Reproduced from *The Population of Singapore (Third Edition)*, by Saw Swee-Hock (Singapore: Institute of Southeast Asian Studies, 2012). This version was obtained electronically direct from the publisher on condition that copyright is not infringed. No part of this publication may be reproduced without the prior permission of the Institute of Southeast Asian Studies.

Individual articles are available at http://bookshop.iseas.edu.sg

The Population of Singapore

Third Edition

The **Institute of Southeast Asian Studies** (**ISEAS**) was established as an autonomous organization in 1968. It is a regional centre dedicated to the study of socio-political, security and economic trends and developments in Southeast Asia and its wider geostrategic and economic environment.

The Institute's research programmes are the Regional Economic Studies (RES, including ASEAN and APEC), Regional Strategic and Political Studies (RSPS), and Regional Social and Cultural Studies (RSCS).

ISEAS Publishing, an established academic press, has issued almost 2,000 books and journals. It is the largest scholarly publisher of research about Southeast Asia from within the region. ISEAS Publishing works with many other academic and trade publishers and distributors to disseminate important research and analyses from and about Southeast Asia to the rest of the world.

Saw Swee-Hock

The Population of Singapore

Third Edition

First published in Singapore in 2012 by ISEAS Publishing Institute of Southeast Asian Studies 30 Heng Mui Keng Terrace Pasir Panjang Singapore 119614

E-mail: publish@iseas.edu.sg *Website*: Website: http://bookshop.iseas.edu.sg

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the Institute of Southeast Asian Studies.

© 2012 Institute of Southeast Asian Studies, Singapore First Edition 1999 Second Edition 2007 Third Edition 2012

The responsibility for facts and opinions in this publication rests exclusively with the author and his interpretations do not necessarily reflect the views or the policy of the publisher or its supporters.

ISEAS Library Cataloguing-in-Publication Data

Saw, Swee-Hock, 1931-

The population of Singapore.

3rd ed.

- 1. Singapore—Population policy.
- 2. Singapore—Population.
- 3. Demography—Singapore.
- I. Title.

HB3645 A3S271 2012 2012

ISBN: 978-981-4380-31-7 (soft cover) ISBN: 978-981-4380-98-0 (hard cover) ISBN: 978-981-4380-32-4 (E-book PDF)

Typeset by International Typesetters Pte Ltd Printed in Singapore by Oxford Graphic Printers Pte Ltd

Contents

Lis	t of Tables	ix
Lis	et of Figures	XV
Pre	eface	xvii
Pre	eface to Second Edition	xviii
Pre	eface to Third Edition	xix
1.	Background	1
	Geographical Setting	1
	Historical Background	2
	Economy	4
	Demographic Data	5
2.	Population Growth and Distribution	7
	Early Settlement	7
	Pre-War Population Growth	9
	Post-War Population Growth	14
	Recent Population Growth	18
	Population Distribution	22
3.	Changing Population Structure	27
	Ethnic and Dialect Composition	27
	Sex Composition	31
	Age Structure	35
	Religious Composition	41
	Literacy Pattern	44
	Citizenship Dottern	18

4.	Migration	55
	Chinese Migration	56
	Indian Migration	57
	Malay Migration	59
	Growth of Foreign-Born Population	60
	Birthplace of Foreign-Born Population	65
	Year of First Arrival	70
	Recent Migration	74
	Emigration	78
5.	Mortality Trends and Differentials	81
	General Mortality Trends	81
	Post-War Mortality Trends	84
	Mortality Differentials	89
	Causes of Death	94
	Life Expectancies	97
6.	Marriage Trends and Patterns	102
	Marriage Customs and Laws	102
	Marriage Trends	105
	Age at First Marriage	111
	Marriage Changes by Age	115
	Interracial Marriages	116
	Marriage Patterns	120
7.	Divorce Trends and Patterns	127
	Divorce Customs and Laws	127
	Divorce Trends	131
	Divorce Trends Among Main Races	136
	Demographic Background of Divorcees	139
	Marital Background of Divorcees	141
	Reasons for Divorce	145
8.	Fertility Trends and Differentials	152
	General Fertility Trends	152
	Fertility Transition	155
	Fertility Changes by Age	159
	Fertility Changes by Birth Order	164
	Fertility Trends Among Main Races	168
	Fertility Differentials	172

Contents vii

	Below-Replacement Fertility	174
	Birth Shortfall Below-Replacement Level	183
9.	Family Planning, Abortion and Sterilisation	187
	Private Family Planning Programme	187
	Government Family Planning Programme	191
	Induced Abortion	195
	Voluntary Sterilisation	202
10.	Fertility Policies and Programmes	209
	Early Antinatalist Programme	209
	1984 Eugenic Programme	211
	1987 Programme Changes	215
	2000 Programme Changes	222
	2004 Programme Changes	227
	2008 Programme Changes	247
11.	Immigration Policies and Programmes	252
	Immigration Laws	252
	Entry Permit for Foreigners	254
	Permanent Residence Programmes	258
	Foreign Spouses and Adopted Children	259
	Citizenship Laws	262
	Engaging Overseas Singaporeans	264
	Stricter Control of Foreigners	265
12.	Labour Force	271
	Concepts and Definitions	272
	Growth of Labour Force	273
	Labour Force Participation	275
	Industrial Structure	283
	Occupational Pattern	290
13.	Future Population Trends	298
	Methodology	298
	Stationary Population	301
	Future Population	303
	Future Labour Force	318
	Major Population Issues	324
	National Population Management	327

viii	POPULATION OF SINGAPORE
Appendix	337
Bibliography	347
Index	355

List of Tables

2.1	Population Growth, 1824–1947	9
2.2	Components of Population Growth, 1881–1947	11
2.3	Annual Rate of Population Growth for Three Main Races, 1824–1947	12
2.4	Components of Population Growth for Three Main Races, 1901–1947	13
2.5	Population Growth, 1947–2010	14
2.6	Growth of Resident and Non-Resident Population, 2000–2011	18
2.7	Components of Total Population Growth, 2000–2010	21
2.8	Distribution of Total Population by Region, 1980 and 1990	22
2.9	Distribution of Resident Population by Region, 2000 and 2010	24
3.1	Distribution of Population by Race, 1824–2010	29
3.2	Sex Ratio by Race, 1824–2010	32
3.3	Sex Ratio by Broad Age Group, 1881–2010	34
3.4	Distribution of Population by Broad Age Group, 1901–2010	37
3.5	Percentage Distribution of Resident Population Aged 10 and	42
	Over by Religion and Race, 1980–2010	
3.6	General Literacy Rate by Race and Sex, 1957-2010	45
3.7	Literate Persons Aged 15 and Over by Language Literate In, 1970–2010	47
3.8	Distribution of Population by Citizenship Status and Sex, 1970–2010	50
3.9	Distribution of Population by Citizenship Status and Race, 1970–2010	52
4.1	Growth of Foreign-Born Population by Race, 1921–1980	62
4.2	Growth of Foreign-Born Resident Population by Race, 1990–2010	64
4.3	Distribution of Foreign-Born Total Population by Country of Birth, 1947–1980	66

4.4	Distribution of Foreign-Born Resident Population by Country of Birth, 1990–2010	68
4.5	Distribution of Foreign-Born Resident Population by Country of Birth and Race, 2010	70
4.6	Distribution of Foreign-Born Resident Population by Year of	71
4.7	First Arrival, 1990–2000	72
4.7	Distribution of Foreign-Born Resident Population by Year of First Arrival and Race, 1990	73
4.8	Foreign-Born Resident Population by Citizenship Status and Year of First Arrival, 1980 and 1990	75
4.9	Result of Application for Permanent Resident Status, 2005–2010	76
4.10	Components of Resident Population Growth, 2000–2010	77
5.1	Annual Average Deaths and Crude Death Rates, 1878–2010	82
5.2	Principal Causes of Death, 1941–1945	84
5.3	Infant Mortality Rate, Neonatal Mortality Rate, and Maternal Mortality Rate, 1946–2010	85
5.4	Age-Specific Death Rates, 1947–1990	87
5.5	Some Mortality Rates for Three Main Races, 1946–1964	90
5.6	Selected Causes of Death for Three Main Races, 1963	92
5.7	Age-Specific Death Rates by Sex, 2010	93
5.8	Principal Causes of Death, 1947–1990	95
5.9	Life Expectancy at Birth by Sex and Race, 1957–1990	98
6.1	Marriages and General Marriage Rate by Type of Marriages, 1961–2010	106
6.2	Marriages and General Marriage Rates for Three Main Races, 1961–2010	109
6.3	Average Age at First Marriage by Type of Marriages and Sex, 1961–2010	112
6.4	Age-Specific Marriage Rates by Sex, 1980–2010	115
6.5	Interracial Marriages and Interracial Marriage Rate, 1961–2010	117
6.6	Distribution of Grooms and Brides Contracting Interracial Marriages by Type of Marriage and Race, 2010	119
6.7	Bivariate Distribution of Non-Muslim Marriages by Religion of Grooms and Brides, 2010	122
6.8	Percentage Distribution of Groom and Bride by Education, 2005	125
7.1	Divorces and Divorce Rate by Type of Divorces, 1961–2010	133
7.2	Muslim Marriages, Divorces and Divorce Rate, 1921–1960	135
7.3	Divorces and Divorce Rate for Three Main Races, 1980–2010	137

List of Tables xi

7.4	Percentage Distribution of Divorcees by Type of Divorce and Sex and Age Group of Divorcees, 2010	140
7.5	Percentage Distribution of Divorcees by Type of Divorce and Sex and Previous Marital Status of Divorcees, 1984 and 2003	141
7.6	Percentage Distribution of Divorcees by Type of Divorce and Marriage Duration, 1984 and 2010	143
7.7	Percentage Distribution of Divorcees by Type of Divorce and Number of Dependent Children, 1984 and 2010	144
7.8	Percentage Distribution of Non-Muslim Divorces by Reason for Divorce, 1984-2010	147
7.9	Percentage Distribution of Muslim Divorces by Reason for Divorce, 1984–2009	148
7.10	Percentage Distribution of Muslim Divorces by Reason for Divorce and Type of Petitioner, 2009	149
8.1	Annual Average Births and Crude Birth Rate, 1876–2010	153
8.2	Birth, Crude Birth Rate and Total Fertility Rate, 1947–1975	156
8.3	Age-Specific Fertility Rates, 1947–1975	160
8.4	Relative Contribution of Each Age Group to Gross Total Fertility, 1947–1975	163
8.5	Gross Total Fertility Rate by Birth Order, 1967–1975	166
8.6	Relative Contribution of Each Birth Order to Gross Total	168
0.0	Fertility, 1967–1975	100
8.7	Total Fertility Rate for Three Main Races, 1947–1975	170
8.8	Total Fertility Rate for Three Main Races, 1947–2010	173
8.9	Annual Births and Total Fertility Rate, 1975–2010	177
8.10	Total Fertility Rate for Three Main Races, 1975–2010	180
8.11	Annual Births According to Actual Fertility and Replacement Fertility, 1947–2010	184
9.1	Annual Number of Clinics, Acceptors and Visits, 1949–1968	190
9.2	Family Planning Acceptors and Acceptance Rate, 1966–1997	194
9.3	Abortions, Abortion Ratio and Abortion Rate, 1970–2010	199
9.4	Male and Female Sterilisations, Sterilisation Ratio and Sterilisation Rate, 1970–2010	204
10.1	Changes in Accouchement Fees in Government Hospitals with Effect From 1 March 1985	214
10.2	Amendment to Primary School Registration, 1987	219
10.3	Baby Bonus Scheme for the Second Child and the Third Child	225
10.4	Cash Gift Schedule	234
10.5	Government Matching in A Co-Savings Schedule	235

10.6	Infant Care Subsidy Rates	236
10.7	Comparison of Rebates Under the Old and New Schemes	238
10.8	Pattern of Working Hours for 5-Day Week	242
10.9	Distribution of Births by Birth Order, 2002–2006	246
12.1	Growth of Labour Force by Sex, 1957–2010	274
12.2	Labour Force Participation Rate by Race and Sex, 1957–2010	276
12.3	Age-Specific Labour Force Participation Rate by Sex, 1957–2010	278
12.4	Labour Force Participation Rate by Marital Status and Sex, 1957–2010	282
12.5	Percentage Distribution of Labour Force by Three Broad Sectors of Economic Activity, 1957–2010	285
12.6	Percentage Distribution of Labour Force by Industrial Sector and Race, 1957–1990	286
12.7	Percentage Distribution of Resident Labour Force by Industry, Race and Sex, 2010	288
12.8	Percentage Distribution of Labour Force by Occupation, 1957–2010	291
12.9	Percentage Distribution of Labour Force by Occupation and Race, 1957–2010	294
12.10	Percentage Distribution of Labour Force by Occupation, Race and Sex, 2010	295
13.1	Estimated Births for Five-Year Periods, 2010–2050	300
13.2	Future Resident Population According to Replacement Fertility Projection, 2010–2050	302
13.3	Future Resident Population According to Three Different Projections, 2010–2050	304
13.4	Future Resident Population by Four Broad Age Groups According to Medium Projection, 2010–2050	307
13.5	Total Resident Population by Age Group According to High Projection, 2010–2050	308
13.6	Male Resident Population by Age Group According to High Projection, 2010–2050	309
13.7	Female Resident Population by Age Group According to High Projection, 2010–2050	310
13.8	Total Resident Population by Age Group According to Medium Projection, 2010–2050	311
13.9	Male Resident Population by Age Group According to Medium Projection, 2010–2050	312

List of Tables xiii

13.10	Female Resident Population by Age Group According to	313
	Medium Projection, 2010–2050	
13.11	Total Resident Population by Age Group According to Low	314
	Projection, 2010–2050	
13.12	Male Resident Population by Age Group According to Low	315
	Projection, 2010–2050	
13.13	Female Resident Population by Age Group According to Low	316
	Projection, 2010–2050	
13.14	Future Resident Labour Force According to Medium Projection,	319
	2010–2050	
13.15	Future Resident Labour Force by Age Group, 2010–2050	320
13.16	Total Resident Labour Force According to Medium Projection,	321
	2010–2050	
13.17	Male Resident Labour Force According to Medium Projection,	322
	2010–2050	
13.18	Female Resident Labour Force According to Medium Projection,	323
	2010–2050	

List of Figures

2.1	Development Guide Plan Regions	23
3.1	Age Pyramids, 1931–2010	39
3.2	Age Pyramids of Resident Population by Racial Groups, 2010	40
8.1	Total Fertility Rate and Births, 1947–2010	158
8.2	Age Specific Fertility Rates, 1947–1977	162
8.3	Gross Total Fertility Rates by Birth Order, 1967–1977	167
8.4	Total Fertility Rates for Three Main Races, 1947–1975	171
8.5	Annual Births and Total Fertility Rate, 1970–2010	178
8.6	Total Fertility Rates for Three Main Races, 1975–2010	181
9.1	Family Planning Acceptors and Acceptance Rate, 1966–1997	195
9.2	Annual Abortions and General Abortion Rate, 1970-2010	201
9.3	Annual Sterilisations and Sterilisation Rate, 1970–2010	206
12.1	Age Specific Labour Force Participation Rates by Sex, 1957 and 2010	280
13.1	Actual and Projected Resident Population, 1990-2050	305
13.2	Age Pyramids of Resident Population According to Medium Projection, 2010–2050	317
	FTOTECHOH. ZUTV-ZUJU	

Preface

The city-state of Singapore, with a small cosmopolitan population, is well known for its accomplishments in many areas of social and economic development brought about by a strong and stable government. Among the more significant characteristics are the clean and crime-free environment, the remarkable public housing programme, the air transport system centred on a first-rate airport and national airline, the world-class seaport, and the high standard of living. The per capita income was estimated to reach US\$32,810 in 1997, higher than that recorded for Australia, Hong Kong, the United States, the United Kingdom, Germany, and many European countries. In the field of demography, the most prominent achievements are the effective population control programme and the rapid decline in fertility to replacement level in 1975. These two characteristics, together with other major features of the population, are discussed in considerable detail in this book.

It has always been my fervent desire to incorporate my research findings on the different aspects of Singapore's demographics into a single cohesive work. Not surprisingly, this ambitious project has taken a long time to realize. Pressure of work prior to my retirement from academia did not permit me to make any sustained effort to prepare the manuscript, and intensive writing could only be realized during my study leave spent in the Department of Statistics at the University of Hong Kong in 1991, and in Wolfson College, University of Cambridge, in the following year. Thereafter, progress on the manuscript was delayed further by the late release of the results of the 1990 Population Census. In giving the finishing touches to the manuscript in the late nineties, I took the opportunity to include whatever data that were pertinent and available for the years up to 1997 to supplement the census data. The final product incorporated in this book has been carefully designed to meet its overall objective of presenting a comprehensive and up-to-date account of population trends and patterns in Singapore.

In the preparation of this book I was fortunate to receive the assistance of many organizations and individuals. In particular, I would like to mention the excellent facilities offered at the National University of Singapore, the University of Hong Kong, and the University of Cambridge. I am greatly indebted to my wife, Cheng Siok Hwa, for her comments on the manuscript. My grateful thanks go to Professor Chia Siow Yue, Director of the Institute of Southeast Asian Studies, for her encouragement. Needless to say, any opinions and shortcomings in the book are entirely my own.

Saw Swee-Hock June 1997

Preface to Second Edition

The original edition of this book on *The Population of Singapore* presents an analysis of population trends and patterns in Singapore in eleven chapters covering the period from its foundation in the early nineteenth century to around the year 1997. In designing the second edition, I have expanded the book by increasing the number of chapters to thirteen and by including data, particularly those from the 2000 Population Census and the 2005 General Household Survey, that have been made available up to 2005, or even 2006 in some instances. The old chapter on Population Control has been split into two, one entitled Family Planning, Abortion and Sterilisation and the other Fertility Policies and Programmes. A new chapter on the very current topic, Immigration Policies and Programmes, has been added. The last chapter on Future Population Trends incorporates the results of my latest projection of the resident population and, for the first time, the resident labour force. As for the other chapters, they have been updated by including materials that have been made available up to the year 2006 or so. Overall, the changes have resulted in a book that is clearly more current and comprehensive.

In preparing the second edition of the book, I have benefited from the valuable assistance of many organisations and individuals. My thanks go to the numerous government organisations for supplying me with the necessary materials and statistics. My research has been greatly facilitated by the assistance and conducive facilities offered at the London School of Economics Library, the National University Library, and the Institute of Southeast Asian Studies. I wish to thank

Contents xix

Ambassador K Kesavapany, Director of ISEAS, for his generous hospitality and Mrs Triena Ong, Managing Editor of ISEAS Publications Unit, for bringing out this edition expeditiously. I wish to reiterate that any opinions and shortcomings are entirely my own.

Saw Swee-Hock June 2007

Preface to Third Edition

The third edition of this book has included all the materials that have been made available since the previous edition was published in 2006. The statistics from the 2005 General Household Survey have been completely replaced with the more comprehensive and reliable data made available from the latest Census of Population conducted in June 2010. Other statistics used in the book were also updated, up to the year 2010 in most cases. Apart from updating the figures in the various chapters, new developments concerning the population of Singapore have been incorporated in these chapters. An important change refers to the computation of a new set of population and labour force projections included in the last chapter.

In preparing the present edition of the book I have again benefited from the assistance I received from the various organizations mentioned in the previous prefaces. I wish to thank Ambassador Tan Chin Tiong, Director of ISEAS, for his support and encouragement and Mrs Triena Ong, Managing Editor of ISEAS Publication Init, for bringing out this edition expenditiously. I wish to emphasize again that any opinions and shortcomings in the book are entirely my own.

Saw Swee-Hock April 2012