

RAZIONERIA GENERALE
DELLO STATO

Mehmet Mehmetoglu
Tor Georg Jakobsen

APPLIED STATISTICS USING STATA

A Guide for the
Social Sciences

companion
website 





Los Angeles | London | New Delhi
Singapore | Washington DC | Melbourne

SAGE Publications Ltd
1 Oliver's Yard
55 City Road
London EC1Y 1SP

SAGE Publications Inc.
2455 Teller Road
Thousand Oaks, California 91320

SAGE Publications India Pvt Ltd
B 1/1 1 Mohan Cooperative Industrial Area
Mathura Road
New Delhi 110 044

SAGE Publications Asia-Pacific Pte Ltd
3 Church Street
#10-04 Samsung Hub
Singapore 049483

Editor: Jai Seaman
Assistant editor: Alysha Owen
Production editor: Ian Antcliff
Copyeditor: Richard Leigh
Proofreader: Kate Campbell
Indexer: Martin Hargreaves
Marketing manager: Sally Ransom
Cover design: Shaun Mercier
Typeset by: C&M Digital (P) Ltd, Chennai, India
Printed in Great Britain by CPI Group (UK) Ltd,
Croydon, CR0 4YY

© Mehmet Mehmetoglu & Tor Georg Jakobsen 2017

First published 2017

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the Copyright, Designs and Patents Act, 1988, this publication may be reproduced, stored or transmitted in any form, or by any means, only with the prior permission in writing of the publishers, or in the case of reprographic reproduction, in accordance with the terms of licences issued by the Copyright Licensing Agency. Enquiries concerning reproduction outside those terms should be sent to the publishers.

Library of Congress Control Number: 2016939501

British Library Cataloguing in Publication data

A catalogue record for this book is available from the British Library

ISBN 978-1-4739-1322-6
ISBN 978-1-4739-1323-3 (pbk)

CONTENTS

Extended Contents	vii
Companion Website	xiii
About the Authors	xiv
Preface	xv
1 Research and Statistics	1
2 Introduction to Stata	15
3 Simple (Bivariate) Regression	45
4 Multiple Regression	67
5 Dummy-Variable Regression	85
6 Interaction/Moderation Effects Using Regression	109
7 Linear Regression Assumptions and Diagnostics	133
8 Logistic Regression	161
9 Multilevel Analysis	193

At SAGE we take sustainability seriously. Most of our products are printed in the UK using FSC papers and boards. When we print overseas we ensure sustainable papers are used as measured by the PREPS grading system. We undertake an annual audit to monitor our sustainability.

10	Panel Data Analysis	227
11	Exploratory Factor Analysis	269
12	Structural Equation Modelling and Confirmatory Factor Analysis	293
13	Critical Issues	325
	Index	351

EXTENDED CONTENTS

Companion Website	xiii
About the Authors	xiv
Preface	xv
1 RESEARCH AND STATISTICS	1
1.1 The methodology of statistical research	2
1.2 The statistical method	3
1.3 The logic behind statistical inference	4
1.3.1 Probability theory	5
1.3.2 Population size	6
1.3.3 Why do I need significance levels if I am investigating the whole population?	7
1.4 General laws and theories	8
1.4.1 Objectivity and critical realism	9
1.5 Quantitative research papers	9
1.6 Concluding remarks	11
Questions	12
Further reading	12
References	13
2 INTRODUCTION TO STATA	15
2.1 What is Stata?	16
2.1.1 The Stata interface	16
2.1.2 How to use Stata	18