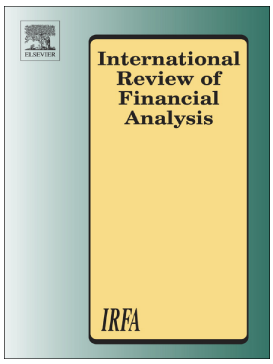

Business failure, efficiency, and volatility: Evidence from the European insurance industry

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Business Failure, Efficiency, and Volatility: Evidence from the European Insurance Industry

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Abstract: We analyze the operations and performance of insurance companies that left the insurance market from 2006 to 2013. Using a large European sample (2,060 insurers from 16 countries and 250 failure events), we find that technical efficiency negatively and business volatility positively correlate with the probability of failure. Moreover, we document that firm growth has a U-shaped, nonlinear impact on failure probability. The research is original, in that we demonstrate the persistency of technical efficiency and business volatility in terms of early surveillance, extending valuable response time and thus broadening the available measures to prevent failures. We also demonstrate our identified failure indicators' applicability across financial crises and different regulatory philosophies. We apply the state-of-the-art data envelopment analysis, rare event logistic regression, hazard model of time to failure, and supporting vector machine approaches to the business failure prediction.

Keywords: Insurance; data envelopment analysis; business failure model; insolvency; early surveillance

JEL code: G22, G28

Highlights:

- Business failure model using a large European insurance sample
- Efficiency negatively correlates with insurer failure probability
- Business volatility positively correlates with insurer failure probability
- Firm growth has a U-shaped, nonlinear impact on insurer failure probability
- Efficiency and volatility indicators offer favorable early surveillance properties

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