

Predicting Financial Institution Failure with Financial and Ownership Variables using Logit and Neural Networks: Evidence from the East Asian Crisis

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Abstract

Predicting failure of individual financial institutions can have a significant impact on the economy. To serve as an efficient early warning signal, the accuracy of a failure prediction model is as important as its robustness over time to failure. For an emerging market economy where ownership concentration is common, we show that only traditional financial variables are far from sufficient to produce models with good predictive power. It needs to be complemented by ownership variables to generate sound prediction models. Specifically, in our logit models that incorporate ownership variables, 85.45%, 85.41%, and 91.49% of financial institutions are correctly classified in the models using the data of one, two, and three years prior to failure, respectively. Likewise, the neural networks models show promising results. The classification accuracy of a testing set is 90.91%, 81.82%, 72.73% for one-year-, two-year-, and three-year-ahead failure forecast, respectively. We also find that the presence of family as the largest shareholder increases the probability that a financial institution fails. This evidence

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supports the *expropriation effects* of controlling families. Finally, our results suggest evidence of “too-big-too-fail” policies in the closure procedures of Thai financial institutions during the East Asian financial crisis.

Keywords: financial sector fragility, ownership structure, early warning systems, East Asian financial crisis
