Taylor & Francis
Online

Journal of Applied Statistics ›
Volume 38, 2011 - Issue 7

2,558 Views | 125 CrossRef citations to date | 3 Altmetric

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 increases, assuming that , , 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

People also read | Recommended articles | Cited by 125

VIF Regression: A Fast Regression Algorithm for Large Data >

Dongyu Lin et al.
Journal of the American Statistical Association
Published online: 1 Jan 2012

Model-Dependent Variance Inflation Factor Cutoff Values >

Trevor A. Craney et al.
Quality Engineering
Published online: 15 Feb 2007

Extracting the Variance Inflation Factor and Other Multicollinearity Diagnostics from Typical Regression Results >

Christopher Glen Thompson et al.

Basic and Applied Social Psychology
Published online: 1 Feb 2017

View more

Information for

Authors
R&D professionals
Editors
Librarians
Societies

Open access

Overview
Open journals
Open Select
Dove Medical Press
F1000Research

Opportunities

Reprints and e-prints
Advertising solutions
Accelerated publication
Corporate access solutions

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 & Francis by informa

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