THAI NON-LIFE INSURANCE COMPANIES' FINANCES AND THE HISTORIC 2011 FLOODS

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ABSTRACT

The devastating floods in Thailand caused the country's fifth-costliest disaster in the last 31 years. Many companies suffered in every facet. As a result, Thai non-life insurance firms lost \$4.1 billion. Focusing on improvements in their main performance metrics, this article studies the financial implications of floods for those businesses. The financial information of the Thai non-life insurance is taken from three different periods; 2008 – 2010 (prior to the floods), 2011 (the floods year), and 2012 – 2014 (post floods). Descriptive and inferential statistics reflect variances in non-life insurance companies where the flooding had a devastating effect on them. This study serves as a starting point for Thai insurance firms, the government, and researchers to devise measures that would make the country's economic development more sustainable.

Keywords: *Financial Stability, Floods, Key Performance Indicators, Natural Hazard, Non-Life Insurance, Thailand*

RESEARCH HIGHLIGHTS

1. The floods in Thailand in 2011 damaged automobile supply chains and resulted in a global shortage of spare parts and IT supplies lasting throughout 2012 (Haraguchi & Lall, 2015). Thailand's flood losses made them the fifth costliest insured loss event in the past 31 years worldwide (A. M. Best Co., 2012).
2. Two KPIs (IAPL and DE) shifted dramatically in 2011 (the flood year). A third KPI – ROA (return on assets) - showed a statistically significant difference from 2012. This finding aligns with prior research where ROA is found to be prevalent and exhibits relevance (Enjolras & Kastitz, 2012; Weng, Chen & Chi, 2017). Additionally, these measurements show similar year-to-year increases for both 2013 and 2014.
3. Between age and size, there is a weak but statistically significant, positive correlation. In other words, bigger and older organizations tend to have better performance - in terms of ROA.

Research Objectives

1. To explore the financial changes in Thai non-life insurance companies over three different periods – prior to the 2011 floods, the 2011 floods and after the 2011 floods.
2. To examine the factors that influence the operational performance of the Thai non-life insurance industry after the 2011 floods.

Methodology

This study used panel data for 58 Thai non-life insurance companies for the period from 2008 through 2014. The financial data were taken from Thailand's Office of Insurance Commission (OIC). Nine financial variables comprised the study's focus, namely 1) return on assets (ROA), 2) return on equity (ROE), 3) operating profit margin (OPM), 4) net profit margin (NPM), 5) investment assets to policy liability ratio (IAPL) – often used by researchers (employed by Adams & Jiang, 2016; Altuntas & Rauch, 2017; Benali & Feki, 2017; Bouriaux &

Russell, 2002; Kaya, 2016; Lee & Lin, 2016), 6) loss ratio (LR), 7) operating expense ratio (OER), 8) combined ratio (CBR) and 9) debt-to-equity ratio (DE). Company age and size also were included as potential explanatory variables. The study utilizes both descriptive statistics (percentages, means, and standard deviations) and inferential statistics (t-tests for means of independent samples, correlation, and multiple regression).

Results

There are no statistically significant changes in the nine KPIs over the three years prior to the flood. Perhaps due to the flooding occurring rather late in 2011, such change occurs in just three KPIs (NPM, ROA, and ROE) during the flood year and its immediate aftermath (2011-2012). In the flood year (2011), average LR, CBR were > 1 , while the DE, LR and CBR values indicated unhealthy financial developments. The Thai non-life insurance companies' finances worsened during 2011-2012 and improved during 2013-2014.

A multiple regression model proved helpful in explaining the observed variations in the return on assets: $ROA = 0.13 - 0.11 \text{ CBR} - 0.004 \text{ DE}$. R^2 for this model was 0.29, with the constant term and both predictor variables statistically significant at the $\alpha < .01$ level. The negative relationship between the combined ratio (e.g. used by Oscar, Sackey, Amoah & Frimpong, 2013; Van der Heijden, 2011) and the return on assets in the model agrees with prior research conclusions. Likewise company age and size were found to have no statistically significant influence on ROA, which also aligns with previous research (Liargovas & Skandalis, 2008).

Findings

In summary, the average NPM, ROA, and ROE of non-life insurance firms were negative in 2011 and 2012, reflecting losses in those years. In 2011, the average LR exceeded 1. CBR averages were greater than one in both 2011 and 2012. Along with the increase in the average DE ratio, these LR (consistent with Adams & Jiang, 2016; Altuntas & Rauch, 2017; Benali & Feki, 2017; Bouriaux & Russell, 2002; Elango, 2009; Kaya, 2016; Lee & Lin, 2016; Oscar, et. al., 2013; Van der Heijden, 2011) and CBR values indicate financially unsound developments and the need for additional cash inflows.

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Author's Biography

Assistant Prof. Kanitsorn Terdpaopong, Ph.D., served as International Program Director at Rangsit University, Thailand. She has received grants from the Thai Research Fund, The Office of Higher Education Commission and in 2018 she was awarded an Australian Endeavour Executive Fellowship from the Australian Government, Department of Education and Training; and awarded Taiwan Fellowship from the Ministry of Foreign Affairs of the Republic of China.

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