

Applied Economics >

Volume 47, 2015 - [Issue 8](#)

1,671 Views | 18 CrossRef citations to date | 3 Altmetric

Original Articles

# What should the value of lambda be in the exponentially weighted moving average volatility model?

Bernard Bollen 

Pages 853-860 | Published online: 24 Nov 2014

 Cite this article  <https://doi.org/10.1080/00036846.2014.982853>

 Check for updates

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  Citations  Metrics

 Reprints & Permissions

[Read this article](#)

[Share](#)

## Abstract

Forecasting volatility is fundamental to forecasting parametric models of value-at-risk. The exponentially weighted moving average (EWMA) volatility model is the recommended model for forecasting volatility by the Riskmetrics group. For monthly data, the lambda parameter of the EWMA model is recommended to be set to 0.97. In this study, we empirically investigate if this is the optimal value of lambda in terms of forecasting volatility. Employing monthly realized volatility as the benchmark for testing the value of lambda, it is found that a value of lambda of 0.97 is far from optimal. The tests are robust to a variety of test statistics. It is further found that the optimal value of lambda is time varying and should be based upon recent historical data. The article offers a practical method to increase the reliability and accuracy of value-at-risk forecasts that can be easily implemented within an Excel spreadsheet.

Keywords:

EWMA

volatility

lambda

value-at-risk

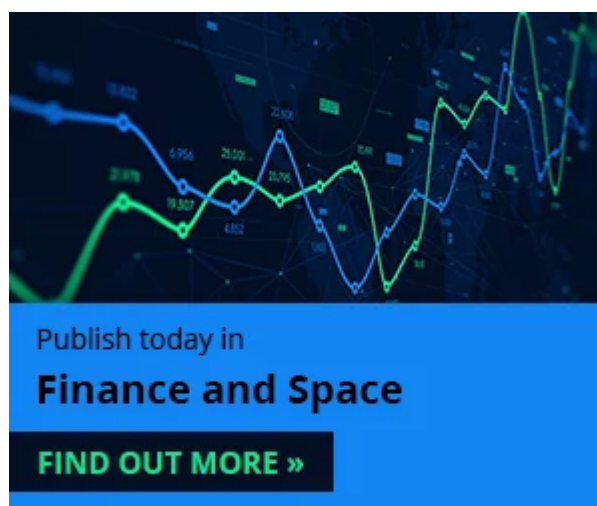
JEL Classification:

C5

F37

## Notes

<sup>1</sup> See <http://research.stlouisfed.org/fred2/series/SP500/downloaddata>



Related research 

People also read

Recommended articles

Cited by  
18

## 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



Copyright © 2026 Informa UK Limited [Privacy policy](#)

[Cookies](#) [Terms & conditions](#) [Accessibility](#)

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



**Taylor & Francis**  
by informa