Optimal incentives for *takaful* (Islamic insurance) operators

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A B S T R A C T

The relationship between policyholders and an Islamic insurance (*takaful*) operator is in essence a principal-agent relationship. This paper analyzes the power of incentives offered to *takaful* operators in mitigating problems associated with such a relationship. These incentives include *wakalah*, an upfront agency fee as a percentage of premiums; *mudarabah*, a share in investment income from technical reserves; and surplus-sharing (a share in the insurance surplus). The paper concludes that all incentives offered to *takaful* operators must include surplus-sharing and that offering *mudarabah* in the presence of surplus-sharing is optimal only when the risk-adjusted return on investing technical reserves outweighs a similar return on effort exerted in underwriting risks. A *wakalah* hybrid is also recommended as it induces the operator to increase the size of the pool that, in turn, reduces average risk to the benefit of policyholders.

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1. Introduction

Islamic insurance (*takaful*) is a relatively new but growing segment of the Islamic finance industry. As far as incentives are concerned, the most important feature that distinguishes *takaful* from conventional insurance relates to the nature of the contract that governs the relationship between the policyholders and an insurance company. Conventional insurance is primarily a contract of risk transfer as it transfers the risk of loss insured from the policyholders to an insurance company against an agreed amount of premium. The insurance company owns the premiums written and any surplus or deficit generated by the insurance operation. Policyholders only have the right to claim under conditions identified in the insurance policy. Islamic insurance on the other hand is a contract of risk sharing among policyholders. The insurance company, referred to as the *takaful* operator (TO), merely manages affairs of the business against a variety of financial incentives. Premiums collected by TOs are therefore, in principle, owned by the policyholders as a group and so is any surplus or deficit from the insurance operation. Participants in this case insure one another on a non-profit basis and make contributions to the *takaful* pool on the basis of *tabarru'* (conditional and irrevocable donation) which is a non-commutative contract.[1]

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[1] Conventional insurance, mutual or otherwise, is argued to have elements of *riba* (which includes interest and any payment over and above the premium) and *gharar* (uncertainty that resembles gambling). The rules of *riba* and *gharar* do not apply to non-commutative contracts. Contributions to a *takaful* pool are therefore treated as *tabarru'* to get around the problem of *riba* and *gharar*. See Archer et al. (2009), Bakar (2009), and El-Gamal (2006).

As is obvious, the relationship between the policyholders and a TO is that of a principal and an agent in the well-known agency problem where the agent (TO) may not work in the best interest of the principal (policyholders). In this context, optimal contracting focusses on designing incentive schemes that induce the agent to work in the best interest of the principal (see Mas-Colell et al., 1995, Chapter 14). A related aspect is that since regulators have the responsibility and mandate to safeguard the best interests of the contracting parties, optimal incentives reduce the burden of 'surveillance' on regulators. This paper analyses the incentive schemes offered to TOs, primarily to understand the power of these incentives in mitigating the agency problem so that the interest of all parties (policyholders, operators and regulators) are served. This sort of analysis is viewed as a powerful tool and is frequently applied to real-world scenarios (see for example Basov and Bhatti, 2013; Banerjee et al., 2012; Shapiro, 2005; Bebchuk and Fried, 2003; Laffont and Martimort, 2002; Eisenhardt, 1989; Cooper and Hayes, 1987).

An additional significance of this exercise for the Islamic insurance industry in particular is that, in practice, the policyholders do not have any direct or indirect input in the selection and design of these incentive schemes, which adds to the severity of the agency problem and shifts the responsibility to the regulators. Most regulators, however, do not have well-defined incentive-related guidelines, making them ill-equipped to deal with the agency problem and the analysis in this paper even more relevant. Much of the focus until now has been on regulatory issues common between conventional and Islamic insurance with little attention to the design of incentive schemes. This paper will hopefully assist regulators in understanding the role of incentives in the Islamic insurance industry and in reducing problems associated with the principal-agent relationship. The analysis in this paper corresponds to a scenario where policyholders, as a group, delegate regulators the right to design the incentive schemes on their behalf. The group of policyholders is therefore modelled as a single entity.

The contribution of this paper is novel in the sense that it applies standard tools of optimal contracting to the operations of Islamic insurance, which to the best of our knowledge is the first attempt of its kind, and identifies the value addition of hybrid contracting when the agent's management role can be bifurcated into sub-tasks.

The rest of the paper is organised as follow. Section 2 starts with an introduction of alternative incentive schemes offered to TOs, followed by a parsimonious model of optimal contracting that analyses the impact of the alternative incentive schemes on a vector of efforts exerted by the operator (Section 3). These efforts mainly include (i) admitting policyholders into the *takaful* pool through (ii) underwriting (selecting, classifying and pricing risks), and (iii) investing a part of the premium pool (technical reserves). Section 3.2 derives optimal values of the incentives with a view to minimise the agency problem. This section also highlights the value added of individual incentive schemes and discusses the conditions under which hybrids of the alternative schemes are beneficial. Section 4 concludes.

2. Incentives offered to *takaful* operators

Financial incentives offered to TOs are restricted to be compliant with Islamic Law, referred to as *shari'ah*. In practice, these incentives are based on (i) an agency or *wakalah* contract where a TO manages *takaful* operations against an upfront agency fee (ii) a *mudarabah* (profit sharing) contract where the TO receives a share in investment income from technical reserves, and (iii) a modified *mudarabah* (surplus-sharing) contract where the TO receives a share in insurance surplus. Most operators use a hybrid of these three incentive schemes in their operations.

In a pure *wakalah* model, a *wakalah* fee is generally expressed as a percentage of the premium collected from policyholders, and is received upfront at the time a policyholder is admitted to the *takaful* pool. All claims and operational expenses in this case are paid from the *takaful* pool. The management of the *takaful* operation involves investment of the technical reserves and all profits or losses are credited to the *takaful* pool. In a pure *mudarabah* model on the other hand, the TO's only compensation comes out of the profits from investment of the technical reserves. The modified *mudarabah* contract is similar to the *mudarabah* contract but the insurance surplus (deficit) is now treated as *mudarabah* profit (loss). This modification implies that premiums, instead of technical reserves, serve as *mudarabah* capital, hence the name modified *mudarabah* contract.

Shari'ah compliance of the modified *mudarbah* model has been controversial (see for example Archer et al., 2009; Bakar, 2009). It is interesting to note that the modified *mudarabah* contract can be replaced with an arrangement where the underlying contract does not treat premiums as *mudarabah* capital, and where the share in surplus is treated as a reward for performance in a manner similar to a *ju'alah* or *ji'alah* (performance fee) contract.[2] This means that *shari'ah* compliance may sometimes mean invoking the right *shari'ah* compliant contract that closely mimics a non-compliant one.[3]

The managerial function of a TO is not much different from that of a conventional insurance company. Like any conventional insurance company, a TO is expected to carefully underwrite risks in the process of admitting participants to the

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[2] See Bendjilal (2004) *for an application of the* ju'alah *contract in the mining industry.*

[3] This points towards poor *shari'ah* compliance practices in the industry. It seems that a business perspective has been guiding the design of incentives more than a *shari'ah* perspective, or that *shari'ah* experts have been reluctant to resort to more flexible alternatives vis-à-vis *mudarabah* and *musharakah* (the two status quo contracts). See El-Gamal (2008) for a broader discussion on the incoherence of contract-based Islamic financial jurisprudence.