

# Assessing Thailand's financial vulnerability: An early warning approach

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## Abstract:

This paper intends to assess financial vulnerability in Thailand through the construction of a financial vulnerability indicator (FVI). This early warning system has been developed using the signals approach proposed by Kaminsky and Reinhart (1999), followed by composite indicator construction. The period under study spans from January 2000 through to December 2016. Our empirical findings indicate that exports has the lowest noise-to-signal ratio (0.13), followed by real GDP (0.15) and house price index (0.20). These suggest that financial crises are usually preceded by a weakening in exports, a slowdown in the economy and a decline in house price. For Thailand, four major financial episodes are successfully outlined during the study period, demonstrating the effectiveness of an early warning system in financial vulnerability forecasting.

**JEL Classifications:** E17, G01, G28

**Keywords:** Financial vulnerability indicator, early warning, signals approach

**Citation:** Puah, C. H., Kuek, T. H., Arip, M. A. (2017). Assessing Thailand's financial vulnerability: An early warning approach. *Business and Economic Horizons*, 13(4), 496-505, <http://dx.doi.org/10.15208/beh.2017.34>

## 1. Introduction

Over the past decade, the financial sector in Thailand has expanded rapidly, particularly, since the subprime mortgage crisis in 2008. A low-interest rate setting coupled with advances in financial services has triggered the demand for consumer-based financial products which in turn has driven the growth of the financial sector. Predominantly, the recent property boom and favourable macroeconomic conditions in Thailand have stimulated property demand and encouraged home ownership, particularly in the market for residential properties. With the rapid appreciation in the value of certain housing markets in Thailand, this has further supported household net worth and credit demand (International Monetary Fund, 2016).

Along with the rapid development of the financial sector, domestic credit to the private sector has amplified remarkably, hitting 151 percent of gross domestic product (GDP) in 2016, the highest level seen after the subprime mortgage crisis. According to a report by the International Monetary Fund (2016), credit to the household sector has contributed over 80 percent to the increase in the credit-to-GDP ratio in Thailand. Based on the statistics published by the Bank of Thailand, the household debt to GDP ratio hit 81.2 percent in 2015 and remained sticky at around 80.0 percent in 2016 (See Figure 1). Though the credit cycle has shown signs of slowing down, the rapid pace of escalation in household debt relative to income remains a key concern of vulnerability.