

# Three essays in financial econometrics

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# Propositions

accompanying the doctoral dissertation

## THREE ESSAYS IN FINANCIAL ECONOMETRICS

by

Jérémy LEYMARIE

1. There is no benchmark model emerging from the "zoo" of loss given default models. For each new real-life database, academics and practitioners have to consider several loss given default models and compare them according to appropriate comparison criteria. (Chapter 2)
2. Capital charge expected loss functions improve the banks' ability to absorb their unexpected credit losses, by penalizing more heavily LGD forecast errors made on credits associated with high exposure and long maturity. (Chapter 2)
3. A more intelligible backtesting method to expected shortfall is to examine jointly the validity of value-at-risk along the tail distribution of the risk model. (Chapter 3)
4. Risk measures are subject to significant model risk during periods of financial distress, which are, unfortunately, when they are most needed. (Chapter 3)
5. The approximation of expected shortfall based on the aggregation of several value-at-risks is highly appealing to compute expected shortfall and evaluate the performance of its forecasts. (Chapter 3)
6. It is the first attempt to establish a link between the marginal expected shortfall and the CoVaR systemic risk indicators that are both broadly used in the systemic risk literature. (Chapter 4)
7. Lehman Brothers has experienced severe rejections of the unconditional coverage hypothesis just before its bankruptcy, indicating for that bank a sharp change in its market conditions. (Chapter 4)
8. Systemic risk models are able to produce valid forecasts for the MES and SRISK when considering a mid-term horizon (typically one month), but they typically fail at shorter horizons. (Chapter 4)
9. For some firms, risk models failed because of known unknowns. These include model risk, liquidity risk, and counterparty risk. In 2008, risk models largely failed due to unknown unknowns, which include regulatory and structural changes in capital markets. (Risk Management Lessons from the Credit Crisis, Jorion, 2009)
10. A journey of a thousand miles begins with a single step. (Chinese Proverb)