







Q

Home ► All Journals ► Economics, Finance & Business ► Applied Economics Letters ► List of Issues ► Volume 18, Issue 15 ► Predicting regime switches in the VIX in ....

#### Applied Economics Letters >

Volume 18, 2011 - Issue 15

697 23
Views CrossRef citations to date Altmetric

Original Articles

# Predicting regime switches in the VIX index with macroeconomic variables

N. Baba & Y. Sakurai

Pages 1415-1419 | Published online: 21 Mar 2011

Sample our
Economics, Finance,
Business & Industry Journals
>> Sign in here to start your access
to the latest two volumes for 14 days

Full Article

Figures & data

References

**66** Citations

Metrics

Reprints & Permissions

Read this article

Share

### Abstract

In this article, we investigate the role of US macroeconomic variables as leading indicators of regime shifts in the VIX index using a regime-switching approach. We find that there are three distinct regimes in the VIX index during the 1990 to 2010 period: tranquil regime with low volatility, turmoil regime with high volatility and crisis regime with extremely high volatility. We also show that the regime shift from the tranquil to the turmoil regime is significantly predicted by lower term spreads.

## Acknowledgements

We thank Craig Furfine, Peter Hördahl and Toshiaki Watanabe for their valuable suggestions. The views expressed in this article are those of the authors and do not necessarily reflect those of the Bank of Japan.

## **Notes**

<sup>1</sup>One closely related study is of Chen and Clements (<u>2007</u>), who investigate the impact of monetary policy announcement on the VIX index, although they do not investigate regime switches.

<sup>2</sup>The structural breaks are detected by minimizing the sum of squared errors of each partitioned period.

<sup>3</sup>Bussiere and Fratzscher (2006) suggest the usefulness of a regime-switching approach in the early warning system model because it can determine the timing and the length of different regimes endogenously.

<sup>4</sup>For a robustness check, we also estimated three-regime-switching model without this restriction. We conducted likelihood ratio test and found that the model without the restriction did not significantly outperform the model with the restriction at the 5% level.

<sup>5</sup>All the macroeconomic variables are obtained from Bloomberg.



Information for

**Authors** 

**R&D** professionals

**Editors** 

Librarians

**Societies** 

Opportunities

Reprints and e-prints

Advertising solutions

Accelerated publication

Corporate access solutions

Open access

Overview

Open journals

**Open Select** 

**Dove Medical Press** 

F1000Research

Help and information

Help and contact

Newsroom

All journals

**Books** 

#### Keep up to date

Register to receive personalised research and resources by email



Sign me up











Accessibility



Copyright © 2025 Informa UK Limited Privacy policy Cookies Terms & conditions



Registered in England & Wales No. 01072954 5 Howick Place | London | SW1P 1WG