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Tabarru' – An Actuary's dilemma

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Introduction

The concept of *tabarru*' is one of the fundamental components of takaful. One reason why conventional insurance is considered haram by Sharia is that there exist elements of uncertainty (*gharar*) in the insurance exchange contract. Simply put, for a certain premium the insured is covered for financial loss on the occurrence of a contingent. In this contract both the amount of financial loss and whether the insured event will come to pass are uncertain. The solution is to consider the premium as a donation (*tabarru'*) as from the Sharia perspective, *tabarru'* is not covered by the laws of *Muamalat* (the basic principles that govern commercial transactions in Islam). Being a donation it is not considered a commercial contract of exchange. Instead it is considered as a unilateral gratuitous contribution. As such the element of *gharar* in the uncertainty of loss is deemed acceptable as instead of a premium, a donation is being made into the takaful fund.

Tabarru'

From an actuary's perspective the *tabarru'* is the participant's contribution to a risk pool that ultimately will be used to pay claims. The quantum of contribution has been determined using a cash flow model that has been constructed from observation of past experience. The take away from this is that the *tabarru'* has not been determined at 'random' nor has it been determined unilaterally by the contributor of that *tabarru'*, but instead is determined by the takaful operator's actuary as being a best estimate of the risk of loss that the participant brings to the takaful risk pool.

No contribution no cover

Another point to note is that the risk pool can only disburse out a claim to a participant who has duly paid his *tabarru'*. This risk pool is not accessible to others. Takaful is not charity. So in effect we have a situation where a donation (the *tabarru'*) is a condition of cover by the pool. A question that may arise is whether this compulsion to donate nullifies the nature of the contribution (i.e. gratuitous).

Surplus distribution

Surplus distribution is a contentious issue in takaful. There are suggestions that any surplus should only be distributed to charities. For the purpose of this discussion we only consider the distribution of surplus among the participants.

The *tabarru'* is an estimate of the amount each participant is required to make such that the pool has sufficient funds to meet claims. Not necessarily just claims occurring in the year, as for those risks where the occurrence of a claimable event is rare, a part of the *tabarru'* amount which if accumulated over time would be expected to be sufficient to pay those claims (the actuarial reserves).

Surplus is determined by the following formula:

$$\sum \text{Tabarru' Earned } \textit{less} \sum \text{Incurred Claims}$$

$$\textit{less} \text{ Actuarial Reserves}$$

The flow of this process within the risk pool is clear:

1) The *tabarru'* is calculated mathematically as sufficient to cover the risk (defined by the probability of a claim) brought by each participant into the risk pool.
2) Contribution, as *tabarru'*, is a precondition of coverage by the risk pool.
3) Surplus is the amount left over after paying out incurred claims and setting aside actuarial reserves.

The question now is how should the surplus be distributed among the participants? From the concept of equity the surplus should go back to those participants who contributed to the pool and did not claim from the pool. But the concept of *tabarru'* implies that the contribution was a donation and by definition a donation is not 'recoverable'. Should there then be a condition within the takaful contract that any surplus must go back to those participants who did not make a claim? If this condition is made does it make the gratuitous nature of the arrangement null and void changing the contract immediately from a gratuitous contract to an exchange contract?

Can the surplus be distributed to other participants than those who contributed towards the surplus in the first place? As an example, can the surplus be used to finance deficits incurred by participants covered by other risk pools or even the same risk pool but other products?

The Actuary's dilemma

Therein lies the actuary's dilemma. Should he literally take the Sharia's view that the premium is a donation and by extension any surplus accruing to the risk pool is owned by no one? If this is so, then the surplus is available to be distributed to any participant in any way the takaful operator unilaterally decides. Or, as the *tabarru'* has been determined actuarially, should he conclude that surplus should be paid back as excess contributions to those participants that contributed to the surplus and did not make a claim on the risk pool?

The surplus dilemma can be further compounded if in the process of calculating the *tabarru'* amount for the individual participant the actuary has incorporated either a margin on top of best estimate, or a discount from best estimate. The discount may apply to certain ages or risks so as to make the policy competitive.

In such instances when a margin or discount has been applied and a surplus from the takaful pool arises, how now should the surplus be distributed? Should those participants who had enjoyed a discount still be entitled to a share of the surplus?

It could be countered that the *tabarru'* rate has been determined utilising an actuarial model and that model is not infallible. As such any margin/discount is merely conjecture. The risks the lives assured bring to the risk pool need not necessarily be correctly modelled.

This argument taken to extreme may suggest that, given the uncertainty, why differentiate risks through risk factors such as age of insured? Why not charge a flat contribution altogether? The answer to why not lies in the fact that the ultimate risk composition in the risk pool cannot be determined in advance when participation in the pool is voluntary. Being such, the *tabarru'* rate charged should reflect the probability of a claim that the participant brings to the pool. The higher the perceived risk of a potential claim the higher the *tabarru'* rate. Similarly the higher the sum covered, the larger the contribution amount.

Conclusion

How surplus is treated/utilised in takaful is problematic. In conventional life insurance, in any fund where policyholders are entitled to share in surplus arising (such fund is termed a "participating fund"), the principles of equity and treating customers fairly dictate that the actuary does his best to be equitable when distributing surplus. This problem does not arise for non-participating contracts as any surplus/deficit in the risk pool is 'owned' by the insurer. The insurer took the risk that the total premiums collected may not be sufficient to pay claims but, if a surplus does arise, he is entitled to the entire surplus.

Notwithstanding the *tabarru'* nature of the premium, and from an actuary's perspective, the concept of equity is also applicable in takaful. The *tabarru'* rate is set by the takaful operator and the participant has very little way of determining himself whether the *tabarru'* contribution he made is fair or excessive. Thus the same principles that apply in distributing surplus under a participating contract to policyholders in conventional insurance should apply to the participants in takaful.

How then should the actuary determine the distribution of the surplus in takaful? He does this by considering how the surplus arose in the first place; he will start from his pricing basis and assumptions and determine where experience eventually differed from expected. The conclusion here is that the actuary should try to ensure that all participants contribute fairly to the risk pool. Only then can the surplus arising be easily distributed.

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