Research Paper

Fair Market Value of Life Insurance Policies

Task Force on the Fair Market Value (FMV) of Life Insurance Policies for Ownership Transfer and Related Purposes

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Memorandum

To: All Members in the Life Insurance Practice Area

From: Bruce Langstroth, Chair
       Practice Council
       Kelley McKeating, Chair
       Task Force on the Fair Market Value (FMV) of Life Insurance Policies for
       Ownership Transfer and Related Purposes

Date: September 18, 2013

Subject: Research Paper—Fair Market Value of Life Insurance Policies

The purpose of this research paper is to provide an overview of current Fair Market Value
(FMV) practices, to summarize the resources available to actuaries who are practising in this
area, and to provide an educational tool for actuaries providing the services described in this
paper.

This research paper was prepared by the Task Force on the Fair Market Value (FMV) of Life
Insurance Policies for Ownership Transfer and Related Purposes, at the request of the CIA
Practice Council. The task force is composed of Kelley McKeating (Chair), Brigitte Breton, Greg

This research paper has been prepared in accordance with the Institute’s Policy on Due Process
for the Adoption of Guidance Material Other than Standards of Practice, has been approved by
the task force and has received approval for distribution from the Practice Council on September
12, 2013.

Questions or comments regarding this research paper may be directed to Kelley McKeating at
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1. INTRODUCTION

This research paper was prepared by the Task Force on the Fair Market Value (FMV) of Life Insurance Policies for Ownership Transfer and Related Purposes, at the request of the CIA Practice Council. This task force was established in February of 2012.

This is an area of practice whose size and range of activity is not well understood at present by the CIA or by the Actuarial Standards Board (ASB). The Practice Council and the ASB wanted to gain a better understanding of the FMV practice area, and this led to establishment of the task force. The task force was comprised of seven individuals, including five FMV subject matter experts, one life insurance expert who does not practice in the FMV area, and a chair from a different practice area. The objective of the task force was to produce a research paper that describes the current range of practice in this area of practice, without expressing any opinions concerning which approaches may be more appropriate and which approaches may be less appropriate. Now that the task force has completed its assignment, the Practice Council and ASB will decide on next steps.

The purpose of this paper is to provide an overview of current practices in this area, to summarize the resources available to actuaries practising in this area, and to provide an educational tool for actuaries providing the services described in this paper.

1.1 Purposes of Fair Market Value Calculations

A life insurance policy is an asset which may need to be valued by its owner or by independent entities for a variety of reasons. These include, but are not limited to:

- Ownership transfer (where the buyer, the seller, and the Canada Revenue Agency (CRA) are all interested in the FMV of the policy);
- Estate planning/business succession planning;
- Marriage breakdown (where each spouse may be interested in the FMV of the policy); and
- Business valuation (where the insurance policy is corporate-owned and value of the entire business must be determined).

Parties will most frequently request a FMV assessment pursuant to a potential ownership transfer. The most common transfers are as follows:

- Between an individual (often the life-insured) and a closely-held corporation;
- From an operating company to a holding company;
- From the policy-owner to a not-for-profit entity (for charitable giving purposes); and
- From the policy-owner to an investment fund (where permitted by law).

The ownership transfer may pertain to the entire policy, or only a portion of the policy.

FMV determinations in marriage breakdown situations are rare, but not unheard of.

Actuaries may be asked to determine the FMV of other products, such as life annuities or critical illness policies, for similar purposes. Issues related to the valuation of these products are beyond the scope of this research paper.

1.2 Taxation

Entities who are contemplating the sale or purchase of an in-force life insurance policy should consult with their tax and financial advisors to ensure that they understand all of the pros and
cons of such a transaction. The examples in this section are intended to give the actuary a very
general overview of tax considerations under current legislation. Some of the references listed in
section 8 provide additional helpful context and detail.

**Example 1: Sell Policy to Closely-Held Corporation**

If ownership of a life insurance policy is transferred to a corporation from an individual who is a
shareholder of the corporation in a non-arm’s length transaction, then the shareholder/seller
(under current Canadian income tax laws) is deemed to have disposed of the policy for its Cash
Surrender Value (CSV) and the corporation is deemed to have acquired the policy for its CSV.
The shareholder then pays tax on the excess, if any, of the CSV over the Adjusted Cost Basis of
the policy. If the FMV of the policy exceeds the CSV and if the amount paid for the policy is the
FMV, then the shareholder may be able to receive the difference between the FMV and the CSV
tax free.

Since life insurance premiums are paid with after-tax dollars, there may be additional financial
advantages to an ownership transfer if the corporation’s tax rate is lower than the shareholder’s
tax rate.

However, a corporate-owned life insurance policy may not enjoy the same creditor protection as
an individually-owned policy. Also, it may be difficult (from a tax perspective) to transfer the
policy or its proceeds from the corporation at a future date.

If the buyer or the seller of the life insurance policy is audited by the CRA, the FMV assessment
may be scrutinized.

**Example 2: Charitable Giving**

If an individual donates a life insurance policy to a not-for-profit entity, then the FMV
assessment will determine the amount on the tax receipt.

If the donor is audited by the CRA, the FMV assessment may be scrutinized.

**1.3 Types of Products Encountered**

The actuary may be asked to determine the FMV of any life insurance policy. For example:

- Participating policies: limited-pay or whole life; and
- Non-participating policies: term to 100, universal life, whole life, or n-year term.

The policies often have relatively high face amounts. However, this is not the case in all
engagements. There is significant variability in terms of the age and the health status of the life-
insured.

As is discussed later in this paper, the considerations, methods, and assumptions may differ
based both on the purpose of the valuation and the type of policy being valued.

**1.4 Relationships**

The party retaining the actuary is usually a representative of the policy-owner or the potential
purchaser of the policy (for example, a financial advisor, accountant, or tax lawyer). Sometimes,
the interested party will retain the actuary directly. It is not unusual for another party (for
example, an insurance agent) to provide the data required. Also, the party retaining the actuary
may not be the party responsible for payment of the actuary’s invoice.

The task force believes that any actuary providing these services be aware of the purpose for the
FMV assessment, and understand the relationships between the various involved parties and the
policy-owner. It may be helpful for an actuary new to this field to review section 1400 of the Standards of Practice, concerning engagements.

1.5 Competitors

Most, but not all, providers of FMV assessments are Fellows of the Canadian Institute of Actuaries. Some other providers are Associates of either the CIA or the Society of Actuaries. Actuaries have a comprehensive technical foundation in contingencies, interest theory, and the fundamentals of insurance. Due to their training, knowledge base, and professional standards of practice, actuaries are generally better equipped than other professionals to provide competent and unbiased FMV assessments.

1.6 Size of the Market

The task force made no effort to objectively quantify the size of the FMV market. Task force members speculate, based on their own business volumes and their knowledge of the market, that approximately 1,500 to 2,500 FMV assessments are performed each year in Canada. The market is growing.

Anecdotally, it appears that fewer than 20 actuaries practice in this area either full-time or part-time. There is a known demand for these services across all of Canada.

1.7 Standards of Practice

At present, there are no practice-specific standards of practice in this area. However, some elements of the Rules of Professional Conduct are relevant.

For example:

- Rule 1 – Professional Integrity;
- Rule 4 – Disclosure and Rule 5 – Conflict of Interest: if the actuary’s compensation is determined as a percentage of the FMV of the life insurance policy, then the task force believes that Rule 5 requires that this fact to be clearly disclosed in the actuary’s report. Some members of the task force are of the opinion that disclosure of this form of compensation is not sufficient and would prefer that this practice be prohibited, if possible, by the CIA; and
- Rule 6 – Control of Work Product.

In addition, the General Standards of Practice (part 1000) apply. If the purpose of the FMV assessment is related to a marriage breakdown or other legal dispute, then the Actuarial Evidence Standards of Practice (part 4000) would apply.

As is mentioned in section 8 of this paper (and elsewhere), other standards of practice may be helpful in certain situations.

2. DEFINITIONS

2.1 Fair Market Value

The CRA defines “Fair Market Value” in paragraph 3(a) of its Information Circular 89-3, Policy Statement on Business Equity Valuations, as follows:

Fair market value is the highest price, expressed in terms of money or money’s worth, obtainable in an open and unrestricted market between knowledgeable, informed and prudent parties acting at arm’s length, neither party being under any compulsion to transact.
This definition applies in general to the valuation of securities and intangible property. The circular goes on under paragraph 40 to say that the factors to be considered in determining the value of corporate-owned life insurance should include:

- The CSV;
- The policy’s loan value;
- The face value;
- The state of health of the insured and his/her life expectancy;
- The conversion privileges;
- Other policy terms, such as term riders, double indemnity provisions; and
- Replacement value.

According to the CRA’s Summary Policy Statement (reference number CSP-F02):

Fair market value generally means the highest price, expressed in dollars, that a property would bring in an open and unrestricted market, between a willing buyer and a willing seller who are both knowledgeable, informed, and prudent, and who are acting independently of each other.

The above two definitions may be helpful in understanding the CRA’s probable perspective in reviewing FMV assessments in various situations.

Similarly, the Canadian Institute of Chartered Business Valuators glossary includes the following:

Fair Market Value – the highest price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arms’ length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.

Where an individual policy-owner wants to transfer his policy to a corporation he controls, then it is neither an open market and nor an arm’s-length transaction. If a policy-owner wishes to make a charitable gift of a life insurance policy, this too is neither an open market nor an arm’s-length transaction. In these cases, an actuary may be asked to provide an independent opinion of the FMV of the transaction. Because such transactions have tax consequences, the CRA may decide to review the FMV assessment in the course of auditing the tax return of one of the involved parties.

2.2 Cash Surrender Value

The CSV of a policy is simply the value that the insurance company is willing to pay to buy back the policy. The FMV can be materially larger than the CSV for many reasons, the most relevant of which are:

- Impaired health of the life insured;
- “Unnaturally” low-CSV or no-CSV plan design;
- External factors such as long-term interest rates differing from those assumed in the original pricing; and
- Current availability of similar policies at materially higher or lower premiums levels.

However, the task force believes that the FMV of a policy can never be less than the CSV.
2.3 Value for Family Law Purposes

Sometimes the value of a life insurance policy is established arbitrarily. For example, in the Paterson v. Remedios decision (Court of Queen’s Bench, Saskatchewan, 1999), there was a dispute over the value of the term life insurance policy in the context of property equalization after a marriage breakdown. The court determined that the term policy with no CSV did have a significant value. The reason that the policy was deemed to have value was because the life insured was aware that he was terminally ill. The court held that the insured had the ability to obtain living benefits in respect of the policy and concluded the policy had value equal to 50% of the face amount for the purposes of the Matrimonial Property Act.

Despite this decision, the value of a life insurance policy for family property purposes is most usually (but not always) fixed by the courts as the CSV.

2.4 Value for Investment Purposes

If life insurance policies are being purchased for investment purposes (as is permitted in some but not all Canadian jurisdictions), the investor may wish to know the maximum amount to pay for a specific life insurance policy given the investor’s required investment return. This amount may be greater than or less than the FMV.

The emphasis of this paper is the calculation of the FMV of a policy.

3. MORTALITY ASSUMPTION

Based on the definition of FMV provided earlier, it follows that the selection of the mortality assumption for an FMV assessment would reflect as accurately as possible, or as accurately as practicable in the context of a particular situation, the expected mortality of the life upon which the particular insurance policy is underwritten.

3.1 Current Practice

Base Tables

Currently, the most commonly used mortality tables for FMV calculations are the CIA 1997–2004 Mortality Tables, which are comprised of six tables, three male and three female, distinguishing between smoker, non-smoker, and combined smoking status mortality. The tables were published in 2010 and are based on a study of Canadian insured lives over the period 1997 to 2004. The tables reflect a 15-year select period from date of original policy issue.

Some actuaries who use the CIA 1997–2004 tables always use the ultimate tables in their calculations and others use select mortality for the remainder of the select period (or a new select period) if applicable to the situation.

Reasons for the differences in practice include the materiality of making a distinction, uncertainty about original policy issue date, or simplification of procedures.

Some actuaries base their calculations on other tables, for example a general population table such as the Statistics Canada Life 2000–2002 tables. These are based on general Canadian mortality, distinguished by sex. Updated Statistics Canada life tables were released in March 2013. Some actuaries believe that it is inappropriate to use population tables because mortality rates are higher than in tables based on insured lives experience and because there are no smoker/non-smoker differentiations.

Reasons for the decision to use general population tables rather than insured life tables might include materiality or the length of time since policy issue (arguing that at some point the life-
insured’s expected mortality completely diverges from that expected of an insured population), and no recent new underwriting. Some actuaries believe that it is appropriate to always obtain a current life expectancy opinion prior to preparing the FMV assessment.

**Adjustments to Base Tables**

Many actuaries adjust the base table to reflect general mortality improvements, for example as proposed in a September 2010 CIA research paper or considering the August 2012 mortality study prepared by the CIA’s Research Committee.

Some actuaries adjust the base table by using a constant multiplier (i.e., x% of the table q_s) for all ages. Other actuaries apply different adjustment multipliers for different ages. There are three components to the adjustments: experience date to study date, study date to current date, and current date to future. Some actuaries use global adjustments that cover all three components. Other actuaries adjust independently for each component.

Some actuaries apply further adjustments to allow for expected further future mortality improvements. Some actuaries use a base table without any adjustment for general mortality improvements.

Reasons for the decision to not reflect mortality improvements include the materiality of the results in the context of the purpose of the valuation or a concern over the credibility of the interim data.

**Other Distinctions**

FMV calculations virtually always distinguish by sex, and generally distinguish between smoking and non-smoking status at the time of valuation.

Reasons for using the combined tables (instead of smoker or non-smoker) include uncertainty of smoking status, and/or length of time since policy issue with confirmation of smoking status. Some actuaries will issue only a qualified assessment if there is incomplete information, such as uncertainty concerning smoking status. Other actuaries always ask the life-insured to complete a questionnaire that includes a question concerning smoking status.

**3.2 Considerations when Selecting the Mortality Basis**

Most actuaries will use standard mortality assumptions in the absence of concrete evidence of substandard mortality.

Some actuaries will always request the expert opinion of an underwriter or physician. Others will accept current underwriting information if there is a recently-issued policy. Most actuaries will not offer an unqualified FMV assessment in the absence of relatively current medical information.

Some actuaries treat recent insurer underwriting decisions with caution. This is because the purpose of such underwriting is not necessarily to provide an unbiased expert life expectancy opinion. The insurer’s underwriting guidelines may incorporate conservatism, for example. Section 1600 of the Standards of Practice gives helpful guidance in this area.

Instead of, or in support of, the expert underwriter’s opinion, some actuaries attempt to reflect known mortality issues at the date of calculation in their FMV assessments. They will attempt to identify issues that are specific to the life insured, and then assess the potential impact on the base mortality assumption. To accomplish this, many actuaries investigate information sources such as the following:
• **Underwriting at policy issue.** Most actuaries consider whether or not a mortality rating at the issue date of the policy being valued continues to be valid at the date of calculation. Note that in common underwriting vernacular a “50% rating” means that mortality is assumed to be 150% of normal mortality. Common ratings, if they exist at all, are between 50% and 150% (implying 150% to 250% of normal mortality). Each life insurance company will have a maximum rating at which it will issue a policy, and knowing these maximum ratings can provide helpful information if the insured life has been recently declined for new coverage.

• **Recent new policy underwriting.** If the insured life recently applied for new coverage, then the underwriting decision related to that new policy can be used to assist in selecting a mortality assumption for valuing the existing policy. It is helpful to understand that a “decline” may occur for a variety of reasons, not necessarily only as a result of very poor health. For example, prior misrepresentation (information such as this is available from the Medical Information Bureau) may result in a decline. Also, pending medical tests may result in a decline that is subject to review after the tests are completed.

• **Known existing medical conditions at the time of valuation.** Most actuaries enlist the assistance of a life expectancy/mortality expert (either an independent medical underwriter or a physician with insurance expertise) to quantify the impact on mortality of known medical issues. Some actuaries take on this non-actuarial role, using their own underwriting and related experience and referring to medical or underwriting publications to assist in selection of the mortality assumption. Some actuaries will not provide an unqualified assessment unless there is an expert medical opinion. Other actuaries will assume standard mortality in the absence of an expert opinion to the contrary. The reason for this approach is that a shortened life expectancy typically increases the value of the policy (to the advantage of the seller). The actuary might therefore assume that the seller would insist on underwriting unless the life insured was of normal health.

In addition to the above, the selection of a mortality assumption for an FMV assessment can be influenced by a number of other considerations, such as:

• **The length of time since policy issue.** If the policy was issued many years ago, there may be increased divergence between the life insured’s expected future mortality and that reflected in the insured life tables, and therefore there may be a question as to whether a select or an ultimate table would be used. Although many actuaries will use an ultimate table in such a situation, it appears that most, unless there is medical or underwriting evidence indicating otherwise, will almost always use an insured life table rather than a general population table.

• **Purpose of the assessment.** Although the concept of FMV requires identification of a single value regardless of purpose, in some situations a boundary or minimum value may serve the purpose of the valuation. For example, when determining the FMV of a policy for charitable receipting purposes, the parties may be satisfied with having a minimum value assessed (based on standard mortality) rather than incurring the additional cost involved in commissioning an independent medical assessment. If the situation warrants, the actuary might determine this minimum value (stating clearly that it is not necessarily the FMV) and issue a qualified assessment which states that a more rigorous assessment of the health status of the individual might reveal a higher value that is the true FMV.

• **Materiality.** Sensitivity testing may reveal that the FMV is not overly affected by the mortality assumption (due to the age of the life insured or the premium pattern, for
example). If this is the case, many actuaries would provide an unqualified FMV assessment (based on standard mortality) even in the absence of medical underwriting.

Given the definition of FMV, it would be reasonable to conclude that the mortality assumption would not vary based on the purpose of the valuation or the type of insurance policy being valued, except as noted above with respect to charitable giving (minimum value for tax receipt purposes).

3.3 Independent Medical Underwriting/Mortality Assessment

This is an important element of the FMV assessment process. In many (or most) situations, it will be prudent to obtain an independent professional assessment of the expected mortality of the insured life. This is especially true if the life insured has a significant identified health problem. Although some actuaries will accept and use the recent assessment of an attending physician, most actuaries secure independent assessments from specialized medical underwriters and similar practitioners. The cost of such an assessment is usually passed on to the client as an explicit line item in the invoice, although some actuaries build such costs into an “all in” fee. Sometimes the client obtains the mortality assessment and submits it to the actuary when requesting the FMV assessment.

Many actuaries obtain independent mortality assessments in most, if not all, situations. Others obtain independent assessments as more of an exception than a rule.

The results of the independent medical assessment are generally provided in one of the following forms:

- A mortality rating (which leads to the use of an “x% of standard mortality” basis), either permanent or temporary (returning to standard after y years);
- A modified future life expectancy;
- An “x-year survival percentage”; and
- A temporary extra premium.

In the latter two situations, the actuary performing the FMV assessment will generally have to make his or her own modifications to a standard table to properly reflect the conclusions drawn in the medical assessment.

4. ECONOMIC ASSUMPTIONS

4.1 Current Practice—Non-par Insurance

To satisfy the CRA (in the case of an audit), the choice of interest rates to discount the future values of policy benefits and premiums for non-arm’s length transactions would have the intent of not conferring a bias towards the purchaser or seller. If the purpose of the FMV assessment is to determine the appropriate receivable amount in a charitable giving situation, then (as mentioned earlier) the parties may be satisfied with having a minimum value assessed.

The approaches used by actuaries to select an interest discount assumption for FMV assessments can be divided into several philosophical camps, as follows.

*Pension Commuted Value Standard of Practice Rates*

Some actuaries believe that the non-indexed Commuted Value (CV) standard interest discount rates are appropriate for FMV assessments of non-participating life insurance policies. The
reasoning is that the underlying cash flows of the insurance policy are similar to the cash flows generated by a long-term bond. Also, these interest discount rates are reasonably easy to explain.

Direct Use of Bond Yields

Other actuaries select a Government of Canada bond yield (a “risk free” return) for a bond with a duration similar to the duration of the insurance policy, and then add a market margin (which may be +3%, +5%, +8%, etc.). The margin selected is based on variables such as the characteristics of the life insured, the policy features, and the perceived credit risk and other characteristics of the issuing insurer. A larger margin would typically be reflective of an approach based on the life settlement market that exists in other jurisdictions.

Yield Curve Approach

Some actuaries use a yield curve, plus a margin, that is reflective of their view of the yield levels at which a market would transact. This may be viewed as a refinement of the “direct use of bond yields” approach.

Flat Rate (Historical Norms) Approach

Actuaries who use this approach select a single interest discount rate to apply throughout the expected lifetime of the policy. The flat base rate is based on expected long-term provincial or similar bond yields (i.e., long-term historical norms—say 4%) rather than current bond yields. The rate would vary depending on the duration of the policy, the riskiness of the insurer, and the face amount of the policy.

For example, the selected flat interest discount rate might be x% for most non-par policies (the actuary’s best estimate of long-term historical norm yields), and lower for policies with shorter durations (i.e., x-1% for a policy with a five-year duration or x-0.5% for a policy with a 10-year duration). A higher rate might be used if the insurer is lower than High Investment Grade (e.g., below a AA rating), all other things being equal, and would be based on the increased borrowing cost differential between an AA rating and the credit rating of the insurer. And, for smaller policies covered by Assuris, a lower or zero adjustment would apply to the base interest discount rate. The guarantees currently offered by Assuris may not continue indefinitely into the future.

Variable Rate (Insurer Liability) Approach

A fifth approach would be to select interest discount based on the yield curve of Government of Canada bonds and the methodology outlined in the CIA educational note Guidance for the 2008 Valuation of Policy Liabilities of Life Insurers. Reinvestment rates would also apply to annual premium policies. Subject to the life insurance company credit rating adjustments referred to above, these rates would be appropriate for FMVs of non-participating and term insurance policies. The interest adjustments for participating policies would be similar to those used in the flat rate approach.

4.2 Current Practice—Par Insurance

Some actuaries view par policies as being more similar to an equity than to a bond due to the policy’s participation in the profits of the life insurance company. Future projected, yet not guaranteed, dividends would be included in the valuation of the future policy benefits. Therefore, a risk adjustment of some kind would be made to the interest discount rate.

Most life insurance companies will provide policy illustrations based on both the existing dividend scale and also a reduced dividend scale. Some actuaries use a lesser adjustment and the
reduced scale dividend projection. Other actuaries use a larger adjustment and the current dividend scale.

**Pension CV Standard of Practice Rates**

There might be a margin of 1% to 2% added, depending on the current dividend scale interest rate, whether projected dividends are at the current level or based on a reduced illustration, and the duration, mix, and quality of the investments in the par fund of the insurer in question.

**Direct Use of Bond Yields**

Actuaries using this approach would presumably use a margin that is higher than the margin used for non-par products.

**Yield Curve Approach**

Actuaries using this approach would presumably use a margin that is higher than the margin used for non-par products.

**Flat Rate (Historical Norms) Approach**

Actuaries who use this approach might add a margin of 2% to the calculated non-par interest discount rate if using the existing dividend scale, and a smaller margin of 1% if using the illustrated reduced dividend scale.

If there has been a recent reduction to the dividend scale, actuaries using this approach may modify the above adjustments. For example, if the dividend scale reduction implies a 0.5% reduction in expected investment return, then the margin shown above might be reduced by 0.5%.

### 4.3 Third-Party Investor Purchases

An actuary may be asked to calculate the maximum purchase price that an investor should pay for a specific life insurance policy, given the investor’s stated required rate of return. The investor’s target yield may be higher or lower than the FMV interest discount assumption. Such investors will usually target policies where the life insured has a relatively short life expectancy due either to advanced age or ill health.

The investor is asking the actuary: “In order to yield x% on my investment, what is the maximum I should be willing to pay for this policy?” In such a situation, the practice is to use the target rate of return as the interest discount rate. Many actuaries would illustrate more than one scenario, to assist the investor in understanding the possible variability of outcomes.

### 5. Expenses and Other Assumptions

The task force is not aware of any actuaries who include policy maintenance expenses in the FMV determination. And, the majority of actuaries do not include any non-mortality decrements in the FMV assessment.

For example, in the opinion of most members of the task force, it would be inappropriate to include a lapse assumption in the FMV assessment. Whether or not the policy will lapse is in the control of the policy owner. For this reason, as is explained in section 7, some actuaries use lapse and no-lapse scenarios to determine the FMV of a policy. The purchaser can reasonably be expected to take the action that maximizes policy value. Many actuaries believe that it is appropriate for the FMV assessment to reflect this.
In contrast, some other actuaries choose to use duration-specific selective lapse assumptions for certain types of products, particularly term products, based on the presumption that a healthy life insured will be more likely to surrender or lapse their policy than a less healthy life insured—all other things being equal:

- Size of premium rate increase—large increases are more likely to result in higher selective lapses;
- Period between premium increases—selective lapse rates are likely to be higher if the period between increases is longer;
- Policy size—larger polices are likely to experience higher selective lapse rates;
- Distribution system used—high replacement activity and/or operation in an upscale market may lead to higher selective lapse rates;
- Heaped renewal commissions—higher commissions at premium renewal dates are likely to result in lower selective lapse rates; and
- External market conditions—at the time of renewal, if lower-cost alternatives are available, more healthy clients will consider leaving the block.

The actuaries who do not model selective lapses believe that these are general assumptions for the behaviour of a cohort and that such generalizations are inappropriate when modelling the expected mortality of a specific life insured.

6. PRODUCT-SPECIFIC CONSIDERATIONS

6.1 Renewable and Convertible Term Insurance

Although FMV assessments for these products may be relatively rare, three product features that may be material to the FMV of the policy are:

- Conversion opportunity to permanent insurance at a specified attained age based on the risk class at the time of issue of the original policy;
- Conversion opportunity to a specified permanent insurance product that is no longer available and that is more advantageous to the policy-owner than similar currently-available products; and
- An “Original Age Conversion” opportunity may be offered, allowing the policy-owner to convert based on the risk class and the issue age of the original term policy.

6.2 Term to 100

Term to 100 is the generic name given to a plan of insurance where premiums and the death benefit are fully guaranteed. There is usually no contractual CSV, but some Term to 100 plan designs do have contractual CSVs.

Product features that may be material to the FMV assessment include, but are not limited to:

- The presence of a cliff CSV at a policy anniversary sometime in the future;
- Duration of the premium paying period (Limited Pay design, to age 100, for life); and
- Conversion options.
6.3 Universal Life

Universal life (UL) is the generic name given to a plan of permanent insurance designed to allow the policy-owner to have both significant insurance coverage and many of their investments in a single policy. UL policies have the following features:

- Deposits (premium payments) may be fixed or variable without restriction, with the possible exception of certain limitations to ensure tax-exempt status;
- The policy offers at least one fund to which deposits and interest are credited, and from which withdrawals are made for mortality and expense charges; and
- Interest is credited to the fund based on the performance of investment accounts offered under the policy provisions, and selected by the policy-owner.

In preparing an FMV assessment for a UL policy, guarantees are of particular importance. The degree of risk transfer allowed for in the design of the UL policy is also very important. These can be complex products.

An actuary who is not familiar with the dynamics of UL policies may wish to study some of the CIA educational material that has been prepared for insurance company actuaries working with UL products. For example, the CIA educational note on the Valuation of Universal Life Insurance Contract Liabilities may be helpful background reading.

Actuaries preparing FMV assessments of UL products would typically reflect product features such as:

- Mortality charge pattern (Level COI or Increasing COI/YRT);
- Duration of mortality charge (limited pay, or for life);
- Minimum Guaranteed Credited Rate on account balances under certain investment options, if any;
- Methods for allocating the policy account value to the investment accounts, and any applicable Market Value Adjustments;
- Surrender Charge scale, and the expiry date;
- Bonus Interest Provisions;
- Management Expense Ratios (MERs) applicable to the various Investment Account options; and
- Any supplementary insurance coverage provided.

Given the complexity of UL products, actuaries preparing FMV assessment may want to review subsection 1510 of the General Standards of Practice (Approximation) as they begin to model the product dynamics.

6.4 Participating Insurance

Participating Life Insurance (Par) is the generic name given to a plan of insurance designated by the insurer as “Participating in insurer profits”. With par policies, the contractually-guaranteed obligations are an insufficient measure of the benefits that will be provided by the policy.

The dividend projection assumption is a key element in determining the FMV of a par policy. As was explained in section 4, the dividend projection assumption can be an important consideration in selecting the interest discount rate assumption for a par policy FMV assessment.
Some actuaries attempt to model the policy proceeds (cash flow) that reflect their understanding of the reasonable expectations of the policy-owner. Other actuaries project policy proceeds (cash flow) based on the current dividend scale. These two approaches will typically lead to different discount rate assumptions.

Most actuaries model different premium payment scenarios (continued payment, premium vacation in the future, immediate conversion to reduced paid-up, etc.). The assumption is that a new policy-owner will make premium payment or policy change decisions to maximize the value of their investment.

Par product features which would be recognized in the FMV assessment include, but are not limited to:

- The dividend options that would be available to the new policy-owner, including the potential ability to convert enhanced term coverage to permanent coverage;
- The insurer’s dividend policy;
- Current dividend scale;
- The insurer’s past practice with respect to dividend payments;
- Any representations made to the policyholder with respect to the dividends;
- The impact of a conversion to “reduced paid-up” status on projected policy proceeds; and
- Ability to make additional deposits to build up death benefit above and beyond the dividend PUAs (known as Additional Deposit Option, Plus Premium, or SuperPUA, depending on the issuing insurer).

Par policies can be complicated products. An actuary who is not familiar with the dynamics of par policies may wish to study some of the CIA educational material that has been prepared for insurance company actuaries working with dividend-paying products.

The above-mentioned standards regarding approximation may again be relevant.

6.5 Adjustable Products

Adjustable products are individual plans of insurance under which the pricing structure may change from time to time, usually prospectively, based on revised estimates of economic or demographic events. These changes may be made at the discretion of the insurer or on the basis of certain contractual provisions.

Relevant product features for an FMV assessment include, but are not limited to:

- Whether the product is “benefit” adjustable or “premium” adjustable;
- Any period between adjustment dates during which the premiums or benefits are fixed;
- Whether the product contains any “Limited Adjustment” guarantees;
- Whether there are CSVs that are based on an accumulation-type formula with a floating interest rate; and
- The adjustments the insurer has made since policy issue.

6.6 Miscellaneous Product Features

In preparing an FMV assessment, actuaries typically identify and pay particular attention to product features embedded in plans of insurance that permit the policy-owner to realize
additional or unusual value from the policy. These features can impact on the FMV calculation. Examples of such product features include, but are not limited to:

- Unusual cash value patterns, such as a return of premium on surrender of the policy;
- Payment of the UL fund value on disability or the critical illness of the life insured;
- Payment of the UL fund value on the death of a life insured under a multiple-life UL policy;
- Minimum interest guarantees (on a UL fund, for example); and
- Maximum policy loan interest rates that are, or may become, attractive (arbitrage potential).

7. METHODOLOGY

7.1 Basic Approach

Not surprisingly, for most actuaries the basic methodology for determining the FMV of a life insurance policy is to use the actuarial present value method as follows:

\[ \text{FMV} = \text{Present Value (Future Benefits)} - \text{Present Value (Future Premiums)} \]

In addition to selecting the demographic and economic assumptions, the actuary must identify and quantify the “future benefits” and the “future premiums”. Actuaries who are experienced in FMV assessments recognize that this is not as straightforward as may initially appear.

Actuaries who prefer the “replacement cost” perspective as their primary valuation approach would use the following formula:

\[ \text{FMV} = \text{Present Value (Premiums payable for a hypothetical new policy with the same features as the existing policy)} - \text{Present Value (Premiums payable for the existing policy).} \]

7.2 Scenarios

Some, but not all, actuaries have adopted a “scenario” approach to the above.

For example, an actuary might determine the present value of the policy under scenarios such as:

- Immediate surrender on the valuation date;
- Surrender at one or more future dates (date of a large premium increase, end of the premium-paying period, date of a significant decrease in the face amount, etc.);
- “Premium vacation” at some future date (if a Par product or a UL product with a significant Account Value, for example);
- Conversion to reduced paid-up status at some future date or dates; and
- Persistence of the policy until the life insured dies.

The FMV would then be the highest of the present values calculated.

7.3 Handling Unusual Policy Features

The key to valuing any feature which fits “outside the box” is to understand its ramifications and its impact on the policy outcome. Actuaries typically try to get as much relevant information as possible to help to quantify the future benefit and premium streams. At this stage, after examining the data, actuaries sometimes decide to adjust some of the base assumptions (demographic or economic).
Assembling Data—Unusual Mortality Situations

If the policy was sold in another country or if the life insured lives in another country or travels frequently to another country, mortality data from that country would be very useful. It may occasionally be necessary to obtain mortality experience data for countries other than Canada.

The Society of Actuaries (SOA) publishes United States industry experience studies. The SOA large amount and older age studies are useful, and actuarial organizations in the United Kingdom, Australia, and South Africa publish mortality, lapse, and other studies.

Another potential source of foreign mortality data is a government or private sector population study for the country under study. Although care would be taken in the use of such population studies, they can be helpful in terms of isolating trends in population mortality, cigar usage, travel in dangerous countries, driver behaviour, etc.

Yet another source of demographic data is medical studies, which have previously been instrumental in developing finer mortality classifications. These studies can be useful in terms of understanding how the life insured’s condition may affect mortality experience.

Other studies by private organizations, reinsurers, or actuarial organizations may be available and may be helpful in unusual situations.

Assembling Data—Economic Data for Foreign-issued Policies

The central banks of different countries generally publish historical and current data related to interest rates, government bond yields, etc. This data could be of use when dealing with policies from other countries.

Preparing the Data

Actuaries will review all of the available data and scrutinize its applicability to the policy that is being valued. The extent of the data collection and the degree to which “non-standard” assumptions are considered will depend on the details of the file—the life insured and the policy-specific considerations.

Joint Life Data

Selecting an appropriate mortality assumption for policies with multiple lives insured can be complex and calculation intensive, particularly if valuing a “last to die” policy (where death benefits are paid only on the final death of two or more lives insured).

In the life insurance industry, the Equivalent Single Age (ESA) and Joint Equal Age (JEA) are two common approximation approaches that are used to reduce this calculation effort. However, both may generate a mortality curve that is significantly different from actual joint mortality calculated from first principles.

In the opinion of some members of the task force, it is preferable to calculate expected mortality using multiple life contingencies, with exact age and gender information. ESA and JEA might be acceptable approximations over a short period of time, but would diverge from the technically correct result over time.

Some actuaries do use ESA or JEA approximations for FMV assessment purposes. Actuaries who decide to use these approximations may wish to consider the following:

- Single life mortality has a very different slope than joint mortality.
• For a last-to-die policy, the ESA mortality rates are significantly higher in early durations than exact mortality rates developed from first principles. At later durations, the relationship reverses and actual mortality rates are higher than the ESA mortality rates.

• The opposite relationship occurs when dealing with a first-to-die policy. Here, the early-duration ESA mortality rates are lower than actual mortality rates calculated from first principles and later-duration ESA mortality rates are higher than actual mortality rates.

• Although it is possible to apply adjustment factors to try to correct for the bias, such approaches often become more complex than simply developing a multiple life mortality assumption from first principles.

Actuaries preparing FMV assessments of first-to-die and last-to-die life insurance policies may find the following information helpful:

• Some policies have a rider that insures individuals other than the primary life insured. These riders may have been issued without underwriting of those other than the primary life insured.

• In the opinion of some members of the task force, mortality studies on joint life business are rarely credible. It is important to understand the methodology and the underlying data before relying on such studies for FMV purposes.

• A significant number of last-to-die policies are issued with one of the lives substandard. In these situations, some issuing life insurance companies adjust the ESA rather than apply a rating.

• For two totally unrelated lives with no regular interaction in their day to day lives, the probability of simultaneous death is remote. However, individuals who have a reason to buy a first-to-die or a last-to-die life insurance policy will often have regular interactions which increase the risk of simultaneous death. They may be spouses or business partners, for example. If this risk is not considered, the mortality assumption may be understated.

Differentiation

Some actuaries base the mortality assumption on a standard insured life mortality table, updated and adjusted for industry-wide mortality trends, and further adjusted to reflect the opinion of an underwriting expert. This is explained in section 3.

Other actuaries take further steps to develop a mortality assumption appropriate to the specific life insured. The challenge is to determine predictive factors in differentiating mortality, and to choose a subset of factors that balance credibility and accuracy.

To the extent that it makes a material difference to the FMV, actuaries who adopt this approach would not make the same mortality assumption for two policies unless their experience was expected to be similar.

In determining differentiation from the standard table and the standard approach, an actuary might consider the following:

• The credibility of the information—exercise caution in differentiation if FMV is sensitive to the differentiation, but credibility of the data supporting differentiation is low;

• Whether or not the differentiation makes intuitive sense—can the actuary explain the connection between factors and FMV results?
• The behaviour of differentiation over time—consider whether the effects wear off, remain level, or increase; and
• The correlation between factors—in incorporating two or more factors, the possibility of double counting may lead to incorrect conclusions.

Some actuaries, in taking this approach, would consider factors beyond the four basic factors (age, sex, smoking status, and duration). Additional factors could include, but not necessarily be limited to, experience by face amount, type of underwriting, preferred risk classification, and product type.

The annual CIA mortality study analyzes observed mortality by face amount band, and is a good source of information. Actuaries would probably be cognizant of the need to adjust for the impact of inflation and underwriting changes over time. The CIA mortality study also provides mortality results split by type of underwriting—medical, paramedical, and non-medical. However, since levels of underwriting are largely driven by age and face amount, the correlation between these factors and face amount cannot be overlooked (to avoid double counting).

Some actuaries also consider differentiating by factors such as unusual and possibly dangerous habits, unusual and possibly dangerous sports, profession, drug usage, travel, distribution type, and geography. In such cases, the actuary works with the underwriting expert to develop an appropriate mortality assumption that reflects the relevant factors.

Medical studies can also be useful in understanding how the insured’s health condition affects mortality experience. However, this understanding would not typically replace the expert mortality opinion of an underwriter or physician.

7.4 Use of Replacement Cost

If the life insured is insurable (even with a rating) and if the current policy-owner could obtain similar coverage (face amount and product type) at the time of the policy valuation, then some actuaries will consider the “replacement cost” of the policy to be valued when determining the FMV. These actuaries believe that replacement cost cannot be ignored if the FMV assessment is being performed in the context of a non-arm’s length transaction or if a transfer of ownership will not occur (if the FMV assessment is for purposes of an estate freeze or business valuation, for example). These represent the majority of FMV assessments.

Other actuaries believe that it is inappropriate to consider replacement cost because to do so is inconsistent with the CRA definition of FMV (see section 2) since the theoretical disinterested third-party purchaser of the life insurance policy would not be able to purchase a new life insurance policy on the life of the life insured. These actuaries believe that replacement cost is relevant to the seller but not to the buyer, and therefore is not relevant to the FMV assessment.

Actuaries who do consider replacement cost consider the product type along with all the specifics of the policy. An exact replacement product may not be available on the market. However, the actuary would attempt to find the closest equivalent replacement product in order to take into consideration what a potential purchaser would have to pay on the market to obtain coverage for the life insured in question. If no comparable policy exists, then the replacement cost cannot be determined.

If taking replacement cost into account, the FMV would be determined by calculating the present value of the difference between the future premium cost of the replacement policy and the future premium cost of the policy to be valued over the future remaining years of the policy. This is illustrated in the numeric examples below.
A replacement policy may not be available, for example if the life insured is now deemed to be a non-insurable risk. In such an instance, an actuary who wishes to take replacement cost into account might use a more theoretical cash flow method to calculate the base expected value of the policy. They would determine the present value of the future death benefit minus the present value of the future premiums, and then adjust this base expected value to take into account a “risk aversion factor” (i.e., policy-owner behaviour in buying insurance is hard to justify using the theory of expected value). Also, other policy features (such as cash values) may be considered. Alternatively, the actuary might determine replacement cost based on the theoretical premiums an insurer might charge based on the mortality opinion of the underwriting or medical expert.

7.5 Numeric Example

To illustrate the range of current practice, task force members performed an FMV assessment of the following policy:

- Life insured is a male, non-smoker, recently confirmed to be in normal good health;
- Policy is Term to 100, non-par, no CSV, issued when the life insured was 30 years old;
- Face amount is $500,000, premium is $1,200 per annum payable each July 1 for life; and
- Valuation date is September 1, 2012, at exact age 45 of the life insured.

Range of Mortality Assumptions

- Adjust CIA 97–04 select and ultimate MNS by 85% at valuation age ranging down to 54% and then up to 100%, approximately equal to 70% adjustment at all ages;
- Adjust CIA86–92 select and ultimate MNS by 56% at all ages;
- Adjust CIA97–04 projected from 2000 based on the August 2010 CIA document; and
- Use CIA97–04 select and ultimate MNS, no adjustments (100%).

Range of Interest Discount Assumptions

- 9% level (Government of Canada bond yield, plus 6% to 7%)—the life settlement perspective;
- 3.24% for 15 years and 5.0% thereafter;
- 4.0% level; and
- 2.9% for 10 years and 4.2% thereafter (CV Standards assumptions, plus 0.5%).

Scenarios Considered

- New policy-owner maintains policy in force until the death of the life insured; and
- Determine present value of the difference between the premiums payable on Term to 100 and a UL with level COI products available today, and the premiums of the Term to 100 policy being valued.

Range of Fair Market Value Results

With one exception, results fell into a relatively narrow range. The FMV determined by members of the task force using the methods and assumptions described earlier in this paper are as follows:

- $10,000;
• $70,000;
• $78,000;
• $78,000; and
• $95,000.

8. REFERENCES AND READING MATERIAL
This section contains a listing of reference documents and resources relating to life insurance policy FMV assessments.

8.1 Fair Market Value—General
- Canada Revenue Agency: IC-89C, section 3 contains a definition of FMV.
- Canada Revenue Agency: summary policy statement for definition of FMV.
- Canadian Institute of Chartered Business Valuators: glossary.
- Court cases regarding FMV:
  - Klotz v. The Queen, 2004 D.T.C.2236, and Klotz v. Canada, 2005 D.T.C. 5279; and
  - Quinnetal. v. The Queen, 2004, TCC64.

8.2 Fair Market Value—Life Insurance Policies
- Canada Revenue Agency: IC-89C, sections 40 and 41 discuss considerations in FMV of a life insurance policy value.
- Canada Revenue Agency: IT-416R3, sections 4 and 5 discuss considerations in valuing a life insurance policy.

8.3 Mortality
- Canadian Institute of Actuaries: Mortality Study, Special Report on the CIA9704 Tables, October 2010.

8.4 Other Resources and Background

• Canadian Institute of Actuaries: Recommendations – Dividend Determination and Illustration.
• Manulife Tax Topics newsletter: Transfer of an Insurance Policy Involving Corporations and a Shareholder or Employee.
• Collins Barrow Tax Alert newsletter: Life Insurance Policies and your Corporation.
• Canadian Tax Foundation newsletter: Using Life Insurance to Extract Corporate Funds Tax-Free.
• Life Insurance Settlement Association.
• Institutional Longevity Markets Association.
• Insurance Studies Institute: Life Insurance Settlement Series (volumes I to XI).

8.5 Standards of Practice

The actuary would be familiar with the Rules of Professional Conduct and all Standards of Practice and comply with those relevant to the work. For FMV estimates of life insurance policies, the actuary would comply with the following sections of the General Standards of Practice:

• 1000 General;
• 1400 The Engagement;
• 1500 The Work;
• 1600 Another Person’s Work;
• 1700 Assumptions; and
• 1800 Reporting.

If the FMV estimate is being prepared in an adversarial situation, the Actuarial Evidence Standards may apply (see paragraph 1110.03.1 of the Standards of Practice). If it applies, the following sections and subsections of part 4000 of the Standards of Practice would be complied with:

• 4100, 4310, 4410 Scope;
• 4220 Financial Interest of the Actuary;
• 4240 Testimony;
• 4710 Reporting: External User Report; and
• 4720 Reporting: Internal User Report.

Note that these subsection numbers refer to the revised AE Standards approved by the ASB in June 2013.

8.6 Skills and Knowledge Base

• Life insurance products, design, use, contracts, illustrations, advanced sales techniques;
• Mortality and mortality improvement;
• Underwriting of mortality risks; and
• Life settlements markets.
APPENDIX

Mandate of the Task Force

The mandate given to the task force by the Practice Council was as follows:

This task force will prepare a research paper that outlines the relevant considerations for performing fair market valuations of life insurance policies for the purpose of ownership transfer (for tax planning or charitable giving) or for property equalization (after a marriage breakdown). The research paper will also discuss appropriate methods and assumptions for such valuations. This initiative relates to in-force life insurance policies where the policy owner wishes to transfer ownership to or from a closely-held corporation for tax reasons, or to a charitable organization, again for tax reasons. This also relates to in-force life insurance policies that must be valued for property equalization purposes after a marriage breakdown.