1 May 2025

Insurance Authority's review of Actuarial Pricing Reports for Year 2024

The year 2024 was the fifth consecutive year of insurance companies submitting actuarial reports under the Actuarial Work Rules (AWR) issued in March 2020. The primary objective of these 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 recommended technical prices.

The regulations also give discretion to a Company management to deviate from the technical prices recommended by its 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 prices in the form of Pricing Adequacy Reports for Health and Motor lines of business.

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

1. Health Actuarial Pricing Report (pages 3-17)
2. Motor Actuarial Pricing Report (pages 18-30)
3. Protection and Savings Actuarial Pricing Report (pages 31-40)
4. Health and Motor Pricing Adequacy Report (pages 41-48)

A number of important observations emerged from our review. We are sharing these 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 IA expectations 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 and pricing adequacy exercises going forward.

1. Actuarial Pricing Reports – Health Insurance

1.1 Number of Rating Variables

The IA encourages the appointed actuaries to continue to explore new rating variables 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 variables used by insurance companies for pricing of Health insurance policies in 2024 by product type.

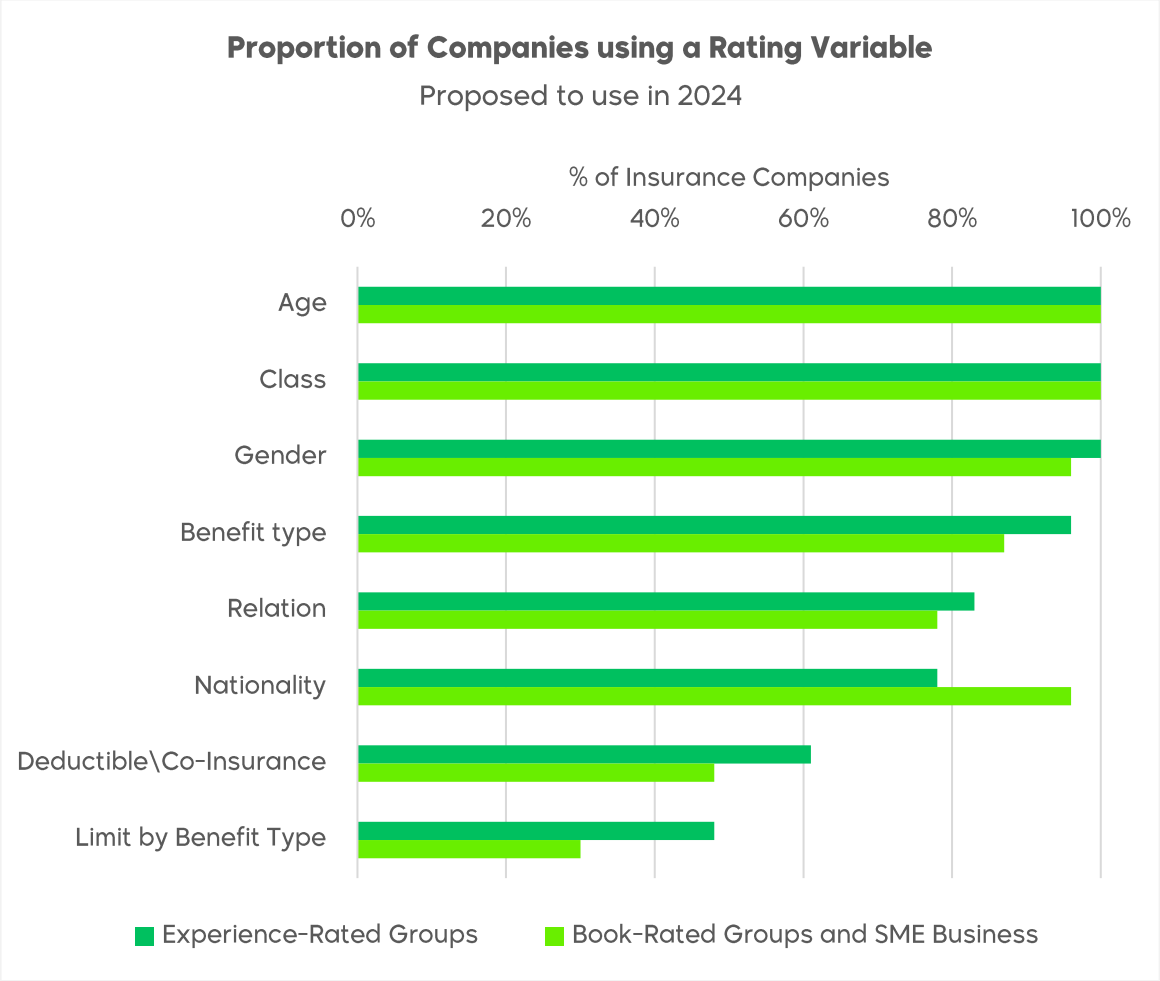
For all products, there is a marked variation between insurance companies in terms of the number of rating variables considered. For those insurance companies towards the lower end of this range, this can affect, possibly materially, their competitive position as well as the profitability of their business due to less accurate pricing than their peers, thus, highlighting the need for those companies to improve their pricing basis on a priority basis in order to remain competitive and write business on profitable terms.

1.2 Propensity of Use of Individual Rating Variables

A fundamental role of pricing actuaries is to continuously strive for pricing refinement by investigating and identifying new rating variables of significance.

A collaborative and continuous effort involving actuaries, underwriters and claims teams of an insurance company is crucial in identifying any new rating variables.

The following graph illustrates the commonly used rating variables by insurance companies in their pricing models for Group and SME health insurance pricing. Due to confidentiality and proprietary nature of less-frequently-used rating variables, the graph shows only those rating variables that are used by at least 30% of insurance companies and by at least 3 or more appointed actuaries.



The IA expects those insurance companies and appointed actuaries who are still not using the above rating variables in their pricing models to actively consider whether and how to incorporate those rating variables in their pricing models going forward, including provision of reliable data for this purpose.

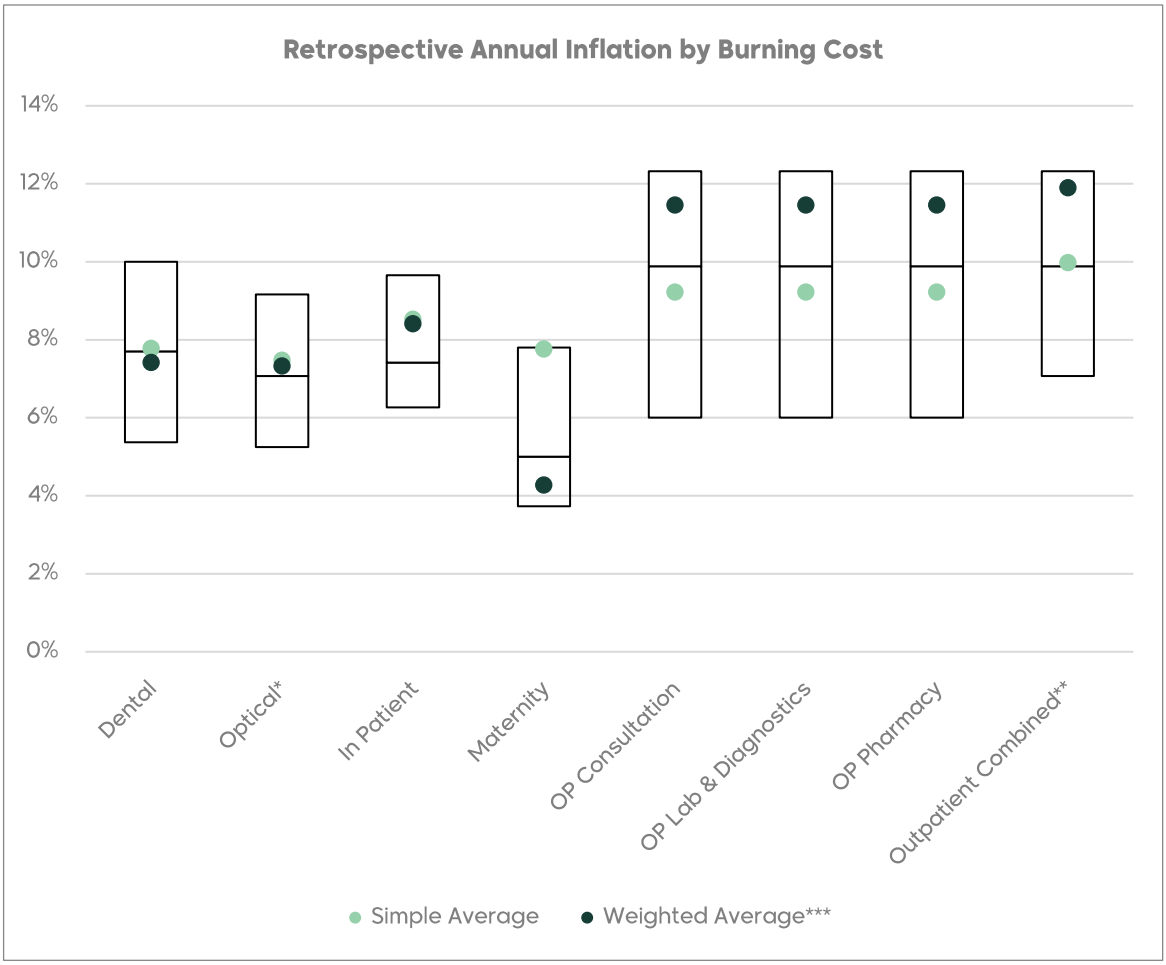
There is also a possibility of inconsistency in counting approach amongst insurance companies for certain rating variables (e.g., limit by benefit type), and the IA Actuarial team will work with the appointed actuaries to achieve consistency of reporting in this area.

1.3 Inflation Assumption

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

1.3.1 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 the appointed actuaries.



* Two insurance companies were excluded from optical inflation statistics since their claims volumes were very low, producing negative inflation values.
**Some companies do not differentiate outpatient inflation assumption by treatment type and instead use a single assumption for all outpatient treatment types.
*** The weighted average values in the graph use total gross written premium for the period 2021 to 2024Q1 as the weights.

It can be observed above that there is a wider interquartile range of values for outpatient treatments than other treatment types, indicating large differences in views amongst insurance companies, leading to potentially material differences in technical prices for outpatient treatments.

As regards the 'average' inflation assumptions, outpatient values are higher than other treatment categories, both on simple and weighted average bases.

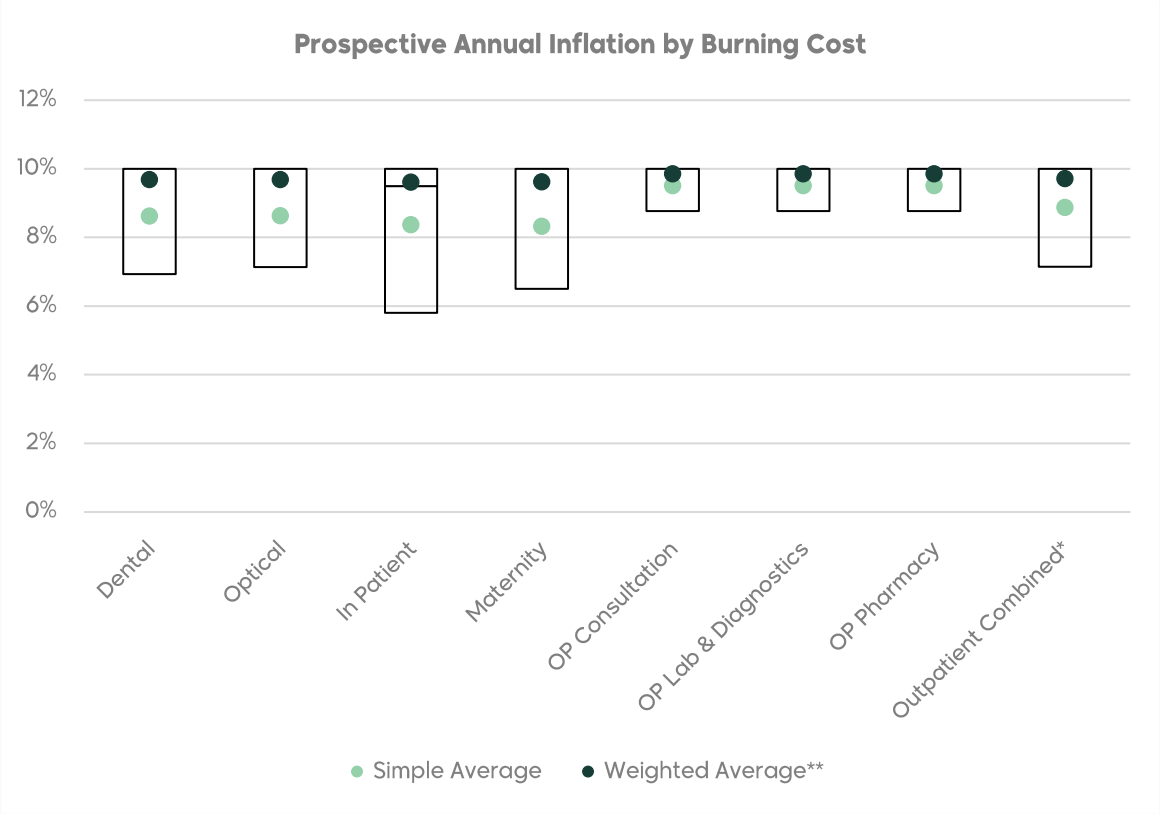
As regards the comparison between simple and weighted average inflation assumptions, a lower outpatient inflation assumption on a simple average basis than the weighted average basis can be observed which suggests that, for outpatient treatments, larger Health underwriters are more exposed to

inflationary pressures than smaller companies. This may seem contrary to expectations, as a large size company is expected to exert greater control over price inflation than smaller insurance companies On the other hand, for Maternity treatments, the weighted average inflation is noticeably below the simple average value, unlike last year when the two values were adjacent to each other.

1.3.2 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 the appointed actuaries.



* Some companies do not differentiate outpatient inflation assumption by treatment type and instead use a single assumption for all outpatient treatment types

** The weighted average values in the graph use total gross written premium for year 2023 as the weights.

It can be observed above that, unlike that observed for retrospective inflation, the average values among treatment types are relatively similar, particularly for weighted average inflation assumptions.

Moreover, a narrower interquartile range is observed for outpatient treatments than observed in case of retrospective inflation assumptions.

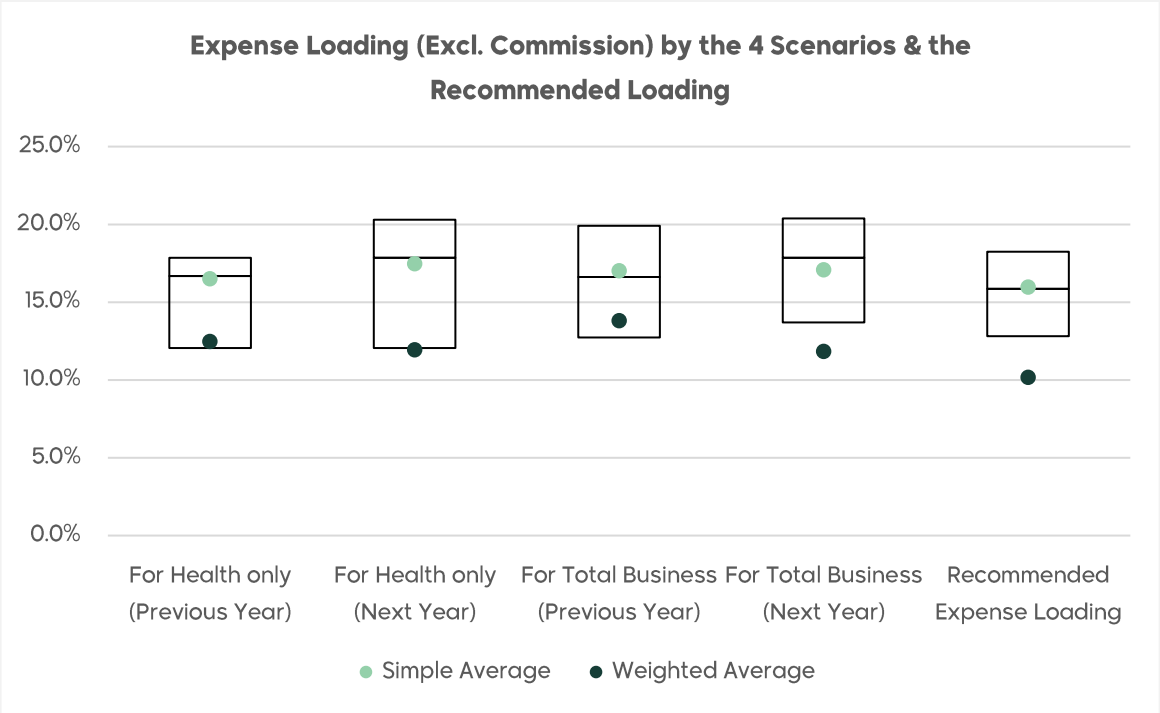
In addition, the simple average values for all treatment types are consistently below the weighted average values, which is somewhat different from that seen for retrospective inflation assumptions for 'other than outpatient' treatments. Moreover, the 75th percentile of the prospective inflation assumptions is broadly consistent among all benefit types.

These variations between prospective and retrospective inflation assumptions indicate that many appointed actuaries believe that the past is not necessarily indicative of the future, a judgement that is expected to be supported by adequate justification.

1.4 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 ratios recommended by the appointed actuaries for use in technical pricing.



The weighted average values in the graph use total gross written premium for year 2023 as the weights.

It can be observed that the next year's weighted average expense ratios are projected to be somewhat lower than last year's expense ratio, whereas the simple average expense ratios are projected similar to last year's values, indicating some optimism in the business plans of larger Health insurance companies. We note making a similar observation last year, though the results of this year showed that insurance companies in general successfully managed to achieve a reduction in expense ratios.

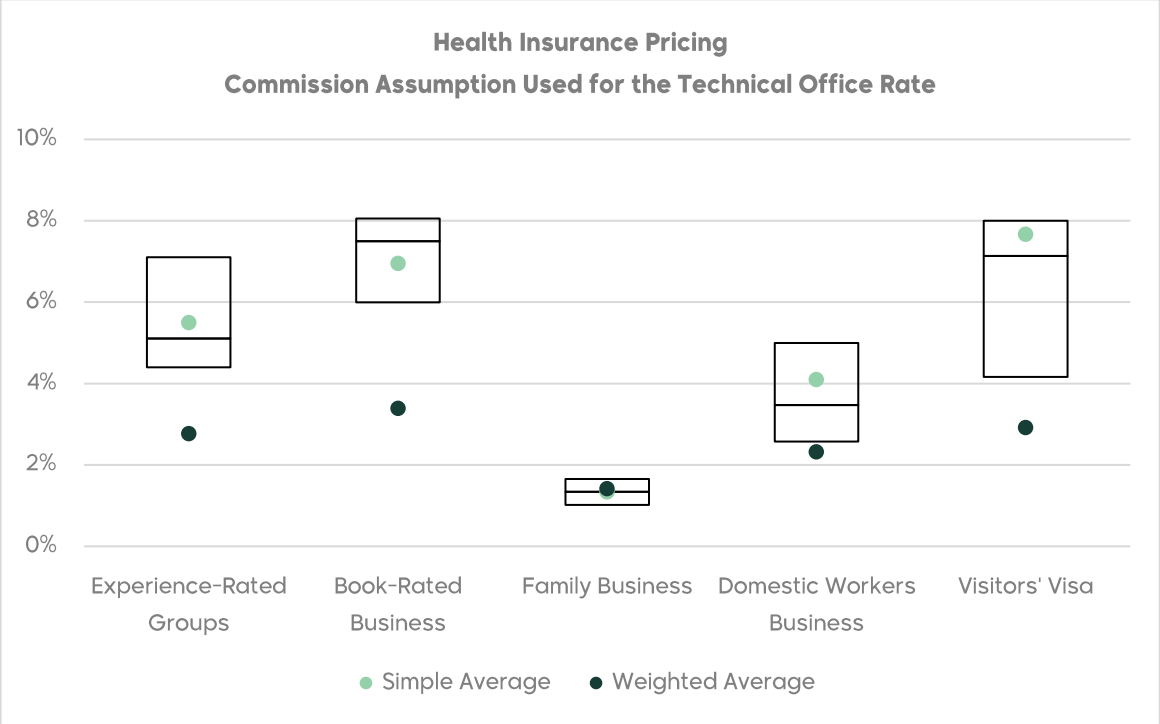
The recommended expense loading on a simple average basis is largely aligned with the last year's expense ratio. On the other hand, it is interesting to note that the weighted average recommended expense loading is noticeably lower than the results under all four scenarios, which would require strong justification and close monitoring by the relevant appointed actuaries going forward, particularly given the usually thin margins in Health insurance.

1.5 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, hence, profit margins are small in percentage terms. Therefore, the 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 the appointed actuaries in pricing for various segments of Health insurance book.



The weighted average values in the graph use total gross written premium for year [2021 to 2024Q1] as the weights.

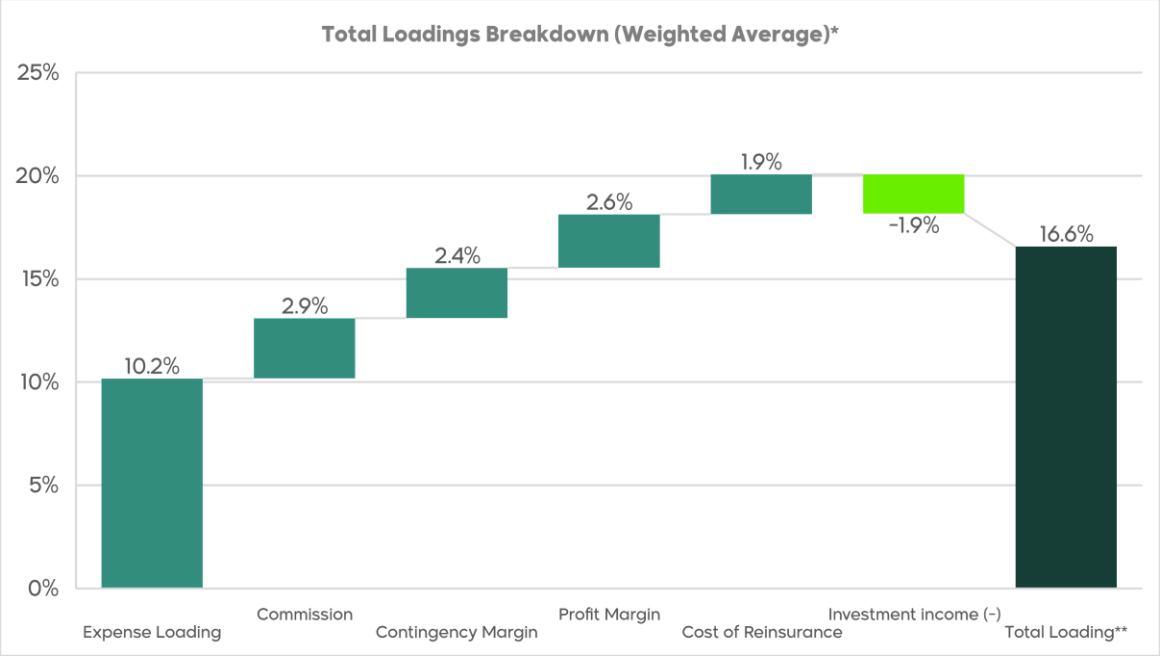
For all segments, except Family Business, the interquartile ranges indicate some companies have material competitive advantage due to their ability to sell at lower commission rates than others. As indicated by the weighted-average commission ratios, larger insurers demonstrate their ability to achieve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

1.6 Composition of Total Loading

The graph below shows the components of total loading, on a weighted average basis, included in the final technical premium.



* The weighted average values in the graph use total gross written premium for year [2021 to 2024Q1] as the weights.

**The weighted average for each component was calculated individually, so the total may not equal the sum of all components as is the case above.

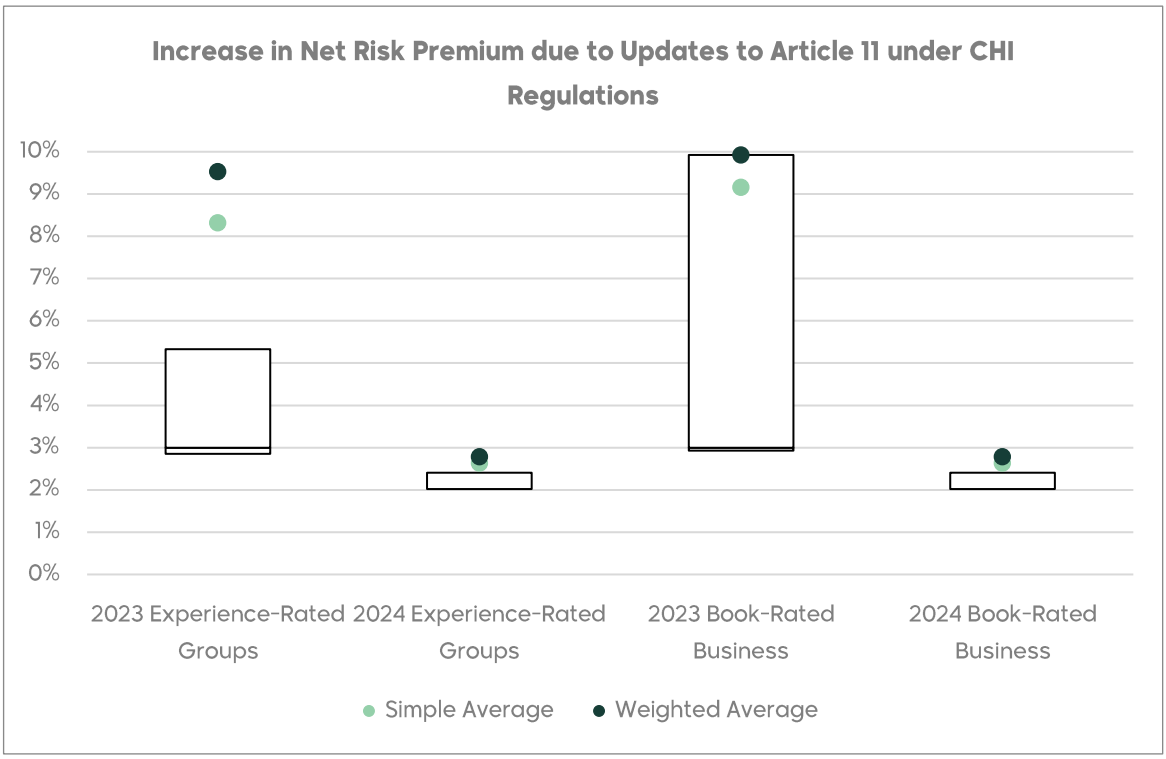
As expected, the largest component of the overall loading is the Expense Loading, whereas there is some offset for the anticipated investment income. It may be noted that the above graph is heavily influenced by larger Health underwriters, and the loading composition of smaller underwriters may be significantly different from the above, particularly the expense loading component. It may therefore serve as a useful benchmark for the smaller players making them more cognizant of the competitive challenges facing them.

1.7 Impact on Health Insurance Prices due to Regulatory Changes

1.7.1 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 health insurance through their employers. Starting in Q2 2022, a draft of updated DRG price list under Article 11 was introduced, which raised concerns in the sector about the potential impact of these revised prices on premium rates as some insurers perceived the new prices to be too high. As of now, the proposed updates to the DRG price list are yet to be implemented.

The graph below shows the estimated increase in premium rates in year 2024 pricing exercise compared to the previous pricing exercise in year 2023 due to the above regulation as determined by the appointed actuaries in case the updated price list is implemented.



The weighted average values in the graph use total gross written premium for year [2021 to 2024Q1] as the weights.

Compared to last year, the average estimates as well as interquartile ranges for both experience-rated group business and book-rated business have

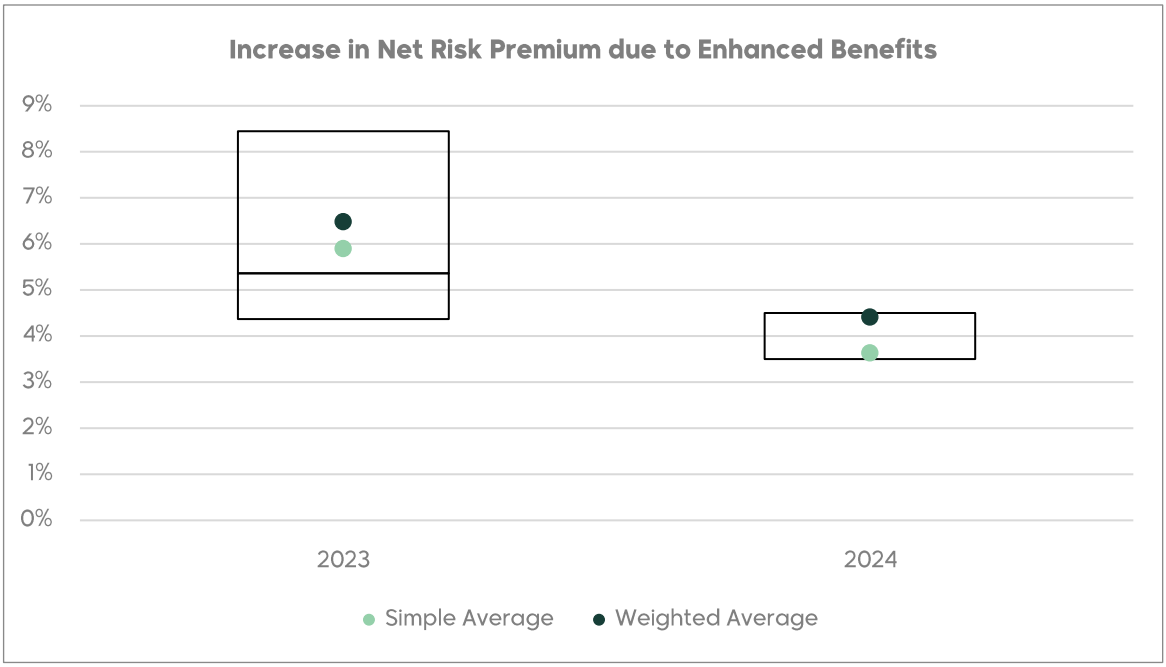
reduced significantly, implying lower uncertainty and/or a broad consistency of views across insurance companies as regards the likelihood and impact of those proposed changes in the near future. We expect the appointed actuaries to closely follow the regulatory developments in this regard, and adjust their technical pricing in a timely manner.

In addition, given the recoveries by government health facilities now already form part of the pricing data, one may argue that it is not unexpected to see the estimates of future additional cost impact to be lower than that assumed last year. At the same time, we note that the cost scenario for insurance companies may change materially as more public health facilities appoint 'revenue cycle management' companies, potentially increasing their recoveries substantially. This highlights the need for insurance companies to closely monitor the emerging experience and adjust their pricing in a timely manner.

1.7.2 Enhanced Benefits under CHI Policy

The CHI introduced an updated essential benefit package which was adopted in part from October 2022. The precise timing for adoption of the remaining part is yet to be announced.

The graph below shows the average increase in prices/cost of treatment estimated by the appointed actuaries in response to this regulatory change, which reflects the cost that is yet to be fully reflected in the historical experience and/or the cost and likelihood of the remaining part of the package going live.



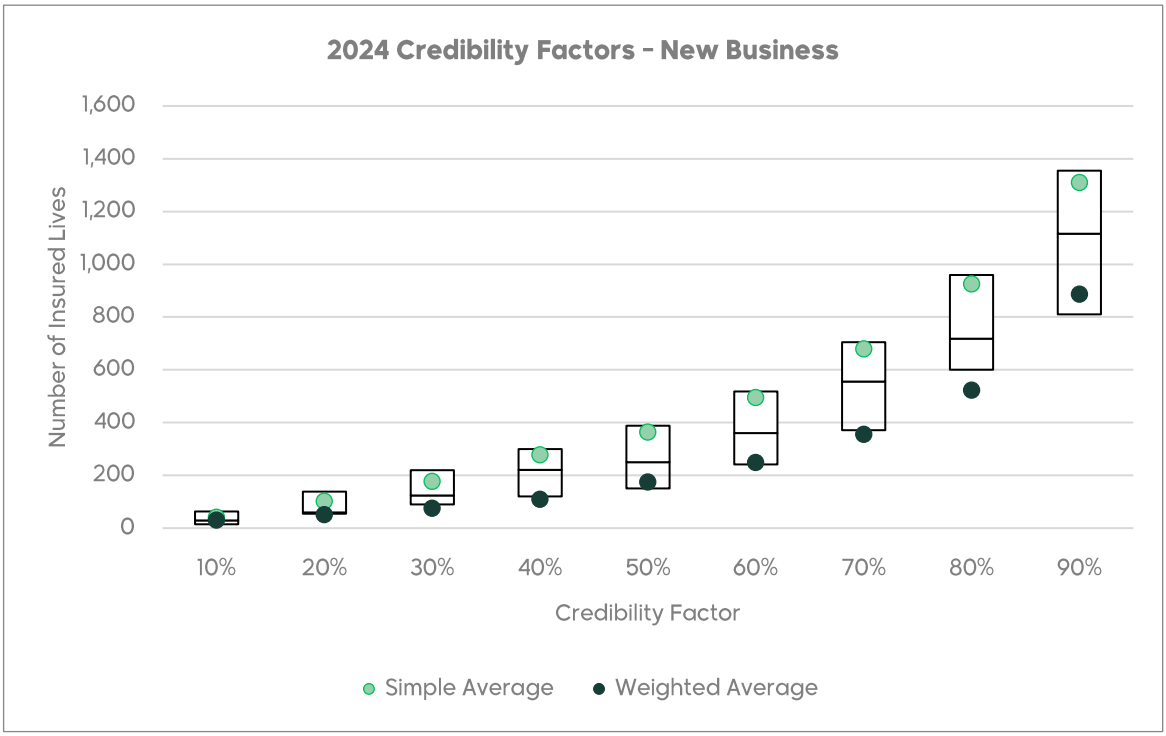
The weighted average values in the graph use total gross written premium for year 2021 to 2024Q1 as the weights.

It can be observed above that, compared to last year, both the interquartile range and the average values have reduced significantly. This is not unexpected given that there was more than one year of claims experience after the above change already built into a company's database when this pricing exercise was performed. Similar to other recent regulatory developments, it is essential for the appointed actuaries to closely monitor emerging experience attributable to this amendment and adjust their technical pricing on a timely basis.

1.8 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 the appointed actuaries, for assigning a given credibility factor.



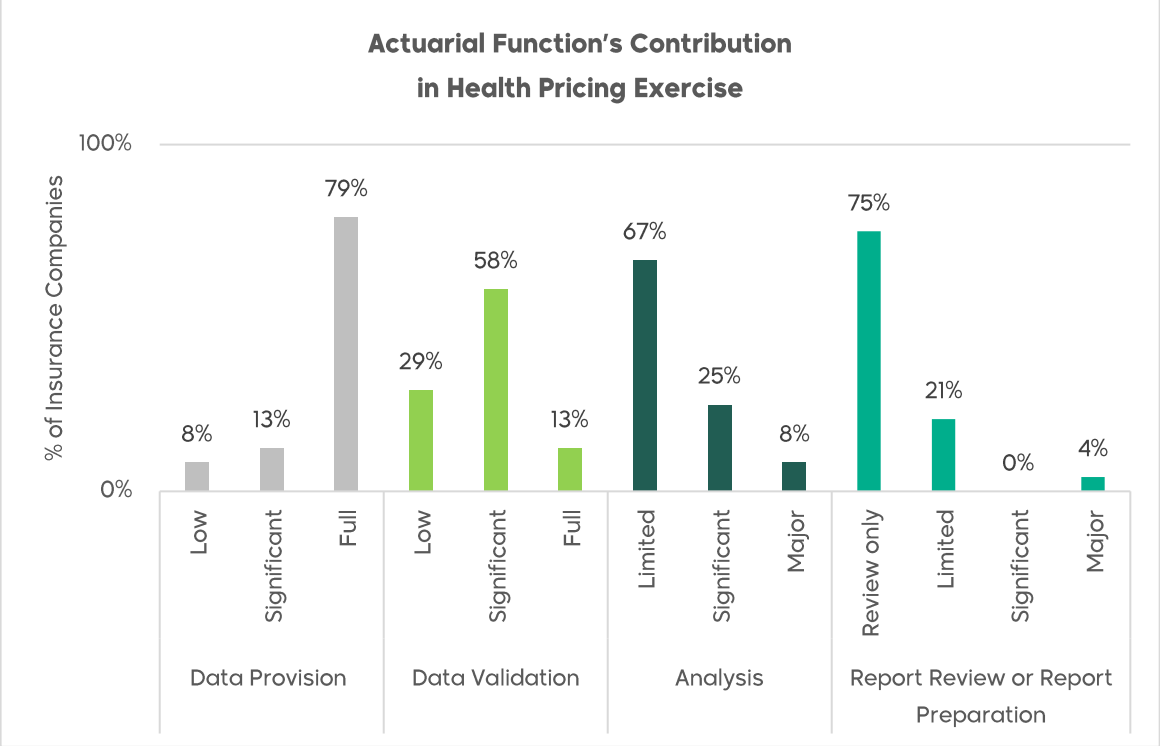
The weighted average values in the graph use total gross written premium for year 2021 to 2024Q1 as the weights.

It can be seen that, for both the simple average and weighted average number of insured lives, values are similar at the lower levels of credibility. The difference however grows as the credibility factor increases (e.g., c. 1310 v 887 lives at 90% credibility factor on simple average and weighted average bases respectively), indicating higher dispersion among insurance companies at higher credibility factors.

Lower weighted average values than simple average values, particularly for higher credibility factors, could also be driven by the appointed actuaries of larger insurance companies having more confidence in data quality than those of smaller insurance companies. 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.

1.9 Actuarial Function's Contribution

The graph below shows the contribution of the actuarial functions of insurance companies at each of the four major steps involved in preparing the Health Pricing Report, namely, data provision, data validation, analysis, and report preparation & review.



The graph shows varying levels of responsibility and contribution at each step. For Data Provision and Data Validation steps, the majority of internal actuarial functions have either taken full or significant responsibility. However, for the core Analysis part, the extent of contribution remains limited for the majority of internal actuarial functions, though we note that around one-third of internal actuarial functions have deemed to play either a significant or a major role in producing the analysis.

Likewise, as regards documenting the analysis and preparing the Actuarial Pricing Report, the role of the majority of internal actuarial functions remained confined to reviewing the report prepared by their appointed actuaries, though

we note that one internal actuarial function reported to have played a major role in report preparation.

On an overall basis, the above is not in line with the IA's expectations, particularly given that unlike in the past, now almost all internal actuarial functions are headed/supported by qualified fellow actuaries.

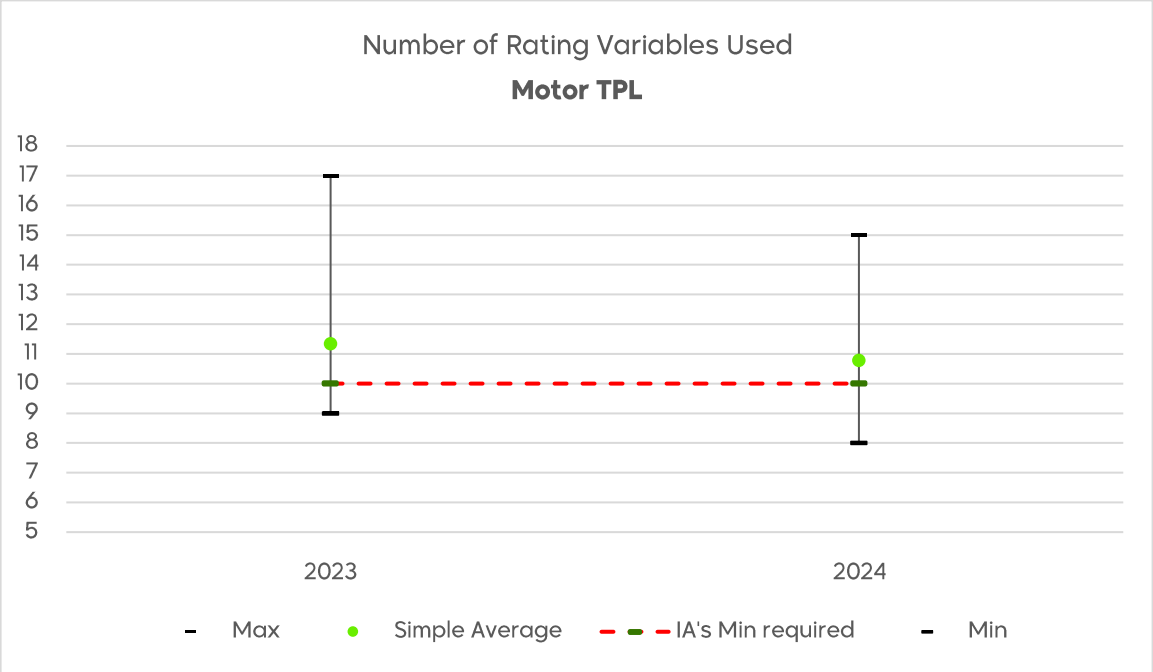
The IA expects the contribution of the Actuarial Function of each insurance company to increase over time in all areas, such that the overall contribution in the entire pricing exercise is deemed significant. In particular, the IA expects to see all internal actuarial functions playing an active role in the Analysis step, followed by an increase in their role in preparing the actuarial pricing report. The Insurance Authority sees this active participation as an essential tool for the professional development of the internal actuarial function of the Company, in particular of actuarial candidates working within those actuarial functions.

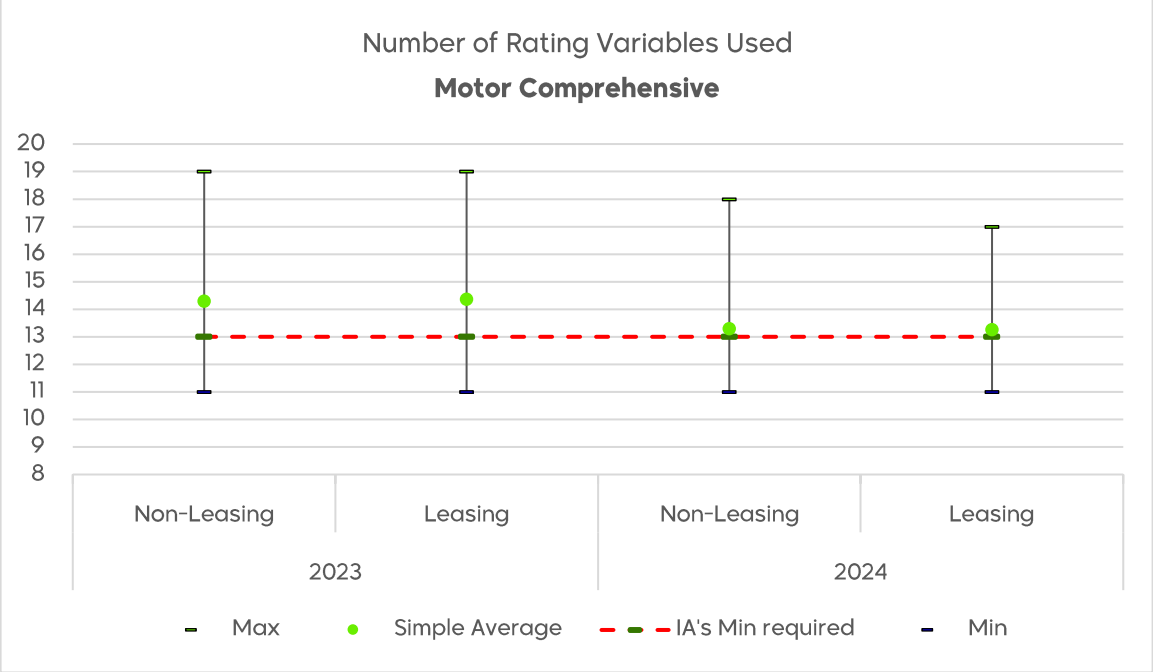
The IA expects the Company management to provide adequate resources (human and technological) to the internal actuarial function, thus enabling it to play a significant role in producing the above statutory report.

2. Actuarial Pricing Reports – Motor Insurance

2.1 Number of Rating Variables

The graphs below show the number of rating variables used by the appointed actuaries for deriving technical prices of Motor Third Party Liability (TPL) and Motor Comprehensive policies in 2024, also comparing it with the 2023 pricing basis.





It can be seen above that, compared to the previous pricing exercise, the average number of rating variables used has decreased for both TPL and Comprehensive policies, which is not in line with the IA's expectations about enhancing pricing sophistication in the sector. We understand that some of this correction could be attributable to the review and challenge performed by the IA last year and feedback provided through the Pricing Dear CEO letter 2024, particularly where rating variables with 'relativity of 1 for all values' (i.e., those deemed not significant) were being used by some insurance companies towards this count. Therefore, we believe the graphs this year more accurately reflect the count of rating variables in use.

Additionally, we have observed that in some instances, the Appointed Actuary found a rating variable to be both reliable and accurate, however, the said rating variable was not incorporated into the pricing model.

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

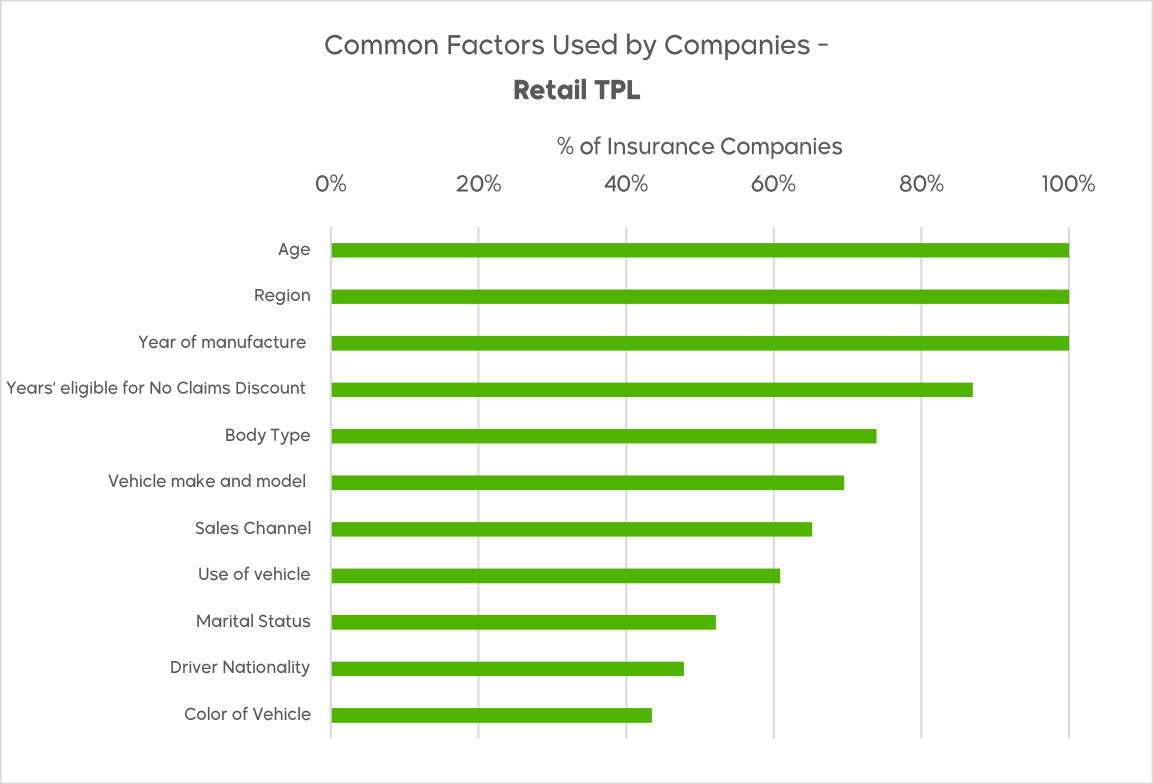
Conversely, the insurance companies towards the lower end of the range could be exposed to the risk of inaccurate pricing and, in turn, adverse results for their Motor portfolio. Moreover, it appears there is at least one company in each pricing segment that is struggling to meet the requirement of minimum number of rating variables set by the IA, putting it likely at a significant competitive disadvantage and exposing it to the risk of possible regulatory action.

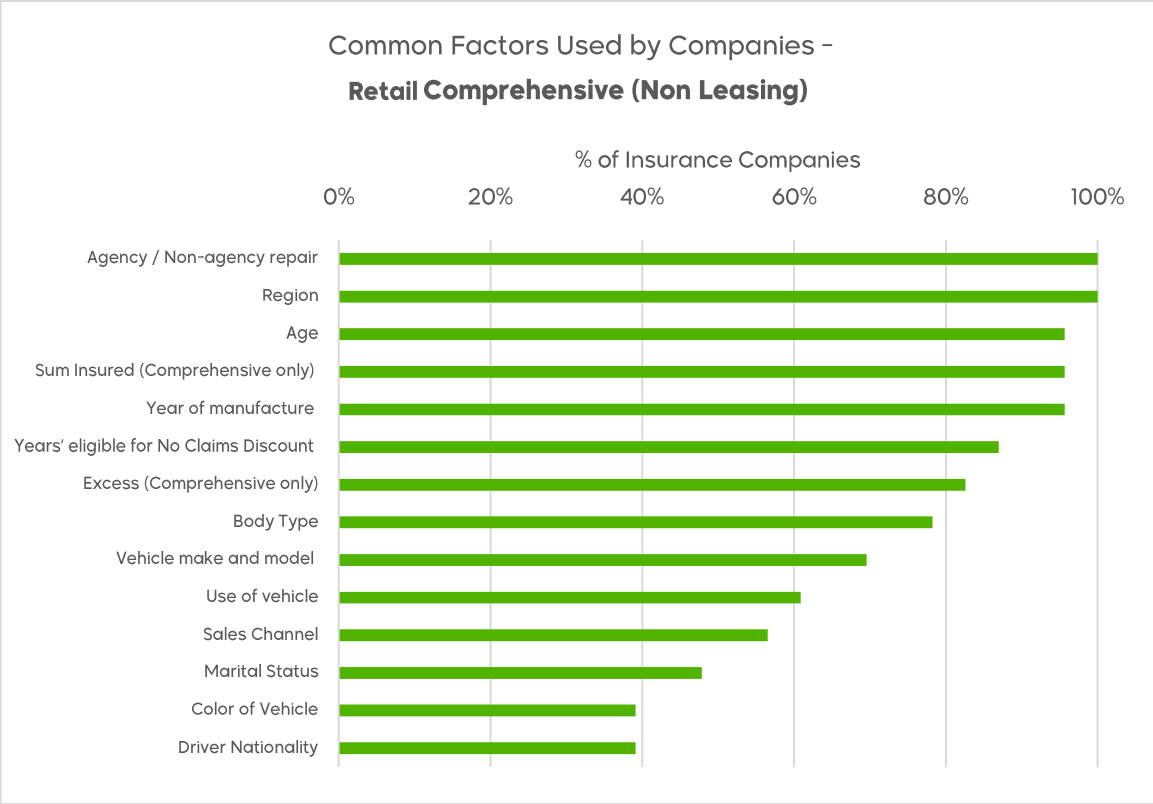
The fact that the average number of rating variables used by insurance companies sits just above the minimum requirement and that some insurance companies are still struggling to meet the minimum requirement cannot be seen as 'satisfactory', particularly given that the above minimums were set several years back in 2019.

The IA expects all insurance companies to not only comply with the requirement of minimum rating variables, but strive to adopt additional rating variables well above the minimum specified by the IA in order to enhance their competitive advantage and implement more sophisticated pricing strategies. The IA expects Company management to ensure that efforts to identify and incorporate additional rating variables are made in a comprehensive manner, involving all relevant functions, including but not limited to, Underwriting, Claims, IT, Actuarial Function and the Appointed Actuary, and data for this purpose is captured in a reliable manner and/or obtained from reliable sources.

2.2 Propensity of Use of Indivdiual Rating Variables

The following graphs illustrate the commonly used rating variables by insurance companies in their pricing models for Retail TPL and Retail Comprehensive (non-leasing) motor insurance pricing. Due to confidentiality and proprietary nature of less-frequently-used rating variables, the graph shows only those rating variables that are used by at least (nearly) 40% of insurance companies and by at least 3 or more appointed actuaries.

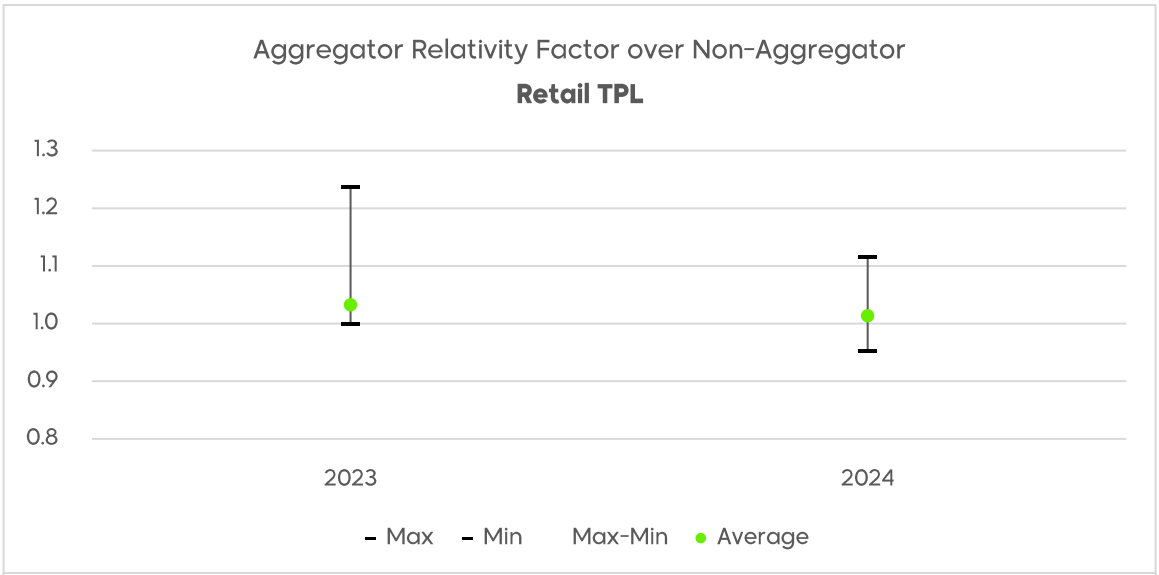


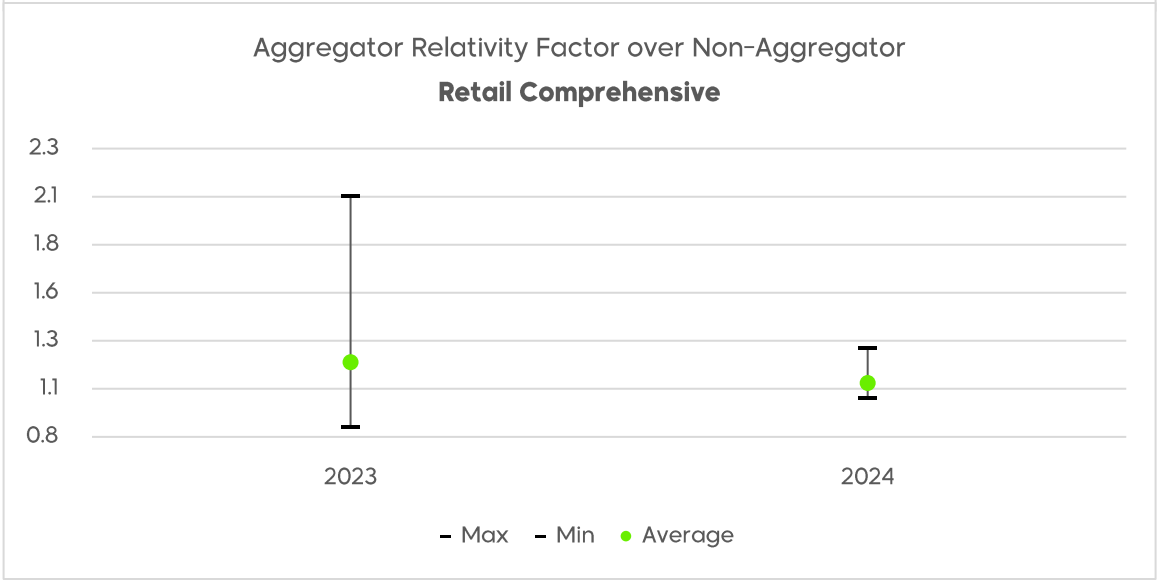


The IA expects those insurance companies and appointed actuaries who are still not using the above commonly-used rating variables in their pricing models to actively consider whether and how to incorporate those rating variables in their pricing models going forward, including provision of reliable data for this purpose.

2.3 Rating by Sales Channel

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

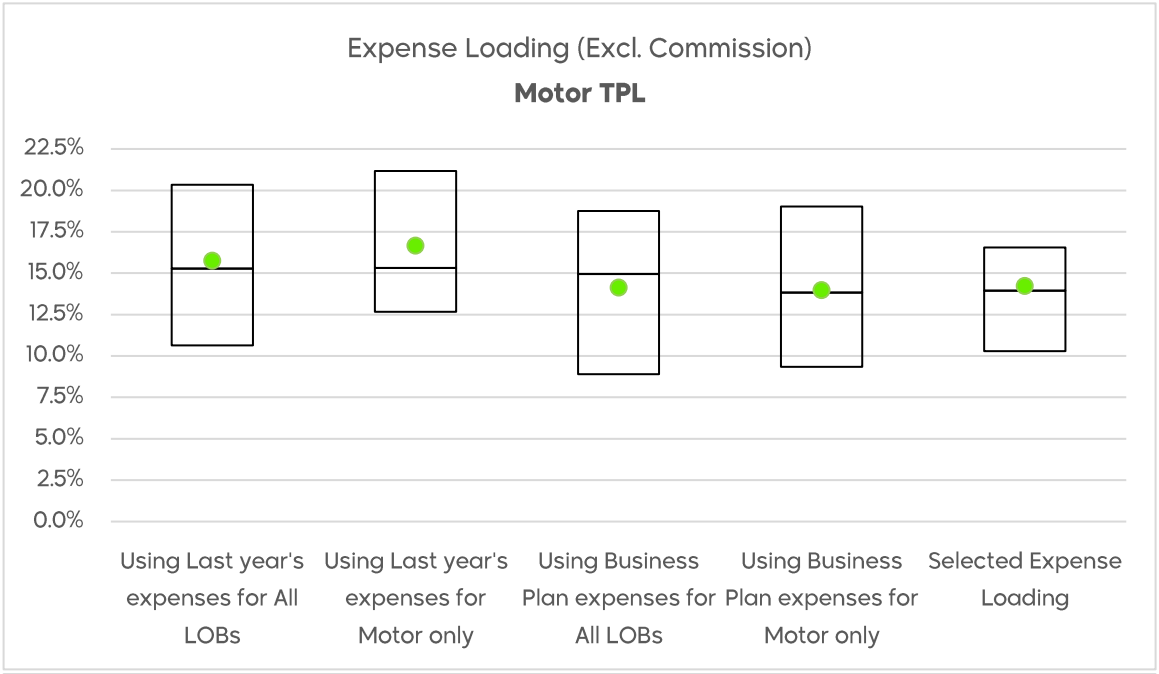




For Motor TPL, the average relativity is fairly stable compared to last year, however there is a noticeable shift in the range of values, where at least one company prices the aggregator channel more favorably than non-aggregator channels. For Motor Comprehensive the average relativity has decreased when compared with last year, as well as the range of values has narrowed materially. Unlike last year and in contrast to Retail TPL, no insurance company prices the aggregator channel more favourably than non-aggregator channels.

2.4 Expense Loadings

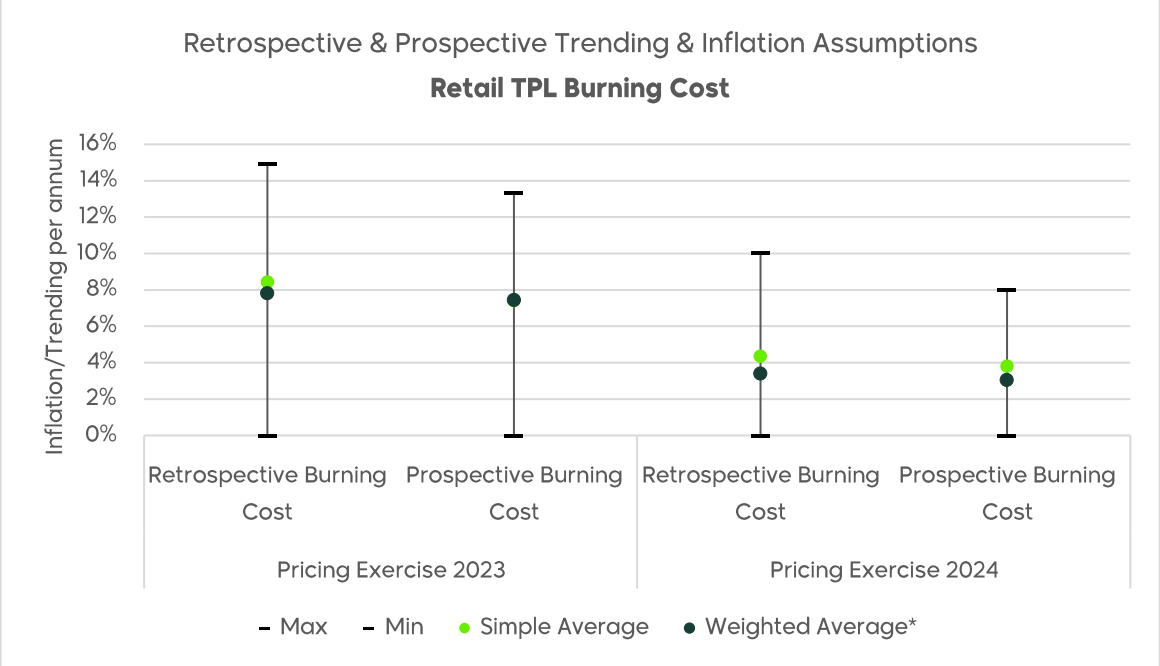
For the purpose of determining the expense loading for inclusion in premium rates, an Appointed Actuary is required under the IA instructions to perform four sets of calculations, and select an appropriate expense loading considering the four results produced. The graphs below show the results of the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

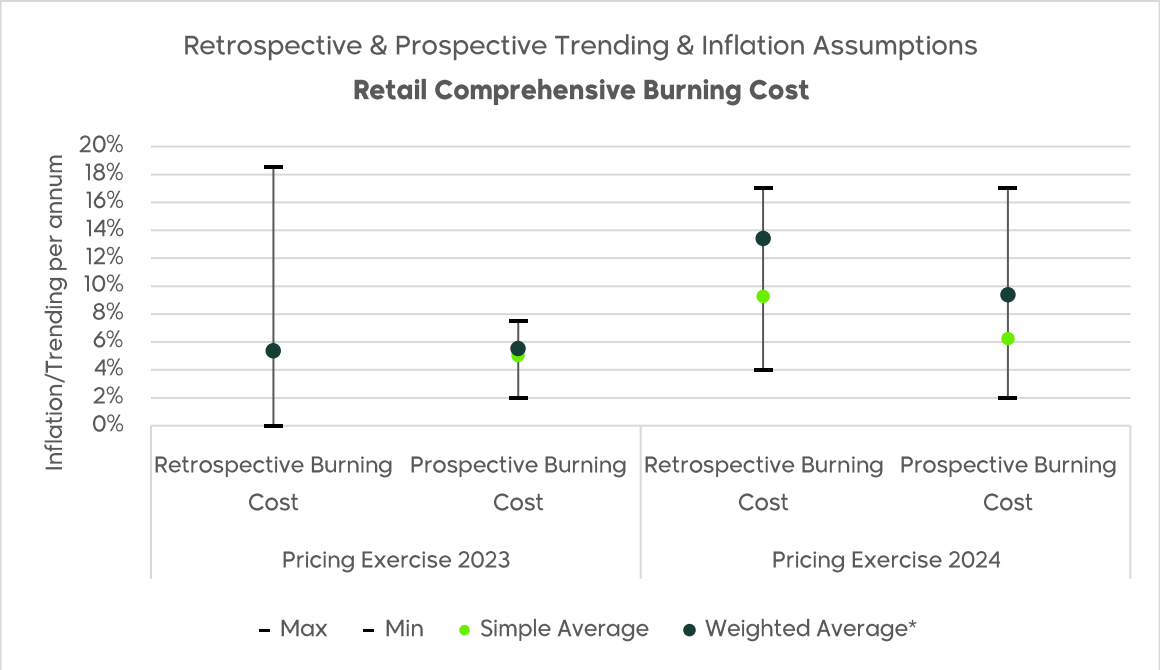


It is apparent from the above that the appointed actuaries have relied more on business plan expense ratios, which are lower in general than the last year's expense ratios. It would therefore be critical for the profitability of Motor business to achieve those planned savings in expenses as a percentage 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 similar reduction as was projected in last year's business plan.

2.5 Burning Cost Trend and Inflation

The graphs below show the trending assumptions applied by the appointed actuaries to the historical burning cost and to project it into the future to derive the technical premiums applicable going forward, also comparing with the assumptions used last year.





* The weighted average values in the graph use 2023 earned premium for pricing exercise 2023 and 2024 earned premium for pricing exercise 2024 as the weights.
Note: 2023 assumptions above relate either to those used in last year's pricing exercise or, if applicable, those updated since then

For Retail TPL, both the retrospective and prospective trend/inflation assumptions (both simple and weighted average) show a marked reduction compared to those used last year by the appointed actuaries. Between the retrospective and prospective assumptions, the latter has a lower range of values, an approach similar to that observed last year. Moreover, the range of values has narrowed this year compared to last year. With regards to the comparison between simple and weighted average values, the weighted average values for 2024 are slightly lower than seen last year, which can be attributed to the fact that larger companies tend to have better control over costs due to economies of scale.

On the other hand, in contrast to that observed for Retail TPL, for Retail Comprehensive, the average values have increased noticeably compared to those used by the appointed actuaries last year, in particular for the retrospective trend assumption. Moreover, the difference between the retrospective and prospective ranges of values is not as significant as observed last year. Regarding the comparison between simple and weighted

average values, noticeably higher values are observed for weighted average basis than for simple average basis.

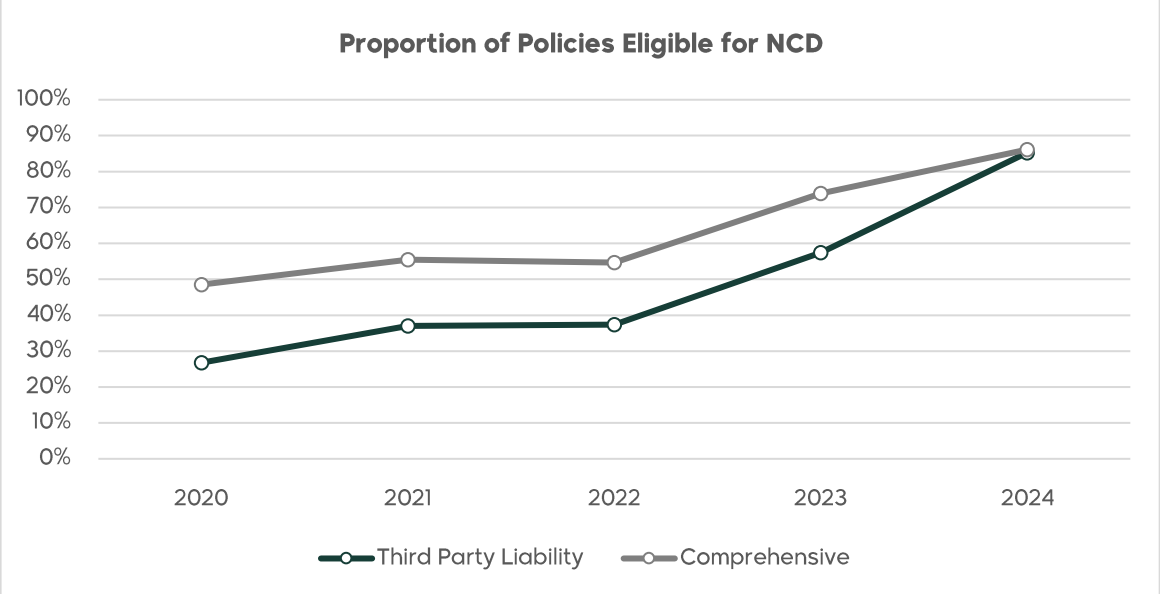
In the context of actuarial pricing, the above changes could be significant, and for an individual insurance company, these can lead to material changes in technical premium rates from one year to the next.

The IA expects the appointed actuaries to support all material changes in assumptions with adequate justification and explain the impact of such material changes to senior management and relevant functions in sufficient detail.

2.6 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 as well as to meet strategic objectives.

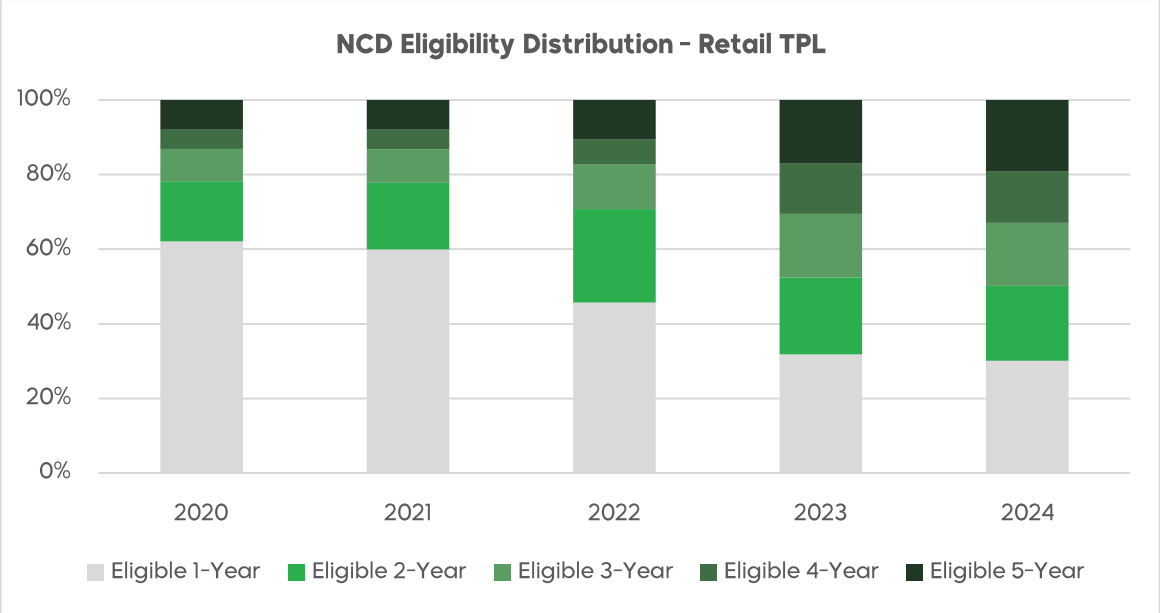
The graph below shows the proportion of policyholders who received the benefit of NCD over the last five years based on data provided by Najm.

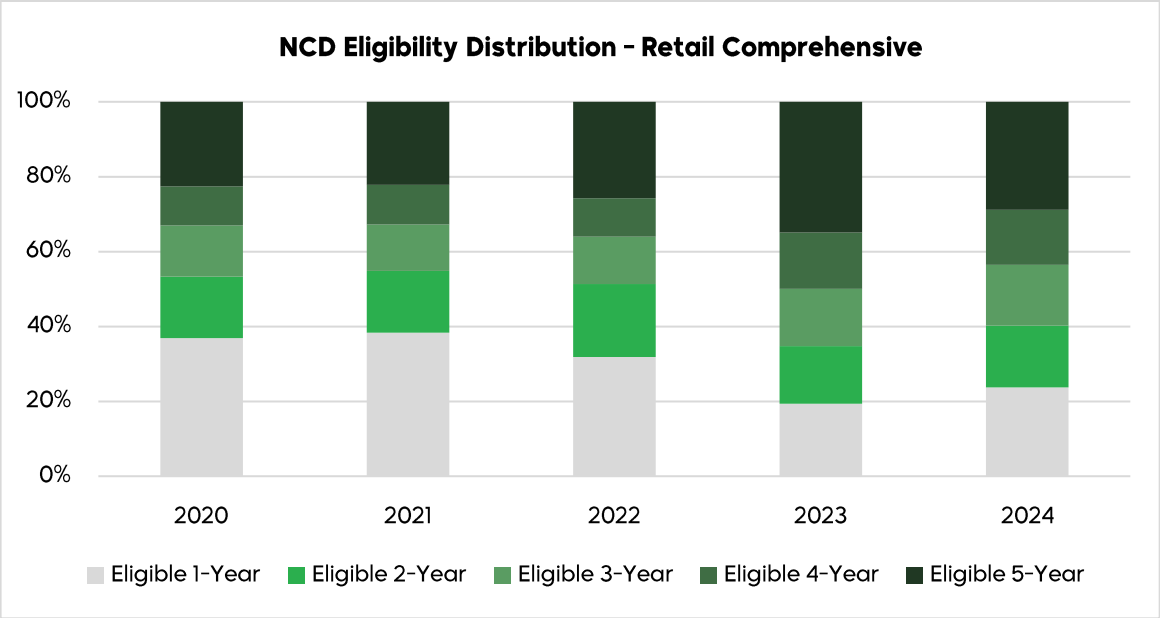


As observed along the years, NCD-eligibility for Motor Comprehensive policies had been markedly higher than Motor TPL, however in 2024, the eligibility

proportions are very similar for both segments. Compared to 2022 and prior, the proportion of policyholders eligible for NCD increased significantly in 2023, and this strong increasing trend has continued in 2024. The big shift over the last two years can be attributed mainly to the relaxation in NCD criteria in Q4 2023, which is now based largely on claims history of an insured, whereas previously it also considered renewal discipline of the policyholder for all vehicles under his/her name. If not already incorporated, the above change may necessitate material adjustments in technical pricing by the appointed actuaries.

Another important consideration in pricing is the proportion of drivers eligible for each level of NCD, i.e, from one year up to five years. The graphs below show the average eligibility proportion under each level, separately for Motor TPL and Motor Comprehensive policies.





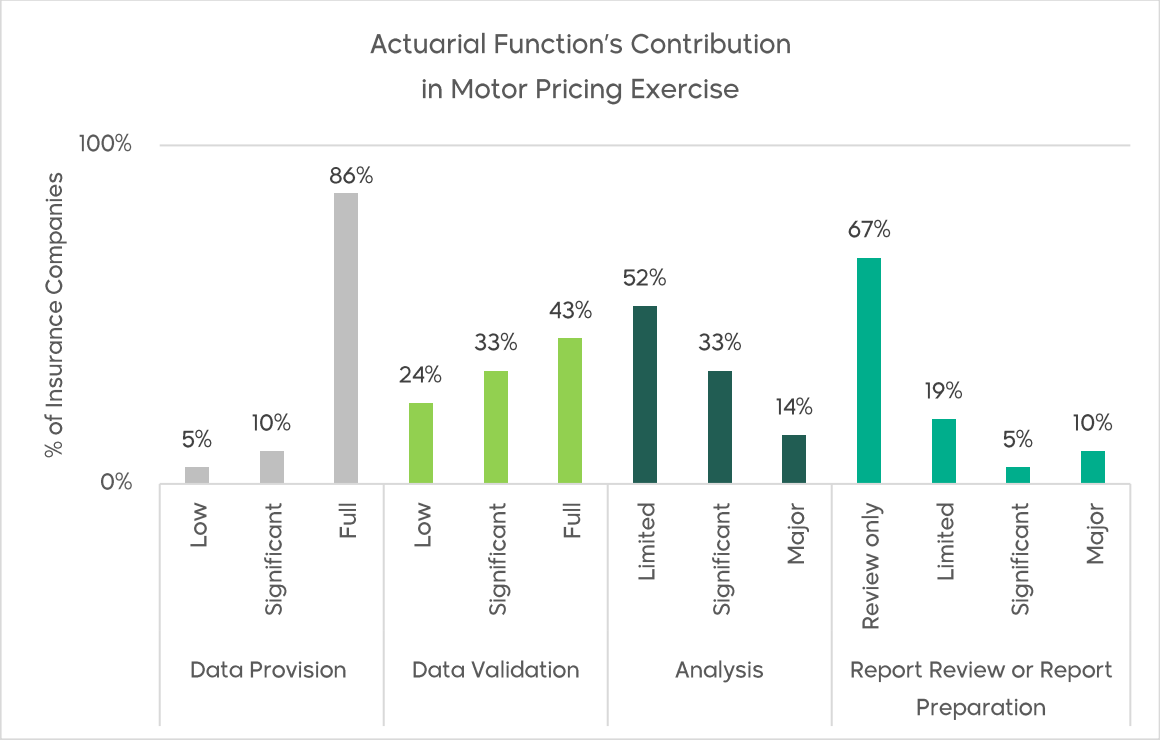
It is observed that for both, TPL and Comprehensive, the trend for proportions of people eligible for 'NCD bands 2 and above' had been increasing year on year until 2024, which is a desirable outcome and can be an important consideration for the purpose of assumption-setting by an Appointed Actuary. This may also indicate 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.

During 2024, for Retail TPL, the trend has continued, though at a less pronounced rate, whereas for Retail Comprehensive,there are signs of some reversal, and the proportion of population with NCD1 has increased and the proportion of NCD5 has reduced. The above is likely to be partly influenced by changes to the NCD rules in Q4 2023 mentioned above. The above shifts highlight the need for the appointed actauries to track these changes regularly and account for those in technical pricing and update the premium rates on a timely basis.

2.7 Actuarial Function Contribution

The graph below shows the contribution of the actuarial functions of insurance companies at each of the four major steps involved in preparing the Motor

Pricing Report, namely, data provision, data validation, analysis, and report preparation & review.



The graph shows varying levels of responsibility and contribution at each step. For Data Provision and Data Validation steps, the majority of internal actuarial functions have either taken full or significant responsibility. However, for the core Analysis part, the extent of contribution remains limited for the majority of internal actuarial functions, though we note that nearly half of internal actuarial functions have deemed to play either a significant or a major role in producing the analysis.

Likewise, as regards documenting the analysis and preparing the Actuarial Pricing Report, the role of the majority of internal actuarial functions remained confined to reviewing the report prepared by their appointed actuaries, though we note that a small minority of internal actuarial functions did play a major role in preparing the actuarial pricing report

On an overall basis, the above is not in line with the IA's expectations, particularly given that unlike in the past, now almost all internal actuarial functions are headed/supported by qualified fellow actuaries.

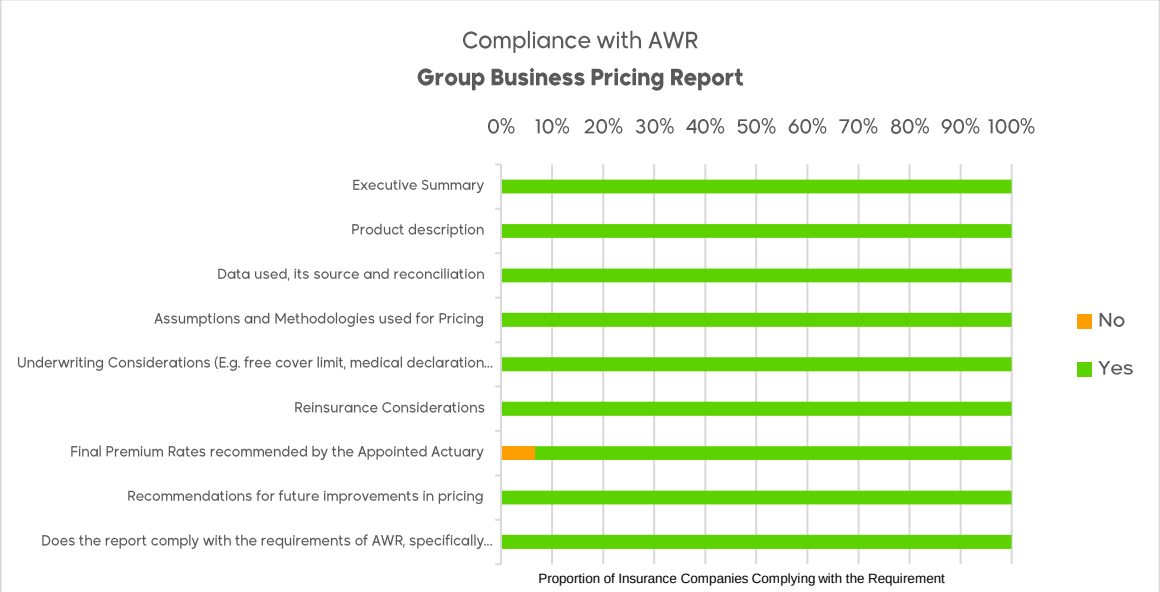
The IA expects the contribution of the Actuarial Function of each insurance company to increase over time in all areas, such that the overall contribution in the entire pricing exercise is deemed significant. In particular, the IA expects to see all internal actuarial functions playing an active role in the Analysis step, followed by an increase in their role in preparing the actuarial pricing report. The Insurance Authority sees this active participation as an essential tool for the professional development of the internal actuarial function of the Company, in particular of actuarial candidates working within those actuarial functions.

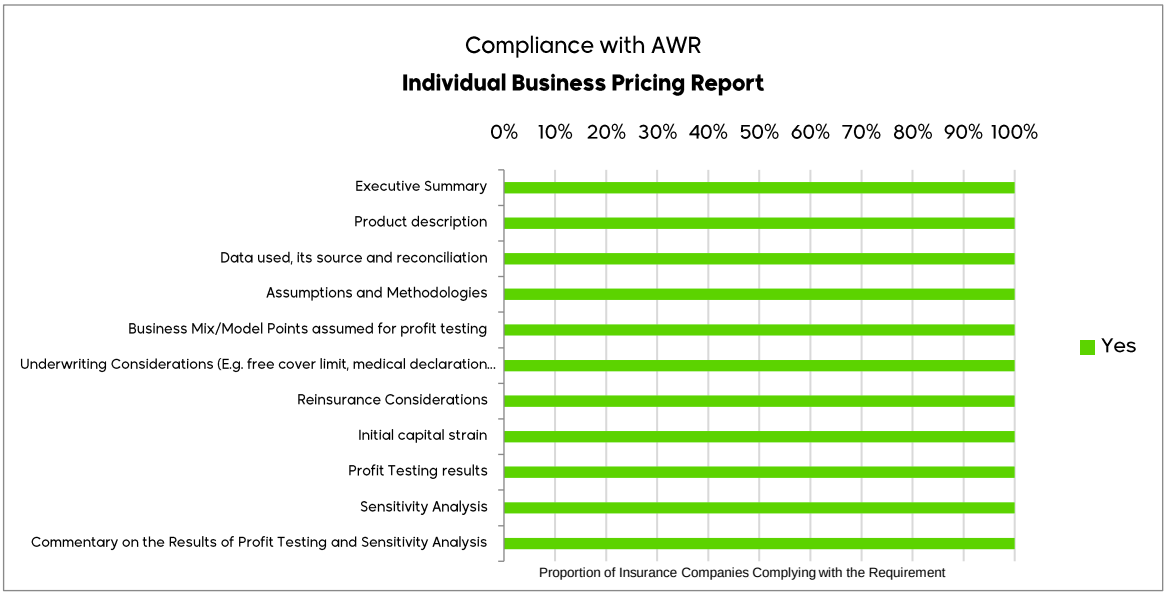
The IA expects the Company management to provide adequate resources (human and technological) to the internal actuarial function, thus enabling it to play a significant role in producing the above statutory report.

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

3.1 Compliance with Actuarial Work Rules (AWR) 2020

The AWR lists the minimum requirements for P&S actuarial pricing reports in order to encourage the appointed actuaries to produce those reports in a consistent manner and in line with the professional standards. The graph below shows, by product type, the extent to which the pricing report produced by the appointed actuaries met the minimum requirements.





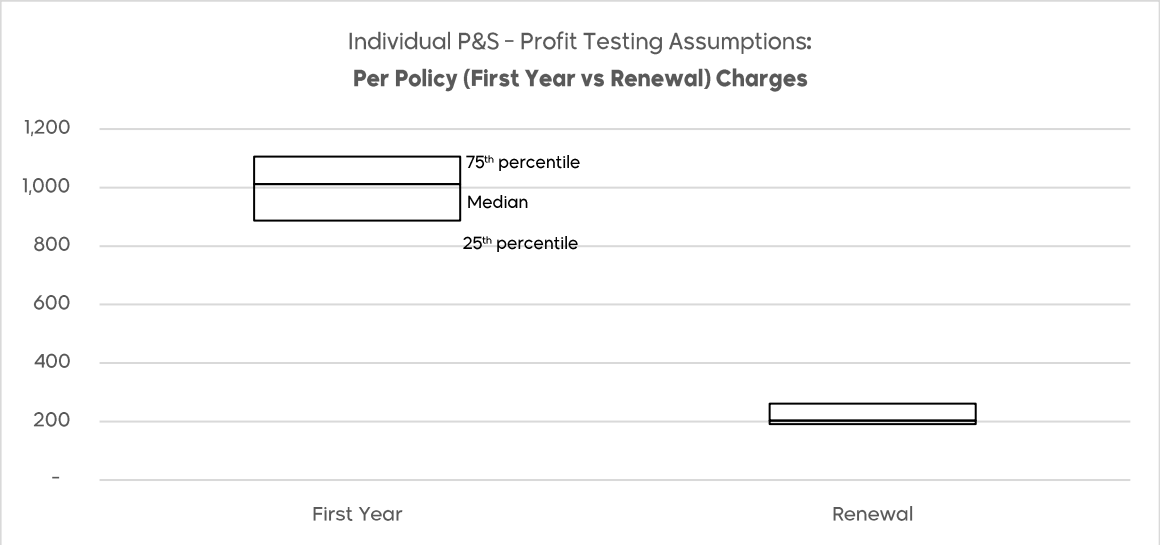
Compared to last year, a significant improvement has been observed in the extent of compliance with the the minimum requirements, and for both Group and Individual businesses, the graphs above show almost full compliance with AWR., For Group business, compared to last year, there was a marked improvement in documenting the *final premium rates recommended* by the Appointed Actuary. For individual business, compared to last year, the improvement in meeting the minimum requirements was most noticeable in areas of *Executive Summary*, *Underwriting Considerations*, and *Reinsurnace Considerations*.

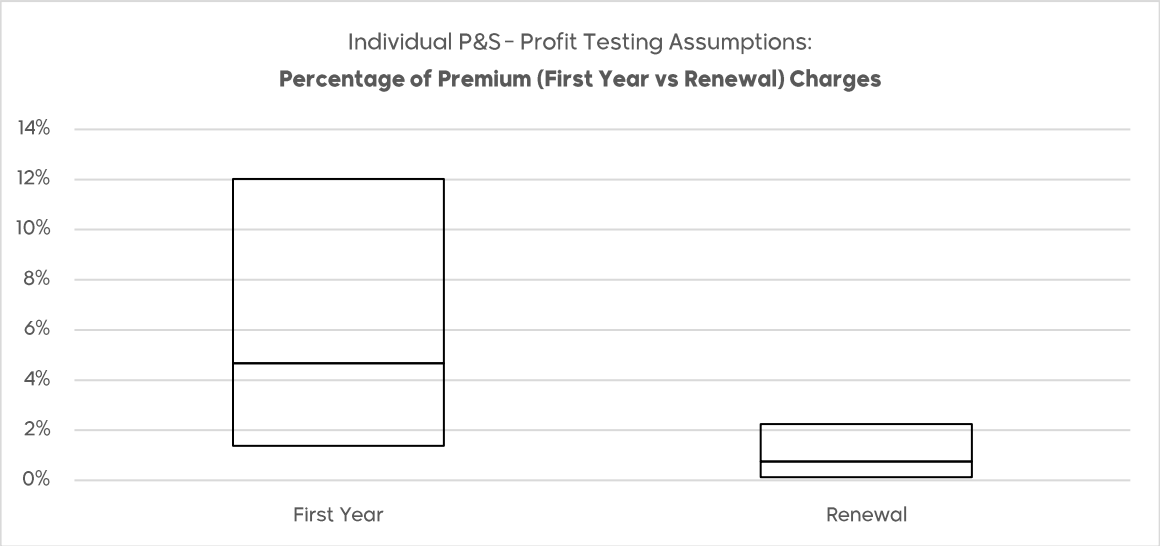
The IA expects each Appointed Actuary to ensure the pricing reports for Protection & Savings business are fully compliant with the minimum requirements set by the AWR.

3.2 Individual P&S Insurance – Profit Testing Assumptions

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

3.2.1 Expense Assumption (Excluding Commission)

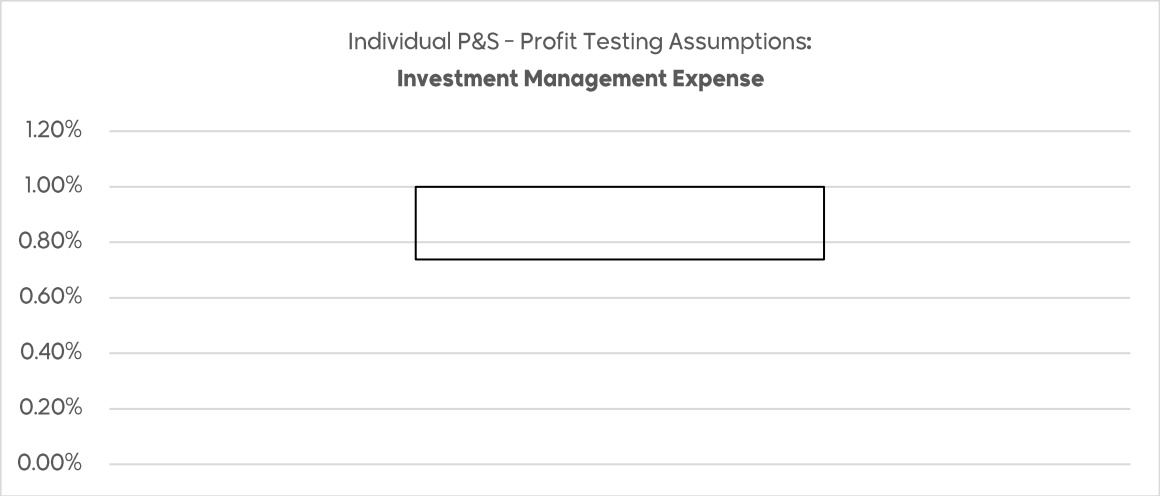




It can be observed from the interquartile ranges in the above graphs that expense assumptions during the First Year vary significantly between insurance companies. This interquartile range is much wider for expenses that vary by premium (expressed as a percentage of premium in the above graph) than the range observed for the per policy cost. However, a much 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 than others, and hence lower acquisition costs in the First Year compared to others.

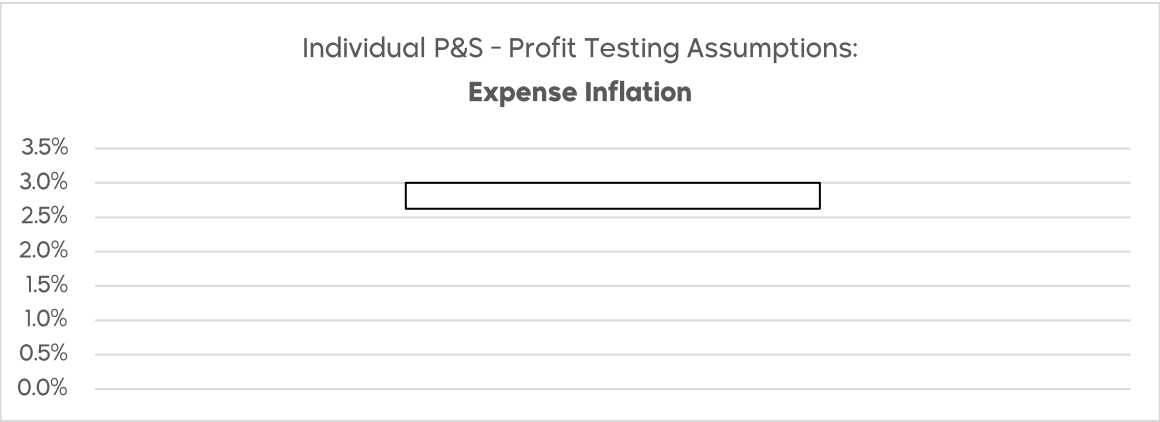
The IA expects each Appointed Actuary to keep monitoring the expense levels of the Company and reflect those in assumptions-setting adequately and in a timely manner.

3.2.2 Investment Management Expenses



It can be observed from the above graph that the investment management expense assumption varies between insurance companies within a fairly narrow interquartile range, with the median being close to 1% of the fund value. Even small differences in investment management expense charge may influence the perceived attractiveness of the underlying insurance products for policyholders.

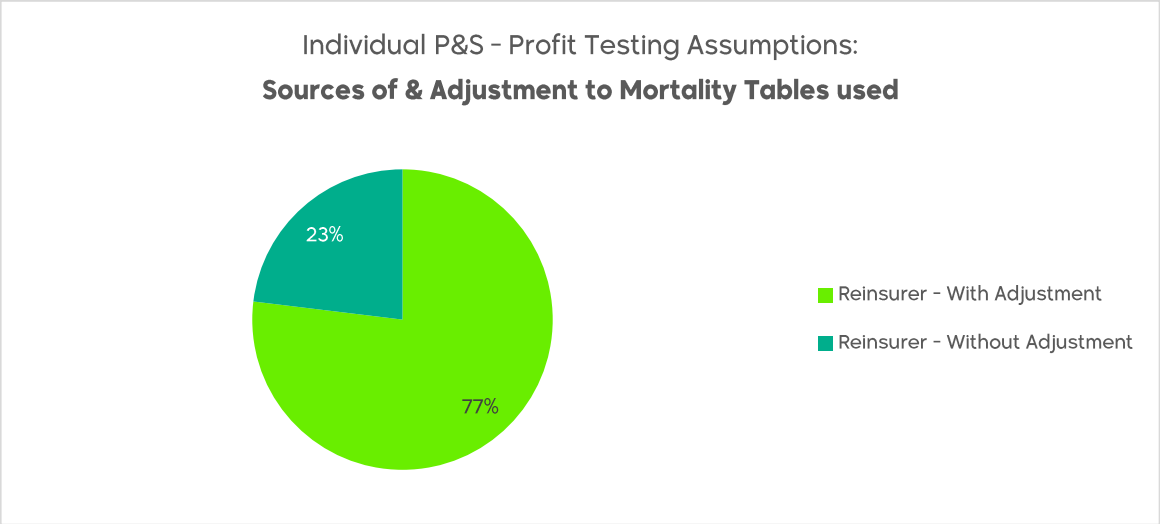
3.2.3 Expense Inflation



It can be observed from the above graph that the expense inflation assumption, in general, is very similar across insurance companies.

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

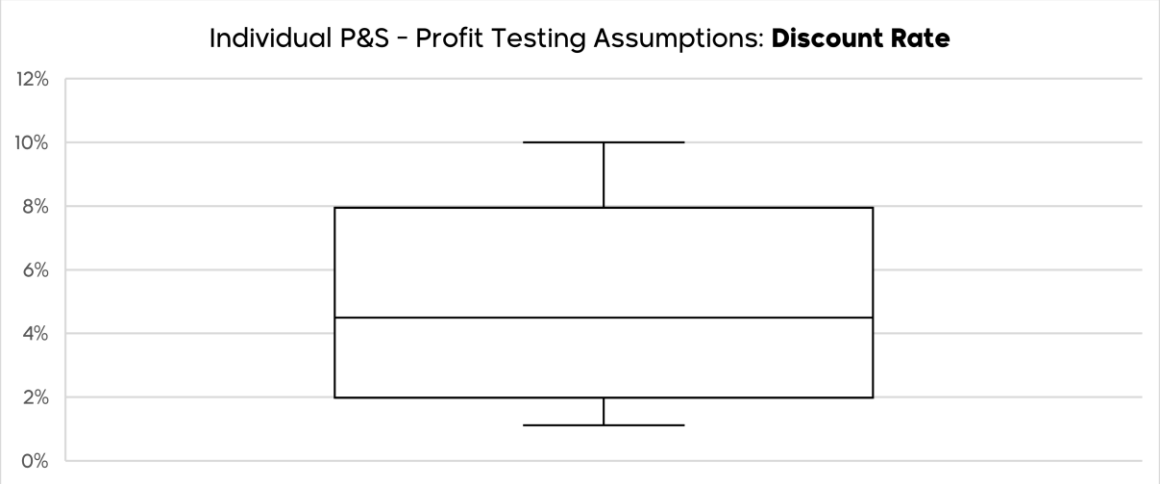
3.2.4 Mortality Rate



The graph above shows the distribution of the sources 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 obtained from a particular source. It can be seen that, in the absence of a local mortality table, all appointed actuaries have relied on reinsurers' input in this area, though a majority makes adjustment to it, which is a significant shift compared to last year when only one-third of insurance companies reported an adjustment being made.

The IA expects that each Appointed Actuary will perform regular assessment of the suitability of the mortality tables, obtained from external sources, for the KSA market using, among other measures, 'Actual v Expected' analysis and make adjustments as appropriate.

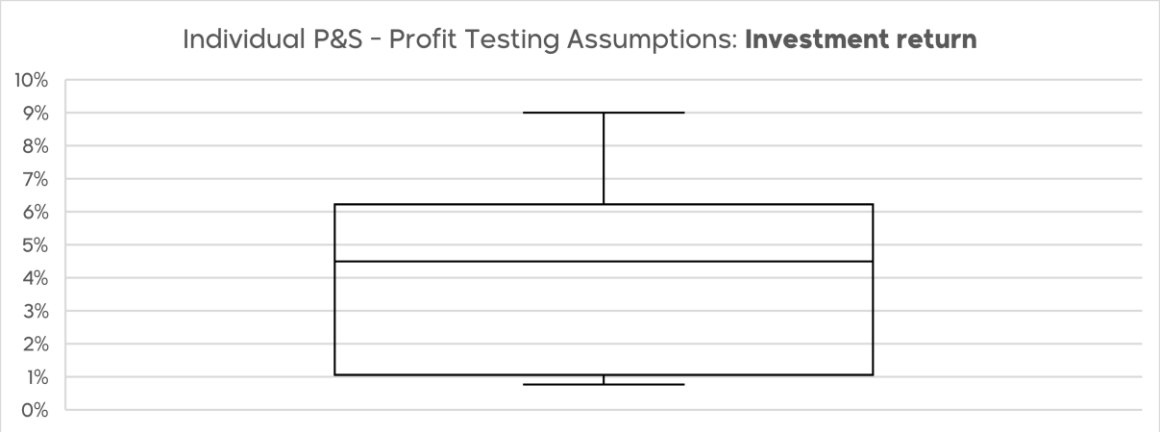
3.2.5 Discount Rate



It can be seen above that the discount rate assumption varies significantly between insurance companies. This is expected to affect the results of profit testing materially. Moreover, compared to last year, the discount rate median and interquartile range both have reduced, which is in line with the changes in the economic environment, though we note that the maximum and 75th percentile values are somewhat higher than last year.

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

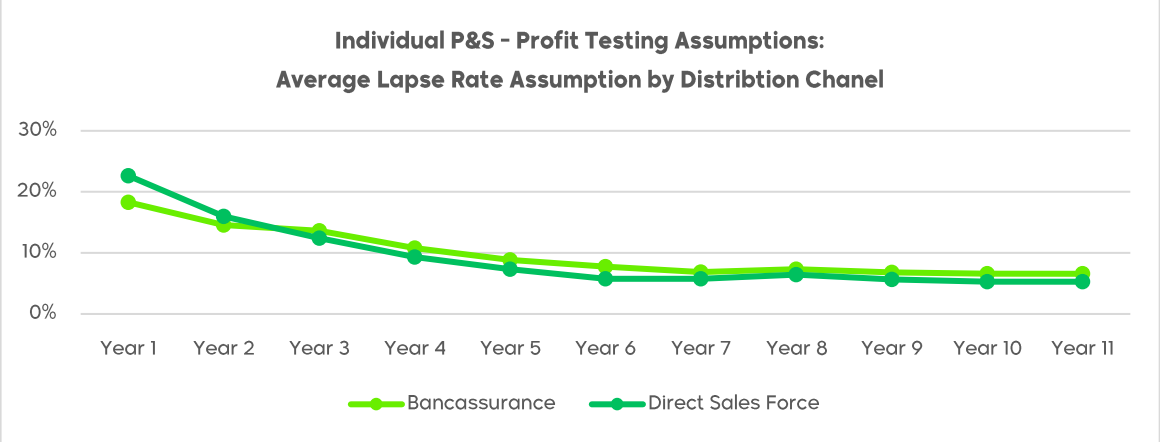
3.2.6 Investment Return



It can be observed from the above graph that Investment Return assumption used by insurance companies for profit testing purposes varies with a wide spread. Comparing the above graph with the graph on discount rate in the previous section, a similar median is observed for both graphs though the range of values for investment return assumption appear to have shifted downwards, indicating some prudence in profit testing performed by the appointed actuaries.

The IA expects each Appointed Actuary to be able to justify the investment return assumption used, including any changes to it, with due regard to the company's investment policy, the product offering, and the economic environment.

3.2.7 Lapse Rates

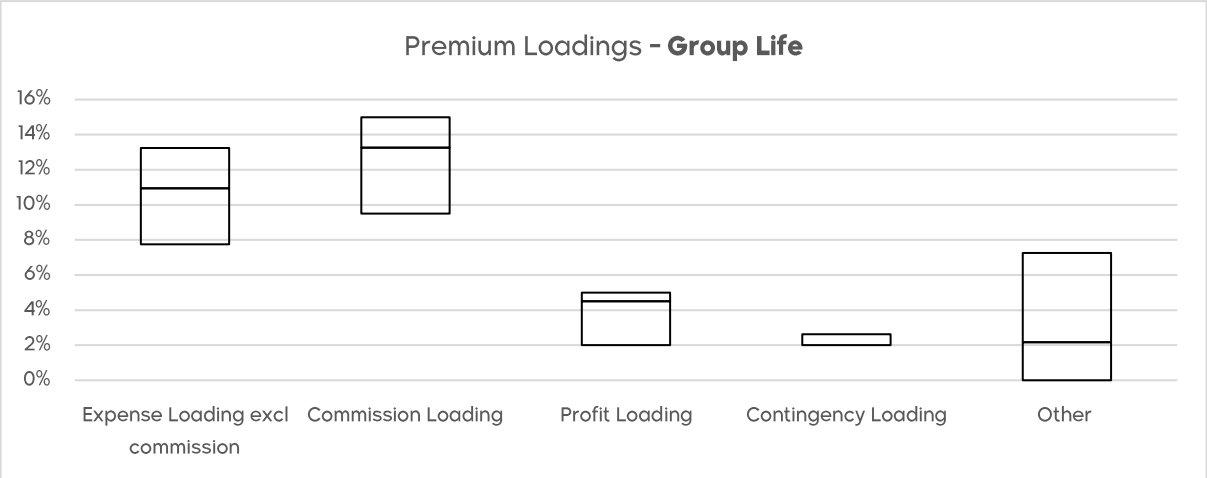


The graph above shows the yearly lapse assumptions for Individual P&S business by sales channel as a simple average of all P&S insurance companies. It can be observed that in the first year, Bancassurance lapse rate assumption is markedly lower than that for Direct Sales Force. The gap closes in subsequent years, with lapse rate assumption for the Direct Sales Force channel staying lower than that for the Bancassurance channel. We note that the Bancasssurance channel has grown rapidly recently; given its early days, the lapse experience needs to be closely monitored and pricing assumptions shall be updated as necessary in a timely manner.

3.3 Group P&S Insurance

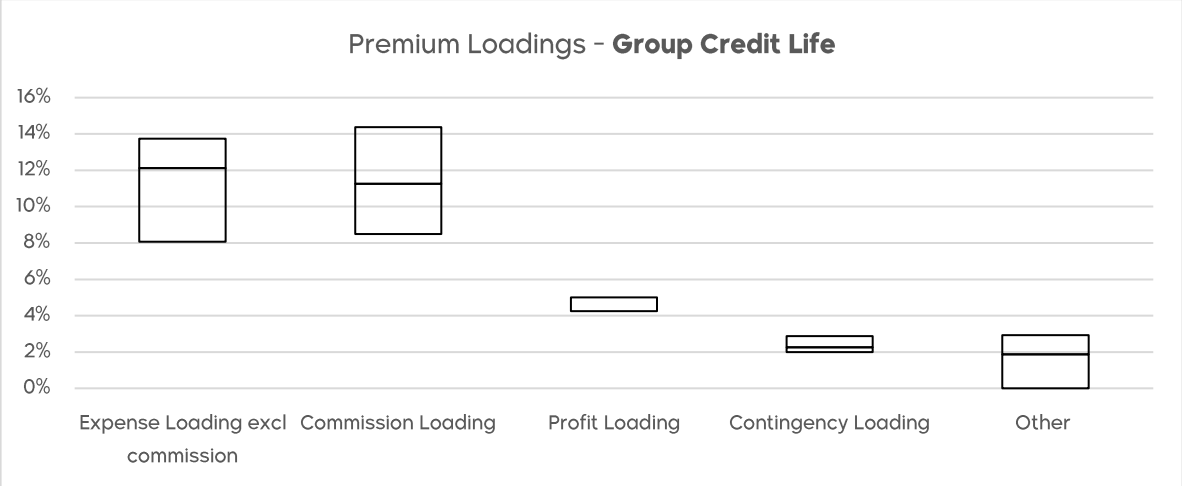
3.3.1 Premium Loadings

3.3.1.1 Group Life



As can be observed from the above graph, there is a relatively wide variation in assumptions for expense, commission and 'other' loadings, with some variation also observed for profit loading. Similar assumptions, though, were used by insurance companies in respect of contingency loading.

3.3.1.2 Group Credit Life



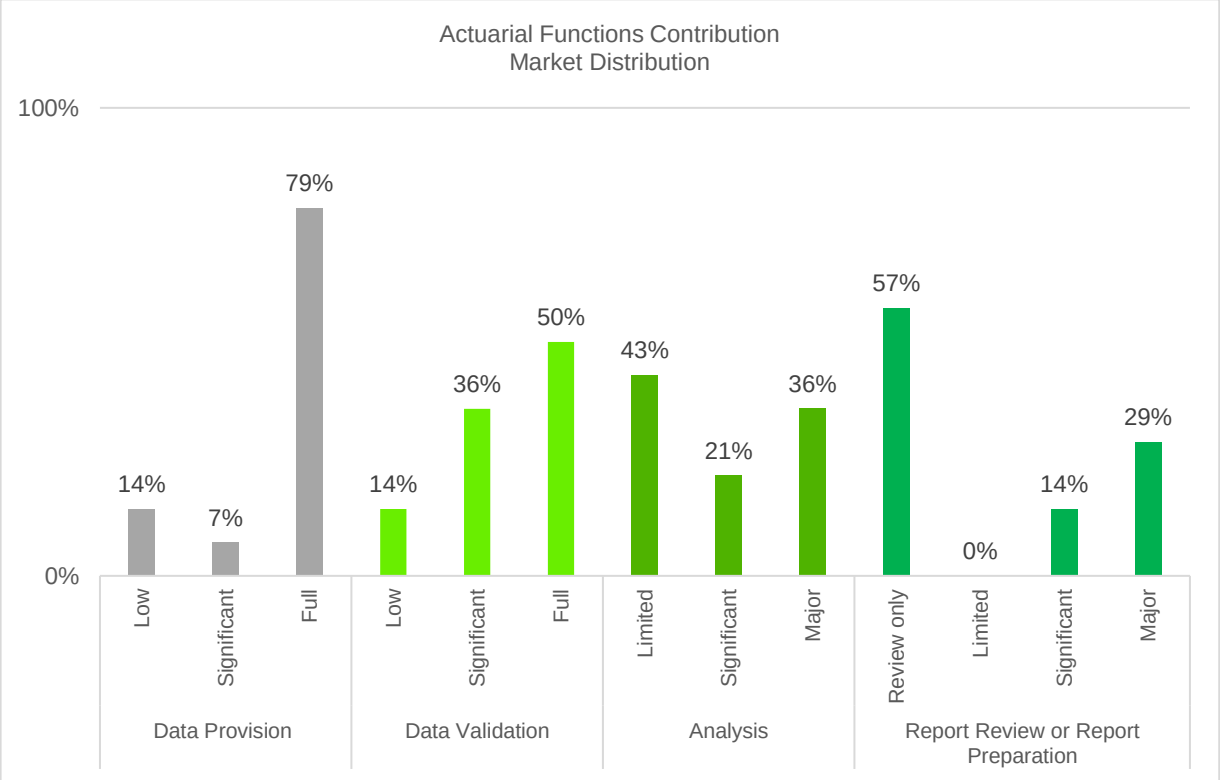
As can be observed from the above graph, there is a relatively wide variation among insurance companies in assumptions used for expense and commission

loadings, whereas similar assumptions were used by insurance companies in respect of profit and contingency loadings.

The IA expects the Appointed Actuary to closely monitor the above assumptions for loadings for Group Life and Group Credit Life business as experience emerges over time and update those in a timely manner, while considering the results of other analyses performed by the Appointed Actuary. For expense loading assumptions, alignment with the results of Experience Studies Report is expected to be considered. For contingency loading, the Appointed Actuary may consider the appropriateness of aligning with the methodology and results of Risk Adjustment calculations performed for the purpose of actuarial reserving.

3.4 Actuarial Function's Contribution

The graph below shows the contribution of the actuarial functions of insurance companies at each of the four major steps involved in preparing the P&S Pricing Report, namely, data provision, data validation, analysis, and report preparation and review.



The graph shows varying levels of responsibility and contribiution at each step. For Data Provision and Data Validation steps, the majority of internal actuarial functions have either taken full or significant responsibility.

However, for the core Analysis part, the extent of contribution remains limited for a large proportion of internal actuarial functions, though we note that more than half of internal actuarial functions have deemed to play either a significant or a major role in producing the analysis.

Likewise, as regards documenting the analysis and preparing the Actuarial Pricing Report, the role of the majority of internal actuarial functions remained confined to reviewing the report prepared by their appointed actuaries, though we also note that around one-fourth have played a major role in producing the P&S actuarial pricing report.

Overall, the above is not in line with the IA's expectations, particularly given that unlike in the past, now almost all internal actuarial functions are headed/supported by qualified fellow actuaries.

The IA expects the contribution of the Actuarial Function of each insurance company to increase over time in all areas, such that the overall contribution in the entire pricing exercise is deemed significant. In particular, the IA expects to see all internal actuarial functions playing an active role in the Analysis phase, followed by an increase in their role in preparing the actuarial pricing report. The Insurance Authority sees this active participation as an essential tool for the professional development of the internal actuarial function of the Company, in particular of actuarial candidates working at insurance companies.

The IA expects the Company management to provide adequate resources (human and technological) to the internal actuarial function, thus enabling it to play a significant role in producing the above statutory report.

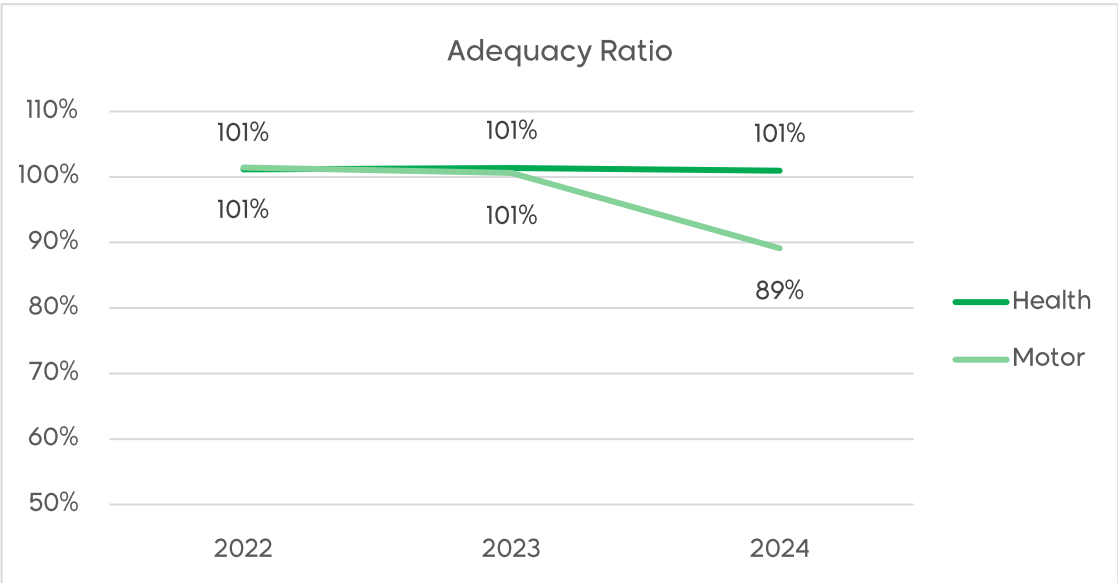
4. Health and Motor Pricing Adequacy Reports

4.1 Adequacy Ratio

In today's competitive market, pricing adequacy (defined as the ratio of selling price to technical price) is vital for ensuring the financial health of insurance companies and the overall underwriting discipline and, hence, the profitability and sustainability of the insurance sector. Monitoring pricing adequacy is essential to prevent unhealthy underwriting practices taking root in the sector, such as price wars and unfair pricing strategies, which can undermine both profitability and consumer welfare. When considered in conjunction with the results of actuarial reserving, the pricing adequacy statistics can also serve as a timely indicator of the need for the Company to update its technical prices.

In order to serve the above objectives, the IA has established periodic reporting requirements in respect of pricing adequacy for Motor & Health lines of business, the two dominant lines of business where competitive pressure is usually intense. The report is required to be prepared jointly by the Chief Underwriting Officer and the Appointed Actuary of an insurance company.

The graph below shows the overall adequacy ratio for both the Health and Motor lines of business over the last three years:



It can be seen above that insurance companies have sold their Health business, in aggregate, at prices close to the technical price in recent years, demonstrating a relatively high level of underwriting discipline in this segment. However, in Motor insurance, although there appeared to be good overall underwriting discipline in 2022 and 2023, the pricing adequacy ratio decreased by 12% in 2024. Moreover, as can be seen later in this document, the pricing adequacy ratio of individual segments under both Motor & Health lines of business may differ significantly from that seen at the overall level.

Based on our discussions with several insurance companies that exhibited low pricing adequacy ratio for Motor business, it appears that the drop in pricing adequacy during 2024 is partly attributable to frequent revision of technical prices by internal actuarial functions, although those were not signed off by the Appointed Actuary of the company. While regular updates of technical prices are highly desirable, it is essential that those updates also comply with regulatory requirements in respect of actuarial pricing adequacy reports, which require that technical prices must follow the basis set by the Appointed Actuary of the Company. A strict adherence to the above requirement is expected to avoid the risk of producing misleading pricing adequacy statistics, thus enabling the Company management and/or the IA to take any necessary corrective measures with confidence and accuracy.

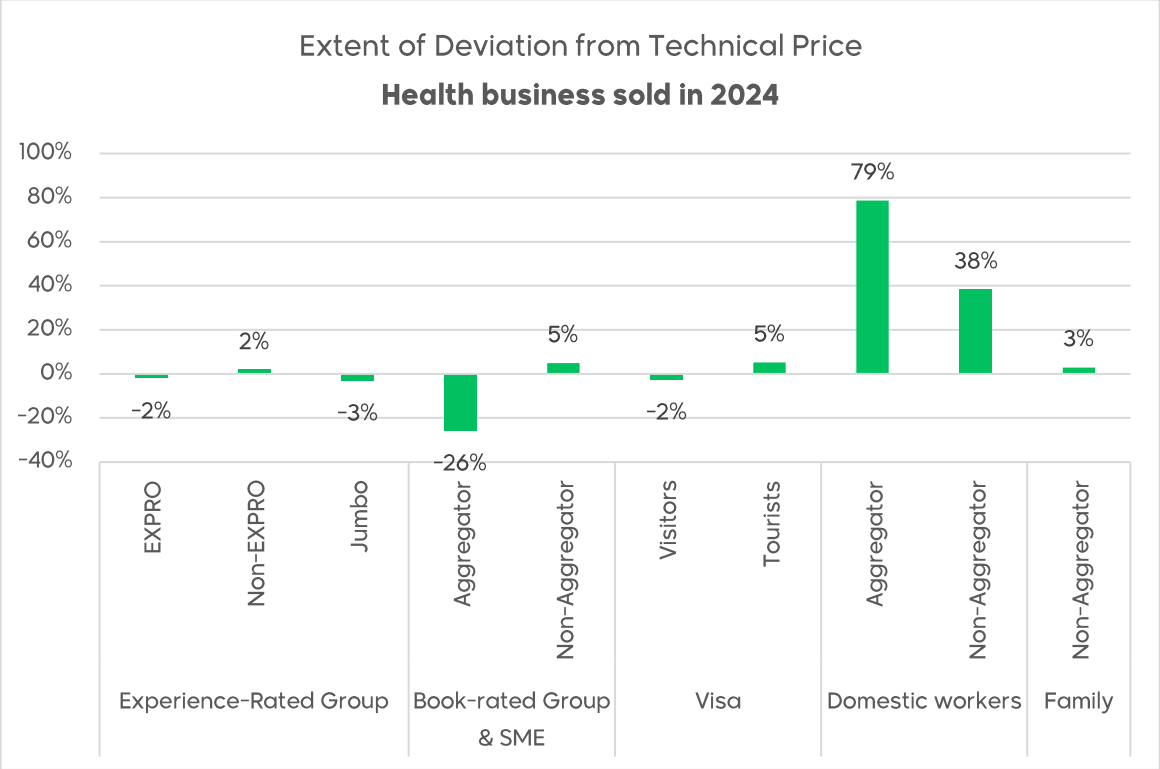
The IA expects insurance companies to:

- **Use the control of pricing adequacy reporting to assess the outcome of their past underwriting decisions and inform future underwriting strategies to safeguard their financial stability;**
- **Use the control of pricing adequacy reporting to assess the accuracy of technical prices and the need for their timely revision, in particular by ensuring a strong feedback loop between the Underwriting function, Head of Actuarial Function and the Appointed Actuary;**
- **Use the underwriting discretion allowed in pricing in a responsible manner, and ensuring appropriate documentation and justification of any discounts provided; and**

- **Evaluate the appropriateness of Underwriting Authority Statement considering the results of past underwriting discounts, and where necessary, revise with due approval of the Board of Directors.**

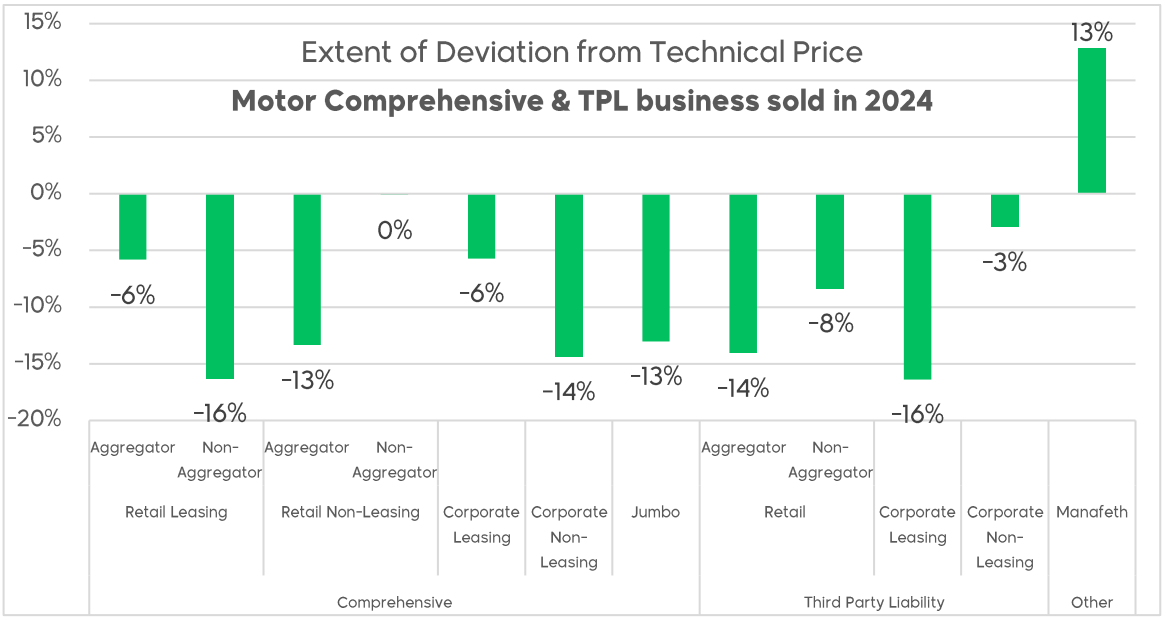
4.2 Adequacy Deviation

The graph below shows the extent of deviation from technical price individually for each segment of Health business in year 2024.



In 2024, the 'Book-rated Group & SME (Aggregator)' segment exhibited the lowest pricing adequacy ratio, highlighting the intense competition under that sales channel, while the 'Domestic Workers' segment recorded the highest adequacy ratio. Given the early days of Domestic Workers mandatory health insurance, it may be too early to conclude on the accuracy of the technical price and hence the above adequacy ratio. Other segments were priced broadly in alignment with the appointed actuaries recommendations.

The graph below shows similar statistics for individual business segments within Motor Comprehensive and Motor Retail lines of business.



Note: For Manafeth, the pricing adequacy ratio is likely understated despite the high value seen above as some appointed actuaries did not carry out an independent pricing exercise for Manafeth.

Regarding Motor insurance, as shown above, all segments except for Manafeth and Comprehensive Retail Non-Leasing Non-Aggregator reported an adequacy ratio below 100%, contributing to the overall low adequacy ratio for 2024 as observed in section 4.1 above.

The IA expects insurance companies to:

- **Closely monitor pricing adequacy deviations across all segments and take proactive measures to address any segments showing significant deviations from the Appointed Actuary's recommendations;**
- **Focus on improving the pricing adequacy in underperforming segments, particularly in motor insurance, where several segments reported an adequacy ratio below 100%;**
- **Conduct detailed analysis of segments with low adequacy ratios to identify root causes and implement corrective actions to enhance overall pricing strategies and improve long-term sustainability.**

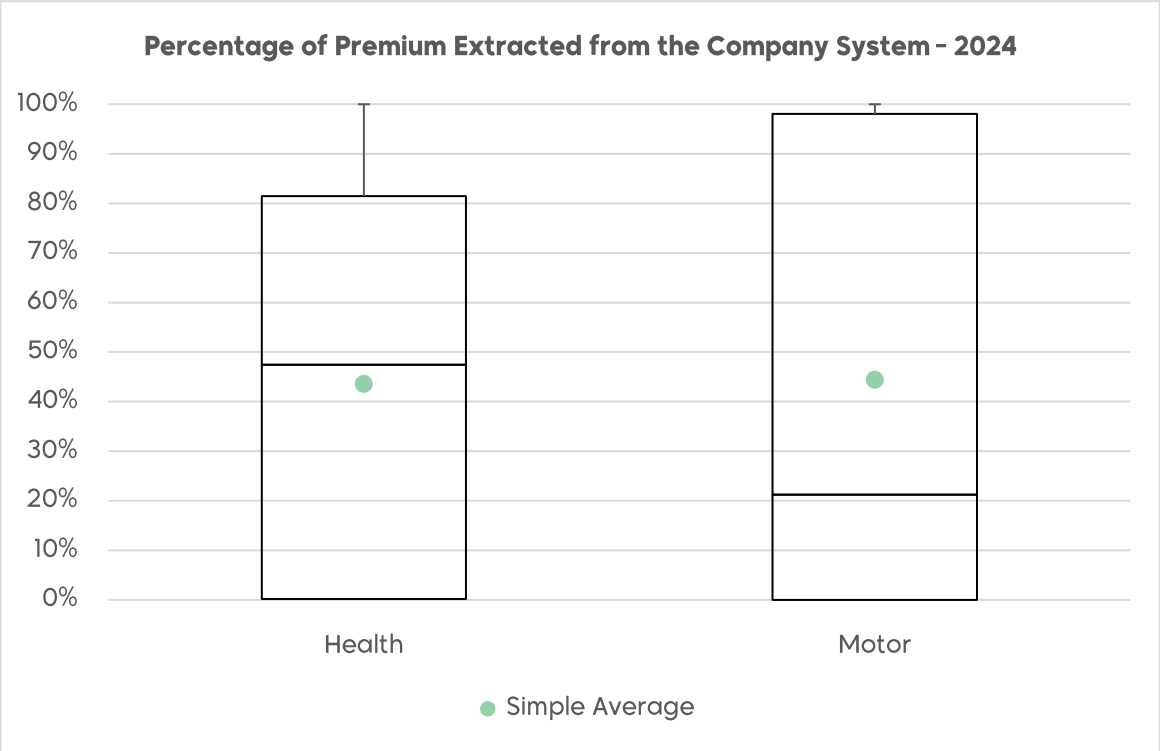
4.3 Extent of Automation

According to the Pricing Adequacy Circular (C.238) released on January 16, 2022, the report requirements state:

"Technical prices generated at the time of selling the policies must be preserved and recorded in the Company's systems in a reliable manner."

For the purpose of producing the pricing adequacy reports however, many insurance companies still rely on manual processes, though some have fully automated the process. This raises doubts about the reliability of the data. Hence, there is a general concern that the statistics presented in the preceding sections suffer from a lack of reliable data, which has also been observed during IA inspection visits to insurance companies.

The graph below shows the extent of automation as of YE 2024:



It can be seen above that while some companies have approached or are approaching the 100% automation target, others are significantly below it, with the average automation ratio at around 50% only, with the median for Motor sitting even lower. The large variation among insurance companies seen above highlights the need for an intensive effort by companies with low automation percentages, so that not only the sectoral statistics are deemed reliable, but the insurance company can also benefit from this control in an effective manner through more disciplined underwriting and timely updates of technical prices.

The IA expects management to ensure:

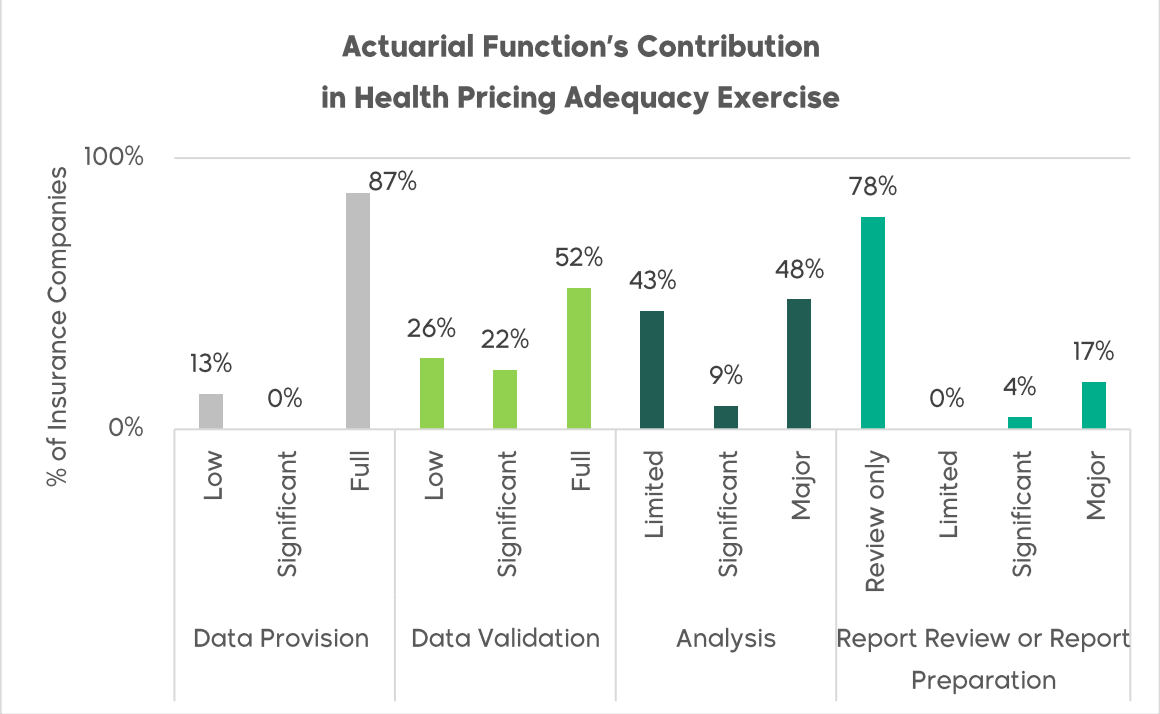
- **reliability of data used to produce the pricing adequacy reports;**
- **full automation of the process to produce the pricing adequacy reports.**

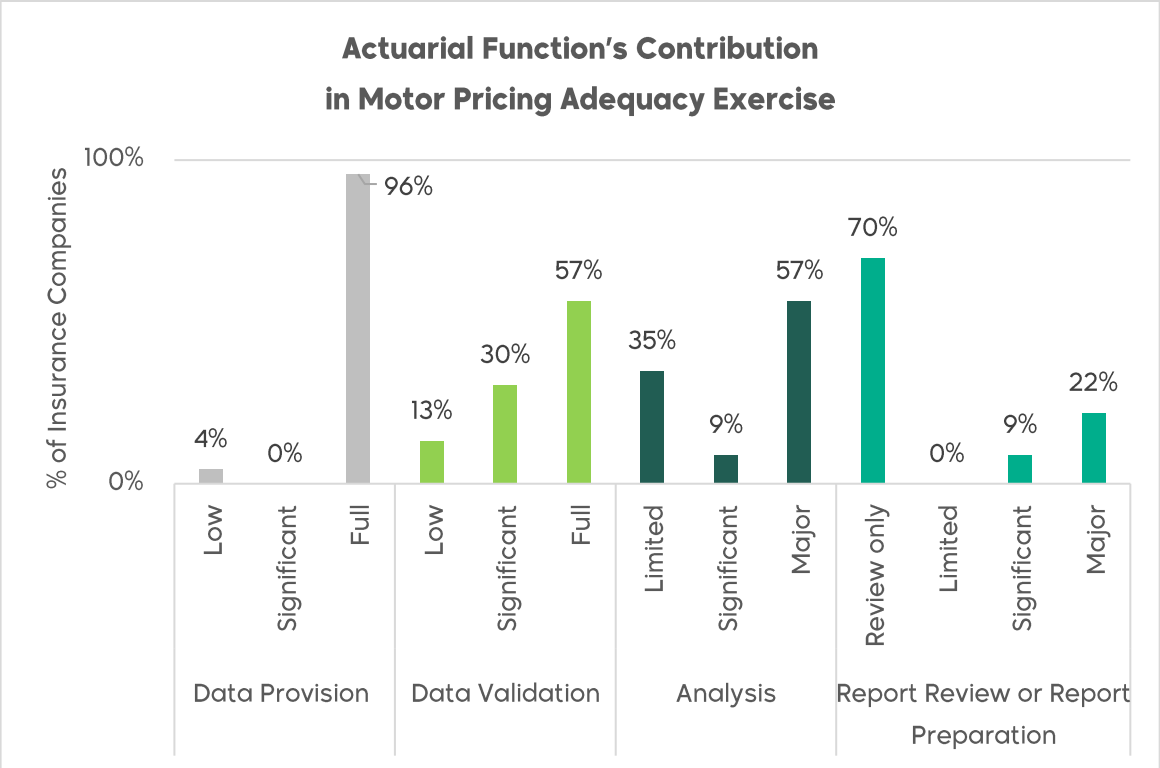
The IA expects the Head of Actuarial Function to ensure:

- **appropriate validation of data used to determine the pricing adequacy ratio;**
- **availability of appropriate technical assistance to Underwriting and other functions in executing automation plans in order to improve reliability of the results produced.**

4.4 Actuarial Function's Contribution

The graphs below show the contribution of the actuarial functions of insurance companies at each of the four major steps involved in preparing the Health and Motor Pricing Adequacy Reports, namely, data provision, data validation, analysis, and report preparation & review.





The graphs show varying levels of responsibility and contribution at each step. For Data Provision and Data Validation steps, a large majority of internal actuarial functions have either taken full or significant responsibility. For the core Analysis part, while the majority of internal actuarial functions have played a major role, we note that around one-third of internal actuarial functions have deemed to play a limited role only in producing the analysis.

Likewise, as regards documenting the analysis and preparing the Actuarial Pricing Adequacy Reports, the role of the majority of internal actuarial functions remained confined to reviewing the report prepared by their appointed actuaries, though we note that a growing proportion has taken major responsibility for producing the report.

On an overall basis, the above is not in line with the IA's expectations, particularly given that unlike in the past, now almost all internal actuarial functions are headed/supported by qualified fellow actuaries.

The IA expects the contribution of the Actuarial Function of each insurance company to increase over time in all areas, such that the overall contribution in

the entire pricing adequacy exercise is deemed significant. In particular, the IA expects to see all internal actuarial functions playing an active role in the Analysis step, followed by an increase in their role in preparing the actuarial pricing adequacy reports, in turn improving the reliability of pricing adequacy statistics as well as supporting the professional development of the internal actuarial function of the Company, in particular of actuarial candidates working at insurance companies.

The IA expects the Company management to provide adequate resources (human and technological) to the internal actuarial function, thus enabling it to play a significant role in producing the above statutory report.

Copy to:

- **Appointed Actuaries**
- **Heads of Actuarial Functions**