

## Can financial instruments be used as a substitute for reinsurance?

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### Article abstract

Les instruments financiers dérivés sont des titres qui tirent leur valeur d'un actif sous-jacent ou qui sont reliés aux indices boursiers, aux taux d'intérêts, aux taux de conversion de devises ou, dans le cas de l'industrie de l'assurance, aux rapports sinistres-primés. Les instruments financiers tels que l'assurance catastrophe sur les contrats à terme sont des moyens innovateurs et légitimes qu'offrent les marchés financiers pour aider les assureurs à réduire le risque de catastrophe. Ils peuvent s'appliquer à presque toutes les catégories de risques. Des instruments financiers tels que les contrats à terme catastrophe peuvent être conçus pour réduire le risque ou bien remplacer ou compléter un programme de réassurance. À présent, l'industrie de l'assurance perçoit les instruments financiers dérivés encore comme des techniques de financement d'avant-garde. Dans ce domaine, les produits dérivés sont conçus pour agir comme mécanismes de couverture semblables à une convention de réassurance. Les produits dérivés pour l'industrie de l'assurance offrent plusieurs avantages, entre autres, la possibilité d'obtenir une couverture rapide et efficace. Selon l'auteur, il n'est pas prévu que les contrats à terme catastrophe remplacent la réassurance comme mécanisme de couverture, mais ils offrent des avantages que la réassurance n'offre pas.

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## Can financial instruments be used as a substitute for reinsurance ?

by

Mohez Remtulla<sup>1</sup>

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*Les instruments financiers dérivés sont des titres qui tirent leur valeur d'un actif sous-jacent ou qui sont reliés aux indices boursiers, aux taux d'intérêts, aux taux de conversion de devises ou, dans le cas de l'industrie de l'assurance, aux rapports sinistres-primés .*

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Financial instruments or derivatives, as they are commonly referred to, are securities that derive their value from an underlying asset or are linked to indices such as stock markets, interest rates, currency exchange rates, or a claims index as in the case of the insurance industry. Basically, comprising different combinations and types of forwards and options, derivatives can be freestanding, attached to or embedded in different instruments. Futures contracts are agreements to buy or sell a commodity or financial instrument at a particular price on a stipulated future date. Options, by contrast, let buyers choose whether or not to exercise the option to buy or sell the commodity or the financial instrument by the exercise date. Insurance futures are a form of financial instruments that allow an investor to become an effective carrier of insurance risks with very limited liability.

The purpose of reinsurance is generally viewed as providing capacity, stability and financing. Although traditional reinsurance agreements usually are expressed in risk management terms, in fact, they essentially work to ensure the survival of an insurer. Non-traditional or so called "finite" risk reinsurance goes one step further in that it aims to directly address the financial outcome of the insurance process. The reinsurance market provides good opportunities for insurers to reduce their exposure to underwriting risk. In general, the reinsurance market consists of bilateral agreements between insurers. Reinsurance arrangements can be categorized as either proportional or non-proportional contracts. With proportional reinsurance, the ceding company shifts a proportion of its premiums to a reinsurer in exchange for the reimbursement of claims. In essence, proportional reinsurance is equivalent to an equity position in the policy pool of the ceding company. Non-proportional reinsurance agreements have payoffs similar to call options written on the ceding company's policies.

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Financial instruments such as insurance catastrophe futures contracts are an innovative and legitimate way in which capital markets can help insurers reduce the risk of catastrophic claims, and can be applied to virtually any line of business. A viable insurance futures contract provides insurers and reinsurers with additional opportunities to reduce the risk of insolvency. Similar to most non-traditional reinsurance arrangements, such instruments can also be defined as a transaction in which financial consideration dominates the buyer's motivation.

Financial instruments such as catastrophe futures can be designed to reduce insurance risk and used as a substitute or complement for reinsurance. Traditionally, insurers have used reinsurance to protect against unexpected claims activity. Reinsurance does offer benefits to insurers that alternative instruments such as insurance futures may or may not be able to provide. Such benefits include: a) increased capacity, b) stabilization of claims experience, c) ease of entry and exit from insurance markets, d) catastrophe protection and (e) enhanced financial strength. The advantages of financial instruments such as insurance futures over reinsurance are that insurance futures are more liquid, contracts are standardized and transaction costs are small relative to the costs of developing and administering reinsurance contracts.

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Reinsurance is used to increase a company's underwriting capacity to write new business. The use of catastrophe futures does not increase capacity since an actual risk transfer does not take place. This logic applies to the finite risk arrangements as well, that is if the contracts are accounted for in a proper manner consistent with generally accepted accounting principles. An exchange of policies or claims obligations does not occur as the insurer attempts to offset major underwriting claims by expected gains in the catastrophe futures market as the risk itself is not transferred to the market.

Stabilization of claims through reinsurance can be accomplished by spreading the risk, rather than the primary company retaining the entire risk. Catastrophe futures help to

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stabilize the claims experience if an insurer's claims move with the claims ratio of the industry. The catastrophe futures contracts use a claims ratio that is supposed to approximate the industry claims ratio. However, if an insurer's claims ratio does not correlate well with the contract claims ratio, then the underwriting risk for that primary company may not be reduced.

312 Reinsurance can facilitate the entry and exit from insurance markets. A primary insurer, wanting to enter into a new line of insurance, may be assisted by a reinsurer in several ways. Knowledgeable professional reinsurers may have specialized information in certain lines of business. A primary insurer can enter into a new market slowly, by initially reinsuring most of its new business and then gradually transfer a reduced share of the new market as it develops familiarity and skills of its people. Also, reinsurance assists to exit a market by allowing a primary insurer to fully transfer a book of business to the reinsurer. Financial instruments such as catastrophe futures are unable to provide these functions for insurers.

Reinsurance can help protect a primary insurer against frequency and severity of large claims or many small claims which may have a significant impact on the underwriting result and therefore the operating income. A primary insurer may transfer a portion of its risk to a reinsurer, which in turn may transfer a portion of that risk to another reinsurer and so on. Since many insurers share the involved risks, this allows a geographical diversification of exposures. With more parties involved in the sharing of risks, there is greater risk spreading and more financial capital available to cover the claims that may be incurred. Reinsurance is written to deal with an insurer's own claims. Financial instruments such as the catastrophe futures, however, are priced with regard to the impact of catastrophe events on total industry results.

Increased financial strength is gained by using reinsurance as the level of the policy liabilities is passed through traditional reinsurance arrangements. Depending on the structure of the financial instrument arrangement, financial instruments such as

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catastrophe futures do not affect an insurer's provisions for unearned premiums. With respect to any insurance futures position that corresponds to incurred claims for the reporting period, general accounting requirements are that any increased or decrease in the value of the insurance futures contracts should be reported as an increase or decrease in the insurer's other income.

At present, the use of financial instruments or derivatives is still considered to be a fringe financial technique in the insurance industry. It is here that the derivative contracts are designed to work as a hedging mechanism that resemble a reinsurance agreement. One advantage the use of derivatives holds for the insurance industry is the ability to obtain risk protection not just quickly and efficiently but also effectively. Reinsurance does provide benefits to insurers although at a cost. Historically, insurers and reinsurers have used derivative products only on the asset side of the balance sheet to help the company benefit from the expertise in maximizing investment returns. Financial instrument contracts trade alongside, but are in some instances expected to eclipse, existing contracts, although this may now be changing as covers are expanded to cover a far broader area of exposures.

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The insurance industry already knows how to manage risks and therefore the use of derivatives is merely a natural extension of this knowledge. There are several costs associated with reinsurance protection purchased by insurers. First, the process of shopping for a reinsurer and negotiating an individual contract is time-consuming. Both parties need to establish the credit-worthiness of the other. Catastrophe futures contracts, on the other hand, are standardized and can be executed immediately. Secondly, the primary insurer shares its claims as well as its premiums with the reinsurer. Additionally, the costs of negotiating the contract must be considered. With catastrophe futures, an insurer does not have to share its premium and the transaction cost is minimal. Finally, a reinsurance contract can be very restrictive for the ceding company. The insurer is "locked" into the agreement, which reduces the ceding company's flexibility in adjusting the degree of risk transfer for

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the duration of the contract. Purchase of catastrophe futures does not impose any restrictions on an insurer's operations.

It seems unlikely that catastrophe futures would fully replace reinsurance as a hedging mechanism. However, catastrophe futures do offer benefits that reinsurance does not. Small capitalized insurers generally need the services that a reinsurer provides. They do not have the safety of a nationally diverse underwriting portfolio, so a major catastrophe could wipe them out. Also, small insurers are less likely than large insurers and reinsurers to incur claims that are in line with the industry claims experience, which is used in the calculation of the claim ratio for catastrophe futures. Exposures of large insurers and reinsurers are significant and protection would be very difficult to obtain through the use of reinsurance due to capacity limitations in the reinsurance market. Catastrophe futures may not be an alternative to reinsurance for every insurer, but they may be an alternative for some of the large insurers and reinsurers.

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The business of establishing the appropriateness of the financial instruments is extremely important foundational work. As the resources in the insurance industry gain more knowledge of financial instruments such as insurance futures, competition with the reinsurance industry will increase. However, the usefulness of reinsurance will not entirely disappear. Reinsurance provides a number of functions that are not provided by all the financial instruments available in the market. The potential benefits of reinsurance include a banking function that helps finance a ceding insurer's growth. Unfortunately, most insurers have not seized the opportunity to raise capital through this means either. To what extent financial instruments will be used to spread insurance risk or hedge against unforeseen insurance claims remains elusive.

In the case of insurance derivatives, regulatory and accounting guidelines continue to emerge or are non-existent. Risk transfer must consider regulatory and accounting implications. Sound internal controls - monitoring, controlling

and measuring risks and exposures - hold the key to successful financial instrument activity. Tighter and more enforceable prudential safeguards must become louder and stronger to avoid concerns at a large stage. To what extent financial instruments or more specifically insurance related risk spreading derivatives are or will be used to seek protection against unforeseen events remains elusive. But there has to be a continuing dialogue on the subject of adequate protection. The proper direction of resources will also be crucial as the insurance industry learns to deal with these newer forms of risk management.