

*Distribution of personal wealth  
in Britain*

TO OUR PARENTS

A.B. ATKINSON  
*Professor of Political Economy  
University College London*

A.J. HARRISON  
*Assistant Professor of Economics  
McMaster University  
Hamilton, Ontario*

CAMBRIDGE UNIVERSITY PRESS  
CAMBRIDGE  
LONDON • NEW YORK • MELBOURNE

Published by the Syndics of the Cambridge University Press  
 The Pitt Building, Trumpington Street, Cambridge CB2 1RP  
 Bentley House, 200 Euston Road, London NW1 2DB  
 32 East 57th Street, New York, NY 10022, USA  
 296 Beaconsfield Parade, Middle Park, Melbourne 3206, Australia

© A. B. Atkinson and A. J. Harrison 1978

First published 1978

Printed in Great Britain at  
 the Alden Press Oxford London and Northampton

*Library of Congress Cataloguing in Publication Data*

Atkinson, Anthony Barnes.  
 Distribution of personal wealth in Britain.

Includes bibliographical references and index.

1. Wealth—Great Britain. I. Harrison, Alan James,  
 1947- joint author. II. Title.  
 HC260.W4A83 330.1'6 77-2715  
 ISBN 0 521 21735 0

## CONTENTS

	<i>List of tables</i>	vii
	<i>List of figures</i>	ix
	<i>List of symbols and explanation of notation</i>	x
	<i>Preface</i>	xiii
<b>1</b>	<b>Introduction</b>	<b>1</b>
1.1	Aim of study	1
1.2	Delimitation of the field	3
1.3	Review of earlier studies	7
1.4	Reader's guide	15
<b>2</b>	<b>Critique of official statistics</b>	<b>17</b>
2.1	The Inland Revenue estimates	17
2.2	The estate method	23
2.3	Grossing up from estate data to wealth estimates	26
2.4	'Missing' wealth and problems of valuation	35
2.5	The Inland Revenue statistics — a summing up	44
<b>3</b>	<b>Mortality multipliers</b>	<b>49</b>
3.1*	The theory of mortality multipliers	49
3.2	The derivation of mortality multipliers	61
3.3	Comparison of estimates for 1968	71
3.4	Summary	78
<b>4</b>	<b>Reconciliation with national balance sheet data</b>	<b>79</b>
4.1	'Missing' wealth and the balance sheet totals	79
4.2*	Adjustments to individual asset categories	86
4.3	Results for 1968 and 1972	100
4.4	Summary	107
<b>5</b>	<b>New estate method estimates</b>	<b>110</b>
5.1	A new approach	110
5.2	Adjusted estimates 1966–72	113
5.3*	Reliability of the results	125
5.4	Summary	136

List of tables

viii

6.8	Regression results for time trends 1923–72	168
7.1	Yields on different assets 1968–9 and 1972–3	178
7.2	Sensitivity of yield curve to individual asset yields 1968–9	182
7.3	Investment income and derived holdings of wealth – United Kingdom 1968–9 and 1972–3	184
7.4	Comparison of estate and investment income results 1937	192
7.5	Investment income estimates of size distribution 1968–9 – different assumptions	196
8.1	Wealth transmission under alternative assumptions	215
8.2	Simulation results of Pryor–Gini coefficients for the distribution of income	218
9.1	Regression equations for the share of the top 1 per cent	236
9.2	Distribution of wealth among men and women – England and Wales 1970	243
9.3	Family distribution of wealth – share of top 1 per cent under different assumptions – Great Britain 1970	248
9.4	Distribution by age groups – England and Wales 1970	254
9.5	Distribution by age groups – England and Wales 1923–70	256
<b>Appendices</b>		
I.1	Comparison of sample survey results with external sources 1953	273
II.1	Balance sheet totals 1966–72 – Great Britain	277
II.2	Life assurance: sums assured in the UK	280
IV.1	Simulation of measures of concentration	287
IV.2	Inland Revenue Series B Gini coefficients and explanatory variables	288
VI.1	Estimated wealth of the excluded population	305

LIST OF FIGURES

2.1	Shares in total wealth and Gini coefficients – Inland Revenue estimates 1960–73	21
3.1	Effect of increase in multiplier $\lambda_{ai}$	50
3.2	Effect of different multipliers on Lorenz curve 1968	73
4.1	Range of results under 'crude' and refined assumptions	104
5.1	Interpolation: 1968 first stage estimates	134
6.1	Share of top 1% and 5% in England and Wales and Scotland 1923–72	157
7.1	Investment income and estate methods	176
7.2	Yield curves 1968–69 and 1972–3	181
7.3	Comparison of estate and investment income estimates 1968–9 and 1972–3	188
8.1	Two outcomes of the 'Meade process' depending on the 'internal rate of accumulation'	205
8.2	Aggregate equilibrium	207
8.3	(a) Unique stable long-run equilibrium and (b) Multiple equilibria	209
9.1	Share of wealth owned by women – England and Wales 1923–72	249
9.2	Age profiles of wealth-holding 1923–70	253
<b>Appendices</b>		
IV.1	Lorenz curve and Gini coefficient	286
V.1	Linear bounds on Lorenz curve	291
V.2	Assumed densities with refined bounds	292
IX.1	Pareto distribution	315
IX.2	Lognormal distribution for different values of $\sigma$	316

<b>6</b>	<b>Trends over time</b>	<b>138</b>
6.1	Introduction	138
6.2	Historical record	143
6.3	Towards a consistent series	153
6.4	Trends over time	163
6.5	Conclusions	169
<b>7</b>	<b>Investment income approach</b>	<b>171</b>
7.1	Method and sources	171
7.2	Construction of the yield multipliers	175
7.3	Results and comparison with estate estimates	183
7.4	Deficiencies of the investment income method	191
7.5	Summary	199
<b>8</b>	<b>Theories of the distribution of wealth</b>	<b>201</b>
8.1*	Accumulation of wealth	203
8.2*	Transmission of wealth	211
8.3*	Distributional models	219
8.4	Implications for the interpretation of the evidence	226
<b>9</b>	<b>Interpretation of the evidence</b>	<b>229</b>
9.1	Determinants of the share of the top 1 per cent	229
9.2	Empirical estimates	235
9.3	Wealth-holding and the family	241
9.4	Wealth-holding, age and the life-cycle	250
9.5	Summary	258
<b>10</b>	<b>Summary and directions of future research</b>	<b>259</b>
10.1	Summary of main findings	259
10.2	Suggestions for future research	264
	<b>Appendices</b>	<b>268</b>
I	Sample Survey Evidence	268
II	Balance Sheet Totals 1966–72	276
III	Treatment of Land and Buildings	281
IV	Summary Measures of Concentration	284
V	Methods of Interpolation	290
VI	Data for Chapter 6	297
VII	Bias in the Investment Income Method	306
VIII	Estimated Yields for Investment Income Method (Chapter 7)	308
IX	Specific Distribution Functions	314
	<i>References</i>	318
	<i>Index</i>	324

\*These sections are more technical – see page 16.

## LIST OF TABLES

1.1	Studies using estate method	10
2.1	The Inland Revenue estimates of wealth of individuals in Great Britain 1960–1973	18
2.2	The Inland Revenue method of estimation – a summary	46
3.1	Social class differentials applied to mortality multipliers	65
3.2	Mortality rates relative to all males – selected occupations, England and Wales 1961	66
3.3	General mortality multipliers 1968	72
3.4	Estimates of the distribution of wealth using different multipliers – Great Britain 1968	74
3.5	Sensitivity of share of top 1% – increase in share from 10% increase in multiplier	77
4.1	Discrepancy between estate duty estimates and national balance sheet totals 1961	81
4.2	Balance sheet and estate method totals 1968 and 1972	85
4.3	Asset composition: percentage of net capital value held in asset type 1968 and 1972	87
4.4	Summary of assumptions about allocation of excess wealth by ranges	88
4.5	Sensitivity to assumptions B2–B4 1968 and 1972	101
4.6	Basis of valuation C2 compared with C1 1968	103
4.7	Effect of different adjustments 1968	106
4.8	Different adjustments for land and buildings 1968 and 1972	107
4.9	Adjusted estimates – different multipliers 1968	108
5.1	Effect of different adjustments on shares of top 1% and top 5%	112
5.2	Estimates of distribution of wealth for 1966–72 – first stage	117
5.3	Final estimates of distribution of wealth for 1966–72	120
5.4	Shares of top wealth groups 1966–72	123
5.5	Summary measures of concentration of wealth 1966–72	123
5.6	Sampling fractions and standard errors 1972	129
5.7	Upper and lower bounds on interpolation – 1968 first stage estimates	136
6.1	Estimates published by the Royal Commission 1911–13 to 1960 and 1960–73	139
6.2	Estimates published by Polanyi and Wood 1911–13 to 1951–6 and 1960–70	141
6.3	Availability of published estate data classified by range of estate and age	144
6.4	Social class differentials	147
6.5	Shares in total wealth 1923–1972	159
6.6	Sensitivity of shares to assumptions about wealth of excluded population – England and Wales 1923–72	160
6.7	Comparison of our estimates with those of earlier studies	165