CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

UNIVERSITY OF CAMBRIDGE
DEPARTMENT OF APPLIED ECONOMICS

MONOGRAPHS

3

THE ROLE OF MEASUREMENT IN ECONOMICS

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

THE ROLE OF MEASUREMENT IN ECONOMICS

BY
RICHARD STONE
DIRECTOR OF THE DEPARTMENT OF APPLIED ECONOMICS
FELLOW OF KING'S COLLEGE, CAMBRIDGE

THE NEWMARCH LECTURES
1948–1949
given at University College, London

CAMBRIDGE
AT THE UNIVERSITY PRESS
1951

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

CAMBRIDGE UNIVERSITY PRESS
Cambridge, New York, Melbourne, Madrid, Cape Town,
Singapore, São Paulo, Delhi, Mexico City

Cambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org
Information on this title: www.cambridge.org/9781107673861

© Cambridge University Press 1951

This publication is in copyright. Subject to statutory exception
and to the provisions of relevant collective licensing agreements,
no reproduction of any part may take place without the written
permission of Cambridge University Press.

First published 1951
First paperback edition 2013

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

ISBN 978-1-107-67386-1 Paperback

Cambridge University Press has no responsibility for the persistence or
accuracy of URLs for external or third-party internet websites referred to in
this publication, and does not guarantee that any content on such websites is,
or will remain, accurate or appropriate.

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

CONTENTS

List of Tables *page* vii

List of Diagrams vii

Preface viii

INTRODUCTION

I Newmarch and the Progress of Statistical Inquiry 1

II Economics and Measurement 5

III Four Types of Question in Economics 7

FOUR ASPECTS OF THE PROBLEM OF MEASUREMENT

IV Facts and Empirical Constructs 9

V Deductively Formulated Theories and their Verification 12

VI Postulates for the Theory of Choice 15

VII The Estimation of Parameters 18

VIII The Nature of Prediction 23

IX A Simple Model 23

X The Development of a Linear Model over Time 25

XI Prediction and Economic Policy 27

XII Practical Objections to Exact Models 32

XIII Prediction from Static Models 36

SOME ILLUSTRATIONS OF THE PROBLEMS OF MEASUREMENT

XIV Social Accounting 38

XV The Three Forms of Economic Activity 38

XVI Transactions in the British Economy in 1948: an Example 43

XVII The Derivation of the Example from Published Sources 47

XVIII The Structure of Transactions and Some Important National Aggregates 48

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

XIX The Group Structure of Transactions *page* 51
XX Systems of Transactions from the Viewpoint of Accountancy 53
XXI Statistical Design in Social Accounting 57
XXII Market Demand from the Viewpoint of Economic Theory 60
XXIII Other Influences to be Taken into Account 63
XXIV The Formulation of Market Demand Relationships 64
XXV Statistical Problems 67
XXVI Demand Analyses for the United Kingdom 71
XXVII Demand Analyses for the United States of America 75
XXVIII The Sources Used in the American Analyses 80
XXIX Concluding Remarks 82

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

LIST OF TABLES

1 Development of Hypothetical Model when disturbed before and after Government Intervention *page* 29

2 Simplified Accounting System showing the Transactions in the British Economy in 1948 47

3 Summary of Demand Analyses for the United Kingdom based on First Differences of Annual Data over the Period 1920–38 72

4 Summary of Demand Analyses for the United States of America based on Annual Data over the Period 1929–41

available for download from www.cambridge.org/9781107673861

5 An Analysis of the Average Value of von Neumann's Ratio in Different Subsets (American Data) 77

6 An Analysis of the Dispersion of von Neumann's Ratio in Different Subsets (American Data) 77

7 Residual Trend Coefficients in Different Subsets (American Data) 79

8 An Analysis of the Proportionality Condition in Different Subsets (American Data) 79

9 Sources of Data for Specific Commodities used in the Analyses of Section XXVII 81

LIST OF DIAGRAMS

1 Development of Hypothetical Model when disturbed before and after Government Intervention *page* 29

2 Relationships between Production, Consumption and Adding to Wealth 39

3 Transactions in the British Economy in 1948 44

4 Alternative Presentation of Diagram 2 52

5 Illustration of Group Property of a System of Transactions 52

© in this web service Cambridge University Press www.cambridge.org

CAMBRIDGE

Cambridge University Press
978-1-107-67386-1 - The Role of Measurement in Economics
Richard Stone
Frontmatter
More information

PREFACE

It was my privilege to give the Newmarch Lectures for the academic year 1948–9 at University College, London. In preparing them for publication I have thought it best to leave the topics in their original order, but not to divide the text of this essay into four sections corresponding to the individual lectures. The ground covered by each of these is contained in Sections I–VI, VII–XIII, XIV–XXI, and XXII–XXIX respectively, and the only extensions I have made are as follows. The topics of Sections VI and X were barely touched upon in the lectures themselves and are expanded here. The numerical illustration of Section XVI has been revised in the light of the national income White Paper which appeared in April 1949 and a detailed explanation of the way in which these figures have been derived has been added. Time did not permit any reference to the details of Section XVII or to the studies described in Sections XXVII and XXVIII.

I am indebted to two members of the Department of Applied Economics for the help they have given in preparing this book for publication. Section VI has benefited from the criticisms of Mr J. Durbin and I was assisted in the presentation of Section X by Mr S. F. James.

The temerity of attempting to cover so large a subject in so small a space is obvious. For the benefit of any who may wish to pursue the various topics further I have included a number of references, mostly to the literature of the last decade. The list is in no sense comprehensive; it contains simply those books and articles which have seemed to me most relevant among those I happen to have come across.

J.R.N.S.

CAMBRIDGE
August 1949

© in this web service Cambridge University Press www.cambridge.org