

# Author's Accepted Manuscript

Monitoring multivariate variance changes

Katharina Pape, Dominik Wied, Pedro Galeano



www.elsevier.com

PII: S0927-5398(16)30109-8  
DOI: <http://dx.doi.org/10.1016/j.jempfin.2016.08.007>  
Reference: EMPFIN936

To appear in: *Journal of Empirical Finance*

Received date: 1 September 2015  
Revised date: 22 June 2016  
Accepted date: 20 August 2016

Cite this article as: Katharina Pape, Dominik Wied and Pedro Galeano Monitoring multivariate variance changes, *Journal of Empirical Finance* <http://dx.doi.org/10.1016/j.jempfin.2016.08.007>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# MONITORING MULTIVARIATE VARIANCE CHANGES

KATHARINA PAPE, DOMINIK WIED, PEDRO GALEANO\*

*TU Dortmund, Universität zu Köln and Universidad Carlos III de Madrid*

This Version: June 22, 2016

## Abstract

We propose a model-independent multivariate sequential procedure to monitor changes in the vector of componentwise unconditional variances in a sequence of  $p$ -variate random vectors. The asymptotic behavior of the detector is derived and consistency of the procedure stated. A detailed simulation study illustrates the performance of the procedure confronted with different types of data generating processes. We conclude with an application to the log returns of a group of *DAX* listed assets.

**Keywords:** Multivariate sequences; Online detection; Threshold function; Variance changes.

**JEL Classification:** C12, C14

---

\*K. Pape: TU Dortmund, Fakultät Statistik, 44221 Dortmund, Germany. E-Mail: pape@statistik.tu-dortmund.de, Phone: +49 231 755 3869. D. Wied: Universität zu Köln (Institut für Statistik und Ökonometrie) and TU Dortmund (Fakultät Statistik), E-Mail: wied@statistik.tu-dortmund.de, Phone: +49 221 470 4514 (D. Wied). P. Galeano: Universidad Carlos III de Madrid, Departamento de Estadística, 28903 Getafe, Madrid, Spain. E-mail: pedro.galeano@uc3m.es, Phone: +34 916 818 901. Financial support by Deutsche Forschungsgemeinschaft (SFB 823, project A1) and Ministerio de Ciencia e Innovación grant ECO2012-38442 is gratefully acknowledged.

Download English Version:

<https://daneshyari.com/en/article/5100345>

Download Persian Version:

<https://daneshyari.com/article/5100345>

[Daneshyari.com](https://daneshyari.com)