EIOPA Consultation Paper on draft Supervisory Statement on the use of risk mitigation techniques by insurance and reinsurance undertakings

AMICE response to the survey

Introductory Comments

1. This Supervisory Statement is the result of the analyses on the use of reinsurance structures by insurance and reinsurance undertakings that optimize the use of capital under the Solvency II framework, when the Solvency Capital Requirement (SCR) is calculated with the standard formula.

With this draft statement we understand that EIOPA intends to promote supervisory convergence and warn against possible excessive risk mitigation advantage. In this context, supervisors should refrain from creating additional constraints or limitations on the use of risk mitigation techniques.

The existing Solvency II framework provides strong safeguards against exaggeration of capital relief through risk mitigation techniques. Articles 208 to 214 of the delegated regulation set strict features to avoid undue capital relief through risk mitigation techniques. These articles provide guidance notably used by the actuarial and risk management functions to fulfil their respective role of justification of the relevance of Pillar 1 computations which are compared against the insurance undertaking’s own risk profile. Where standard formula computations are deemed insufficiently sophisticated to grasp the specificities of an insurance undertaking’s own risk profile an increase in sophistication is possible through more bespoke approaches such as USPs or partial internal models or internal models.

AMICE considers that no additional safety mechanisms are required for the standard formula; as a good compromise between risk sensitivity and simplicity.


No comment.

3. The aim of this statement is to promote supervisory convergence on the assessment of the use of risk-mitigation techniques as it is recognised that potential divergent practices or potential supervisory arbitrage in this area could contribute to an unlevel playing field.

We believe that any supervisory statement, if needed, shall be high level and concentrate on the criteria defined already in the existing legislation that the reinsurance risk mitigation techniques shall meet in order to be considered. Providing detailed rules or examples might appear inappropriate for regulating evolving practices in this area.
4. This Supervisory Statement raises awareness and ensures that while the insurance sector continues to use risk-mitigation techniques adequate to their risk profile, prudence and effective risk transfer is duly considered when recognising risk mitigation techniques in the SCR calculation.

No comment.

5. For insurance and reinsurance undertakings it is important to have an appropriate reinsurance policy in place, first of all as a proven concept of mitigating risks that the undertaking is not able to bear on its own, but also as an instrument to expand the current business and alongside to gain knowledge, via the reinsurance undertaking, of the latest developments in emerging markets and risks.

We agree that it is important for an undertaking to an appropriate reinsurance policy in place but the goal of the reinsurance program may vary across undertakings. One common objective could be, however, to mitigate the undertaking’s underwriting risks.

6. It is understandable that market participants seek to optimise their capital position within Solvency II, and reinsurance is a tool that can be used for that purpose. Inevitably, newly designed reinsurance structures are complex and challenging to assess, but if there is a real reduction in risk, it is reasonable that there should also be corresponding capital relief. When this is not the case those reinsurance structures may be seen as designed to arbitrage the regulation in place and the result might be an unbalance between risk reduction and capital reduction.

We would like to underline that reinsurance structures combining capital support and risk reduction are normal faces of reinsurance covers and not as such designed to arbitrage the regulation. Reinsurance is an effective risk and capital management tool.

EIOPA should neither provide disincentives for the use of specific forms of reinsurance that effectively mitigate risk nor create an administrative burden through excessive assessment on the limitations of the standard formula. We would suggest that any assessment should be based on materiality considerations, by taking into account the impact that the reinsurance contract creates on the overall risk profile of the undertaking.

We would also like to point out that the Solvency II regulation is benefiting from useful guidelines developed by EIOPA and that address key operational concerns in the application of outwards reinsurance notably under non-life catastrophe sub-module.
7. The use of risk mitigation techniques can have a significant impact on the SCR. For non-life insurance, it impacts the 'premium and reserve risk' and the 'catastrophe risk'. For life insurance, due to newly developed structures, reinsurance contracts or other contracts that are structured as reinsurance contracts can also impact other risk modules, for example 'lapse risk', 'longevity risk' or even 'expense risk'. The overall impact can significantly reduce the SCR of an insurance and reinsurance undertaking and therefore supervisory authorities are recommended to give appropriate attention to this subject.

The existing legislation, namely the articles in the Delegated Regulation and the EIOPA guidelines, established high-level principles that facilitate the ongoing development and evolution of reinsurance risk mitigation techniques within the supervisory framework whilst avoiding constrains on innovation and risk management. We would like to add that the very useful guidelines developed by EIOPA on the application of outwards reinsurance and that were mostly initially targeting non-life underwriting risks could be more clearly extended to life modules in order to address broadly typical issues such as checking that an insurance undertaking is not left with a gross risk exposure that is higher than the net of reinsurance initial highest gross risk exposure.

8. Independently from the eligibility criteria for recognising risk mitigation techniques for solvency purposes, insurance and reinsurance undertakings are expected to ensure that risk mitigation is commensurate with the relief in the SCR calculation when introducing new techniques.

Since the existing Solvency II framework is robust and efficient, we deem it not necessary to introduce new requirements. The Solvency II Delegated Regulation already requires that the risk mitigation techniques shall effectively transfer risk from the undertaking. However, we do not see the need to add an additional requirement by which the risk-mitigation techniques are recognised in the calculation of the SCR standard formula if they ensure that any reduction in SCR resulting from its reinsurance arrangements is commensurate with the change in risk that the insurer is exposed to.

We would therefore recommend to replace “expected to ensure that risk mitigation is commensurate with the relief in the SCR calculation when introducing new techniques” with “reminded of their obligations regarding reinsurance risk mitigating techniques and standard formula appropriateness under other Solvency II regulations.”

9. Undertakings are required, as part of the general governance requirements, to manage risk prudently. Although the use of risk mitigation techniques in general is a good tool to mitigate the (insurance) risk, it should be recognised that the transfer of risk might introduce other risks, i.e. a possible increase in counterparty default risk, basis risk and depending on the structure, concentration risk.

We would like to bring to your attention that the risks mentioned above are explicitly covered in Solvency II. The Solvency II Delegated Regulation requires that where risk mitigation is allowed for undertakings shall also consider the impact of this arrangement in all other modules. For example, the standard formula requires the calculation of counterparty capital charges with respect to the reinsurance counterparty risks. EIOPA should recognize that the risks referred to have been addressed in Solvency II.
10. Recognition of risk mitigation techniques for the calculation of the SCR using the standard formula is regulated in Articles 208-214 of the Delegated Regulation. In the practical application of these provisions it is expected that to recognise a risk mitigation technique in the SCR calculation, there should be a proper balance between the effective risk transfer and the SCR relief. To this end, the SCR calculation needs to reflect the substance of the arrangements that implement the risk mitigation techniques.

We would like to highlight that the above paragraph does not do justice to the standard formula SCR that is necessary based on a simplified model case and not designed to reflect the specific substance of reinsurance arrangements under all circumstances.

Although the standard formula under Solvency II certainly has limitations (as every model inevitably does), we believe that the standard formula together with the ORSA demonstrations and other escalation in sophistication through USPs, PIMS or IMs are appropriate and sufficient.

11. Supervisory authorities are recommended to also apply this Supervisory Statement to insurance and reinsurance undertakings which make use of an internal model to calculate the SCR with the necessary special considerations of each internal models.

No comment.

**BALANCED APPROACH**

12. It is important to consider the purpose of the intended risk transfer transaction. In principle, risk mitigation techniques reduce undertakings’ risks and consequently it is expected to lead to a reduction of the SCR. However, some transactions may, due to its specific design, lead to an optimization of the undertakings’ solvency position (i.e. by increasing the eligible own funds and/or by decreasing the SCR) without a corresponding transfer of risk. In such a case the transfer of risk has become of secondary importance within the transaction. Therefore, EIOPA underlines the importance of a proper balance between the risk reduction and the capital relief.

Reinsurance provides a mechanism for insurers to reduce their underwriting risk across a broad range of business classes. It thereby enables insurers to strengthen their solvency and expand their capacity to absorb different types of risks as well as helps insurers to reduce the volatility of their earnings, accompanied by positive effects on capital costs, which insurers can pass on to policyholders.

We observe that EIOPA takes an overly restrictive approach towards reinsurance. These restrictions act as barriers which undermine the benefits of reinsurance as an efficient risk and capital management tool.

We agree that there are challenges in the application of certain reinsurance structures in the standard formula which can give rise to under or overestimations. However, we would like to mention that the limitations of the standard formula were recognised when Solvency II was developed and addressed. The safeguards in the Solvency II framework include undertaking specific parameters, both partial and full internal models and supervisory capital add-ons where the risk profile of a standard formula firm deviates significantly from the assumptions underlying the standard formula SCR. Furthermore, there is a requirement under Pillar 2 to
assess the significance of any deviation of risk profile from the assumptions underlying the standard formula and as noted in the draft statement, the actuarial function report requires an assessment of the reinsurance strategy. These elements put together address the shortcomings of the standard formula. Therefore, there is no need of additional hurdles for the recognition of reinsurance which will hamper the smooth functioning of the industry.

Insurance and reinsurance undertakings, when calculating the Basic SCR, should take into account risk-mitigation techniques as referred to in Article 101(5) of the Solvency II Directive and complying with Articles 208-214 of the Delegated Regulation where:

- The reduction in the SCR or the increase in the eligible own funds is commensurate with the extent of the risk transferred, and there is an appropriate treatment within the SCR of any new risks that are acquired in the process.

The actuarial function of the undertaking should assess, express an opinion and document the mentioned balance as part of the task to express an opinion on the adequacy of reinsurance arrangement. This should be reported to the administrative, management or supervisory board in the annual actuarial function report as referred to in Article 272(8) of the Delegated Regulation.

The role of the actuarial function as described above is of particular importance in case an insurance or reinsurance undertaking has implemented a new risk mitigation techniques contract with a material impact on the SCR.

We would like to add that the Solvency II framework will ensure that there is no systematic understatement of capital (see also our answer to question 8):

- By assessing the significance by which the risk profile of the undertaking deviates from the standard formula assumptions as per Article 45 of the Directive.
- By clearly addressing the role of the actuarial function as set out in Article 48 of the Directive, in paragraph (h) to express an opinion on the adequacy of reinsurance arrangements and paragraph (i) to contribute to the effective implementation of the risk management system including “to the assessment referred to in Article 45 (as described above)”.
- From Article 110 of the Directive, which provides for the use of USPs where risk profile deviates significantly from SF assumptions
- From Article 119 of the Directive, which describes the consequences where there are significant deviations from the assumptions underlying the SF i.e. the undertaking may be required to develop a full or partial internal model.

Under Solvency II, the risk management system shall cover reinsurance and other risk mitigation techniques as set out in Article 44(2) of the Directive. Paragraph 260(1)(g) of the Delegated Acts further requires the risk management system to provide for actions to be taken by the firm to ensure the selection of suitable reinsurance. This provides protection against the purchase and use of reinsurance unsuitable for an undertaking’s risk profile.
13. The SCR standard formula is intended to reflect the risk profile of insurance and reinsurance undertakings. However, the standard formula is a simplification of the complex reality (like every model). In line with this principle, the underlying scenarios of the standard formula (e.g. the mass lapse risk or interest rate risk scenarios) are assumptions of the many forms that the risk can take. Focusing only on these scenarios might result in an underestimation of the actual risk (for instance if the risk develops over time). The appropriateness of the standard formula should also be valid with the reinsurance arrangements in place and should be assessed in the own risk and solvency assessment (ORSA).

The Solvency II standard formula can lack risk sensitivity, both in the gross capital calculation and in the recognition for reinsurance. This feature of a standard formula, like any model, acts as a simplified representation of reality.

We understand that EIOPA’s concern is around an excessive reduction in the SCR of standard formula companies arising from certain reinsurance structures. However, it is taken to the extent that risk transfer and SCR reduction can be measured and compared in a straightforward way for a standard formula company (which is in itself a major assumption), assuming that risk transfer is below the reduction in SCR capital.

We believe that EIOPA should recognise that the situation described has been anticipated and reflected in the design of the Solvency II framework. The protections in place in the Solvency II framework will address the concerns and ensure that there is no systematic understatement of capital (see our answer above).

Therefore, we would like to mention that even in the case of the risk transfer being below the assumed reduction in SCR capital (on the basis of the major assumption that this can be carried out), there are significant provisions in Solvency II to ensure that this does not result in an unbalanced outcome or systematic understatment of the SCR to achieve protection at the 99.5% VaR level.

Insurance and reinsurance undertakings should analyse and assess the risk transferred by the risk mitigation techniques from a holistic perspective. This includes an analysis of the risk profile (not only focusing on the standard formula) of the undertaking, before and after the consideration of the risk mitigation techniques, with special attention to risks like underwriting risk, counterparty default risk, basis risk and concentration risk. This analysis should be integrated in the undertaking’s overall solvency needs in the ORSA. Undertakings should be prepared to evidence the adequacy of the standard formula to its risk profile after the risk transfer when challenged by supervisory authorities.

[1] IAIS ICP13.2.2 states: “The ceding insurer should ensure that the characteristics of its reinsurance programme, including the credit risk posed by the reinsurer, are reflected in its capital adequacy assessment as well as its ORSA”

See our comments above.
14. Another aspect worth paying attention to is whether the complexity of the reinsurance contract might be hiding the absence of real risk transfer. For example, a simple quota share with a complex commission mechanism can actually conceal the economic reality of a loan. Another example is where a single contract combines two functions: the risk mitigation of a deviation of the best estimate and a loan. These two functions can also be found separately in contracts in the market: a reinsurance of the risk of an adverse development and a loan. When the treatment of the two separate contracts on the balance sheet and on the capital requirements is different from the single combined contract, this indicates that a thorough risk analysis is needed.

We agree that insurance undertakings should not conceal anything from supervisors about their reinsurance arrangements, be fully transparent and respond to supervisors’ requests in a timely manner. We believe that good risk management practice means that companies have readily available justifications of the impact of reinsurance arrangements.

**Insurance and reinsurance undertakings should fully clarify the technical details of the risk mitigation techniques and the related contracts and to reveal to the supervisory authority any links or combinations with other existing or newly implemented contracts, appendices or side letters that would allow the understanding of the full impact of the contract and the real risk transfer.**

**Insurance and reinsurance undertakings should explain to the supervisory authority the relation with the reinsurance policy and the risk management policy including the policy regarding counterparty default risk to ensure that all risks are taken into account.**

See our comment above.

**SUPERVISORY INVOLVEMENT**

15. Although both traditional reinsurance and non-traditional risk transfer (like cat-bonds, longevity or mass-lapse transfer) need to comply with Articles 208-214 of the Delegated Regulation, it is expected that the non-traditional risk transfer transactions will need more attention than ‘plain vanilla’ reinsurance contracts.

We do not agree with the general statement that non-traditional reinsurance structures need a higher level of regulatory scrutiny. The focus should be rather on complexity.

16. In case more ‘sophisticated/complex’ risk mitigation techniques are implemented, supervisory authorities are recommended to engage in an on-going supervisory dialogue with the undertaking. In this dialogue, supervisory authorities should be informed in a timely and comprehensive manner about the plans, be satisfied on the approach taken and be kept informed in case of any material changes.

Supervisory engagement needs to be proportionate to the risk taken and the impact on the overall risk profile of the undertaking. Otherwise, this will result in counter-productive delays, costs and burdens in the implementation of appropriate reinsurance strategies.
Wherever the reinsurance contract structure is relevant across multiple jurisdictions, supervisors need to co-ordinate and co-operate in coming up with a view on the structure to avoid different approaches across jurisdictions.

**ANNEX: EXAMPLES**

17. In this annex examples some recently developed reinsurance structures, where there is a need for a reinforced supervisory dialogue, are presented. This is not a closed list and is only meant for illustration of cases where special attention regarding the balance between risk transfer and capital relief is expected.

No comment.

18. As mentioned in the statement above, every structure should be assessed individually on a ‘case by case’ basis.

No comment.

**Example 1 - “Proportional Quota Share”**

19. According to the Solvency II framework, the SCR for non-life premium risk is determined on the basis of the so-called volume measure. This volume measure for non-life premium risk is defined as (earned) premiums minus the reinsurance premiums [1]. Apart from premiums going to the reinsurance undertaking, there are also commissions flowing back to the cedent. The question is how to consider not only the premiums for reinsurance contracts but also these commissions [2] paid by the reinsurance undertaking. This question becomes especially relevant when the commissions are so material that they change the risk mitigation character. We mention here two cases where that happens.

[1] Article 116(5)(a) of the Delegated Regulation

[2] Commission is a payment from the reinsurance undertaking to the cedent to compensate for acquisition cost, administrative costs and other costs. Sometimes the commission is also used to let the cedent share in the profit the reinsurance undertaking earns.

1a with deep sliding scale commissions[5]

No comment.

20. Deep sliding scale commissions alters the dynamic of the contract, in a way that it is more akin to a non-proportional excess of loss coverage with a large retention and only covers the tail of the risk. This in contrast with the usual (proportional) quota share contracts, where the reinsurer broadly follows the fortunes of the cedant’s experience. Therefore, in this case, the standard formula calculation, based on proportional cession overstates materially the reduction in the SCR requirement, recognising greater risk transfer than merited.

[5] Commissions can be executed in a sliding scale manner, where the profit sharing / commission increases and decreases based on the result of the ceded portfolio.

1b high overriding commissions
21. Another way to alter the intended impact of the risk mitigation techniques on the standard formula can be observed if the quota share structures also include the proportional cession of unexpected high commissions (including the acquisition costs). Because the reinsurance premiums are first deducted from volume measure and then returned to the cedent ‘disguised’ as overriding commissions the consequence is that the SCR is calculated through a reduced volume measure for premium risk even though the ceded commissions are given back to the cedent in order to bear the associated expenses.

We would point out here that EIOPA’s example does not prove as claimed a material overstating of the reduction in the SCR requirement.

It should be kept in mind that the commission rate paid by the reinsurer is intended to participate in the insurer's actual costs and is generally consistent with it. Depending on the business, these expense rates may be higher or lower, and then high commission rates paid should not cause suspicion or concern on the part of the supervisor. Indeed, the higher the flow back to the cedant via 'overriding commissions' the more beneficial to the own funds of the ceding company it is without any change to the ceded pure risk part. From our point of view, there could be a problem only if the claim cession rate is lower than the premium cession rate which should not happen by construction.

Example 2 - Mass lapse reinsurance

22. Solvency II requires insurance and reinsurance undertakings to apply a one-size-fits-all 40% stress for mass lapse risk (70% for group risk business).

No comment.

23. As such, this part of the standard formula lends itself very well to capital management hedging transactions, since the hedging cost vs. the capital benefit can be very appealing. This holds particularly true if the hedge is structured as a non-proportional reinsurance. As a consequence of the linearity of the Solvency II stresses, the hedging costs for a far out-of-the-money hedge can be substantially lower than the implied capital relief benefits. More specifically, the most common mass lapse covers used an attachment point around 20% (lapse rate over a year, and is approximately half of the mass lapse stress) and a 40% detachment point (the 1:200 stress in the standard formula for mass lapse risk). While the detachment point is simply driven by the lack of capital benefit in hedging further than 40% (i.e. the Solvency II stress), the 20% seems to be an suitable value when a substantial tail risk is to be transferred.

No comment.

24. The lapse risk is defined as the risk of loss, or of adverse change in the value of insurance liabilities, resulting from changes in the level or volatility of the rates of policy lapses, terminations, renewals and surrenders. The standard formula capital requirement for this risk in all its manifestations is defined as the maximum of three lapse scenarios: a one-year mass lapse, a structural raise of lapse rates, and a structural decline of the rates. In many cases, the mass lapse scenario is dominant among these three scenarios. Lapse risk can e.g. also occur as multi-year raises of lapse rates, but such scenarios are not selected for the standard formula. For instance, multi-year increases of lapse rates are observed in cases of
unemployment, interest rate movements, and mis-selling practices. While the impact within a single year can still be limited, the total, multi-year impact might be significant. A hedge or reinsurance of only the mass lapse scenario, leaves the insurance undertaking vulnerable to such kinds of lapse patterns, while the capital requirement following from the standard formula has been lowered by the mass lapse risk mitigation techniques. The insurance undertaking should analyse within its ORSA these risks, which are not included within the standard formula.

If life insurers protect themselves with attachment points at 20% for mass lapse risk, it might indeed be indicative of the excessive calibration of the mass lapse risk under the standard formula in line with the experience of recent financial crisis rather than an intention to distort the real level of the risk”.

Additionally (as already mentioned under question 7) we would like to point out that the guidelines developed by EIOPA on the application of outwards reinsurance could be extended to life modules in order to address typical issues such as checking that an insurance undertaking is not left with a gross risk exposure that is higher than the net of reinsurance initial highest gross risk exposure.

**Example 3 - "Contract boundary reinsurance"**

25. According to the Solvency II framework the expected profits included in future premiums (EPIFP), stemming from a book of policies are recognised, through the calculation of the best estimate liabilities, in the Solvency II balance sheet as long as they are within the contract boundary of the insurance obligation for business in force. Consequently, EPIFP stemming from a book of annually renewable group policies covering, for instance, death are recognised only for the period until the next renewal date in the Solvency II balance sheet because the profits beyond the renewal are outside the contract boundary (i.e. one year). It is possible to structure a reinsurance contract that allows undertakings to monetise a portion of the future profits not recognised in EPIFP due to contract boundary restrictions which covers mortality and lapse risks. One could question whether such a contract does actually cover insurance/biometric risks or rather covers commercial/business risks (i.e. the risk not to renew the contracts) that would impact only the solvency position. Reinsurance contracts with similar effects are known under the name of VIF securitisation/monetization.

No comment.

**Example 4 - "Bifurcated (split) cover for long tail business"**

26. In order to reduce the capital requirement due to non-life reserve risk, a reinsurance arrangement consisting of two parts is tailored. It consists of an adverse development cover (upper part) that mitigates the loss development risk, but with a retention well above the best estimate, and a finite reinsurance type of cover (lower part) that generates reinsurance recoverables, although not beyond the best estimate. By generating recoverables, the lower part reduces the volume measure for the standard formula SCR calculation of premium and reserve risk.

No comment.
27. Although the reinsurance arrangement is given as one single contract, it actually can be seen to combine two completely independent contracts: an upper layer that transfers real risk but does not come with any significant SCR relief and a lower layer leading to a considerable SCR reduction without mitigating any of the loss development risk. The reduction in the SCR can be materially greater than the risk mitigation of the arrangement. In a situation like this an undertaking may consider the appropriateness of applying the standard formula.

No comment.

28. An insurance undertaking can reinsure the risks related to its life insurance portfolio by making use of a multi-year stop loss life. Under this reinsurance treaty the total annual local GAAP profit and loss of the following years are considered with almost no exclusions. All risks are therefore included such as market and credit as well as life underwriting and operational risks.

No comment.

29. These annual profit and losses will then be capitalised until the term of the contract to define the cumulative capitalised profit and losses (CCPnL). The intervention of the reinsurance undertaking is then calculated based on the CCPnL. The reinsurance undertaking will typically intervene if the CCPnL is more negative than a certain deductible which can equal zero and the intervention will be capped at a limit.

No comment.

30. This non-proportional reinsurance treaty will therefore apply to all risks. The standard formula however is based on a Var-Covar assumption to arrive from these risks to a total SCR. Typically for a non-proportional reinsurance multi-risk treaty a full joint distribution of all risks would be necessary to calculate the impact in a precise manner were the possible non-linear effects are also considered (e.g. where simultaneous market and life underwriting risks amplify each other). An undertaking must therefore reconsider the appropriateness of applying the standard formula for such more complex treaties.

No comment.

Example 5 - Multi-year stop-loss

31. Furthermore, for such treaties the possible impact on SCR calculations can be very material such that counterparty and basis risks can increase significantly. To cover such risks, an appropriate collateralisation is necessary where a possible negative CCPnL is collateralized with high quality assets in a short term. If not, residual counterparty and basis risks will remain.

No comment.

32. Lastly, in the case of a single reinsurance undertaking and given the material impact of the reinsurance treaty a concentration risk can arise.

No comment.
ADDITIONAL QUESTIONS TO STAKEHOLDERS

Stakeholders are welcome to highlight their views with respect to the applicability/expectations with regard to Groups in relation to the use of risk mitigation techniques

Intra-group reinsurance forms an effective means by which companies can manage their individual entity and group risks and capital. The regulation and supervision of groups which forms an integral part of the Solvency II framework, including the supervisory reporting of certain intra-group reinsurance transactions, ensures that the current framework is sufficient in this regard. This framework provides for a holistic assessment at the group level of risks within the group.

Stakeholders are welcome to highlight their views on the topic of intragroup transactions in the context of Internal Reinsurance

Intra-Group Reinsurance is essentially the same as similar reinsurance transactions between two unconnected regulated legal entities, and much of the rationale for entering and executing such transactions is identical. They are an important tool for groups and their subsidiary companies to manage capital efficiency and risk throughout the group structure.