



SEMINAR

“Combined Custom Hedging: Optimal Design, Noninsurable Exposure, and Operational Risk Management”

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Chair: Prof. Paolo Falbo
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Sala Biblioteca – S. Faustino Building

[Registration form here >>](#)

The registration form is compulsory for all participants attending both in presence and remotely. For those in presence, a *QR Code to access the building will be sent by email.*

ABSTRACT

We develop a normative framework for the optimal design, value assessment, and risk management integration of combined custom contingent claims. A risk averse firm faces a mix of financially insurable and noninsurable risk. The firm seeks optimal positioning in a pair of custom claims, one written on the insurable term, and another written on any listed index correlated to the noninsurable term. We prove that a unique optimum always exists unless the index is redundant, and show that the optimal payoff schedules satisfy a design integral equation. We assess the firm's incremental benefit in terms of both an indifference value and an efficiency rating: this benefit increases with the correlation of the index to the noninsurable term, and it decreases with the correlation of the index to the insurable term. Our hedge proves empirically relevant for a highly risk averse firm facing a market shock (COVID-19 pandemic). In the context of a newsvendor model featuring random price and demand, we show that: (i) integrating our optimal combined custom hedge with the corresponding optimal procurement policy allows the firm to obtain a significant improvement in both risk and return; (ii) this gain may be traded off for a substantial enhancement in operational flexibility.