Institute of Actuaries of Australia

PIDO – Challenges for the Actuary

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Abstract

Key words: Professional indemnity, D&O, claims cycle, reserving

The paper is intended to assist actuaries faced with assessing PI/D&O portfolios to understand the nature of coverage, important claim drivers and characteristics which need to be considered in pricing, reserving and in making assessments of financial condition.

The paper will cover:

- nature of coverage offered by insurers
- the marketplace (size, insurers, changes)
- historical market performance / profitability
- key actuarial reserving issues
- claim development patterns
- key drivers of claims and the claims cycle
- challenges for the actuary.

Summary

Premiums and Profitability

The Professional Indemnity and Directors & Officers (PIDO, also called Professional Lines or Financial Lines) classes comprise around $950 million GWP in Australia currently (excluding medical indemnity). D&O represents approximately $250 million of this figure. PIDO premium, adjusted for growth in GDP, has increased by around 60% over the last 15 years and the market is still growing.

Overall the market has been very profitable in the post HIH period (post 2001), when rates hardened, coverage tightened and economic circumstances were favourable. Loss ratios may have averaged about 60% post 2001. In contrast loss ratios may have averaged about 90% in the ten years leading up to the collapse of HIH.

In recent years the market has softened considerably. We estimate loss ratios may have increased from around 40% in 2003 to nearer 70% currently, before allowing for deterioration in claims flowing from the financial crisis. Once allowance is made for these claims, it is likely that current premiums are inadequate, on average, although performance varies markedly by segment.

Nature of Claims

Characteristics of PIDO claims include:

- The business is written on a claims made basis, although late reported claims can emerge in some circumstances
- Claims tend to be lumpy, especially, but not only, for D&O. Relative to other classes, more of the cost is tied up in large claims. Often "liability" will be in dispute, with only a low proportion of notifications resulting in a cost (besides legals etc)
- There is a significant component of systemic claims risk - claims vary materially according to the phase of the economic cycle. The key driver of costs can differ for different types of profession and company (for example, claims costs for Valuers are linked to property values whilst Financial Advisers may be more closely aligned with the share market).

These characteristics provide challenges for the actuary, some of which we deal with in this paper.

Important recent claim issues include:

- Costs emerging under the provision of "Side C" coverage under D&O risks for listed companies – this coverage, which became standard in the latest soft market, can respond to securities actions linked to non-disclosure. Coupled with the emergence of class actions (funded by litigation funding companies [1]) a number of

[1] IMF is the largest litigation funder in Australia. See website: www.imf.com.au

substantial claims have emerged. The recent settlement of the Aristocrat claim, reportedly for an amount of around $145 million ($100 million insured), is one such example. Other claims are in process. Given the D&O premium pool of around $250 million, then it may be that either Side C coverage needs to be provided on a more limited basis, or premiums will need to rise significantly.

- The introduction of proportionality – it is hoped this may have a material benefit on PI claims costs, although at this stage not many cases have been run and it is not clear to us that there is a strong culture of reflecting proportionality in claim settlements. Whilst the average claim cost will reduce, it is expected that the number of notifications will increase, but with an overall saving.

- Besides proportionality, and some gains around the edges on the "causation" provisions, we understand that tort reform savings have been limited.

- The current financial crisis provides the likelihood of significant deterioration in claims costs. Whilst there have been pockets where notifications have increased (Valuers, Real Estate Agents, Mortgage Brokers, Financial Advisers and the like), it is too early to quantify what the impact on claims costs will be in Australia.

Actuarial Reserving Issues

We have addressed the following reserving issues in this paper:

1. The reserving cycle, and what can be done to limit it
2. The treatment of the business as claims made for reserving.

The Reserving Cycle

Data provided by APRA shows that insurers have released around $300 to $500 million in PIDO claims reserves in the last three years. A number of underwriters that we have spoken to assert that the reserve releases are acting to hold back necessary price increases that would otherwise emerge.

This raises the question of whether the reserve release should have emerged sooner – are actuaries contributing to the pricing cycle because of the way they reserve for this business?

Our view is that there may be too much reliance by some actuaries on a pure Bornhuetter-Ferguson approach (BF) – ie, where the loss ratio responds only to changes in pricing levels. In the context of central estimate reserving, the pure BF methodology does not deal well with classes subject to significant levels of systemic claims risk.

We propose that where the BF methodology is being used for PIDO, then in addition to using a price index to normalise premiums for price movements, the method include allowance for a claims index to adjust for changes in the claims cycle. This means that instead of using a loss ratio (normalised for price movements) of say 70% for every year, the loss ratio would vary by year from say a low of 50% up to a high of 100%, depending on the phase of the claims cycle in that year (eg. at the current time the current year would probably be assessed as worse than average).

Inevitably the proposed approach would lead to more volatility in the actuaries' estimates of the claims liabilities. In effect the BF methodology in its pure form is smoothing claims costs across the claims cycle (overstating in the good years and understating in the bad years), whereas we are proposing a methodology that is more responsive to those phases.

Claims Made Reserving

Actuaries typically reserve PIDO assuming the coverage is pure claims made, since the coverage is provided on this basis. However, we have considered whether this is appropriate having regard to:

- The implications of Section 54 of the Insurance Contracts Act which continues to see some late notified incidents allocated to old policy years
- The wide market practice of offering "continuous coverage" – in effect late reported clams are allowed if the policy is renewed with the same insurer
- The provision of run-off coverage to retiring directors and professionals, or change ownership of a firm.

For reasons set out in the paper, we believe that in most circumstances it is reasonable to treat the business as pure claims made, subject to a few clarifying questions that it would be appropriate to ask the claim manager and underwriter.

Other Challenges

Actuaries have generally had less involvement in PIDO than other classes of business. This is likely to be due to a number of factors including the heterogeneity and complexity of risks, limited data and rapidly changing risk and claims environment.

In this paper we have identified challenges for actuaries to increase their contribution to the management of this complex class of business:

Such challenges include consideration of key issues including:

- incorporating the claims cycle, large loss experience, systemic and catastrophic risk in pricing and monitoring
- monitoring of exposure and price movement
- robust scenario testing
- appropriate allocation of capital
- management of aggregate exposures.

The remainder of this paper is divided into the following sections:

1. **Introduction** – outlines our objective, scope and approach of the paper
2. **The Market** – provides background on the PIDO market in Australia
3. **Actuarial Reserving Issues** – the key reserving issues facing actuaries for PIDO
4. **Current Challenges** – challenges facing PIDO insurers in the current environment.

1. Introduction

Objectives of Paper

Our objectives for this paper are to:

- provide actuaries with an overview of the professional indemnity and directors & officers (PIDO) **market** including the profile, historical profitability, key drivers of claims cost and the current challenges in the market ***(Section 2***)
- consider the **actuarial reserving challenges** faced by actuaries with some suggested solutions ***(Section 3)***
- consider the **other challenges** facing PIDO insurers in the current environment ***(Section 4).***

Scope

Our paper focuses on professional indemnity (PI) and directors and officers insurance (D&O) in Australia. We have excluded medical indemnity, which is, in effect, a class of its own that has been the subject of previous papers[2]. It is unfortunate that APRA do not report these segments separately. We have aimed to cover D&O for both public and private companies. However, in considering the current challenges in Section 4 we have focussed in particular on public D&O insurance, which appears to be the segment presenting the biggest challenges in the current environment.

Our Approach

Our approach for preparing this paper was as follows:

- review the relevant **literature** available to gain an understanding of the history and background to this class
- review the **publicly available information** to assess the market size and profitability
- study the **drivers** of historical claim levels
- **interview** underwriters, claim managers, brokers, reinsurers and lawyers working directly in this field to gain a broader understanding of the market, the drivers of claims and the current issues facing PIDO insurers.

Disclaimer

The views expressed in this paper are the views of the authors and do not necessarily reflect the views of their companies.

We have made some generalisations and could be criticised for omitting important detail in some of our discussion. However our intention for this paper has been to assist actuaries form a greater understanding of the *material* issues and challenges of PIDO insurance from an actuarial perspective – the paper is not a legal perspective on current issues.

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[2] Eg, Medical Indemnity in Australia - Harrex, Johnston, Pearson – 2001

2. The Market

The areas covered in this section are:

- The profile of the market
- The historical profitability
- The drivers of claims costs
- The current issues.

Profile

PIDO is a specialist form of liability insurance which protects the insured for liability arising out of claims from third parties (usually clients, shareholders or employees) due to a breach of duty.

- PI protects companies or individuals providing professional advice in respect of a breach of professional duty
- D&O insurance provides financial protection for the directors and officers as a result of a 'wrongful act' (i.e. management errors and omissions) committed in performing their duties.

The PIDO class comprises of around $950 million gross written premium in Australia currently (excluding medical indemnity). D&O represents approximately $250 million of this figure. These figures exclude business placed directly overseas. In addition a number of professional service firms and some companies self insure their liabilities and this premium is excluded also.

Over the past 5 years there has been significant growth in the number of insurers active in the PIDO market. Hence there is currently plenty of capacity for most types of insured. This supply of capacity has not yet been materially impacted by the current financial crisis and competition remains strong. We understand that currently the only main professional groups struggling to obtain cover are financial planners and to a lesser extent property valuers.

Market participants include the US insurers, who have a significant share of the D&O market, Lloyds and most of the Australian multi-line insurers. There are also a number of underwriting agencies, some backed by capacity overseas. For some professions specialised insurers have been set up to provide PI to particular industries (for example the legal profession). There are also a number of broker managed schemes for the members of certain associations.

“FI” is a term that is commonly used in the market and relates to PIDO specifically for financial institutions. Insurers tend to separately manage FI due to the tailored products provided, the higher risk of this segment and hence the specialised knowledge required to underwrite it. For reserving purposes it is usually combined with the other PI and D&O policies as it is simply a separate segment of the portfolio.

Limits and coverage have expanded considerably in the current soft market conditions. For D&O the highest programmes provide coverage of around $200 million, which is large, especially in the context of the available premium pool of around $250 million.

PIDO is considered a voluntary insurance, although almost all professionals and listed companies have some level of cover. There are some professions which are required by legislation to hold PI (legal, insurance brokers and medical indemnity) and for some it is a requirement for membership of a professional body (for example actuaries and accountants). Government agencies and contractors also require PI. Private D&O penetration is quite limited as most unlisted companies do not recognise the need for or value the cover.

Our impression is that although most professionals have some PI insurance, they tend to buy the minimum cover required which reflects their contractual/legislative obligations.

PIDO policies in Australia are written on a claims made basis, providing indemnity for claims made and notified to the insurer during the policy period. This facilitates a shorter tail than occurrence based cover and removes any issues with determining when the occurrence took place.

For D&O insurance it is useful to understand the extent of cover which is generally offered to companies. There are 3 levels of cover offered, as outlined below:

a) coverage for <u>directors and officers</u> for their legal liability in performing their duties, when not indemnified by the company – referred to as “Side A” cover

b) <u>reimbursement</u> of companies for the indemnity granted to their directors and officers in relation to a claim made against the director or officer – “Side B” cover

c) coverage for listed companies where claims are made against the <u>company</u> mostly in relation to their securities – “Side C” cover. This is a relatively new addition to D&O policies only becoming standard in the recent soft market. Costs emerging under Side C cover are discussed later in the paper.

A brief history

It is surprising given the availability and competitiveness of PIDO in the market place today that PIDO have only developed as products over the last 30-40 years. PI only began to emerge as a new product from the 1960’s onwards, after common law began to expand liability for professional negligence. D&O was first offered in 1975, but there was little demand for this product until the 1990’s.

The history of PIDO in the market is summaried below (more detail can be found in Appendix A):

1960-90’s	Development of PIDO, mainly capacity from the London Market. The market was hard and coverage was modest. The end of the 1980’s saw volatile economic conditions with the property and stock market crash, followed by the recession.
Early 1990’s	The recession continued, leading to contraction in the market.

Late 1990's	Good economic conditions returned, leading to significant international entrants and competition. Premiums softened and coverage expanded.
2000 - 2005	HIH collapsed producing a hard market with contracting players due to M&A's
2006 - 2007	The benign economic conditions and strong equity markets produced significant increase in players, competition and a soft market, leading to coverage expansions again (e.g. Side C cover)
2008 (now)	Financial turmoil has seen the market showing some signs of hardening.

Performance

Key Findings

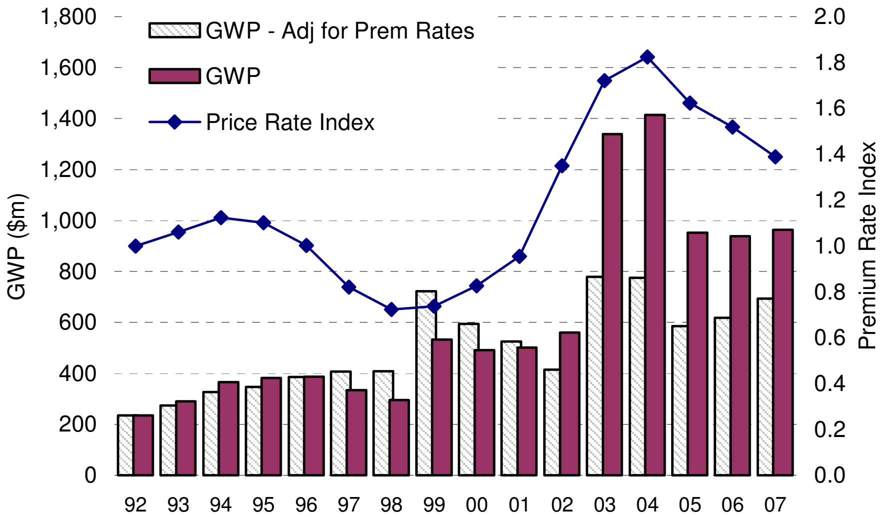
The key findings from our analysis or recent performance, as presented below, are that:

- PIDO penetration, adjusted for growth in GDP, has increased by around 60% over the last 15 years
- Loss ratios may have increased from around 40% in 2003 to nearer to 70% currently. These estimates are before allowance is made for any deterioration in claims flowing from the financial crisis
- Allowing for the impact of the financial crisis on claim costs, it is likely that recent premium levels are inadequate, on average, although performance will continue to vary markedly by segment
- There may be further reserve releases that absorb some of the deterioration in profitability, although it is unlikely they will be as high as in recent years.

Exposure

Gross written premium has grown significantly for PIDO since the early 1990's, from around \$0.2 billion written in 1992 to \$1.4 billion at the peak of hard market in 2004. The table below shows the trend in premium growth alongside an estimated price rate index over this period. Premium normalised for the change in premium rates is also shown in the figure below.

Figure 2.1 – Premium Trends



Source: APRA Statistics, JP Morgan Surveys

Note that there are some limitations to the information shown above:

- The price index is based largely on underwriter views, rather than on any quantitative analysis, and hence provides only an indication of price changes
- The premium is distorted in 1999 by an 18 month reporting period for HIH
- In 2001 and 2002 the collapse of HIH led to some under-reporting of the industry premium.
- Finally, we needed to make some approximations in removing the medical indemnity premiums from the data.

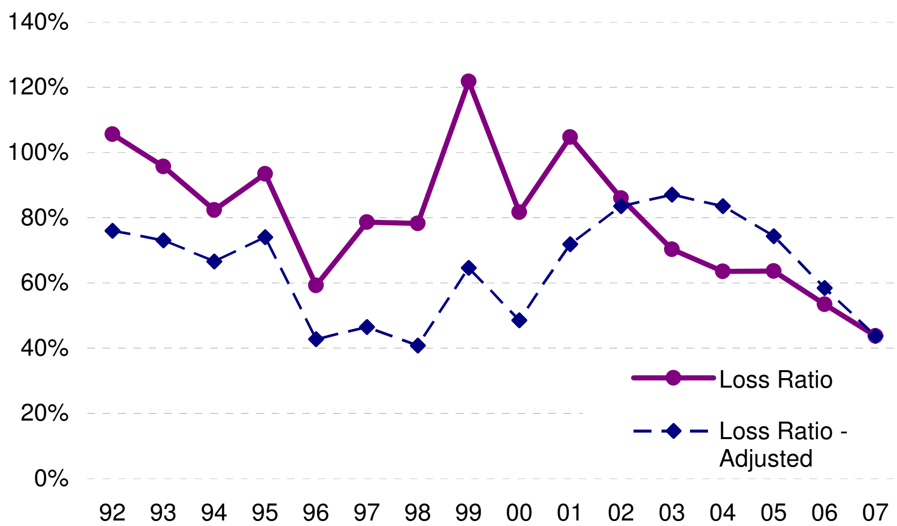
Despite its limitations the graph provides a useful indication of trends in market exposure. There was moderate growth in premium volumes in the late 90's. After the collapse of HIH in 2001 there were significant premium rate increases (around 30% per annum for 3 years), producing a big jump in premium volumes in 2003 and 2004. Note however that the graph overstates the increase in 2003, due to the missing exposure in 2002. Even though rates have been falling sharply since 2004, the 2005-2007 premium volumes have been stable suggesting underlying growth.

Overall we estimate that the market premium pool has increased by around 60% over the last 15 years, when expressed on a per GDP basis.

Financial Year Loss Ratios

Historical net loss ratios on an accounting (i.e. "financial year") basis are shown in the figure below. We have included an additional series normalising the loss ratios to the 2007 premium rate levels, to show the underlying trend in reported losses.

Figure 2.2 – Historical Loss Ratio Trends



Source: APRA Statistics

It is important to recognise that the reported financial year performance is impacted by prior years' claims reserve movements, and will typically lag and smooth the underlying claim trends. Hence, in interpreting the results we consider the results in terms of the average performance across a number of years, rather than a specific year's performance. We present notification year results later in this section, although the time period covered is shorter than in Figure 2.2.

Prior to the HIH collapse in 2001 the loss ratios reported were quite poor, averaging about 90%. Since 2001 the class has been more profitable with the reported loss ratio falling to an average of around 60%. When we adjust the experience to current premium rates:

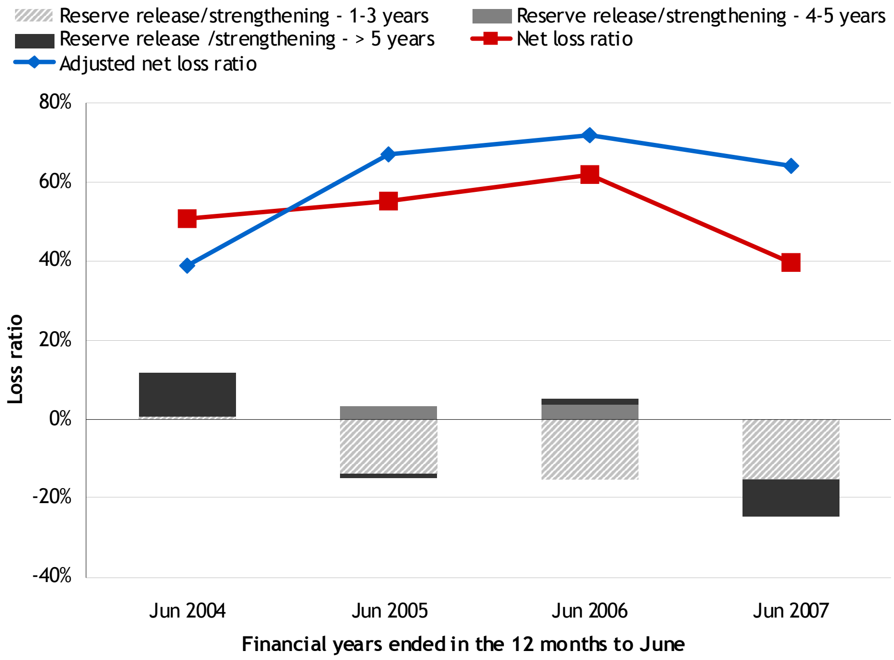
- the average loss ratio across all years is approximately 65%
- the 2001 and prior experience shows a loss ratio that is about 10% lower, on average, than post-2001.

Reserve releases

Since 2004, the loss ratios reported to the market have been reducing even though premium rates have reduced. The lower reported loss ratios are driven by releases in claims reserves which have occurred over the recent years.

In order to understand the impact of these reserve releases on reported loss ratios, we refer to data provided by APRA as presented below. The 'Adjusted net loss ratio' in the figure below removes the releases/strengthening in actuarial reserves.

Figure 2.3 – PIDO Reserve Releases



Source: Half Yearly General Insurance Bulletin, APRA Insight, additional data

There have been significant reserve releases in the 3 years to June 2007 (potentially around \$300 to \$500 million for PIDO). The releases represent 10-25% of the annual loss ratios.

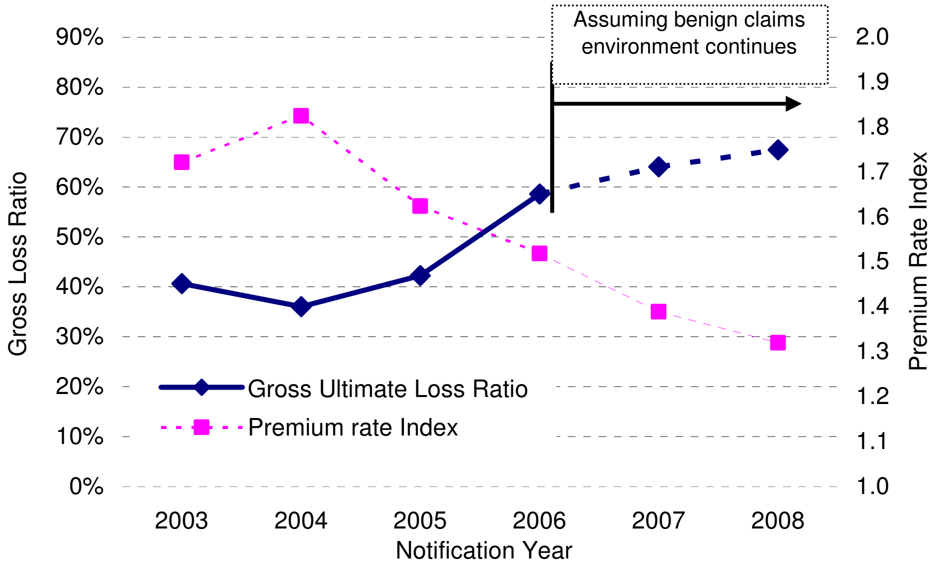
The APRA figures raises the question of what reserve releases are still to come? This is a difficult question to answer with the available information. A common view expressed in the industry is that the period of reserve releases has finished. This is a plausible view, although our assessment is that there are probably more releases to come, but they will be less than experienced in the period to June 2007.

Notification Year Loss Ratios

The reported financial year loss ratios provide a lagged (and smoothed) view of performance due to the impact of prior years' claims. For this reason we have analysed the data released from APRA's National Claims and Policy Database (NCPD) to estimate *indicative* ultimate loss ratios for PIDO by notification year. Unfortunately there is only industry wide data available for the 2003-2006 notification years, and the data includes medical indemnity experience, which may distort the results.

We have also estimated the 2007 and 2008 loss ratios based on benign economic conditions, i.e. only taking into account premium rate changes.

Figure 2.4 – Ultimate Loss Ratios by notification year



Source: Finity's estimates of the ultimate loss ratio based on data from NCPD 'Overview of Professional Indemnity and Public and Product Liability Insurance', Issued 5 September 2007.

The projected ultimate loss ratio for the 2003 and 2004 years is approximately 40%, reflecting the benign economic conditions during the hard market. The upwards trend in estimated loss ratios for the 2005 and 2006 years are broadly consistent with the premium rate changes assumed in these years.

Current Profitability

Our starting point in assessing profitability is the estimated loss ratios for the 2007 and 2008 years, assuming claim costs are consistent with the benign conditions that existed up to 2006. After adjusting for premium rate movements the loss ratios are estimated at 65-70%. Incorporating expenses and an allowance for profit margin this suggests that in aggregate premiums were at borderline adequacy for a benign economic environment. Given the deteriorating financial and claims conditions it seems likely that current premiums are inadequate, in aggregate.

Drivers of Claims Costs

PIDO claims vary materially according to the phase of the economic cycle, resulting in a significant component of systemic claims risk. The key driver of costs can differ for different types of professions and companies. For example, claims costs for Valuers are linked to property values, Financial Advisers and Financial Institutions may be more closely aligned with the share market.

For many claims the only cost will relate to legal costs, which represent a high proportion of the total claims cost (approximately 20% for PI and lower for D&O due to the higher claim severity). Only a small number of notifications will result in a cost other than legal fees. This leads to very lumpy claims experience, which is amplified for D&O books considering the size of settlements which can eventuate. Relative to other classes, more of the cost is tied up in large claims.

We attempted to use publicly available information to assess the relationship between the total market PIDO losses and economic conditions (comparing the reported loss ratios to changes in equity values, house price indices, unemployment and interest rates). The analysis is not shown here as there were no clear relationships evident. We believe there are probably several reasons for this -

- the delay from the "economic incident" to the notification of claims, even though the coverage is claims made. This is due to the cascading effect of claims. For example, a company is sued first and then the company will sue their professional advisers etc. This can mean that notifications can be reported to insurers well after the event occurred
- the delay from notification to the development of claims cost. This means that the reported loss ratios lag and smooth the actual notification year claims cost
- as the claim drivers vary for different segments (eg. accountants versus engineers), there is an element of diversification which smoothes the experience.

We believe analysis separated by profession, and by notification year would give a clearer picture of the relationships. Unfortunately this data is not publicly available.

Current Issues

Since the market has softened considerably in recent years it raises concerns about profitability of the business at the current time. Important recent claim issues include:

- The **current financial crisis** provides the likelihood of significant deterioration in claims costs. Whilst there have been pockets where notifications have increased (Valuers, Real Estate Agents, Mortgage Brokers, Financial Advisers and class actions) it is too early to quantify the impact on claims costs in Australia. The cascading effect we described in the previous section may mean costs will continue to emerge for several years. While the situation is more severe in the US, it is interesting to note that the current projections of the D&O losses from the subprime crisis are estimated to be in the order of $8 billion
- There has been a significant increase in **class actions** over the past couple of years. This has been driven by the availability of litigation funding and the difficulties companies face maintaining continuous disclosure requirements. Litigation funding is where a company (i.e. the litigation funding company - LFC) pays the cost of the litigation and accepts the risk of paying the costs if the case fails. In return, if the case succeeds, the LFC is paid a share of the proceeds under an agreement with the plaintiffs
- The provision of **"Side C"** coverage under D&O risks for listed companies has seen the emergence of a number of substantial claims, mainly class actions. This coverage can respond to securities actions linked to non-disclosure. The recent settlement of the Aristocrat claim for an amount of around $145 million ($100 million insured) is one such example. Multiplex is another that is underway. The fallout from the US credit crunch has already hit Australia, with class actions already launched against Centro, MFS and potentially Allco Finance Group.

Given a premium pool of around $250 million, then it would appear that either Side C coverage needs to be provided on a more limited basis, or premiums will need to rise significantly. A common view expressed by underwriters we spoke to is that Side C cover is not sustainable in its current form, although companies will still want this cover. One possible (likely?) outcome is an explicit pricing of Side C and changes in the level of cover provided (eg co-insurance, sub-limits).

- **Tort reform** has had a limited impact for PIDO, except in terms of proportionate liability and potentially causation
  - The introduction of **proportionate liability** legislation is expected to have a material benefit on PI claims costs. There is some discussion of real benefits emerging, although at this stage few cases have been run and there does not yet appear to be a strong culture of reflecting proportionality in claim settlements. While proportionality has the potential to reduce the quantum of individual claims, there is likely to be an increase in claim incidence as claimants seek more professionals to recover from
  - The new requirements for "**causation**" could deliver some benefits. This is the requirement where the plaintiff bears the burden of proof. For example, a plaintiff now requires some proof that they would have purchased an investment property had they not been advised to invest money in shares which fell in value.

3. Actuarial Reserving Issues

The issues covered in this section include:

1. Nature of case reserves
2. Factors to consider in selecting a loss development pattern
3. The reserving cycle, and what can be done to reduce its impact
4. The treatment of the business as claims made for reserving.

Nature of Case Reserves

Typically only a small proportion of PIDO notifications ultimately become a claim (i.e where there is a formal claim for compensation), although this will vary by portfolio. Often there will be a delay of a number of years between notification of the matter and when it becomes a claim. Of those matters that become a claim, typically most (or many) will be resolved for legal (etc) costs only, as liability is often in dispute. These characteristics provide a number of challenges for establishing case reserves:

- How to estimate the cost of notifications that have not yet become a claim, and probably will not ever become one, and in respect of which the information available to assess liability and quantum is probably limited.
- How to estimate the cost of claims, where there is a good chance the action will be unsuccessful.
- How much to allow for legal costs.

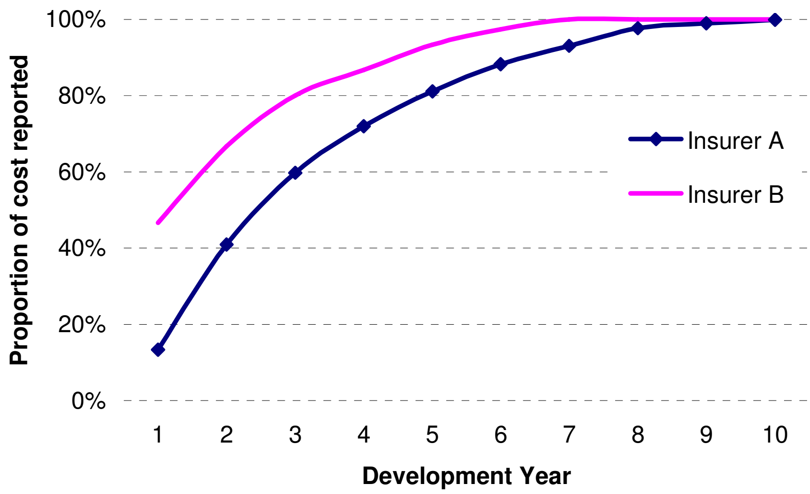
The challenges are exacerbated for D&O, where the claim can sometimes be very large (>$100 million), if successful.

For the purpose of assessing portfolio reserve adequacy, it may be useful to consider the large matters using a probabilistic basis – ie. for each claim, assessing the cost if it is successful and assigning that cost a probability. These probability adjusted costs can then be combined for all claims. This enables consideration of the liability recognising that only some of the claims will be successful (which is very difficult to allow for at the individual case reserving stage).

Loss Development Pattern

Figure 3.1 shows the loss development pattern for two insurers:

Figure 3.1 – Loss Development Patterns



These patterns are indicative and do not necessarily represent the full range possible from slow to fast. Some insurers experience reasonably fast development (in the context of a long tailed class), such as Insurer B. This may reflect the claims made nature of the business, and that for the nature of the portfolio written by this insurer there is only a limited (or no) delay between matters being notified and emerging as claims.

Often, there will be limited data on which to establish a loss development pattern. The types of matters the actuary might consider and which could impact the speed of loss development include:

- the basis on which case reserves have been established
  - the matters listed above under the "Nature of case reserves" heading provide a useful starting point for matters to explore with the claims manager
  - it is ideal where the actuary can meet with the claims team to discuss the reserving approach for the most complicated matters
  - allowance made for inflation
- the layers underwritten – higher layers will tend to develop more slowly – ideally excess layers should be reserved for separately
- for the main types of claim the portfolio is subject to, the delays that might exist between reporting of notifications and their transition to claims (for some professions this is often instantaneous)
- D&O costs will develop more slowly than PI (for most professions)

The Reserving Cycle

A number of underwriters that we have spoken to assert that the reserve releases in recent years (as described in the previous section) are acting to hold back necessary price increases that would otherwise emerge. It is likely that this is true to some extent. Ultimately the pricing is driven by supply and demand, however the supply of capital to the market is probably impacted by the profits emerging, including reserve releases.

It raises the question of whether the reserve release should have emerged sooner – are the actuaries contributing to the pricing cycle because of the way they reserve for this business?

Our view is that there may be too much reliance by some actuaries on the pure Bornhuetter-Ferguson approach (BF), which is often used for this class. In the context of central estimate reserving, the pure BF methodology does not deal well with classes subject to significant levels of systemic claims risk, such as PIDO.

Therefore we propose that where the BF methodology is being used for PIDO, the method include allowance for a claims index, which would normalise the IBNR for the claims cycle. This would be in addition to a price index which is used to normalise premiums for price movements. The index might vary from say a low of 70 to 150.

The following example is used to illustrate the difference between our proposed method and the pure BF.

Table 3.1 – Illustration of Proposed Reserving Approach

Assumed loss ratio in 2000 (pre claims index)	**100%**

Notification Year	Gross Earned Premium	Proportion of cost reported	Price Index	*Claims Index*	Pure BF Loss Ratio	*Proposed Loss Ratio*	Pure BF IBNR	Proposed Method IBNR
	$m						$m	$m
2000	30	99%	70	*100*	100%	*100%*	0.3	0.3
2001	40	94%	81	*90*	87%	*78%*	2.1	1.9
2002	50	92%	115	*70*	61%	*43%*	2.4	1.7
2003	55	90%	147	*70*	48%	*34%*	2.6	1.8
2004	55	85%	155	*70*	45%	*32%*	3.7	2.6
2005	60	71%	138	*70*	51%	*36%*	8.9	6.2
2006	50	60%	129	*80*	54%	*44%*	10.9	8.7
2007	45	44%	118	*100*	59%	*59%*	15.0	15.0
2008	45	25%	112	*125*	63%	*78%*	21.1	26.4
Total	430				60%	*52%*	67.0	64.6

Whilst the results are illustrative, the claims and pricing indices are intended to be plausible for the conditions across this period. Relative to the pure BF methodology, the proposed approach gives a lower IBNR in the 2001 to 2006 notification years, when the claims experience was benign, and more cost in 2008 to reflect the allowance made for the financial crisis on the claims costs.

Inevitably the proposed approach would lead to more volatility in the actuaries' estimates of the claims liabilities. In effect the BF methodology in its pure form is smoothing claims costs across the claims cycle (overstating in the good years and understating in the bad years), whereas we are proposing a methodology that is more responsive to those phases.

In selecting the claims index the actuary would consider information such as the number of notifications in the year, and input from the claim manager and underwriter of the claims environment and how it has changed.

Claims Made Reserving

Actuaries typically reserve PIDO assuming the coverage is pure claims made. We have considered whether this is appropriate having regard to:

- the implications of Section 54
- "continuous coverage" policy extensions
- the provision of run-off cover.

Having regard to these factors, and for reasons set out below, we believe it is reasonable to treat the business as pure claims made, subject to a few clarifying questions that it would be appropriate to ask the claim manager and underwriter.

Section 54

The impact of Section 54 of the Insurance Contracts Act on the allocation of claims to insurance years has been well documented elsewhere. The question we have considered is whether late reported matters are being allocated to prior years of insurance such that valuing the business on a claims made basis is appropriate.

Firstly, it is useful to recognise that late reported claims are continuing to be allocated to prior years of insurance as a result of Section 54. However, the number of such claims is small. In addition, "deeming" provisions have been removed from most PI policies – This makes it harder, but not necessarily impossible for the plaintiff to argue the claim should be backdated. *(Caveat: Inevitably we are generalising in making these statements, and could be criticised for omitting important detail. However our intention has not been to document Section 54, but to help actuaries understand if it is a material issue in claim reserving).*

We do not believe Section 54 means the practice of assuming for valuation purposes that coverage is claims made is a problem, for the following reasons:

- the number of late reported claims that are "backdated" is small, and reducing
- to the extent that claims have been backdated over the last 10 years, such claims would be appearing as development in the claim run-off triangles being used by actuaries. Hence allowance may already be made (implicitly) for these costs.

Continuous Coverage

"Continuous Coverage" is the practice of offering renewal to customers on the basis that notifications which could or should have been reported but were not, will be covered under the new year's policy (provided non fraudulent non-disclosure). If the customer moves to another insurer, there is a risk that such matters may be excluded from both the new and the old policy, as in most cases the deeming provision has been removed from the contract wording. Continuous Coverage emerged as a market response to gaps in coverage created by the removal of the deeming provision following the interpretation of Section 54.

We do not believe the offer of continuous coverage impacts the reserving of business on a claims made basis, because the late reported claim is allocated to the latest year of insurance – it is not backdated to the earlier year (although it is subject to the terms and conditions that prevailed in the year when it should have been reported).

Run-off Cover

Run-off cover is provided to retiring directors and professionals, often paid for by a lump sum covering multiple future report years. This is an issue that actuaries should consider in deciding whether to allow for future notifications in the reserving process.

From our discussions with underwriters, we understand that for most portfolios the premiums for run-off cover are trivial – typically less than 1% of total annual premium. Hence whilst there is some theoretical exposure to late reported claims, it is not material in the context of the overall reserving for this class. We understand that some companies earn the premium over a number of years. Hence, where a loss ratio approach is used, allowance is probably made for these costs in the actuary's estimated premium liabilities. This appears a good compromise, rather than adding complexity to the outstanding claims valuation.

On the other hand there are some schemes which provide more routine levels of run-off coverage (the medical indemnity insurers are an example of this, and arrangements exist under some other professions' schemes also). The actuary should seek to understand if any of these exposures exist in the portfolio being considered, and where material, make appropriate allowance.

4. Current Challenges

The issues covered in this section include:

1. Pricing, Monitoring and Business Planning
2. Capital
3. Aggregation of Exposures

Pricing, Monitoring and Business Planning

The involvement of actuaries in the pricing of PIDO business has generally been less than for other classes of business. Whilst most of the key drivers of claims experience are generally understood, the skill and judgement of the underwriter is a key component in underwriting and pricing of business.

The PIDO market is also characterised by the ease of entry/exit for offshore insurers and coupled with the high degree of underwriter judgement in the pricing process has led to greater volatility in the pricing cycle.

There are a number of characteristics of this business that may have led to the limited involvement of actuaries in pricing this business including:

- The heterogeneity and complexity of risks
- Difficulties in dealing with the changing environment including:
  - Changing global environment
  - Changing legal environment
  - Regulation and deregulation
  - Growth of enterprise risk management (ERM)
- Limited portfolio sizes and historical data
- Difficulties in the measurement of exposure and price movements

The impact of these characteristics limits the ability to use traditional actuarial techniques in the pricing of this business, however it is our view that the actuary is well placed to add value to managing the business at the portfolio level.

Some of the areas for consideration in terms of pricing, monitoring, reporting and business planning are:

- Ensuring that allowance is built in for large losses that may not be evident in the historical data and ensuring that the increased limit factors (ILF) used in pricing adequacy reflect the large loss allowance. Overseas data including reinsurer data may be valuable sources of information together with litigation funding websites and legal databases

- Adequate allowance for the cost of capital required to support the business due to the significant large claims and systemic risk of this class. Adequate profit margins should be built into premium calculations
- Ensuring a relatively robust measurement of price movements including allowance for changes in exposure and coverage. This may involve measuring price movements on renewal business only and applying a relativity factor to measure the impact of new business on pricing
- Building in allowances for the changing environment, including claims cycle as well as changes in exposure and coverage. Some factors are likely to have a positive impact whilst others will have a negative impact.

It is clear that these areas are subject to considerable judgement and uncertainty. Consequently inclusion of a robust sensitivity analysis to understand the level of uncertainty is a critical part for pricing, monitoring experience and business planning.

It is likely that many of these factors have been considered by underwriters in applying their judgement throughout the underwriting process. We consider, however, quantification of the key drivers of pricing and claims experience in monitoring reports and business plans will assist management understand the historic and emerging performance of this class of business.

Capital

It is our understanding that capital has often been allocated to this class of business on a similar basis to liability business. Given the nature of this class where the claims cycle is expected to be greater than liability and the greater proportion of claims that are large losses we consider that PIDO business is likely to exhibit greater volatility and uncertainty than the liability class of business. Consequently a greater allocation of capital should be made to PIDO business.

Whilst this issue will be addressed with the development of internal capital models, for those insurers that do not have internal capital models consideration should be made to allocating greater capital to this class of business.

Aggregation of Exposures

There is a general expectation that the current financial crises is likely to lead to an increase in claims, although it will be many years before the ultimate impact is known.

Media commentators have often used the term “1 in 100 year” financial crisis. Does this mean that the increase in claims is likely to be far greater than the expected “normal” claims cycle? In other words should the current financial crisis be considered a catastrophic event?

Most reinsurance programmes are written on a per risk excess of loss basis and may not provide protection against a significant increase in frequency of attritional and retained large claims.

In the current environment we consider detailed scenario testing of possible claims outcomes should be carried out to understand the potential impact of the current financial crisis. The key items which could be tested are:

- Increase in frequency and average size of attritional losses
- Increase in frequency and average size of large losses
- Increase in the proportion of legal fees.

Such scenario testing will be multi-dimensional. An example of this scenario testing for a public company D&O would be to produce a matrix of large loss ratios for increasing large claim frequency and average sizes, together with increasing proportions of legal costs as in the following table.

Table 4.1 – Example of Scenario Testing: Large claim loss ratio

	Legal Costs Loading			
	15%		20%	
Large Claim	average size			
Frequency	$4mil	$5mil	$4mil	$5mil
2	40%	50%	42%	53%
3	60%	75%	63%	79%
5	101%	126%	105%	131%
7	141%	176%	147%	184%
10	201%	252%	210%	263%

Writing a portfolio across specialities and company types can provide diversification benefits and reduce the aggregation of exposures.

Most actuaries are well versed in monitoring aggregations of exposure for property classes, however, for PIDO this is an area where development of exposure monitoring would be extremely beneficial. It is useful to track aggregate exposure by portfolio segments. Examples of portfolio segments may be Professional Indemnity, Public Company D&O and Private Company D&O each split by major occupation group. Understanding the aggregate exposures by segment will assist in determining the reasonableness of the scenario assumptions detailed above.

Appendix A Timeline of PIDO Market

The table below outlines a brief history of PIDO insurance, illustrating the development of the market, including the economic and market conditions at each period.

Table A.1 – PIDO Timeline

Period	Market	Economic Conditions	Prices	Coverage	Participants	Regulatory Developments
60s-80s	Developing product	- Property/stock market crashes - High interest rates	Hard	Modest	Mainly London market	Insurance Contracts Act
Early – Mid 90s	Contraction	- Recession - low growth in property values	Hard	Implications of Insurance contracts Act - Section 54 (enabling late notification)	Contraction (Particularly London market and AIG)	Companies Act relaxed to allow companies to pay for D&O premiums
Late 90s	Growth & Maturity	- Good economy	Soft	Expanded significantly	Significant (international entrants)	
2000-2005	Collapse and Regrowth	- Collapse of HIH (biggest PI insurer) - September 11	Hard	Contraction	Contraction (M&A's)	- APRA - Tort Reform - Proportionate liability
2006-2007	Stable	- Benign economy - Strong equity markets - Large profits	Soft	Significant	Significant	
2008	Stable	Financial turmoil	Some signs of Hard-ening	Significant	Significant	