17 Augest 2023

Dear CEO

SAMA review of Actuarial Submissions for Year 2022

The year 2022 was the third 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.

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

1. Actuarial Reserving (IFRS 4 and IFRS 17) at year-end 2022 (pages 2-20)
2. Actuarial Pricing reports 2022 for Health and Motor businesses (pages 21-32)
3. Reinsurance Appropriateness and Adequacy report 2022 (pages 33-37)
4. Solvency and Capital report 2022 (pages 38-41)
5. Experience Studies report 2022 (pages 42-49)
6. Investment and Asset Liability Management report 2022 (pages 50-53)
7. Actuarial Resources Survey 2022 (pages 54-57)

A number of important observations emerged from the above reviews performed by SAMA. We would like to share those observations with the Company's management, along 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.

It is also important to note that, compared to previous years, this year's letter has been enriched significantly with additional insights in each section, and therefore, it is expected that, not only management and actuarial, but all functions of the Company will find it useful.

Moreover, it is for the first time that this letter includes a section on the outcome of regulatory initiatives to promote growth of actuarial skills in the Kingdom in anticipation that it will be used by management of insurance companies to further encourage new talent and align their policies with emerging market best practices.

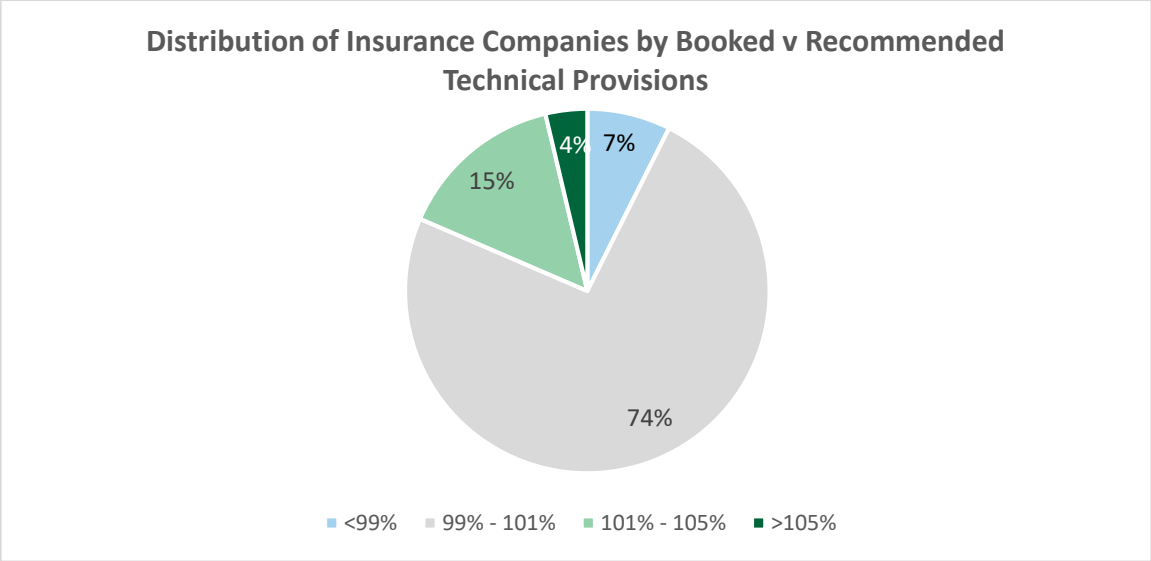
Furthermore, similar to last year, a separate brief document accompanies this letter that summarizes SAMA's expectations on each topic mentioned in this letter.

1. Actuarial Reserves at year-end 2022

1.1 Booked Reserves vs Actuarial Recommendation

SAMA instructions require an Appointed Actuary to estimate and communicate the uncertainty in the technical provisions recommended to the Company management, thus enabling management to decide whether it wants to book margin on top of the recommended technical provisions so that the booked position is in line with the Company's risk appetite.

The graph below shows the distribution of booked technical provisions against those recommended by the Appointed Actuary.



It can be observed that, while the majority of managements booked technical provisions in line with the Appointed Actuary's recommendation, nearly one in every five companies booked margin on top of the technical provisions recommended by its Appointed Actuary.

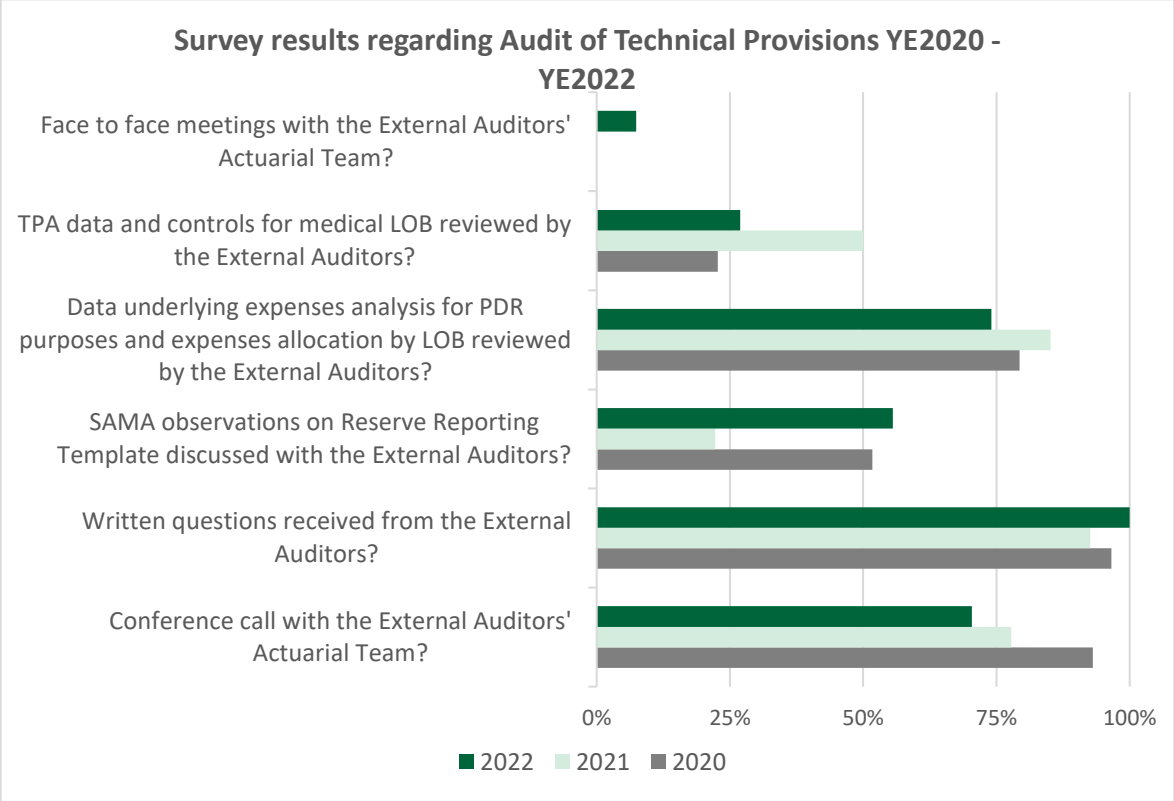
It is important for management to recognize that going forward under IFRS17, the management discretion on technical provisions is expected to be removed, and instead, all companies will be required to reflect uncertainty in the technical provisions via 'Risk Adjustment' in line with their risk appetite and disclose the confidence level of their technical provisions inclusive of Risk Adjustment in their financial statements.

SAMA expects management to enhance its understanding of the uncertainty around the best estimate of reserves and decide on the Risk Adjustment from an informed position and with due regard to the risk appetite of the Company.

1.2 Role of the External Auditors

The external auditors play an important role in providing assurance to the Audit Committee on the reserves estimated by the Appointed Actuary. In previous years, we had identified areas that required attention from the Audit Committee in order to have an effective and technically sound input from its external auditors, which could also meet the professional audit standards. Every year, upon completion of the year-end audit exercise in quarter one of the following year, we carry out a survey of the interaction between the external auditors and the Appointed Actuary as an indicator of the quality of the external auditors' work.

The graph below shows the results of this survey in those areas where we had observed shortcomings in the past.



Compared to the previous two years, some improvement is observed in specific areas, e.g., all audits this year involved written communication with the Appointed Actuary, and there were greater number of companies whose auditors requested SAMA observations on year-end technical provision as an aid to their audit work. However, there were very few in-person meetings held between appointed actuaries and external auditors' actuarial teams, likely due to the absence of local actuarial teams of external auditors. Moreover, unexpectedly, there were areas which experienced some deterioration compared to last year, e.g., audit of TPA data, audit of data underlying the PDR expense assumptions,

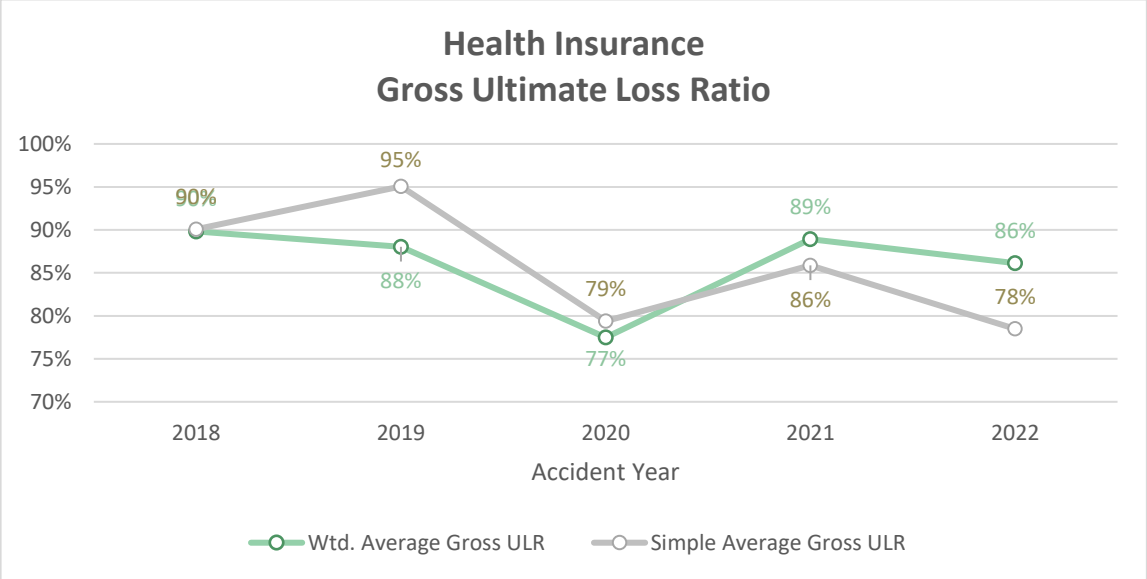
conference call between appointed actuaries and external auditors' actuarial experts to discuss and challenge the output produced by appointed actuaries.

SAMA expects each Audit Committee to ensure that the scope of external audit requires adequate input from the external auditor's actuary, also ensuring the external auditor's actuary possesses appropriate professional qualification and skills, is fully aware of the latest trends in the Saudi insurance sector, and there is evidence of sufficient interaction and challenge in respect of the work produced by the Company's Appointed Actuary. Where the Company uses the services of a TPA, the Audit Committee shall also satisfy itself that the audit scope adequately covers the activities of the TPA, as applicable under the International Auditing Standards. SAMA expects the Audit Committee to monitor and ensure adherence by the external auditors to the above scope items.

1.3 Trends in Health Insurance

1.3.1 Loss Ratios

The graph below shows the accident year loss ratios for Health insurance in aggregate for the sector, both on a simple average basis and a weighted average basis, where weights used are the earned premiums for each insurance company. The simple average loss ratios are more influenced by companies writing SME business, whereas weighted average loss ratios are more influenced by large companies writing big volume corporate policies.

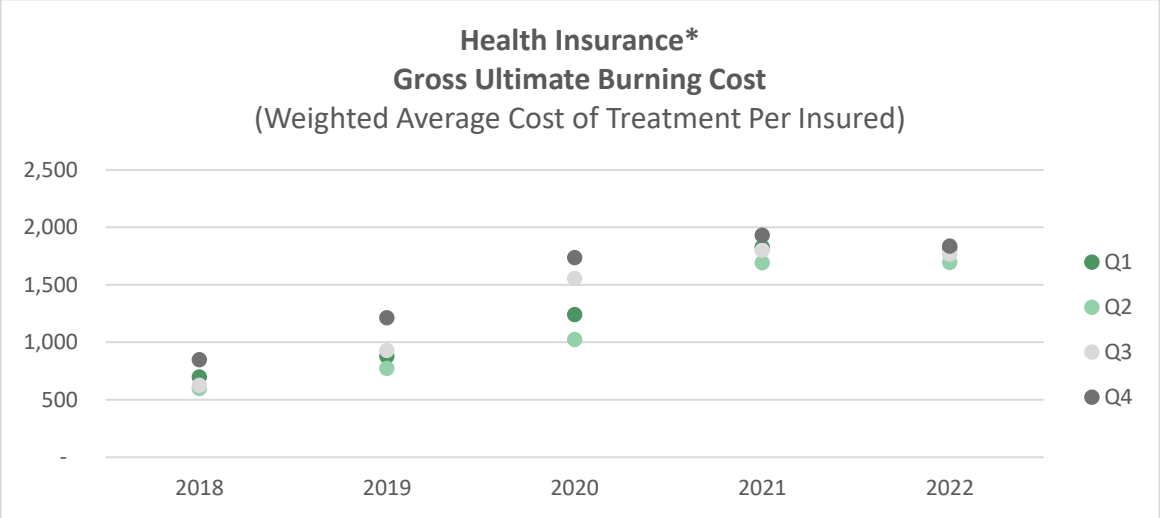


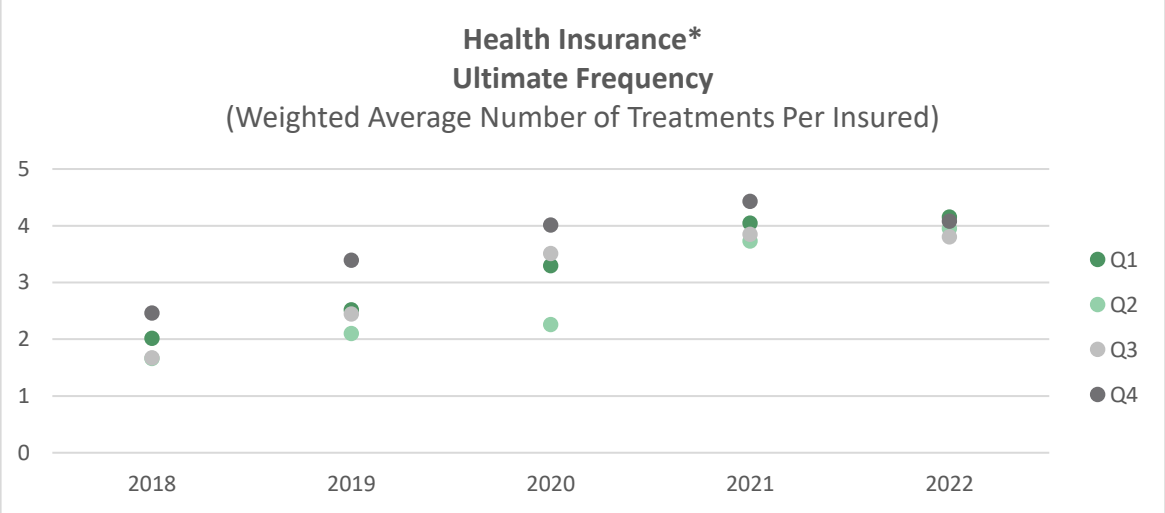
The gross ultimate loss ratio in 2022, on both the simple-average and weighted-average bases, is lower than that experienced in 2021, understandably so given that 2021 accident year was affected by the spillover from 2020 accident year due to deferred and delayed treatments as a consequence of the COVID 19 pandemic. Interestingly, the loss ratios for

2022 are also lower than what were seen in pre-pandemic years of 2018 and 2019, and the effect is more pronounced for the simple-average loss ratio than for the weighted-average loss ratio. On the same note, continuing from 2021, the gap between the simple-average loss ratio and the weighted-average loss ratio has increased in 2022, which is in contrast to the experience of 2018-2020 when larger insurance companies appeared to experience more favorable loss experience than smaller companies.

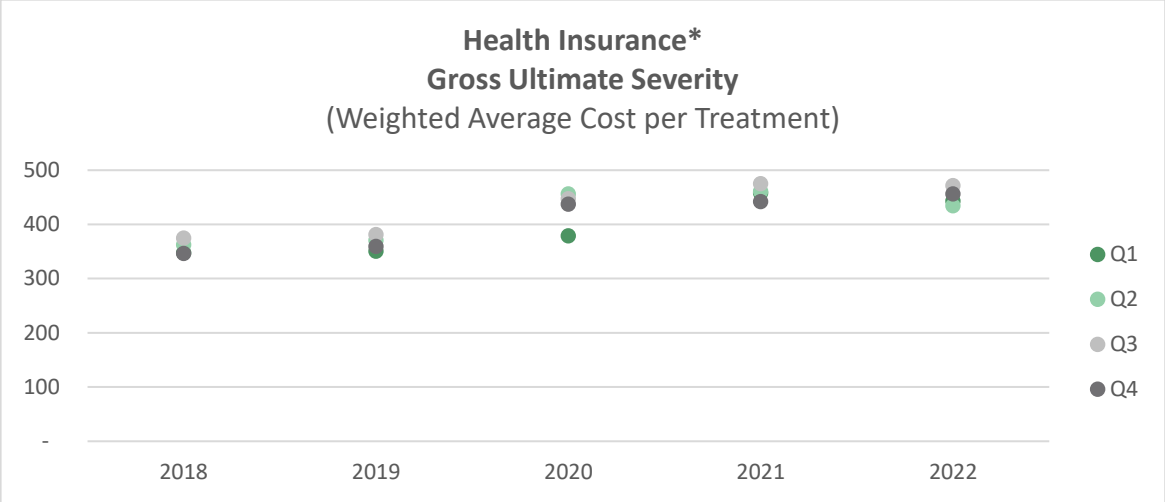
1.3.2 Seasonality of Burning Cost, Frequency and Severity

The graph below shows the average burning cost, frequency and severity under Health insurance policies, by accident/treatment quarters, for the last five accident years. Due to the recent increase in Umrah business, it has been excluded from the graphs below for better comparison between accident periods.





*Excluding Umrah business



*Excluding Umrah business

The year 2022 shows relatively less seasonality of claims than seen previously, in particular, the burning cost and frequency in the fourth quarter of year 2022 is not distinctly higher than other quarters unlike that observed in previous years. As regards the severity of claims, there is barely any evidence of seasonality year on year, excluding the year 2020 which was affected by COVID-19. While the fourth quarter of 2022 is relatively immature and there is uncertainty as regards the final outcome, the changes seen above may be attributed in part to the recent amendments in the minimum Health insurance benefits announced by Council of Health Insurance (CHI), where some more utilization controls have been introduced (e.g., varying deductibles by provider specialty and by within/outside network provider).

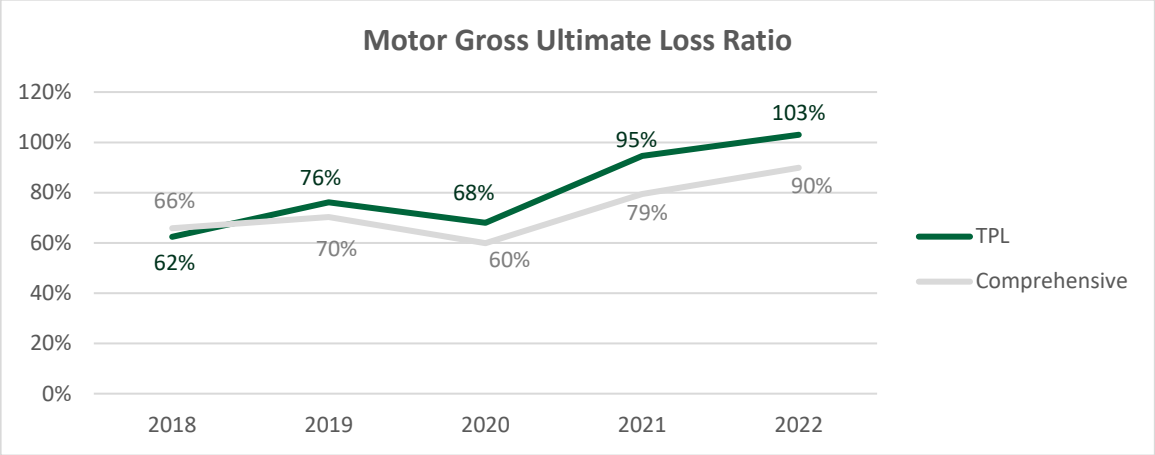
It is important to note that the frequency calculation by appointed actuaries has largely been unified within the sector through SAMA working closely with the actuarial profession and issuing instructions to this effect. This is expected to help in getting informed view of emerging experience by using data of all insurance companies in a consistent manner.

SAMA expects management to closely follow the emerging trends in Health insurance claims experience, identify and differentiate between temporary v permanent changes in the seasonality of claims and adjust prices in a timely manner, and write business on sound technical and profitable terms while staying competitive.

1.4 Trends in Motor Insurance

1.4.1 Loss Ratio

The graph below shows the claims experience under Motor insurance, separately for Motor Third Partly Liability (TPL) and Motor Comprehensive, over the last five years for all insurance companies in aggregate.



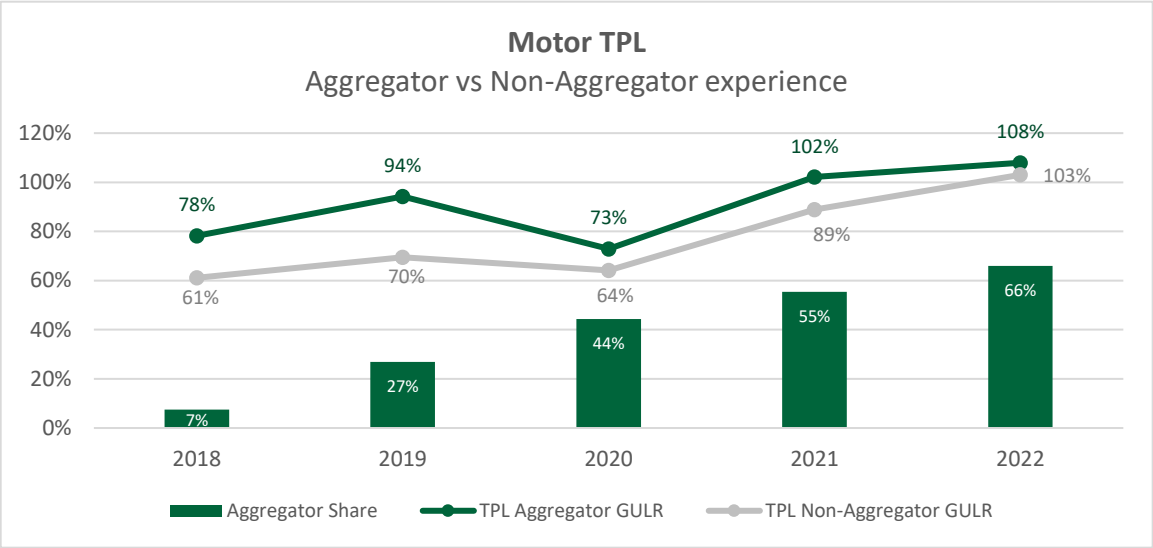
Note: Motor TPL loss ratio includes Manafeth experience.

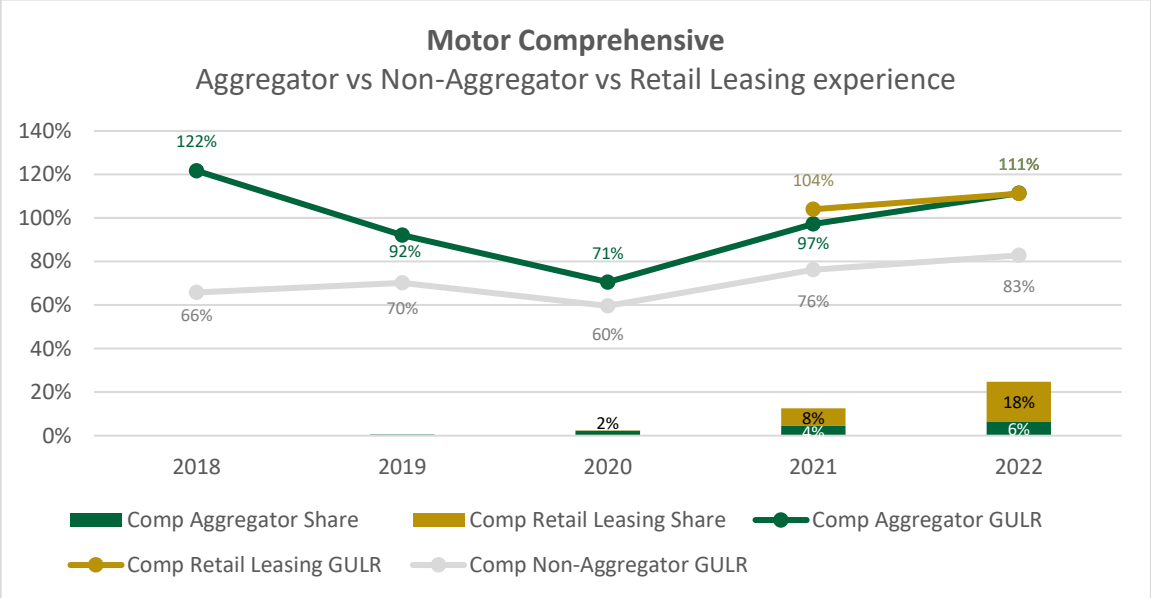
Ignoring the COVID-induced dip in 2020, the loss ratios have shown an increasing trend over the last five years, reaching a level in 2022 that is not deemed sustainable for insurance companies, particularly under Motor Third Party Liability. Such high loss ratios expose the insurance sector to the risk of material underwriting losses if timely corrective action is not taken. We have observed pricing corrections being introduced by insurance companies beginning Q3 2022.

1.4.2 Motor Experience by Sales Channel

Subsequent to the entry of aggregator sales channels in Saudi Motor insurance sector in late 2017 and capturing of a material share of the market since 2019, SAMA instructed each Appointed Actuary to project and track the experience of motor business sourced via aggregator channels separately from other motor business. The instructions were extended to the Comprehensive Retail Leasing business after introduction of the relevant SAMA rules in 2020.

The graphs below show the growth in premium volumes generated from the aggregator channels in recent years and the comparison of the loss ratios between the policies sold through the aggregator channels and other sales channels. The graph excludes the Manafeth business.





For Motor TPL, the share of aggregator business has grown rapidly year on year. On the downside, the loss ratio of the aggregator business had been significantly higher than the non-aggregator business, though the gap has reduced in 2022.

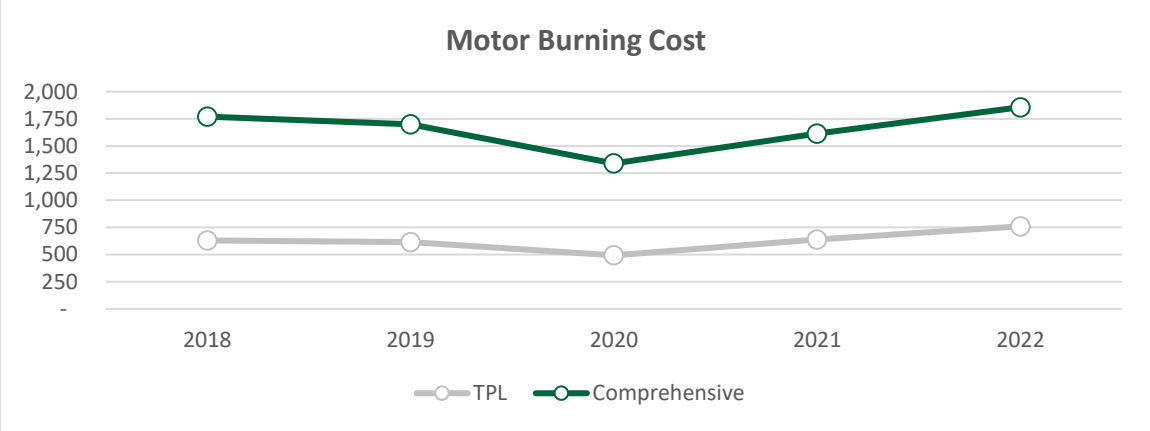
For Motor Comprehensive, a similar experience is observed, where the performance of aggregator business is materially worse than the non-aggregator business. Moreover, the loss ratio experience under the retail leasing business in 2021 accident year was even worse than that of the aggregator business, and is projected to be as high as of the aggregator business in 2022 accident year.

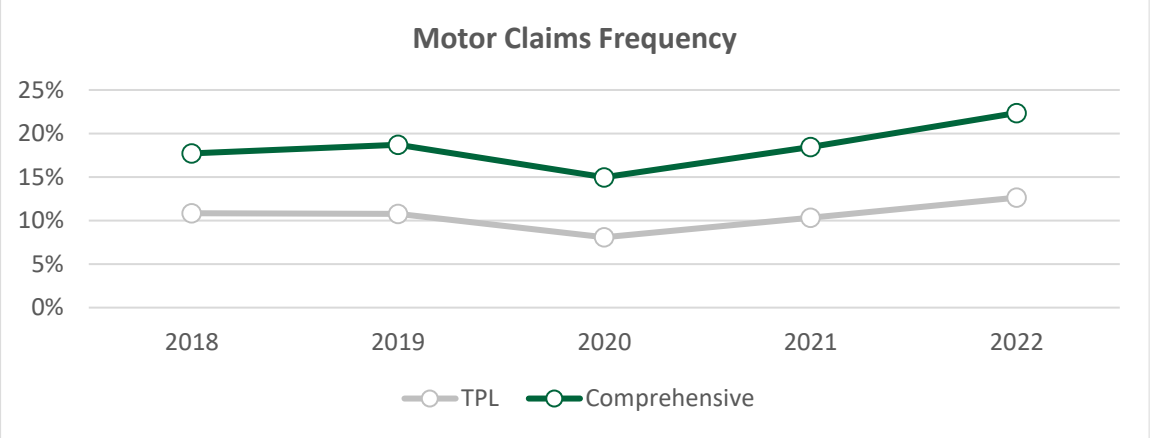
In the light of the growing share of the business written through aggregator channels and retail leasing channels, it is imperative that insurance companies look at both the commercial and technical aspects of business sold through these channels, and seek to avoid the 'winner's curse'.

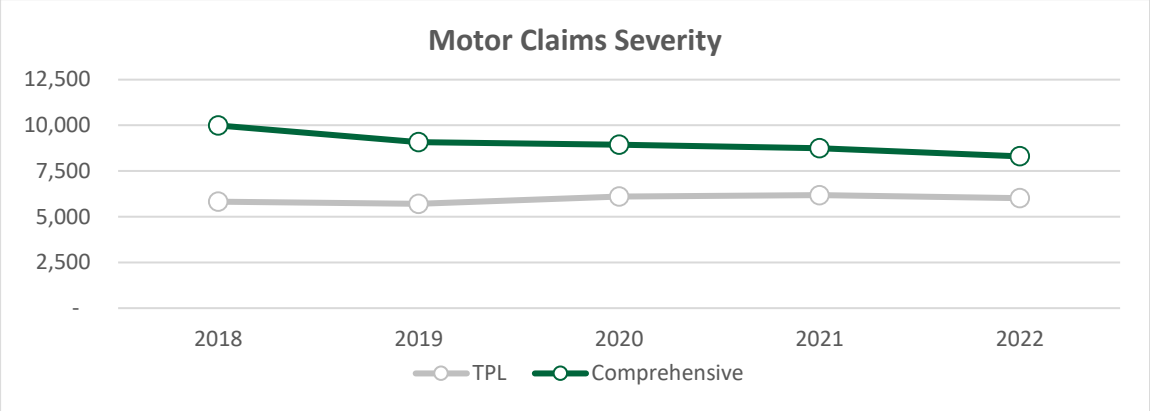
SAMA expects the Appointed Actuary to seek to further refine the analysis of business sourced via aggregator channels, including retail leasing, and respond adequately in actuarial pricing and reserving in a timely manner.

1.4.3 Burning Cost, Frequency, Severity and Seasonality of Claims

The graphs below show the trends in the burning cost, frequency and severity of motor claims, separately for Motor TPL and Motor Comprehensive.

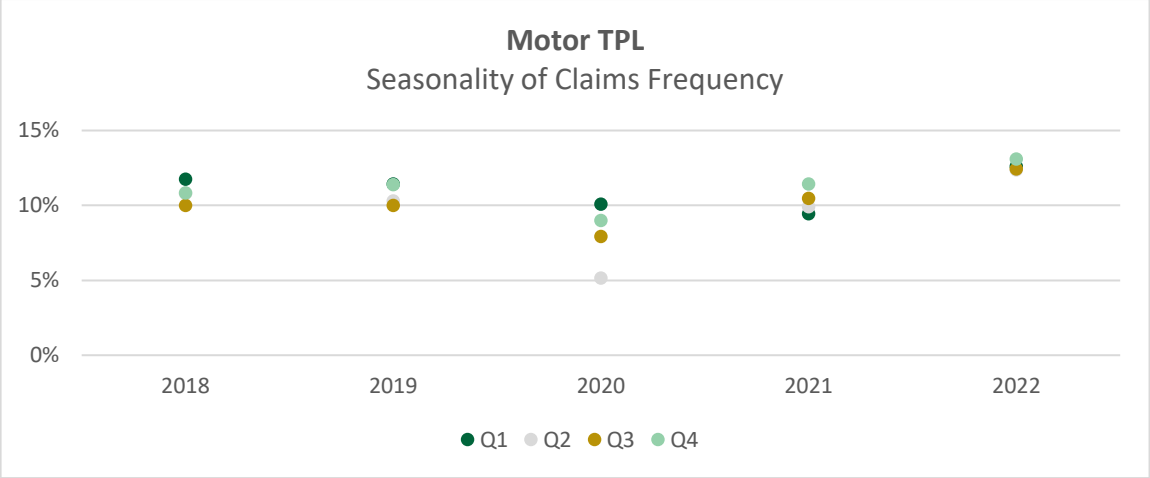






Ignoring the COVID-induced dip of 2020, it can be observed that 2022 is showing the highest figures for the burning cost over the last five years, and this increase appears to be driven by a large spike in the frequency of claims. The severity of Motor TPL claims has been relatively stable year on year, though some reduction is observed in the severity of Motor Comprehensive claims in recent years.

The graph below shows the historical seasonality of Motor TPL claims.

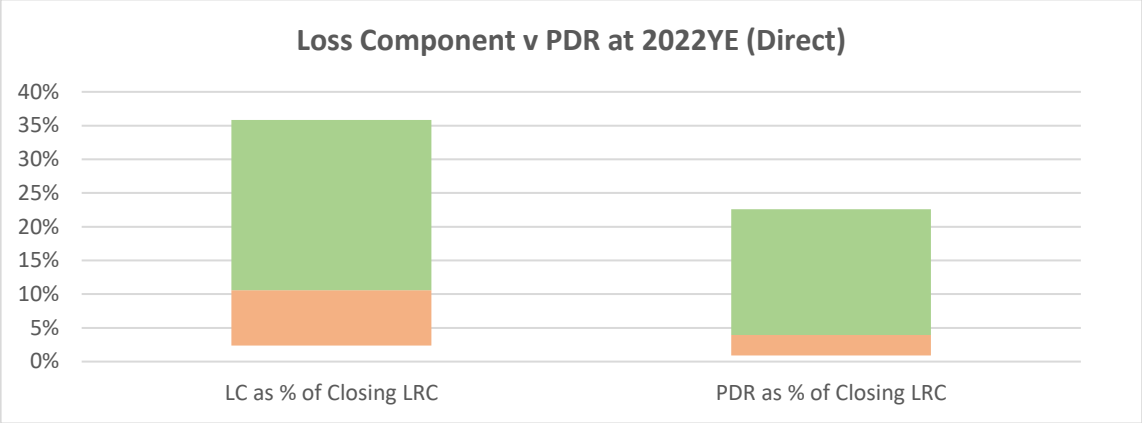


The seasonality of claims observed in accident year 2022 indicates diminishing deviation between accident quarters unlike that seen in the past. Some of this could be attributed to the recent change of the schooling system in Saudi Arabia towards a three-semester format, entertainment seasons across the country attracting both local and international tourists, thus causing higher vehicular movement during previously leaner periods leading to more accidents.

SAMA expects management to ensure close monitoring of emerging claims experience under Motor insurance, identification of drivers behind the recent spike in loss ratios and frequency of claims, deeper understanding of changes in the seasonality of claims, and implementation of corrective pricing measures on a timely basis in order to avoid underwriting losses and unhealthy price competition.

1.5 IFRS 17 Technical Provisions-related Results

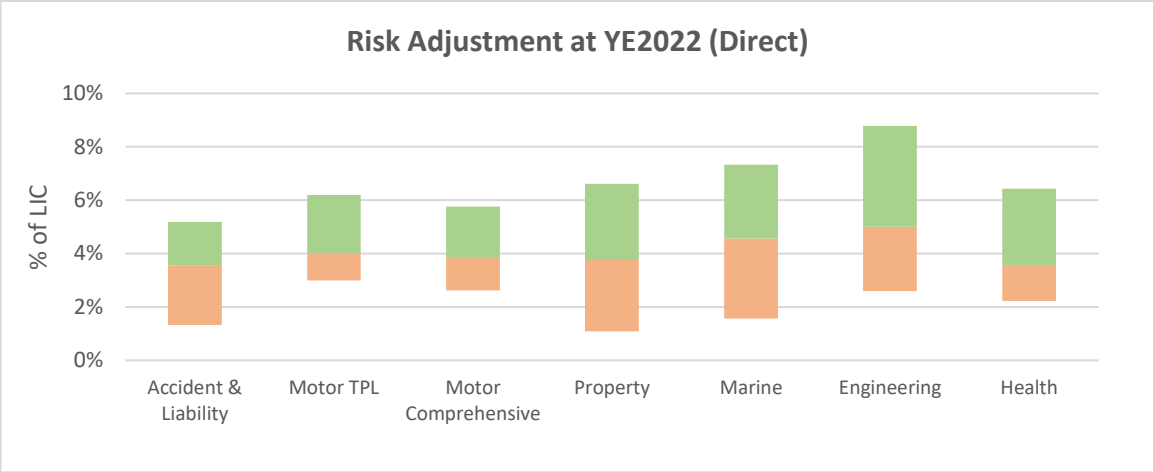
With the adoption of IFRS 17 (and IFRS 9) in the Saudi insurance sector with effect from 1st January 2023, all insurance companies were required by SAMA to restate their technical provisions and financial statements under the new standards. The graphs below show some key technical statistics from those submissions.



It can be observed above that the impact of loss component is materially higher than that of the premium deficiency reserves, with the median of the former being more than double of the latter. This can be attributed to mainly two factors: firstly, more granular calculations under IFRS 17 do not allow offsetting of loss-making groups of contracts with profitable groups of contracts; secondly, the addition of risk adjustment to the loss component under IFRS 17 unlike for premium deficiency reserves. Moreover, an insurance company is expected to disclose the impact of those loss-making contracts explicitly in its financial statements.

It is therefore expected that, going forward, the underwriting practices of insurance companies will come under closer scrutiny of the investor community, eventually leading to better underwriting discipline and greater overall transparency of reporting.

The graph below shows the results of risk adjustment calculation, expressed as a percentage of liability for incurred claims, for major lines of business at year-end 2022.

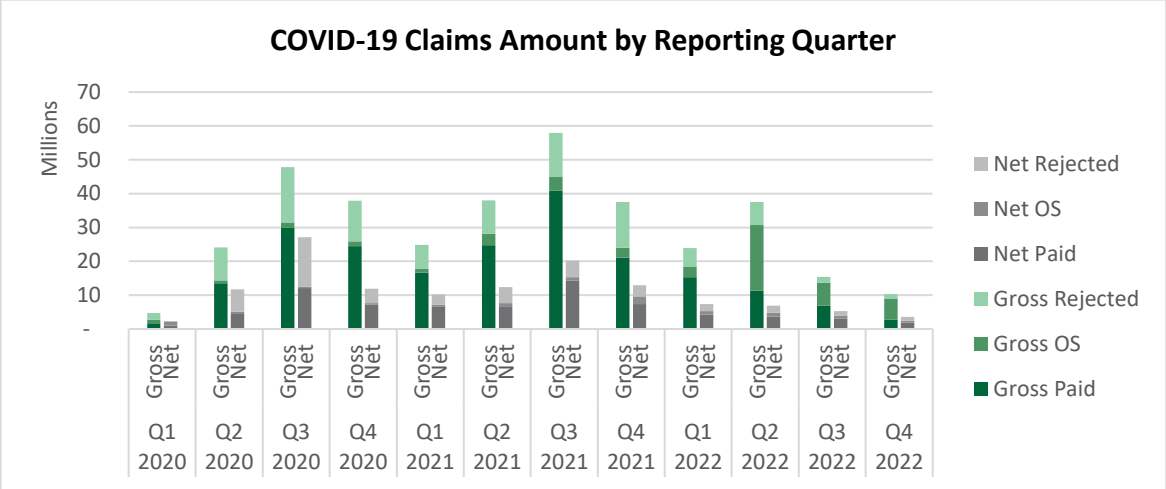


It can be observed above that the risk adjustment for each portfolio varies materially among insurance companies, with variation being higher for P&C lines of business than for Motor or Health. As regards the median, it is lowest for Health insurance and highest for Engineering insurance that also includes long-term CAR/EAR policies. The above marked differences among insurance companies can possibly be attributed to differences in confidence levels used, differences in sophistication of the actuarial modelling approach, and variations in the diversification/correlation assumptions used.

Given that these are still early days of IFRS 17 implementation, SAMA expects appointed actuaries to continue to seek to refine their adopted methodologies considering the emerging experience, their benchmark position compared to their peers, evolving market best practices, and the Company's own risk profile and risk appetite.

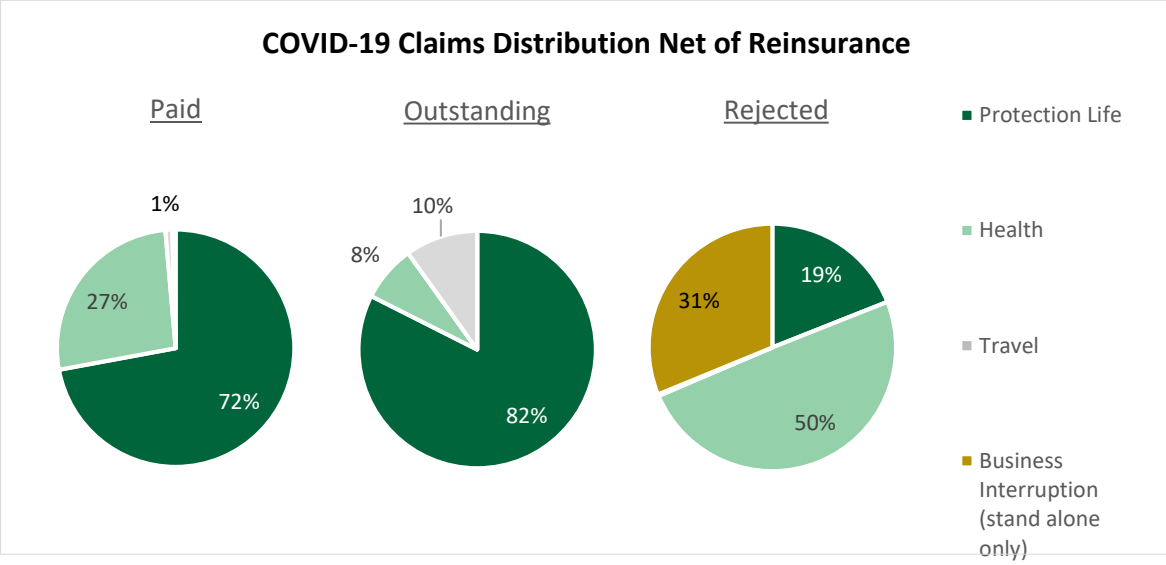
1.6 COVID-19 Claims Experience

Since the early days of the pandemic, SAMA established additional reporting requirements for insurance companies so that the claims emerging due to COVID-19, directly or indirectly, can be monitored and measures can be taken, if necessary. The graph below shows the status of reported claim amounts, split into paid, outstanding and rejected, at year-end 2022 by reporting quarter.



After reaching their peak in Q3 2021, the reported COVID-19 claims showed a declining trend during subsequent quarters, with the second half of 2022 showing a relatively benign experience. The reinsurance recoveries significantly mitigated the impact of those claims, and the cumulative net to gross ratio for COVID-related incurred claims amount was 32% at year-end 2022. The net incurred claims were 0.1% of cumulative net earned premium for years 2020 to 2022. Therefore, the overall net impact of COVID-19 pandemic has remained minimal for the insurance sector.

The graphs below show the distribution of settled, outstanding and rejected claims by line of business, all on a net of reinsurance basis, for all claims reported since the beginning of the pandemic till the year-end 2022.



The majority of settled claims as well as outstanding claims relate to Life insurance, covering deaths attributed to COVID-19 or associated complications, followed by Health

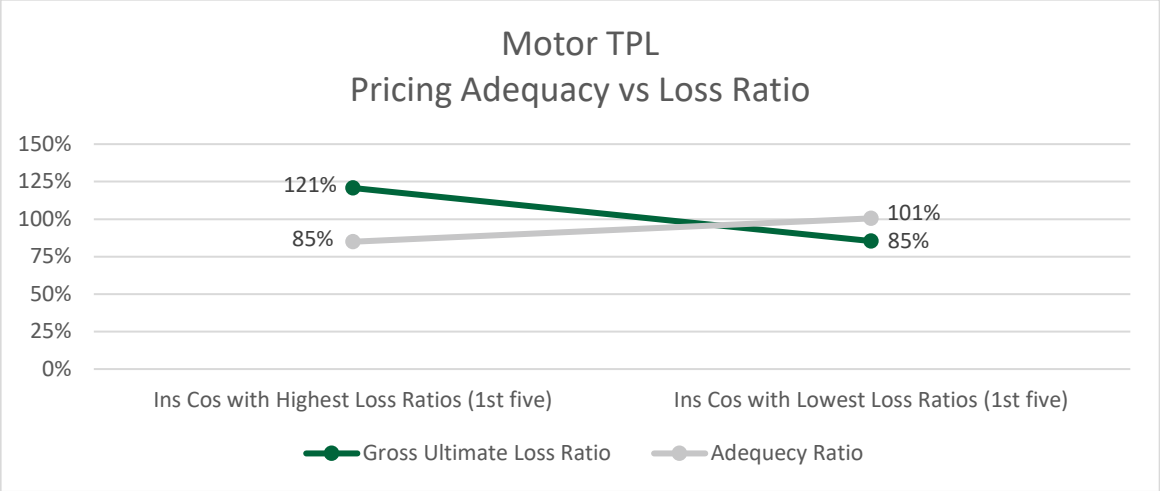
insurance in paid claims and by Travel insurance in outstanding claims. The majority of rejected claims relate to Health insurance followed by Business Interruption insurance. While the cost of COVID-19 treatment was borne by the Government during the pandemic, as the intensity of cases reduced significantly and it was downlisted from being a pandemic, the cost of COVID-19 claims is now covered under the standard CHI policy and hence the treatment cost is borne by insurance companies going forward.

While the impact of COVID-19 related claims has so far been minimal for the Saudi insurance sector, SAMA expects management to continue to monitor the emerging experience and any new waves or new virus outbreaks. Moreover, it is expected that learnings from COVID-19 will be embedded in the pricing, underwriting and claims management philosophies of the Company. Also, since significant recoveries from reinsurers are observed, SAMA expects management to continue to ensure there are no gaps between the original policy terms and reinsurance treaties in respect of pandemic-related claims under each affected line of business.

1.7 Impact of Pricing Adequacy on Loss Ratios

For Motor and Health classes, subject to meeting a number of conditions, SAMA rules give discretion to the Underwriting function of an insurance company to sell an insurance policy at a price different from that recommended by its Appointed Actuary. Among others, these conditions require that any discounts on the technical price must be within the Underwriting Authority Framework approved by the Company's Board of Directors, rationale for any discounts given should be appropriately documented, and the Board should be made aware of the potential financial impact of those discounts.

Everything else being equal, a low price adequacy can be expected to produce a high loss ratio and low profitability, and vice versa. In this regard, the graph below compares the pricing adequacy ratio against the gross ultimate loss ratio for accident year 2022 between companies with the highest loss ratios and those with the lowest loss ratios for Motor TPL business.



Note: The adequacy ratio used is the average of underwriting periods 2021H2 and 2022H1 in order to correspond to the earned premium of accident year 2022.

For the worst-performing companies with the highest loss ratios, it is obvious from the above graph that, while adherence to the technical prices would have reduced their losses, it would have not fully eradicated those losses, thus pointing towards the inadequacy of the technical prices recommended by their Appointed Actuary. On the other hand, insurance companies with the lowest loss ratios adhered to the technical prices recommended by their Appointed Actuary and managed to achieve a loss ratio that was 36 percentage points lower than that for the worst performing companies, thus highlighting the importance of underwriting discipline and accuracy of technical pricing.

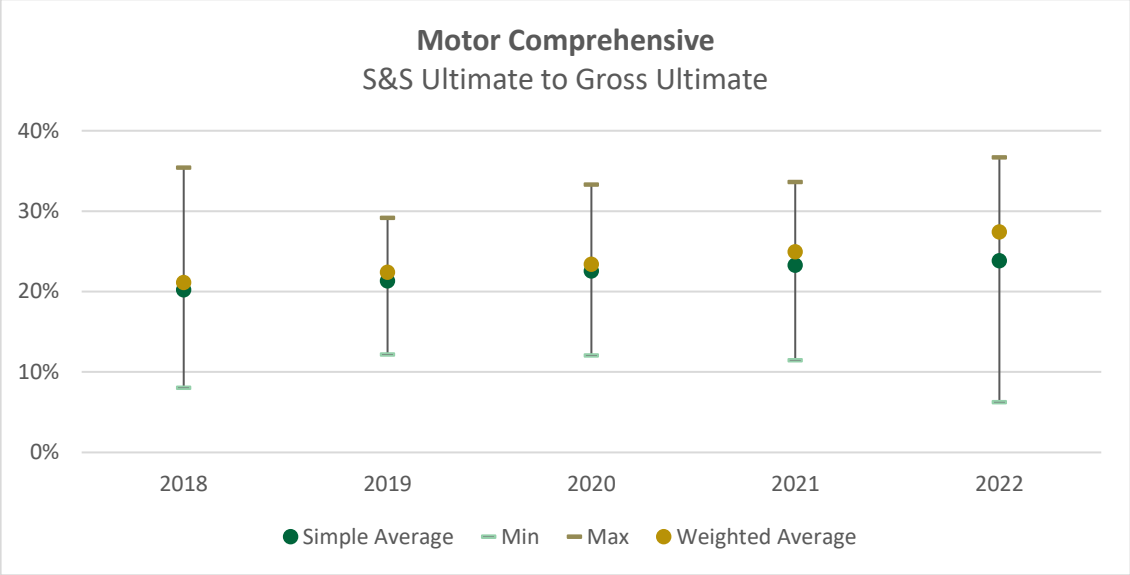
A regular production of pricing adequacy reports is intended to serve as an effective control over pricing and underwriting activities at an insurance company. At the same time, it is possible that the above statistics suffer from a lack of reliable data, a concern commonly shared by appointed actuaries and observed at multiple occasions during SAMA's inspection visits. The fact that many insurance companies still produce the above reports manually, unlike many others who have fully automated the process, give credence to the doubts regarding the reliability of data.

SAMA expects management to ensure:

a) Reliability of data used to produce the pricing adequacy reports;
b) Full automation of the process to produce the pricing adequacy reports;
c) Strict adherence to the Underwriting Authority Framework for discretionary reduction in premium rates;
d) Timely sharing of information with the Board of Directors as regards the expected financial impact of any material pricing discounts;
e) Maintaining a strong feedback loop between the Underwriting function and the Appointed Actuary for maintaining the relevance and accuracy of the technical prices calculated by the Appointed Actuary.

1.8 Salvage & Subrogation (S&S) Estimates

Effective management of salvage and subrogation recoveries can help a Motor insurer in reducing, possibly substantially, the net cost of claims. The graph below shows the range of the projected ultimate recoveries by insurance companies for recent accident years.



The wide range seen above implies that while some companies are able to improve their net claims experience by efficiently realizing the potential of salvage and subrogation recoveries, there are companies at the lower end of the spectrum with significant untapped potential, which in turn can severely affect their competitive position in the sector.

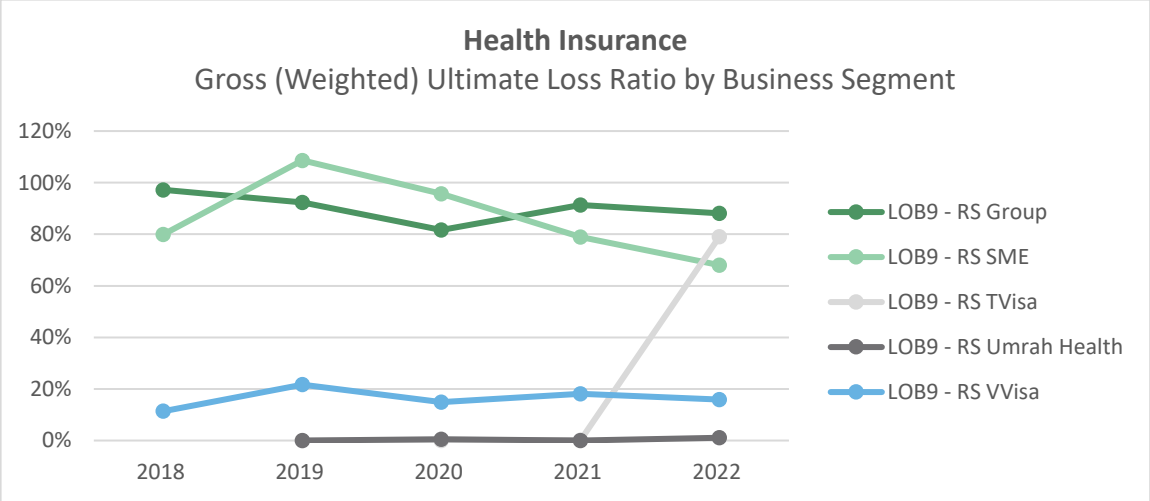
While the average recovery ratio has increased steadily year on year, the rate of increase is more pronounced on a weighted average basis than on a simple average basis, indicating that larger insurance companies have been able to deploy more effective recovery strategies, which should serve as an encouragement for smaller companies to invest and strive more in this area.

SAMA expects management to continue enhancing the efficiency of its claims recovery process in order to maximize the benefit of this potentially sizable revenue source, and be able to offer more competitive rates to policyholders, in particular for Motor Comprehensive policies.

1.9 Actuarial reserving - areas for improvement

1.9.1 Segmental reserving for Health insurance

Despite SAMA specifying minimum reserving segments for Health insurance to cover Group, SME, Visitors' Visa (VVisa), Tourist Visa (TVisa) and Umrah, only a small proportion of companies had reported the reserves at the minimum level. The graph below shows the results of those companies by minimum reserving segments.



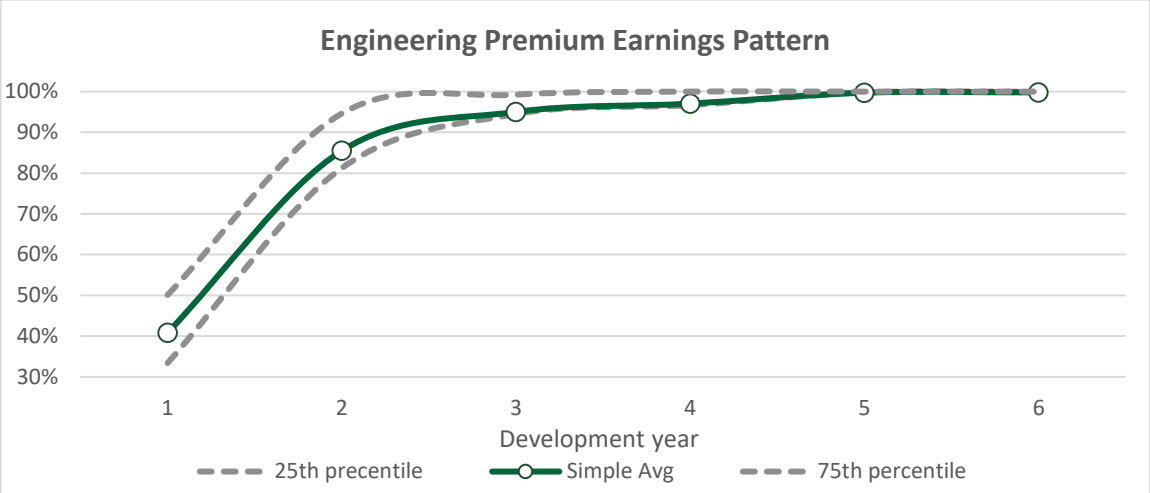
The graph above confirms the significant differences in the claims experience of the minimum reserving segments.

Given the large differences in the performance of each of these business segments, SAMA expects all appointed actuaries to perform the actuarial reserving at the minimum level specified.

1.9.2 Premium Earnings Pattern

Engineering

To address some concerns regarding the earnings pattern for long term engineering (mainly CAR, EAR) policies, a new reporting requirement was added this year, requiring all appointed actuaries to disclose the premium earnings profile of their engineering book. The graph below shows the average and the interquartile range of those earning profiles.



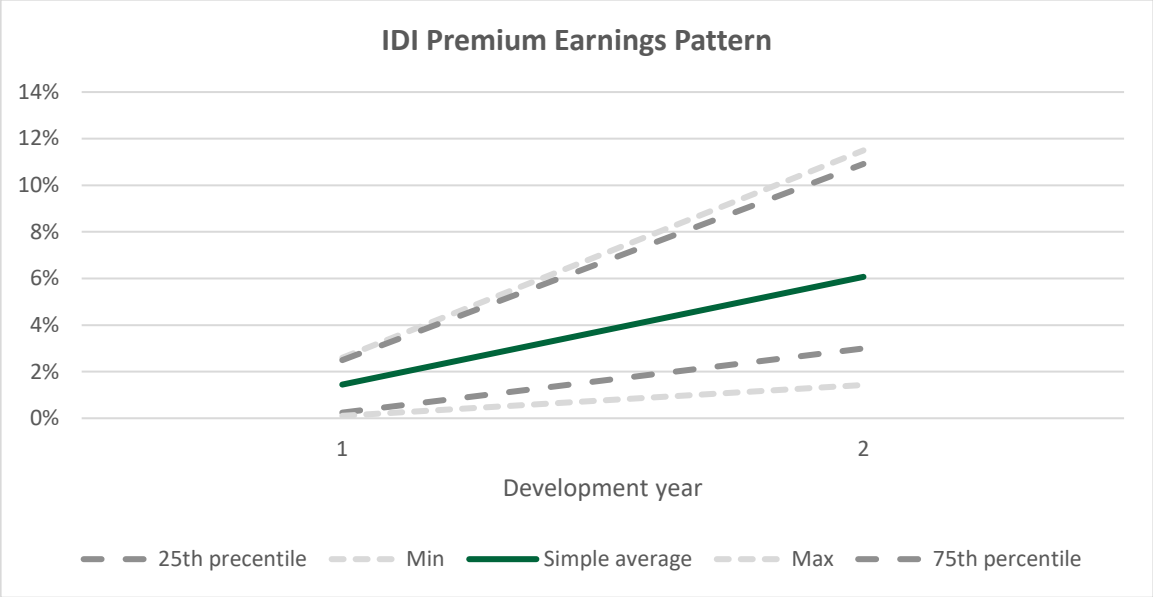
The above indicates a much faster earnings profile than what would be expected for a long term increasing-risk CAR/EAR policy. Upon investigation, it was realized that one-year machinery break-down policies were causing the above distortion in part. Another reason was the treatment of endorsements to long term CAR/EAR contracts, where some insurance companies treat those as one year (or shorter, depending upon the length of a specific endorsement) policies instead of adding those to the original earnings profile. Going forward, refinements have been made to the reporting by appointed actuaries, where SAMA has issued instructions for the treatment of endorsements in respect of long term CAR/EAR policies, and the earning profiles of long-term CAR/EAR policies and of short term policies are required to be reported separately. It is expected that the risk of too-fast earnings on CAR/EAR policies thus can be minimized.

Inherent Defects Insurance

The Inherent Defects Insurance (IDI), a.k.a. Decennial Liability Insurance, is a relatively new but mandatory product for new non-governmental building constructions in the Kingdom. The product provides coverage against construction defects over a period of ten years from the date of completion. In the absence of local experience and given the long term nature of the policy, it is essential for an Appoined Actuary to refer to professional guidance, experience of similar products in other markets (e.g., US, UK, France), and contribute to developing the market best practice.

A fundamental question in this regard is the pattern of claims emergence under this product, which may guide the premium earnings pattern, i.e., earnings in a straight line over ten years, or faster/slower earnings initially and vice versa in the later part of the ten-year period.

The graph below shows the range of premium earnings patterns used by appointed actuaries at year-end 2022.



Since all insurers who participate in the IDI pool underwriting the same risks and hence avoid timing differences, the above implies significant differences in views held by appointed actuaries as regards the expected claims emergence pattern.

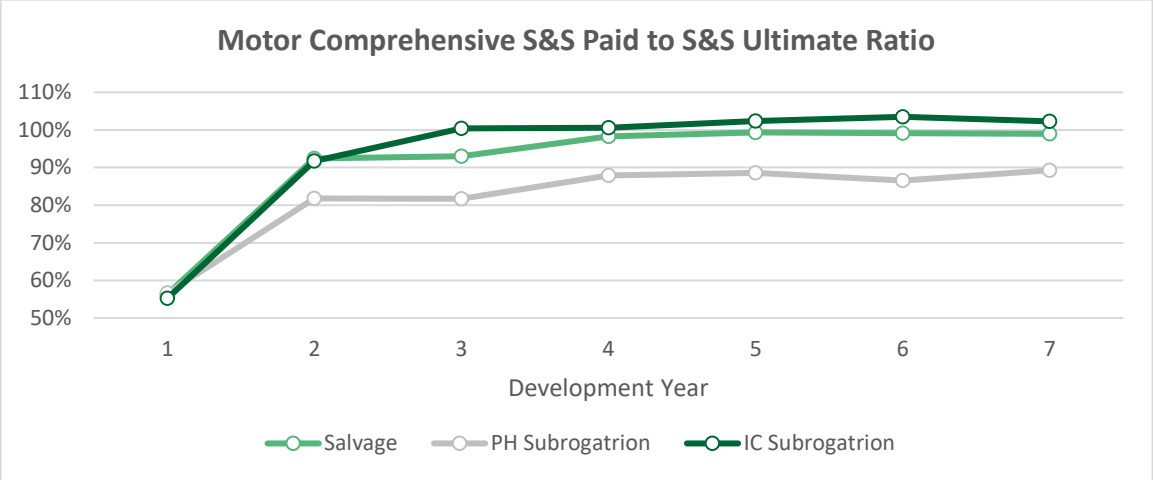
SAMA has issued instructions in this regard since then, and will continue to work with the sector and actuarial profession to develop market best practice for setting technical provisions for these risks.

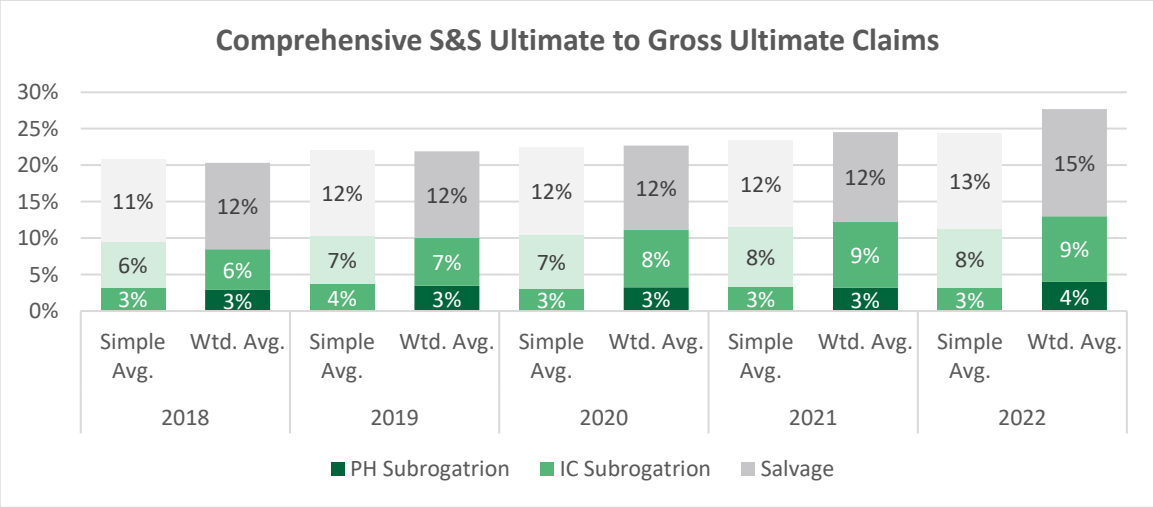
SAMA expects each Appointed Actuary to work with the Finance and Underwriting teams in order to arrive at an appropriate earnings profile for each risk type.

1.9.3 Salvage, Subrogation (Individual), & Subrogation (Insurance Companies)

The SAMA instructions require an Appointed Actuary to reserve separately for each individual recovery type, i.e., salvage, subrogation recoveries from individuals, and subrogation recoveries from insurance companies. The instructions are issued in light of the differences in the historical experience of each recovery type, differences in factors influencing each recovery type, and differences in the time taken in materializing each recovery type.

While a minority of insurance companies have been unable to carry out the reserving analysis split by the recovery type on the grounds of inadequate data, the graphs below are in respect of the majority that has been able to perform the analysis at the required level of granularity as at year-end 2022.





From the second graph above, it can be observed that salvage has the highest share consistently among all recovery types, and this share has increased in 2022, possibly on the back of revised salvage agreements that many insurance companies have re-negotiated. It is possible that some of this increase is also driven by the global supply chain issues in the vehicle industry, making vehicle spare parts costlier. The increase in 2022 is more pronounced on a weighted-average basis than on a simple-average basis, implying larger insurance companies being more successful in their revised strategies for increasing the salvage revenue.

The aggregate development pattern graph on the other hand indicates that recoveries from individuals appear to take the longest. In this regard, some insurance companies mentioned having encouraging results after deploying pro-active recovery measures.

Considering the above evidence, SAMA expects all remaining insurance companies to record the data in respect of recoveries at an appropriate level of granularity, and making sure that data available to the Appointed Actuary meets the reserving requirements.

2. Actuarial Pricing Reports 2022

2.1 Medical Pricing

At least annually, each Appointed Actuary is required to carry out a comprehensive review of the premium rates to reflect the latest claims experience and uncertainty around it, expense outgo of the Company, and profit target set by the Board of Directors. The analysis culminates with the Appointed Actuary recommending a revised set of technical prices for use by the Company's sales and underwriting teams. 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.

2.1.1 Rating Factors

SAMA 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 for 2022 in comparison to 2021.

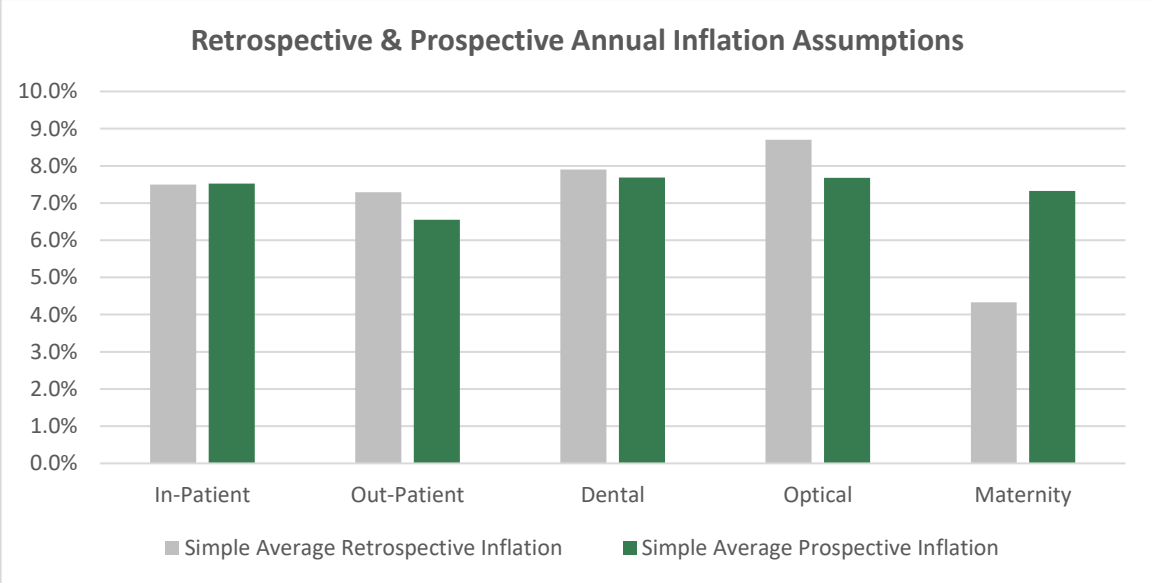
* The 2021 count is slightly different from what was shown in the last year's letter due to changing the basis of counting.

The average number of rating variables used witnessed a small upwards shift, and the minimum went up by one level, indicating efforts by insurance companies to improve and differentiate their pricing basis, as well as attempts to catch up with their peers by those with less sophisticated pricing basis. At the same time, there is still a significant variation between insurance companies in terms of the number of rating factors considered in pricing. 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.

2.1.2 Inflation Assumption

Using an appropriate inflation assumption in pricing is of immense importance. The retrospective (historical) inflation assumption is used to bring the historical claims cost to the current price levels, whereas prospective (future) inflation assumption adjusts the premium from the point of calculation to the point of medical treatment. Using inaccurate assumptions for any of the above two can have material consequences for the accuracy of technical price derived by the Appointed Actuary.

The graph below shows the comparison of average (unweighted) inflation assumptions by treatment-type, both prospective and retrospective, used by appointed actuaries.

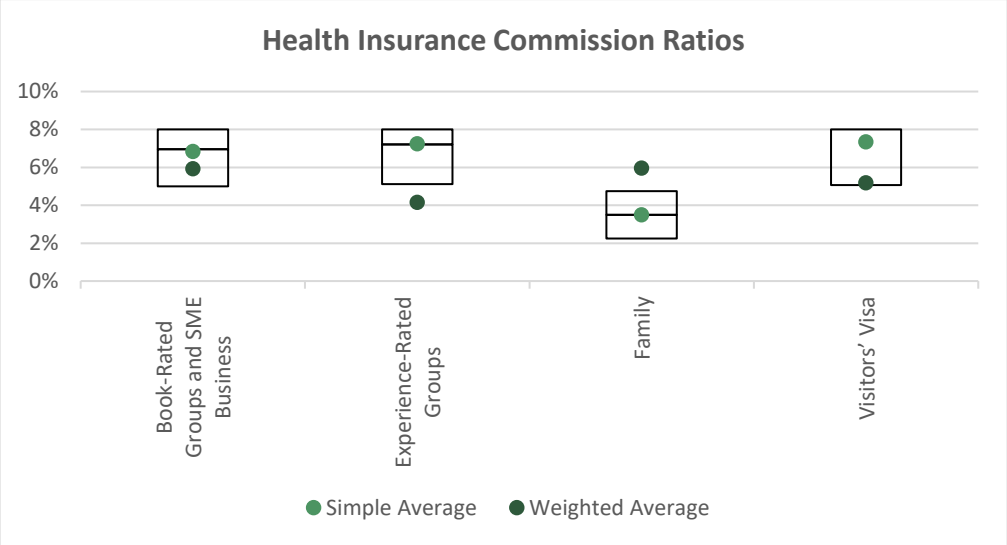


Based on the above assumptions, it can be implied that the average cost of Optical and Dental treatments has grown at the fastest pace in recent past. On the other hand, the cost of Maternity cases experienced the lowest inflation historically, however appointed actuaries do not seem to rely on that historical experience going forward as the prospective inflation assumption used is broadly similar to that for other benefit categories.

2.1.3 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 usually thin. Therefore, ability to write business at low commission rates can play an important role in keeping the premiums attractive enough for the policyholder and 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, the interquartile range indicates some companies have material competitive advantage due to their ability to sell at lower commission rates than others.

For SME business, the difference between simple and weighted averages is not pronounced, suggesting that both small and large insurers write this business offering similar commissions. For the Experience-rated Group segment however, which commands the bulk of business in Saudi Arabia, it can be seen that larger insurers are able to price that business with markedly lower commissions than the levels offered by smaller insurers, thus giving former a competitive advantage. Similar observation can be made for the Visitor Visa health insurance segment, though converse seems to hold true for the Family health insurance segment.

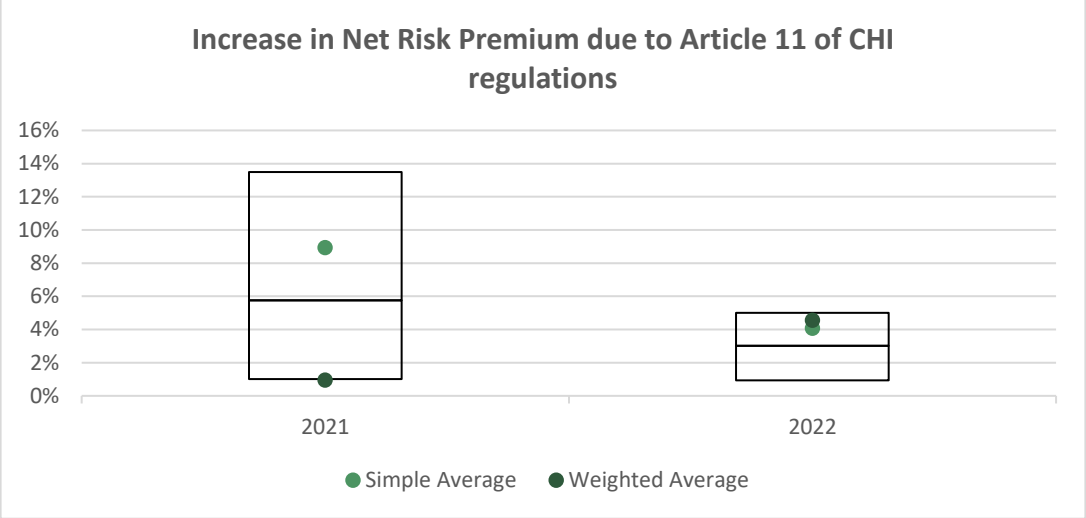
In summary, it implies that smaller insurers need to look for innovative ways of marketing and selling in order to keep their commission costs down and be competitive with larger players, particularly in respect of large volume group policies.

2.1.4 Impact on Health Insurance Policies Prices due to Regulatory Changes

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

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. The graph below shows a comparison between years 2021 and 2022

as regards the estimated increase in premium rates due to the above regulation determined by appointed actuaries.

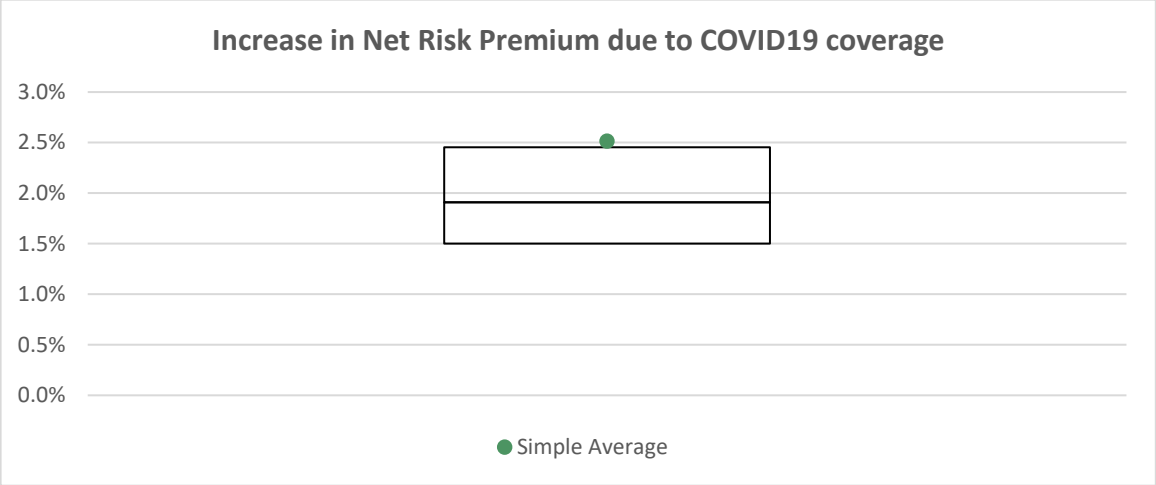


There was significant uncertainty during the early days of introduction of Article 11 due to a lack of historical experience and different views about the ability of public sector medical providers to bill in an adequate and a timely manner. This high uncertainty was reflected in the wide range and a higher (simple) average impact in 2021 than that estimated in 2022, which has been refined on the back of the experience to date, leading to a significantly narrow interquartile range and almost-aligned simple average and weighted average loadings.

While the narrowing down of the range and significant lowering of the average in 2022, though still material in terms of the overall impact, can be partly attributed to more data becoming available, the limited capability of public sector hospitals to record and report claims also seems to play a role in bringing the estimates down. The situation may change rapidly as public sector hospitals and clinics improve their IT systems and get connected with NPHIES, thus requiring the insurance companies to closely monitor the emerging experience and adjust their pricing in a timely manner.

2.1.4.2 COVID-19 Coverage

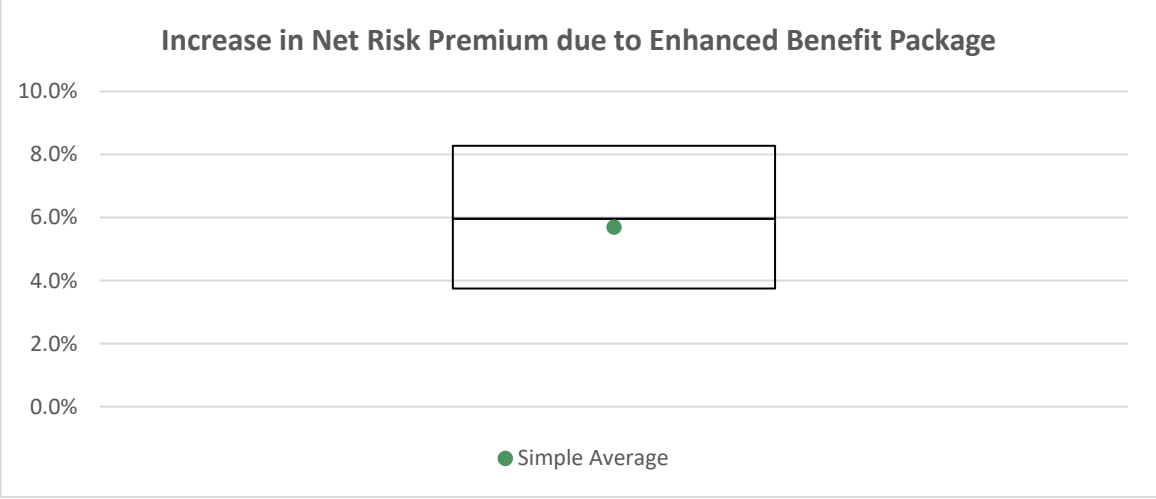
According to the recent decision by the Ministry of Health and CHI, COVID-19 is no longer deemed a pandemic and all insurance companies are required to cover it as part of standard health insurance coverage under the Unified Essential Benefits policy. The resulting increase in the cost of health insurance, as estimated by appointed actuaries, is illustrated in the graph below.



There is relatively a narrow range observed above, which can be expected to narrow down further with the emerging experience and considering the observed decrease in COVID-19 claims frequency.

2.1.4.3 Enhanced Benefits under CHI Policy

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 in 2023. The graph below shows the average increase in prices/cost of treatment estimated by appointed actuaries in response to this regulatory change.

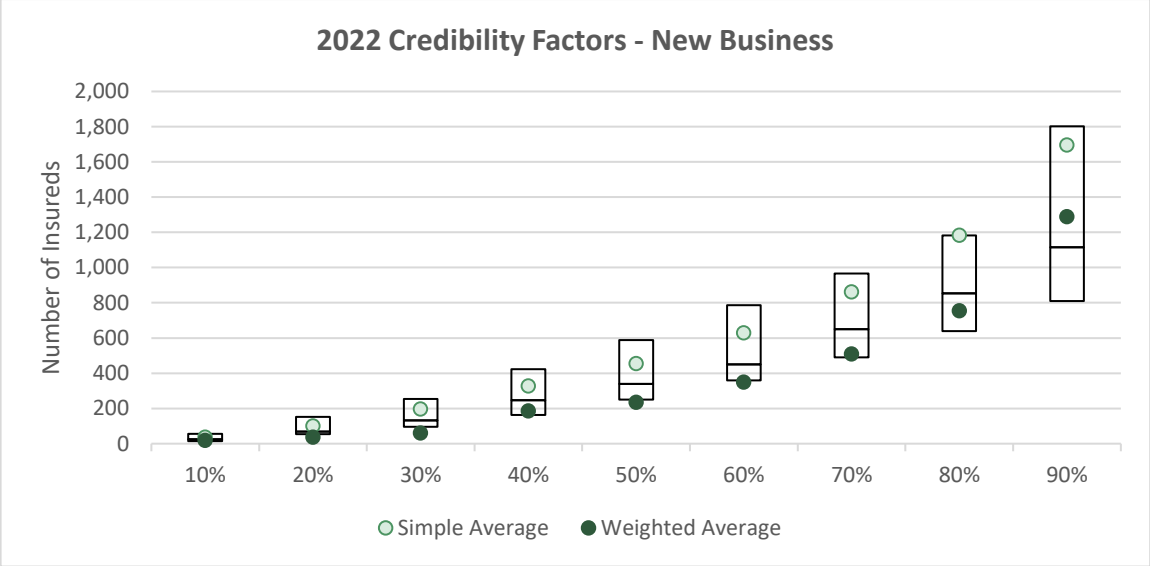


On the average, appointed actuaries estimated a material impact of the above enhancement. There is also a wide range of estimates among insurance companies.

2.1.5 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 number of insured lives for new policies, used as the basis by appointed actuaries, for assigning a given credibility factor.



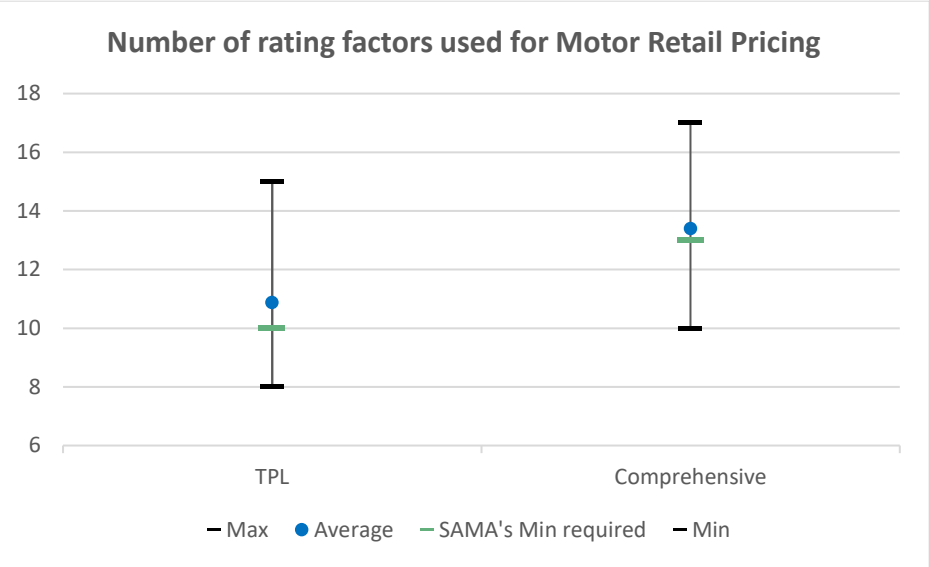
It can be seen that, for both the simple average and weighted average (by premium) number of lives, values are similar at the lower levels of credibility. The difference however grows as the credibility factor increases (e.g., c. 1700 v 1300 lives at 90% credibility factor on simple average and weighted 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.

2.2 Motor Pricing

2.2.1 Rating Factors

The graph below shows the range of the number of rating factors being used by appointed actuaries for Motor TPL and Motor Comprehensive policies.

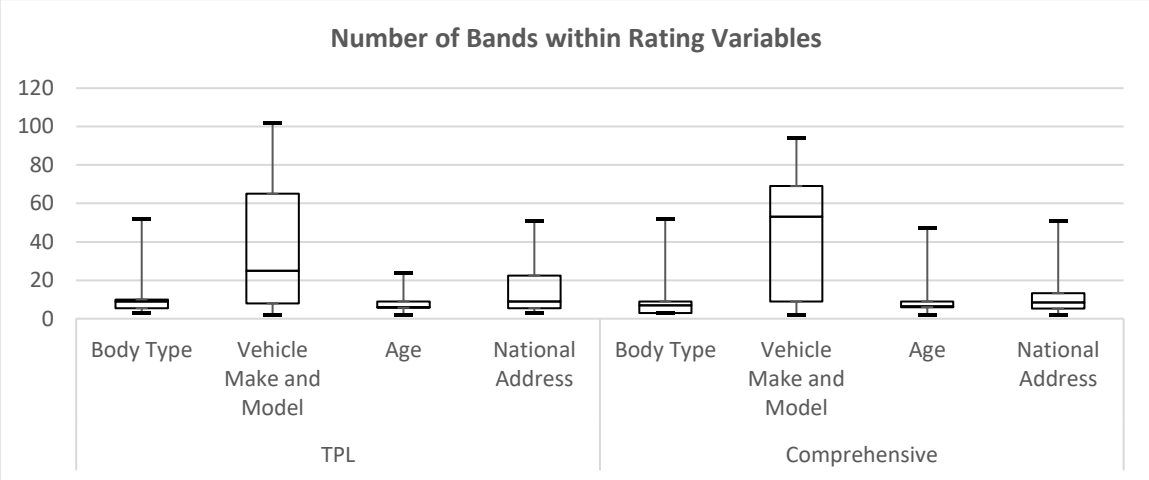


The average number of rating factors for both Motor Retail TPL and Motor Retail Comprehensive was just above the SAMA-prescribed minimum number of rating factors (i.e., 10 for TPL and 13 for Comprehensive). This is somewhat disappointing for SAMA, as the purpose of setting the minimum number of rating factors in year 2019 was to encourage the Appointed Actuary to strive for greater pricing sophistication and differentiation with the competition. Instead, it appears that the choice of rating factors for the sector in general is still driven by the regulatory requirements.

A few companies have however sought to go beyond the minimum, as indicated by the maximum number of rating factors that sits significantly higher than the average value, thus showing that those aiming for the 'minimum' are likely being competitively disadvantaged. Moreover, we note with concern that some companies struggled to meet the minimum requirements, likely due to issues pertaining to data quality and lack of efforts from the Actuarial and/or Underwriting functions to resolve those issues. While, on one hand, non-compliance with SAMA instructions exposes an insurance company to the risk of regulatory action, on the other hand, the insurance company is likely to be severely disadvantaged in the face of competition.

2.2.2 Granularity within Rating Factors

The graph below shows, for a sample of rating factors, the inter-quartile range of the count of rating bands/segments used by appointed actuaries for Motor Retail TPL and Motor Retail Comprehensive.

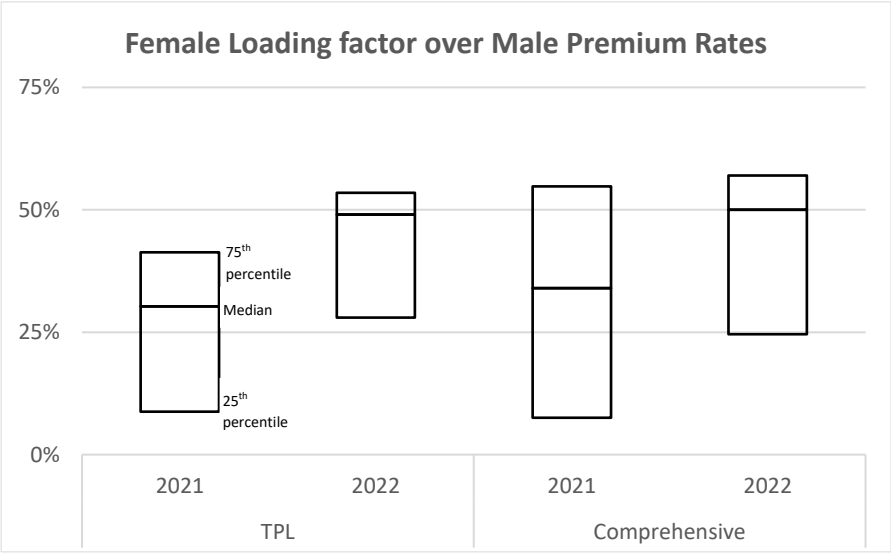


It can be observed that the number of rating bands/segments used has a large degree of variation between insurance companies. For example, for age, at least one company uses more than 20 age-bands for Motor TPL (40+ for Motor Comprehensive), whereas at least one company uses two age-bands only. A less granular pricing model than peers may expose an insurance company to inaccurate pricing and anti-selection risks. On the other hand, estimating prices for too many bands may expose the pricing model to the risk of 'overfitting'.

2.2.3 Rating by Gender and Sales Channel

Upon introduction of female driving in year 2018 in the Kingdom, in the absence of local experience, many appointed actuaries referred to internal experience with adjustments for the local circumstances, e.g., lack of driving experience, for the purpose of pricing. The pricing assumptions have been updated regularly to reflect the emerging experience of female driving.

The graph below shows the loading for female premium rates over male premium rates in the 2022 pricing report and its comparison with the previous year.

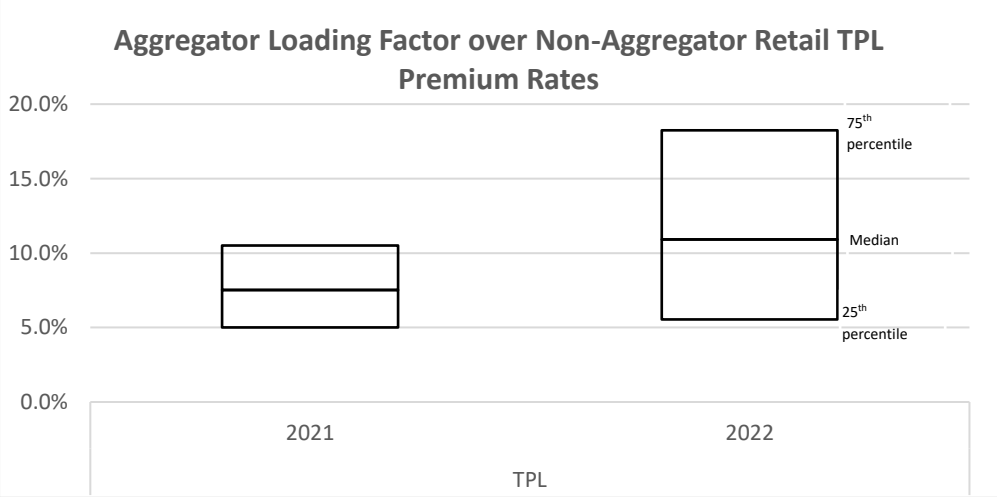


It can be observed, compared to 2021, the median of loading factors shifted significantly upwards in 2022 for both Motor TPL and Motor Comprehensive policies. The interquartile range narrowed, implying relatively more convergence of prices as more data on female driving experience becomes available.

The above increase in gender-based loadings is of particular note given that globally female premium rates tend to be lower than male premium rates, assuming everything else being equal and no regulatory restrictions on gender-based pricing. Hence, one view is that the above differential is more reflective of a 'new v experienced driver' than of a 'male v female driver'. It would therefore be important for appointed actuaries to track the emerging experience as new drivers become more experienced and reflect it appropriately and timely in their GLM pricing models.

As seen in Section 1.4.2, the loss ratio of business sold via aggregator channels has been higher than of non-aggregator channels year on year. However, despite the introduction of aggregator sales channel far back in 2017, the sector as a whole has been slow to reflect the impact of sales channel in pricing. Some attributed it to the nature of agreement insurance companies entered into with the aggregator channels and limitations contained therein.

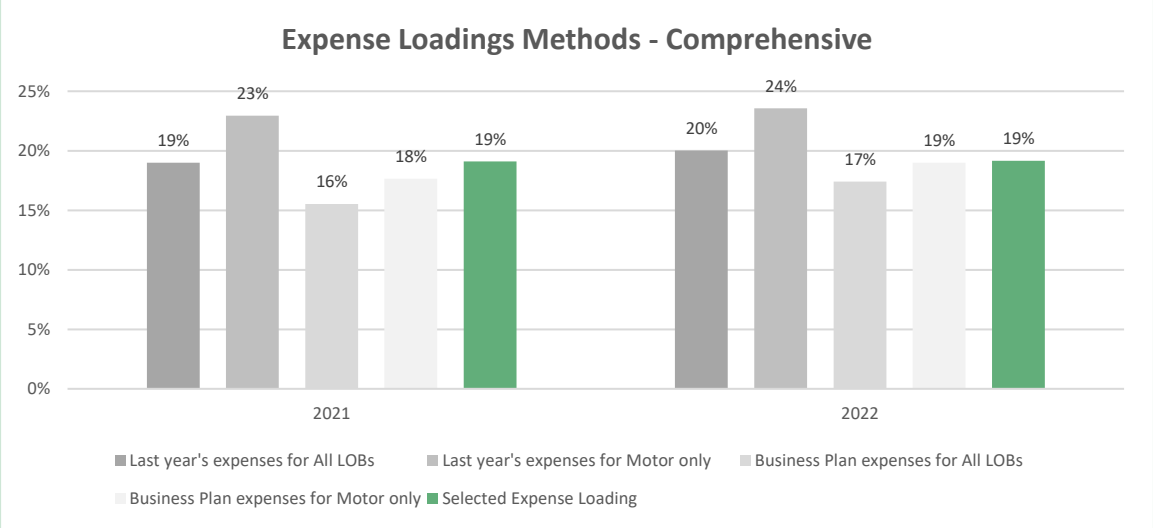
The graph below shows the comparison of average loadings in aggregator prices over non-aggregator prices for Motor TPL Retail policies between 2021 and 2022 pricing exercises.

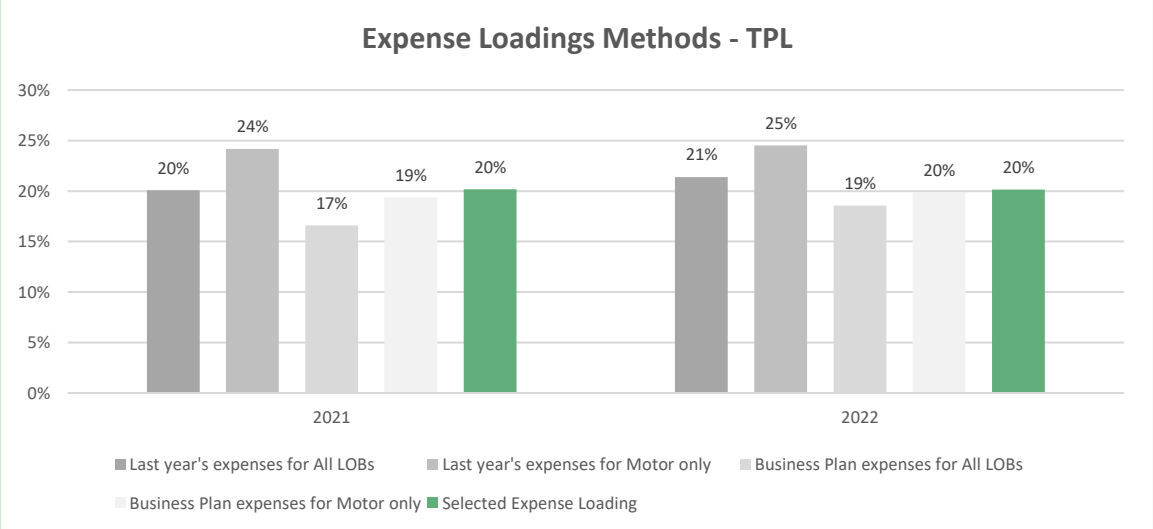


It can be seen above that there has been a significant upwards shift in the loading for aggregator sales channel compared to the previous year both in terms of the median and the size of the interquartile range. It is interesting to compare these increases with the loss ratio differential between aggregator and non-aggregator segments mentioned in para 1.4.2 above, which shows the gap between aggregator loss ratio and non-aggregator loss ratio narrowed significantly in accident year 2022. This narrowing of the gap in loss ratios can be possibly attributed mainly to the pricing correction seen in the above graph.

2.2.4 Expense Loading

For the purpose of determining the expense loading for inclusion in premium rates, an Appointed Actuary is required under SAMA instructions to perform four sets of calculations and consider the four results when selecting the expense loading for premium rates. 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 2021 and 2022.





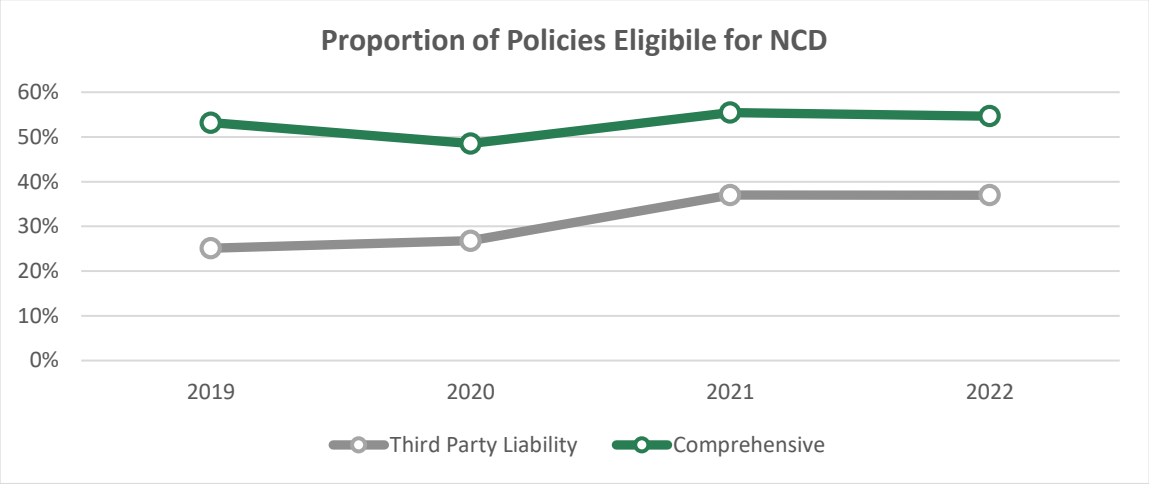
Note: Selected Expense Loading in the above two graphs is based on the simple average of all insurance companies

We note with concern that the selected average expense loading is markedly lower than the actual experience of last year, and is largely aligned to the business plan. If we consider the experience of one year to be an indication, the actual experience of last year (shown under year 2022 section in the above graph) turned out to be noticeably higher than the business plan of last year (shown under year 2021 section in the above graph), both for Motor TPL and Motor Comprehensive business. Hence, an Appointed Actuary shall apply his professional judgement when selecting an

appropriate expense loading in order to reduce the risk of inadequate prices and thus underwriting losses.

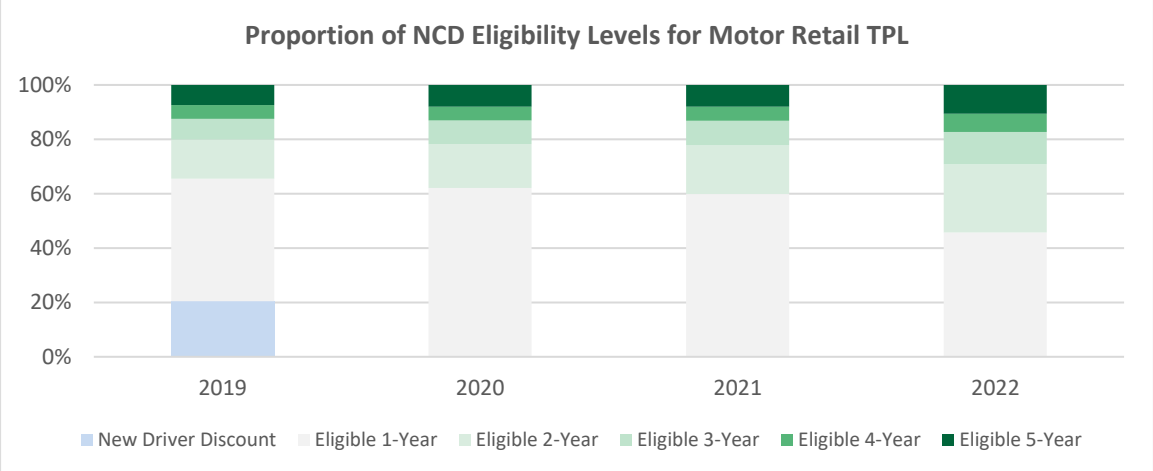
2.2.5 No Claim Discount

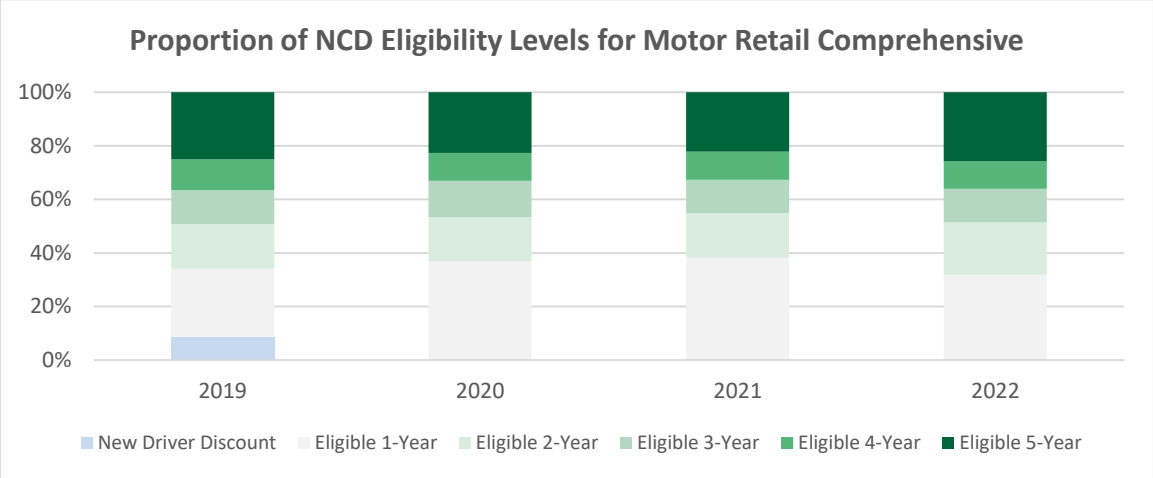
The current 'No Claim Discount' (NCD) regime is in place since mid-2018, and refinements have been made in its implementation since its introduction in view of emerging experience and challenges. The graph below shows the proportion of policyholders who received the benefit of NCD over the last four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



Historically, the level of NCD-eligibility has been significantly higher for Motor Comprehensive polices than for Motor TPL policies, which is an important pricing consideration for an Appointed Actuary. For Motor TPL, some stability is seen in the experience over the last two years after showing an increasing trend previously. An increasing trend in NCD eligibility is desirable, as it is an indicator of improvement in driving behavior, lower claims frequency, and safer roads, which are some of the key objectives behind the introduction of the NCD regime.

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 can be observed above that the proportion of eligible policyholders has grown in 'NCD bands 2 and above' during 2022, which is a desirable outcome and can be an important consideration for pricing purposes.

Recently, upon identification of certain implementation gaps and challenges, SAMA liaised with Najm seeking to remove those gaps and further refine the implementation of the NCD framework. Going forwards this may affect the eligibility proportions and their distributions seen above. Therefore it is important for an Appointed Actuary to be fully aware of the above changes, reflect those in the pricing basis on a timely basis, and refine that basis as the experience unfolds.

In summary, for the purpose of pricing of Health and Motor insurance policies, SAMA 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;*

SAMA 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 and Health insurance sector*
- *continue to push for pricing sophistication, seek to differentiate the Company's pricing basis from the competition, and move beyond the minimum stipulated by SAMA;*
- *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; and*
- *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 on a timely basis.*

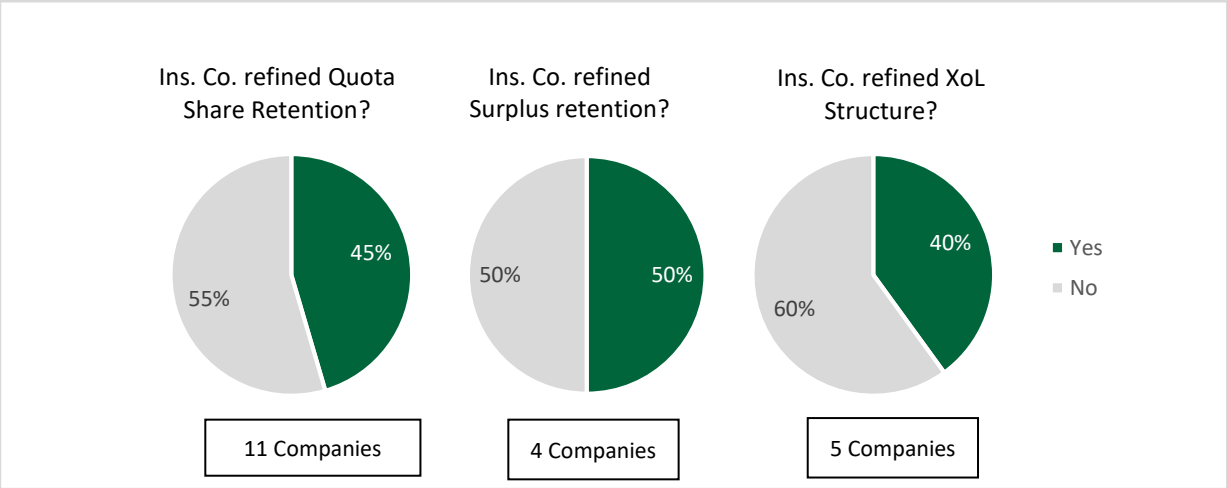
3. Reinsurance Appropriateness and Adequacy Report 2022

For Property & Casualty insurance, the majority of insurers in Saudi Arabia rely heavily on reinsurance companies as a large proportion of business is ceded to them. It is therefore important that each insurance company assesses its reinsurance requirements using sound technical basis, and with due regard to its risk appetite.

The Actuarial Work Rules 2020 require an annual report from the Appointed Actuary, assessing the appropriateness of the Company's reinsurance arrangements and risk retention levels for each line of business. The Appointed Actuary is also required to make recommendations for an optimal reinsurance arrangement to the Board of Directors and senior management. The task requires application of sophisticated actuarial modelling techniques and is commensurate with SAMA's objective to raise the standards of actuarial practice in the Kingdom.

3.1 Management's Response to the Appointed Actuary's Recommendations

The graph below assesses how the Board of Directors responded to the Appointed Actuary's recommendation for improvements to the reinsurance arrangements made in the previous year's Reinsurance Optimization Report.

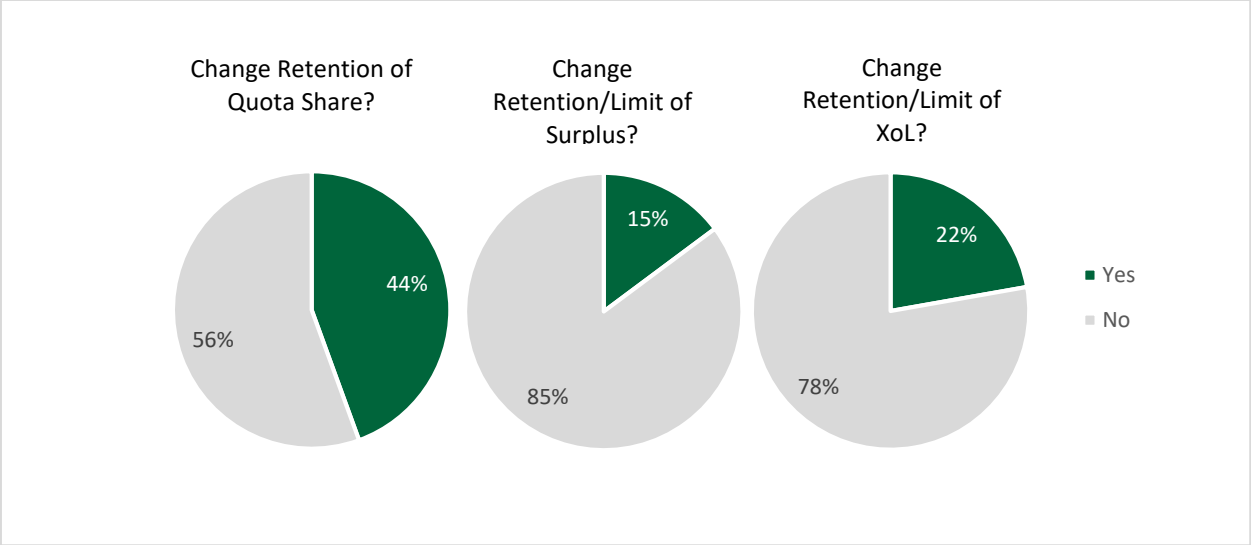


It can been seen that a significant proportion of Boards accepted the recommendation from their Appointed Actuary to change the structure of their proportional and/or non-proportional treaties and management went ahead with making those changes, in part or in full. The above treaty amendments are of even higher significance considering that an Appointed Actuary usually forms his recommendations without taking into consideration the reinsurance market conditions.

When making reinsurance purchase decisions, SAMA expects the Board of Directors and senior management to actively consider the recommendations of their Appointed Actuary, with due input from Underwriting and Reinsurance functions.

3.2 Changes Recommended for Treaties in Reinsurance Optimization Report 2022

The graph below shows the outcome of the actuarial analysis performed in year 2022 and recommendations made by appointed actuaries as a result.

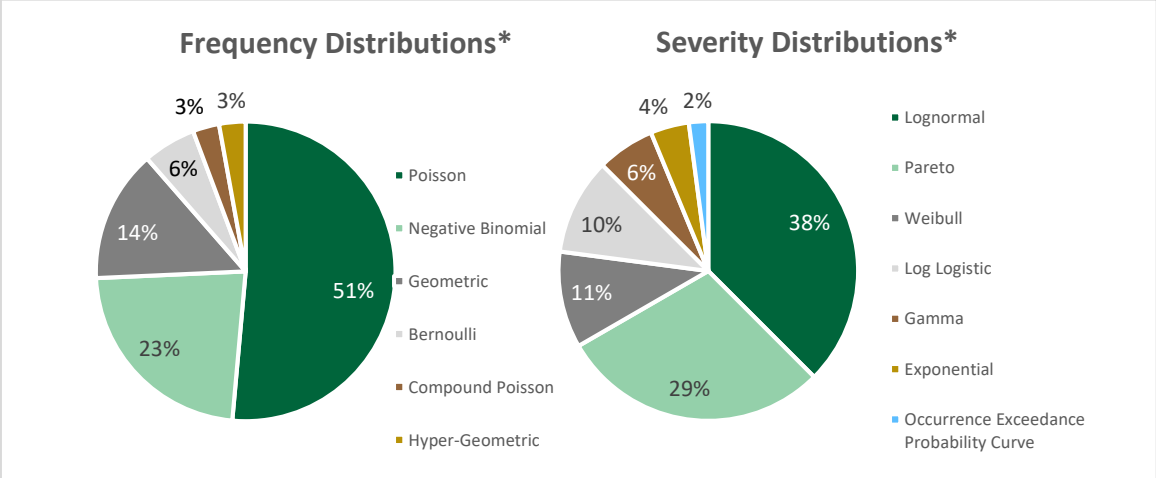


It can be seen that among all treaty types purchased by insurance companies, appointed actuaries concluded that current Quota Share arrangements for a large number of insurance companies are inefficient.

SAMA expects the Board of Directors to seek to fully understand the rationale behind the recommendation of its Appointed Actuary and actively consider those changes, with due consideration of the reinsurance market conditions and of the Company's own risk appetite.

3.3 Distribution of Frequency and Severity

SAMA continues to encourage appointed actuaries to enhance sophistication of modelling techniques when performing the analysis to optimize the existing reinsurance arrangements. The graph below shows the range of statistical distributions used by appointed actuaries for modelling the frequency and severity of claims.



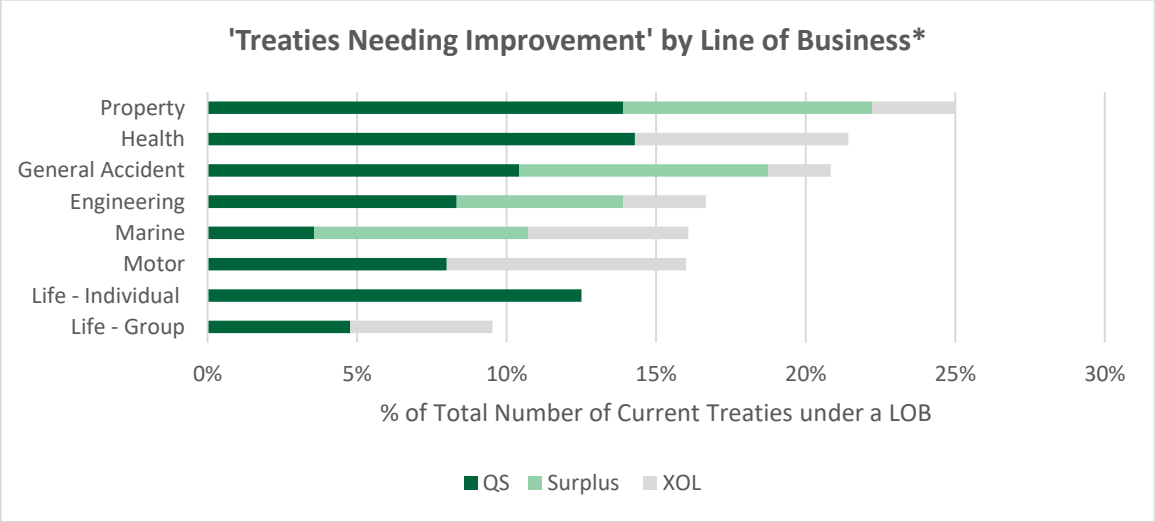
* In last year's DEAR CEO letter, this distribution was shown as a proportion of total number of treaties; this year, the statistics have been refined to count the number of distributions by company in order to avoid double counting of statistical distributions for an insurance company.

For Frequency modelling, Poisson was the most commonly used distribution, followed by Negative Binomial and Geometric distributions. For Severity modelling, Lognormal was the distribution of choice for many, followed by Pareto distribution.

SAMA expects each Appointed Actuary to remain abreast of the latest professional developments in the area of reinsurance optimization and continue to explore and implement more sophisticated modelling techniques.

3.4 Percentage of Treaties Recommended for a Change by Line of Business

The graph below shows the LOB-wise distribution of those treaties where a change in the existing structure was recommended by the Appointed Actuary.



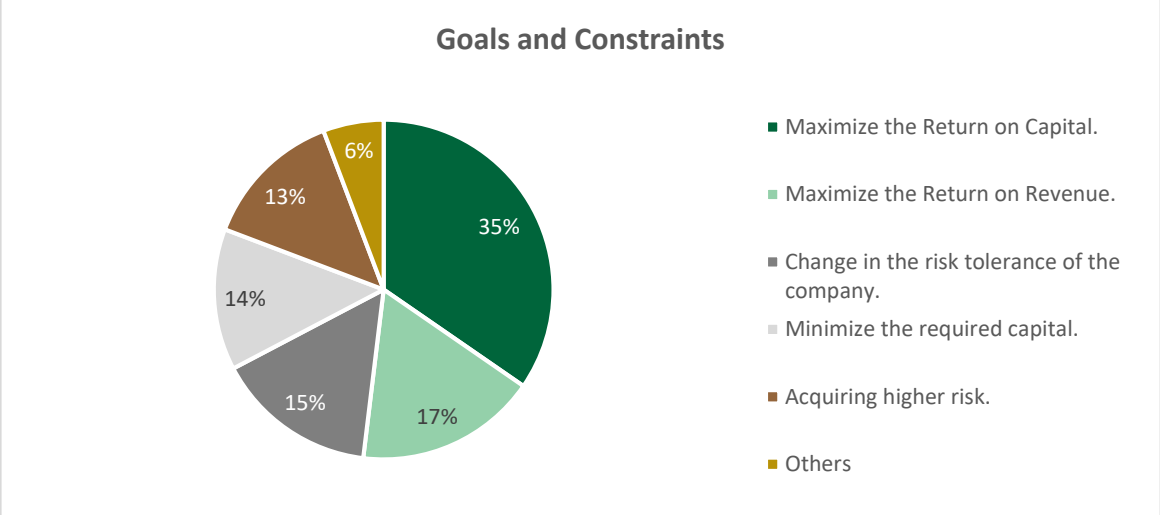
* In last year's DEAR CEO letter, the proportions shown were based on individual treaty type within each LOB, e.g., if 5 XOL treaties out of a total of 10 XOL treaties were recommended for a change, then the proportion was counted as 50%; whereas this year, if 5 XOL treaties out of total of 25 treaties (of which 10 are XOL) are recommended for a change, then the proportion was counted as 20%.

Property, Health, and General Accident LOBs were identified by appointed actuaries as those where the highest proportion of treaties require improvements. For the majority of lines of business, proportional treaty arrangements (Quota Share and Surplus) formed greater proportion of the treaty structures deemed 'sub-optimal' than non-proportional (Excess of Loss) arrangements. Some of these inefficient structures could be driven by bouquet arrangements between insurance companies and their reinsurers.

SAMA expects management to consider the optimal treaty structure for each line of business individually so that any decision around purchasing a bouquet of treaties can be taken from an informed position.

3.5 Goals and Constraints

In order to perform the actuarial analysis for treaty optimization, it is important for the Board of Directors and senior management to set a clear goal for the Appointed Actuary. The graph below shows the distribution of goals used by appointed actuaries to guide their analysis.

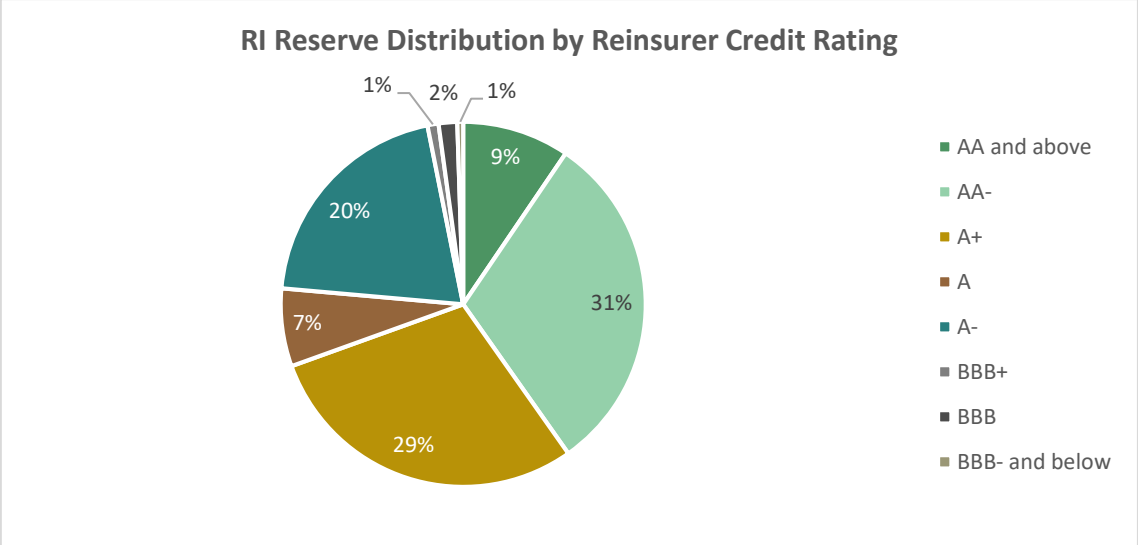


It can be observed that the majority of appointed actuaries aimed to maximize the return on capital, followed by the return on revenue and revised risk appetite of insurance companies, as the goal for their reinsurance optimization analysis.

SAMA expects the Board of Directors and senior management to set clear goals for the Appointed Actuary so that the output generated is in line with the expectations and business requirements of management.

3.6 Reinsurers' Panel

The graph below shows the distribution of reinsurance reserves by the credit rating of those reinsurers. The credit ratings shown follow S&P rating scale.



It can be observed that the insurance companies cede the bulk of the reserves (IBNR + Case Reserves) to high-grade reinsurers, thus reducing their default risk. This is an important consideration under IFRS 17 where an insurance company must make allowance for the risk of non-performance by its reinsurer(s) when estimating the reinsurance contract assets.

SAMA expects the Board of Directors and senior management to seek to understand the impact of credit rating of its reinsurers on the reinsurance contract assets under IFRS 17, and ensure that its selection of reinsurers considers the attractiveness of the terms & conditions as well as the financial strength of the reinsurer, while also complying with the relevant SAMA regulations in this regard.

4. Solvency & Capital Report 2022

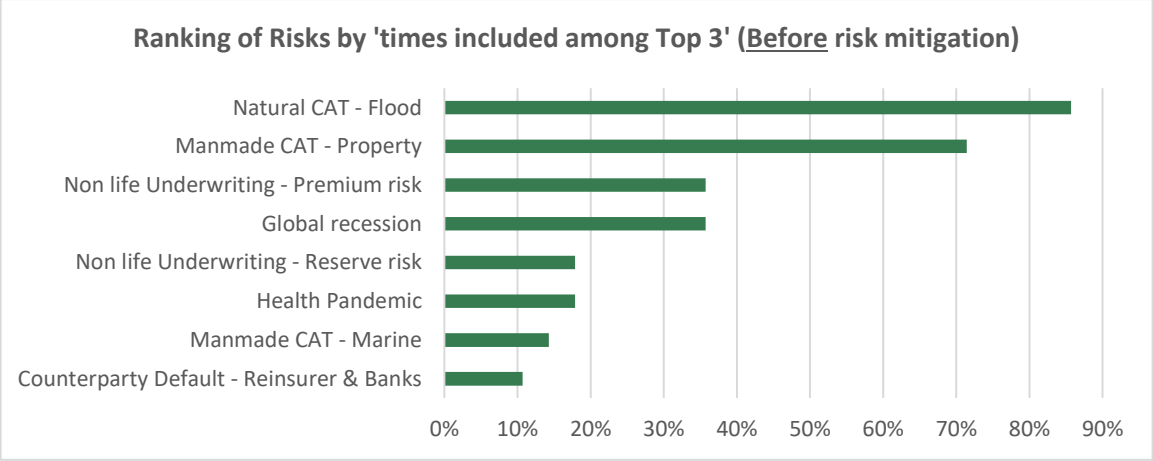
The Actuarial Work Rules introduced a requirement for the Appointed Actuary to investigate and advise the Company on its solvency position and identify all major risks the Company is exposed to using a range of actuarial techniques. A Stress & Scenario Test (SST) framework was introduced by SAMA in 2020 to facilitate the Appointed Actuary in fulfilling this requirement.

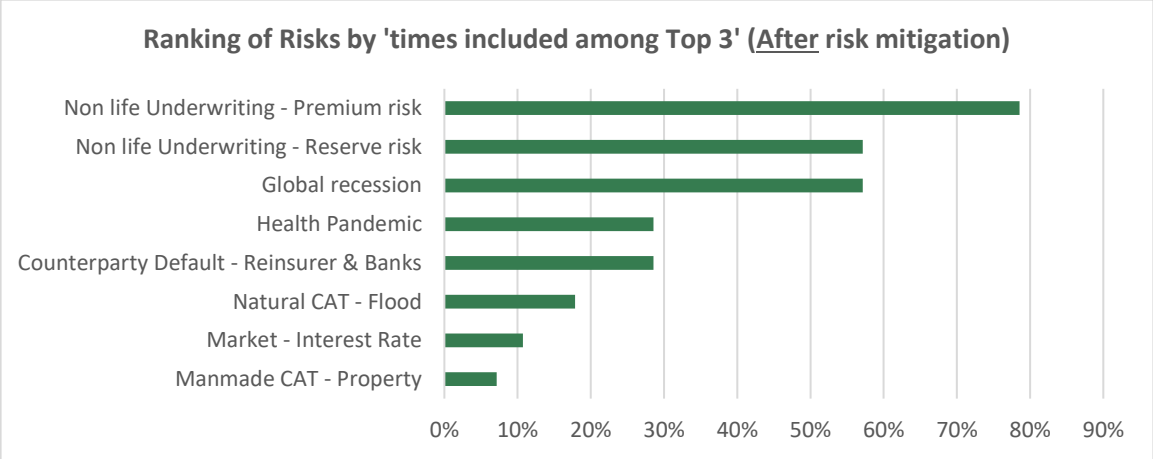
In year 2022, this framework was significantly enhanced, allowing for correlation and diversification between risks, in order to produce an 'indicative' risk-based capital. The above enhancement is expected to facilitate the sector's move towards a risk-based capital regime from an informed position, as the results of the above exercise provide insurance companies with an early view of the potential transition impact. Moreover, the framework is expected to be refined and re-calibrated going forward in the light of the above results.

Subject to the parameters used in the above framework, the results of the above exercise also enable each insurance company to identify its largest risk exposures, and evaluate the effectiveness of its risk mitigation strategies in the face of stressed business environment caused by extreme events. The study also provides useful insights to SAMA as regards the vulnerabilities of insurance companies to various risks.

4.1 Top risks for Insurance Companies

The graphs below show instances of each risk being counted among the top three risks by insurance companies, both before and after the impact of risk mitigation (i.e., reinsurance & hedges).



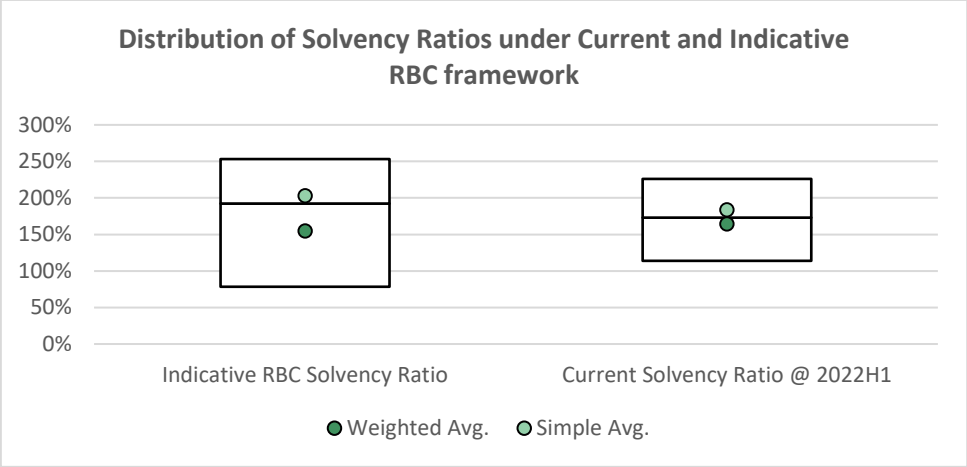


Before allowing for reinsurance recoveries, the Flood risk is ranked at the top in the list of risks that are counted among the top three risks for insurance companies. After allowing for reinsurance recoveries, however, the Flood risk falls to the sixth position, thus highlighting the importance of having adequate natural catastrophe cover in reinsurance treaties, including but not limited to Hours clause, Follow-the-Fortune clause, etc.

After allowing for reinsurance recoveries and risk-hedging activities, the Non-life Premium risk (i.e., risk of experiencing a higher loss ratio than that assumed in pricing) is ranked at the top, followed by the Non-Life Reserve risk (i.e., deficiency in reserves). The risk of losses due to global recession is ranked at the fourth and third position before and after risk mitigation scenarios respectively.

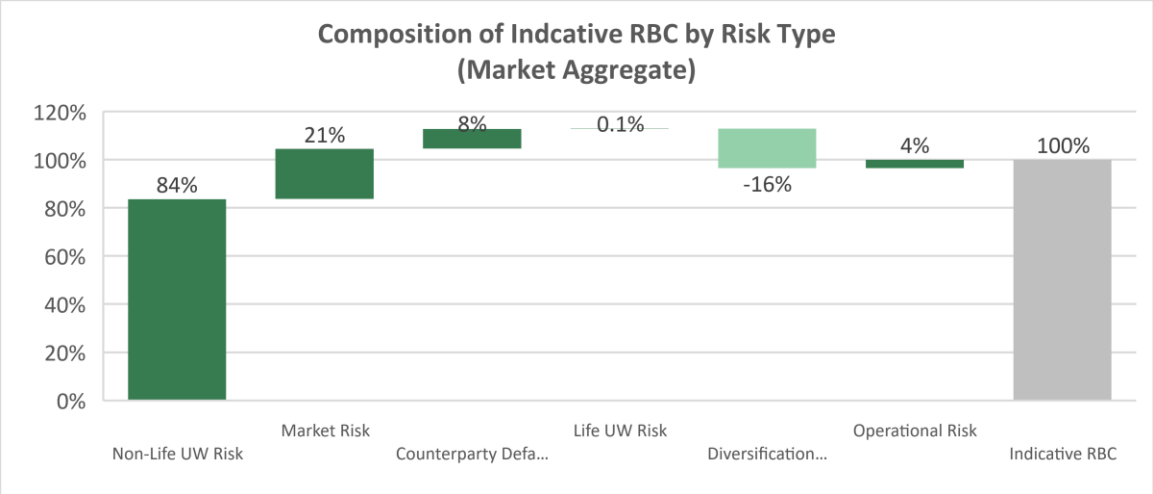
4.2 Current Capital Requirement v 'Indicative' Risk-Based Capital

The graph below shows the distribution of solvency ratios for insurance companies under the current capital requirement rules and compares it with the solvency ratio calculated using the 'indicative' risk-based capital (RBC) framework.



The impact of the indicative RBC resulted in a wider interquartile range than under the current solvency regime, implying its greater responsiveness to the risk profile of individual insurance companies. While some companies are seen to improve their solvency ratio, it is important to note that some companies, deemed solvent under the current framework, would be required to raise capital under the revised framework as they fall below the 100% solvency ratio mark.

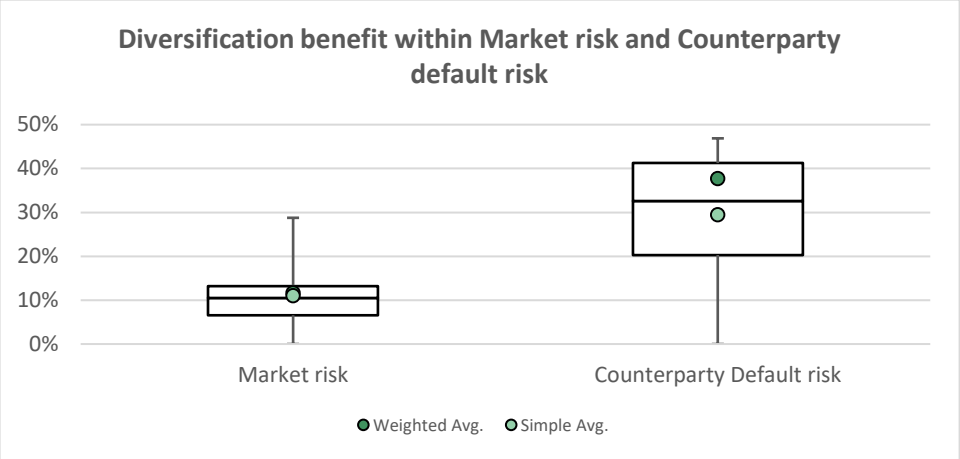
The graph below shows the share of each risk and the benefit of diversification in deriving the 'indicative' risk-based capital for the insurance sector in aggregate.



The Non-life Underwriting risk (i.e., premium, reserve and catastrophe risk) is identified as the most significant risk for the insurance sector, followed by the Market and Counterparty Default risks.

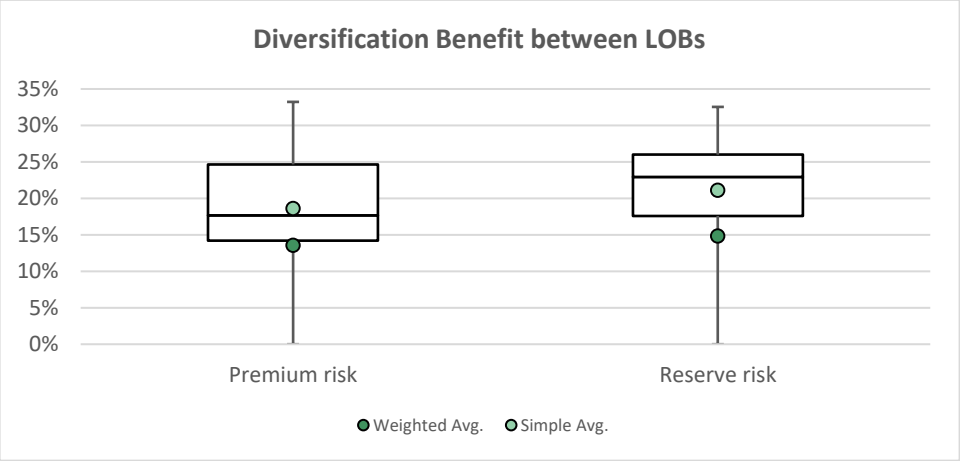
4.3 Diversification benefit within Risk Types

The graph below shows the range of diversification benefit achieved by insurance companies for the Market and Counterparty Default risks for their respective books.



For the Counterparty Default risk, there is a relatively wide inter-quartile range, implying some companies using more effective risk diversification strategies than others, for example, by using a well-balanced reinsurance panel. On the other hand, the Market risk is much less diversified for the insurance sector in aggregate, making it a possible area of improvement for insurance companies.

The graph below shows the diversification benefits between lines of business for the Premium and Reserve risks.



It can be seen above that insurance companies can achieve significant reduction in the risk-based capital, both for the Premium and Reserve risks, by underwriting a well-balanced book of business, whereas for mono-line companies, this benefit reduces to 'nil'.

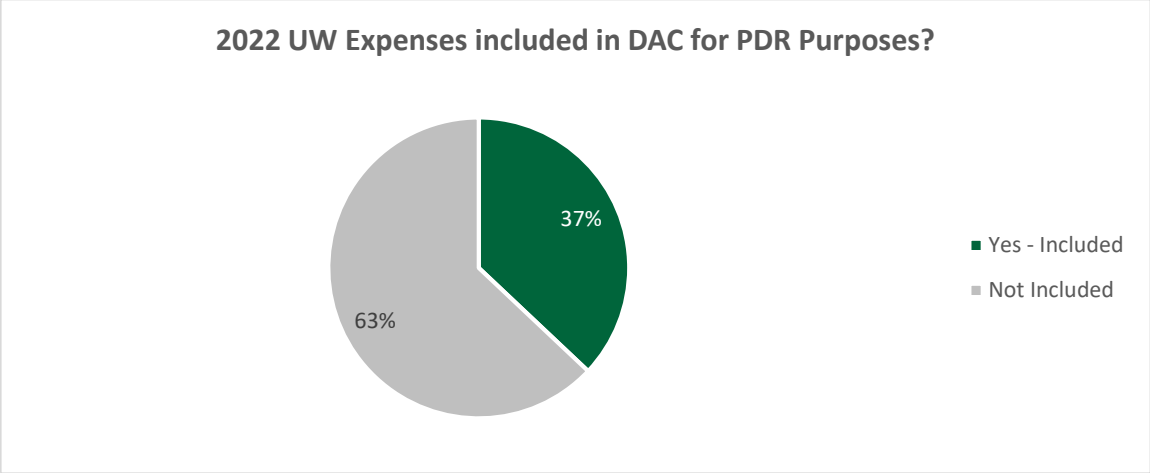
SAMA expects management to carefully consider the results of the above exercise for shaping its business strategy and risk mitigation arrangements. SAMA also expects management to analyze the capital resources currently available against those indicated by the above exercise, and hold discussions to identify options for meeting any potential shortfalls if the need arises in the future.

5. Experience Studies Report 2022

5.1 Acquisition Cost for PDR Purpose

Under the Actuarial Work Rules, an Appointed Actuary is required to perform an annual expense analysis, with the objective of deriving appropriate expense assumptions for use in actuarial reserving and pricing.

An important use of expense assumption is in determining the Premium Deficiency Reserves (PDR) or going forward under IFRS 17, the onerosity of group of insurance contracts and, if so then, the loss component. A consideration in deriving that assumption is whether to treat underwriting expenses incurred in acquiring business as part of the deferred acquisition cost (DAC), as doing so leads to a higher expense ratio assumption and likely a higher PDR.



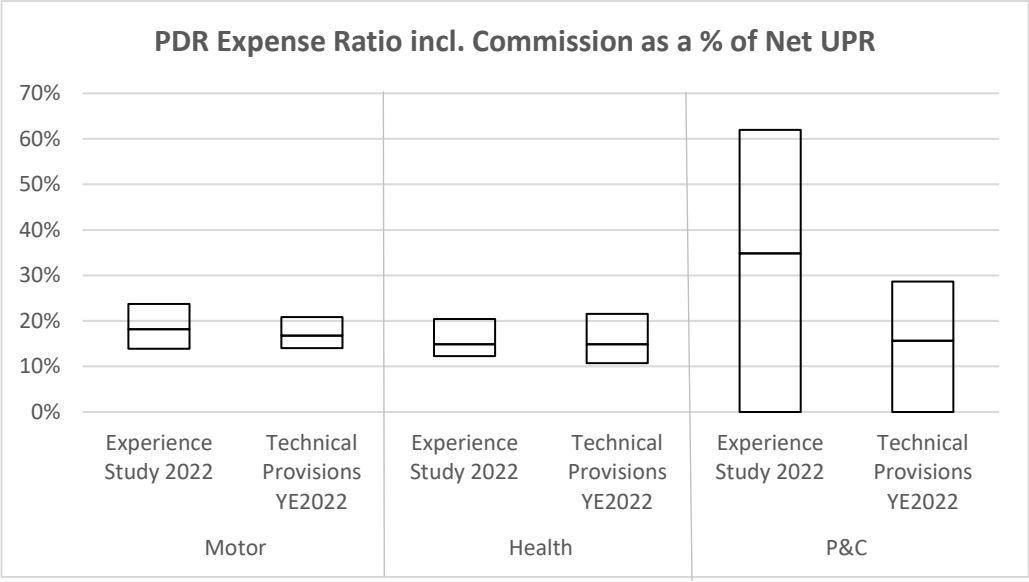
Similar to that observed last year, while the majority of insurance companies continue to exclude the underwriting expense incurred in acquisition of business from the PDR expense assumption, more than one-third of the market has adopted an opposite approach that is likely to result in a higher PDR than the rest (assuming everything else being equal).

It is expected that, courtesy of recommendations issued by the IFRS 17 Working Group in respect of expense attribution, the above difference in approaches can be reduced or altogether removed going forward. SAMA expects both Finance and Actuarial functions to closely follow the emerging industry best practice in this regard.

5.2 Expense Ratio for PDR Purpose

The graph below shows the inter-quartile range, including median, of the expense ratio assumptions used in the calculation of PDR at year-end 2022 and those calculated by the

Appointed Actuary in the experience study 2022 in advance for use in the year-end 2022 reserving exercise.



The biggest difference between the two studies was observed for the P&C business, both in terms of the variation in interquartile range and the shift in median. Based on our discussions with appointed actuaries, some of this distortion could be due to incorrectly populating the SAMA Experience Study template.

Comparing the three segments, while marked differences are observed between medians of the three segments in the Experience Study results, similar median values of PDR expense ratio are observed in the year-end technical provisions. A lower PDR expense ratio assumption (25th percentile and median) for Health than for Motor could also be due to some companies not including the TPA fee for claims management in their expense ratio assumptions under the argument that those amounts are charged upfront.

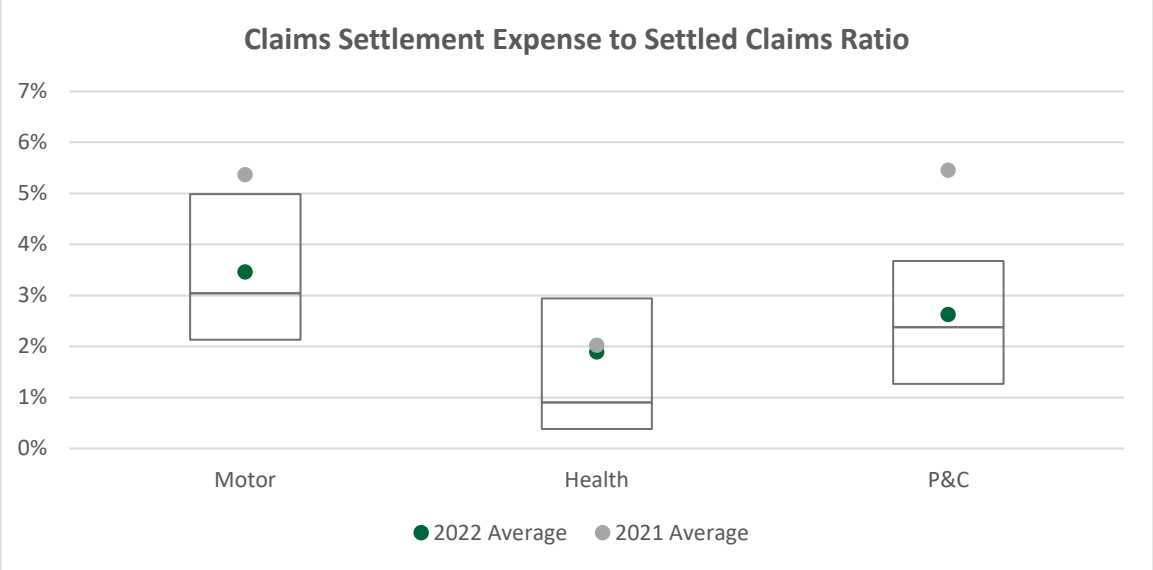
SAMA expects each Appointed Actuary to carry out the expense analysis part of the Experience Study Report diligently, so that the need for revision and updates can be minimized at the year-end, thus saving time and effort.

5.3 Unallocated Loss Adjustment Expense (ULAE) Reserve

SAMA requires all appointed actuaries to estimate an appropriate provision for expenses that will be incurred in the future in settling the incurred-but-yet-to-be-settled claims, comprising both outstanding and IBNR claims.

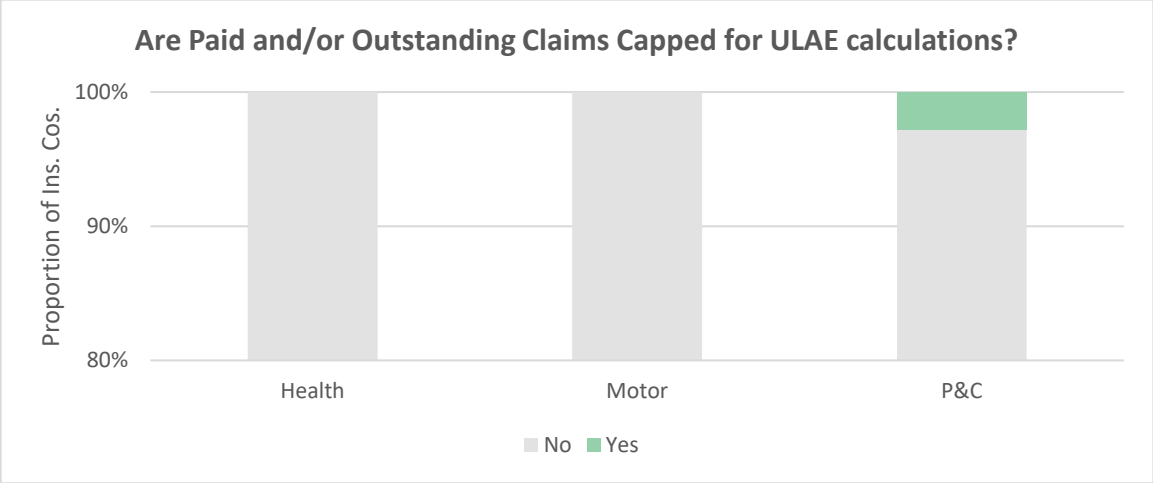
A common actuarial technique for estimating the above provision is to refer to the expenses incurred in respect of the claims already settled, i.e., the ratio of paid claims

settlement expenses to paid claims amount (Paid-to-Paid ratio). The graph below shows the range of Paid-to-Paid ratio for various lines of business used by appointed actuaries.



It can be observed that Motor line of business has the largest variation in the Paid-to-Paid ratio among insurance companies. As regards the median and average ratios, Health line of business has the lowest values, possibly in part due to TPA expenses considered as part of the acquisition cost since those are charged upfront. Moreover, the average ratios for Motor and P&C lines have reduced compared to 2021, whereas Health line of business has similar values. One possible reason for the reduction could be the increased focus on expense assumptions under IFRS 17 dry runs, leading to some refinement of those ratios.

Moreover, if a Company experiences a very large claim, the cost of settling that claim is unlikely to grow in direct proportion to the size of the claim. To recognize this likely scenario, when applying the ULAE percentage to the claim reserves in order to set the reserves for claims settlement expenses, some actuaries apply a cap on the individual claim amounts in order to avoid overstating this provision. The graph below shows the distribution of approaches used by appointed actuaries:



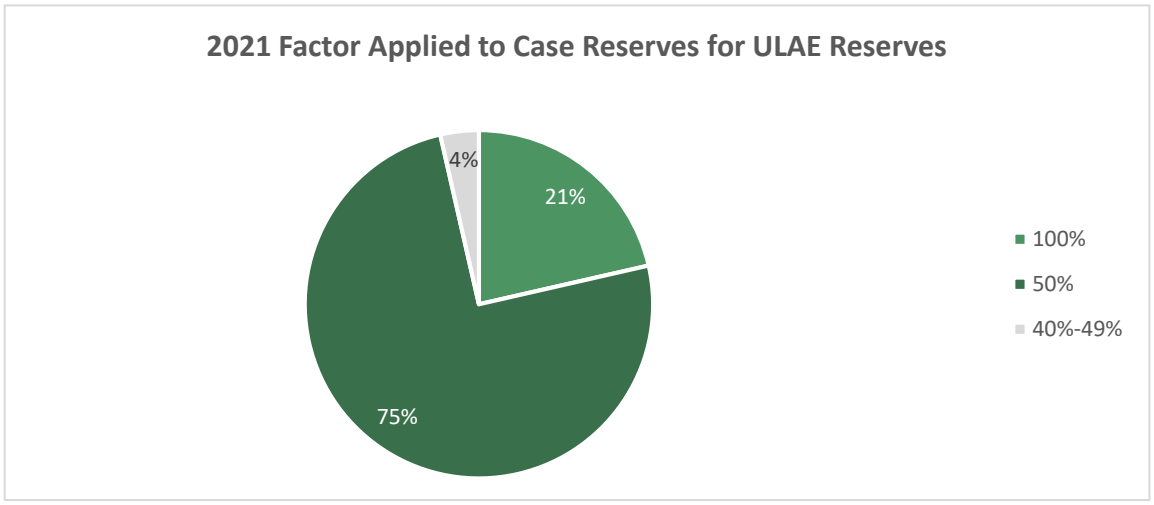
As expected, the said cap has been used for P&C class of business only as it is exposed to much bigger losses than under Motor or Health. However, given the very few appointed actuaries considering this refinement suggests it to be a potential area of improvement for all other appointed actuaries.

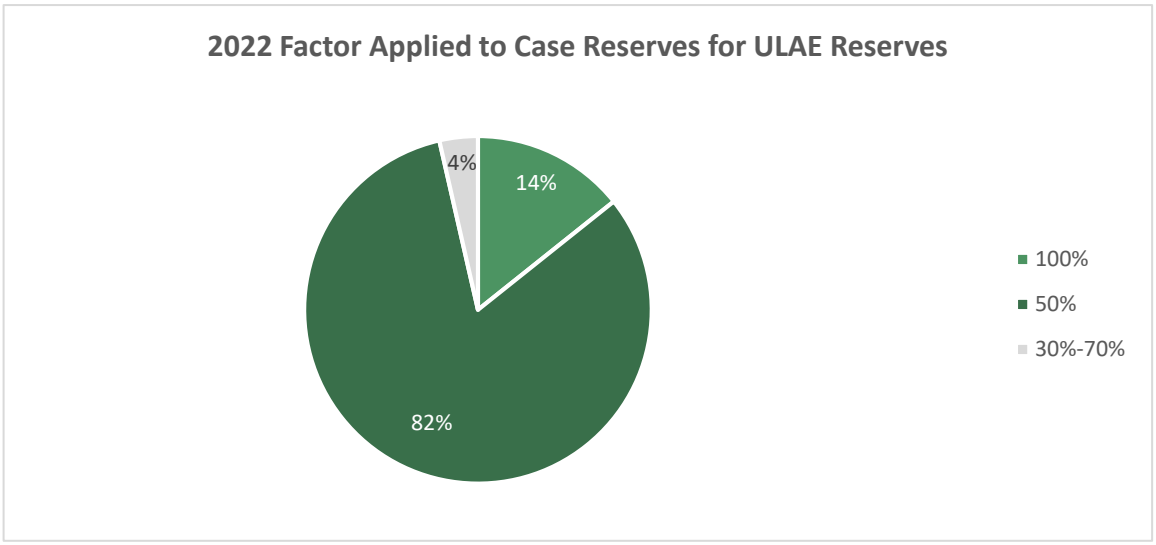
SAMA expects each Appointed Actuary to continue to refine the calculation of unallocated loss adjustment expense reserves in light of the benchmark comparisons and industry best practices.

5.4 Factor applied to Case Reserves

When setting the provision for unallocated loss adjustment expense, a usual consideration for actuaries is whether to differentiate between the outstanding claims and IBNR claims. Proponents of this differentiation argue that the expense provision should be lower for outstanding claims than for IBNR claims, since a part of total claims settlement expenses is already incurred in opening a claim and maintaining its record.

The graphs below show the distribution of companies based on whether they differentiated between the expenses assumptions for outstanding claims and IBNR claims for year 2022 and its comparison with the previous year.



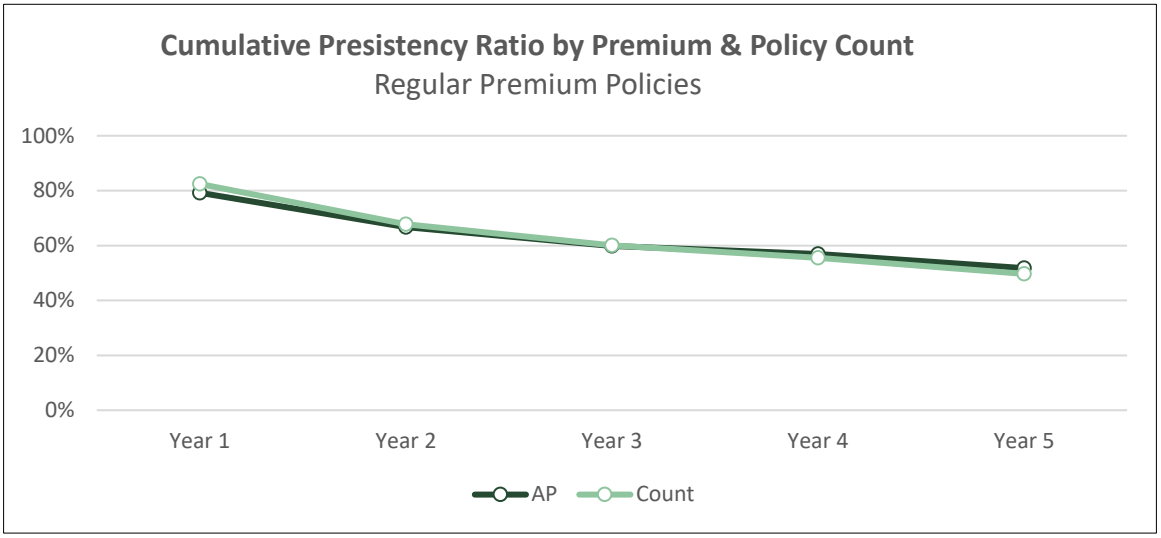


It can be observed that there is an increase in the number of insurance companies that differentiated between outstanding claims and IBNR claims when setting the provision for unallocated loss adjustment expense. When differentiating, all but one insurance company assumed that, when incurred in the future, unallocated settlement expenses for outstanding claims will be one-half of those for IBNR claims. Only one insurance company varied the factors applied to the outstanding claims by line of business.

SAMA expects each Appointed Actuary to continue to learn from the market best practice and benchmarking comparisons and refine the assumptions for setting the provision for unallocated loss adjustment expenses.

5.5 Persistency (Long term Life)

For long term Life insurance business, the graph below shows the average persistency ratio at each policy duration since issue, both by (annualized) premium and by policy count, for regular premium products.

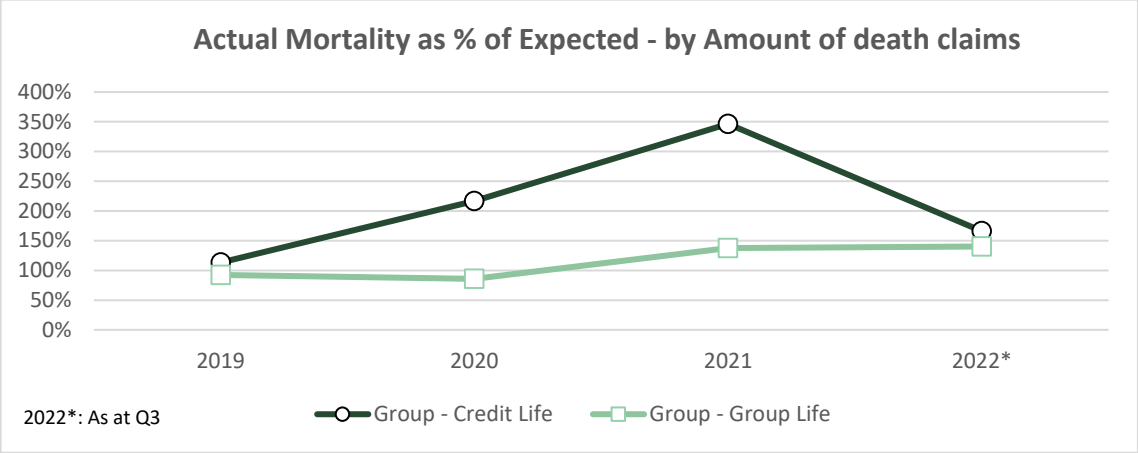


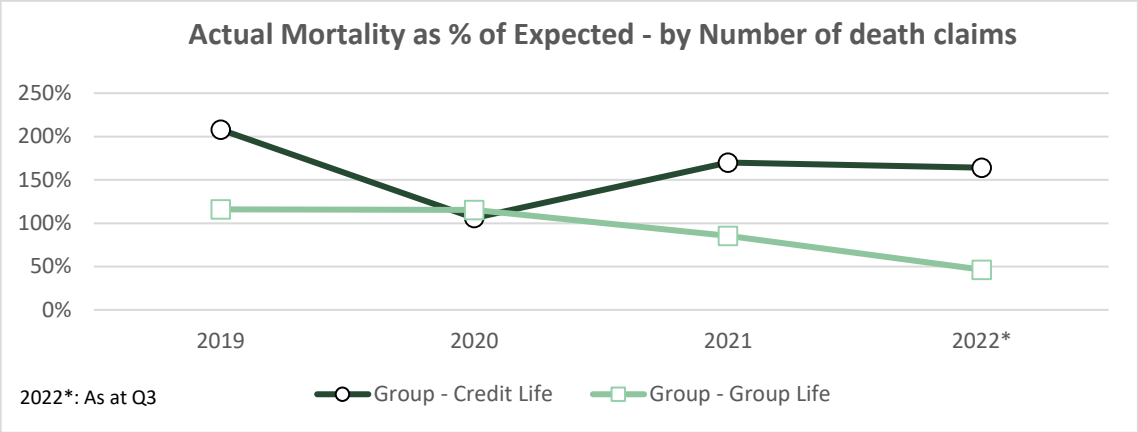
It can be observed that the average customer retention remains very low, possibly indicating poor customer satisfaction. By the end of the fifth year, more than two fifth of the total policies issued lapse. There is no marked difference between the above measure by premium and by policy count, implying that both high premium policyholders and low premium policyholders exhibit similar levels of dissatisfaction.

SAMA expects that management will invest in training of its marketing staff and in improving the value of its product offerings in order to improve the extent of customer satisfaction with those products and, in turn, the persistency ratios in the market.

5.6 Mortality (Group Life and Group Credit Life)

The graphs below shows the comparison of 'actual mortality' experience with 'expected mortality' based on the assumptions used by the Appointed Actuary, in terms of both the number of claims and the amount of claims using weighted average.





Note:The statistics shown in the above graphs are cumulative for all those companies writing group life and group credit life business

The actual mortality experience by both amount and number of death claims shows a material deviation from that estimated by appointed actuaries for Group Credit Life business. For Group Life business, while the number of death claims have been favorable compared to the expectation in the recent years, the experience by amount has been materially adverse.

SAMA expects the Appointed Actuary to continue to closely monitor the emerging mortality experience and, in conjunction with the Underwriting function of the insurance company, consider improving the pricing and/or underwriting basis as necessary.

5.7 Protection and Saving Pricing Report

As part of the AWR 2020 requirements, each Appointed Actuary is required to carry out an annual pricing exercise for Protection and Savings business and submit the report to the Board of Directors and SAMA.

Our review of the above reports shows that, despite the checklist provided in SAMA's reporting template covering the expected minimum topics to be covered in the above report, there were gaps in some of the submitted reports, which can be summarized as follows:

- Data source and reconciliation were not clarified
- Assumptions and Methodologies were inadequately mentioned
- Reinsurance and Underwriting considerations were not covered
- Sensitivity analysis was not performed
- Final Premium Rates recommended by the Appointed Actuary were not stated
- Few appointed actuaries mentioned explicitly 'non-compliance' with AWR requirements under the argument of small business volume
- Heavy reliance on reinsurers for pricing of Group products and thus lack of ownership by the Appointed Actuary of the prices recommended

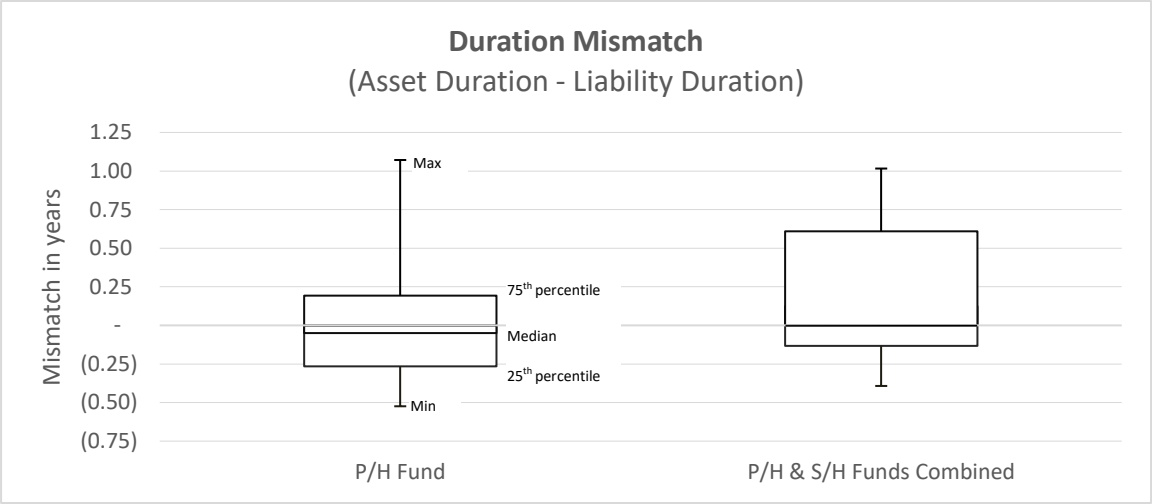
In the light of the above observations, SAMA expects the Appointed Actuary to improve the quality of the Protection and Savings pricing report, comply with the relevant SAMA instructions, and adhere to the actuarial reporting standards of his/her respective professional body.

6. Investment and Asset Liability Management Report 2022

Under the Actuarial Work Rules 2020, an Appointed Actuary is required to coordinate with the Investment Committee and investment manager to provide recommendations to the Company's senior management and Board of Directors regarding the Company's investment policy and asset liability management strategy, keeping in view the nature and timing of assets and liabilities and the availability of appropriate assets.

6.1 Asset-Liability Duration Mismatch

The graph below shows the mismatch between the asset and liability durations, separately for the policyholder fund and for the policyholder and shareholder funds combined, depicting the median, inter-quartile range, and minimum and maximum values for each category.

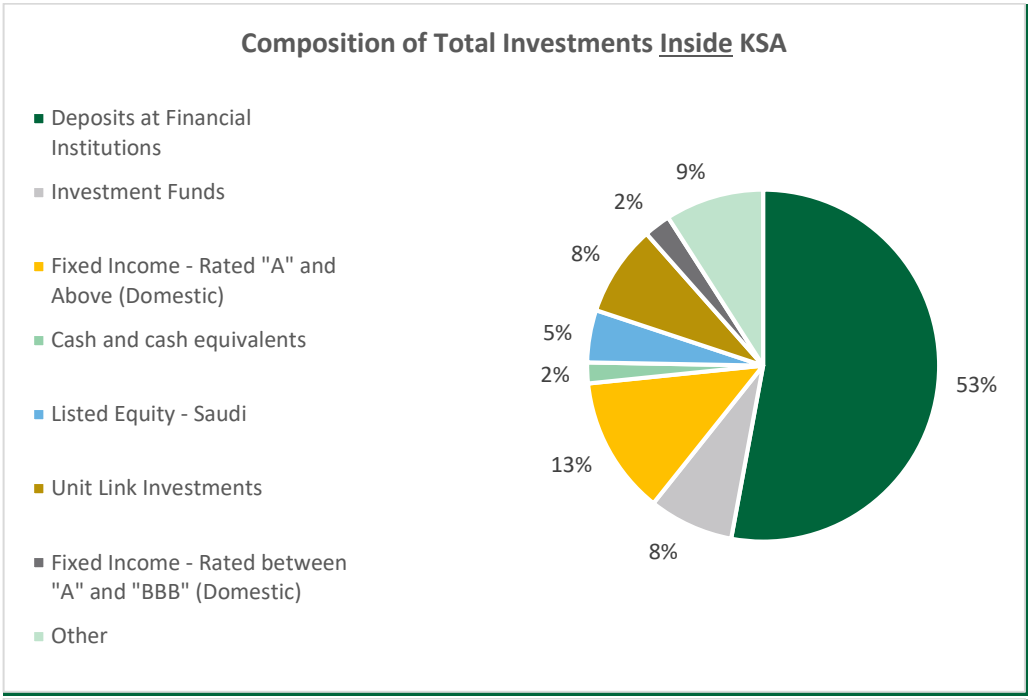


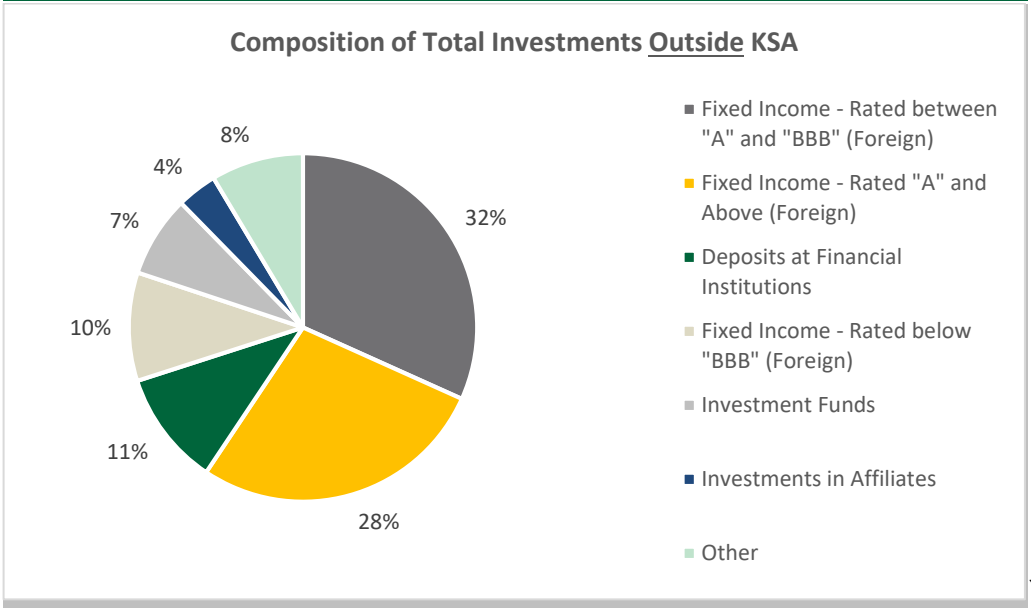
It can be observed that assets and liabilities of the policyholder fund are relatively closely matched. The median at just below zero and a narrow interquartile range indicate that insurance companies match their investments closely with the duration of their liabilities. For the policyholder and shareholder funds combined, a wider interquartile range shows the willingness of insurance companies to take more risk with the shareholder funds in order to increase the yield on investments.

Moreover, there is at least one insurance company where the duration of policyholder assets exceeds the policyholder liability duration by more than one year, exposing the Company to material liquidity risk. It is expected that the relevant controls within the Company, including Risk Function, will have a closer look at it.

6.2 Investments Inside versus Outside the Country

The graphs below show the difference in the composition of domestic and foreign investments by insurance companies in aggregate.



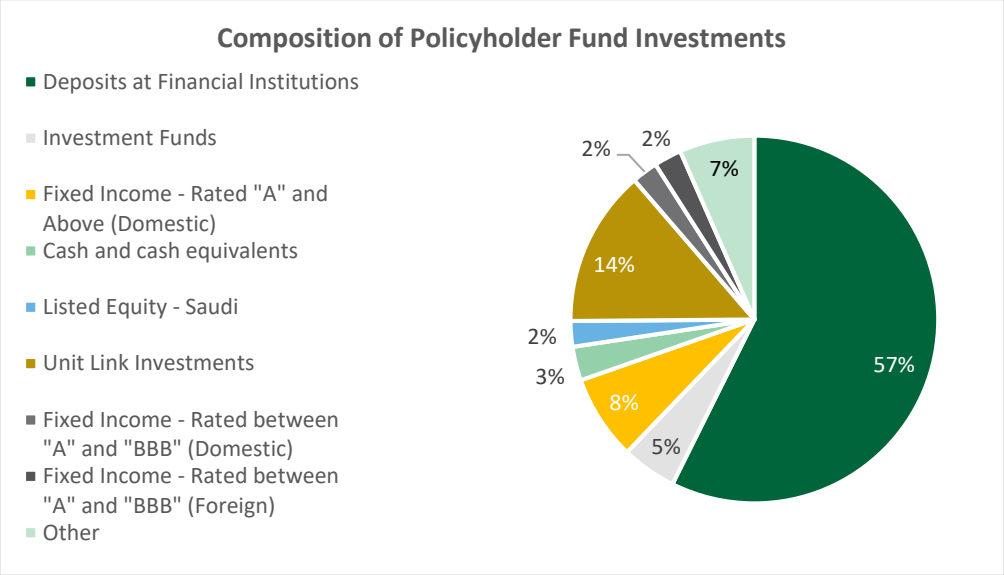


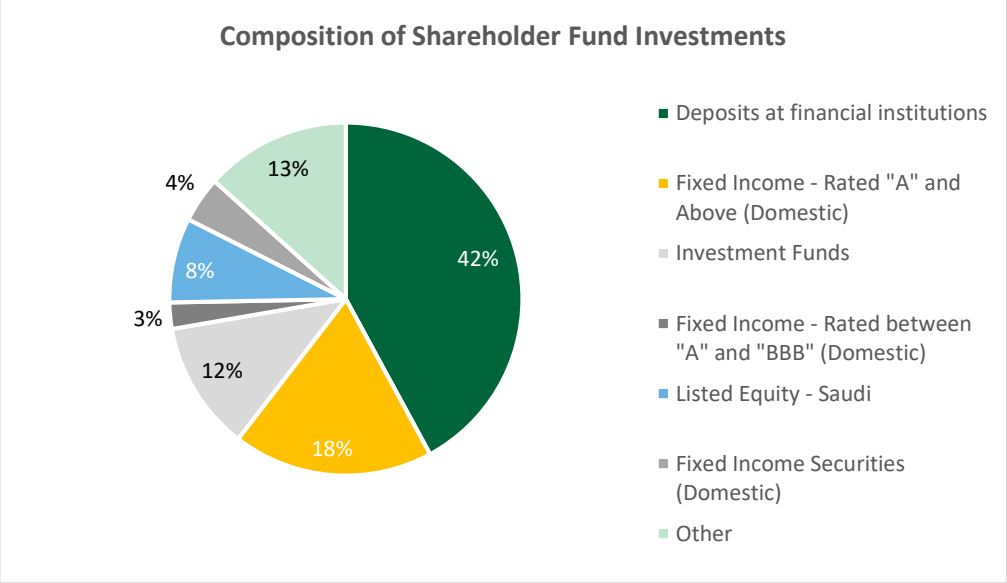
When investing domestically, deposits at financial institutions continue to be the first choice for insurance companies, which is probably a combination of liquidity needs commensurate with short term liabilities of insurance companies, limited availability of sophisticated investment instruments, and restrictions imposed by SAMA regulations.

When investing abroad, it appears that decision is driven by high yields on fixed income securities, as these have the largest share. When doing so, it appears insurance companies generally aim for securities rated at least BBB or above, thus maintaining the quality and security of the investment portfolio.

6.3 Composition of Investments of Policyholder Fund versus Shareholder Fund

The graphs below show the difference in the composition of investments between policyholder fund and shareholder fund for all insurance companies in aggregate.





It can be observed that although both funds have their biggest share of investments in the form of deposits with financial institutions, the share of fixed income securities is markedly higher in Shareholder Fund than Policyholder Fund, explained by the factors mentioned previously under 6.1 and 6.2 above. Moreover, the share of equities is materially higher for Shareholder funds than Policyholder funds, reflecting the ability and appetite of the former to take on more risk than the latter.

SAMA expects,

- *the Appointed Actuary to perform thorough analysis and provide clear recommendations to the investment team and senior management that are insightful and assist in informed decision-making in the process of making suitable investments;*
- *the investment team, senior management and Board of Directors to seek to understand the recommendations made by the Appointed Actuary, including implications of the current investment choices and alternatives available on the Company's ability to meet its liabilities with sufficient confidence and in a timely manner.*
- *the Control functions within the Company to assess the Company's position against the market benchmarks above and where the Company is an outlier, seek justification or corrective action from the investment team, as appropriate.*

7. Actuarial Resources Survey 2022

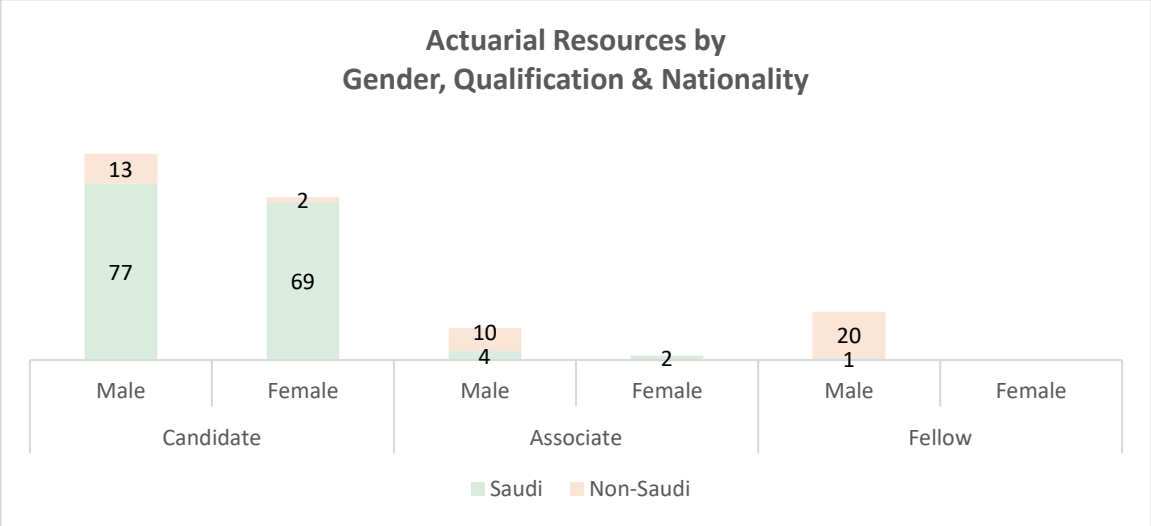
Recognizing the need for a strong actuarial community in order to support the growth of Saudi insurance sector on sound technical basis, SAMA stipulated through the Actuarial Work Rules 2020 that each insurance company shall recruit at least one fully qualified (i.e., Fellow) actuary, supported by at least three Saudi actuarial students (i.e., Candidates).

In subsequent years, all appointed actuaries operating through Actuarial Service Provider companies were encouraged by SAMA to register their offices in the Kingdom and develop local actuarial teams, with complementing the above SAMA efforts being one of the objectives. The majority of these local offices were established during 2022.

In order to gauge the success of and compliance with the above measures, every year SAMA carries out a survey of the actuarial resources and the actuarial study support program offered by employers. The graphs below show the results of the survey conducted by SAMA in December 2022.

7.1 Actuarial Resources

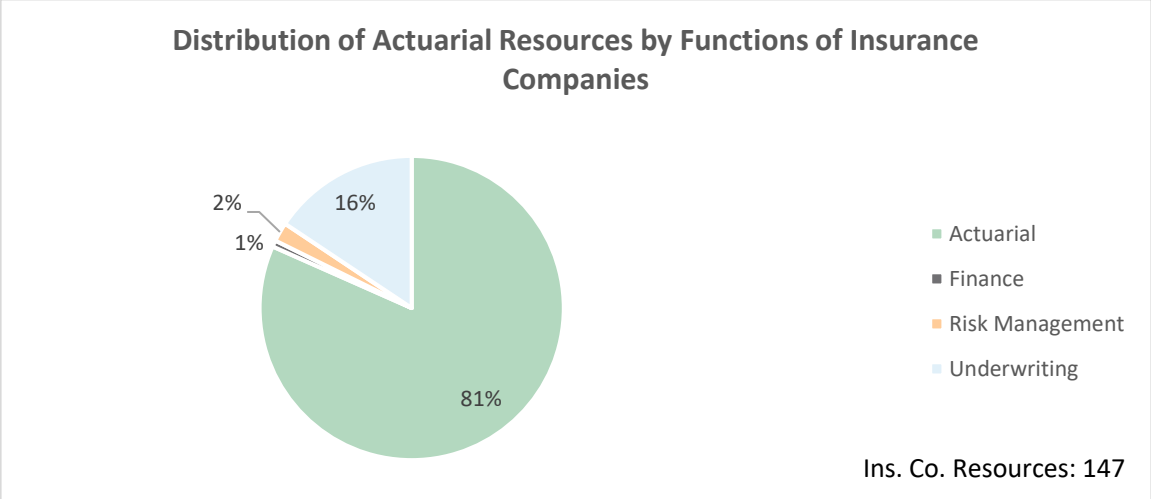
Currently, there are **198** actuarial personnel working at Insurance Companies and Actuarial Service Providers in Saudi Arabia, up from 143 in 2021 and 51 only in 2017 when the first survey was carried out. The graph below shows the distribution by gender, nationality and qualification.



It can be seen that the above measures have injected a healthy number of Saudi actuarial candidates, both males and females, into the profession. Under the guidance of recently-recruited Fellow actuaries of insurance companies and actuarial-service providers, it is expected that many of those candidates will progress, both academically and technically, over time and become thorough qualified actuaries.

7.2 Actuarial Resources by Function at Insurance Companies

Over time, it is expected that actuarial skills are deployed not only for the core actuarial work but actuaries will also enrich other activities at an insurance company with their unique skills. Below is the current distribution of actuarial resources at insurance companies by function they operate in.

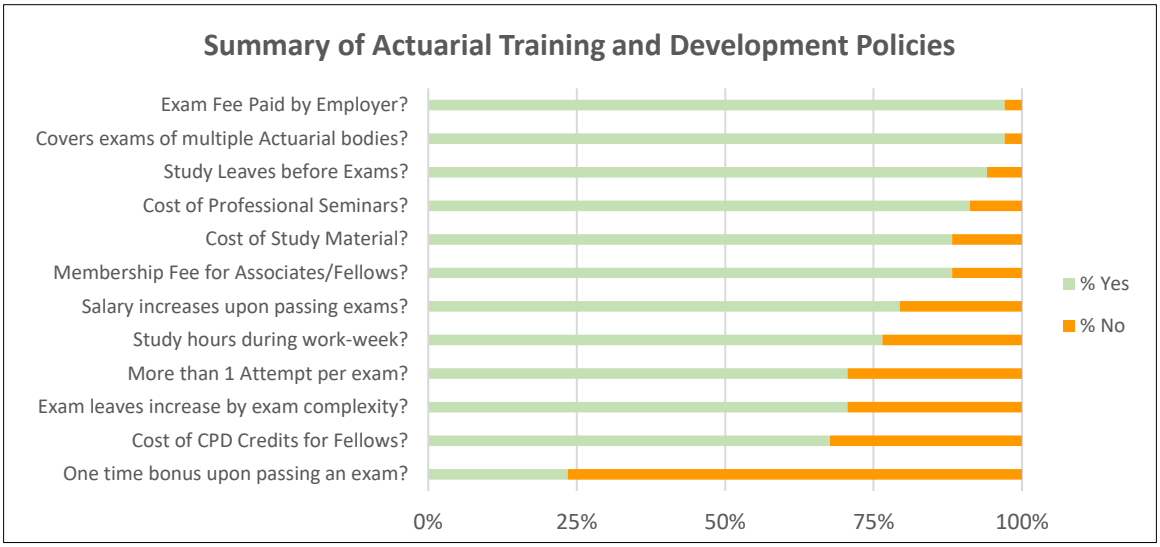


While the majority of actuarial resources sit within Actuarial functions, a sizable number also sits within Underwriting functions. While this spread may be desirable, it is also important to have clear differentiation between administrative reporting and technical reporting for those actuarial resources sitting outside Actuarial functions in order to uphold the high standards of the profession.

7.3 Actuarial Study Support Program

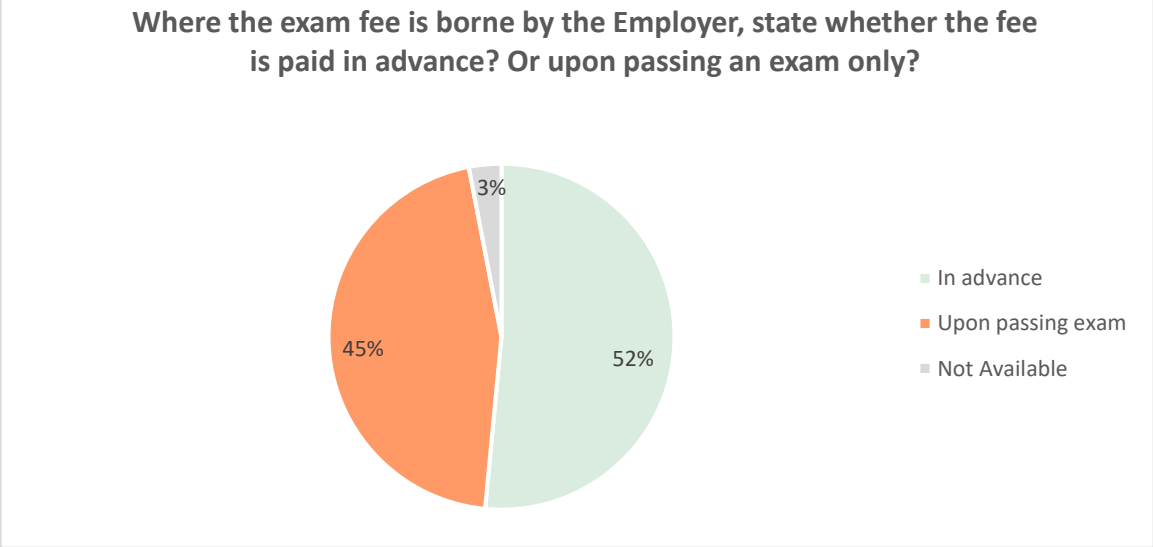
In line with the global practice of employers to nurture the actuarial profession, under the Actuarial Work Rules 2020, SAMA required all insurance companies to roll out an appropriate training and development policy for its Actuarial function so that the tough grind required to become a Fellow actuary can be adequately supported and incentivized.

The graph below shows a summary of training and development policies adopted by insurance companies and actuarial service providers.



While a broad alignment can be observed among employers in many areas of the policy, large differences are observed in some areas. While there have been concerns expressed by some employers as regards the high turnover of actuarial candidates, it is important to realize that the above differences in training and development policies can act as a catalyst for a candidate's continuity (or otherwise) with an employer.

Moreover, the progress and morale of actuarial candidates can be easily influenced by the way a particular policy is implemented. The graph below shows, where employers stated they bear the cost of exam fee, whether it is paid in advance or reimbursed only upon passing an exam.



Nearly one-half of all employers have a policy to reimburse the exam fee only upon passing. While this measure may have been introduced to ensure a candidate takes each

attempt seriously, this policy may have the adverse effect of slowing down a candidate's progress since the cost of each exam is substantial.

SAMA expects management of insurance companies and actuarial service providers to ensure an adequate actuarial training and development policy is in place that provides appropriate incentive to qualify as a Fellow actuary. It is expected that management will learn from benchmark comparisons with their peers and, where deemed necessary, will seek to improve and enhance the existing actuarial training and development policy.

Copy to:

- Appointed Actuaries
- Heads of Actuarial Functions