14 April 2024

Insurance Authority's review of Actuarial Pricing Reports for Year 2023

The year 2023 was the fourth consecutive year of insurance companies submitting actuarial reports under the Actuarial Work Rules (AWR) issued in March 2020. The primary objective of those Rules is to enhance the role and responsibilities of actuaries in the insurance sector in order to facilitate informed decision-making by management and to provide greater technical support to the business as the market sophistication continues to grow in the Kingdom.

Under the above Rules, an Appointed Actuary is obligated to carry out technical pricing of risks, at least annually and more frequently if business environment so demands, and report to the Senior Management, Board of Directors and the Insurance Authority (IA) the outcome of those exercises. The pricing exercises are required to be carried out for Health, Motor and Protection & Savings insurance at a minimum; the IA (or the Company management) may also require the Appointed Actuary to carry out a similar exercise for other lines of business.

Depending upon the appropriateness of the assumptions used, range of rating factors considered, allowance made for any regulatory changes, and credibility assigned to a client's own claim experience, the competitive position of an insurance company is likely to be significantly dependent on the Appointed Actuary's recommendations.

The regulations allow a Company management to deviate from the technical prices recommended by the Appointed Actuary, provided there are adequate controls in place in the form of i) an underwriting authority matrix that specifies the deviation limit by role, ii) a requirement for the underwriter to document justification for deviation from the technical rate, and iii) quarterly reporting by the Appointed Actuary to the Board of Directors on the expected financial impact of deviating from the technical rate in respect of the policies underwritten in each period.

This document encompasses the IA's observations from its review of the following actuarial pricing reports:

1. Health Actuarial Pricing Report (pages 2 - 10)
2. Motor Actuarial Pricing Report (pages 11 - 16)
3. Protection and Savings Actuarial Pricing Report (pages 17 - 23)

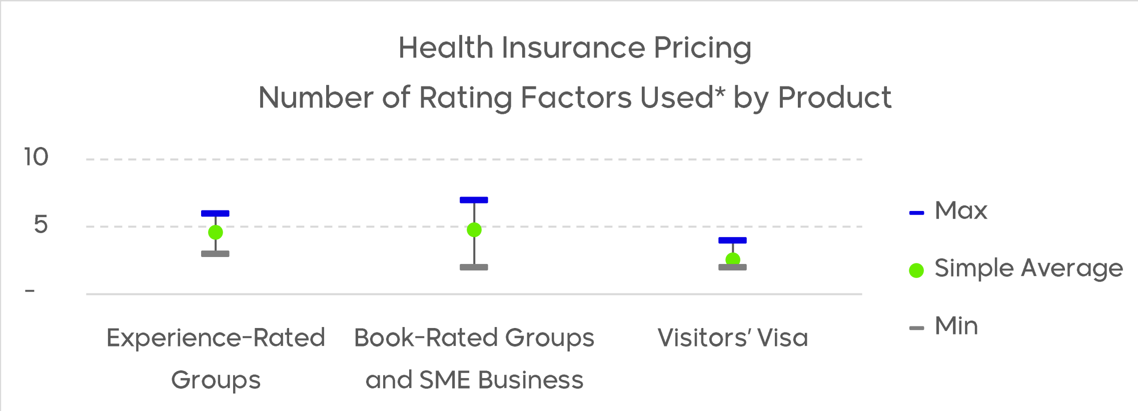
A number of important observations emerged from our review. We would like to share those observations with the Company's management together with our expectations in respect of those observations, in anticipation that management will consider each of those observations and recommendations diligently, internal discussions will be held at the Board of Directors' level and with all relevant functions, and appropriate actions will be taken by management.

Furthermore, similar to last year, a separate brief document accompanies this letter that summarizes the IA's expectations regarding actuarial pricing going forward.

1. Actuarial Pricing Reports – Health Insurance

1.1 Rating Factors

The IA encourages appointed actuaries to continue to explore new rating factors with the objective of enhancing the pricing sophistication and accuracy in the Saudi insurance sector. The graph below shows the range of the count of rating factors used by insurance companies for pricing of Health insurance policies in 2023 by product type.



* Excluding the following rating factors: Benefit Type & limit, Deductible/Co-insurance, and Room Type (although they are being used by all companies, not all count those in their tally of rating factors.

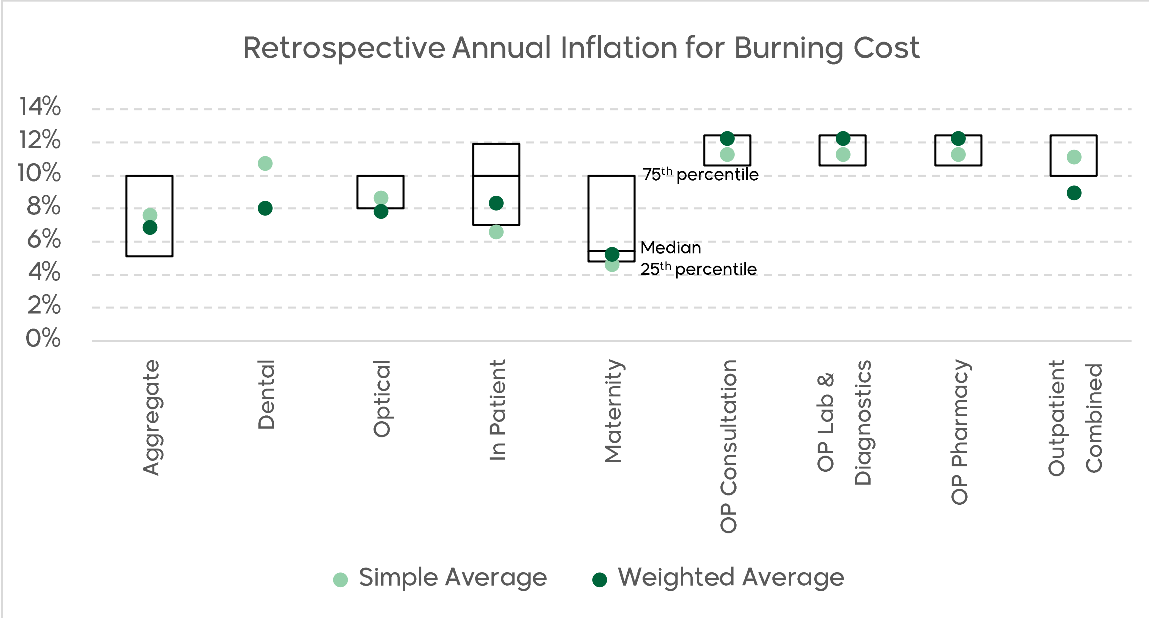
For all products, the variation between insurance companies in terms of the number of rating factors considered is noticeable. This can affect, perhaps materially, the competitive position of an insurance company as well as the profitability of its business due to less accurate pricing than its peers. While the average number of rating factors used is similar for 'Experience-Rated Groups' and 'Book-Rated Groups & SME Business', the latter has wider variation, highlighting the need for companies at the lower end of the range to improve their pricing basis on a priority basis in order to remain competitive and write business on profitable terms.

1.2 Inflation Assumption

Using an appropriate inflation assumption in pricing is of immense importance. There are two types of inflation assumption, namely retrospective and prospective, that need to be estimated by appointed actuaries. Using inaccurate assumptions for any of these two can have material consequences for the accuracy of technical price derived by the Appointed Actuary.

1.2.1 Retrospective (Historical) Inflation Assumption

The retrospective (historical) inflation assumption is used to bring the historical claims cost to the current price levels. The graph below shows the range of retrospective inflation assumptions by treatment-type, used by appointed actuaries.

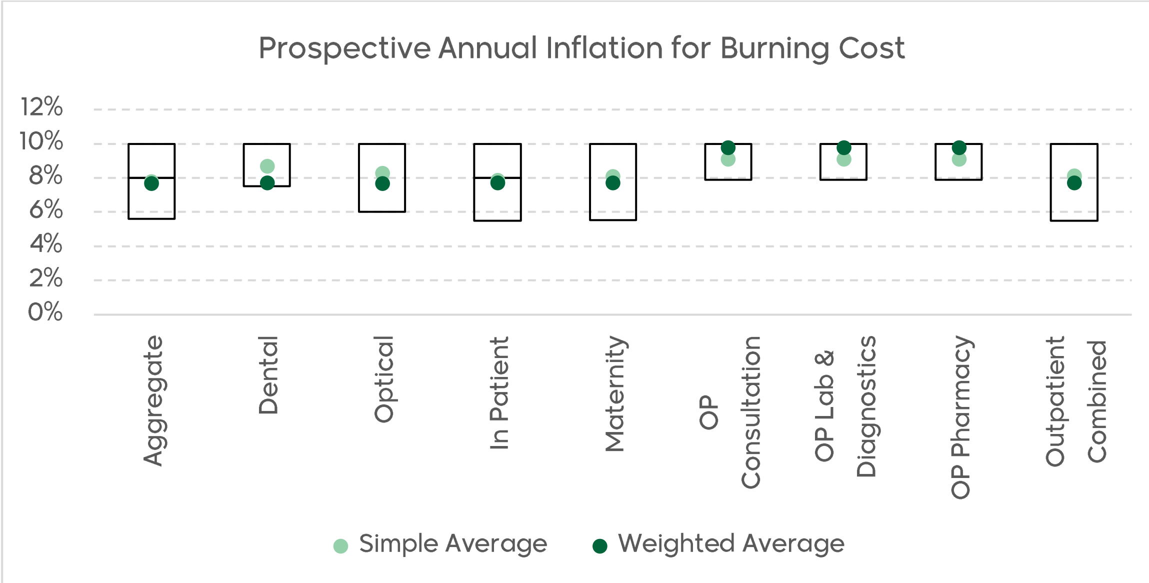


It can be observed above that there is a wide range of inflation assumptions for Health business in aggregate. This wide range is mainly driven by In-patient and Maternity benefits. On the other hand, all Outpatient categories show a relatively narrow range of assumption, however the average inflation assumptions have outpaced those for In-patient and Maternity benefits. Moreover, we have noted a material jump in the Outpatient inflation assumption compared to that used by appointed actuaries last year, implying that the jump can be attributed to the recent past.

1.2.2 Prospective (Future) Inflation Assumption

The prospective (future) inflation assumption adjusts the premium from the point of calculation to the point of medical treatment.

The graph below shows the range of prospective inflation assumptions by treatment-type, used by appointed actuaries.

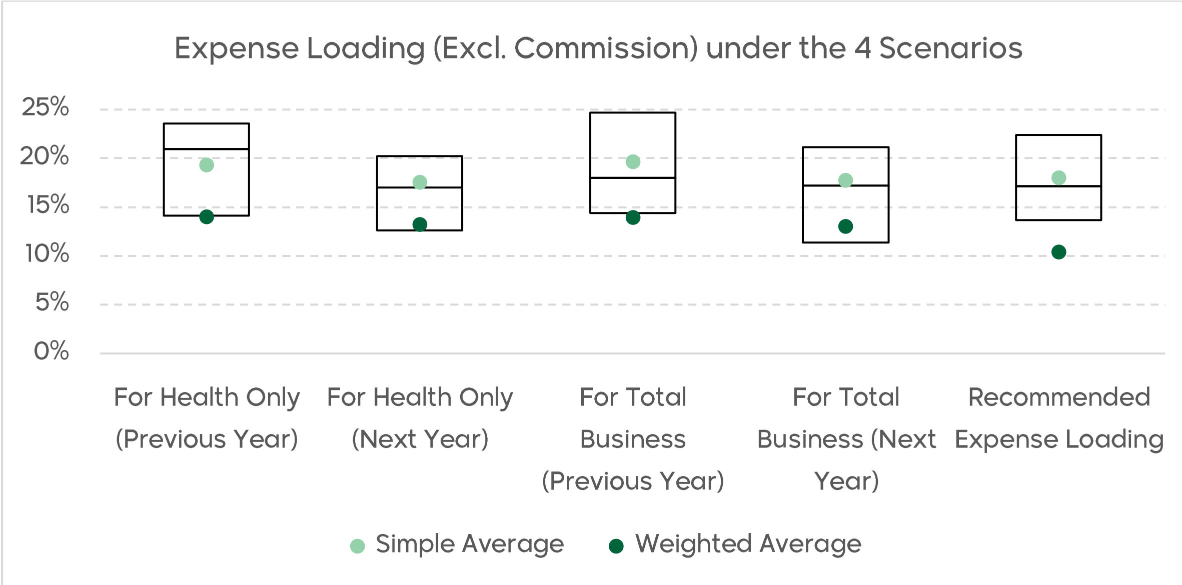


It can be observed above that, unlike that observed for retrospective inflation, the average values among benefit types lie within a relatively narrow range, with markedly lower average assumption used for Outpatient category than the corresponding retrospective inflation assumption. Moreover, the 75th percentile of the prospective inflation assumptions is broadly consistent among all benefit types.

1.3 Recommended Expense Ratio

Under the current regulatory guidance, an Appointed Actuary is required to calculate expense ratios using four different basis, and then the Appointed Actuary using own judgement recommends the ratio to be used in technical pricing. This recommended expense ratio considers both attributable expenses and non-attributable expenses.

The graph below summarizes the results of those four calculations and the ratio recommended by appointed actuaries for use in technical pricing.

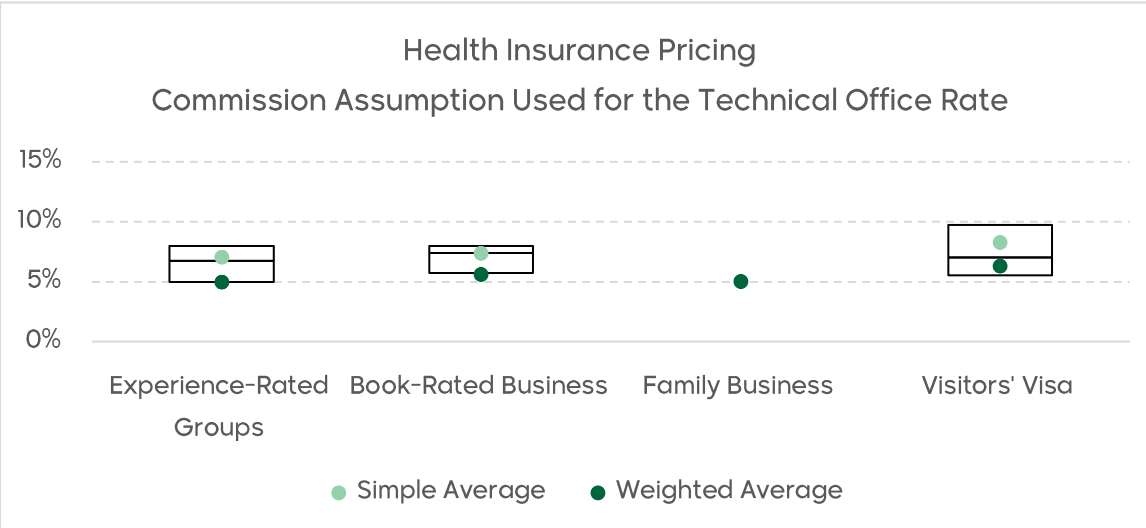


It can be observed that the next year's expense ratio is projected to be lower than last year's expense ratio, indicating some optimism in the business plan. The recommended expense loading is more aligned with the next year's projected expense ratio than last year's, implying that it would be important for insurance companies to realize those projected savings in expenses for the technical prices to be adequate. It is interesting to note that the weighted average recommended expense loading is noticeably lower than the results under all four scenarios, which would require strong justification and close monitoring by the relevant appointed actuaries going forward, particularly given the usually thin margins in Health insurance.

1.4 Commission Ratio

Due to the large premium volumes associated with mandatory Health insurance coverage in Saudi Arabia, there is usually intense competition among insurance companies and profit margins are small. Therefore, ability to write business at low commission rates can play an important role in keeping the premiums attractive enough for the policyholder while maintaining acceptable profit margins.

The graph below shows the commission loadings used by appointed actuaries for the pricing of various segments of Health insurance book with due consideration of the historical commission rates.



For all segments, except Family Business, the interquartile range indicates some companies have material competitive advantage due to their ability to sell at lower commission rates than others. As indicated by weighted average commission ratios, larger insurers demonstrate their ability to achieve lower commissions than smaller insurers, either via stronger negotiation power or via stronger direct sales, thus keeping prices low and gaining competitive advantage.

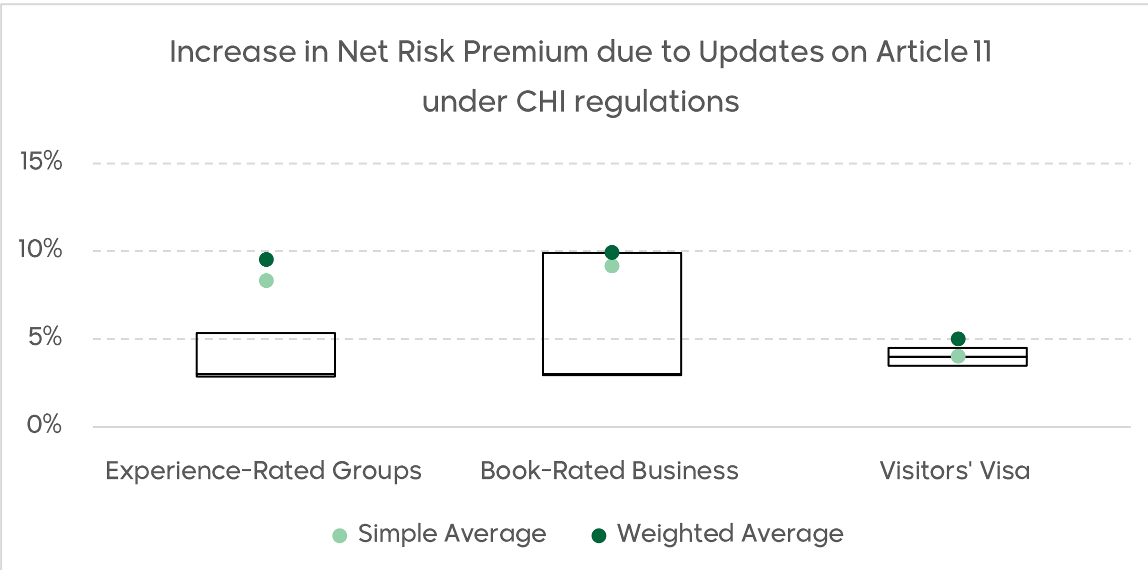
In summary, it implies that smaller insurers need to look for innovative ways of marketing and selling, e.g., insurtech, in order to keep their commission costs down and be competitive with larger players, particularly in respect of large volume group policies.

1.5 Impact on Health Insurance Policies Prices due to Regulatory Changes

1.5.1 Article 11 of Council of Health Insurance (CHI) regulations

The Article 11 of CHI regulations allows government health facilities to recover the cost of providing medical treatment to those individuals who possess private insurance from their insurance companies. In addition, CHI rolled out a draft of updated DRG price lists under Article 11 in Q4 2022. There was some concern in the sector about the impact of those revised prices on premium rates. Some insurers also expressed their concern about the new level of prices as being high.

The graph below shows the estimated increase in premium rates due to the above regulation as determined by appointed actuaries.



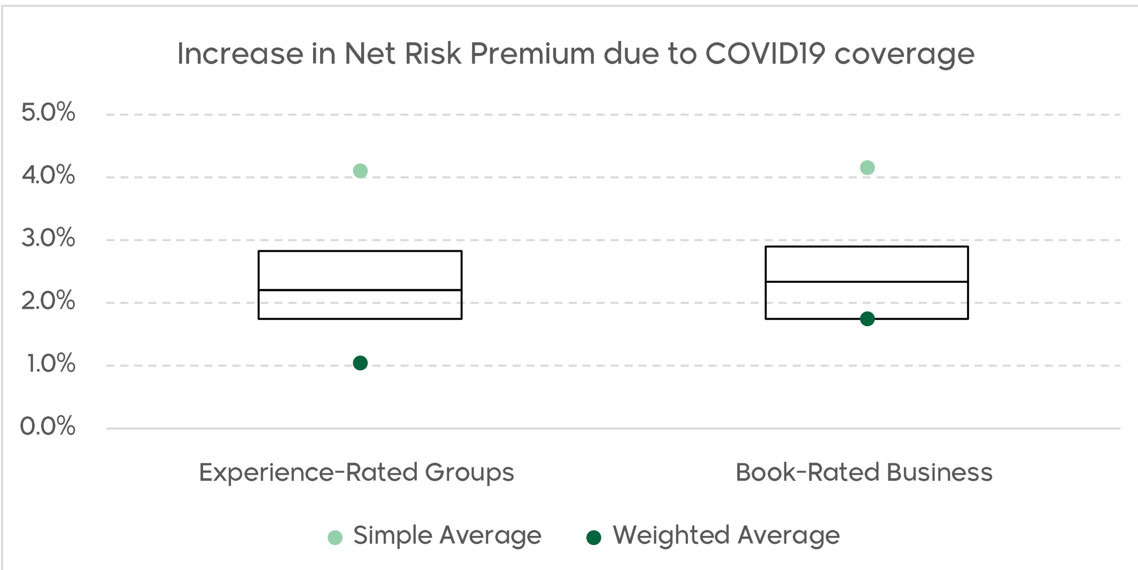
Compared to last year, when the average impact was estimated to be around 4%, the average estimated impact under the two major segments this year has increased significantly, likely due to the revised DRG price list, more experience becoming available, and some improvement in the reporting capabilities of public hospitals. Some appointed actuaries have also estimated an impact in respect of Visitor Visa Health insurance.

The high average values towards the top end of the interquartile range or even outside suggest that there are companies with significantly different estimates of expected impact of Article 11 than others. Moreover, the wide interquartile range for Book-rated segment indicates high level of uncertainty, possibly due to the significant change in network accessibility for the SME business, which tends to have lower network coverage and hence are more likely to utilize government health facilities.

Moreover, the cost scenario may change rapidly as public sector hospitals and clinics improve their IT systems and get connected with NPHIES, thus highlighting the need for insurance companies to closely monitor the emerging experience and adjust their pricing in a timely manner.

1.5.2 COVID-19 Coverage

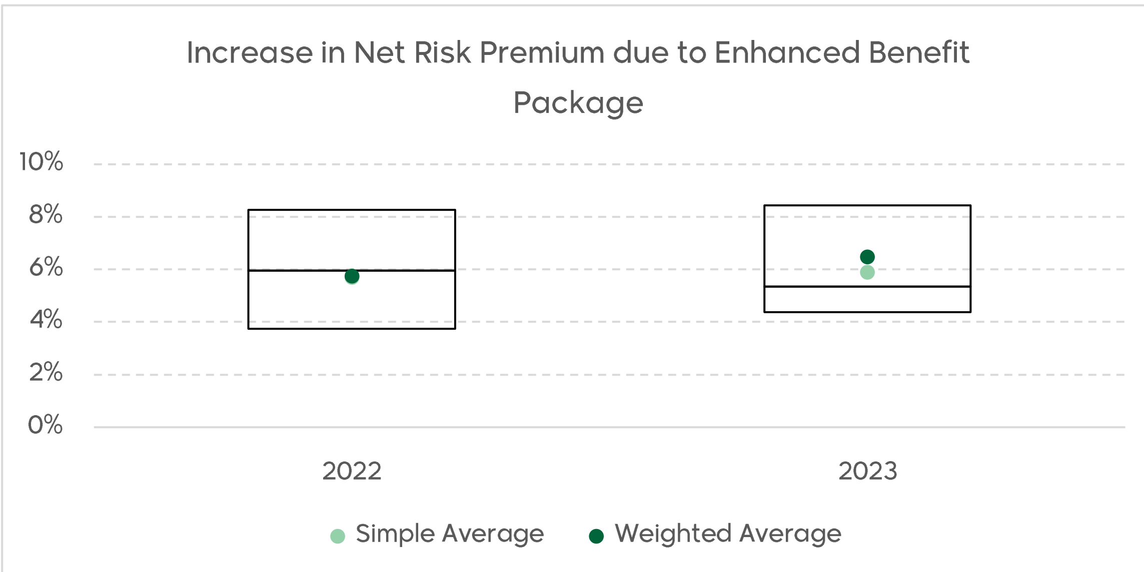
All insurance companies are required to cover COVID-19 as part of standard Health insurance coverage under the Unified Essential Benefits policy. The resulting increase in the cost of Health insurance, as estimated by appointed actuaries, is illustrated in the graph below.



Despite the relatively narrow interquartile range, a significant difference between weighted and simple averages can be observed, which indicates that small insurance companies estimate a higher impact of COVID-19 claims compared to larger insurance companies. This can be expected to narrow down with the emerging experience. Given that COVID-19 coverage is part of the CHI minimum benefit package, the projected increase in the cost of Experience-rated groups and Book-rated business are similar.

1.5.3 Enhanced Benefits under CHI Policy

The CHI introduced an updated essential benefit package which was adopted in part from October 2022, with the remaining part expected to come into effect later. The graph below shows the average increase in prices/cost of treatment estimated by appointed actuaries in response to this regulatory change.

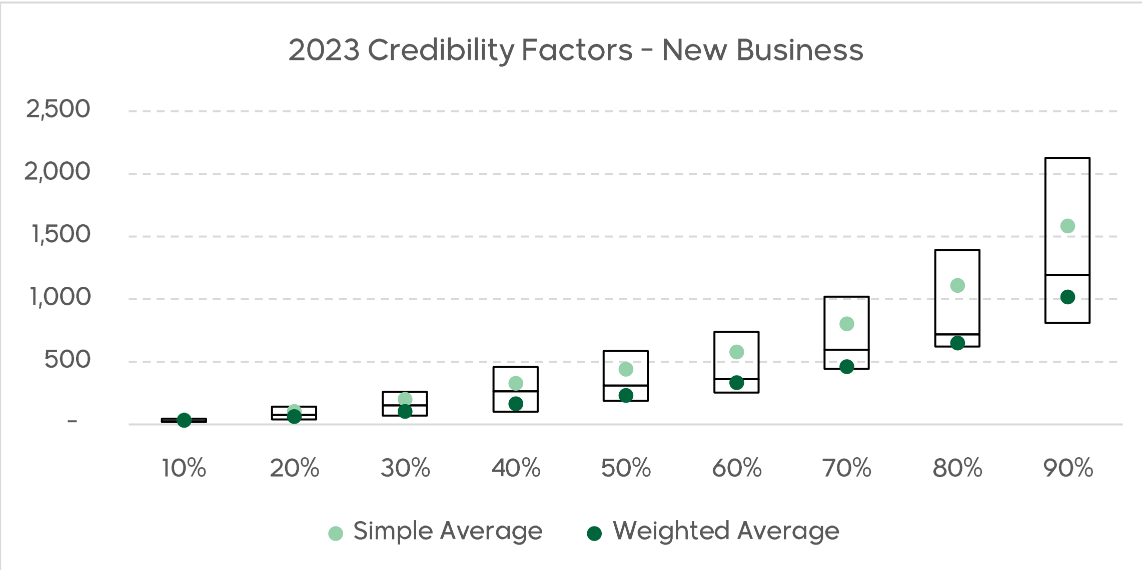


On the average, appointed actuaries estimated a material impact of the above enhancement. The interquartile range of estimates reflects the uncertainty in the sector as regards the impact of this regulatory change on the performance of Health insurance business. Similar to that for other recent regulatory developments above, it would be essential for appointed actuaries to closely monitor the emerging experience and adjust their technical pricing on a timely basis.

1.6 Credibility Factors

In Actuarial Science, Credibility Theory guides an actuary on the extent of reliance to place on a policyholder's own claims experience vs. the claims experience of the overall insured population. A common measure used is the number of claims, such that the greater the number of claims, the higher is the credibility assigned to own experience of a policyholder. The number of insured lives is a commonly used proxy by actuaries in place of the number of claims.

The graph below shows the range of the number of insured lives for new policies, used as the basis by appointed actuaries, for assigning a given credibility factor.

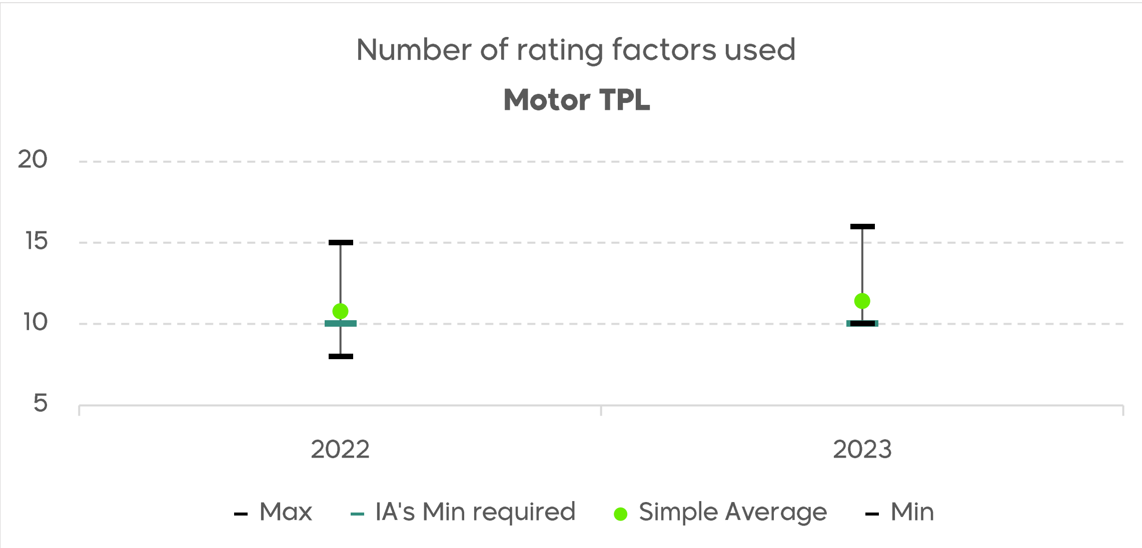


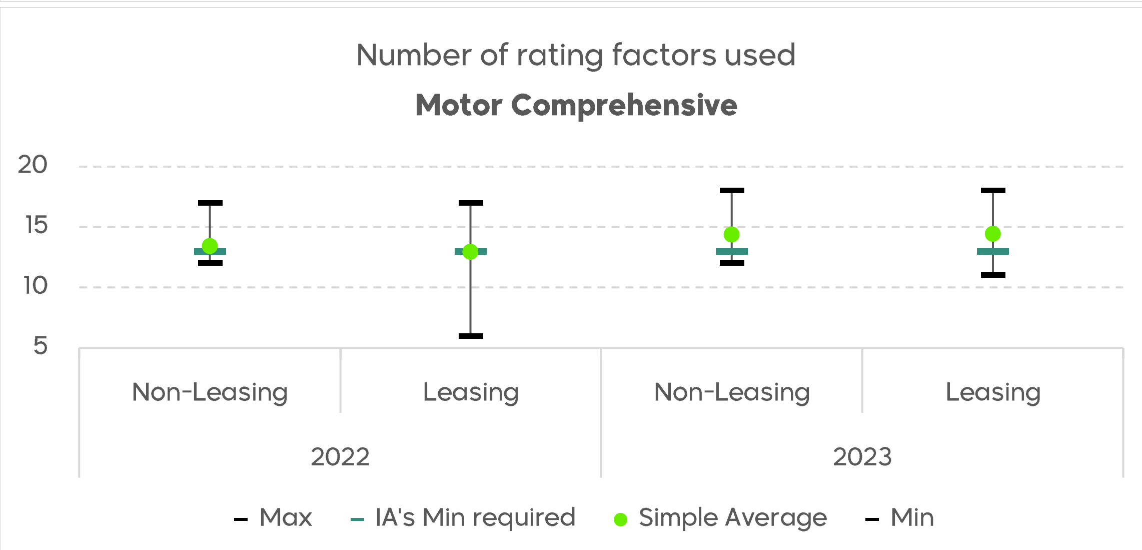
It can be seen that, for both the simple average and weighted average (by premium) number of lives, values are similar at the lower levels of credibility. The difference however grows as the credibility factor increases (e.g., c. 1600 v 1000 lives at 90% credibility factor on simple average and weighted average bases respectively), indicating higher dispersion at higher credibility factors. A somewhat lower weighted average values at higher credibility factors than simple average values indicate that larger insurance companies place greater reliance on own experience than their smaller competitors. The actuarial literature provides adequate guidance on assigning appropriate credibility to the past experience, which is supplemented by the Appointed Actuary's judgement. Inadequate technical rigor in this area can cause the insurance company's premium to be inadequate or non-competitive.

2. Actuarial Pricing Reports – Motor Insurance

2.1 Number of Rating Factors

The graphs below show the number of rating factors used by appointed actuaries for deriving technical prices of Motor Third Party Liability (TPL) and Motor Comprehensive policies in 2023, also comparing it with the 2022 pricing basis.





It can be seen above that, compared to the previous pricing exercise, the average number of rating factors used has increased for both TPL and Comprehensive policies, which is in line with the IA's expectations and indicates growing pricing sophistication in the sector. We however noted with concern that a number of companies had used rating factors, which did not differentiate between various categories under that rating factor (i.e. all relativities equal to 1). We understand that in such cases, the Appointed Actuary carried out the investigation considering the rating factor, however not enough significance could be established for use in pricing. This implies that such a rating factor has no contribution in pricing, and thus, should not have been counted for compliance with the minimum number of rating factors.

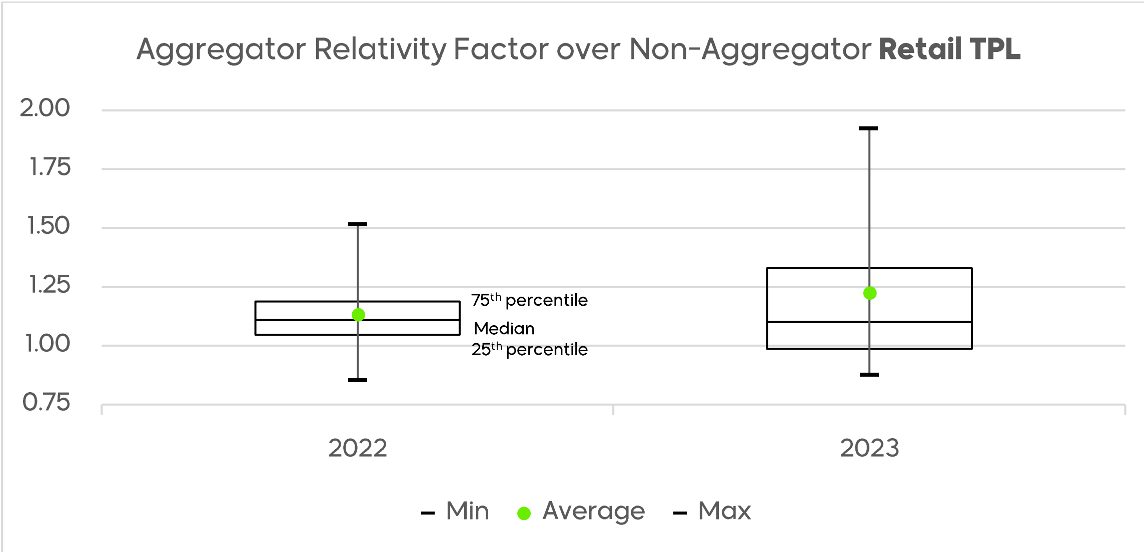
The IA expects that, in cases where investigation leads to assessing a rating factor as insignificant, the Company shall ensure providing additional data fields to the Appointed Actuary for further investigation. The Appointed Actuary shall ensure compliance with the minimum number of rating factors' requirement such that each rating factor used for pricing purposes is deemed significant.

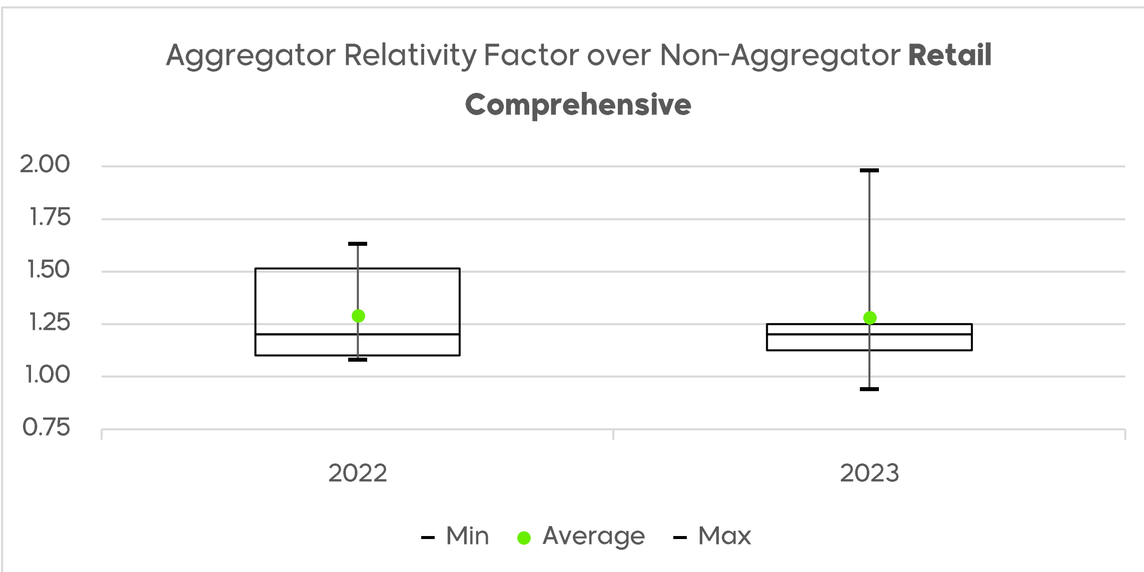
Moreover, the relatively large difference between the average and maximum number of rating factors implies that some companies are striving hard to differentiate themselves from competitors, potentially increasing their pricing accuracy and, in turn, profitability of the business underwritten.

Conversely, the insurance companies towards the lower end of the range could be exposed to the risk of inaccurate pricing and, in turn, adverse results for their Motor portfolio. Moreover, it appears there is at least one company in each pricing segment that is struggling to meet the requirement of minimum number of rating factors set by the IA, putting it likely at a significant competitive disadvantage and exposing it to the risk of possible regulatory action. On this note, the extent of compliance with the IA requirements appears to have improved for Comprehensive Leasing segment compared to that seen in 2022.

2.2 Rating by Sales Channel

The graphs below show the range of relativities used by appointed actuaries in order to differentiate between aggregator and non-aggregator sales channel.





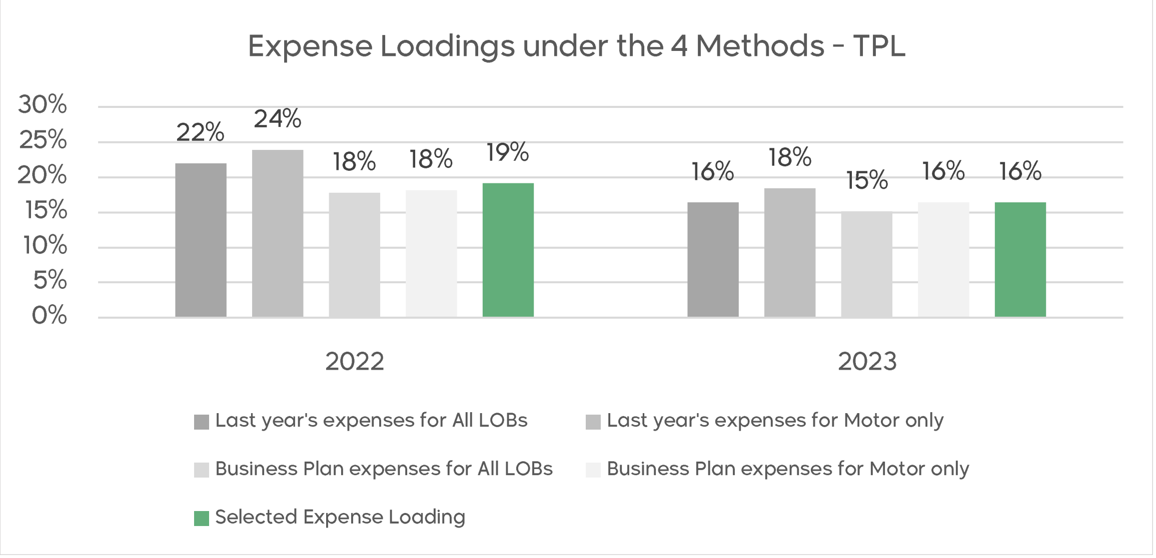
For Motor TPL, there is a noticeable increase in the average relativity, whereas the average relativity has remained stable for Motor Comprehensive when compared with last year.

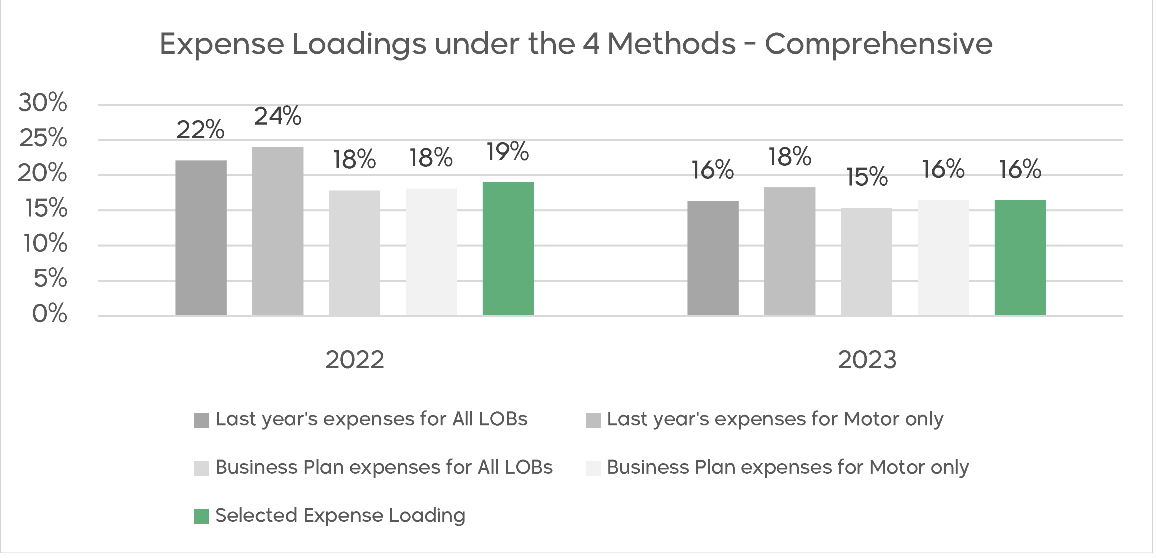
Moreover, the min-max range has widened for both segments compared to last year. On the other hand, the interquartile range has significantly narrowed for Motor Comprehensive, though it widened for Motor TPL.

The above implies that appointed actuaries have reacted to the emerging experience in different ways applying their actuarial judgment. It is important that they take note of other views prevailing in the sector and carefully monitor and respond to emerging experience on a timely basis.

2.3 Expense Loadings

For the purpose of determining the expense loading for inclusion in premium rates, an Appointed Actuary is required under the IA instructions to perform four sets of calculations, and select an appropriate expense loading considering the four results produced. The graphs below show the results of the above four calculations and their comparison with the selected expense loading, separately for Motor TPL and Motor Comprehensive in 2023 and 2022 pricing exercises.

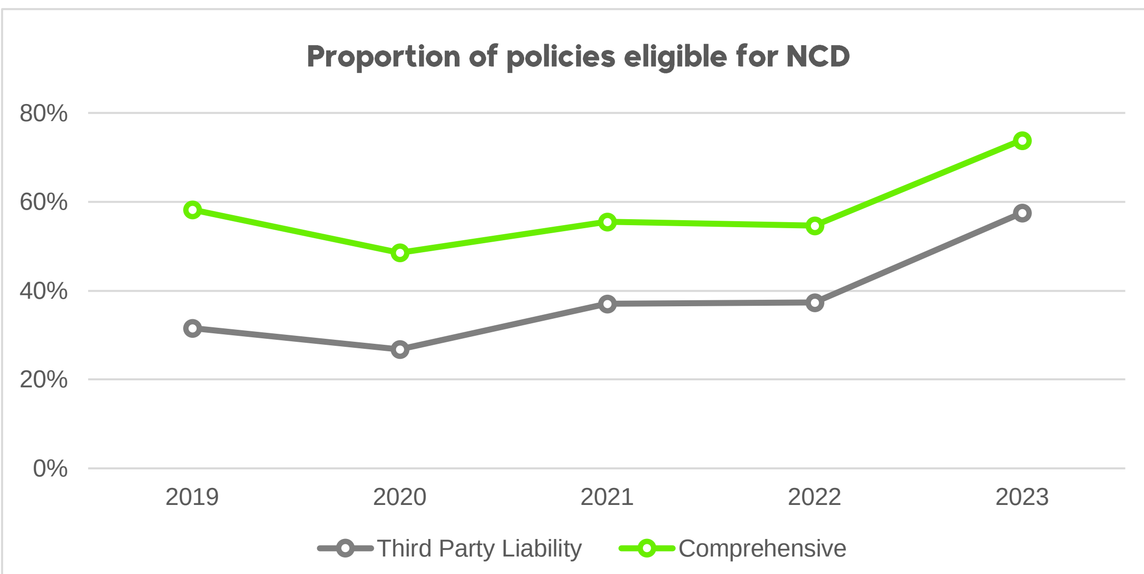




It is apparent from the above that appointed actuaries have relied on business plan expense ratios, which are lower in general than the last year's expense ratios. It would therefore be critical for the profitability of Motor business to achieve those planned savings in expenses as a percentage of premium. At the same time, we observe that a similar observation was made last year, however insurance companies do appear to have achieved this year the reduction projected in last year's business plan.

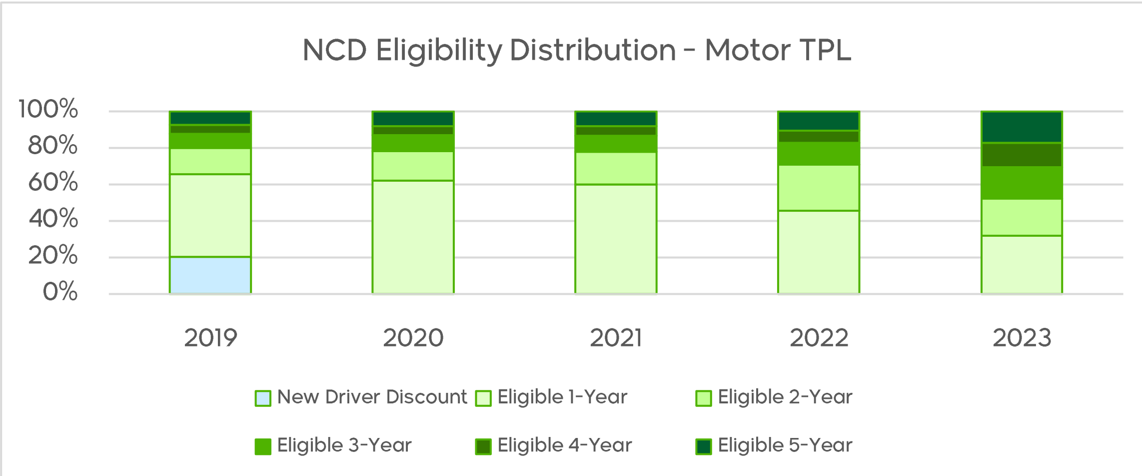
2.4 No Claim Discount

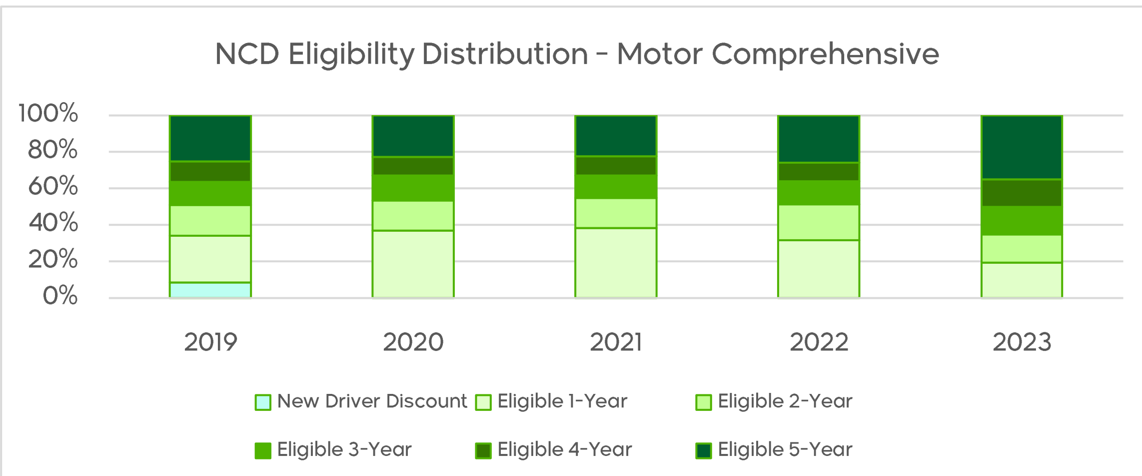
The current 'No Claim Discount' (NCD) regime is in place since mid-2018, and refinements have been made in its implementation since its introduction in view of emerging experience and challenges. The graph below shows the proportion of policyholders who received the benefit of NCD over the last five years.



As observed along the years, NCD-eligibility for Motor Comprehensive policies has been markedly higher than Motor TPL. Compared to 2022, both proportions have increased significantly in 2023, which can mainly be attributed to two factors, i) refinements made to the NCD eligibility criteria in early 2023, and ii) relaxation in NCD criteria in Q4 2023 to go hand-in-hand with Muroor's campaign to penalize uninsured drivers.

Another important consideration in pricing is the proportion of drivers eligible for each level of NCD. The graphs below show the average eligibility proportion under each level, separately for Motor TPL and Motor Comprehensive policies.



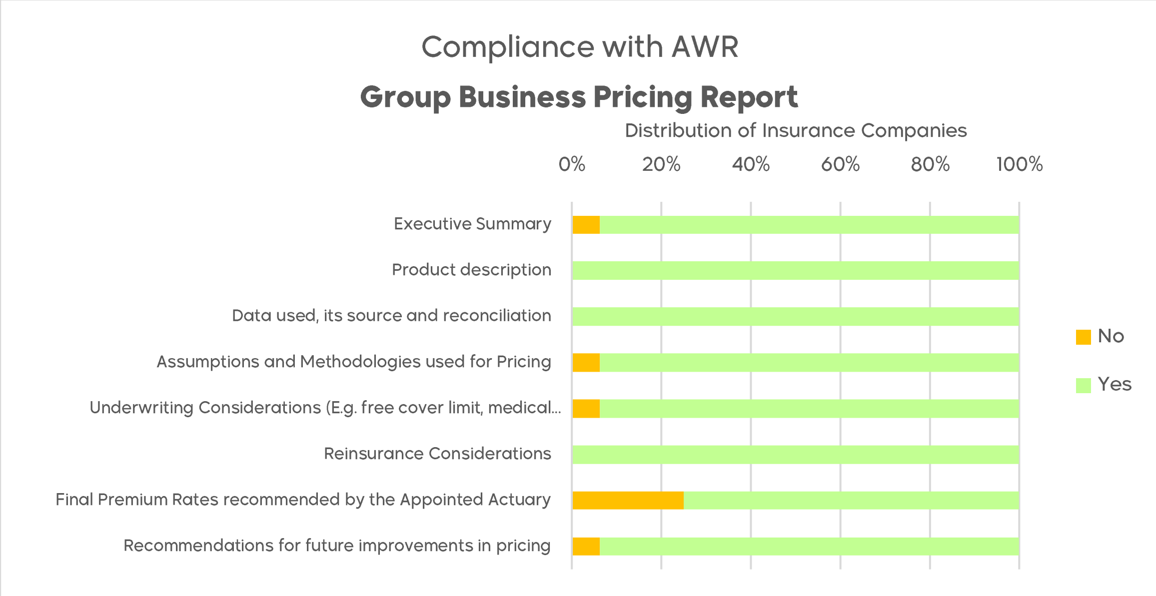


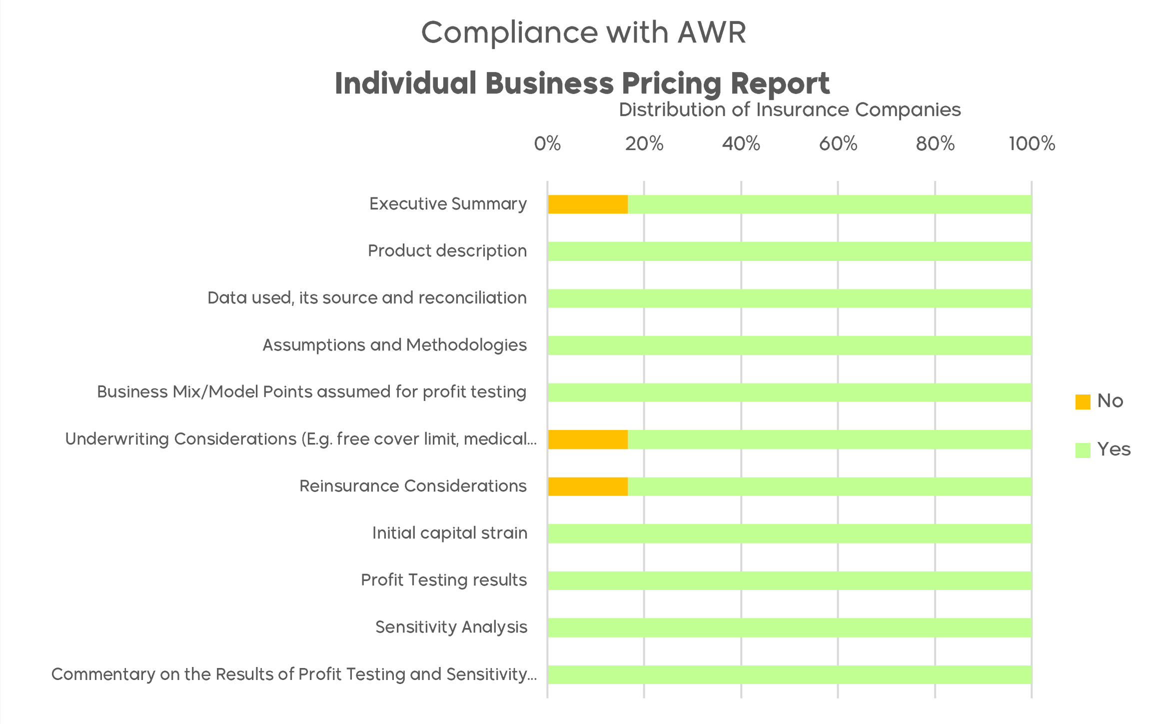
It is observed that for both, TPL and Comprehensive, the trend for proportions of people eligible for 'NCD bands 2 and above' is increasing year on year, which is a desirable outcome and can be an important consideration for the purpose of pricing. This indicates that drivers are keen to maintain a safe driving record, which is a positive trait and will likely result in a better driving environment and improved road safety. This puts emphasis on the Appointed Actuary to track these changes regularly and account for those in technical pricing and update the premium rates on a timely basis.

3. Actuarial Pricing Reports - Protection & Savings (P&S)

3.1 Compliance with AWR

The AWR lists the minimum requirements of actuarial pricing reports to encourage the appointed actuaries to produce reports in line with the professional standards. The graph below shows, by product type, the extent to which the pricing report produced by appointed actuaries met the minimum requirements.





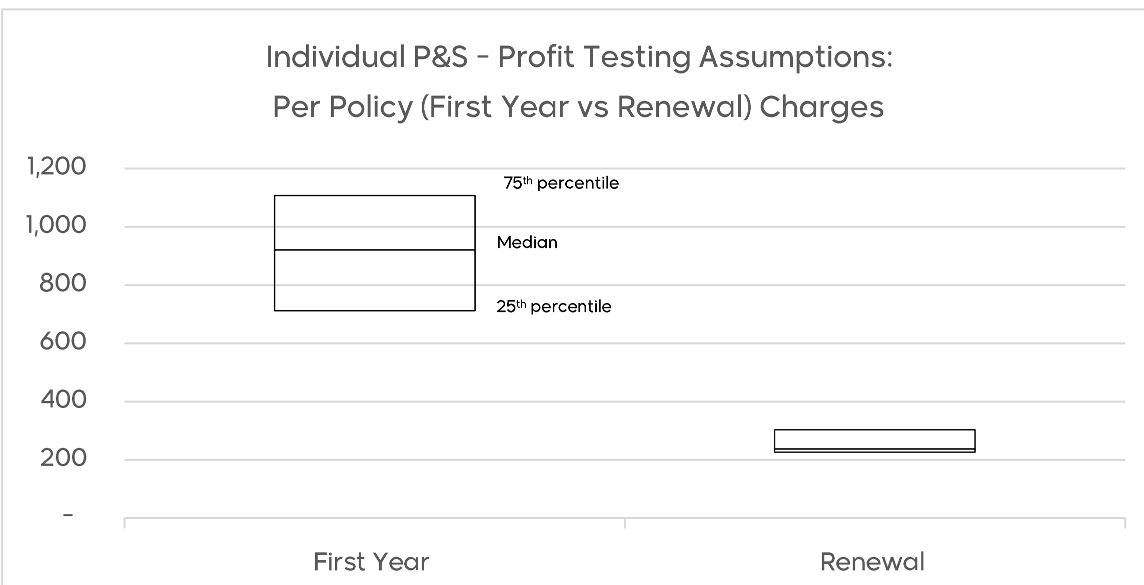
For Group business, the graph above shows an improvement in compliance with AWR compared to that observed last year, especially in areas of methodology & assumptions used for pricing and final premium rates recommended by the Appointed Actuary. On the other hand, for Individual business, the graph shows more areas of non-compliance than observed last year relating to the underwriting and reinsurance considerations.

The IA expects each Appointed Actuary to ensure the pricing report is fully compliant with the requirements set by the AWR.

3.2 Individual P&S Insurance – Profit Testing Assumptions

One of the minimum requirements listed in Article 39 of AWR relates to profit testing for Individual P&S products. This section covers the assumptions used by appointed actuaries for profit testing.

3.2.1 Expense Assumption (Excluding Commission)



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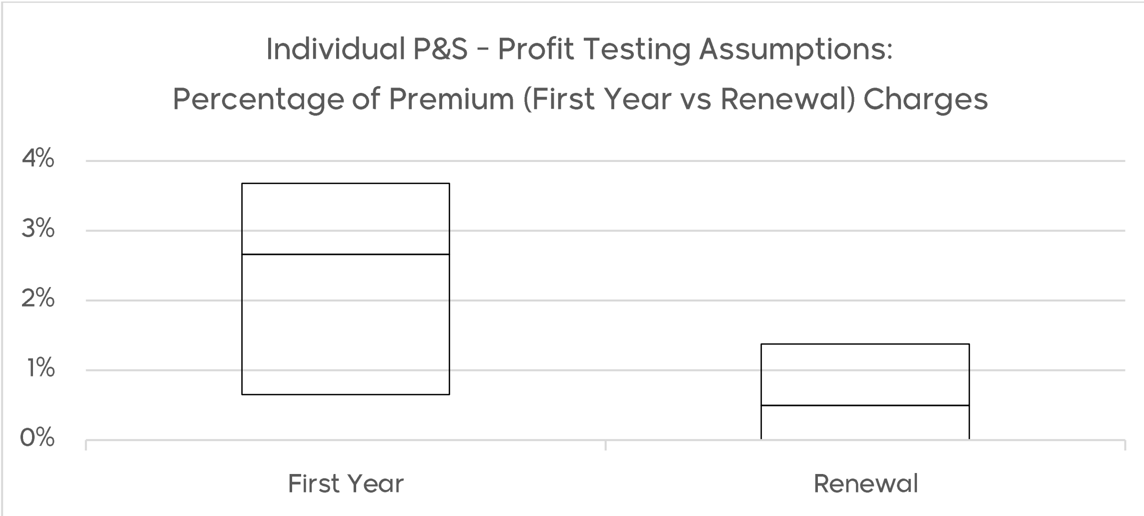
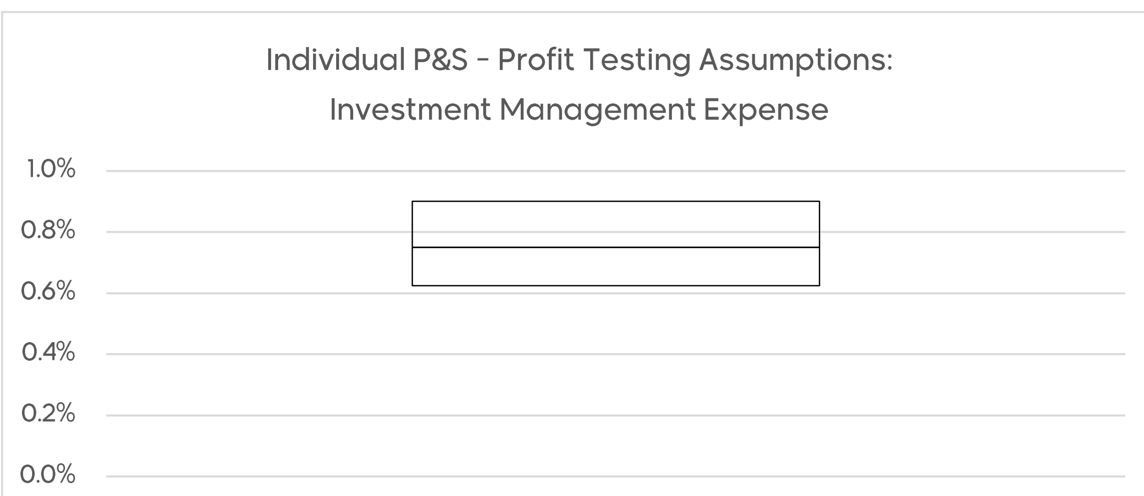


It can be observed from the above graphs that expense assumptions during the First Year vary significantly between insurance companies. However, a narrower range can be observed for the Renewal expenses assumed. This might be driven by volume differences between insurance companies with some having better economies of scale, and hence lower acquisition costs in the First Year compared to others.

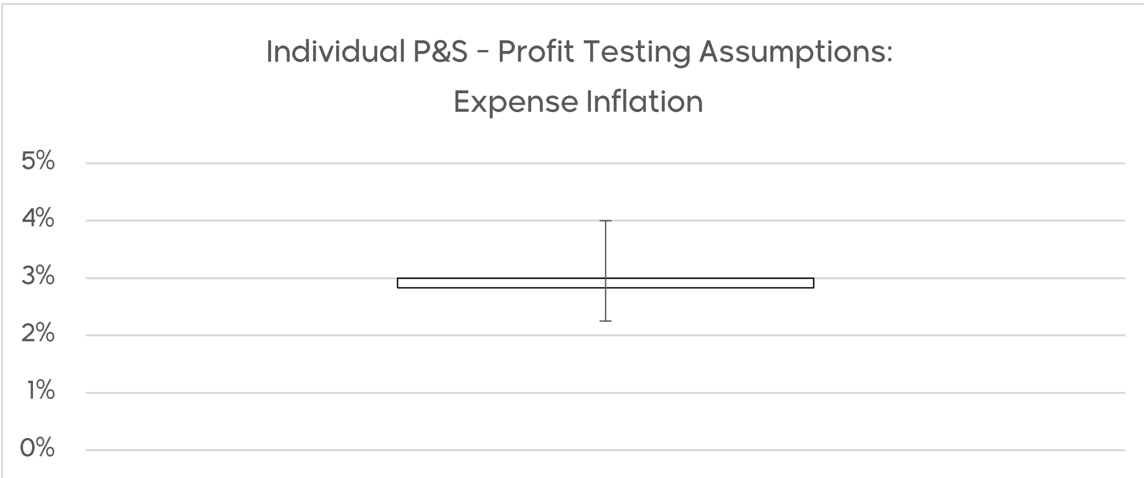
The IA expects each Appointed Actuary to keep monitoring the expense levels of the Company and reflect those in assumptions-setting appropriately.

3.2.2 Investment Management Expense



It can be observed from the above graph that the investment management expense assumption varies between insurance companies within a fairly narrow range and this might be driven by volume differences between insurance companies.

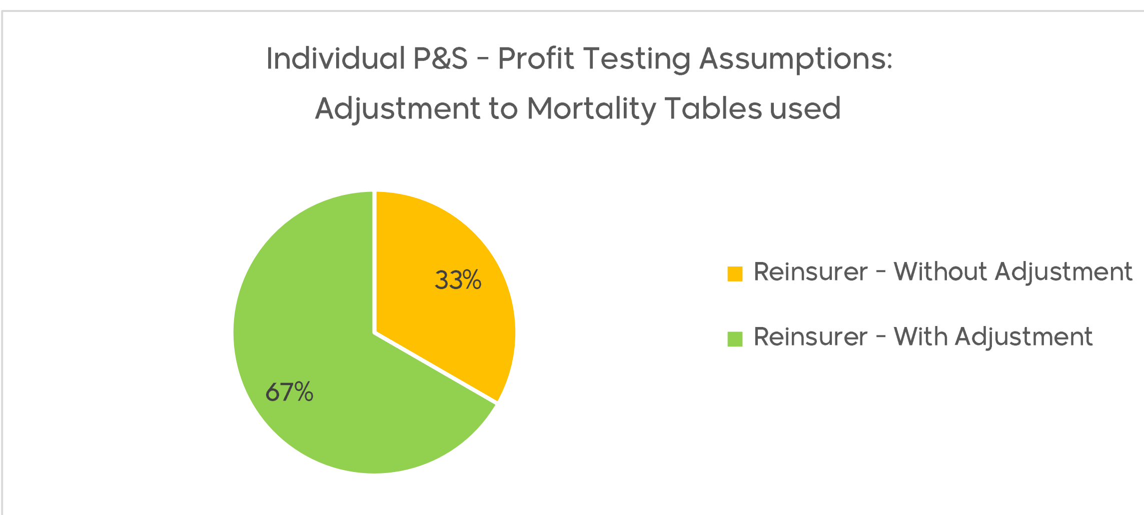
3.2.3 Expense Inflation



It can be observed from the above graph that the expense inflation assumption varies between insurance companies with a relatively wide spread.

The IA expects each Appointed Actuary to keep monitoring the inflation assumption being applied. The Appointed Actuary is expected to support the assumption used with reference to reliable market indices and historical results of expense analysis for the Company.

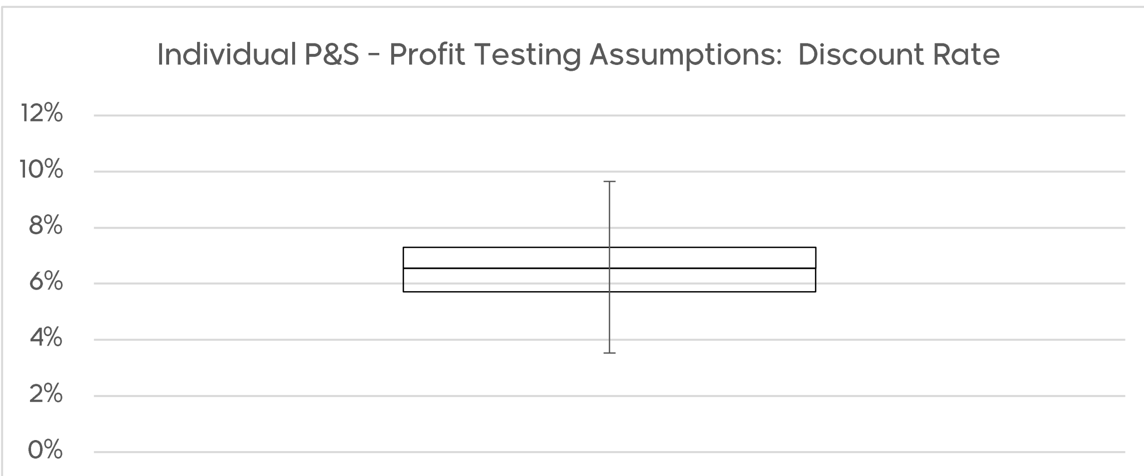
3.2.4 Mortality Rate



The graph above shows the distribution of the source of mortality tables used by insurance companies for individual P&S business and also highlights where an adjustment was made to the original mortality table from a particular source. It can be seen that appointed actuaries heavily rely on reinsurance input in this area.

The IA expects that each Appointed Actuary will perform regular assessment of the suitability of the mortality tables from external sources for the KSA market using AvE analysis and make adjustments as appropriate.

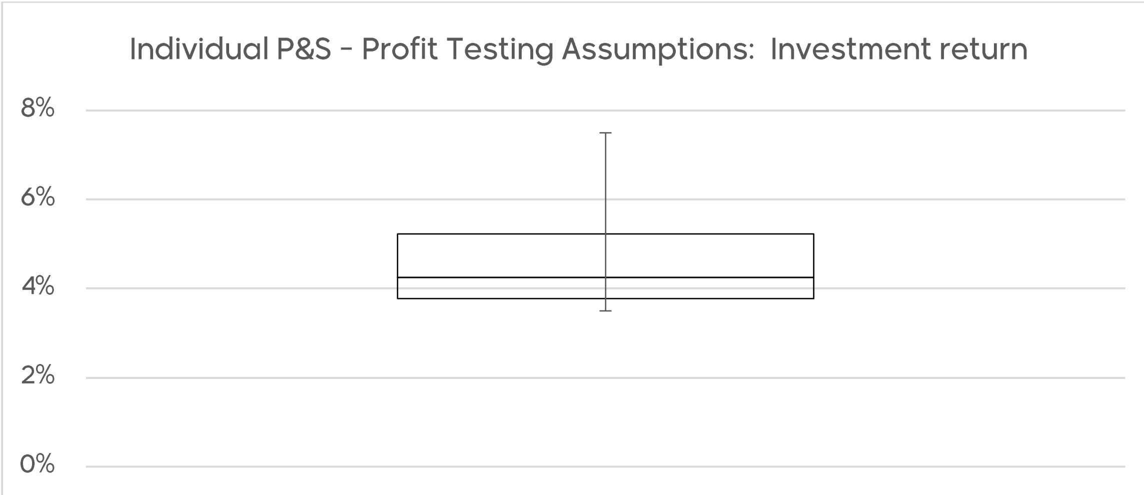
3.2.5 Discount Rate



The discount rate assumption varies significantly between insurance companies within a wide range.

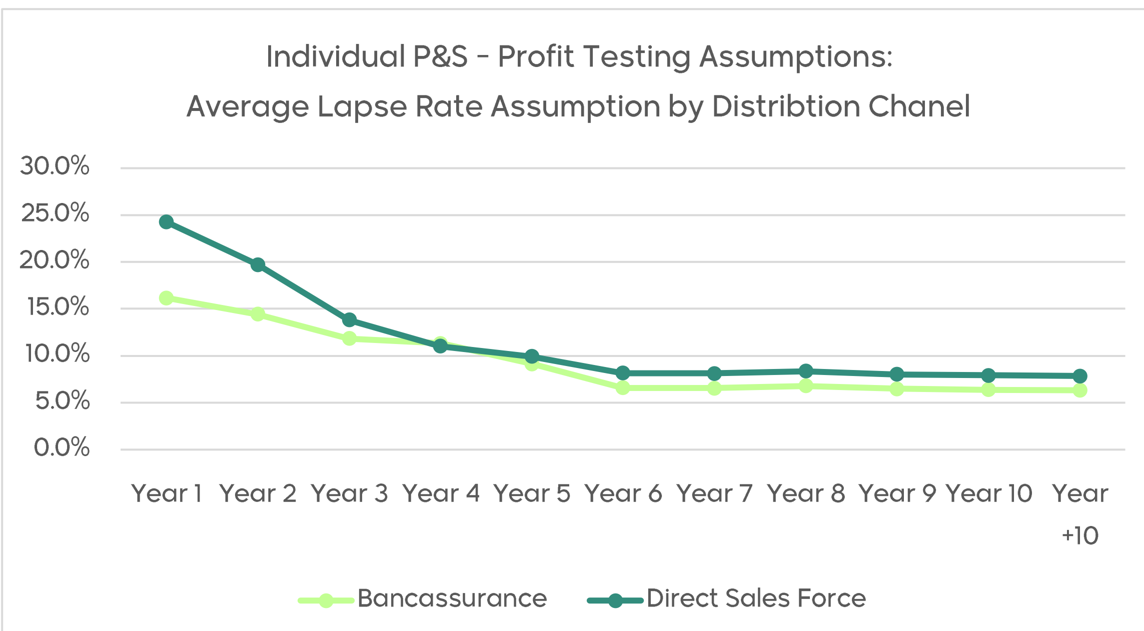
The IA expects each Appointed Actuary to be able to justify the discount rate assumption used and be able to cite plausible reasons for any differences from market benchmarks.

3.2.6 Investment Return



It can be observed from the above graph that Investment Return assumption assumed by the insurance company for profit testing purposes varies with a wide spread.

3.2.7 Lapse Rates

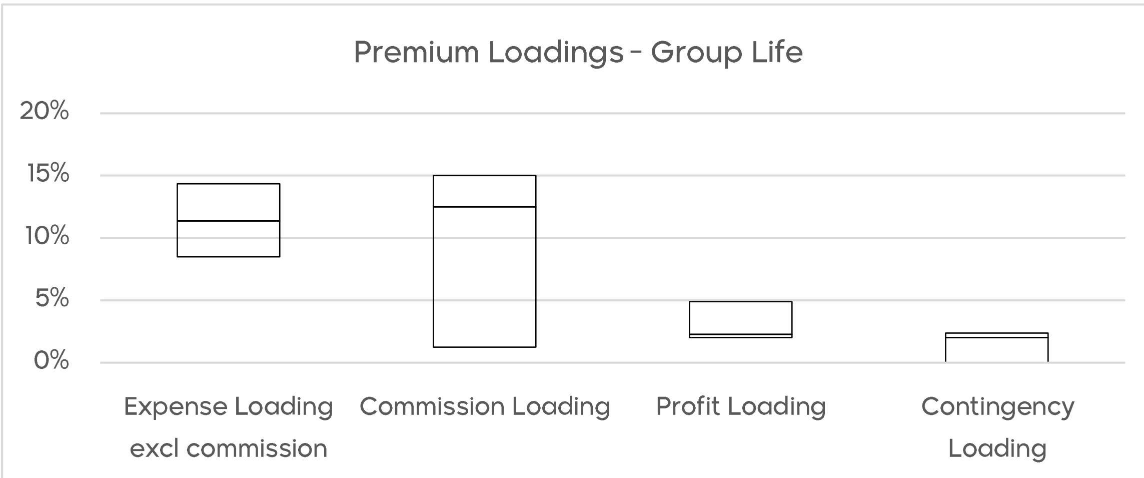


The graph above shows the simple average yearly lapse assumptions for Individual P&S business. It can be observed that Bancassurance lapse rate assumption is lower than that for Direct Sales Force. The portfolio size is still relatively small for Bancassurance and the lapse assumption needs to be closely monitored as more experience emerges.

3.3 Group P&S Insurance

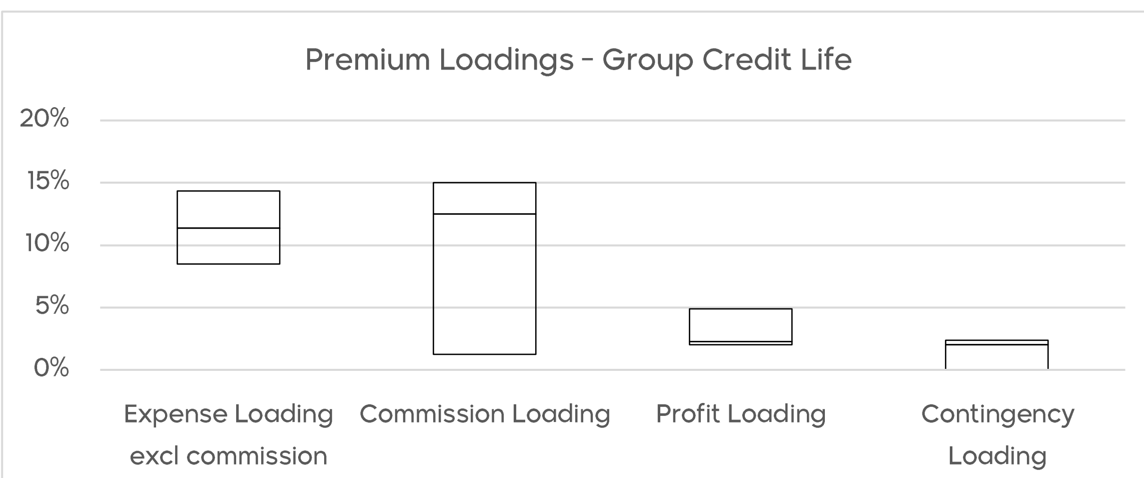
3.3.1 Premium Loadings

3.3.1.1 Group Life



As can be observed from the above graph, a wide variation exists among insurance companies for the majority of the assumptions used for Group Life pricing. Commission loading has the largest variation whereas few companies do not apply any contingency loading.

3.3.1.2 Group Credit Life



As can be observed from the above graph, a wide variation exists for the majority of the assumptions used for Group Credit Life pricing. Similar to that observed for Group life, commission loading has the largest variation whereas few companies do not apply any contingency loading.

The IA expects the Appointed Actuary to closely monitor the above assumptions for Group Life and Group Credit Life business as experience emerges over time.

Conclusion

In summary, for the purpose of pricing of Health, Motor & Protection & Savings insurance policies, the Insurance Authority expects the Insurance Company Management to:

- Ensure reliable and comprehensive data is made available to the Appointed Actuary;
- Provide adequate challenge to the key assumptions used by the Appointed Actuary.

The Insurance Authority expects the Company Internal Actuarial Function to:

- Participate actively in all actuarial pricing exercises, including but not limited to, data provision, data validation, pricing analysis, and actuarial report preparation;
- Maintain regular and close interaction with the Underwriting and Claims functions in order to understand any market developments on a timely basis and, subsequently, discuss and agree on the need for actuarial re-pricing with the Appointed Actuary.

The Insurance Authority expects the Appointed Actuary to:

- Explain the pricing methodology and key assumptions to management in an easy-to-understand manner, along with the changes in prices and drivers behind those changes;
- Ensure pricing assumptions are supported by recent experience and changes anticipated therein, and those assumptions consider the Company's own circumstances as well as the developments in the overall Motor, Health, and Protection & Savings business segments;
- Continue to push for pricing sophistication leveraging global developments in actuarial best practices (e.g., by using *data science, artificial intelligence* and/or *machine learning* techniques),
- Seek to differentiate the Company's pricing basis from the competition, and move beyond the minimum stipulated by the IA;

- Monitor emerging experience and regulations, and update prices on a timely basis and as frequently as necessary, and not only at the time of producing the annual pricing report;
- Fully involve the internal Actuarial Function in every pricing exercise and guide them on working effectively with the Underwriting and Claims functions so that any emerging trends can be identified and reflected in the actuarial pricing basis in a timely manner; and
- Adhere to the actuarial reporting standards of his/her respective professional body.