



Journal of Applied Statistics >

Volume 38, 2011 - [Issue 7](#)

2,464 108

Views | CrossRef citations to date | Altmetric

3

Original Articles

# The corrected VIF (CVIF)

José Dias Curto ✉ & José Castro Pinto

Pages 1499-1507 | Received 09 Dec 2009, Accepted 24 Jun 2010, Published online: 30 Sep 2010

🗨 Cite this article 🔗 <https://doi.org/10.1080/02664763.2010.505956>

Sample our  
Bioscience  
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

In this paper, we propose a new corrected variance inflation factor (VIF) measure to evaluate the impact of the correlation among the explanatory variables in the variance of the ordinary least squares estimators. We show that the real impact on variance can be overestimated by the traditional VIF when the explanatory variables contain no redundant information about the dependent variable and a corrected version of this multicollinearity indicator becomes necessary.

Keywords:

corrected VIF

near-multicollinearity

JEL classification :

C13

C52

---

# Acknowledgements

We would like to express our thanks to Aris Spanos, Ewa Petkova, the editor and referees for their valuable comments and suggestions.

---

# Notes

When  $k$  increases, assuming that  $n$ ,  $TSS$  and  $TSS_j$  remain constant,  $R^2$  also increases.

The overall coefficient of determination, when all the explanatory variables are included in the model, is bigger than the sum of the coefficients of determination resulting from individual regressions between  $y$  and each one of the explanatory variables.

Thus, we also agree that 10 times higher is a substantial increase in the estimated variance of OLS estimators.

---

## Related Research Data

### [The Advanced Theory of Statistics](#)

Source: Population

### [A proposal for handling missing data](#)

Source: Psychometrika

### [The problem of near-multicollinearity revisited: erratic vs systematic volatility](#)

Source: Journal of Econometrics

### [A note on the use of the variance inflation factor for determining sample size in cluster randomized trials](#)

Source: Journal of the Royal Statistical Society Series D (The Statistician)

### [VIF Regression: A Fast Regression Algorithm for Large Data](#)

Source: Journal of the American Statistical Association

### [New Multicollinearity Indicators in Linear Regression Models](#)

Source: International Statistical Review

### [Problems of Nonnormality and Multicollinearity for Forecasting Methods Based on Least Squares](#)



## Related research

People also read

Recommended articles

Cited by  
108

## 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](#)

 Taylor and Francis Group

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