Detecting change points in VIX and S&P 500: A new approach to dynamic asset allocation - DTU Orbit (24/10/2019)

Detecting change points in VIX and S&P 500: A new approach to dynamic asset allocation

The purpose of dynamic asset allocation (DAA) is to overcome the challenge that changing market conditions present to traditional strategic asset allocation by adjusting portfolio weights to take advantage of favorable conditions and reduce potential drawdowns. This article proposes a new approach to DAA that is based on detection of change points without fitting a model with a fixed number of regimes to the data, without estimating any parameters and without assuming a specific distribution of the data. It is examined whether DAA is most profitable when based on changes in the Chicago Board Options Exchange Volatility Index or change points detected in daily returns of the S&P 500 index. In an asset universe consisting of the S&P 500 index and cash, it is shown that a dynamic strategy based on detected change points significantly improves the Sharpe ratio and reduces the drawdown risk when compared with a static, fixed-weight benchmark.

General information
Publication status: Published
Organisations: Department of Applied Mathematics and Computer Science, Dynamical Systems, Sampension, Lund University
Contributors: Nystrup, P., Hansen, B. W., Madsen, H., Lindström, E.
Pages: 361-374
Publication date: 2016
Peer-reviewed: Yes

Publication information
Journal: Journal of Asset Management
Volume: 17
Issue number: 5
ISSN (Print): 1470-8272
Ratings:
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 0.32 SJR 0.208 SNIP 0.384
Web of Science (2016): Indexed yes
Original language: English
Keywords: Regime changes, Change point detection, Dynamic asset allocation, Volatility regimes, Daily returns, Non-parametric statistics
Electronic versions:
Detecting_Change_Points_in_VIX_and_S_P_500_ACCEPTED_VERSION.pdf. Embargo ended: 30/09/2017
DOIs:
10.1057/jam.2016.12
Source: PublicationPreSubmission
Source ID: 127113272
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review