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Non-Insurance Valuations in Practice

Prepared by Martin Hall
(Loneragan Edwards & Associates)

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The Institute of Actuaries of Australia
Level 7 Challis House 4 Martin Place
Sydney NSW Australia 2000
Telephone: +61 2 9233 3466 Facsimile: +61 2 9233 3446
Email: insact@actuaries.asn.au Website: www.actuaries.asn.au

Non-Insurance Valuations in Practice

Martin Hall

Director, Lonergan Edwards & Associates

Abstract

This paper sets out some observations about valuation practice outside of the insurance industry and also the practical application of GN552 Economic Valuations in the broader arena.

Keywords: non-insurance valuations; GN552; economic valuations

1 Overview

This paper addresses non-insurance valuation practice, by which I mean valuations outside of the insurance and wealth management industries (life, general, superannuation, etc) – that is outside of the traditional actuarial areas. However, this is quite a broad topic, and my remarks are (in the main) restricted to personal experience, which necessarily means that I will only cover part of the potential scope. The outline is:

- Examples of non-insurance valuations
- Discussion of typical valuation process
- Observations on GN552
- Summary and conclusions

2 Examples of non-insurance valuations

As discussed above, these examples are not exhaustive, but rather representative of normal valuation practice outside of the insurance and wealth management areas.

(a) Independent Experts Report to Shareholders (IER)

These reports are governed by the Policy Statements and Practice Notes issued by the Australian Securities and Investment Commission (ASIC), especially Practice Note 75 “Independent Experts Reports to Shareholders”. IERs are required in certain circumstances (e.g. shareholder approval of a transaction between the company and related parties), and are often sought by the directors of companies defending against a hostile bid.

The purpose of an IER is to advise the shareholders whether an offer is fair (in an acquisition, that the value offered is at least the value of the shares on a 100% ownership basis) or reasonable (on balance should be accepted in the absence of a higher offer).

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In a hostile takeover situation, an IER may have to be prepared in a very limited period of time (possibly as short as two weeks). The short time frame may impose practical limitations on the analyses that can be carried out as part of the valuation process.

(b) Business valuations

These are valuations of a business or of an interest in a business, where the company is unlisted. The purpose of the valuation can vary, but common purposes would include:

- transaction support (to assist buyers and/or sellers)
- taxation support (for values adopted, e.g. in internal or related party transactions)
- litigation support (disputes over value, family law settlement, etc)
- financial reporting (unlisted securities revalued in the accounts).

(c) Economic loss valuation

This involves estimating the financial value of the results of an action or omission. Typically, this arises in the context of litigation and is an estimate of the amount of damages that would place the complainant in the same position he or she would have been “but for” the adverse behaviour.

(d) Valuation of employee options

AASB2 Share-based Payments (applicable for annual reporting periods commencing on or after 1 January 2005) requires the calculation of the fair value of employee options for financial reporting, and ASIC has permitted companies to disclose executive remuneration for earlier periods by calculating the value of options granted in line with AASB2.

Although this accounting standard is expressed as fair value, there are many restrictions (and prescriptions) on how the options are to be valued. For instance, some factors (e.g. non-market vesting conditions, such as service requirement) are considered to affect the expected number of options exercised rather than the fair value of each option.

There is specific IAA guidance on the valuation of share-based payments in GN510, and accordingly I will not address this area in detail.

3 Typical process (excluding option valuations)

The process for estimating value obviously depends on the nature of the valuation. However, excluding option valuations (which are done using option pricing

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methodology, often a binomial lattice), there are some common elements to the process.

(a) Imprecise data

In the fields where actuaries commonly practice, past activities (e.g. insurance contracts written) have substantial impacts on future cash flows, which are estimable (to a greater or lesser degree) on a statistical basis. Embedded value projections for life insurers would be an obvious example of this from traditional actuarial practice. By contrast, future cash flows in most other industries will depend largely on future events, so that there is significantly less precise data upon which to base projections of future outcomes. Estimates of the cash flow impact of adverse events (economic losses) are usually even less precise. In addition, the relationship between investment market behaviour and cash flow outcomes is generally imprecise, unlike many investment-based businesses. Accordingly, I have never seen the more sophisticated techniques outlined in GN552 (e.g. stochastic modelling) being applied to valuations outside of the insurance and wealth management areas.

Typically, there will be historic information plus (at best) management forecasts and/or budgets in relation to future performance. These forecasts (or in the alternative, projections derived from historical data) would generally not be true statistical means of the (unknown) distribution of possible future outcomes, since they rarely would have adequate allowance for adverse factors such as:

- competitor reaction
- natural limits of the market
- customer resistance
- unexpected developments
- regulatory changes.

The risk adjustments in non-insurance valuations can therefore include an element which is effectively an offset to the upward bias inherent in most management forecasts.

(b) Methodology

The most common methods applied in practice are in the categories described by GN552 as ratio methods and risk premium methods. For instance, most IER's would include an earnings multiple valuation (such as P/E multiple or EBIT multiple), either as the primary valuation method or as a check on the primary method. Earnings multiples are favoured because they are fairly robust measures, relying on readily available base information (historic or forecast earnings, albeit with adjustments to estimate the maintainable earnings level as discussed in GN552) and have widely available comparative multiples (multiples for listed shares, transaction multiples for other acquisitions, etc). It is critical that the basis used is consistent between valuation and comparatives (i.e. both historic or both forecast – with forecast multiples being a significantly superior approach in general).

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Another very common valuation method is discounted cash flow (DCF). These valuations involve calculating value based on a projection of future cash flows, discounted at a rate which includes allowance for time value and risk. The valuer will generally base their projection on available data, such as management forecasts and/or historical data, adjusted to maintainable level (e.g. excluding non-recurring items, adjusting differences in expectation, etc). In my experience, there will not be sufficient information to form a true statistical best estimate of future cash flows (adjusted for probability of various shocks, etc). Accordingly the usual method is to use a base-line projection based on available data and implicitly allow for potential upwards bias (as well as market risk premium) in the discount rate. This is categorised as a “risk premium” method by GN552. These are particularly common in relation to limited life assets (e.g. mining asset valuations or economic loss value calculations). Where there are two or more identifiable cash flows streams with different risk characteristics, each is valued separately (at its appropriate discount rate) – an example might be the cash flows associated with a significant new project.

Earnings multiple methods can be considered as equivalent to DCF valuations under simplifying assumptions (such as constant growth rate and consistent cash flow to earnings relationship). The other methods noted in GN552 under ratio methods (stock ratios and flow ratios) are not generally considered more than approximate or “rule of thumb” valuation approaches, to be used (at best) as reasonableness checks on other methods.

Risk neutral and certainty equivalent methods are rare outside of specific circumstances. The most common of these is valuing options (e.g. employee options) and embedded options. The main other circumstance where these approaches are used (though less often than they should be) is the use of certainty equivalent prices from actively traded forward markets for future prices of commodities (e.g. gold) or foreign currencies. Thus the valuation of a gold mining company should value the future gold production using the forward prices (which are market-supplied certainty equivalent prices) to convert ounces into dollars. There will, however, be residual uncertainty as to volume and costs of production, especially since the volume of production will respond to prices (albeit with a lag, due the difficulties involved with changing production levels). When **all** risks have been reflected in the certainty equivalent adjustment, then the discount rate for the certainty equivalent cash flows will be the risk free rate, as suggested by GN552. If some risks are not reflected, then there may still be a risk premium in the discount rate.

I have never seen asset replication methods as described in GN552 used in practice (neither for insurance or non-insurance valuations), though in theory most valuation is about separating assets into component elements which can be valued by direct comparison with actively traded assets. Of course, it is important to note that the replication must work in all circumstances – an asset which has different transaction costs (or different embedded options) will have a different value, even if the projected cash flows are the same in the “business as usual” scenario.

The main valuation technique often seen in practice, but not mentioned by GN552, is the separate valuation of assets not used in the business (surplus assets in valuation

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terminology) at market value (for instance, surplus property or other investments valued at market price), with corresponding adjustment to projected earnings to exclude earnings on the surplus assets. This presumably is outside the scope of GN552, since it is not an “economic valuation” process.

(c) Discount for lack of negotiability

It is common valuation practice to apply a discount for lack of negotiability on assets such as shares in unlisted companies, when the comparative data used to derive the base valuation is from shares in listed companies. This is justified on two bases:

(i) empirical evidence

There is considerable evidence (mostly from US studies on restricted stocks) that indicates a considerable gap between the prices for listed shares and equivalent interests, which cannot be traded (or not traded for a period of time).

(ii) additional transaction costs/loss of flexibility

An owner of listed shares can generally exit (and redeploy its capital) relatively rapidly with minimal loss of value in transaction costs (e.g. brokerage, buy/sell spread, etc). By contrast, the owner of unlisted shares will have a more expensive and time consuming process to find a buyer (and to convince them of the value of the shares) and therefore has an asset of lesser value, even if the benefits of continuing to hold the asset were the same. The lack of negotiability (and associated transaction costs) is effectively a limitation on the option to exit.

A discount of this type is necessary to adjust comparative data based on negotiable assets (often the only data publicly available) to apply it to less negotiable assets.

(d) Minority discount/ Premium for control

It is common valuation practice to recognise the difference between control value and minority interest value, i.e. that the value of a 1% interest is less than 1/100 of the value of the whole entity. This is observable in the premium (known as control premium) at which shares trade in a takeover compared to the normal minority interest trading price. Full control provides a number of benefits including operational and strategic control, access to the underlying cash flows and the ability to consolidate for tax purposes. By contrast, minority shareholders have to rely on dividends declared for their return (both immediate return and also value at exit), and have a qualitatively and quantitatively different asset. Accordingly, comparatives taken from trading in listed (minority interest) shares needs to be adjusted upwards when valuing a complete entity, whereas value calculated for a whole entity needs to

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be adjusted downwards (by more than the pro-rata reduction) when applied to a minority interest.

Empirical evidence is that average control premium in takeovers are in the range of 30%-35% (roughly equivalent to a 25% discount). However, the difference between minority and control values can vary substantially according to the particular circumstances. Direct estimation of the value of the cash flows accruing from the asset held (i.e. dividends receivable for a minority interest or share of underlying business cash flows for a controlling interest) is the best method of calculating value. In certain circumstances, e.g. where minority values are estimated from known value of entire business (e.g. market value of underlying assets), it may be necessary to estimate minority interest indirectly, and some subjective judgement is required.

4 Observations on GN552

GN552 applies to any economic valuation by a member.

(a) Economic Value

GN552 defines the term Economic Value as *“the present value or cash equivalent at the valuation date (allowing for time and risk) of all the future cashflows and/or other measures of value that are expected to be derived from the ownership or use of an economic asset for the specified purpose.”*

This economic value is distinguished from market value and fair value, and GN552 notes that an economic valuation may be an element in determining market value or fair value. GN552 gives examples of factors that would affect market value, but not necessarily economic value:

- current state of markets
- current sentiment of markets
- transaction specific factors.

The GN552 definition of Economic Value is unusual in two respects:

- (i) it is separated from market value; and
- (ii) it specifically refers to value *“for the specified purpose.”*

The separation of economic value (the subject of the guidance note) from market value (the real world) is a fundamental problem with the guidance note. If the actuary is not estimating a market value, how are any of the methods outlined in GN552 supposed to be calibrated? For instance, the asset replication method outlined would necessarily produce a market value for the replicated asset, if an exact match of cash flows (under all circumstances, including early sale) could be found. Similarly, the techniques of modern financial economics (e.g. certainty equivalent or risk neutral valuation) are designed to estimate market values, by calibration to observable market values of traded assets. It is my understanding that calibration to observable market values is the *“same theoretical foundation”* noted by GN552 p7 as the reason why all

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economic valuation methods should produce the same economic value. In practice any valuation methodology should be calibrated to market data – for instance a risk discount rate should be set by reference to market discount rates or rates of return on assets with similar risks. The only question may be whether the valuation is calibrated directly to current market conditions or to longer term averages with a reasonableness check against current market values. In circumstances where there is not an active market, observed prices are not necessarily willing buyer, willing seller prices (for instance second-hand plant and machinery auction prices) – so that fair market price may not be the most recent observed price.

If the economic value is not calibrated to fair market values, then it is not clear what use it will be. A non-actuarial valuer commented to me that “economic value” not linked to market conditions is like a “good fairy value”, that is the value you would get if you didn’t have to operate in the real world. Conversely, if economic value **is** calibrated to market values, why not call it a market value estimation process?

In my opinion GN552, when properly applied (i.e. with methodologies appropriately calibrated), should produce an estimate of fair market value. This may be a longer term view on value if the calibration of the methodology is to longer term averages, but this approach to value is valid if appropriately disclosed. So why hide behind an “economic value” fig leaf?

One consequence of GN552 only applying to economic valuations, which are defined not to be estimates of market value, is that most non-insurance valuation work is not technically covered by the guidance note, since such valuations are typically directed to estimating either market value, fair value or fair market value.

In addition, GN552 as defined only applies to a valuation in relation to ownership or use “*for the specified purpose*”. Hence it is arguable that a valuation without a specified purpose for use of the asset is not an economic valuation, but an assessment of a series of economic valuations (for each purpose).

(b) Other observations

GN552 shows a few signs of having been developed by generalising the more specific standard on life insurance valuations (GN252). Examples include the reference to stratified sampling (model points).

Other than the key issue about calibration to market, however, the material in GN552 is generally useful for the inexperienced practitioner (and as a checklist for the more experienced), although the level of detail in many areas is excessive for industries lacking the more precise data available for insurance valuations.

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5 Summary

As currently worded, GN552 has virtually defined itself out of application to non-insurance valuations. This may be convenient in a litigious environment, since it avoids any need to explicitly either comply or disclose non-compliance in many valuation reports.

However, by creating an impression that actuaries calculate economic values that are not market values, I feel the guidance note does the profession a disservice. It would be better in the long run to explicitly discuss calibration of valuation methodologies to the market in the guidance and call a market valuation a market valuation.