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European CFO Embedded Value Guidelines

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Those readers following the evolution of embedded value (EV) outside the United States know that it is somewhat like the “wild west” out there, with different companies taking different approaches to calculating embedded values.¹ For example, all insurance companies are required to maintain minimum capital levels, but the manners of reflecting them in EV vary widely, with some companies including the cost of minimum solvency levels (if that) in their calculations while others are holding robust levels appropriate for obtaining a high credit rating. Common practice is to discount future profits using risk-adjusted discount rates, but these rates

could differ significantly between companies. It is almost universal practice to use a deterministic approach—using a single set of assumptions to calculate EV without even recognizing that options embedded in insurance contracts decrease value.

Needless to say, stock analysts covering European insurance companies are not pleased with this situation, since they find it difficult to compare the results of one company with another, and since they feel that the cost of embedded options in insurance contracts is ignored.

One might say that “the marshal is in town,” now that the chief financial officers (CFOs) of 19 European insurance companies organized a group called, not surprisingly, the European CFO Forum, which publishes guidelines for calculating EV during

the spring of 2004.² Readers can find these guidelines on the Internet at <http://www.cfoforum.nl>. The intention of these guidelines is to provide a series of standards that companies may follow while calculating EV, and although not mandating that companies rigidly follow them, to require that companies disclose any differences between their approach and the approach contained in the guidelines.

Since the interested reader can read the actual guidelines and a discussion of the thinking behind them at the previously mentioned Web site, this article will take a somewhat cursory look at the guidelines and present some personal observations about how these guidelines may affect practice.

The 12 Principles

The embedded value methodology guidelines of the European CFO Forum are organized into 12 principles, the first 11 dealing with the calculation of embedded values, while the final one addresses disclosure of embedded value to the public.

The first two principles place the guidelines in perspective by describing them as being “supplementary” to other financial reporting and by defining the businesses that must be covered in an embedded value report.

Principle 1: “Embedded Value is a measure of the consolidated value of shareholders’ interests in the covered business.”

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¹Previously guidelines were published on a national basis, such as the 2001 Association of British Insurers’ “Supplementary Information for Long Term Insurance Business (“The Achieved Profits Method”),” and thus excluded a number of significant companies.

²The European CFO Forum is composed of representatives of the following companies: AEGON N.V., Allianz AG, Assicurazioni Generali S.P.A., AXA SA, Aviva plc, Fortis B.V., Försäkrings AB Skandia, Hannover Rueckversicherung AG, ING Groep N.V., Legal & General Group plc, Münchener Rückversicherungs-Gesellschaft, Old Mutual plc, Prudential Assurance Company plc, Scottish Widows Group, The Standard Life Assurance Company, Swiss Reinsurance Company, Swiss Life Group, Winterthur Group, Zurich Financial Services Group.

In the introductory principle, the European CFO Forum recognizes that embedded value information is supplementary to the company's primary published financial statements (for example, U.S. GAAP or IAS financials). This is consistent with the U.K.'s current standards, which present earnings and balance sheets on an "achieved profits basis," along with the more traditional accrual accounting. Peer pressure is expected to induce companies to adopt the CFO Forum standards over time. For example, AEGON's June 7, 2004 press release on its 2003 embedded value calculations stated that:

"(The embedded value is) expected to be consistent with the new European embedded value principles in all material aspects."³

Principle 2: "The business covered by the EVM (embedded value methodology) should be clearly identified and disclosed."

The coverage principle requires including contracts in the embedded value whenever local regulatory officials consider them either long-term or life insurance. However, it also explicitly permits companies to include other business as well, such as short-term group life insurance, long-term health insurance and asset management business, regardless of the legal entity that writes the contract. Keep in mind that many European insurers are conglomerates that can include life insurance, property and casualty (P&C) insurance, mutual funds and even banks. In some instances, the majority of business is not life insurance. Hence the EVM can conceivably be applied to any contract sold by any of these entities. A survey of 18 international insurance companies⁴ reveals that:

- More than half of companies surveyed own banks. The most common treatment of banks is to include the book value of the bank in EV, followed by reporting EV only for the life insurance segment (thus ignoring the bank entirely in EV). At least one company, Generali, includes some future banking profits in EV by including:

"The value of in-force asset gathering business ... is the present value of the projected stream of future after-tax profits that are expected to be generated by the private banking arrangements... (or) the present value of the projected stream of distribution margins that are expect-

*ed to arise associated with the insurance and asset management products managed, together with fee income, net of costs, expected to emerge."*⁵

- The vast majority of companies surveyed write (P&C) insurance, but only a few of include P&C operations in EV (most frequently on a book value basis). A more innovative approach taken by AXA in 2003:

*"(AXA) introduced in 2003 the concept of PVFP of renewals for the P&C business ... (where the) PVFP is the present value of future statutory profits for P&C in-force renewals. ... All personal lines are renewed (in the EV calculation) as retention rate is very high (while) Large commercial lines are not renewed (but) Where, historically, the retention rate has been stable over time and high, commercial lines are renewed (in the EV calculation)."*⁶

The next four principles define three components of embedded value.

Principle 3: "EV is the present value of shareholders' interests in the earnings distributable from assets allocated to the covered business after sufficient allowance for the aggregate risks in the covered business. The EV consists of the following components:

- Free surplus allocated to the covered business,
- Required capital, less the cost of holding required capital,
- Present value of future shareholder cash flows from in-force covered business (PVIF)."

Principle 4: "The free surplus is the market value of any capital and surplus allocated to, but not required to support, the in-force covered business at the valuation date."

Principle 5: "Required capital should include any amount of assets attributed to the covered business over and above that required to back liabilities for covered business whose distribution to shareholders is restricted. The EV should allow for the cost of holding the required capital."

Principle 6: "The value of future cash flows from in-force covered business is the present value of future shareholder cash flows projected to emerge from the



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³June 7, 2004, Analyst Conference Call, slide 6.

⁴Companies included in the survey of 2003 embedded value practices include: Aegon, Allianz, AMP Aviva, AXA, Fortis, Generali, Hannover Re, ING, Legal & General, ManuLife, Munich Re, Old Mutual, Prudential, Skandia, Sun Life, Swiss Life, Swiss Re.

⁵Generali's "Backup information regarding value of in-force business as of 31 December 2003 and value added by new business written in 2003", p. 2.

⁶AXA presentation online at http://www.axa.com/axa_info/comfi/PDF/Conf/04-03-22%20CHEUVREUX%20-%20ST.pdf.

Actuarial assumptions such as mortality, morbidity, expenses and income taxes are “best estimates” of future experience.

assets backing liabilities of the in-force covered business. This value is reduced by the value of financial options and guarantees as defined in Principle 7.”

The value of the company’s distribution system, as shown as the value of profits from future business in an actuarial appraisal, is explicitly prohibited from inclusion in embedded value (see Principle 8). Following are some details that help in the calculation of the components of embedded value:

- (1) Liabilities are valued at the regulatory level, while assets are revalued at current market values, resulting in a value of “surplus.” The current required capital is deducted from this surplus value to determine “free surplus” in Principle 4.
- (2) To determine the required capital amount in Principle 5, the present value of future statutory profits is determined on two bases—with and without required capital. In the first case, required capital is calculated at each year-end and any excess capital is released into the profit stream. The difference between these two present values is the present value of required capital, which is the required capital component in Principle 5. The cost of required capital equals the excess of the current required capital over the present value of the same required capital released in future years.
- (3) The present value of in force (PVIF) in Principle 6 equals the present value of future statutory profits calculated above, excluding the impact of required capital.

Table 1

Methodology for Determining Required Capital	Number of Companies
Regulatory minimum	8
Credit rating agency model	3
Internal company model	3
Subtotal	14
Methodology not disclosed	4
Total	18

In Principle 5, the European CFO Forum also established a floor on the amount of required capital included in embedded value calculations equal to the solvency level below which regulators are empowered to take action. Practices vary widely for determining required capital. A survey of 2003 methods for determining required capital is revealed in Table 1.

The popularity of using regulatory minimum capital is expected to continue since Principle 12 requires that the amount and cost of holding capital using the regulators’ minimum solvency standard be disclosed.

Principle 7: “Allowance must be made in the EV for the potential impact on future shareholder cash flows of all financial options and guarantees within the in-force covered business. This allowance must include the time value of financial options and guarantees based on stochastic techniques consistent with the methodology and assumptions used in the underlying embedded value.”

Investment analysts are troubled by the opaqueness of financial statements related to financial options and guarantees. This principle is a direct response to those concerns.

This principle is not focusing solely on options embedded in interest-sensitive products like guaranteed minimum death and income benefits (GMDB and GMIB) or secondary guarantees like policies remaining in force on the condition that target premiums are paid. It also includes material interest rate guarantees in markets like Japan, where investment yields falling below guarantees resulted in insolvencies, and Spain, where guaranteed interest rates on traditional life insurance products are as high as 8 percent, compared to recent bond yields below 5 percent.

The survey of current EV practices of 18 international companies reveals that as few as four calculate the value of financial options and guarantees using stochastic techniques for 2003 EV, so significant stochastic work is expected in Europe before 2004 EV reports are published.

Principle 8: “New business is defined as that arising from the sale of new contracts during the reporting period. The value of new business includes the value of expected renewals on those new contracts and expected future contractual alterations to those new contracts. The EV should only reflect in-force business, which excludes future new business.”

The separation of true new business from renewals is an ambiguous area of EV practice. Some companies considered flexible premium products as single premium policies, with any additional premiums considered as new sales, while other companies projected the most likely level of additional premiums and included this in their PVIF calculations. This principle settles the issue in favor of the later approach. Since very few companies disclose their practices with respect to renewal flexible premiums (two out of 18 surveyed), another area of increased actuarial study is a possibility.

Principle 9: “The assessment of appropriate assumptions for future experience should have regard to past, current and expected future experience and any other relevant data. Changes in future experience should be allowed for in the value of in force when sufficient evidence exists and the changes are reasonably certain. The assumptions should be actively reviewed.”

Actuarial assumptions such as mortality, morbidity, expenses and income taxes need “best estimates” of future experience. Expense assumptions should reflect costs incurred in the holding company and sister companies that relate to the business covered by the embedded value calculation.

Principle 10: “Economic assumptions must be internally consistent and should be consistent with observable, reliable market data. No smoothing of market or account balance values, unrealized gains or investment return is permitted.”

Economic assumptions include assumptions about future asset yields, investment markets, inflation and risk discount rates. Economic assumptions are frequently calculated as the risk-free (10-year government bond) rate plus a margin. A survey of current assumptions compiled by the SOA’s International Experience Survey Working Group is available in the October 2004 edition of *International News*.

Among economic assumptions, risk discount rates (defined as the “return assumed to be required by shareholders”⁷) are the most subjective and are somewhat of a “black box”. Nine of the 18 companies surveyed disclose only the discount rates used, while five disclose only the risk premiums that are added to risk-free returns to determine discount rates. Among the remaining four companies disclosing their methodology to determine discount rates: Allianz used the capital asset pricing model (CAPM), AMP uses market consistent values (MCV), AXA uses an internal economic capital risk adjustment methodology and ING uses the weighted average cost of capital.

Risk premiums (above government rates) are currently in the 2.5 percent to 3.5 percent range for developed countries. A justification for reducing risk premiums was given by Skandia in its 2003 Annual Report:

Table 2

Required Disclosure	Companies Currently Disclosing
Assumptions	18
Methodology	17
Reconciliation of the change in EV over year	16
Sensitivity to assumption changes	17
Reconciliation between EV and GAAP	10
Total Companies Surveyed	18

“The reduction in discount rate reflects the results of a survey of other large multinational life assurance companies publishing embedded values and the fact that risks inherent in financial options and guarantees are now valued explicitly.”⁸

Principle 11: “For participating business the method must make assumptions about future bonus rates and the determination of profit allocation between policyholders and shareholders. These assumptions should be made on a basis consistent with the projection assumptions, established company practice and local market practice.”

European general account products have significant savings elements, and the practice in many markets is to pay bonuses (that is, policyholder dividends or excess interest credits in U.S. nomenclature) based upon pre-bonus performance. This practice is widespread throughout the countries adopting the euro, and in some countries, such as France, Germany, Italy and Switzerland, minimum bonuses are specified by law or countrywide practice.

As an example of this principle in action, German law historically permits companies to retain 10 percent of pre-bonus income, but competitive practice resulted in companies retaining less (as little as 4 percent). Reflecting a change in German law affecting policies issued after 1994, Allianz made the following 2003 EV disclosure:⁹

“Higher long term shareholder participation assumed in the EV model leads to increased (new business) value and margin. The after tax shareholder (German) participation rate is based on 2004 profit plans and results in an increase to above 10 percent.”¹⁰

An interesting aspect of such disclosures is that they can be used as “signals” to the market, much like airlines announce fare increases that are later rescinded if competitors do not match them.

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⁷Basis for Conclusions European Embedded Value Principles, 27.3.

⁸Skandia 2003 Annual Report, p. 75.

⁹Companies may retain up to 10 percent of investment income and a reasonable share of other income, the total may exceed the previous maximum of 10 percent of pre-bonus gross income.

¹⁰Allianz March 19, 2004 Analyst Conference Call, page 52.

BB: I've heard analysts are frustrated that by the time of the analyst conference call, the data is already obsolete. How will the industry deal with this issue?

MF: Accounting systems will need to evolve to the point of providing an instantaneous flow of information and analysis. This means that in the future world, when an analyst asks a question, the company can answer the question with up-to-the-minute data. Companies have a lot to gain from this. Once accounting becomes principle-based, understandable and up-to-date, the cost of capital should decrease.

BB: What type of actuarial skills are needed in this type of environment?

MF: Obviously there is always a need for technical abilities, especially related to valuation systems development. But sound business judgment and communication skills are becoming much more important traits than having the ability to get around rules.

BB: What will be the role of professional actuarial organizations, such as the Society of Actuaries?

MF: These organizations need to keep their eyes on the future in terms of who needs their services and exactly what they need. Then, they need to fine-tune education as needed and be in front of the public. Their major role is to keep their members professional and relevant.

BB: Natasha and I have been looking for the Squirrel and Moose for a long time. Do you think we'll ever succeed?

MF: Actuaries are also concerned about the longer term and the real key is patience. Chances are that if you wait long enough, you'll bump into them and do what you have to do.

BB: But, Natasha and I are well into our retirement years and can't get around as fast as we used to.

MF: Rocky and Bullwinkle are no youngsters, so maybe you'll run into them in a retirement village. And maybe you'll end up friends. By the way, Boris, you look pretty good for your age.

BB: Speaking of retirement villages, I understand that's where the council is putting you once your term ends. How would you like to be remembered and what do you plan to do?

MF: I've really enjoyed the work I've done with the Section Council and would like to stay involved in any manner that makes sense with the new Section Council. But, mostly I'd like to be remembered as the first Section Chair to clean the "smelly green jacket." How would you like to be remembered, Boris?

BB: I want to be remembered as the Russian spy who, along with his wife Natasha, catches Rocky and Bullwinkle. §

>> *European CFO Embedded Value Guidelines from page 5*

Principle 12: "Embedded value results should be disclosed at consolidated group level using a business classification consistent with the primary statements."

The accounting influence is obvious in the European CFO Group's detailed standards for public disclosure of embedded value information. Table 2 compares certain required disclosures with the survey of current practices:

Sensitivities currently disclosed include changes in the discount rate or investment yield (16 each), persistency (10), expenses or mortality/morbidity (six each), and the spread between general account earnings and crediting rates (three).

In addition to these required disclosures, each company must state whether the company is in compliance with the EVM, and if not, identify areas of compliance, provide a subdivision of critical information by groupings (segments) used in primary financial reporting and include a statement by the board of directors.

Conclusions

The European CFO Forum embedded value guidelines are expecting a hearty welcome from readers of embedded value reports. The improved disclosures are particularly appreciated since current practices vary widely among companies, making quantitative comparisons difficult to make, at best. Actuaries are already feeling the impact of the requirement to value embedded options and guarantees, as senior management asks them, sometimes for the first time, to quantify them. The awareness of their cost throughout organizations should improve company pricing and risk management.

The next frontier for embedded value appears to be the valuation of business outside traditional life insurance companies, be it in banks, mutual funds or other legal entities. The guidelines are sufficiently broad to permit companies to cross this frontier by disclosing how they apply the principles. This will be quite interesting to watch. §