Society of Actuaries in Ireland

Report by the

Unit Pricing Working Party

24 – Mar-2015

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1 Introduction

The Life Committee of the Society of Actuaries in Ireland established a working party in late 2013 to consider unit pricing practices

The members of the Working Party were: Alan Canny, Mike Claffey, Peter Martin, Brendan McCarthy, Julie McCarthy, Ceall O'Dunlaing (chairman), Ann O'Regan, Alisa Timis and Robert Wolfe. Its terms of reference were as follows:

> *To establish a resource for actuaries who work in the area of unit pricing and/or have responsibility over any of complex processes inherent in the operation of internal linked funds within the life companies. The Working Party will carry out a survey of current practice which will be sent to all Appointed Actuaries. The working party will produce a resource guide to assist actuaries in managing the complex issues that arise in this area, based on current practice (as found in the survey), regulation and professional considerations as well as referencing relevant works that exist in this area.*

A survey was issued to 31 Appointed Actuaries in Ireland, including both Irish domestic companies and international companies based in Ireland. Some of these actuaries acted as Appointed Actuary to more than one company. The Working Party recognised that responsibility for unit pricing within a life company may not fall under an actuarial function, but relied on the Appointed Actuaries of each Life Company to act as a conduit to the appropriate unit pricing experts within each company. A total of 14 company replies were received.

Whilst not a core or traditional actuarial activity, is an area that brings together many disciplines of actuarial practice including complex calculations, ensuring fairness for the consumer, defining assumptions for future unknowns and governance issues. For these reasons it is commonly the case that actuaries within the life company tend to assume responsibility for carrying out or overseeing the unit pricing and other associated investment processes.

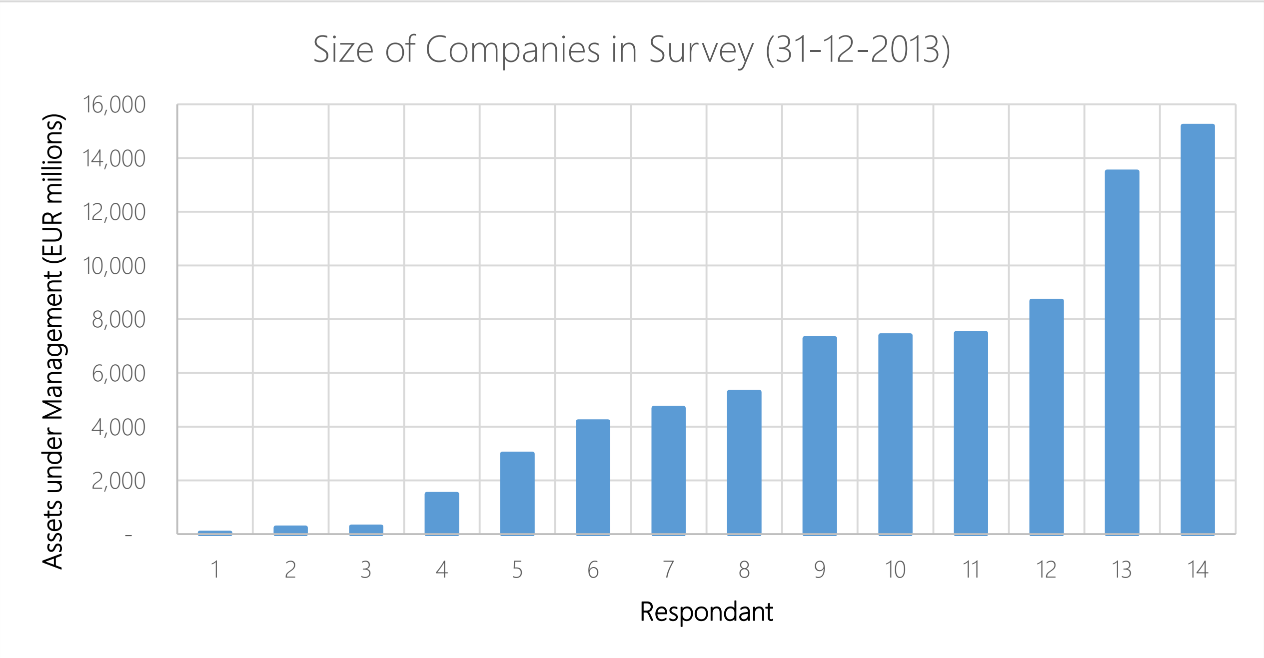
This paper has two aims: firstly, to use the results of the survey to illustrate the current practice in the market and consequently, to expand on this by producing a resource guide for actuaries.

2 Survey

The survey was divided up into the following sections: general information, discretion, operating standards, oversight of outsourcing arrangements, and fund governance. The results of the questions under each section are shown and discussed below.

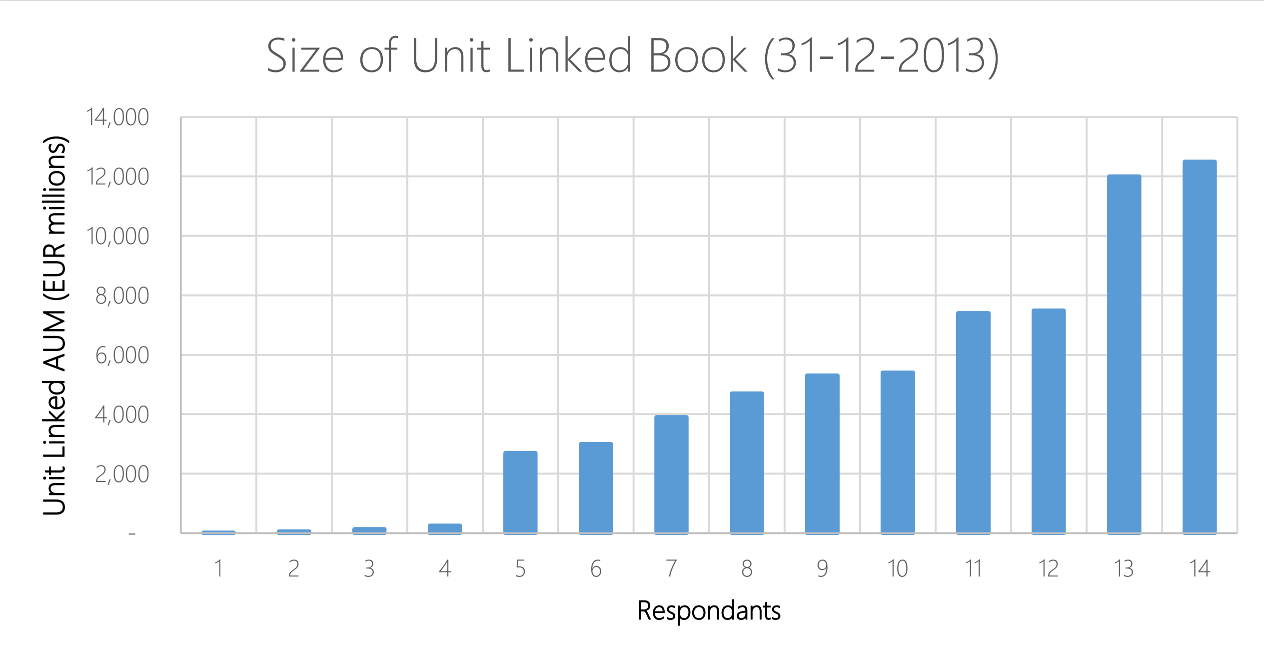
2.1 General Information

Q1. What is the approximate size (EUR) of assets under management in the company as at 31/12/2013?



The 14 responses ranged from €50m to over €15bn, with an average of €5.1bn and a total of €82bn.

Q2. What is the approximate size (EUR) of assets held by internal linked funds as at 31/12/2013?



The 14 responses ranged from less than €1m to over €12bn, with an average of €3.9bn, and a total of €63bn.

Q3. What proportion of the funds in Question 2 are taxed under the old 'I-E' basis?

All except four companies answered zero to this question (and of these, one company referred to UK onshore business and three respondents had domestic Irish business). For the three domestic Irish companies, the average was just under 7%. Combining the responses for Q2 and Q3, the total amount of unit-linked assets taxed under the Irish 'I-E' basis for these three companies was c. €1.6bn.

In the Finance Act 2000 the 'I-E' regime was ring fenced for existing Irish policies. The new regime was effective from January 1, 2001. Given that since then, assuming that the survey results of the three domestic companies mentioned above are representative of the market, the proportion of net funds has dropped to from 100% to 7%, the complexities of I-E taxation has become significantly less financially significant. Indeed there will come a point in the future when additional effort and cost required to maintain and monitor this regime becomes uneconomic and more practical solutions might be required to benefit both the tax authorities and industry.

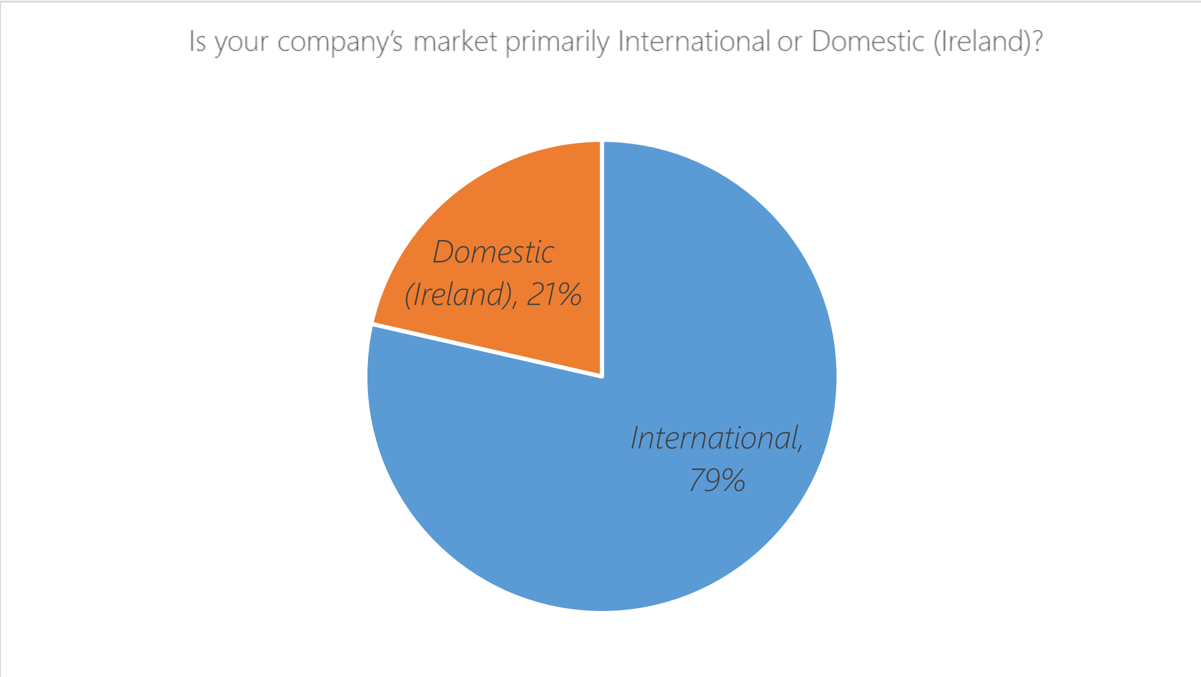
Q4. What proportion of the funds in Question 2 are mirror funds i.e. only hold a single asset in addition to liquidity cash balances?

This question sought to quantify the proportion of unit linked funds that were single "external fund links" where the life company acted as a facilitating platform of sorts. The management of such funds are perceived as relatively simple as the valuation of underlying fund assets is undertaken by the external fund link and the life company therefore only values a single asset in unit pricing.

However, the simplicity in unit pricing brings a complexity to the management of the fund's cashflow and liquidity in the fund. This is particularity the case if the flows into the fund are significant (relative to the fund size) and where the timing of investments (i.e. asset units) must match the creation point of liability units in the fund.

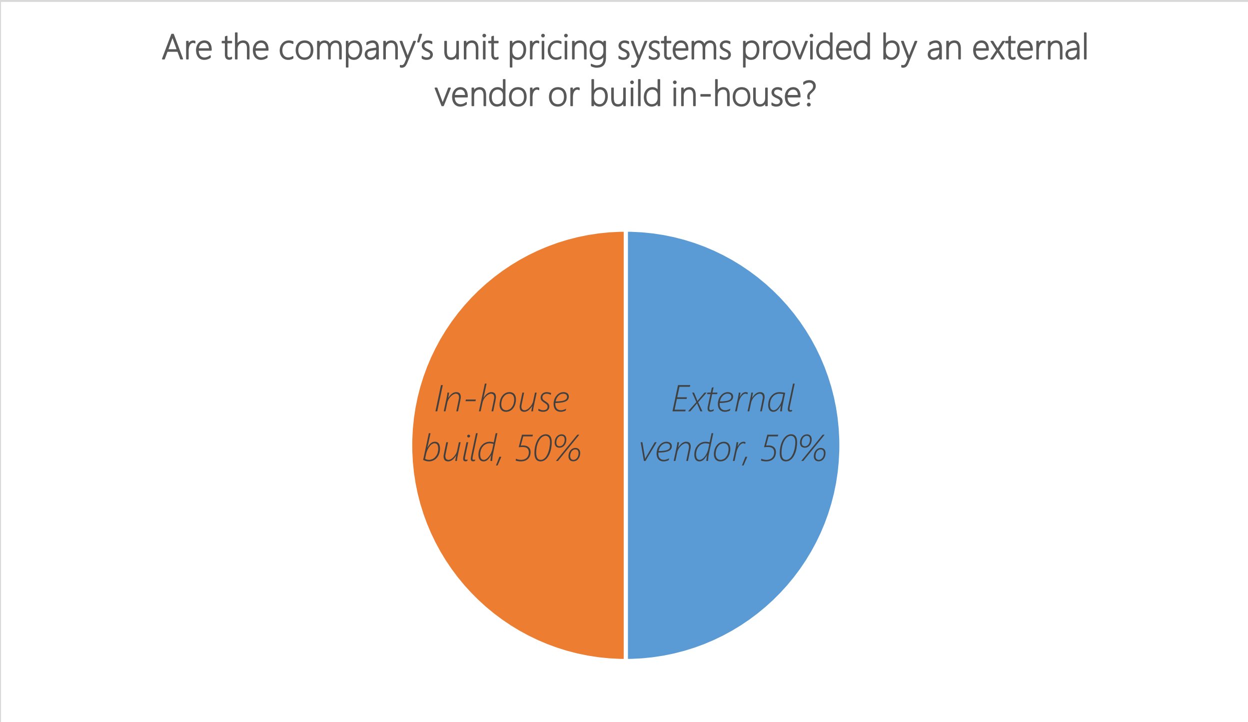
The responses to this question varied widely, with the average being 57%. Combining the responses for Q2 and Q4, the total amount of assets in mirror funds at 31 December 2013 was €25bn.

Q5.



Three of the respondents were domestic Irish life companies the remainder serviced the international market.

Q6.



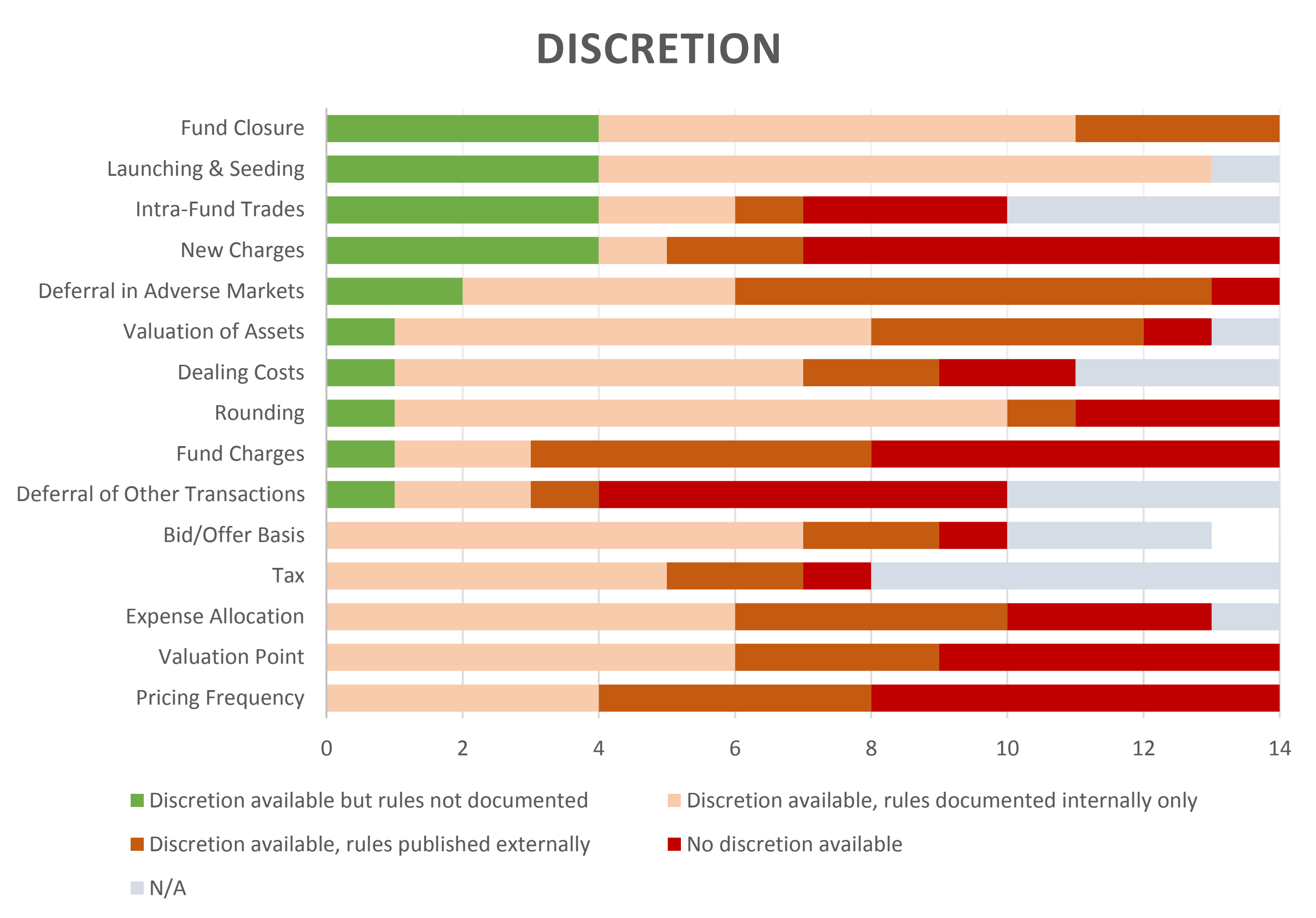
Combining these responses with those for Q2, the average assets in internal linked funds for companies with externally sourced systems was €3.1bn, compared to €5.1bn for companies using systems built in-house.

A similar question on the 2009 survey showed six companies using outsourced unit pricing systems and eleven using internal systems.

It appears that more companies are using external systems but it may also reflect a higher proportion of outsourced respondents in this survey.

2.2 Discretion

Q7. The ABI Guide of Good Practice for Unit Linked Funds (2nd edition, 2012) identifies the following as areas where discretion may be applied. In relation to each, please specify whether this discretion is available and how it is documented. *[If different answers apply to different products or funds, please answer in relation to the greatest value of assets.]*



Each of the headings is explained below:

Fund Closure	Ability to close a fund to new business (or switches in) and the ability to close a fund completely
Launching & Seeding	Launching funds and seeding new funds with capital
Intra-Fund Trades	Internal deals between two unit linked funds
New Charges	Introducing charges for new or unforeseen types of expense which may not be described or covered under existing policy terms
Deferral in Adverse Markets	Ability to defer switches/surrenders in adverse market conditions
Valuation of Assets	Valuation of assets – especially where market prices do not exist
Dealing Costs	Allowing for dealing costs when setting bid and offer pricing bases
Rounding	Unit Price rounding (number of decimal places, rounding up or down)

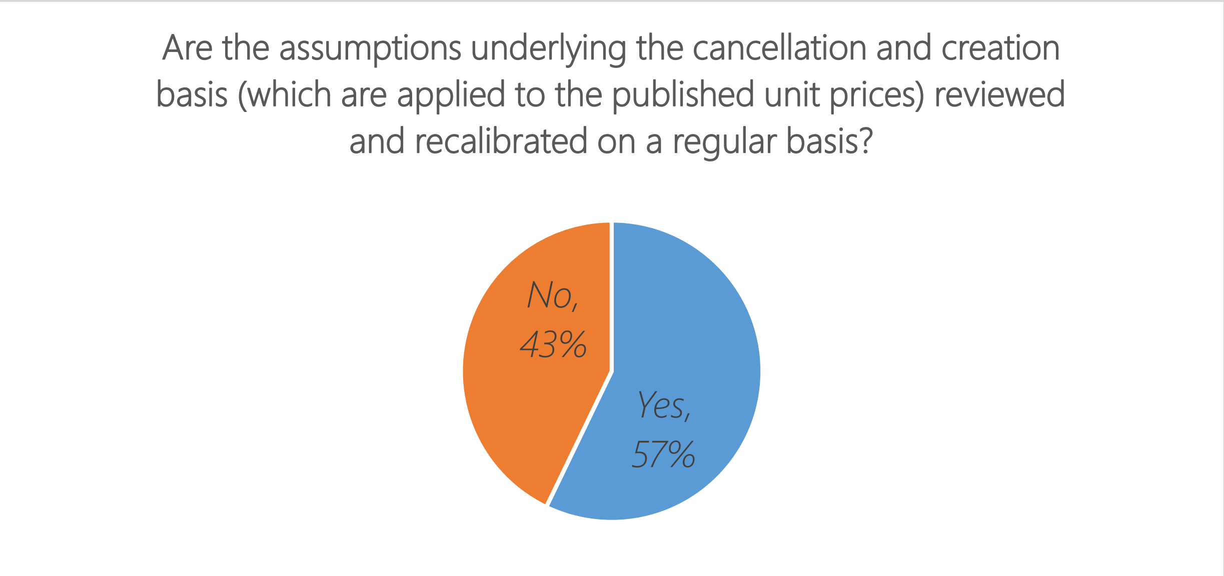
Fund Charges	Application of annual management charges and any ability to alter the definition or level of the charge
Deferral of Other Transactions	Ability to defer transactions, for example by customers seeking to exploit market timing opportunities
Bid/Offer Basis	Criteria for moving funds between bid and offer pricing bases
Tax	Tax (e.g. how actual charges or credits for tax are calculated, when they are removed from or credited to the fund, how deferred tax provisions are calculated)
Expense Allocation	Charging expenses to the fund (in addition to the AMC) such as audit fees, custodian fees, administration charges, dealing charges.
Valuation Point	Choice of pricing point of the linked fund
Pricing Frequency	Frequency of pricing

Overall there is a wide variety of applications of discretion in the management of unit linked funds across the fourteen respondents. Most notable trends (50%+ response rate) include the following areas.

- Internal discretion rules only (where rules are not published externally) were applied when:
  - rounding unit prices;
  - in the criteria for moving funds between bid and offer bases;
  - in the valuation of assets (especially where market prices do not exist);
  - in the launching and seeding of funds; and
  - in the ability to close a fund to new business (or switches in) and the ability to close a fund completely.
- 50% of respondents have discretion to introduce charges for new or unforeseen types of expense which may not be described or covered under existing policy terms;

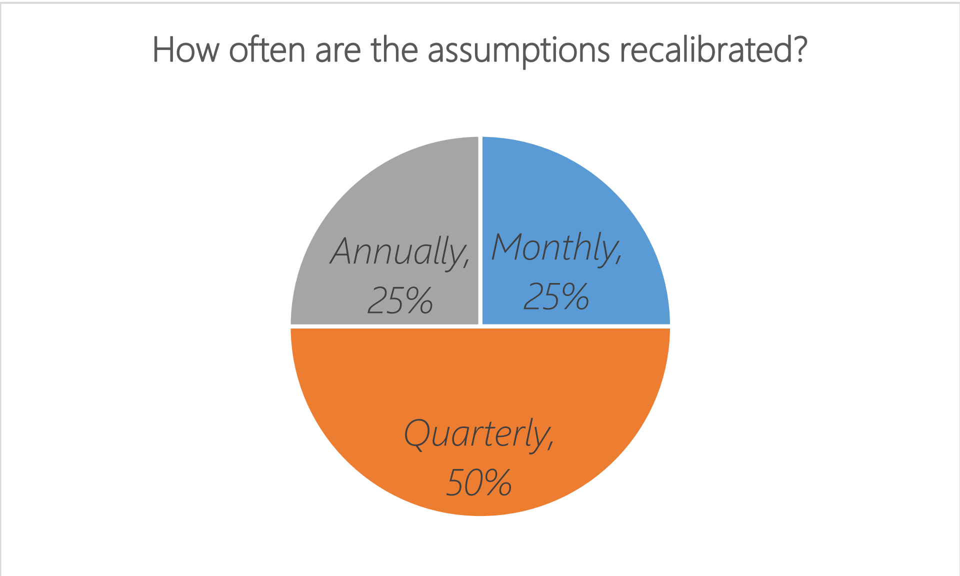
- 50% of respondents have the ability to apply externally published discretion rules to defer switches/surrenders in adverse market conditions. We expect these rules are typically included in the policy terms and conditions as part of the policy contract and we don't believe that separate documents are externally published for such rules.

Q8.



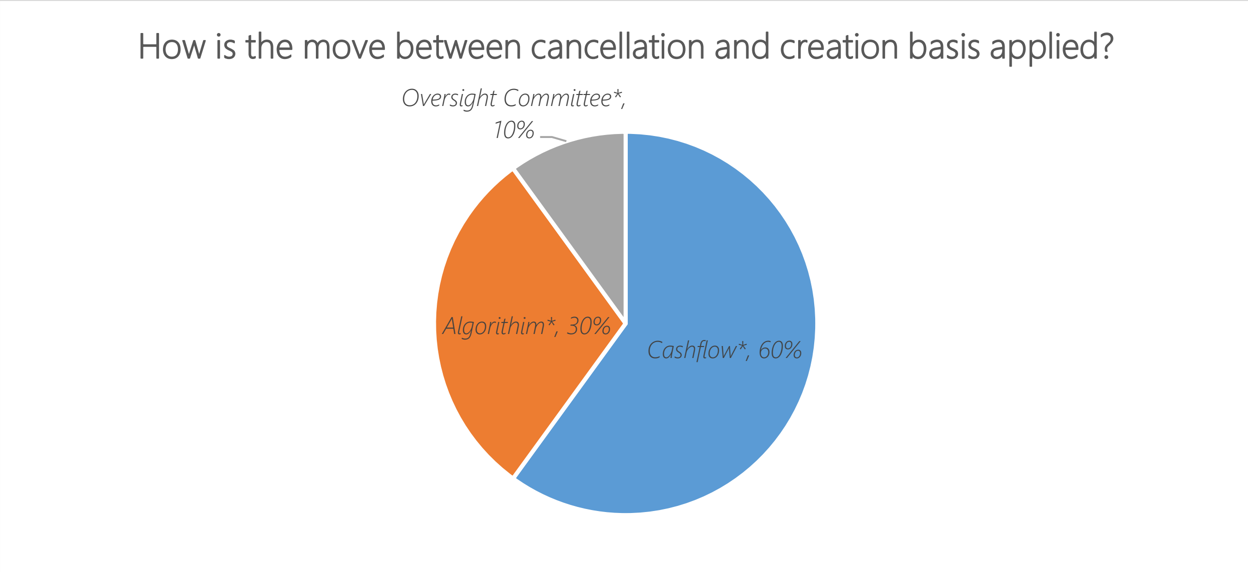
There were mixed responses to this question. Over half of respondents review and recalibrate cancellation and creation basis assumptions on a regular basis.

Q9.



Only four respondents answered this question. In addition, one company noted that assumptions are recalibrated on a daily basis and another company was provided with assumptions from an external provider.

Q10.



**Cashflow = Daily/weekly based on direction of fund cashflow*
Algorithm = Phased based on an algorithm
Oversight Committee = Based on periodic recommendations from an oversight committee

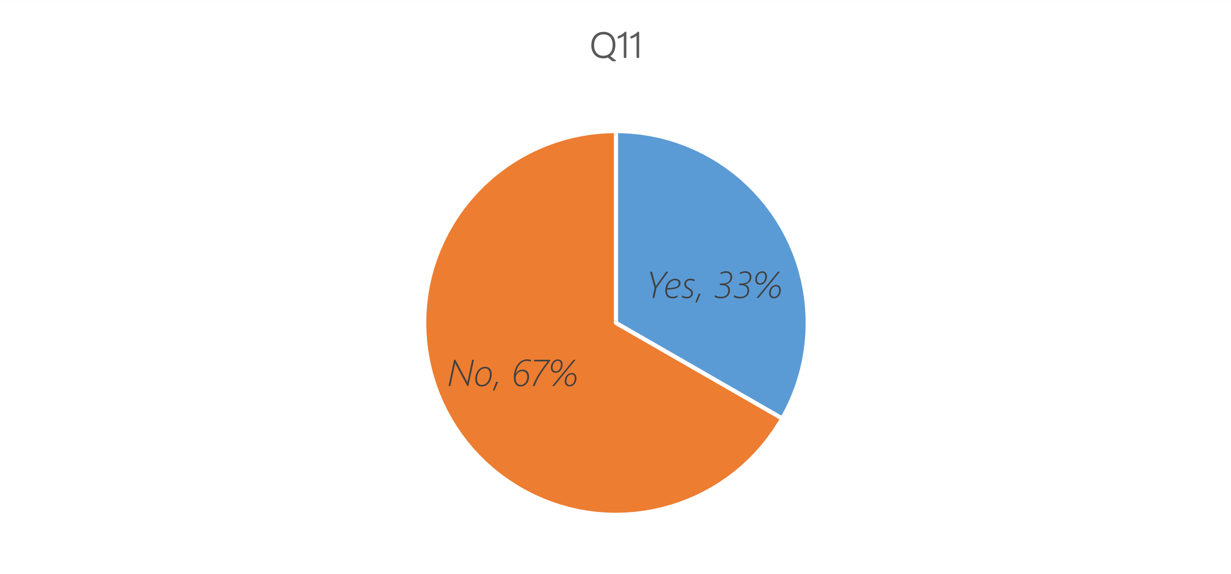
This question generated 10 responses.

In addition, the following comments were received:

- Invest mainly in external collectives and so does not move between bases;
- Phased method based on periodic internal review;
- Recommendations are based on weekly cashflows for each fund with the key determining factor being whether the funds are expanding or contracting. Three criteria are used to establish whether there is a formula driven recommendation. However recommendations and decisions may over-rule the formulaic decision if appropriate;
- Daily based on the direction of the fund cashflow as well as periodic recommendations from an oversight committee.

Overall, the vast majority of respondents apply some form of daily review.

Q11. If the above answer is "Phased based on an algorithm", does your company apply different rules depending on what type of transaction is affecting the purchase or sale of units when setting the pricing basis e.g. switches might be seen as less entitled to the smoothing policy as they are seen to be “selecting” against the fund?



As it was a follow up to Q10, there were only three responses to this question so it is difficult to draw any conclusions. The algorithm applied doesn’t take into account the type of transaction affecting the purchase or sale of units in two out of three cases.

Q12. In placing a value on tax losses, does your company (terminology based on the 2011 paper “Placing Value on Tax Losses in the Unit Pricing of Life Company Internal Funds”):

	Response Percent	Response Count
Use the Fund Value Method without modification	25.0%	1
Use the Fund Value Method with modification	50.0%	2
Use the Transaction Value method	25.0%	1

As can be seen a variety of methods are used to value tax losses.

Q13. If a unit fund is being priced on a cancellation basis, what value does the company place on tax losses within the fund?

	Response Percent	Response Count
Generally zero	0.0%	0
Positive, provided that there is a realistic prospect in the short-term of transferring the tax losses to other funds (or the shareholder) for value	100.0%	4
Generally a positive value	0.0%	0

Of the four respondents, all placed a positive value on tax losses (albeit with an expectation that the tax losses will transpire to be a recoverable asset). This suggests companies are aware that judgement is required in this approach.

Q14. Does the company place limits on the percentage of the fund value that can be represented by the value of tax losses?

	Response Percent	Response Count
Yes	25.0%	1
No	75.0%	3

Three of the four respondents did not place a limit on the percentage of the fund value represented by the value of tax losses, but this does not suggest other factors are not considered when placing a maximum value on tax losses. The one respondent that has a percentage limit is the same one using the Transaction Value Method to value tax losses.

The same question was asked in the 2009 survey. Two domestic and two IFSC companies responded that they had such a limit, while four domestic and four IFSC companies said that they had no limit.

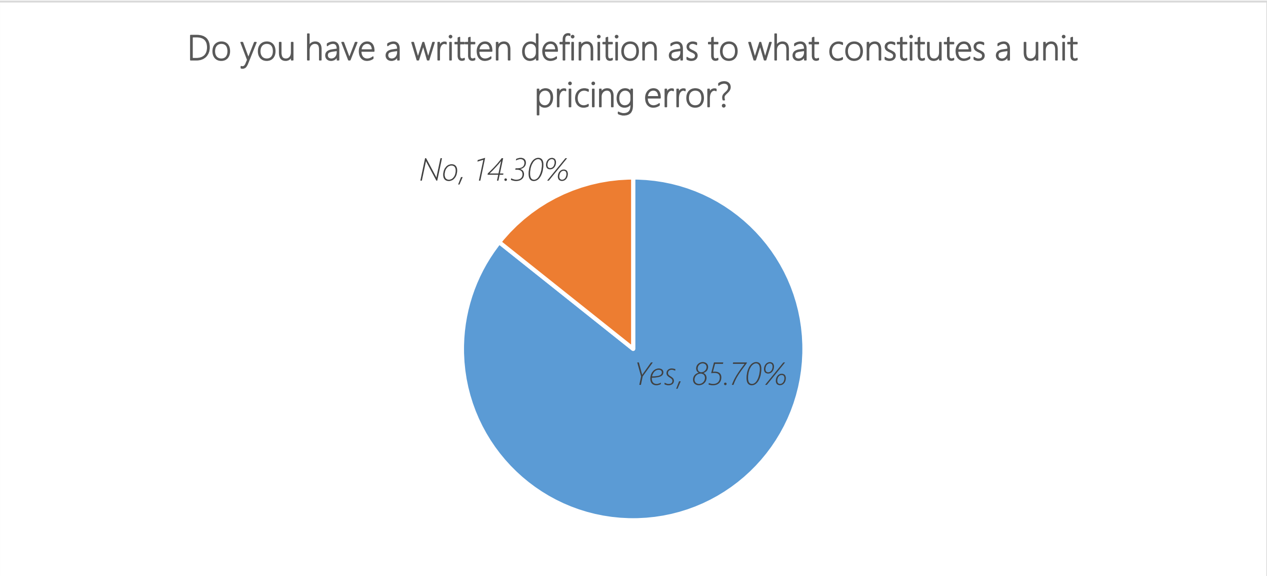
Q15. At what frequency is the validity of the pricing assumptions for the tax position of the funds reviewed?

	Response Percent	Response Count
Monthly	25.0%	1
Quarterly	25.0%	1
Other	50.0%	2
As a result of market tolerance movements	0.0%	0

There is a mixed response to the frequency of reviewing the pricing assumptions for the tax position.

2.3 *Operating Standards & Errors*

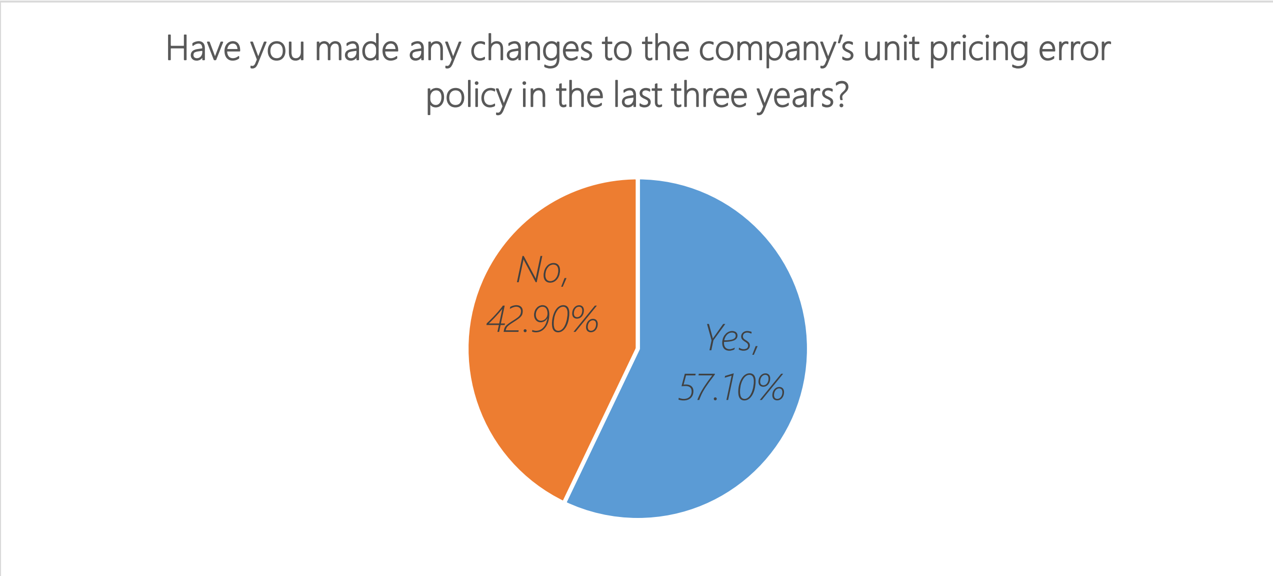
Q16.



Most companies surveyed have a written definition as to what constitutes a unit pricing error (86%). Having one should promote consistent treatment with errors as they arise. Note the question did not assess whether the definition was available to policyholders or external parties, or assess the level of detail within the definition.

Not having a written definition of what constitutes a unit pricing error does not itself mean unit pricing errors are undetected or ignored. This question sought to see if companies have any definitions of unit pricing errors as we suspect such definitions would not be the same. We also note there is no regulatory or published "best practice" definition of a "unit pricing error" for the life insurance industry.

Q17.

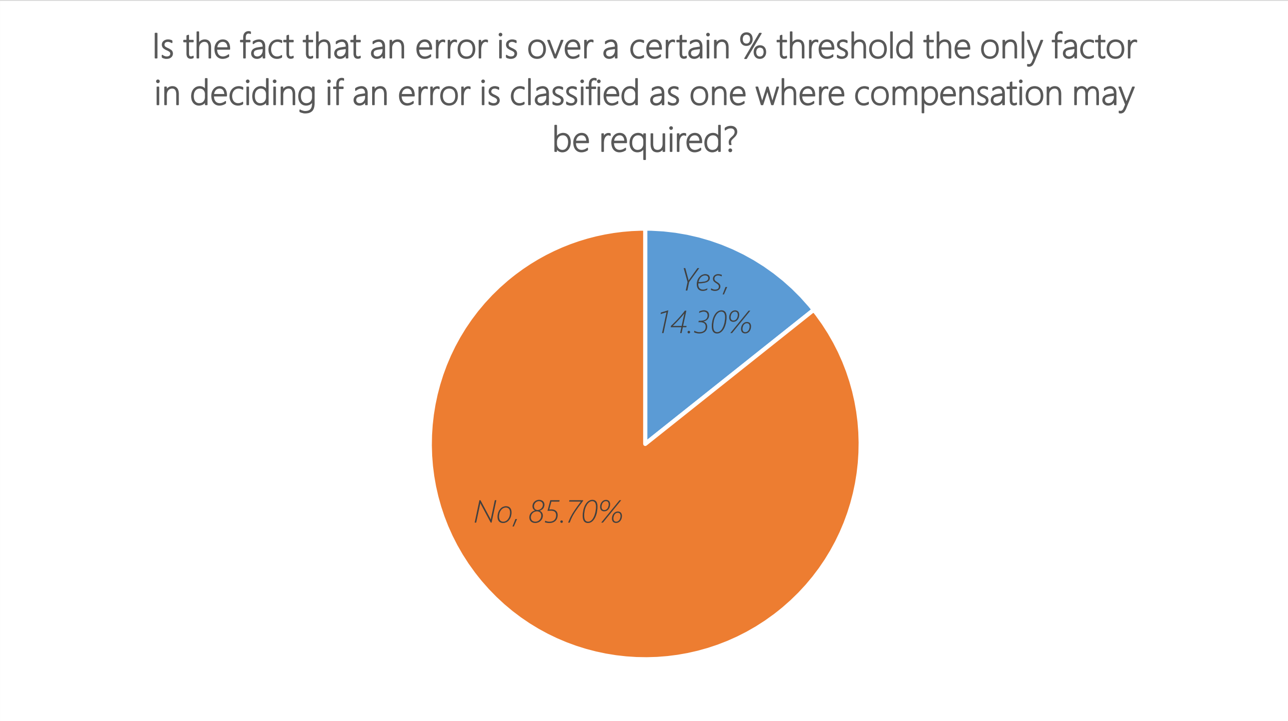


Over half the companies have changed their error policy in the last three years. We are unsure if this reflects a periodic review cycle of policies within a company (perhaps annually), or if maybe it was triggered by the publication of the Consumer Protection Code[1] for Life Companies published by the Central Bank of Ireland in 2012.

It would also be interesting to know who or what function owns a unit pricing error policy. In the past we suspect unit pricing procedures were closely aligned with unit pricing policies (and therefore including unit pricing error policies). Given the technical nature of these activities, these policies were often set within the first line of defence (i.e. in the operational areas undertaking the tasks).

[1] Chapter 10 of the CPC includes requirements for errors and complaints resolution. The CPC applies to companies writing domestic Irish business.

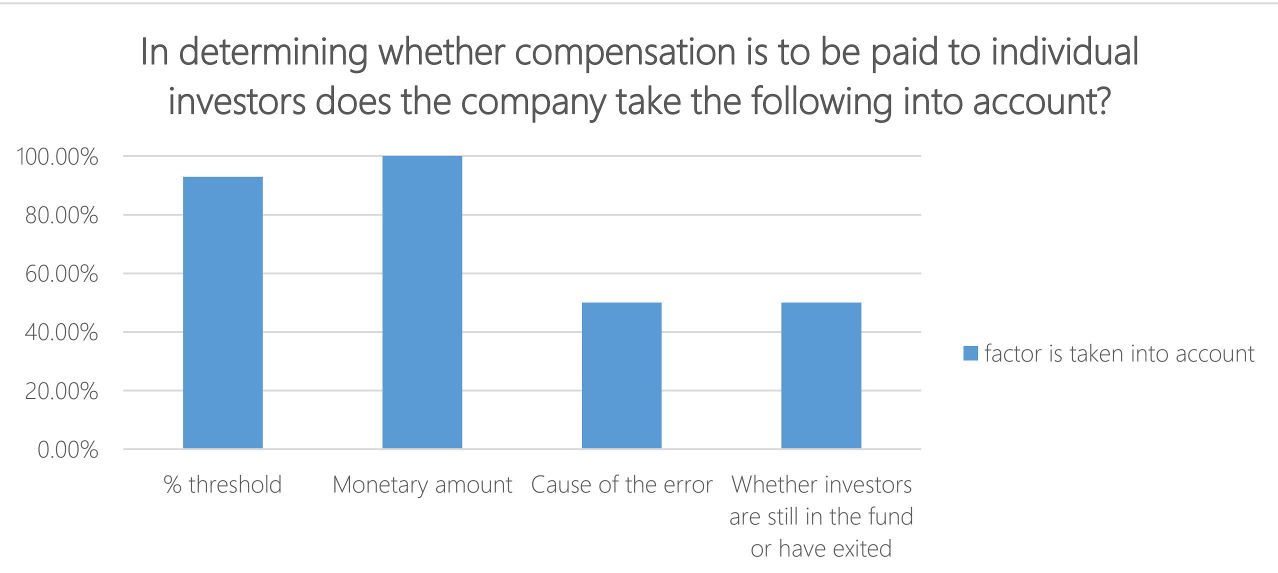
Q18.



This is as expected, but does reflect that judgement may be used in deciding compensation amounts, and this judgement may differ from company to company.

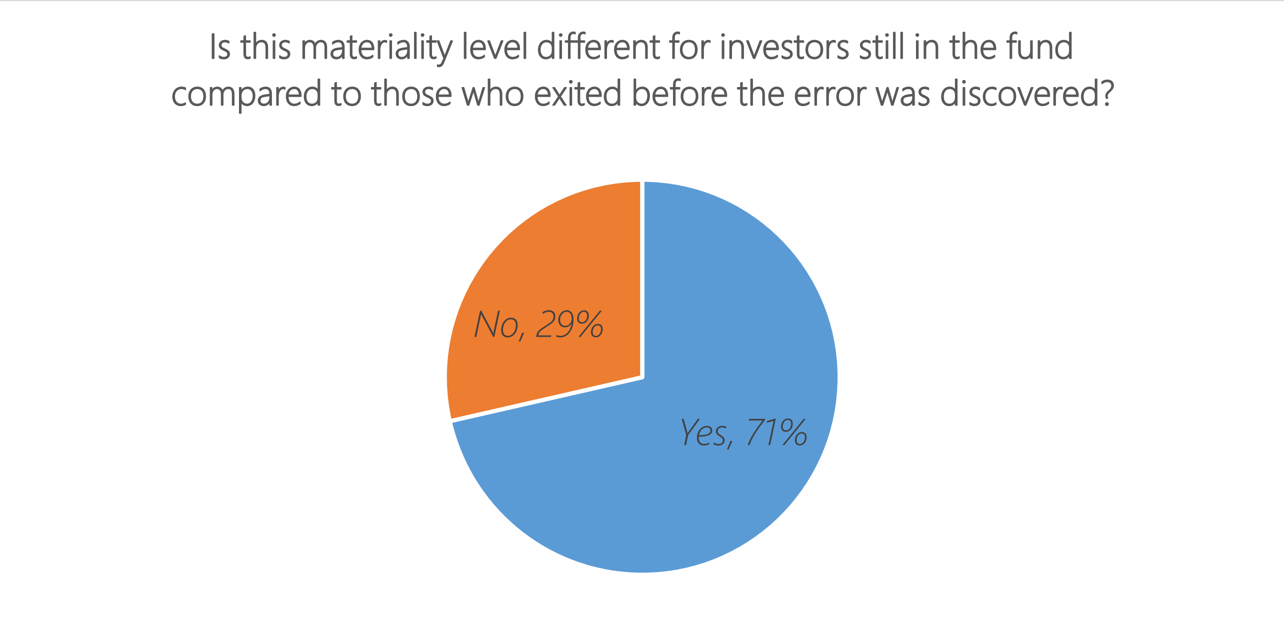
These judgements may include assessments of the thresholds in monetary and percentage terms, applied to either or both of the fund valuation and the value of the policyholder transactions involved. The judgement may also differ for errors leading to policyholder deficiency or benefit (e.g. an error that benefits the policyholder may not be an "error").

Q19.



Again this was somewhat as expected. The "cause of error" being a factor is interesting – we are unsure why an error in a published price would cause a different response depending on how it occurred. This response may seek to differentiate between systemic issues and once off errors.

Q20.



We thought in advance of the survey that life companies may consider the execution cost of individual compensation amounts as a factor. For example compensation as a unit adjustment for current policyholders is effectively an electronic record adjustment and the cost is the same (and marginally insignificant) regardless of the size of the unit amount itself. However the cost of producing a cheque and dispatching the cheque by post to past policyholders has a much larger marginal cost per transaction and we were curious to survey if this cost would be considered in light of the actual compensation amount, i.e. was incurring costs of many Euro to issue a cheque for an amount of very few cents actually a factor.

Perfectly consistent treatment of policyholders who had exited and those remaining would seem to either lead to 100% compensation to all policyholders involved (including issuing cheques for one cent to exited policyholders), or a higher threshold on individual compensation amounts with the consequence that not all remaining policyholders would receive compensation via unit adjustments (noting the execution cost to the company on this is marginal and low).

This response also appears to contradict the (lower) 50% answer to previous question 'Whether investors are still in the fund or have exited'.

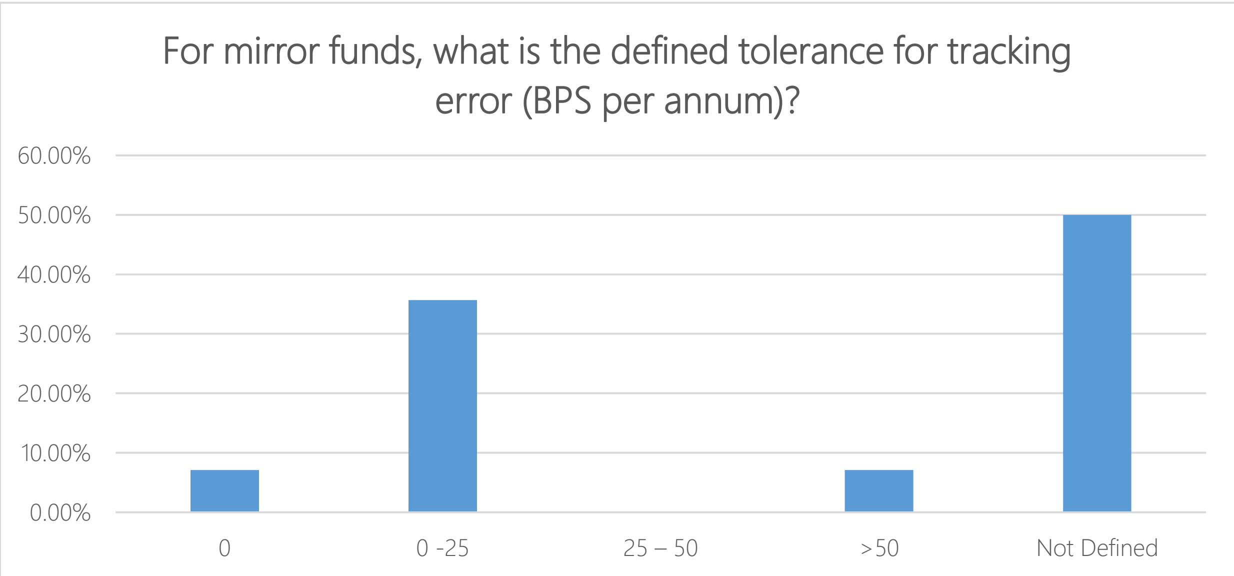
Q21.

What is the trigger for reporting a pricing error to the Central Bank or relevant supervisor? (Tick all that apply)		
Answer Options	Response Percent	Response Count
Based on % error threshold	84.6%	11
Time taken to rectify the error	46.2%	6
Monetary threshold	61.5%	8
Number of policyholders affected	69.2%	9

It is worth noting that the obligation to report to the Central Bank (CBI) is codified for companies selling in Ireland (via the Consumer Protection Code), whereas companies operating cross border from Ireland will report to the CBI based on their own internal standards based on their own written policies and internal governance conventions.

Percentage error is the main trigger. The companies surveyed have different regulators (for conduct of business) and this may also drive what the triggers for reporting to foreign regulators would be. Time is less popular although this is the rule as per the Consumer Protection Code for domestic Irish companies.

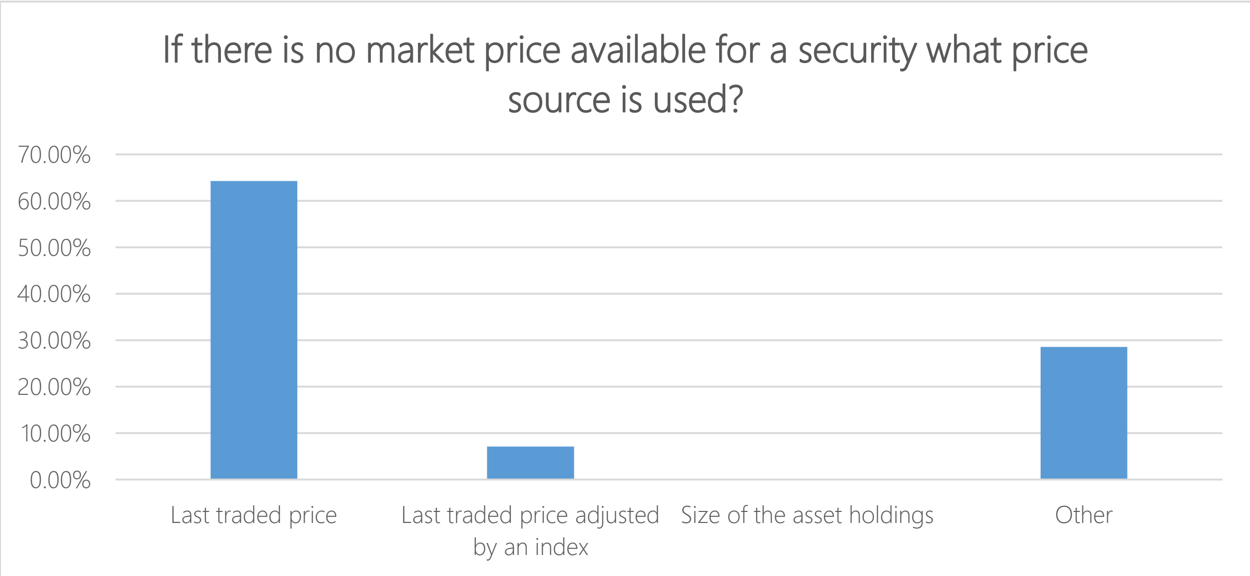
Q22.



We asked this question as mirror funds are commonly used in life companies in Ireland. We used the term “mirror funds” to describe internal life company unit-linked funds containing a single security (which itself is typically a collective investment vehicle of some sort including OEICs, UCITs, etc.). Tracking error is calculated after allowing for known differences between the internal life fund and the external collective fund performance e.g. life company charges.

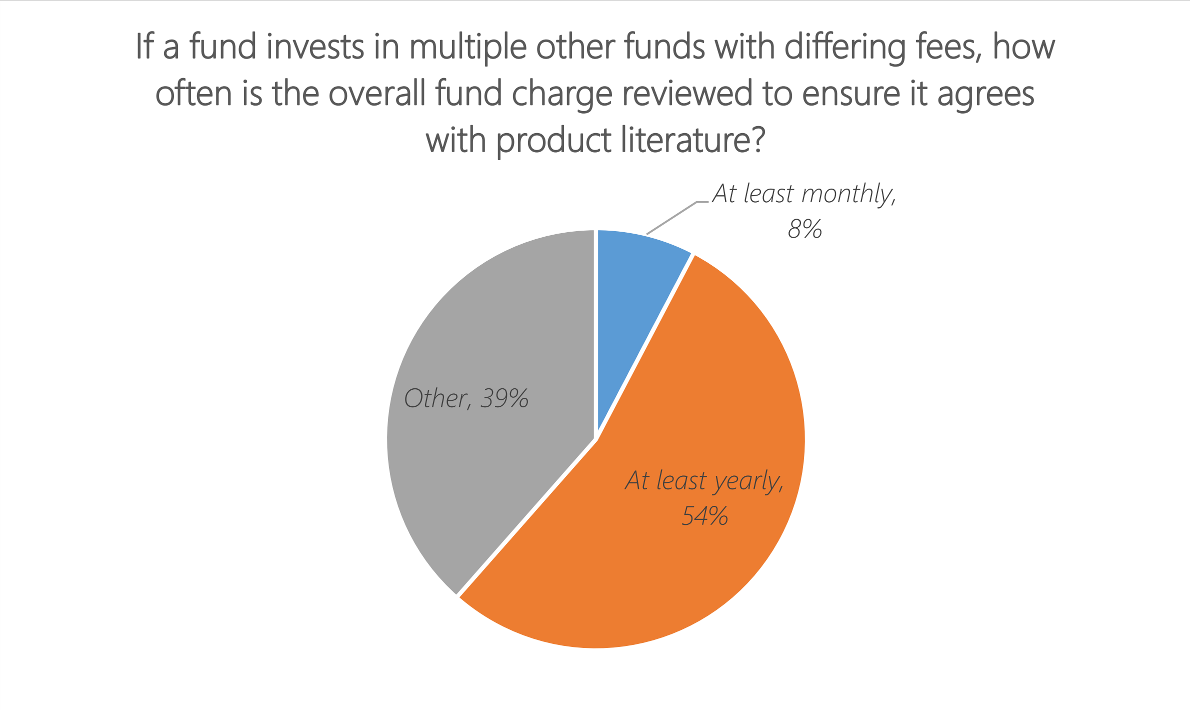
It is possible that this is not being checked on a regular basis by some hence no thresholds are defined. Part of the pricing signoff might be a check against benchmark movements (typically daily), or part of the oversight on the unit pricing process may be periodic tracking checks (typically over longer time periods).

Q23.



These "other" answers were mostly N/A, so there is a consensus that the last traded price would be used. This question did not seek to identify if materiality was a factor – in reality we suspect companies are unlikely to apply last traded price if a large volume of security prices were unavailable.

Q24.



We suspect such a review may overlap with reviews on the disclosure of fund fees (via fund fact sheets and also separately via policyholder benefit illustration calculations and disclosures). This would seem to support the "at least yearly" answer.

We believe the need to monitor fees as applied across funds of funds structures can also be complicated where the proportions held of the lowest level funds varies (for example by the investment manager). This can be further complicated where the unit pricing is outsourced or the fund allocations are not directly controlled by the fund administrator, as the discretion of the fund manager in setting fund proportions brings another variable to the unit pricing process.

Life companies have also complicated this process further where they rebate charges at a higher level within a fund of fund structure to rebalance the total fees applied to the various categories of policyholder investor.

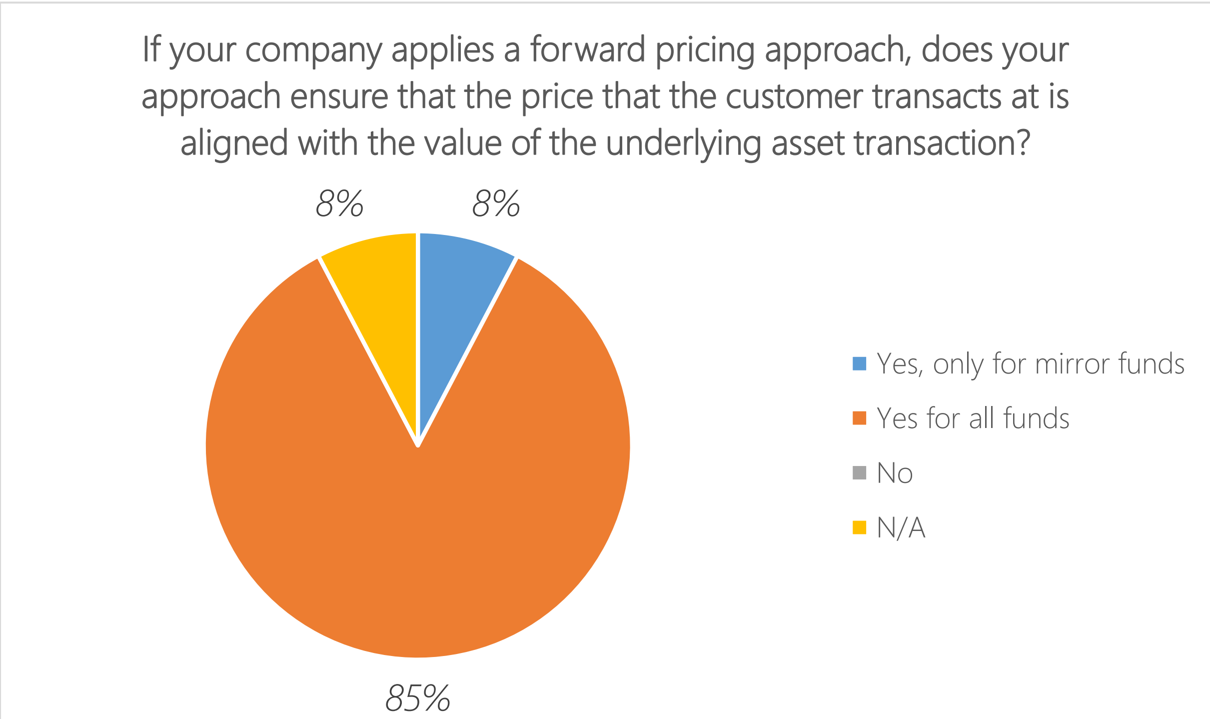
Q25.

What kind of pricing does the company use?		
Answer Options	Response Percent	Response Count
Forward pricing	71.4%	10
Historic pricing	0.0%	0
A mixture of forward pricing and historic pricing, depending on transaction types and their ability to select against the fund.	28.6%	4

The definitions "forward" and "historic" pricing is not an exact term as it also depends on the unit apportionment process (i.e. what unit price is applied to what policyholder transaction based on what cut-off deadline for the policyholder instruction). We suspect the term "historic" pricing was interpreted to mean a process that gave superior market information to the policyholder in terms of anticipating the price that would be applied to their transaction.

The 28.6% response that suggests some use of historic pricing is a little higher than we expected – more so than was indicated by the last pricing survey. It is unclear from the survey what the consequences are from the use of any historic pricing.

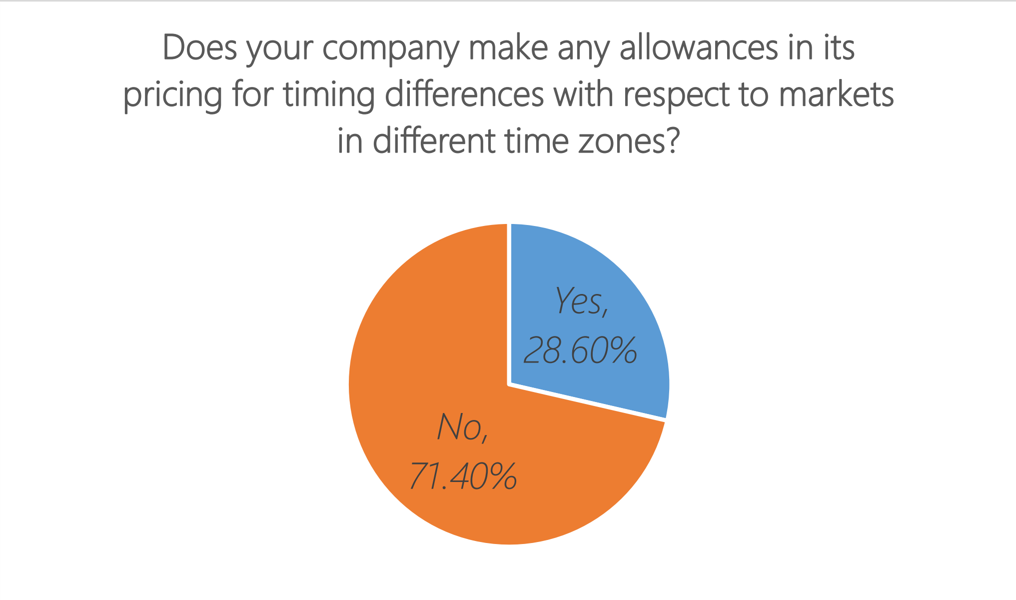
Q26.



It appears that companies are doing this adequately. It would be interesting to understand how it is being done in practice for non-mirror funds where the valuation points are not the same as the trading prices (i.e. exchange instruments, or assets across global time zones).

From our understanding of current practice the answer to this question confirms that the majority of companies are not running an active box management position[2] on the unit funds. If there is a mismatch and the shareholder is not running a box position then the fund will be accumulating the costs/benefits of these positions.

Q27



In hindsight, it is difficult to gain insight from this question. For example using a 12 noon pricing point in Ireland leads to prices based on markets closed in Asia and the US, whereas a 5pm pricing point in Ireland leads to markets open in the US (and closed in Asia).

It could be that there are no issues with the ten who answered "no" because they may invest funds only in assets in near time zones (e.g. via local collective investment vehicles using mirror funds).

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[2] Noting companies will hold balances of cash relative to minimum dealing amounts of the underlying assets.

Q28.

If your company applies a historic pricing approach, do you have formal procedures to ensure any mismatch does not materially impact the other unit holders?		
Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	5

Only four companies responded that they used some historic pricing processes in Q25. The response here may just reflect the lack of formality in the procedures on this topic.

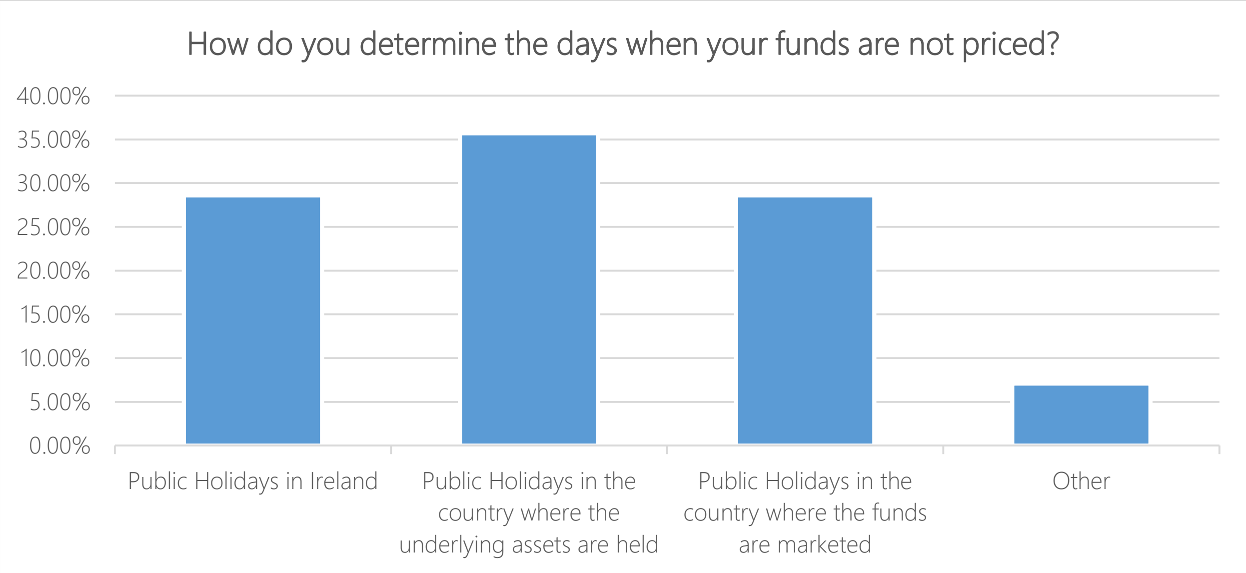
Q29.

Is rounding done on a neutral basis or used as a method of applying a charge to the fund?		
Answer Options	Response Percent	Response Count
Neutral	85.7%	12
Part of the Charging Structure	14.3%	2

Pricing rounding can be a charge to the policyholder – where rounding is always applied up for offer prices and down for bid prices. This feature was highlighted by regulators in the UK and Ireland as an unfair approach and is effectively not allowed in these jurisdictions. However such a charge can be included in policyholder contracts and used in other markets – often local conventions and norms in the market will influence what is used.

The high neutral percentage is expected, and we believe reflects a high proportion of UK and Irish business in the survey.

Q30.



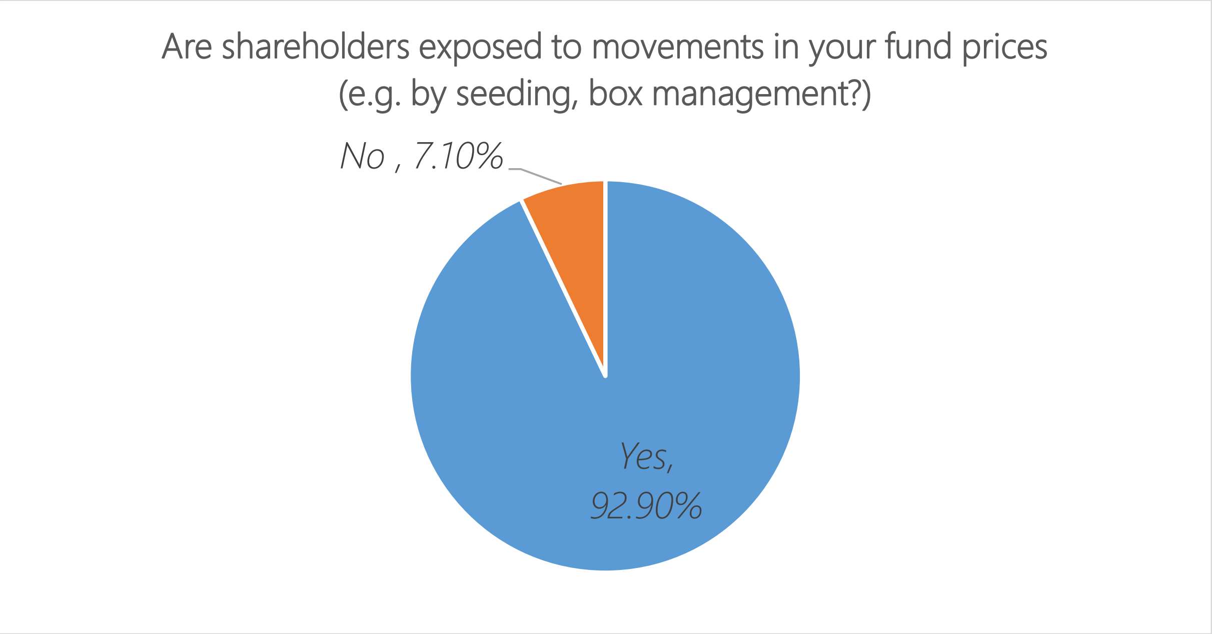
The answers to this question were as expected and reflect the range of markets covered by life companies based in Ireland.

Q31.

Do you have a written procedure for dealing with business disruptions which would prevent your prices being calculated in the normal manner? (e.g. stale prices, move prices in line with an agreed index, do not release prices)	
Answer Options	Response Percent
No	0%
Yes	100%

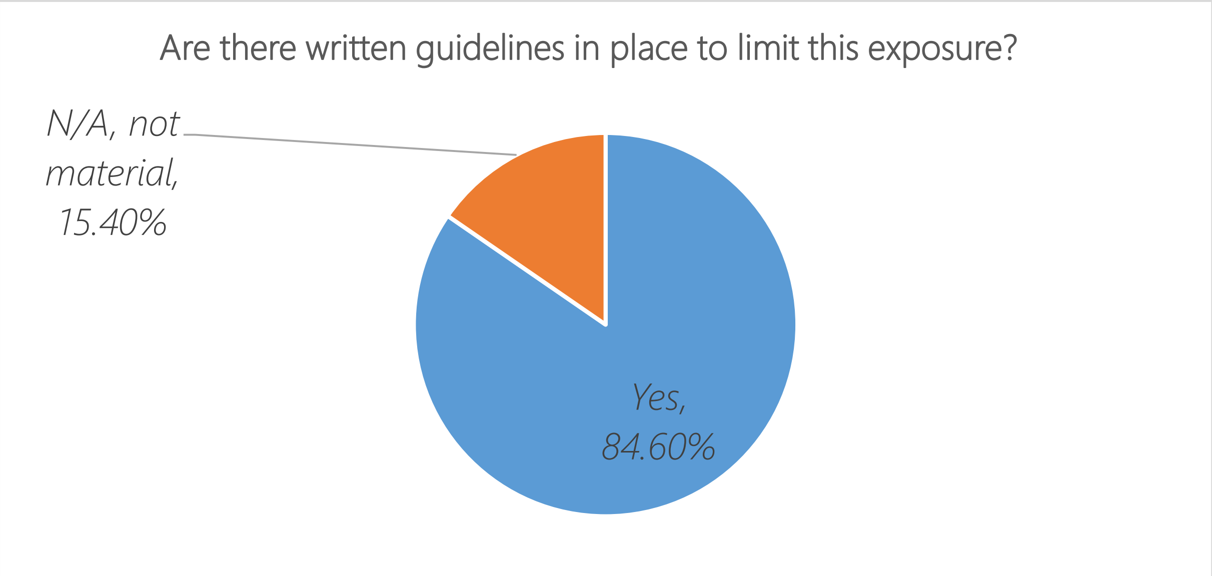
The answers to this question were as expected. We suspect unit pricing is seen as a vital process within the life company and adequately covered in the company's disaster recovery and business continuity procedures.

Q32.



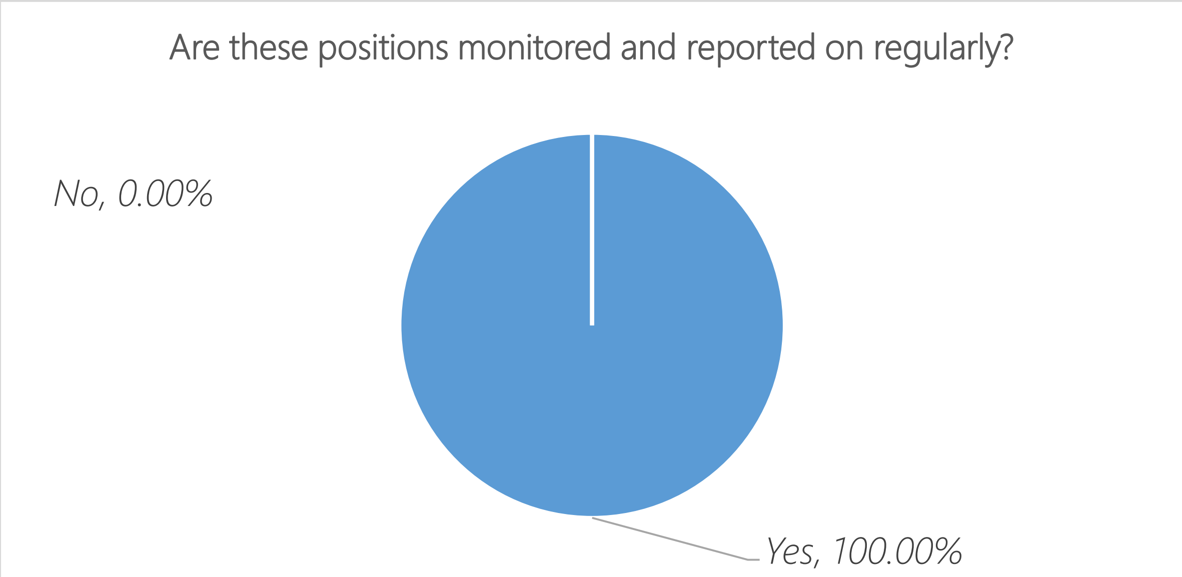
Following from Q26 we suspect that this is not formal box management across all funds and more likely due to fund seeding and small cash balances due to the practicalities of asset dealing amounts.

Q33.



This illustrates good practice that all the companies have written guidelines, and from previous answers suggests life companies seek to match unit liabilities as closely as possible with appropriate unit assets.

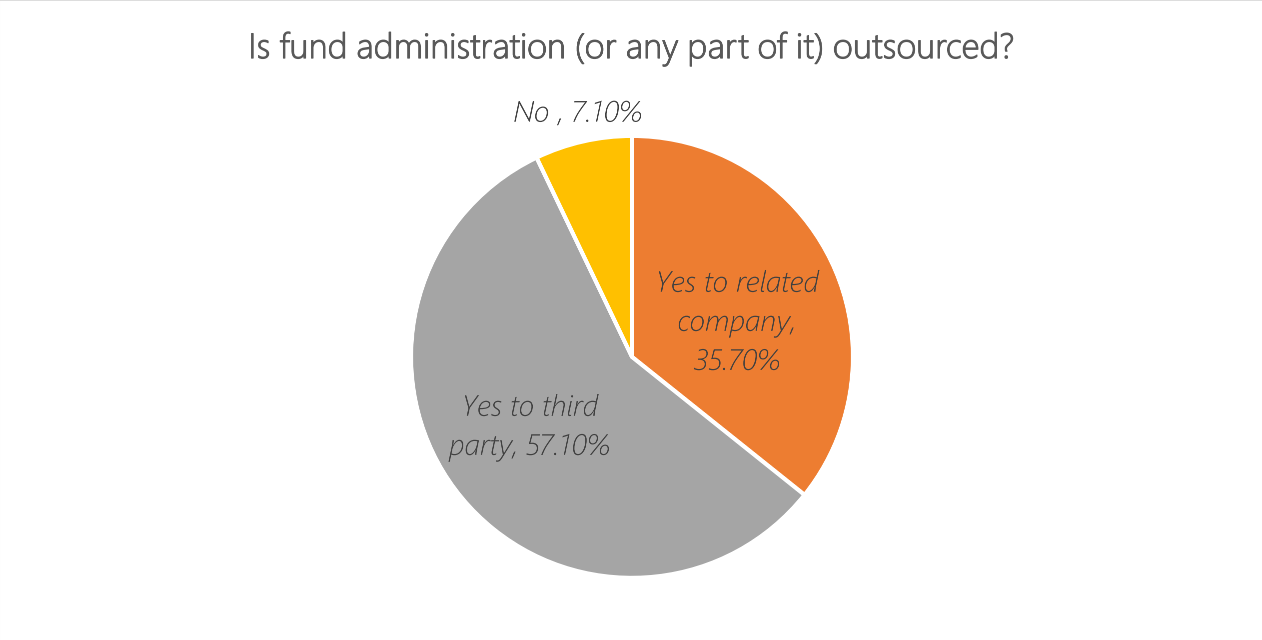
Q34.



Consistent with the responses to the previous two questions.

2.4 Outsourcing

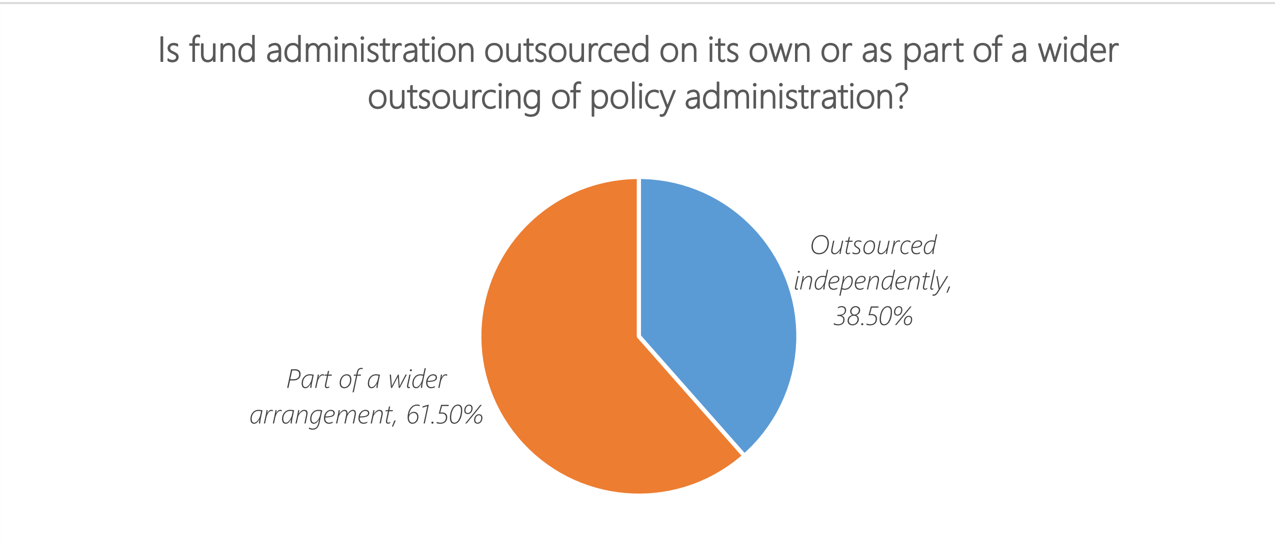
Q35.



A significantly large proportion (90%) of respondents outsource their fund administration, with three-fifths of those outsourcing to a third party. Given the technical nature of fund administration within the operation of unit linked funds, it is expected that most companies would outsource, to either a specialised branch within their own group or else specialist Third Party Administrators who benefit from wider experience and economies of scale.

Given the large number of international companies participating in the survey (75%), this is an expected result.

Q36.



Just over one-third of respondents outsource fund administration on its own. This was greater than we expected and it is possible that this included outsourcing to related group entities.

Q37.

Which of the following areas are outsourced? (tick all that apply)	Response Percent	Response Count
Receipt and processing of policy cashflows / unit movements from company policy administration system	92.3%	12
Trade order creation & placing of trades in the market	100.0%	13
Settlement of trades	92.3%	12
Custodian reconciliations	92.3%	12
Bank reconciliations	84.6%	11
Sourcing and checking daily asset price feeds	84.6%	11
Fund valuations	84.6%	11
Tax accrual calculations	23.1%	3
Fund Accounting (calculation of unrealised gains etc. for financial accounts)	84.6%	11

Where outsourcing occurred, very few unit pricing tasks were retained in house. The only outlier - the tax accrual calculations - can be explained as this is not relevant for most international business.

Q38. When you choose your outsourcing partner rank the factors to you take into account? *1 = first factor, 7 = last factor*

Answer Options	1	2	3	4	5	6	7	Rating Average	Response Count
Authorised	5	1	0	1	1	2	1	3.18	11
Country of Location	0	2	2	0	2	2	3	4.82	11
Listed or not	0	0	0	0	2	3	6	6.36	11
Size of company	0	0	1	4	3	3	0	4.73	11
Reputation	3	2	3	2	1	0	0	2.64	11
Cost of Service	1	2	3	4	1	0	0	3.18	11
Existing Relationship	2	4	2	0	1	1	1	3.09	11

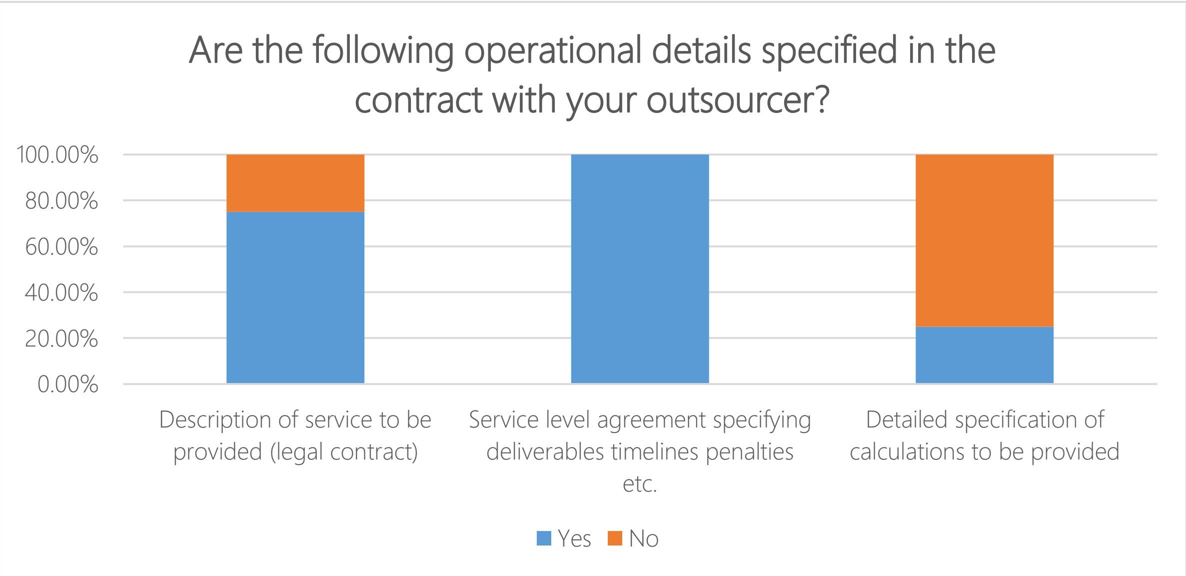
We expect that many companies outsourced fund administration as part of the overall decision to work with an external TPA. In this case it seems likely that fund administration itself was not the only factor in choosing an outsourcing partner. However, for companies who outsource the function as a self-contained activity, it does appear that cost of service is important. We expect cost of service includes the relative costs of resourcing and running the function within the life company, rather than simply choosing the cheapest external provider.

Q39. Do you have a formal agreement in place with your outsourcer governing the specific items that are outsourced?

Answer Options	Response Percent	Response Count
Yes	100.0%	13
No	0.0%	0

This was the response the Working Party expected for any external relationship with an outsourcer, but this suggests group outsourcing is also documented with a formal agreement.

Q40.



As expected, most companies have Service Level Agreements ("SLA") in place. Given the technical detail needed in unit pricing, we also asked a question on the level of specification of the prince methodologies within the outsourcing contract. Given the Working Party's experience in this area, the results showed a somewhat expected result confirming a lack of detailed specifications for the unit pricing calculation within the contract.

Our view of this result is due to the rigid nature of an overall unit pricing methodology within a company. Unlike product specifications which tend to be available to different departments in a company and differ from product to product, unit pricing tends to be restricted to fund administration team and oversight function, and become a constant in new fund and product launches. Once in place, we believe unit pricing is often carried out "the way it was always done" and very little changes/modifications occur.

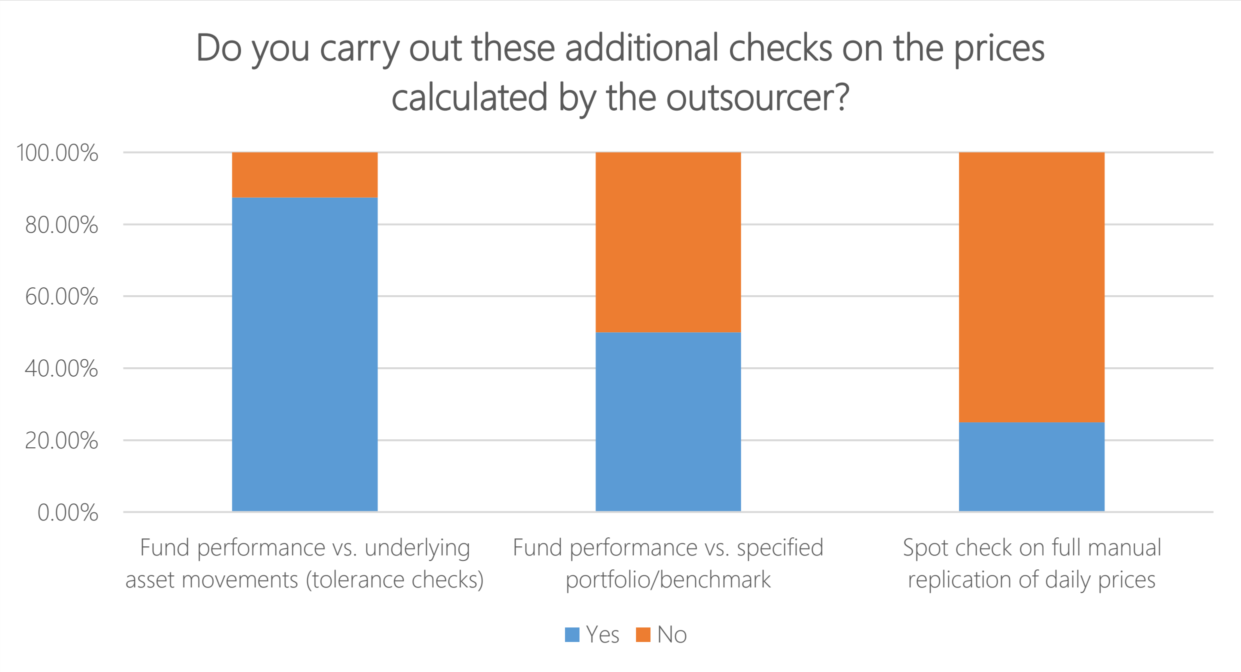
This also (potentially) brings higher risks of undetected systemic errors residing within a unit pricing function for long periods of time with the consequent high costs and effort needed to correct any such errors once discovered. However, such an approach is also stable over time and less prone to change control errors as few major changes are made to the process. The parameterisation of most of the fund pricing inputs allows this stability over time.

Q41. Can the outsourcer apply any discretion in the operation/pricing of the funds in the following areas (tick all that apply)?

Answer Options	Response Percent	Response Count
Rounding of prices	100.0%	1
Pricing basis (appropriation or expropriation)	100.0%	1
Spread on pricing basis	0.0%	0
Stale basis – manual adjustments (e.g. indexing)	100.0%	1

Most respondents skipped this question and we assume this is effectively a "no" answer. As expected, outsourcers follow a set of rules already established by the company.

Q42. What additional checks do you carry out on the prices calculated by the outsourcer? (Tick all that apply)



Tolerance checks are not exact, and can leave small daily accruing errors undetected. We therefore believe multiple checks are more robust and note most companies seem to rely mainly on a tolerance check. It was unclear from the survey how refined the tolerance check is, and how often it gives rise to additional checks and conversations with the outsourcer.

Five companies – representing a significant number of respondents who outsource - skipped this question. Arguably, this could be interpreted as being a "no" answer for all three checks, and if so, it would give a very different result than shown above.

The "no" answers could suggest that the controls within the outsourced unit pricing process are sufficient for the Life Company to evidence the reliability and accuracy of the process. Alternatively, the no answers might suggest a lack of in-house knowledge (or willingness) to carry out the detailed workings, and the effort needed to carry out such checks.

Q43. Which of the following carry out oversight on the controls and checks in the outsourcer (tick all that apply)?

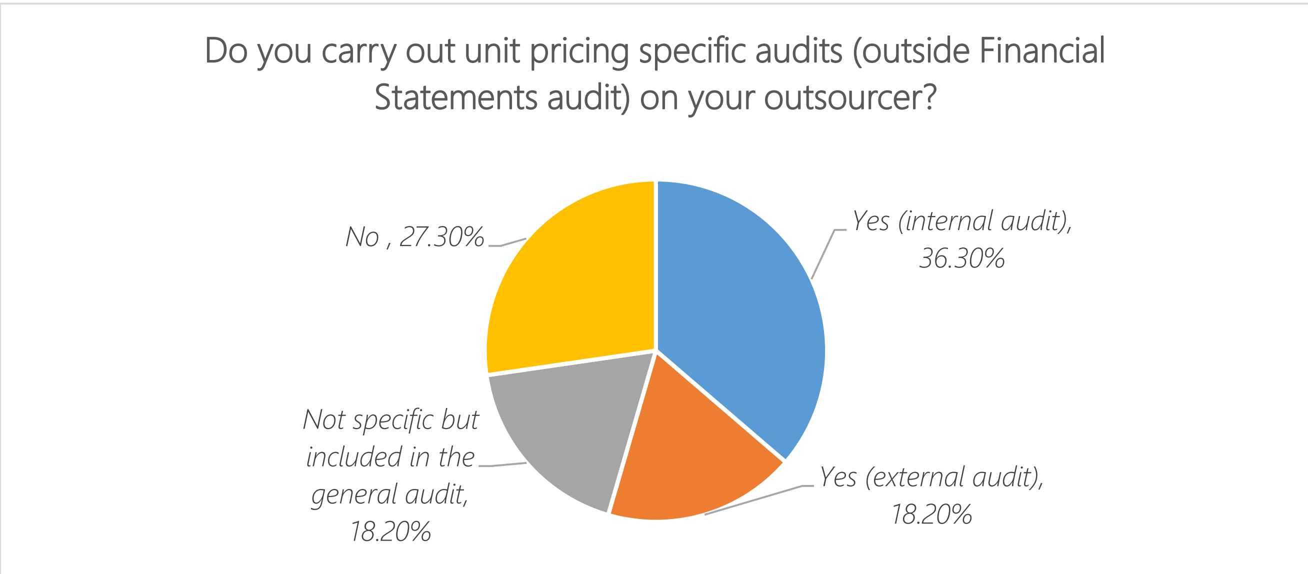
Answer Options	Response Percent	Response Count
Investment Committee	41.7%	5
Actuarial Function	25.0%	3
Risk Function	16.7%	2
Other management (e.g. Finance Function) - please specify	50.0%	7

A small proportion of respondents had the actuarial function overseeing the outsourcer and they were solely responsible for it in only one company.

The Investment and Finance function retains full or joint responsibility in the majority of cases, highlighting an expected result that actuarial departments tend not to have full control or responsibility for unit pricing.

We also expect that the nature of the checks and oversight provided by each function would differ, which may give a more developed overall control framework. However, with more than one area responsible for oversight, gaps in the overall control framework can appear and errors can appear in the gaps.

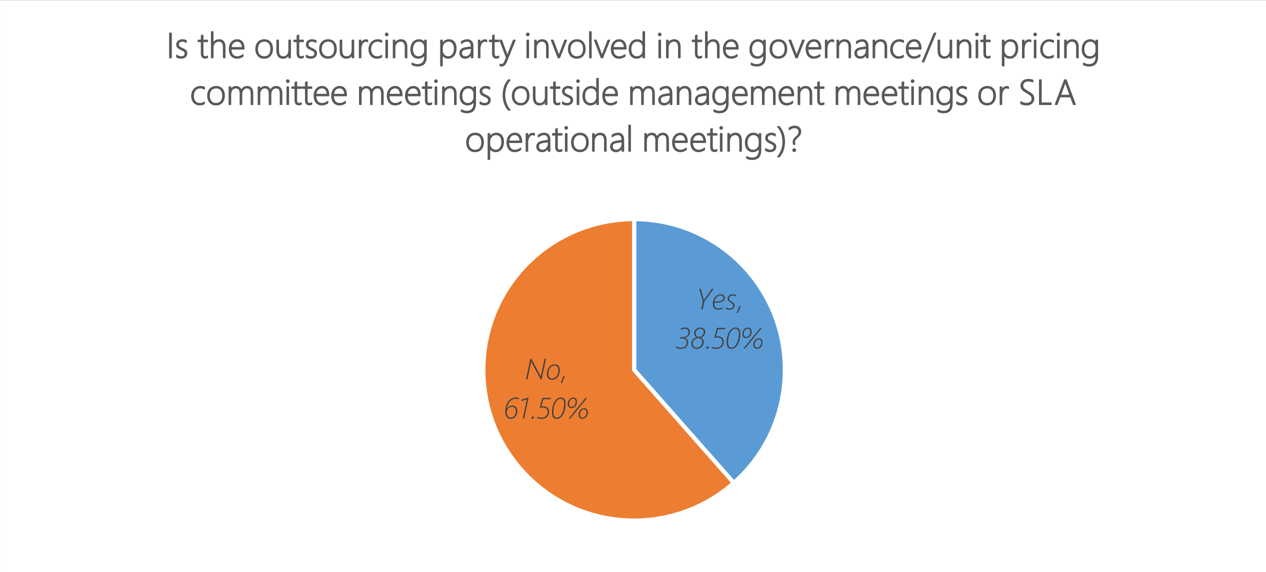
Q44.



The response to this question showed that over one quarter of companies surveyed don't carry out an audit of the processes of outsourced unit pricing. This does suggest a reliance on the outsourcer for these respondents.

The nature of an audit in preparing a set of financial statements includes a level of materiality relative to financial size of the Company. A problem in unit pricing below this threshold would also (arguably) not need to be discovered in such an overall audit process.

Q45.



As expected, a large number of respondents retain governance / Unit Pricing Committee meetings in-house, without involving the outsourcer. This does not preclude other meetings with the outsourcer (perhaps as part of a separate financial, or control or SLA meeting agenda).

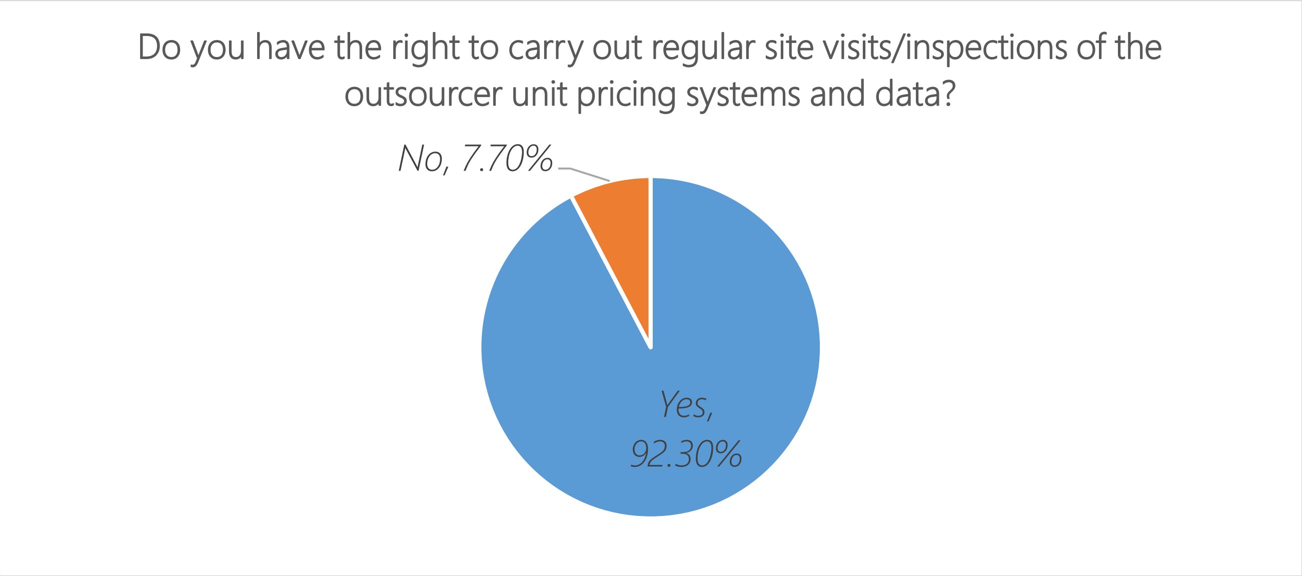
As seen in Q41, outsourcers have very little discretion in the operation of the funds, and generally carry out the unit pricing function as prescribed. Therefore, it's not surprising that they're not involved in the decision making process.

Q46. How do you determine the outsourcer's liability in the event of a unit pricing error?

Answer Options	Response Percent	Response Count
Defined in the outsourcing contract	50.0%	6
Case by case basis	50.0%	6
Life company has the liability	0.0%	0

As expected, the Life Company is not obliged to pay the costs for unit pricing errors outright when the function is outsourced. In practice though we believe life companies will not seek to pursue the outsourcer particularly when policyholder compensation amounts involved are small and the effort required (in terms of staff and project costs) may exceed the actual policyholder compensation amounts. We suspect this is reflected in the responses as 50% of companies determine liability on a case by case basis.

Q47.

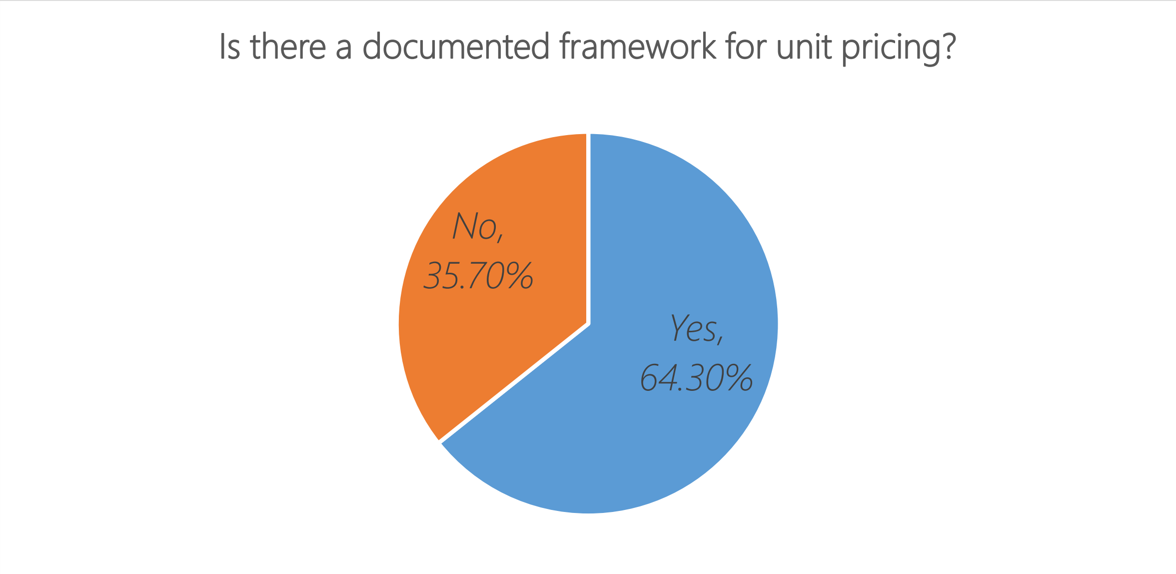


As the ultimate responsibility for unit pricing remains with the original company, it is expected that they have the right carry out inspections/visit. However, we are unsure of how frequent such visits are in practice.

We were also expecting such a high yes response as it is also expected that such access to the outsourcer would be required for external audit and also to the Central Bank as the Regulator of life companies.

2.5 *Fund Governance*

Q48.



Most (but not all) companies surveyed have a documented framework for unit pricing (65%). Having a documented framework is consistent with a high standard of unit pricing governance.

Q49. What does the documented framework include?

Answer	Response Percent	Response Count
Responsibilities of the Board, general management, actuarial function, compliance and risk	77.8%	7
Management of outsourced service providers, such as the appropriate documentation and regular review of the outsourced service provider's performance	33.3%	3
Approach to setting and review of key operating policies and principles i.e. a unit pricing policy	100.0%	9
Processes for identification, assessment and reporting of risks, as well as escalation measures for errors	88.9%	8

All companies with a documented framework have a unit pricing policy in place but only a minority of companies seem to document any outsourcing relationship.

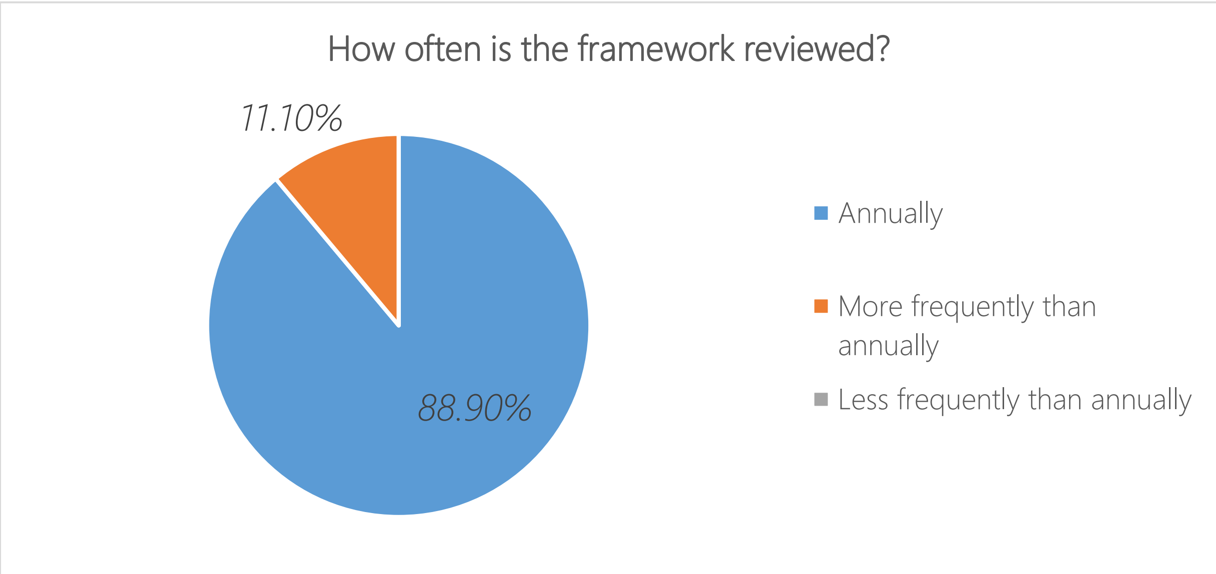
Q50. Is the framework (or a version of the document) made publicly available?

Answer Options	Response Percent	Response Count
Yes	0.0%	0
No	100.0%	9

It was not surprising that companies do not publicise their frameworks.

However it is worth noting that additional information on how unit pricing is performed and the potential consequences for policyholders is becoming more common in the UK. For example, the operation of dual pricing of a typical life company internal fund is somewhat complex and can lead to “jumps” in the unit price reflecting the direction of fund cashflows and not simply market movements.

Q51.



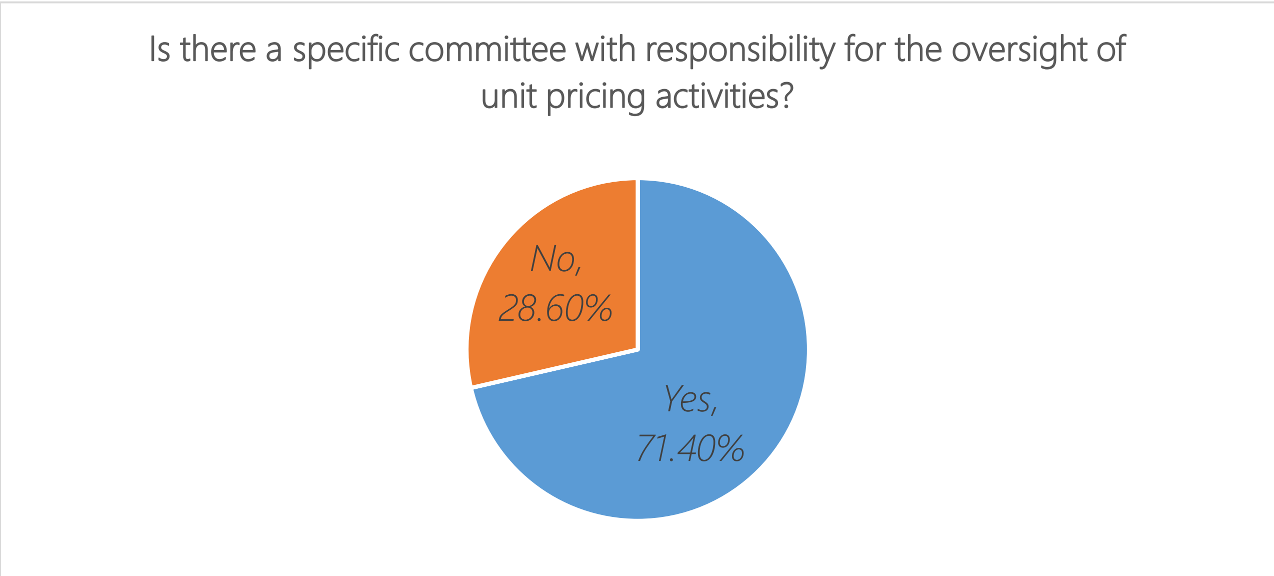
The majority of companies review the framework annually. This may suggest it sits within an overall family of governance policies which area reviewed annually.

Q52. What guiding information was used in setting the unit pricing framework? (Tick all that apply)

Answer Options	Response Percent	Response Count
ABI guidance	100.0%	9
Corporate governance code for Irish financial institutions	66.7%	6
Consumer Protection Code	55.6%	5
Parent Company Standards	55.6%	5
Other		1

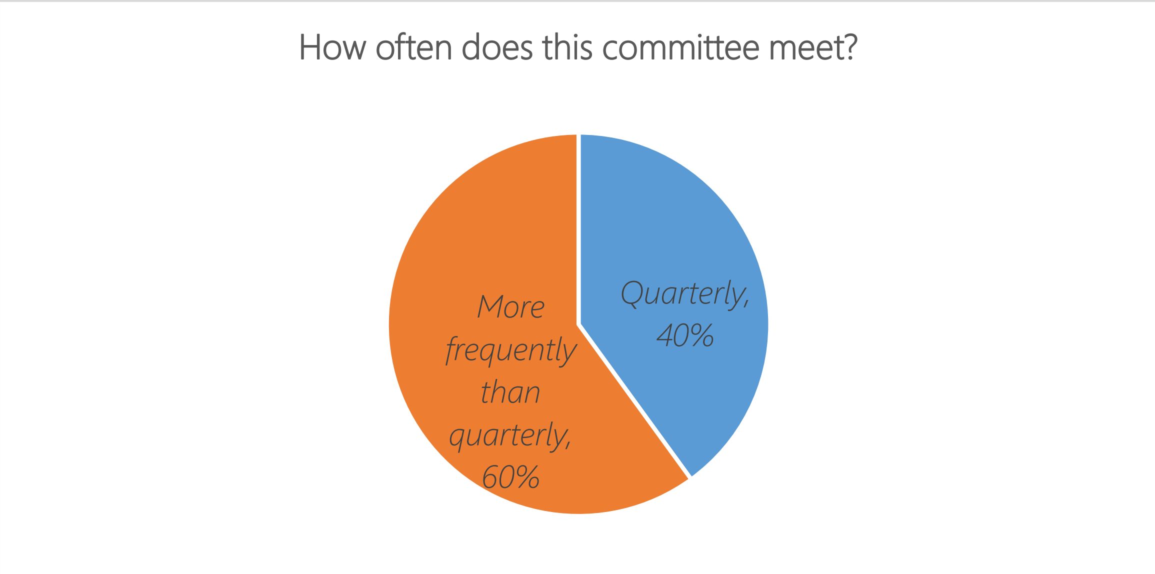
We are not surprised at the high level of response to the ABI Guidance given the proximity and similarity of the UK market. This may also suggest that there is an appetite for industry standards in this potentially complex area.

Q53.



Of the four domestic companies that responded, three have specific committees with responsibility for the oversight of unit pricing. Presumably the Boards (or subcommittees of the Board) of those companies who do not have a specific committee retain direct responsibility for the oversight.

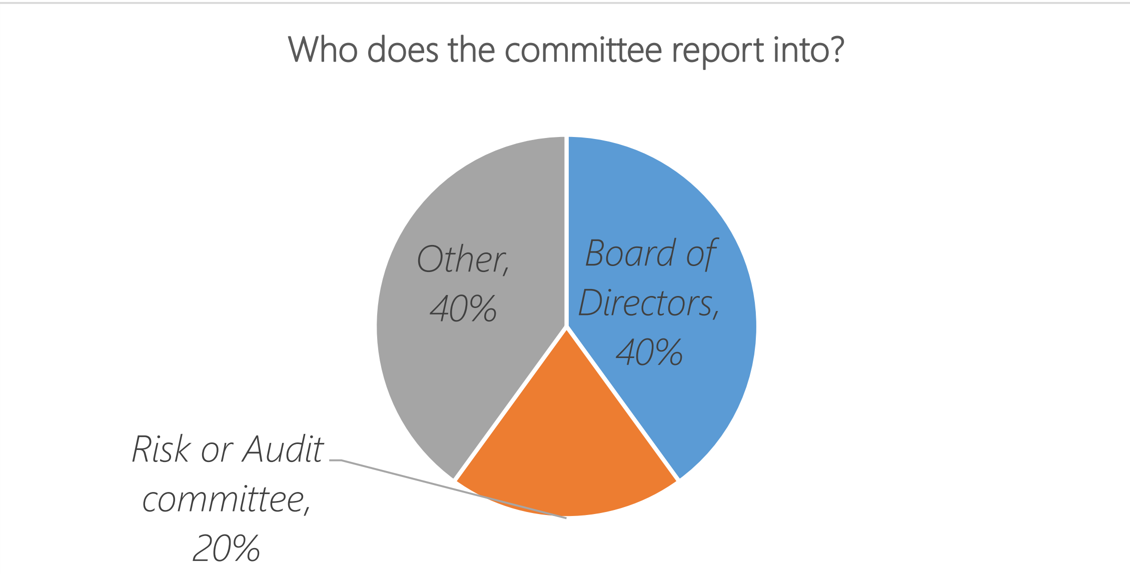
Q54.



There was a varied response to how often this committee meets with no trend visible depending on size of the assets under management or domestic versus non-domestic.

Perhaps the activities of the committee explain the frequency of meetings. Typically annual reviews of a pricing framework and a higher level of oversight leads to less frequent meetings (perhaps linked to quarterly Board meetings). However if the committee is activity engaged in unit pricing monitoring and correcting errors, it can become a routine and frequent meeting.

Q55.



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There appears to be a variety of reporting arrangements for the oversight committees again with no trend visible depending on size of funds under management or domestic versus non-domestic.

Q56. What regular MI is provided to this committee in order to meet its duties? (tick all that apply)

Answer Options	Response Percent	Response Count
KPI on unit pricing controls (e.g. custodian reconciliation, cash reconciliation)	60%	6
Details on Unit Pricing Errors	90%	9
Financial indicators such as counterparty exposure, currency exposure & liquidity	50%	5
Fund performance	70%	7
Other	20%	2

There was high participation across the choices given which is what we expected. The lower percentages covering KPIs is a little unexpected as an oversight committee would typically need to monitor the actual controls in place.

Q57. Is there a formal daily sign-off process of unit prices performed?

Answer Options	Response Percent
Yes	100.0%
No	0.0%

All companies surveyed have a daily sign-off process of unit prices. Given the financial nature of the activity, this is as expected.

Q58. After the price is struck, which of the following controls are applied? (Tick all that apply)

Answer Options	Response Percent	Response Count
% change in price relative to underlying assets	84.6%	11
Comparison of % change in unit price to % change in fund benchmark	53.8%	7
Reconciliation of unit price to previous unit price	92.3%	12
Check that new unit creations since previous pricing date have not impacted on current unit price	38.5%	5

The majority of companies have controls around the percentage change in price relative to the underlying asset and a reconciliation of the unit price to the previous day's unit price. These are checks that can relatively easily be included in a daily process (as the information typically is at hand and only seeks to review movement since the last price struck).

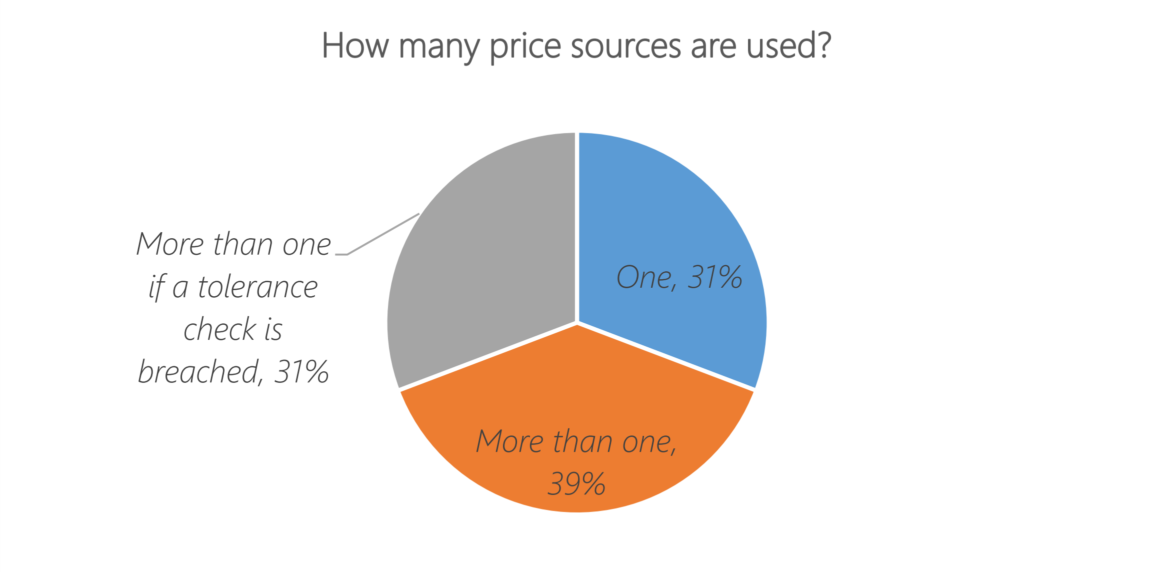
It is notable that some companies seek to extend controls to include benchmark checks and “what if” checks on any unit creations or cancellations.

Q59. Is there percentage or absolute limits set for key elements of the valuation?

Answer Options	Response Percent	Response Count
Movement of the prices of individual stocks	100.0%	11
Change in FX rates	0.0%	0
Accrual figures for income, expenses and tax	0.0%	0

The results for this question show a pretty clear answer. All companies who responded have limits on the movement of individual stocks.

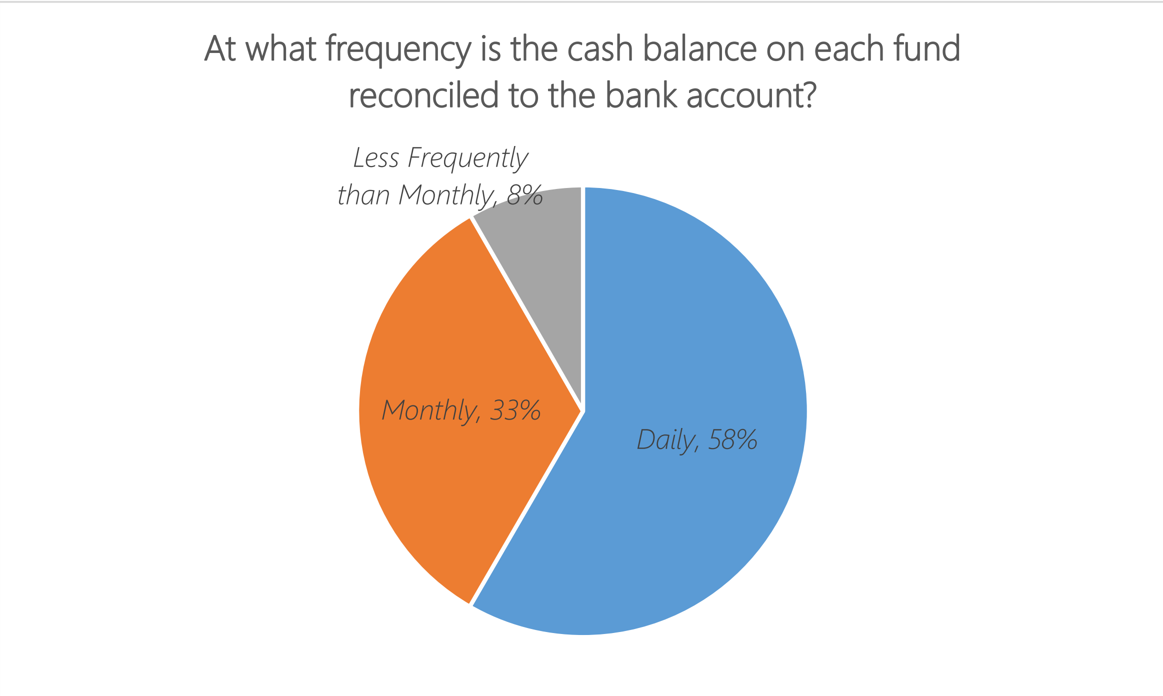
Q60.



There was no clear outcome, with a reasonably even spread of answers. The recent thematic review by the Financial Conduct Authority in the UK found that nearly half of companies in their sample could make some of form of improvement to their valuation process for the underlying assets.

It is not clear from the response to this question whether multiple price sources are used for the same securities, or only as "secondary" pricing sources when the primary source is not available.

Q61.

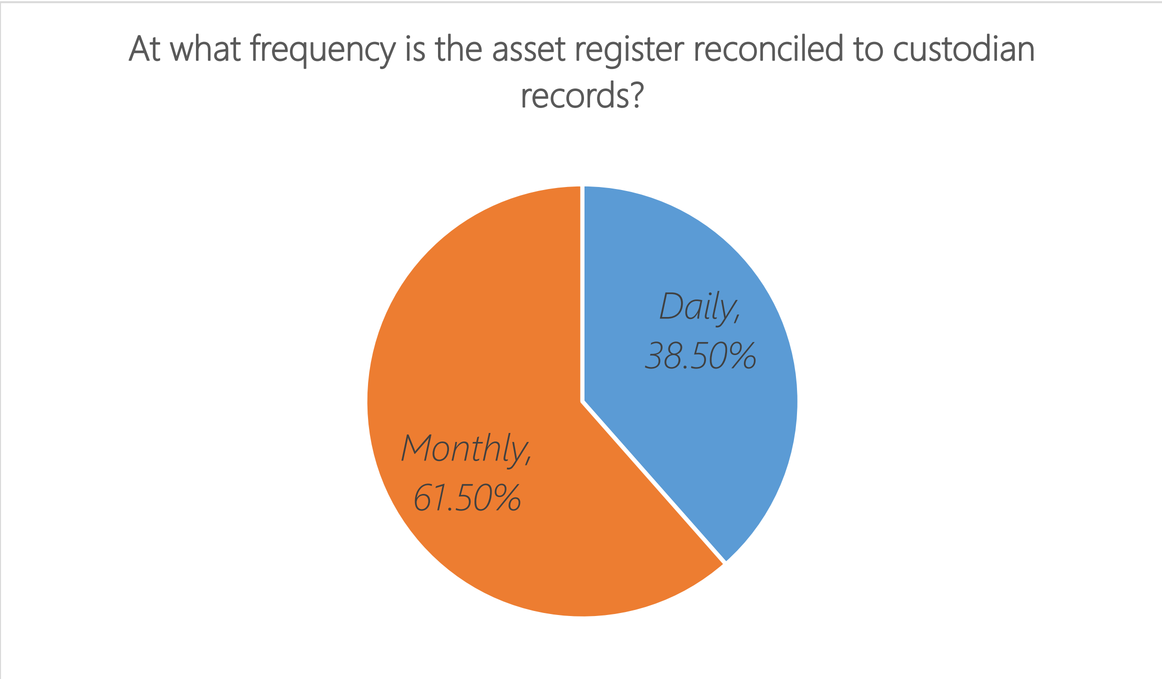


The majority of companies reconcile the cash balance daily and only one company does not do it at least monthly.

There is a marked difference in the level of effort and systems required to do this for internal funds holding single collectives (mirror funds) and those which do not. This may be reflected in the split above.

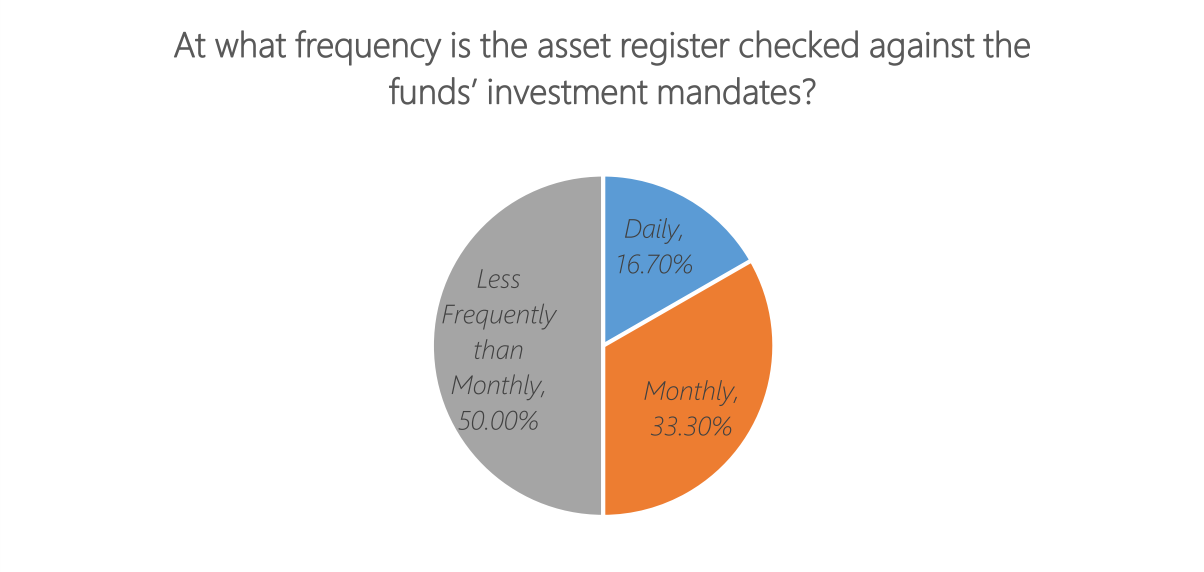
It is also worth noting that life companies may use bank accounts at an individual fund level, or at a higher overall level (currency level, or fund manager level for example) which leads to different levels of complexity in bank reconciliations.

Q62.



This reconciliation happens at least monthly in all cases. This is as expected.

Q63.



Half of the companies that responded carry this check out less frequently than monthly. It is not clear if it is a specific check that is carried out regularly by these companies. Checking asset mandates is more important where fund of fund structures or multi-asset strategies are used. The replies may also include mirror funds investing in single assets (external funds).

Q64. Is there an independent review carried out on the unit pricing activities by any of the following? (Tick all that apply)

Answer Options	Response Percent	Response Count
Internal Audit	91.7%	11
External consultants	58.3%	7
Group Experts	16.7%	2

There seems to be strong oversight from internal audit of unit pricing activities.

Those who did not tick any answer (four companies) are not included in the response percentages so there may be no independent reviews carries out for these companies

Q65. If any of the above are selected, what triggers an independent review? (Tick all that apply)

Answer Options	Response Percent	Response Count
Reviews are planned to take place at specific frequencies	100.0%	12
System, regulatory or other business change	33.3%	4
Identification of Errors	58.3%	7

All companies have planned reviews that take place at specific frequencies but for many companies additional reviews can take place especially in response to an error. Three out of four domestic companies have had an independent review following a pricing error.

Q66. Did previous reviews (in the last three years) assist the company to change/reconsider the operations in any of the following areas? (Tick all that apply)

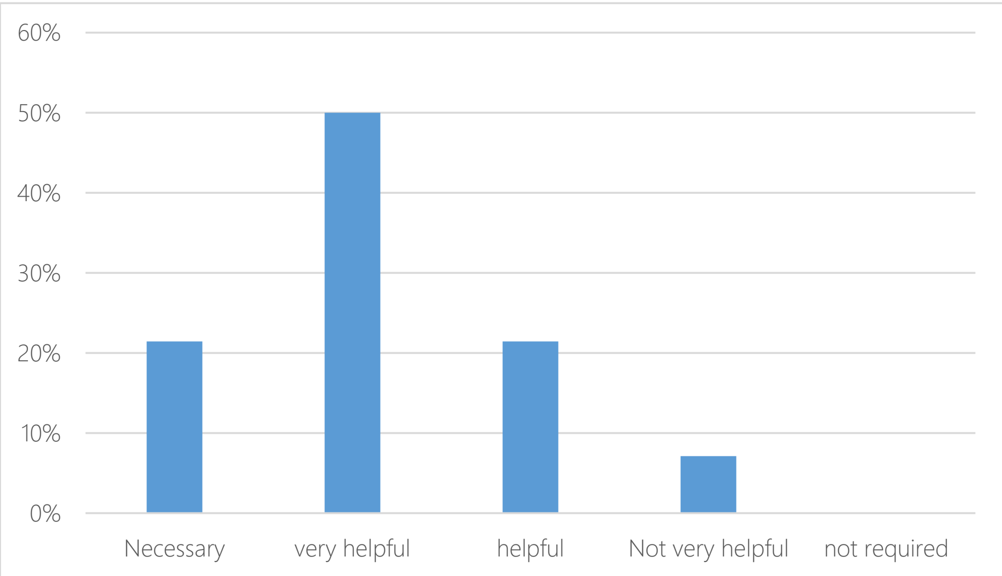
Answer Options	Response Percent	Response Count
Unit pricing providers and outsourcing	30.0%	3
Box management policy	40.0%	4
Areas of company's discretion (listed in section 2)	40.0%	4
Stale pricing	80.0%	8
Approach to contingent events and exceptional circumstances	30.0%	3
Consistency of unit pricing with product literature e.g. Valuation of assets / timing of transactions / charges & expenses	30.0%	3
Valuation of illiquid assets	60.0%	6
Unit price checks	70.0%	7
Approach to dealing with unit price errors	70.0%	7

On the basis of these responses, it does suggest independent reviews tend to lead to changes to the pricing processes.

Interestingly, the most frequent answer given was that recent reviews caused companies to change practices in relation to stale pricing and the majority of companies also considered changes for the somewhat related area of valuation of illiquid assets.

Price checks and approach to pricing errors is also an area in which companies considered change. Six of the seven companies from Q65 above, where an independent review can be triggered by a pricing error, also changed (or considered changing) their unit price checks as a result of a recent review. Five of these also considered their approach to dealing with errors. It may be that many of these companies had an error which triggered a review resulting in a change in checks and correction practices.

Q66. How useful would a guide of good practice in the area of unit pricing for actuaries practising in Ireland be?



There seems to be a strong appetite for a guide to good practice in the area of unit pricing with over 70% of respondents indicating that a guide is either necessary or would be very helpful. Q52 above shows that the guidance that is currently available (ABI) is widely used by companies in setting their unit pricing framework.

Q67. How would you rank the following areas in terms of requiring most focus in a guide of good practice?

Application of Discretion in Unit Pricing

Operating Standards

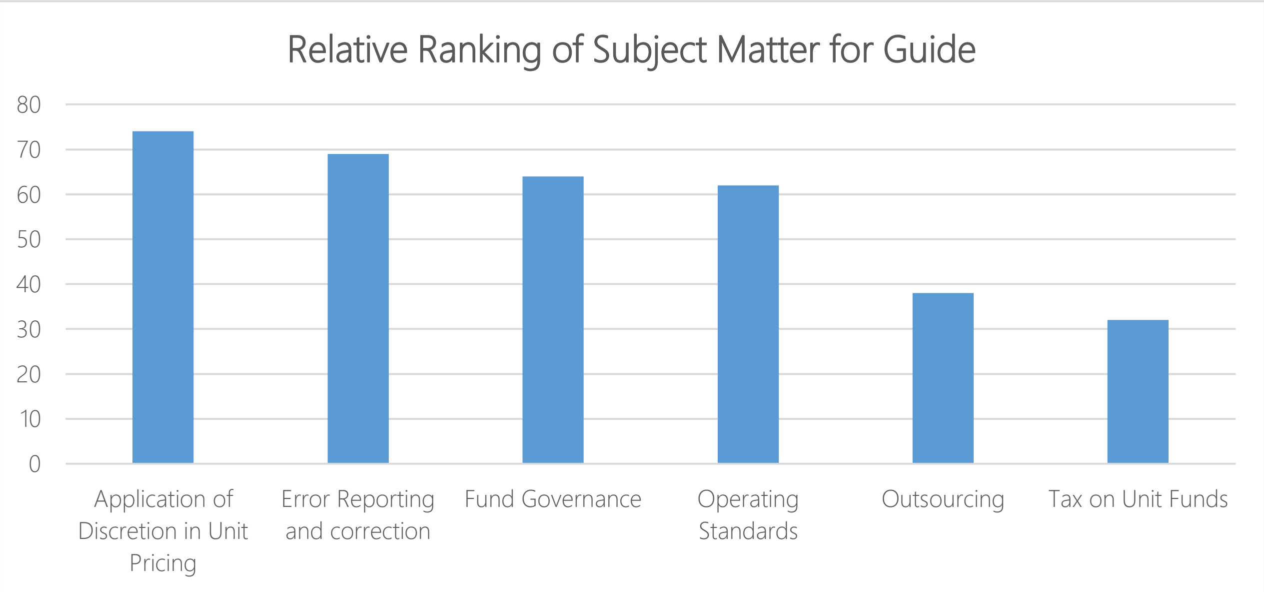
Tax on Unit Funds

Outsourcing

Fund Governance

Error Reporting and correction

The answers given were converted into aggregate scores and are shown below (higher score = more important):



As expected, the application of discretion in unit pricing is an important area.

Consistent with other responses, error reporting and correction is an important area for companies and one that they would appreciate guidance in. It is obviously an area of focus for companies as can be seen from Q65 and Q66 above: the approach to dealing with errors has been considered recently by 70% of companies and unit pricing reviews have often occurred as a result of a pricing error.

Tax ranks as requiring least focus. It would seem that this is partly due to the fact that it does not apply to some of the companies.

Outsourcing also ranks quite low. The recent thematic review by the FCA identified some failings in oversight of outsource providers in approximately half of the companies in their sample size.

3 Resources

This section gives a selection of resources and suggestions for further reading that the Working Party felt may be of assistance to the Unit Pricing experts within life companies. Our reading list is based on the Working Party's own experience and does not purport to be a full or complete list.

We would welcome additional suggestions and references (via the Society of Actuaries in Ireland normal contact points).

3.1 *Fund Governance*

3.1.1 Structures and Documentation

The SAI survey indicates that most companies have good governance structures in place such as a specific committee with unit pricing responsibility that meets at least quarterly and many of the expected checks and controls on the pricing of assets and funds. This is in line with findings of the FCA thematic review of the governance of unit-linked funds in the UK that most firms had adequate systems and controls in place to manage the risks arising from the operation and management of their unit-linked funds. However, there seems to be areas where some companies fall short of the standard expected by the ABI Guide to Good Practice for unit-linked funds (May, 2014) particularly in relation to documentation of unit pricing activities.

Over one third of respondents to the SAI unit pricing survey did not have a documented framework for unit pricing.

In considering a written framework, the ABI guide expects firms to have at a minimum:

- Documents that set out the firm's intended unit pricing methodology including policies on all material areas of discretion
- Operational procedures
- Terms of reference for the Board, committees, sub-committees and working groups.

The companies that do have a framework review it at least annually. No companies surveyed make their framework available publicly. The ABI guide recommends that the information available to customers should be sufficient for them to understand at a high level how the firm operates the fund and manages their investment.

3.1.2 Pricing Methodology

Pricing methodology refers to the valuation details of the assets held in the fund, and the treatment of cashflows into and out of the fund. Unit linked funds typically seek to ensure the creation or cancellation of units in the fund does not affect the value of policyholder units within the fund. This is the principle of equity in unit pricing. The complexities faced managing equity within the unit funds were comprehensively explained by an earlier Unit Pricing Working Party which presented a paper to the Society in November 1993.

A pricing methodology has to consider how to address the following issues:

1. In case of a forward pricing approach, review whether the approach ensures that the price that the customer transacts at is aligned with the value of the underlying asset transaction. This seeks to ensure the cash introduced into the fund has the same value as the units created by the cashflow. If the policyholder transactions are not aligned with the underlying asset transaction the unit fund may have an inappropriate leveraging or cash balance and the investment mandate may be breached.

2. If a historic pricing approach is used there should be formal procedures to ensure any mismatch due to the timing difference between the customer transaction effective date and the value of the underlying asset transaction does not materially impact the other unit holders. It seems likely it is very difficult to ensure such fairness to all generations of policyholders.
3. Where shareholders are exposed to movements in fund prices (e.g. by seeding, box management) it is recommended that there be written guidelines in place to limit this exposure and/or report on the exposure.

3.1.3 Independent reviews

All respondents to the SAI survey have independent reviews carried out on unit pricing activities. While planned reviews can occur at any time, many companies have reviews triggered by the identification of errors. The regular reviews have led to reconsideration of the operation in many areas including stale pricing for 80% of companies the valuation of illiquid assets for 60%.

The ABI guide states the use of stale prices or the use of indexed stale prices should be avoided where an up-to-date price is available. It also states that where no market valuation is possible that the Board is responsible for ensuring that clear, defined procedures exist and are applied to ensure a fair value is assigned to the relevant assets.

Less than 40% of respondents to the SAI survey use more than one price source as a matter of course. The FCA thematic review found that nearly half of companies in their sample could make some of form of improvement to their valuation process. These typically related to enhancing the range and/or independence of the valuation sources.

Where the identification of errors has triggered a review, this has led companies to change or reconsider their unit pricing checks and their approach to dealing with unit pricing errors in most cases. This seems to suggest errors can occur when appropriately sophisticated controls are not in place.

3.1.4 Appetite for guidance

There is a strong appetite for a guide to good practice in the area of unit pricing with over 70% of respondents indicating that a guide is either necessary or would be very helpful. The ABI guide is used by all companies that have a unit pricing framework in setting that framework with many also considering the corporate governance code for Irish financial institution, the Consumer Protection Code and any parent company standards (which may in turn be influenced by the ABI guide given the typical subsidiary life company in Ireland).

The application of discretion in unit pricing was ranked by respondents as requiring the most focus in a guide to good practice. Error reporting and correction ranked next highest on list with fund governance in third place. Outsourcing was ranked second lowest of the answers provided. Only one third of respondents who have a documented framework for unit pricing include a section on the management of outsourced service providers.

3.2 *Discretion in Unit Pricing*

3.2.1 Introduction

There are many potential areas of discretion when it comes to managing unit linked funds. The ABI Guide to Good Practice for Unit Linked Funds gives a good list of the areas where discretion may be applied:

- Allowing for dealing costs;
- Unit Price rounding;
- Application and alteration of annual management charges;
- Tax (e.g. how actual charges or credits for tax are calculated, when they are removed from or credited to the fund, how deferred tax provisions are calculated);
- Introducing charges for new or unforeseen types of expense which may not be described or covered under existing policy terms;
- Criteria for moving funds between bid and offer bases;
- Internal deals between two unit-linked funds;
- Management of fund liquidity;
- Ability to defer switches/surrenders in adverse market conditions;
- Ability to defer transactions by customers seeking to exploit market timing opportunities;
- Valuation of assets – especially where market prices do not exist;
- Determining, if applicable, distribution rates for income;
- Choice of pricing point of the linked fund;
- Frequency of pricing;
- Addressing breaches of policy conditions/customer commitments and dispute resolution;
- Merging funds;
- Ability to close a fund to new business or completely

3.2.2 When does discretion exist?

Consideration needs to be given to when a company has or may not have discretion over how unit linked funds are managed. Often there can be a divide between practice that appears acceptable from a shareholder perspective and those which may be expected by policyholders given company past practice, information provided to policyholders (either verbally or policyholder documentation) and industry norms. For example, policyholder documentation may be loosely worded which could lead to numerous interpretations of what would be deemed a reasonable change to the contract. Additionally there may be numerous iterations of policyholder documentation spanning multiple contract versions covering the same unit linked funds. The wording differences in these contracts may give rise to differing views on what would be acceptable in terms of discretionary changes.

Some policyholder documents allow the company to assign discretion to individuals within the company, for example the Appointed Actuary. Given the upcoming implementation of Solvency II whereby the Appointed Actuary role will no longer exist companies will need to consider whether that level of individual discretion will still exist or not. Where they deem that is does they may need to inform their policyholders of any change to the company reporting or organisation structure.

3.2.3 Policyholders' Reasonable Expectations

ASP LA4 requires the Appointed Actuary to take into account his or her interpretation of the Company's policyholders' reasonable expectations and advise the Board of this interpretation. In general terms, this interpretation must have regard to the broad nature of the Company's practices and its approach to the treatment of policyholders both individually and (where appropriate) collectively as a group vis-à-vis shareholders. When a material change is likely to take place in the Company's practices, the Appointed Actuary must advise the Board of the implications for policyholders' reasonable expectations.

In carrying out such a review, the Appointed Actuary should normally consider whether the proposed change in practice:

- Is permitted under the policy conditions and relevant legislation;
- Is consistent with the Company's stated policy relating to the exercise of its discretionary powers, and/or with relevant past practice;
- Is consistent with information previously issued to policyholders and, if the product is still being sold, whether any changes to current communications or sales procedures are required;
- Is equitable as between different classes or generations of policyholders or policies with different types of benefit;
- Is being implemented to protect the position of the Company due to adverse experience, while beneficial experience would not merit equivalent changes in practice (if this is the case the Appointed Actuary should normally consider whether the Company communications and policy conditions adequately reflect this position); and
- Is justifiable having regard to recent or expected demographic, economic or market conditions.

Ultimately the Board is responsible for the proper running of the Company, including all matters pertaining to the fair treatment of the Company's policyholders. The Board is, therefore, responsible for meeting policyholders' reasonable expectations.

The ABI Guide to Good Practice for Unit Linked Funds provides additional considerations that companies in the UK should abide by.

- Where possible, funds should be operated according to published criteria and standards. Specifically, the scope of the firm's discretion in managing the fund and the limits to that discretion should be documented and disclosed to policyholders and other relevant parties;
- This codification provides a clear point of reference against which to review any decisions taken, helping to provide clarity and certainty for all parties;
- The scope of discretion should be confirmed annually with a more significant review every three to five years, or upon a significant change to the fund or the investor base;
- Robust and effective reporting structures should be in place to allow the Board to monitor the exercise of this discretion on an on-going basis, to ensure that policyholder interests are safeguarded.

3.2.4 Deferral of transactions

In certain circumstances the life company may seek to use discretion by deferring transactions which otherwise would disadvantage one group (e.g. the remaining unitholders) over another (e.g. the exiting unitholders). It is a difficult decision to make but in times of market illiquidity it may be the only fair course of action for the company to take. The ABI Guide gives an excellent list of issues to consider when deciding whether it is appropriate to defer unit transactions and this is shown below:

- The ability of the fund to trade assets at a fair price in line with customer transactions;
- The level of customer transactions being experienced;
- Maintaining an asset portfolio that is appropriate for customers and in line with the fund mandate, e.g. appropriate levels of liquidity in a declining property fund;
- Deferral rights as set out in customer terms and conditions and any attaching time limits to those deferrals;
- Appropriate price levels for exiting policyholders either where insufficient liquidity exists or for the avoidance of fire-sales at distressed prices which would negatively impact on remaining policyholders;
- The ability of the Shareholder to purchase asset units in respect of exiting policyholders;
- Communication to policyholders, particularly those paying premiums into the fund; and
- Whether all transactions on that fund are deferred or whether some transactions will be allowed to continue as normal (e.g. policy maturities).

3.3 Outsourcing

Due to Ireland's position as a major centre for global fund services, there is wide range of investment administration outsourcing services available to Irish based life companies. This is seen in the survey where over 90% of respondents had entered into outsourcing arrangements for some parts of their investment administration.

The outsourcing of investment functions for life companies tends falls into one of two categories; part of a wider outsourcing of the life company's insurance services or the outsourcing of specific investment administration activities. Often outsourcing services are contracted to related group companies. However, where this is the case, as recent CBI sanctions have demonstrated, the level of oversight required is no different to those where no group relationship exists.

3.3.1 Practices within Asset Management Industry

It is interesting to look at practices in the asset management industry. Oversight of service providers is a common topic within the industry. Many of the issues encountered are equally applicable to life companies as essentially the same business processes are carried out within internal unit linked funds and other collective investment funds. In late 2012 the Central Bank of Ireland carried out a review on current practices in the asset management industry which included the following recommendations:

(1) Ensure that the NAV review is comprehensive

(2) Document the approach to outsourcing including contingency plans and exit strategies

(3) Firms must maintain a risk management document referencing outsourcing

(4) A formal and comprehensive Service Level Agreement must be in place

(5) Outsourcing to be reviewed and discussed at Board meetings

In particular interest here is that the CBI made it clear that for investment firms, even though the calculations of the NAV (unit price) was outsourced, the firm was responsible for the review and sign off of the result prior to the release of the price for dealing purposes. Documentary evidence of this review must be in place.

This thematic review was in the context of the Annex II of the UCITs notices which detailed the requirements to be met when outsourcing investment administration activities. These requirements are a useful reference point (but not mandatory) for a life company reviewing or considering outsourcing of their investment services.

3.3.2 Financial Conduct Authority – Recent Industry Reviews

The Financial Conduct Authority (FCA) in the UK also carried out a thematic review (TR 13/10) on the use of outsourcing service providers in the asset management industry. It was noted that many of the providers are themselves part of complex international service providers and as such have exposure to activities other than the provision of fund administration services. The FCA defined two risk categories within this review:

(1) Resilience Risk

This is where investment managers have inadequate plans to deal with a sudden loss of the service and the effect that this would have on their customers.

(2) Oversight Risk

The risk that the investment manager would not adequately resource an oversight function with sufficient expertise to ensure that the service provider meets obligations and performs according to the SLA

The unit linked thematic review carried out by the Financial Conduct Authority on in 2013 also had a strong emphasis on outsourcing. It found that 50% of the life companies sampled had problems in their approach to outsourcing. These issues included to inadequate engagement by management in the activities of the outsourcer; poor use of life company functions such as risk, compliance and internal audit; informal group arrangements; existence of chains of outsourcers which posed risks to consumers.

3.3.3 Solvency II on Outsourcing

There are two articles within the Solvency II framework that deal with outsourcing which are directly applicable to any outsourcing of investment activities. These are articles 38 and 48.

Article 38 essentially ensures that any outsourcing arrangement does not diminish the ability of the supervisor to gain access to the outsourced activities and the data.

Article 49 states that the insurer remains fully responsible for any outsourced activities and that the outsourcing arrangements do not:

a. Impair the quality of the system of governance
b. Increase the operational risk
c. Impair the supervisor when monitoring the life company
d. Undermine service to policyholders

3.3.4 Guidance from the Association of British Insurers

In May 2014, the ABI issued an update to its publication 'Guide to Good Practice for Unit-Linked Funds'. Following on from the 2012 version, this update includes a more comprehensive section on outsourcing. The 2014 guide now has specific sections within it to deal with:

- Supervision of outsourcer

- Factors to consider when entering into an outsourcing arrangement
- Maintaining understanding of outsourced activities
- Access to MI
- Intra-group Outsourcing
- Recognition of any chain risk in outsourcing

3.3.5 Central Bank of Ireland Enforcement Priorities

In February 2015 the CBI published its enforcement priorities for 2015. Outsourcing features prominently as a cross sector concern.

> *"In 2014, governance failures relating in particular to outsourcing featured in two significant enforcement cases taken by the Central Bank. These cases related to firms from different industry sectors thereby highlight that governance arrangements with regard to outsourcing are an issue across the regulated sectors. As firms continue to outsource functions to reduce costs and focus on core business, the Central Bank reminds firms that outsourcing is no defence to regulatory failings. The Central Bank expects full compliance with all applicable regulatory requirements and appropriate oversight and supervision by firms of the outsourced activity."*

Where a firm outsources investment activity, it must ensure that it has adequate investment policies, procedures and quantitative parameters to manage that investment activity in a way that is appropriate to the firm's balance sheet, and that it has sufficient information to allow it to properly monitor and control that activity.

Actuaries should be aware of recent sanctions and fines issued by the CBI. Consistently, the lack of oversight and management of outsourced activities has been a major element of failure found in many of the published settlements.

3.3.6 Summary

There are consistent themes running through the above references. When viewed together they form a good checklist of issues which should be considered when choosing an outsourcing arrangement or when reviewing existing arrangements:

(1) Does the life company have a written approach to outsourcing?

(2) Does the outsourcer possess the required expertise and knowledge to operate the service?

(3) Does the outsourcer have adequate risk management and internal controls?

(4) Are there other parties used by the outsourcer who are fundamental to the performance of the arrangement? If so are there contingency plans in the event of the non-performance of these parties?

(5) Will the life company, and where necessary the supervising authority, have the required access and audit rights to the systems and data used to provide the service?

(6) How can the life company deal with a sudden and unexpected withdrawal of the outsourced service to ensure service to policyholders is not undermined?

(7) What impact will the outsourced arrangement have on the company's operational risk?

(8) Is there a formal legal agreement in place governing the outsourcing arrangement with a contractual SLA, especially in the circumstance where services are outsourced to group entities?

(9) Does the life company maintain adequate expertise, systems and controls to oversee the operations of the outsourcer?

3.4 *Operating standards & Errors*

3.4.1 Context

The Code of Consumer Protection 2012, which applies to companies writing domestic business, states that a regulated entity "must have written procedures in place for the effective handling of errors which affect consumers".

The ABI (UK) and Australian guides stress the importance of having a system in place for monitoring, identifying and rectifying unit pricing errors that arise. Both guides distinguish between incorrect prices which arise due to errors in administration versus changes which arise due to a revision of an estimated value; the latter not being considered pricing errors.

While the survey did not ask explicitly about this, it is reasonable to assume that as most companies have a written definition of what is a pricing error (approx. 86%) it is likely that this is a part of an overall policy for handling pricing errors.

The survey also asked how recently any written procedures had been updated. Almost 60% of respondents said that their procedures had been updated within the last 3 years. This could be a part of their normal review cycle or it could have been prompted, for domestic companies, by the updated Consumer Protection Code.

3.4.2 Where to find a template for a unit pricing framework

The ABI Guide includes a lot of detail on the mechanics of unit pricing, including a discussion on changing the pricing basis, unit price rounding, and fund launches, mergers and closure. We have not repeated the details here.

3.4.3 Defining and maintaining written procedures for unit pricing

When considering unit pricing issues and determining a company policy the following items could be considered:

- The Consumer Protection Code 2012 (for domestic Irish life companies)
- Review frequency – perhaps to be reviewed at least every year and/or following any change in regulation
- Definition of a unit price error - not just as a % threshold i.e. needs to be developed further to allow use of discretion which may consider items such as
    - Whether the misstatement or omission of information could be considered significant to unit holders.
    - Does the fund have a stated guarantee which was not adhered to in calculating the unit price?
    - What is the range for any possible 'estimations' within unit prices for items which are subject to discretion such as allowance for Notional Dealing Costs?

- Include a minimum monetary amount for errors below which cheques will not be issued and/or additional units allocated. If there is no limit this should be stated.
- State approach to errors which resulted in an overpayment to policyholders (e.g. will units be deducted from in force policyholders, will there be any offsetting between different/future errors).
- Describe internal reporting processes, escalation points and who is informed.
- Describe reporting process to CBI or other national regulators. Clarify role of CBI for non-domestic life companies.

3.4.4 Fund charges – fund of funds

Funds often invest in other fund and companies should give consideration to the overall level of charges and the level of charges disclosed to policyholders.

Where a fund invests in another fund and chooses not to pass on the additional charges the company has to reduce or refund the additional charges either by rebates or by investing in a nil charge share class. Where the company chooses to pass on additional fees to policyholders for externally managed funds, these additional fees should be clearly identified in marketing literature. Additional consideration should be given to procedures around monitoring changes to these additional fees to policyholders and ensuring disclosure information is updated as well as the unit pricing process itself.

Allowance for other costs is often made in unit pricing. For instance, allowances for buying or selling costs may be added to the offer prices or deducted from the bid prices of the securities held. Any charges applied should reflect known or expected dealing costs and transaction terms. Where dealing cost allowances (notional costs) are used they should be reviewed at a suitable frequency and any changes implemented in a timely manner.

Where other charges are levied on the fund (for example custody costs or part of the initial charge on purchasing unit trusts or OEICs) these must be levied in accordance with the relevant policy conditions and unless otherwise specified and disclosed they should be charged on the basis of actual costs incurred.

3.4.5 Error Correction & Compensation

In dealing with unit pricing errors, companies need to consider the appropriate compensation process which may include adjustments to unit balances and/or unit prices.

The results of the survey indicate that there are a number of factors considered when deciding whether or not to pay compensation. The size of the error, in terms of a % threshold or a monetary amount, is the main factor considered when deciding whether or not to pay compensation for an error.

The hierarchy of "errors" will often evolve as follows:

a) Notification/discovery of an error in a unit pricing process (e.g. notification of an incorrect valuation, or incorrect pricing parameter such as management fees)

b) Identification of the scope of the error – number of funds involved and range of dates involved. For some errors, the end date may be open if the error is still within the pricing process (e.g. parameter error).

c) Quantification of the error on the fund price and the total fund value over the effected period.

d) Identification of the policyholder transactions over the period, noting this information is typically not available within the unit pricing area. For this reason an interim estimate may rely on the net cashflows (creations and cancellations) within the impacted funds.

e) Application of the error policy to decide if the error should lead to compensation, notification without adjustment (to internal governance and/or external parties), or no further action is required.

f) If the error required remediation, this may include adjustment to the unit prices only (typically for future unit prices only), or adjustment to historic policyholder transactions and appropriate (and often complex) compensation adjustments

Given we are discussing errors, for completeness we have repeated the price error approaches proposed by both the Australian and ABI (UK) guides below:

- Australian:
  - Less than 0.3%: consider whether or not compensation should be paid;
  - Greater than or equal to 0.3%: pay compensation;
  - For unit holders who have exited the fund compensation should be paid if it is $20 or higher. Below this level the company can choose.
- ABI (UK):
  - Less than 0.1%: errors are recorded but not normally investigated;
  - Between 0.1% and 0.5%: errors are recorded and investigated but compensation is not normally paid unless there is evidence of systemic errors likely to have resulted in losses above £50 for individuals;
  - Greater than or equal to 0.5%: errors are recorded, investigated and compensation is paid;
  - Apply a de minimis level of £10 to compensation payments.

The survey also highlights that some companies treat current unit holders differently than those who have exited the fund. This may reflect the difference in costs involved in making compensation payments to different categories of unit holder.

For companies writing domestic business it should be noted that the Consumer Protection Code does not allow for any threshold below which compensation does not apply and does not distinguish between current unit holders and those who have exited the fund. It states that regulated entities "must resolve all errors speedily" which includes "effecting a refund (with appropriate interest) to all consumers who have been affected by the error, where possible". Also the Code requires that any errors not corrected within 40 business days to be reported to the Central Bank of Ireland.

The FCA's Thematic Review (The governance of unit-linked funds) identified the time taken to correct errors as a key area for improvement. Following this the ABI guide stresses "*the importance of making timely redress corrections and excessive delays should be avoided wherever possible*".

3.4.6 Reporting of errors

The regulatory reporting requirements related to pricing errors are very important considerations. For international companies consideration needs to be given to the requirements of the relevant regulatory authority.

The survey showed that the size of the error, the number of unit holders impacted and the time taken to rectify the error are the main factors which determine whether or not to report to the Central Bank of Ireland. The Consumer Protection Code requires that errors are resolved within 40 business days of identifying the error.

The ABI guide requires "*immediate notification of events having a serious regulatory impact*" while also highlighting that smaller errors which are "*symptomatic of process or control weakness*" should be notified to the FCA.

3.5 Taxation

For life companies regulated in Ireland, taxation within the internal unit linked fund will typically involve either Irish or UK domestic taxation rules. Prior January 1, 2001, before the changes in the Finance Act in 2000 came into force, the mechanism for calculating tax provisions within the unit fund in Ireland and the UK were quite similar. The calculations in both jurisdictions were based on the principles of I-E system i.e. that for the policyholder the investment income is taxed within the fund and hence there was no further tax liability due on maturity or encashment. Since 2001 the I-E system has been ring-fenced in Ireland for those policies that were in-force at that time. The subsequent aging of this cohort of policies means that the financial significance of the I-E provisions is falling as time progresses. However, the rules and the complexities of the calculations still remain.

There are differences between the two systems, e.g. the rules relating to deemed disposals and the treatment of certain collective investment funds which due to the fixed interest nature are tax on total returns based on their loan relationship status.

As outlined in the ABI guidelines, "the calculation of tax-related charges is complex, and there is not necessarily a single right answer to the treatment of tax in unit-pricing. However, the pricing methodology adopted should seek to preserve fairness between different generations of policyholders and between policyholders and shareholders." This in mind then, when calculating the appropriate tax to be levied on the unit fund the following should be considered:

(1) Treatment of tax losses

(2) Notwithstanding the complexity of the corporate tax calculation, how to maintain fairness in terms of the tax charges applied to policyholder funds.

(3) Comparison of the methodology used to calculate the charge levied on policyholders vis-à-vis the I-E tax charge for the company.

(4) The practicalities are used to generate the tax provisions in the daily unit price calculation.

3.5.1 Tax Losses

There are no specific regulations or professional standards governing the treatment of tax and tax losses in unit funds. However actuaries should be aware of:

- the relevant tax legislation;
- ASP LA-4 (Additional Guidance for Appointed Actuaries on Policyholders' Reasonable Expectations), issued by the Society of Actuaries in Ireland - in particular paragraph 3.3;
- the Consumer Protection Code issued by the Central Bank of Ireland;

- and relevant papers presented to the Society of Actuaries in Ireland and elsewhere.

The most recent paper on tax issues relating to unit funds presented to the Society of Actuaries in Ireland is "Placing Value on Tax Losses in the Unit Pricing of Life Company Internal Funds". This paper covers both the Irish and UK tax regimes, and introduces the Transaction Value Method of valuing tax losses, contrasting with the Fund Value Method which credits the fund with the discounted value of unrelieved losses multiplied by the tax rate.

Actuaries involved in this area should be aware of the risk of overpaying exiting policyholders through placing an excessive value on tax losses. This can arise through the use of the Fund Value Method without modification, in the case where tax losses increase towards the level at which they will ultimately not be relieved fully.

The value given to exiting policyholders is certain, while the continuing policyholders bear the risk relating to the assumptions underlying the valuation of tax losses, and this may justify some precedence being given to continuing policyholders.

In addition, a change in the method used to value tax losses, or a change in the discounting and lapse assumptions used, can result in a step change in unit prices. Companies should consider whether such a step change would imply that the previous approach or assumptions were incorrect to the extent that it would constitute a unit pricing error.

Companies should have a clear and well-documented view on their approach to valuing tax losses, including the range of validity of the method used and the frequency of review of the underlying assumptions. Relevant factors may include:

- the Company's stated intentions contained in policy conditions, other communication to policyholders, or elsewhere
- the Company's past practice in valuing tax losses in similar situations
- the tax position of the Company as a whole, and / or the tax position of other unit funds, if relevant
- the prospect in the short term of transferring tax losses to other funds or the shareholder for value, if relevant
- the potential for inequity between policyholders if assumptions are not borne out in practice, and in particular if excessive value for tax losses is given to exiting policyholders
- the short-term effect on unit prices of a change in method or assumptions.

Companies should be able to justify their approach in terms of equity to exiting and continuing policyholders when placing values on tax losses and in general on the calculation of the tax charges.

3.5.2 Maintaining Fairness

Maintaining fairness within the calculation of the taxation provision and placing value on any tax losses will include ensuring that the different generations of policyholders, most notably those entering, leaving and remaining in the fund, are treated in a fair and equitable manner. It is important also to ensure that the build-up of tax provisions or the creation tax loss assets within the unit funds do not cause any unintentional gearing effects which may dilute or exacerbate positive or negative investment returns.

3.5.3 Practicalities of Daily Valuation

A full calculation of a unit fund's tax provision is not trivial, and requires a full dataset containing the investment trades and corporate actions that take place within the fund. Furthermore it is a difficult calculation to validate.

There are two approaches commonly used; (a) to calculate a full provision at each valuation point or to do this less frequently or (b) to do this less frequently and use an asset driven model to adjust the provision on a daily basis until the next full calculation.

To the extent that adjustment models are used, one needs to be aware that the change over time of the tax provision may not share a linear relationship with any other fund components. This is particularly the case for UK I-E calculations where the application of rules governing the carry back of deemed disposal losses, indexation relief, and movement of collectives between loan relationship / CGT status means that the movement in the tax provision can be independent of the movement in asset value. In these circumstances full recalculation of the tax provision may be the only way to satisfy the need to recognise this component accurately in the unit price calculation.

4 References & Further Reading

"A Guide of Good Practice for Unit Linked Funds", by the Association of British Insurers (ABI), 2006, 2012 & 2014.

"Additional guidance for Appointed Actuaries on policyholders' reasonable expectations", Society of Actuaries Actuarial Standard of Practice LA-4

"APRA Review of Unit Pricing Practices" by the Australian Prudential Regulation Authority (APRA)

"Consumer Protection Code", by the Central Bank of Ireland

"General Guidelines for Calculating Tax Due and for Completing Declaration Forms under the 'Gross Roll-Up' Taxation Regime", by the Revenue Commissioners, 2012

"Life Assurance Manual", by HM Revenue and Customs

"Outsourcing in the Asset Management Industry TR13/10", by the Financial Conduct Authority

"Placing Value on Tax Losses in the Unit Pricing of Life Company Internal Funds", presented to the Society of Actuaries in Ireland by John Caslin and George McCutcheon on 28 September 2011

"The Governance of Unit Linked Funds. TR13/8", by the Financial Conduct Authority

"UCITS Notices, October 2013", by the Central Bank of Ireland

"Unit Pricing and Equity in the Management of Life Assurance Unit Funds" by the 1993 Unit Pricing Working Party of the Society of Actuaries in Ireland

"Unit Pricing Guide to Good Practice" by the Australian Prudential Regulation Authority (APRA) and the Australia Securities and Investments Commission (ASIC)

"Unit Pricing Practices" by the 2009 Unit Pricing Working Party of the Society of Actuaries in Ireland

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