself and how I'm involved in the term market. I'm director of the product consulting and development area of Transamerica Reinsurance in Charlotte, NC. The product-consulting and development area at Transamerica Reinsurance was established in early 1991. Product consultants and actuaries work with client companies to develop completely customized term products. This may not seem like a traditional reinsurance service, but it's actually a natural extension of the services that we've always provided as a reinsurer. As the largest reinsurer in North America, we see virtually all new products before they hit the street. We evaluate these products thoroughly to come up with the most appropriate reinsurance package. By doing this, we accumulate a lot of information, which we keep in a database. We build our knowledge in this way and use it in consulting with our clients.

This extensive surveillance of the marketplace allows us to track the product features, the premium-rate levels, the commission-rate levels, underwriting programs, and expense assumptions. In-house experts also follow the regulatory environments surrounding the term products.

I've personally been involved with term products from both the direct writing and reinsurance sides for the last eight years. Throughout these eight years, term products have never been boring; we are once again in an environment in which term products are changing rapidly.

As I'm sure you're aware, today's term marketplace is being driven by what we expect the term market to be as of January 1, 1995. It is expected that the long-awaited *Guideline XXX* will be adopted in June 1994, and it may have an effective nationwide date on January 1, 1995. New York license companies will be subject to an effective date of January 1, 1994. Bill Bolton will review the development and the status of this guideline shortly. At this time, it's just important to note that this

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guideline is having an impact on our market today. And as of January 1, 1995, it will, in fact, reshape the term marketplace.

The two most predominant products in the term marketplace are ten-year level term, which we see capturing approximately 60% of all the sales by volume, and annual renewable term (ART) which has 30% of the market. Another 5% goes to the five-year level-premium term, and the remaining 5% goes to other level-premium products. We have approximately 500 clients, and this information is from our database.

The Life Insurance Marketing and Research Association (LIMRA) reports a different distribution among product types. It has 47% going to the YRT product, 26% to the ten-year level, 14% to the five-year level-premium product, and 13% to other term products. LIMRA's and our distribution figures are not on the same basis. LIMRA is illustrating the distribution by policy form count. For example, it's the number of policy forms available in the marketplace on YRT versus level ten-year term. Ours is based on the actual face amount that is sold.

In the same article, which was recently released by LIMRA and *LIMRA MarketFacts*, it is acknowledged that the ten-year level-premium product is capturing a major share of the marketplace today.

Chart 1 illustrates the tremendous range in gross premium rates in the ten-year level market. Because the majority of the sales are in the ten-year level market, and that's where the market is focusing today, I'll also focus on that for the rest of the presentation. However, things that I say or that are said throughout this presentation do normally apply to all the level term products.

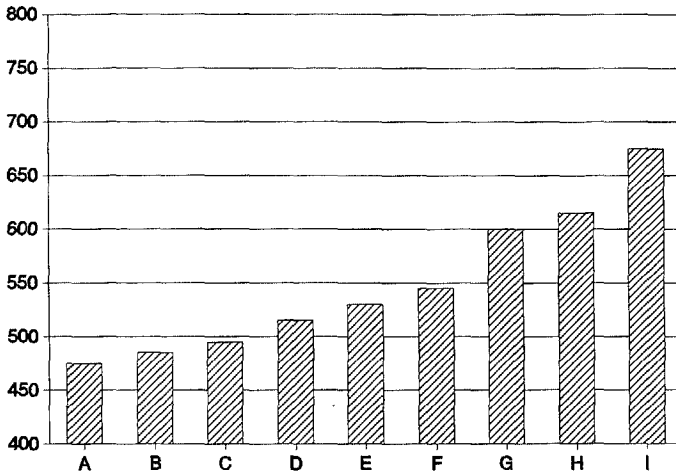
Chart 1 illustrates the wide range of premium rates that we see in the marketplace for a male, preferred, nonsmoker with a \$250,000 policy at an issue age of 45. Premium rates range from a low of \$475 to as high as \$675 and even higher for some companies.

In response to *Guideline XXX*, we expect this range of premium rates to narrow. Most ten-year level products today have a ten-year level guaranteed premium rate. If the ten-year level rate guarantee remains through 1995, we expect the range of premium rates to narrow in the marketplace. However, the other alternative could be that some companies will reduce their ten-year level guarantee rate to a five-year guarantee or less. Under that scenario, the range of premium rates may remain the same. As an industry, this will define the value of a ten-year guarantee versus the guarantee for five years or less.

This year, the most visible activity in the term marketplace has been the increase in the first-year commissions paid to the selling agent. We've seen several companies, one after the other, introduce new commission-rate structures that pay 90% in the first year to the selling agent, with no renewals. This appears to be a short-term strategy to hedge the impact that *Guideline XXX* will have on the term products beginning January 1, 1995.

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CHART 1  
Ten-Year Level-Premium Rates  
Male, Preferred, Nonsmoker  
\$250,000 Policy, Issue Age 45



Prior to this activity surrounding commission rates, the selling agent was paid at a rate that ranged from about 35-55% in the first year. That was followed by a 5% commission rate in all the renewal years. We do expect that commission rates will return to previous levels in 1995.

Premium rates and commission levels tend to be the focus when referencing the competitiveness of a term product. However, the inclusion of other product features helps to define the strength and overall competitiveness of a term portfolio.

Two important features are renewability and convertibility. Renewability is important to the policyholder. Convertibility is important to the writing company. Most of the term products that we see are renewable to attained-ages 95 or 100. Following the level-premium period, the products are usually renewable on an attained-age basis. Although these rates tend to be much higher than the rate level that would be desirable to a policyholder, it's important for the marketing of these products to extend the insurance coverage to older ages.

Convertibility of these products is usually of great importance to the writing company. The provision to allow conversions to permanent plans is usually extended throughout the level premium-paying period. However, some companies will only allow conversions through approximately eight years, and not through the full level period, to avoid antiselection.

Companies tend to place a high emphasis on conversion programs, but very few conversions are actually happening. Our statistics consistently reveal that only 3-5% annually will convert their term coverage to permanent coverage.

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Another important competitive feature of term products is risk classification. During the last three years, this feature has expanded greatly. Virtually all strong-performing term products have a preferred-risk classification. Initially, this risk classification was only offered to nonsmokers. During the past two years, we have seen this preferred program extended to smokers. We estimate that approximately 50–60% of the term products today have four basic risk classifications. These risk classifications are the preferred and standard nonsmokers and the preferred and standard smokers.

Probably the newest risk classification activity on these products is the replacement of the nonsmoking requirement by a no-tobacco requirement. As a result, we now have several no-tobacco/tobacco products as well as nonsmoker/smoker products.

Finally, the riders that are available to the policyholders who purchase term products are considered important competitive features as well. The most prevalent rider that we see is the waiver-of-premium rider. Approximately 40% of the policyholders whom we see are purchasing the waiver-of-premium rider with their term products. The popularity of waiver of premium riders is then followed by the accidental death benefit rider and the accelerated death benefit rider.

As product development or pricing actuaries working on term products, it's important that we make sure that the impact of each characteristic is evaluated and priced more accurately. Tom Phillips will review some of the important pricing issues in the development of a strong term portfolio.

Tom has been a Fellow of the Society of Actuaries since 1978, a member of the American Academy of Actuaries since 1979, and has been a Chartered Life Underwriter since 1986. Tom is senior actuary at The Principal Mutual Life Insurance Company. He is responsible for the individual life insurance product development area. Tom has spent seven years at The Principal. During this time, he has worked on life products. Two years ago, he headed up its efforts to develop a term portfolio. Prior to working at The Principal, Tom was in charge of the life product development area for the Federal Home Life Insurance Company in Battle Creek, Michigan. He is on the Life Insurance Experience Studies Committee, and he will talk about pricing.

MR. THOMAS A. PHILLIPS: My topic is what's new with term insurance from a pricing perspective. Before I go into that, I would like to give you a little bit of background about how The Principal views term insurance.

The Principal is a traditional, mutual life insurance company, and traditionally term insurance had not been a major product emphasis for us. We did enter the competitive term market two years ago, when we thought there was a client need for competitively priced term insurance. But I'll give you a perspective from a company that is probably not a market leader. We'd like to be as big a player in the market as we can be, but we will tend to follow the market leaders. One other thing I would like to do is just state the obvious. Competitive term is a product that requires much more management than a general life product. Product features, underwriting, and market position will change over time.

Now, I'm going to turn to a list of pricing issues. I'll try to hit some of the highlights, and I hope to answer some questions later.

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### **SELECT AND ULTIMATE DESIGN**

Kathy has discussed product design. I'll only mention in passing that our predominant term product is the ten-year level premium product, and that about 70% of our business is coming in on that basis. The rest is annual renewable term. We really had no field demand for any other type of product.

As Kathy said, the preferred class is fairly universal for the competitive term market. Mortality levels will depend on what percentage of the risks will be in your preferred class and how much better the mortality for your preferred class will be. Generally speaking, the competitive term companies seem to target a large percentage for their preferred class, probably in the vicinity of about 75%. The smaller the preferred percentage, of course, the better your mortality will be and the more competitive your rate will be. Also, a smaller preferred class means better mortality for both the preferred and the standard classes.

Now our term originally targeted about 75% of the risks making the preferred class. Since then, we've looked at a smaller percentage of insureds reaching the preferred class and we've reached a couple of conclusions. First, as you restrict the preferred class, underwriting criteria are more difficult to determine. It is easier for underwriters to separate the top 75% of the risks into a preferred class than it is to separate the top 40% of the risks into a very preferred class.

Second, we think there are diminishing returns to mortality improvement as you restrict the preferred class. If you determine, for example, that you can get a 10% mortality improvement with underwriting criteria that puts 75% of the risks into the preferred class, you will probably not get another 10% improvement by a further tightening of the underwriting criteria and getting 50% of the risks into the preferred class.

### **COMPENSATION**

Again, as Kathy mentioned, there currently is a term compensation war going on. Several major term carriers are paying 90% first-year soliciting-agent commission with no renewals, or 70–75% first-year commission with a normal renewal schedule. We're calling this the term fire sale. Now those of us who are not participating with the high compensation rates can only speculate as to what the pricing basis is for these higher compensation levels, and we're currently speculating over two possible reasons.

First, the higher compensation might be based on a higher anticipated volume of sales before the new reserve guideline goes into effect. Second, the higher compensation might be based on anticipated better persistency, because the new valuation law might make it more difficult to replace old policies. Now we did not test the first possibility, but we did some rough, hypothetical testing that indicated that the persistency would need to be close to 100% in all policy years to justify a 90% first-year commission (and that didn't address the issue of surplus strain).

Of course, we all are waiting to see what will happen to compensation levels when the new reserving standard does go into effect. Besides the fire sale, though, there has been a general tendency for term first-year commission rates to increase during the past couple of years. Two years ago, when we originally priced our product, we

thought that a 45% first-year commission rate was competitive in the market. Making that same evaluation today, we would probably conclude that a 50–55% first-year rate would be necessary to be competitive.

### **RISK-BASED CAPITAL**

Of course, risk-based capital considerations have also come up in the past couple of years. For term insurance standing on its own, the risk-based capital calculation is very much dominated by the C-2 mortality risk. This risk alone will probably produce 80% or more of risk-based capital requirements. The real risk-based capital question, however, will probably be a corporate pricing philosophy. When you calculate surplus requirements for your term policy, do you want to look at risk-based capital for the term product itself, or should you look at risk-based capital for your company or for your line of business? This may or may not make a very significant difference. For a large, mature company, with a portfolio consisting chiefly of whole-life-insurance-type policies, such as at The Principal, the C-1 asset-based risk, is much larger than the mortality risk. If you decide that you want to price by using the risk-based-capital approach, you're more likely to tie your capital requirements to reserves. This produces a significantly lower capital or surplus requirement for term insurance and will give you a correspondingly higher return on equity if you price on that basis.

We did some hypothetical pricing on two bases: one that used reserves for the basis of surplus requirement and a second that used mortality as the basis of surplus requirement. The mortality-based pricing required surplus ten times higher than the reserve-based pricing. However, the return on equity for the two approaches was not as different as you might expect, considering the difference in surplus. The mortality-based surplus requirement had a return on equity that was about 25% lower than the reserve-based return on equity. That's significant, but probably not as large as you might expect, considering the tenfold difference in surplus.

### **EXPENSES**

Turning briefly to expense levels, this will get to the eternal question, is a competitive term policy priced by using full or marginal expenses? I'm not going to answer that question, but I'll try to give you some concepts to think about. First, what type of expenses are appropriate to charge for a term product? Does it cost your client service area the same amount to administer term policies as to support other products? And if not, can you build the appropriate amount of expenses into your term product?

This comes down to the question of whether full expenses for term insurance is the same as full expenses for life insurance in general. On the field side, a couple other questions also come to mind: What type of administrative support does the field need to do for term policies? How much compensation should the field get for administering term policies? Where do you want to concentrate your field compensation: at the producer level, at your manager level, or at a mixture? It would appear, judging from the most competitive commission schedules, that many companies are concentrating field compensation at the soliciting-agent level in the first policy year.

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### REINSURANCE

We decided to reinsure our term product on a coinsurance basis with Transamerica Reinsurance. There are a number of reasons for considering reinsurance these days. I'm sure reinsurance actuaries in the audience can give you more reasons to consider reinsurance. But here are a few things to think about.

First is the traditional mortality-risk spread. The competitive term market is very price driven, and there is not much in the way of mortality experience for pricing a preferred classification. Those two considerations might lead you to look for someone who is willing to share your mortality risk and to let you know whether your mortality assumptions seem appropriate. Underwriting assistance or mortality expertise, the ability to have a reinsurer review underwriting decisions or have a reinsurer's mortality expertise in certain situations, might also be important to you. Finally, there is marketing expertise. Reinsurers are now specializing in specific market segments and offer expertise that your company might lack in certain areas. If term insurance is a new market for you, you may consider reinsurance from the point of view of bringing some marketing expertise that you may be lacking.

By way of conclusion, I'm going to make a couple of comments on how term fits into a general portfolio of products. I'll make some comments as to how The Principal looks at term, and you can draw some comparisons as to how your own company considers term.

We look on term as something that compliments our portfolio of products. But we try to emphasize long-term relationships with clients in the use of whole life insurance, so we do emphasize term conversions. We look on term as being something that should lead to conversions, and we do price it accordingly.

We do want to be competitive with term, but we don't want term to drive our product line, so our term compensation is less than our whole-life compensation. We don't want our agents looking to term as something that they expect to make a living off of. Finally, we don't look on term as a loss leader. We want to emphasize whole-life sales, and we do not think that it is appropriate to use whole life to subsidize our term sales.

MS. ANDERSON: Bill Bolton is from Transamerica Occidental's individual division, located in Los Angeles, California. He will review this guideline that has changed and continues to change the term market.

Bill has been with Transamerica Occidental most of his actuarial career. He currently works in the financial area of the individual life division. Bill has served on several industry task forces. He is currently involved in the industry task force on reserves for policies with nonlevel premiums and benefits. This task force hammered out the current draft of the Proposed Model Regulation XXX. Bill has been a Fellow of the Society of Actuaries since 1962. He has served on many industry committees, including the Individual Life Insurance Experience Committee and the committee that developed the 1980 CSO tables. He has also contributed several discussions to the *Transactions of the Society of Actuaries* on mortality and on mortality trends.

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MR. WILBUR M. BOLTON: First, mortality has improved since the 1980 CSO tables were developed. Table 1 is an excerpt from what some of you may recognize as Table B from Page 6 of the 1991-92 *Transactions* Reports. Table 1 shows the trend of mortality ratios over the last few years. The top of this table shows, for exposure years 1973-78, a combined column for policy years 1-15, and medical, nonmedical, and paramedical combined and also policy years 16 and over.

TABLE 1  
AGGREGATE MORTALITY RATIOS  
BASED ON 1965-70 SELECT BASIC TABLES  
(NUMBERS IN PARENTHESIS ARE MORTALITY RATIOS  
BASED ON THE 1975-80 BASIC TABLES)

Exposure Year	Combined	Policy years 16 and Over
1973-74	89.9%	93.4%
1974-75	87.8	87.1
1975-76	82.3	85.0
1976-77	77.9	82.0
1977-78	77.4	80.5
1983-84	69.1(92.4)	71.2(91.8)
1984-85	68.5(91.9)	71.0(91.1)
1985-86	65.5(88.0)	70.0(89.9)
1986-87	64.2(86.3)	71.0(90.8)
1987-88	63.6(85.6)	67.5(86.3)

The period of time from which the 1980 CSO table was developed was the Society's intercompany experience from policy years beginning in 1970 and ending in 1975. So the combined ratio of 90% or 88% in the top few lines is perhaps representative of the mortality underlying the 1980 CSO table.

Ten years later, we find that we have combined mortality that is now down around 65%, compared with 80% from ten years earlier. Even the ratio in policy years 16 and over is reducing. Some part of this mortality improvement is the result of people changing their habits. A much larger proportion of the adult population in the United States does not smoke now. That contributes to some of the trends, but there are other things going on in this secular trend as well. The most recent *Transactions* reports that I have prepared show policy years through 1988. But there has been, and continues to be, significant improvement. The ratios in parentheses are based on the 1975-80 Basic Table.

Another factor to consider is that the standard valuation law (SVL) has not completely addressed reserve requirements for certain policies; that is, decreasing term and graded-premium whole life. Here is an excerpt from the report of the Society of Actuaries Committee on Specifications for Monetary Values—1980 CSO Tables. This report was dated May 25, 1983, so it is now officially 11 years old.

While the SVL is silent on the question of a minimum reserve level with respect to the current year's insurance, the Committee believes that the recognition given to this point in the Society of Actuaries study note on



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valuation is important. Where . . . (negative reserves) do occur it is general practice to hold as a mean reserve one-half of the net premium whenever the theoretical mean reserve is smaller, but some companies hold the higher of the regular mean reserve (subject to a minimum of one-half the net premium) or of one-half the cost of insurance for the policy year.

Now this report went on and reported in some depth from the then Society of Actuaries study note, Valuation of Liabilities. Another factor to consider is that the SVL defines modified net premiums after the first policy year as a uniform percentage of the respective contract premiums.

A further factor is that the SVL requires an insurer to hold premium deficiency reserves for any policy year in which the gross premium charged by the insurer is less than the valuation net premium. This became a very heavy driving force in the term-insurance market in the 1980s.

Insurers felt impeded from recognizing the lower mortality that we just saw by changing premiums to as low as otherwise justified because of the SVL requirements for premium deficiency reserves. Deficiency reserves on new business place a strain on statutory surplus. Affected insurers tried various solutions to handle this problem. One was to issue participating term products and pay dividends with the mortality savings. Two was to issue indeterminate premium policies (charge a guaranteed premium high enough to avoid premium deficiencies, but charge an actual or current premium based on lower, current mortality). Three was to alter the slope of guaranteed premiums by duration to reduce the SVL modified net premiums in the early policy years. That's part of the background of the A. Stephen Beach paper in the *Transactions* (Volume 42, 1990, page 11).

That last development came to the attention of actuaries and regulators in the late 1980s. The first attempt at a rational solution by the regulators was called Proposed NAIC Actuarial *Guideline XXX*. The proposed actuarial guideline would have been fully retroactive, applying to all in-force business. This proposal caused much controversy. After five years of discussion, a draft NAIC model regulation has emerged.

For easy reference, it is referred to as Proposed Model Regulation XXX. Because it includes both changes in mortality standards as well as changes in reserves, according to the 1980 law, the only way that the commissioner can approve new mortality standards is by adopting a model regulation which incorporates mortality that has been approved by the NAIC.

In substance, the proposed model regulation authorizes, on an optional basis, the use of new 15-year select mortality factors based on more recent mortality; defines a more rigorous method of determining statutory minimum reserves than has generally applied; specifically applies to low-cost term insurance sold in a universal life chassis; authorizes use of a lower mortality standard for premium deficiencies than the standard required for basic plan reserves; allows an exception to premium-deficiency requirements if the policy has no gross premiums lower than the valuation net premiums after the fifth policy year; and exempts certain specific policies where the contract premiums can be shown as never being deficient.

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Let's look at the affect of new, lower select mortality. Table 2 shows some net premiums at issue-age 45. The ones labeled as "old" were developed from use of the existing ten-year select factors for a male nonsmoker at age 45.

The alpha shown is the first-year net premium for either a 10- or 15-year level term plan. The first beta for years 2-10 would apply to a ten-year level term. The beta for years 2-15 applies to a 15-year level term.

TABLE 2  
NET PREMIUMS, PROPOSED REGULATION

Ratio of	
<p>"Old"</p> <p>2.10599 Alpha</p> <p>4.04581 Beta, 2-10</p> <p>5.46494 Beta, 2-15</p>	<p>New to Old</p>
<p>"New"</p> <p>1.23120 Alpha</p> <p>3.28382 Beta, 2-10</p> <p>4.91629 Beta 2-15</p>	<p>58.5%</p> <p>81.2</p> <p>90.0</p>

I had some problem trying to decide how to compare, on an aggregate basis, mortality on a ten-year select table with mortality on a 15-year select table. So I calculated a net premium for ten years and a net premium for fifteen years. You can see how much they change. The lower half of Table 2 shows the corresponding net premiums using the new, optional 15-year select factors that would apply to a male nonsmoker at age 45. The alpha is some 58% of the old first-year net premium. On the ten-year plan, the beta is 3.28, which is 81% of what the old beta would be. On the 15-year plan, you can see that the renewal net premium is 4.92, which is about a 10% reduction from the beta based on the old ten-year select factors.

All net premiums and reserves are based on 1980 CSO at 5% for a male nonsmoker. These new select factors vary between smoker and nonsmoker, and there's also an undifferentiated set. They vary between males and females. So all together, there are six sets of select factors. The changes are not uniform for all six sets. In some cases, at younger ages or for smokers, the select factors may result in higher mortality than under the old ten-year set. There's more improvement at the older ages and more improvement for nonsmokers.

The second effect of the proposed regulation is a more stringent reserve methodology. The basic principle under this regulation is that the slope of the gross premiums relative to the slope of the valuation mortality table controls the number of valuation segments. If the contract premiums by policy duration have a generally shallower slope than the mortality costs, then the reserves and net premiums will be unchanged. For instance, if an insurer charges a level premium for a risk with a mortality cost that increases with increasing duration, then no change is required in current reserving practice. If the contract premiums by policy duration have a steeper

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slope than the mortality cost does, then reserves and net premiums may have to be calculated in two or more segments. In other words, if an insurer charges an increasing premium for a risk with increasing mortality costs, then the slope of the contract premiums must be tested against the slope of the mortality costs. Now that is all in Proposed Model Regulation XXX.

New York has developed a separate, but harmonious, approach to this subject, called Proposed Regulation 147. This is generally consistent with the corresponding regulation XXX, but several differences exist. These differences are important to insurers writing direct business in New York and to companies that accept reinsurance from New York-admitted insurers.

First, New York's Regulation 147 is retroactive over in-force business, but with a five-year grade into December 1988. NAIC Regulation XXX, or Proposed Regulation XXX, applies to new business only. Also, New York determines the basic reserves on indeterminate premium policies by using the slope of the current premium scale. Proposed Regulation XXX uses the slope of the guaranteed premium scale. New York also has an effective date for direct writers of January 1, 1994; for reinsurers it is January 1, 1995. But reinsurance from companies writing direct business in New York must mirror New York reserve requirements. Proposed Regulation XXX is effective for new business issued January 1, 1995, and after.

Let's take some examples. It's very difficult to work out examples or graphs that apply with all of the formulas that are available. So we are going to take a very simple, hypothetical policy. We'll consider a male age 45 and issue a ten-year term policy. At age 55, we're going to talk about an automatic conversion to level premium whole life.

Consider a whole life policy issued to a life age  $(x)$  with two defined contract premiums:  $\$A$  in policy years 1-10 and  $\$B$  thereafter. For test purposes, also consider two separate policies: a ten-year level-term policy issued at age  $(x)$  and a level premium whole-life policy issued at age  $(x + 10)$ . The ratio of the gross premium in renewal years 2-10 to the gross premium in renewal years 11 and later is  $\$A$  divided by  $\$B$ . Calculate the ratio of the net premiums for the two separate policies. In this example, it's the ratio of the renewal net premium for the ten-year level-term policy issued at age  $(x)$  to the net level premium for the whole-life policy issued at age  $(x + 10)$ .

This example is based on the new 15-year select factors. The first year, the net premium (the alpha) is \$1.23. In years 2-10, the beta (just enough to keep the ten-year term policy in force to the end of the tenth year) is \$3.28. The terminal reserve at the end of the tenth year would be zero. A whole-life policy issued at age 55 would have a net level premium of \$28.01. These are two separate policies. We're just using this as a benchmark for later comparisons.

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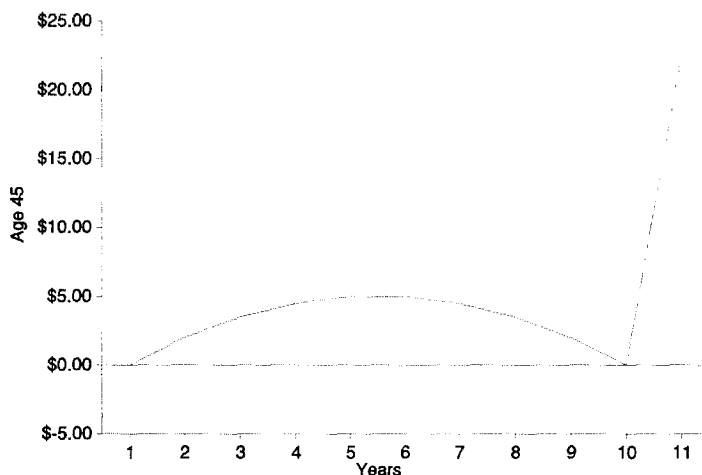
Example 1, net premiums for two separate policies

Year	Net Premiums	Terminal Reserve
1	1.23120	0.00
2	3.28382	1.57
11	28.01434	21.57

Ratio of Net Premiums: 11.7%

The ratio of the renewal net premiums in years 2-10 to the net premiums in years 11 and later, \$3.28 divided by \$28.01, happens to be 11.7%. In our example, this ratio may turn out to be important. The pattern of reserves on these two policies put end to end is shown in Chart 2 (duration policy years are all on the bottom axis, and the number of dollars in reserve are up the left side).

CHART 2  
EXAMPLE 1, TERMINAL RESERVE FOR TWO SEPARATE POLICIES



This illustration from policy years 1-10 might be what we call a familiar "hump-backed" reserve pattern that starts at zero with duration 1. This is the commissioners reserve valuation method (CRVM) reserve. It reaches zero again in policy year ten, and then, when the much larger net premiums kick in on the whole-life segment, the reserve ascends and goes zipping off the chart quickly.

If the ratio of the gross premiums on the two separate policies is larger than the ratio of the net premiums on two separate segments (larger than 11.7% in that example), a policy would be valued as a single entity under Proposed Regulation XXX. This is going to be a ten-year term policy that converts automatically under the same policy number to a whole-life policy. We're going to calculate the net premiums as required and the reserves under proposed *Guideline XXX*.

In this particular case, our hypothetical policy has a gross premium in the early years of \$5 per \$1,000 and a gross premium in years 11 and later of \$30 per \$1000. The

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ratio of \$5 to \$30 is 16.667% and continuing. This means the ratio of net premiums is 16.7%. Solving for renewal net premiums having the same ratio as the gross premiums do, leads to \$4.49 in years 2-10 and \$26.94 in years 11 and later.

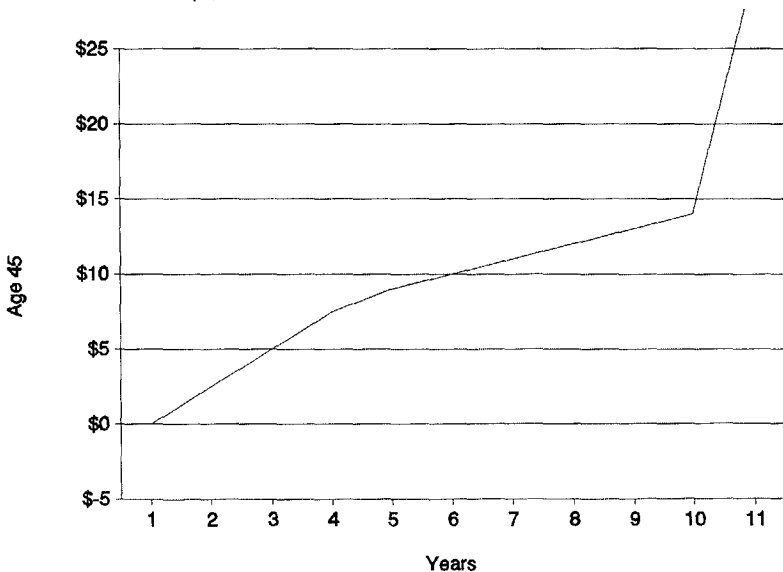
Example 2, net premiums for a single plan charging \$5 in years 1-10, \$30 thereafter under the unitary approach.

Year	Net Premiums	Terminal Reserve
1	1.23120	0.00
2	4.49075	2.84
11	26.94452	35.54

Ratio of Net Premiums: 16.7%

It's still sort of a "humpbacked" reserve (see Chart 3), but because we collected a larger premium in years 1-10, it follows that more of that premium was set aside then to pay death claims for the later policy years. So the tenth-year reserve did not come back to zero; it was positive.

**CHART 3**  
**EXAMPLE 2, TERMINAL RESERVE FOR A SINGLE PLAN CHARGING \$5 IN**  
**YEARS 1-10, \$30 THEREAFTER UNDER THE UNITARY APPROACH**



In effect, this policy would be reserved under what we used to call the unitary method. All of the renewal net premiums are a constant ratio to the gross premiums that the company is charging: the \$5 in years 2-10 and the \$30 in years 11 and later.

However, if the ratio of the gross premiums on the policy had been less than 11.7% in the last example, Proposed Regulation XXX would require the policy to be valued in

two separate segments. It would require that it be valued as a ten-year term from issue age ( $x$ ) and whole life from issue age ( $x + 10$ ). The next example shows what would happen with a hypothetical policy in which the gross premiums are \$3 per \$1,000 in policy years 1-10 and \$30 per \$1,000 in policy years 11 and after. The ratio of \$3 to \$30 is 10%. As before, the net premium in the first year is a \$1.23, enough to pay for the first year's cost of insurance under the proposed select factors. The net premium in years 2-10 is calculated under what we now call the unitary method. Because the gross premium is \$3 in years 2-10 and the gross premium is \$30 in years 11 and later, the ratio of the net premium in the second and tenth years to the net premium in the eleventh and later years is 10% (\$2.84 divided by \$28.40).

Example 3, net premiums for a single plan charging \$3 in years 1-10, \$30 thereafter under the unitary approach.

Year	Net Premiums	Terminal Reserve
1	1.23120	0.00
2	2.84071	1.11
11	28.40710	16.44

Ratio of Net Premiums: 10.0%  
(No longer possible under XXX)

This particular situation would no longer be possible under the proposed *Guideline XXX*. Why? You can't tell just by looking at the net premiums, or can you? You can, if you remember that the ratio of the net premiums illustrated earlier in the example showed 11.7%. In some sense, that is a benchmark, a critical ratio for this type of product.

Chart 4 shows the terminal reserves that would have resulted from that calculation under the unitary method. And as noted here, some of them at late durations wind up negative; that is, below the zero line. Under XXX, this would no longer be possible. Under Proposed Model Regulation XXX, the reserves would no longer have the possibility of becoming negative in the initial calculation to be replaced by a zero before use.

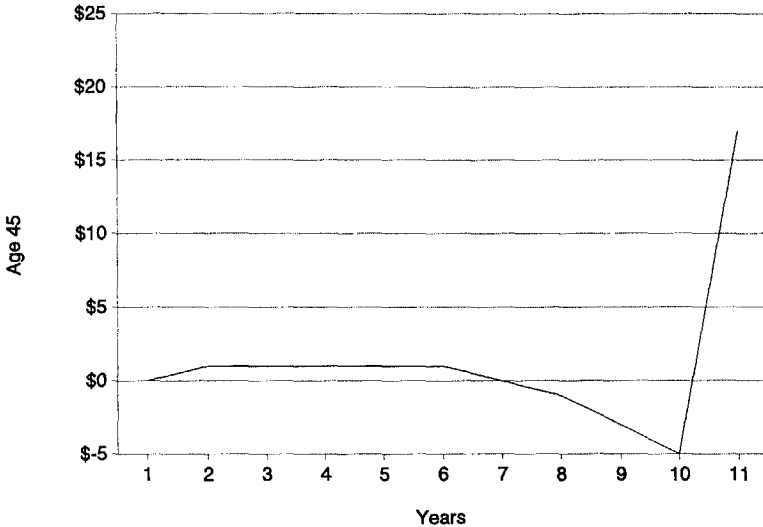
The net premiums and reserves in the third example would be forced back to those illustrated in the first example. Proposed Model Regulation XXX does not control on the gross premium that the company charges, but it does control what net premiums the company can use for valuation. And therefore, indirectly, by assessing premium-deficiency-reserve requirements, it may very well impact the gross premiums that are charged.

These charts illustrate an example of a principle. Under this proposed regulation, the slope of the gross premiums relative to the slope of the valuation mortality table controls the number of valuation segments. If the slope of the gross premiums is steeper than the slope of the valuation mortality rates, you will have, or you at least have to test for segments. If the slope is generally shallower, you may normally be able to reserve a single unitary policy with a constant ratio of the net premiums to the gross premiums.

## WHAT'S NEW WITH TERM INSURANCE

MR. BARRY JACOBSON: I have a two-part question on Regulation 147 in New York. First, what is the process that it needs to go through from here? And when is it expected to be ratified in New York? Second, for the companies that are still selling long-term guarantees in New York, and there are a handful of them, if it is effective January 1, 1994, what do they know that we don't know about that? There are companies still with a 15-year guarantee in the New York market.

CHART 4  
EXAMPLE 3, TERMINAL RESERVE FOR A SINGLE PLAN CHARGING \$3 IN  
YEARS 1-10, \$30 THEREAFTER UNDER THE UNITARY APPROACH  
(NO LONGER POSSIBLE UNDER XXX)



MS. ANDERSON: We do have somebody from New York here. Stuart, can you answer that question?

MR. STUART H. ZAMLONG: I'd say that Mr. Callahan is the expert in respect to legal issues, and I'm really not going to comment, except to say that we expect that this law will definitely be in effect as of January 1, 1995, to the best of my knowledge. But what I'm saying is unofficial. You'd really have to check with Mr. Callahan to be absolutely sure.

MR. CHARLES S. LINN: The market, as you said, is mostly turned toward level ten-year term lately. Do we see, with *Guideline XXX*, that there will be a big move back to the YRT market? And if so, what can we do to avoid the problems we had the last time in the YRT area?

MS. ANDERSON: I'll tell you what we think is going to happen. I do think the level term marketplace will still be there. There may be a shift from some companies to take their ten-year level-guaranteed period down to five years or less. There is a

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provision in the guideline that with the five-years-or-less guarantee, you don't have to test for deficiency reserves.

But there is a place for the YRT market. I don't think it's the same YRT products that we had problems with in the past. I think the curve of the rates will be smoother. So you won't have the real aggressive two or three years that were real select; you won't have as major of an antiselection problem. And the curve for YRT rates is actually addressed by the Guideline as well.

MR. BOLTON: If I can add to that, there are questions about what actions companies will take when XXX comes into effect. There are several actions a company can take or some combination of them. Reducing the number of years guaranteed is one action. Increasing rates is another. Swallowing hard and deciding to accept the additional premium-deficiency-reserve strain is the third. And then there are some combinations of those actions.

Our company is still waiting to first see if it is adopted in its current form by the NAIC. Second, it is hoping to wait and see what other companies are going to do so it can respond later and better. But those are among the choices that companies have. I think that the perception is that the persistency is better on ten-year term than it was on the steeper ART that we used to have in the early 1980s. We do not like the persistency we experienced then, and we'd prefer not to go back to that kind of an environment. I'm not sure about other companies on that.

MR. ZAMLONG: We had mentioned something about mortality improvements before. In terms of these select factors, I guess my main question is, could we review what the underlying data are that supports such significant improvements?

MR. BOLTON: The data in Table 1 was based on the most recent five years we had. They were based on exposures for policy anniversaries 1983-88, from between 18 to 21 or 22 large companies that contribute to the Society Intercompany Mortality Study. The companies vary from year to year because a company will undergo a major systems change and not be able to contribute for a year or so. Then when it gets the new system operating, it can contribute again. So there's a year that New England was out and then back in. The Prudential was out for a year and then came back in.

MR. ZAMLONG: Is the definition of preferred lives and highly preferred lives uniform throughout the industry here?

MR. BOLTON: These would constitute all preferred and standard risks. This is not limited to any preferred definition.

MR. PHILLIPS: I think there are many definitions of preferred class.



## WHAT'S NEW WITH TERM INSURANCE

MR. JEFFREY M. ROBINSON\*: Mr. Phillips, Section 4428 of the New York law requires that you can't pay a writing agent more than 55%. How are companies that are licensed in New York, which Principal is, tying into this higher compensation trend, going up to 90%? How are companies getting around it? New York has not passed the modernized law that had been discussed. So what are companies that are licensed in New York trying to do to get around that particular aspect? They can't pay out more than 55%, and in some requirements, it would be even less.

MR. PHILLIPS: I suppose the easy answer would be that I don't know. Isn't the New York requirement tied to a percentage plus and amount per \$1,000?

MR. ROBINSON: Yes it is. That is a consideration, certainly the amount per thousand in the first-year limit.

MR. PHILLIPS: There may be enough margin in that amount per thousand, I don't know.

MR. ROBINSON: This puts the New York companies at a competitive disadvantage if the market is being spurred by the higher compensation levels to the writing agent.

MR. SHAWN D. PARKS: With the new valuation actuary standards, each company is required to comply with the laws of the state where it files its statement. With the difference between New York Regulation 147 and *Guideline XXX*, as opposed to the basic reserves, using current premiums rather than guaranteed premiums, a company that writes business outside of New York, using a ten-year level, current-assumption premium with a five-year guarantee that also has an accredited reinsurer to file a statement in New York, could cause the reinsurer to soon be insolvent in New York. Is that correct? Does anybody have any comment on that?

MR. ZAMLONG: I think there's a fundamental principle coming up with this Regulation 147. Namely, many companies are trying to avoid deficiency reserves where they really need deficiency reserves. To do so, they artificially have created guaranteed-maturity premiums. In fact, they don't really exist because the policies are not in effect for such a long time. So we thought that the current premiums would make more sense.

I'm not directly involved with the law. I do understand the principles. I'm not involved with the Regulation 147; I'm involved with valuations. I am in charge of issuing the certificates of reserve valuations, and I am not the one who is writing this particular law, but I think the principles are very important. We realize the market is very competitive, and we wish to protect all the policyholders in the State of New York and all policyholders for any company that writes any business in the State of New York. Those are our two guiding principles.

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\*Mr. Robinson, not a member of the sponsoring organizations, is President of Life Insurance Financial Essentials in Parsippany, NJ.

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MR. JAMES E. GUNDERSON: You mentioned that you're seeing more and more companies use the tobacco/nontobacco classification rather than the smoker/nonsmoker classification that everybody used to use. Could you estimate what fraction of the new policies you're now seeing are tobacco/nontobacco user and what fraction are smoker/nonsmoker?

MS. ANDERSON: Well, I'm looking at information from the last two years. Initially, when companies started putting nontobacco on their products, they were very strict. It's a specimen test with only a 0.1% variance to allow a person to be considered nontobacco. Otherwise, the person is considered tobacco. Initially, we saw about 60% of the new products introduced in the last two years put the nontobacco requirement in there. However, some of those companies only put it on the preferred classification, not across the board. Maybe 30-40% put it across the board as opposed to just the preferred classification.

There has been a little backing off on that. Some of the agents at some companies didn't like it, so they did take it off from across the board and just put it on preferred. So some companies do still allow chewers and pipe smokers, to be a standard nonsmoker, and put the no tobacco on the preferred class only.

MR. JOHN A. MACBAIN: One issue that seems to have been neatly skirted by the panel is the issue of all the internal changes a company is going to have to make to accommodate these new reserving methodologies. How are they going to affect the pricing of these products? Have any of the panel members given any consideration to the way, perhaps, that these dramatic changes and all this extra work and these extra costs are going to be reflected in the pricing of the products?

MR. BOLTON: Well, I'm not with our pricing side, but they do take into account what the reserve strain will be, because there is a return-on-investment-type calculation.

MR. MACBAIN: When I'm talking about reserve strain, I'm talking about the expense of making the changes in the systems necessary to calculate this new reserve basis.

MS. ANDERSON: You're talking about the additional expense to make the transformation from where we're at today to the new ones. I can tell you that cost hasn't been built into the pricing of the clients we work with. They haven't added any additional overhead cost or anything to their pricing for that reason. However, companies do have an inflation factor of between 3% and 5% annually, and you could say some might be covered by that, but there's no explicit increase in expenses to cover the transition to the new systems.

MR. ROBINSON: How is reinsurance ceded treated under XXX and 147 with regard to what you do with the reserves on it on a coinsurance basis?

MS. ANDERSON: On a coinsurance basis with our clients, we will mirror reserves. So we hold the same guidelines under *Guideline XXX*. That's both in New York and not in New York. In New York it's actually a requirement for the reinsurer to mirror the reserves on a coinsurance basis. So it's actually required in New York, but we do it for all of our clients.

## WHAT'S NEW WITH TERM INSURANCE

MR. BOLTON: Kathy, if I can address a supplement to that it would be that on the reinsurance, it's up to the individual reinsurance treaty, whether or not it includes premium-deficiency reserves. Some do not, in which case the direct writer would continue to hold all of it if the purpose of the reinsurance is primarily to address the question of the mortality above the ceding company's retention.

MR. ZAMLONG: I think another principle is that we are trying to create a level playing field. Someone had mentioned the problem with expenses. When the new law is passed, let's give it date X, subsequent to date X is when you will perhaps have to augment your reserves. You may, in fact, be able to decrease your reserves for policies in force prior.

MS. ANDERSON: Bill is right regarding coinsurance. You can, in your reinsurance treaty, not cover deficiency reserves. On our traditional side, we might do that; in product development, we also do coinsurance with full reserve credit.

MR. LEROY PRUITT: Currently, the predominant plan design is ten-year level term with a high premium, indeterminate premium tail. That tail is there to allow you to use unitary reserves and drive your terminals to zero. With XXX, that can no longer be done. Do you see any changes in plan design to reflect that? What's happening to the tail?

MS. ANDERSON: We don't see anybody making changes right now. But you're right. That is a feature that was used on the unitary basis, and it may be removed. Right now, I don't know. It is important that the policyholders have insurance beyond the tenth year, whether we go back to a step rate or smooth out the curve.

MR. PRUITT: In most pricing assumptions, you assume that by the end of the tenth year, 90% or some percentage of the people would be gone, and that lapse rates would increase dramatically after that. So the assumption in pricing has not been that everyone would want that highly substandard insurance in the tail. So I still see no point to that tail any longer.

MR. BOLTON: Individual companies will arrive at their own solutions on that.

MR. KENNETH W. FAIG, JR.: One of the changes in the proposed regulation is the removal of a requirement for deficiency reserves in which the coverage or segment is five years or fewer in length. I'm wondering if this opens up a fairly revolutionary era in terms of the pricing of five-year term. One could anticipate super-select classes. One could anticipate some innovative things at high ages, where you're doing late or delayed estate planning. At the same time, I presume, one would still be bound by requirements that any product must be, on a reasonable basis, self-supporting. That is, you would have to at least maintain a product in which you'd have a reserve equal to the gross premium reserve. I had another comment with the 15-year scooping out of mortality. Might we see some lengthening of the initial period from what's now the typical ten years?

MR. PHILLIPS: I think all those possibilities could happen, and as Bill said, we'll just wait and see.

