

The covariance sign of transformed random variables with applications to economics and finance

[Get access >](#)

Martín Egozcue, Luis Fuentes García, Wing-Keung Wong, Ričardas Zitikis

IMA Journal of Management Mathematics, Volume 22, Issue 3, July 2011, Pages 291–300, <https://doi.org/10.1093/imaman/dpq012>

Published: 07 September 2010 **Article history** ▼

Abstract

A number of problems in economics, finance and insurance rely on determining the sign of the covariance of two transformations of a random variable. The classical Chebyshev's inequality offers a powerful tool for solving the problem, but it assumes that the transformations are monotonic, which is not always the case in applications. For this reason, in the present paper, we establish new results for determining the covariance sign and provide further insights into the area. Unlike many previous works, our method of analysis, which is probabilistic in its nature, does not rely on the classical Höfdding's representation of the covariance or on any of its numerous extensions and generalizations. We motivate our research with several problems arising in economics, finance and insurance.

[Chebyshev's inequality](#), [covariance inequality](#), [decision under risk](#)

This content is only available as a PDF.

© The authors 2010. Published by Oxford University Press on behalf of the Institute of Mathematics and its Applications. All rights reserved.

Issue Section: [Articles](#)

Collection: [IMA Journals](#)

You do not currently have access to this article.

Sign in

 [Get help with access](#)

Institute of Mathematics and its Applications members



INSTITUTE OF
**MATHEMATICS &
ITS APPLICATIONS**

[Sign in through society site >](#)

Personal account

- Sign in with email/username & password
- Get email alerts
- Save searches
- Purchase content
- Activate your purchase/trial code
- Add your ORCID iD

[Sign in >](#)

[Register](#)

Institutional access



[Sign in through your institution](#)



[Sign in through your institution >](#)

[Sign in with a library card](#)

[Sign in with username/password](#)

[Recommend to your librarian](#)

Institutional account management

[Sign in as administrator](#)

Purchase

[Subscription prices and ordering for this journal](#)

[Purchasing options for books and journals across Oxford Academic](#)

Short-term Access

To purchase short-term access, please sign in to your personal account above.

Don't already have a personal account? [Register](#)

The covariance sign of transformed random variables with applications to economics and finance - 24 Hours access

EUR €39.00

GBP £33.00

USD \$43.00

Rental



This article is also available for rental through DeepDyve.