

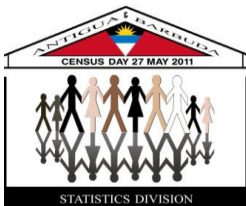


Government of Antigua and Barbuda

Antigua and Barbuda 2011 Population and Housing Census

A Demographic Profile

June 2017



Statistics Division
Ministry of Finance and Corporate Governance



Government of Antigua and Barbuda

Antigua and Barbuda
**2011 Population and
Housing Census**

A Demographic Profile

June 2017

Compiled and published by:

Statistics Division
First Floor, ACT Building
Cnr. Market and Church Streets
St. John's, Antigua

How to access a copy of the Demographic Profile

Copies of this publication are available free of charge from:

Statistics Division
First Floor, ACT Building
Cnr. Market and Church Streets
St. John's, Antigua

Tel: (268) 462 3233 / 462 4775 /562 7492

Fax: (268) 562 2542

Email: stats@ab.gov.ag

Or online www.ab.gov.ag

Foreword

The *2011 Population and Housing Census – A Demographic Profile* is an analytical report that contains analyses of data collected during the 2011 Population and Housing Census. It presents a major thematic analysis and is the third publication produced by the Statistics Division using data from the 2011 Census. The purpose of this publication is to analyse the census data to provide policy makers, researchers, planners, technocrats and other users with demographic and socioeconomic statistical information that can be used for policy formulation, development planning, monitoring and evaluation of various programs, policies and development initiatives.

Unlike the *2011 Population and Housing Census – Book of Statistical Tables I* released in May 2014, this publication provides a detailed analysis of the demographic and socioeconomic situation of the country. The report also utilizes data collected from various administrative sources and previous censuses. The analysis illustrates the demographic characteristics of the population and changes over time.

In presenting this report, the Statistics Division would like to take this opportunity to recognize the contributions of several individuals and institutions that made the Census possible. The success of this major statistical undertaking was dependent on those persons who participated in planning and conducting of the Census. Among them are the various national and international organisations, government agencies and institutions; field staff and the public who participated in the Census; and the authors of the report, especially Mr. Frank Eelens, who worked closely with the Division to analyse the Census and administrative data to produce the report.

On behalf of the Statistics Division, I would like to express my deepest gratitude to all persons and institutions that contributed to the Census and this publication.

In effort to increase the use the 2011 Census data, this report provides users with a detailed picture of the demographic profile of the country. However, we do recognize there are other demographic, social and economic analyses that are not contained in this report and welcome your comments and suggestions on how to improve future publications.

Stachel Edwards

Chief Statistician (Census Officer)

30 June 2017

Introduction

The 2011 Population and Housing Census (Census 2011) in Antigua and Barbuda was held in the weeks following Friday 27 May 2011. All census data reference this date (census moment). The Census 2011 was taken exactly ten years after the 2001 census (28 May 2001).

In May 2014, the *Book of Statistical Tables I of the 2011 Census* was released, containing a large set of frequency tables and cross tabulations in which the size and characteristics of the people living on Antigua and Barbuda are described. The Book of Statistical Tables, gives a detailed description of the methodology, the fieldwork, data processing, and the notations and definitions used. This publication, uses the same definitions that are presented in Appendix I.

A population census is a rich source of data that provides a picture of the demographic, social and economic characteristics of the population currently living in Antigua and Barbuda. It was therefore decided that next to the Book of Statistical Tables, various specialized analytical reports would be produced, highlighting demographic, social and economic features of the population living on Antigua and Barbuda. This publication provides an in-depth analysis of demographic characteristics of the population. The report first considers the dynamics of the current size and structure of the population in terms of age and gender divisions. In the next two chapters, the focus is on the current patterns of fertility and mortality in the country. As much as possible, the current demographic situation will be placed in its historical context and comparisons will be made with demographic indicators observed in other countries in the region and in the world.

The last chapter of this report, uses the population size and age-structure observed in the Census 2011 as the basis for the population projections. To perform these projections, a set of demographic assumptions are used and grouped in three scenarios - low, medium, and high. Then, for each scenario, the specific mortality, fertility and migration assumptions are used to calculate the size and structure of the future population, by adding/subtracting the calculated number of births, deaths, immigrants and emigrants. As administrative flow migration figures are not available for Antigua and Barbuda, a slightly different approach than the standard cohort component method was applied. The methodology used will be explained at the beginning of chapter 5. The administrative data used throughout the report was collected in 2015 and was the most accurate data available at the time, there may be revisions to the data from the data suppliers since the production of this report. However, these are minor revisions and does not greatly impact the analysis of the various datasets.

In addition to information from private households, some data from the population census were collected from visitors, vagrants, crews on board ships in port and persons residing in specialized institutions at the census moment. Information on persons living in institutional households was gathered with special, much more limited questionnaires, while persons residing in private households were individually interviewed with extended questionnaires. Because only very limited information was collected about persons living in institutional households, they are excluded from most of the cross tabulations in the *Book of Statistical Tables*. In this report, the analysis is based on persons residing in private households. Whenever data for persons living in institutional households are included, this will be indicated. For many variables, a small proportion of cases had missing information. Many tables in this report are only based on those

cases for which valid information was available. Consequently, not all tables have row and column marginals equal to the population totals.

Tables and graphs are used to illustrate the trends and characteristics. In some cases, we only graphs are used in the text, for easier readability. Tables on which these graphs are based can be found in Appendix 2.

During the last decades, the demographic changes that took place in Antigua and Barbuda were mainly the result of changes in migration. The description of migration patterns will be minimal in this report. However, as migration has an effect on the size and composition of the population, place of birth (local/foreign-born) as a component of population dynamics will be discussed at various points in the report.

Acknowledgements

The Ministry of Finance and Corporate Governance acknowledges the contributions of the following individuals to the execution of the 2011 Population and Housing Census:

Government of Antigua and Barbuda

Honourable Minister of Finance and Corporate Governance
Chief Statistician and the Staff, Statistics Division
Accountant General and Staff of the Treasury Department
Strategic Deployment Coordinator, Development Planning Unit and Staff
Head and Staff of the Health Information Division
Chief Medical Officer and Staff of the Ministry of Health
Team Census (Appendix I)
Magistrate Joan Fung
Magistrate Asquith Rivière
ABS Television and Radio

Census Workers and Committees

Census Temporary Staff (fieldworkers, data editors, data processors and verifiers)
Members of the National Advisory Committee (Appendix II)
Members of the Technical Advisory Committee (Appendix III)
Language Interpreters (Appendix VII)

Regional Partners

Dr. Philomen Harrison, Project Director, Regional Statistics Programme, CARICOM Secretariat and her staff
Mr. John Mensah, CARICOM Census Coordinator, Regional Statistics, Caribbean Community Secretariat
Mr. Edwin St. Catherine, Director of Statistics, Government Statistics Department, St. Lucia
Ms. Sherma Lawrence, Cartographer, Government Statistics Department, St. Lucia
Mrs. Yasmara Y. Pourrier Chief Information Officer, Central Bureau of Statistics, Aruba
Mr. Frank C. H. Eelens, Information for Progress, Aruba
Mr. Martjin Balkestein, Director of Central Bureau of Statistics, Aruba
Mrs. Sandra Paradez, Technical Advisor for Census, UNPFA
Mr. Carlos Ellis, (former) Census Regional Advisor, UNPFA
Mr. Charles Brigham, CARICOM Mapping and GIS Consultant (2010/2011 round of censuses)
Caribbean DMS Limited

Sponsors and Volunteers

Rotary Club of Antigua and Barbuda
HAMA Inc.
Members of the Antigua and Barbuda Cadet Corps (Appendix IV)
Public and Private Sector entities (Appendix V)
Individuals who assisted in preparing the Census Workers' Boxes (Appendix VI)

Table of Contents

Foreword.....	i
Introduction	ii
Acknowledgements.....	iv
List of Tables	vii
List of Figures	viii
Section I. Population Dynamics of Antigua and Barbuda	1
Population Growth Continues.....	1
Regional Distribution	3
Population Age Distribution.....	5
A Large Foreign Population.....	9
Ethnicity	13
Changing Age Structures.....	15
Demographic Dividend.....	21
Population Estimates During the Intercensal Period 2001 - 2011.....	23
Section II. Fertility	28
Fertility Information in the Census	29
Fertility Indicators	30
Past Fertility	34
Fertility, Marital Status and Unions	37
Teenage Fertility	41
Median Age at First Birth	47
Section III. Mortality and Morbidity.....	49
Infant and Child Mortality.....	50
Life tables	54
Disability in Antigua and Barbuda.....	60
Who are the Disabled?.....	63
Cause of Disability.....	66
Diseases in Antigua and Barbuda.....	66
Section IV. Population Projections.....	73
Appendix I. Definitions.....	84

2011 Population and Housing Census – A Demographic Profile

Appendix II. Additional Tables 87
Appendix III. Population Projections..... 97

List of Tables

Section I

Table 1.1. Estimated Population by Enumeration Category (2001, 2010)	1
Table 1.2. Total Resident Population by Sex (1980 - 2011)	1
Table 1.3. Population Density Caribbean Countries	2
Table 1.4. Population by Parish and Sex (2001, 2011).....	4
Table 1.5. Population Density by Parish, 2011	4
Table 1.6. Population by Sex and Five-Year Age groups (1980 - 2011)	7
Table 1.7. Antigua and Barbuda Born and Foreign-born Population by Sex and 5 Year Age groups (2011)	10
Table 1.8. Population by Parish and by Place of Birth	11
Table 1.9. Indicators for Age/Sex Structure, 1991 - 2011	17
Table 1.10. Intercensal Population Estimates for Males by Five-Year Age groups (2001 - 2011)	25
Table 1.11. Intercensal Population Estimates for Females by Five-Year Age groups (2001 - 2011)	26
Table 1.12. Intercensal Population Estimates for Both Sexes by Five-Year Age groups (2001 – 2011)	27

Section II

Table 2.1. Number of Births by Age of Mother during Period of 12 Months before the Census.....	29
Table 2.2. Fertility Table Antigua and Barbuda, Census 2011	32
Table 2.3. Parity Progression Ratios Women Aged 50 Years and Older, Antigua and Barbuda, 2011	36
Table 2.4. Women Aged 15 - 49 Years of Age, by Marital and Union Status.....	38
Table 2.5. Absolute and Percentage Distribution of Births Born to Women by Marital and Union Status.....	40
Table 2.6. Women Aged 15 - 49 Years of Age, by Marital and Union Status, and Birth Rate by Status.....	40
Table 2.7. Adolescent Birth Rates (1994-2011)	42
Table 2.8. Women, Aged 20 Years and Over by Reported Teenage Birth and 5 Year Age Group.....	43
Table 2.9. Logit Regression for Teenage Childbirth with Selected Explanatory Variables	45
Table 2.10. Median Age at First Birth by Age Category of Mother.....	47

Section III

Table 3.1. Measures of Infant and Child Mortality in Antigua and Barbuda, 2008 - 2011	51
Table 3.2. Trends in Infant Mortality 2000 - 2013	54
Table 3.3. Life Table Antigua and Barbuda 2011, Males.....	56
Table 3.4. Life Table Antigua and Barbuda 2011, Females	57
Table 3.5. Life Table Antigua and Barbuda 2011, Both Sexes.....	58
Table 3.6. Logit Regression Disability, Antigua and Barbuda 2011.....	64
Table 3.7. Percentage of Persons by Type of Disability and Cause of Disability.....	66

Table 3.8. Number of Persons and Percentage of Persons Suffering from Disease by Type	67
Table 3.9. Number of Persons by Type of Disease and Sex	70
Table 3.10. Logit Regressions for the Top Five Reported Diseases, Antigua and Barbuda, 2011.....	72

Section IV

Table 4.1. Mathematical Projections 2011 - 2026	77
Table 4.2. Assumptions for Fertility and Mortality for Projection Scenarios.....	78
Table 4.3. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario.....	81
Table 4.4. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario.....	82
Table 4.5. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario.....	83

List of Figures

Section I

Figure 1.1. Population Density Caribbean Countries	2
Figure 1.2. Percentage change of Population by Parish, 2001 - 2011	5
Figure 1.3. Population Growth by Broad Age Groups.....	6
Figure 1.4. Population Pyramids 1991, 2001, 2011	8
Figure 1.5. Population Pyramids for Persons born in Antigua and Barbuda and for Persons born Abroad	12
Figure 1.6. Population by Ethnicity, 2011	14
Figure 1.7. Population by Ethnicity, excluding African descent 2011.....	14
Figure 1.8. Population by Ethnicity, 2001	15
Figure 1.9. Population by Ethnicity, excluding African Descent, 2001	15
Figure 1.10. Percentage Change per Age group and Sex: 2001-2011	16
Figure 1.11. Youth and Elderly Dependency Ratios (1991 - 2011)	18
Figure 1.12. Dependency Ratios in Selected Caribbean Countries (2013)	19
Figure 1.13. Relative Age-distribution of Population by Place of Birth (2001 - 2011).....	20
Figure 1.14. Average Yearly Growth between 2001 and 2011 of Population by Place of Birth, Age group	20
Figure 1.15. Dependency Ratios for Antigua and Barbuda and Foreign-born by Sex.....	23

Section II

Figure 2.1. Number of Births by Age of Mother (Birth Registry and Census).....	30
Figure 2.2. Total Fertility Rates, Antigua and Barbuda, 1994 - 2011	33
Figure 2.3. Age-specific Fertility Rates (2001, 2005, 2011).....	34
Figure 2.4. Average Parity of Women 50 Years of Age and Older	35
Figure 2.5. Parity Progression Ratios Women Aged 50+ Years Old, Antigua and Barbuda, 2011	36
Figure 2.6. Percentage Distribution of Women between Ages 15 - 49 Years by Marital Status and Five-year Age groups	38
Figure 2.7. Adolescent Birth Rates (1994-2011)	41
Figure 2.8. Women, Aged 20 Years and Over by Reported Teenage Birth and 5 Year Age Group.....	44

Section III

Figure 3.1. Infant Mortality Rates for Selected Countries in the Caribbean Region (2013)	53
Figure 3.2. Trends in Infant Mortality, 2000 - 2013 Moving Averages of IMR	54
Figure 3.3. Age-specific Probabilities of Dying for Men and Women, Antigua and Barbuda, 2011	59
Figure 3.4. Life expectancy in the Caribbean Region.....	59
Figure 3.5. Number of Persons by Type of Disability, Sex and Severity of Disability.....	61
Figure 3.6. Percentage of Persons with a Disability by Sex and Five-Year Age Group	62
Figure 3.7. Prevalence of Disability for Women Compared to Prevalence of	62
Figure 3.8. Age Distribution of Five Most Common Diseases by Broad Age Categories	69

Section IV

Figure 4.1. Number of Projected Persons in 15 – 64 Years Age group by Projection Scenario.....	79
Figure 4.2. Percentage of Younger and Older Persons in the Medium Projection (2011 - 2026)	80

Appendix II

Table A2.1. Population by Sex and Five Year Age groups (1980 - 2011)	87
Table A2.2. Population by Ethnicity and Sex, 2001.....	87
Table A2.3. Population by Ethnicity and Sex, 2011.....	88
Table A2.4. Percentage Change of the Population by Age group, 2001 - 2011.....	88
Table A2.5. Dependency Ratios by Country, Caribbean Region (2013).....	89
Table A2.6. Absolute and Relative Number of Antigua and Barbuda Born and Foreign-born Persons, by Ten Year Age Groups, 2001 - 2011.....	90
Table A2.7. Average Yearly Growth of Antigua and Barbuda Born and Foreign-born Population by Ten Year Age groups during the Period 2001 – 2011	91
Table A2.8. Annual Number of Registered Births by Year of Birth and by Age of Mother.....	91
Table A2.9. Fertility Tables, 1994 - 2011.....	92

2011 Population and Housing Census – A Demographic Profile

Table A2.10. Mean Number of Children Ever Born by Age groups for Women 50 Years of Age and Older	93
Table A2.11. Percentage Distribution of Women between Ages 15 and 49 by Marital Status and Five Year Age groups	93
Table A2.12. Infant Mortality Rates in the Caribbean Region (2013).....	93
Table A2.13. Number of persons by Type of Disability, Degree of Disability and Sex,.....	94
Table A2.14. Percentage Distribution of Persons by Type of Disability, Degree of Disability, and Sex, Antigua and Barbuda, 2011	95
Table A2.15. Percentage of Persons with a Disability by Sex and Five-Year Age groups	96

Appendix III

Table A3.1.a. Summary Table: Antigua and Barbuda: Population Projections 2011, Medium Scenario ...	97
Table A3.1.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario	98
Table A3.1.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario	99
Table A3.2.a. Summary Table: Antigua and Barbuda: Population Projections 2011, Low Scenario	100
Table A3.2.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario.....	101
Table A3.2.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario.....	102
Table A3.3.a. Summary Table: Antigua and Barbuda: Population Projections 2011, High Scenario	103
Table A3.3.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario.....	104
Table A3.3.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario.....	105

SECTION 1 POPULATION

Section I. Population Dynamics of Antigua and Barbuda

Population Growth Continues

According to the 2011 Population and Housing Census, 85,567 persons were residing on Antigua and Barbuda on Census Day - 27 May 2011. Among these persons, 84,816 were living in private households and 751 in institutional households (see Table 1.1). In addition to the resident (*de jure*) population, the non-resident population was also enumerated in the Census. These included persons who were visiting the island and crews on board of ships in port. At the census moment, 2,999 non-resident persons were staying in the country. This put the *de facto* population in the country at 88,566 on 27 May 2011. It should be noted that the non-resident population is also excluded from the analysis in this report.

Table 1.1. Estimated Population by Enumeration Category (2001, 2010)

	2001	2011	Mean Annual Increase (%)
Total Population (private households)	75,816	84,816	1.12
Total resident population (private + institutional households)	76,886	85,567	1.07
Non-resident population	1,685	2,999	5.77
Total Estimated Population (de facto)	78,571	88,566	1.20

Source: Population and Housing Censuses 2001, 2011.

Table 1.2. Total Resident Population by Sex (1980 - 2011)

	1980	1991	2001	2011	Mean Annual Increase (%) 1980 - 1990	Mean Annual Increase (%) 1990 - 2001	Mean Annual Increase (%) 2001 - 2011
Male	30,473	30,793	36,109	40,986	0.10	1.59	1.27
Female	32,742	33,085	40,777	44,581	0.10	2.09	0.89
Sex ratio	93.1	93.1	88.6	91.9	0.00	-0.50	0.37
Total	63,215	63,878	76,886	85,567	0.10	1.85	1.07

Source: Population and Housing Censuses 2001, 2011.

Source data 1980 and 1991: Women and Men in CARICOM Member States. 1980, 1991 And 2000 Rounds of Population Censuses.

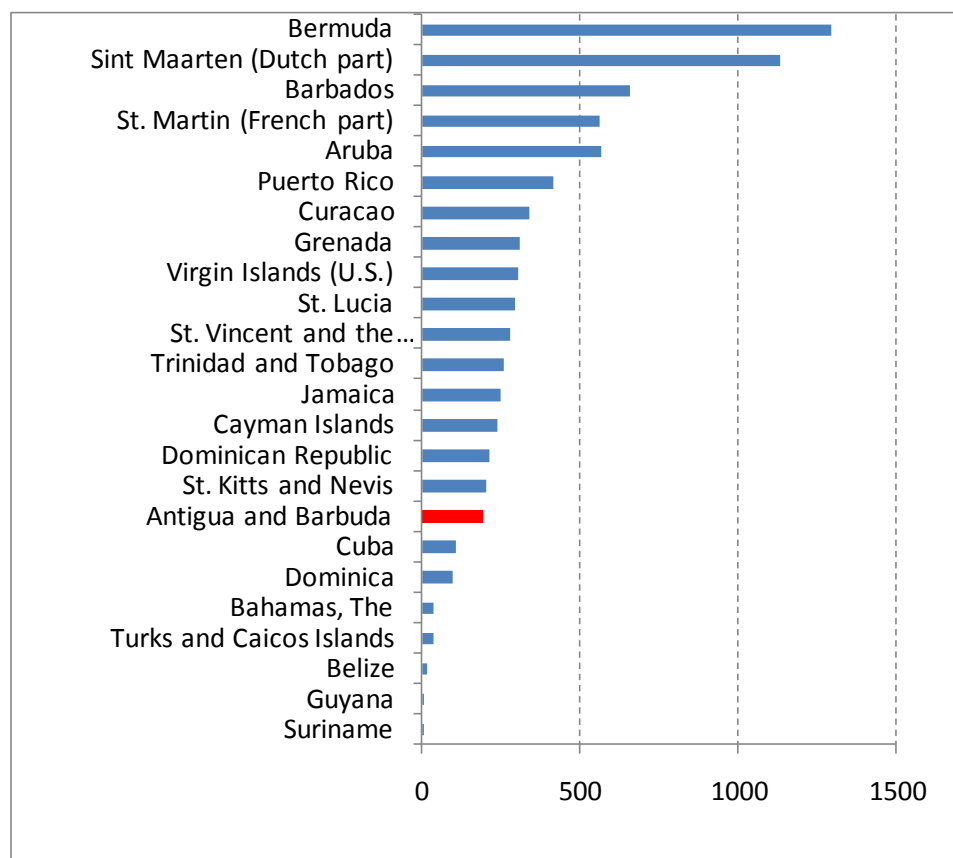
At the time of the 2001 census (29 May 2001) 76,886 persons were living in Antigua and Barbuda. The population increased with 8,681 persons during the 10 year intercensal period. This implies an overall growth of the population of 11.3 percent for the whole period and an average annual increase of slightly more than 1 percent (1.07). In the period 6 months before and 6 months after the census, 480 deaths and 1,252 births were registered in Antigua and Barbuda. With a population size of 85,567 this implies a death rate of 5.6 per thousand and a birth rate of 14.6 per thousand. As natural growth is simply the difference between the birth and the death rates,

Table 1.3. Population Density Caribbean Countries

Country	Population density per km ²
Suriname	3
Guyana	4
Belize	14
Turks and Caicos Islands	33
Bahamas, The	37
Dominica	95
Cuba	106
Antigua and Barbuda	194
St. Kitts and Nevis	204
Dominican Republic	210
Cayman Islands	236
Jamaica	249
Trinidad and Tobago	260
St. Vincent and the Grenadines	280
St. Lucia	294
Virgin Islands (U.S.)	302
Grenada	309
Curacao	339
Puerto Rico	416
Aruba	566
St. Martin (French part)	563
Barbados	655
Sint Maarten (Dutch part)	1,132
Bermuda	1,291

Source: The World Bank, 2014.

Figure 1.1. Population Density Caribbean Countries



in the period December 2010 to November 2011, the population in the country grew by 0.9 percent, solely due to fertility and mortality. As the average yearly population growth rate between 2001 and 2011 was 1.07 percent, it is clear that net migration only played a limited role in Antigua and Barbuda's demographic development during the intercensal period.

The total population remained about the same during the period 1980 to 1991. On average, the population grew by a merely 0.10 percent per year. During the nineties, growth picked up and was on average 1.85 percent between the years 1991 and 2001. Compared to the period 1991 to 2001, the growth of the population has come down again during the last 10 years. It is interesting that during the nineties, the female population grew more rapidly than the male population, while during 2001 - 2011 the male population grew at a higher pace. As a result, the sex ratio dropped from 93.1 in 1991 to 88.6 percent in 2001, but climbed again to its current level of 91.9 percent.

Antigua and Barbuda has a total area of 440 km² with a population density of 194.5 persons per square kilometer in 2011 compared to 174.5 in 2001.

Table 1.3 shows the population densities of selected Caribbean countries as recorded by the World Bank¹. The same information is depicted graphically in Figure 1.1. Within the Caribbean, a large variety exists in terms of population density. The countries that are the least densely populated are Suriname and Guyana with 3 and 4 persons per square kilometer respectively. At the other end of the spectrum is Bermuda with no less than 1,291 persons per square kilometer. Although Bermuda is the seventh most densely populated country on earth, it is still a far cry from Macao -the world's most densely populated country, where in 2011 no less than 19,510 persons lived per square kilometer. With a population density of less than 200 per square kilometer, Antigua and Barbuda forms part of the somewhat lower densely populated countries in the region. However, this is largely due to the large difference that exists between the two constituting islands. With its area of 280 km², Antigua has a population density of 299.8 persons per square kilometer, while Barbuda, given a population of a mere 1,634 persons and a land area of 160 km², has a population density of only 10.2 persons per square kilometer.

Regional Distribution

Antigua is divided into 6 parishes: St. John, St. George, St. Peter, St. Phillip, St. Paul and St. Mary. For the census, St. John was further divided into St. John City and St. John Rural. Table 1.4 shows the distribution of the population among the parishes in Antigua and Barbuda in 2001 and 2011. The figures show clearly how a large part of the population is concentrated in the parish of St. John: 51,737 persons, i.e. just over 60 percent of the population, lives in or around the capital.

¹ Information obtained from the website of the World Bank:
http://data.worldbank.org/indicator/EN.POP.DNST?order=wbapi_data_value_2012+wbapi_data_value&sort=asc.

2011 Population and Housing Census – A Demographic Profile

Barbuda remains very sparsely populated with only 1,634 people enumerated on the island during the census. After St. John, the parish of St. George, adjacent to St. John and close to the international airport, has the highest population with 8,055 persons.

Table 1.4. Population by Parish and Sex (2001, 2011)

Parish	2001			2011			Absolute change	Percentage Change	Direction of Change
	Total	Male	Female	Total	Male	Female			
Total	76,886	36,109	40,777	85,567	40,986	44,581	8,681	11.29	↑
St. John City	24,451	11,400	13,051	22,219	10,697	11,522	-2,232	-9.1	↓
St. John Rural	20,895	9,754	11,141	29,518	14,095	15,423	8,623	41.3	↑
St. George	6,673	3,166	3,507	8,055	3,826	4,229	1,382	20.7	↑
St. Peter	5,439	2,595	2,844	5,325	2,538	2,787	-114	-2.1	↓
St. Philip	3,462	1,643	1,819	3,347	1,579	1,768	-115	-3.3	↓
St. Paul	7,848	3,652	4,196	8,128	3,857	4,271	280	3.6	↑
St. Mary	6,793	3,212	3,581	7,341	3,533	3,808	548	8.1	↑
Barbuda	1,325	687	638	1,634	861	773	309	23.3	↑

Institutional population is included in these figures

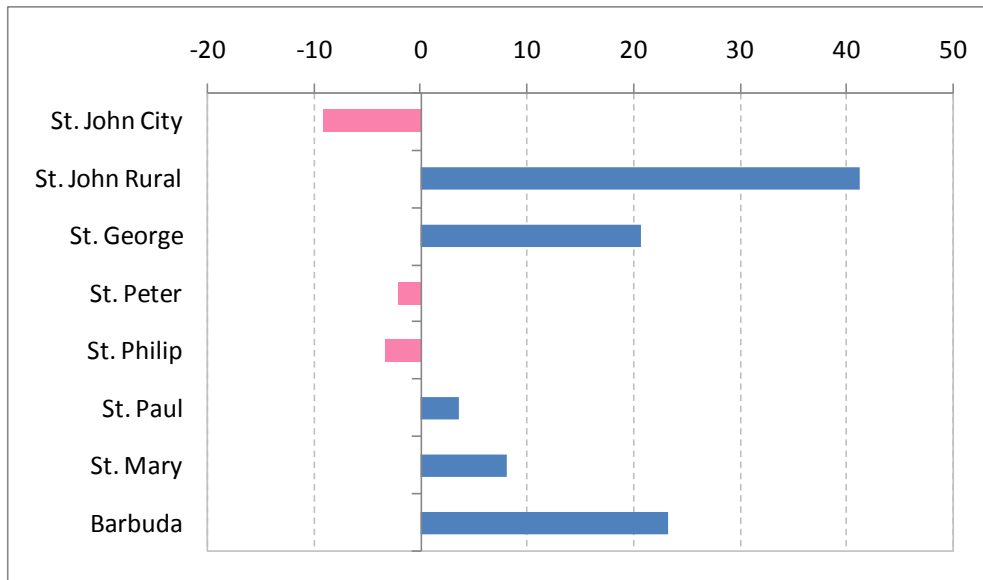
Since 2001, some important shifts have taken place between the various parishes. Figure 1.2 shows the percentage changes during the intercensal period between the different parishes. Apparently, people prefer to live close to the city of St. John, but preferably no longer in the city center itself. In ten years' time, St. John Rural's population has increased by more than 40 percent, while the population living in the city center has decreased by 9 percent. St. George, which is also close to St. Johns' urban center, has a population increase of 20 percent. The other parishes in Antigua have either seen a small decrease or just a small increase in their population, with the exception of St. Mary, which saw its population rise by 8.1 percent. Also, Barbuda saw its population increase during the last ten years. In 2011, 309 more people were living on the island compared to 2001, an increase of 23.3 percent.

Table 1.5. Population Density by Parish, 2011

Parish	Area	Population	Density
Saint John	74	51,737	699.1
Saint George	24	8,055	335.6
Saint Peter	33	5,325	161.4
Saint Philip	44	3,347	76.1
Saint Paul	48	8,128	169.3
Saint Mary	59	7,341	124.4
Barbuda	161	1,634	10.1

Source: Population and Housing Census Antigua and Barbuda, 2011.

Figure 1.2. Percentage change of Population by Parish, 2001 - 2011



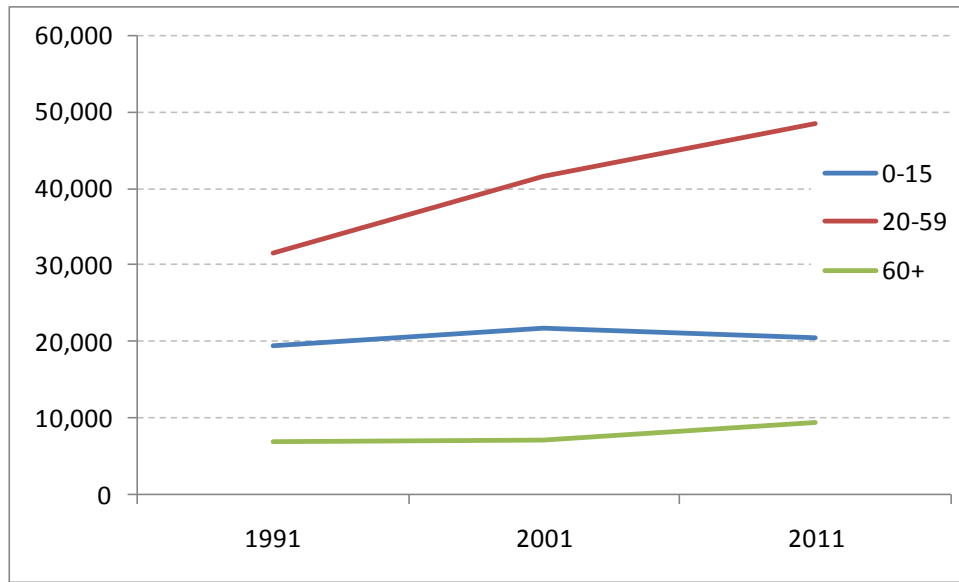
Source: Population and Housing Census Antigua and Barbuda, 2001, 2011.

With so many people living in the parish of St. John, it is no coincidence that it has a high population density (Table 1.5 above). Almost 700 people per square kilometer live in St. John City and 336 in St. John Rural. St. George also has a fairly high population density (336 persons per km²). The other parishes have significantly lower density. In Antigua, St. Philip stands out with a density of only 76 persons per square kilometer. Barbuda still enjoys lots of geographical space with just over 10 persons per square kilometer living on the island.

Population Age Distribution

Over the years, the age distribution of the Antigua and Barbuda population went through some notable changes. Figure 1.3 shows the growth of three broad age groups (0 to 15, 20 to 59 and 60+) between 1991 and 2011. After an initial growth from 19,454 to 21,726 between 1991 and 2001, the group of persons below age 15 has decreased to 20,444. Over the last twenty years, the group of elderly citizens (60+ years) has increased at a steady pace, from 7,061 in 1991 to 7,172 in 2001 to 9,543 in 2011. The population in the 15 to 60 years age group also increased significantly during the last 20 years (Table 1.6 below). In 1991, there were 37,363 persons in the age group 15 to 59. By 2011, this number had increased to 55,580.

Figure 1.3. Population Growth by Broad Age Groups



Source: Population and Housing Census Antigua and Barbuda, 1991, 2001, 2011.

Population pyramids provide a graphical representation of the age and sex distribution of a population. Figure 1.4 presents the population pyramids for Antigua and Barbuda for the three consecutive censuses (1991, 2001 and 2011). The population pyramids clearly show how the age structure of the population of Antigua and Barbuda changed during the last twenty years. The pyramid of 1991 no longer had the typical shape with broad basis and small top of a pre-transitional population with high fertility. The fertility reduction in the decades before 1991, resulted in a smaller base of the population pyramid. The shape of the 1991 pyramid shows a little bulge in the age groups 20 to 24 years. This little bulge is formed by a group of young migrants, who were coming into the country for work, and who joined the persons born in the 1960's and 1970's to the last generation of high fertility. As this group between 20 and 30 years started to have children, a sort of rippling effect took place that caused another bulge at the bottom of the pyramid.

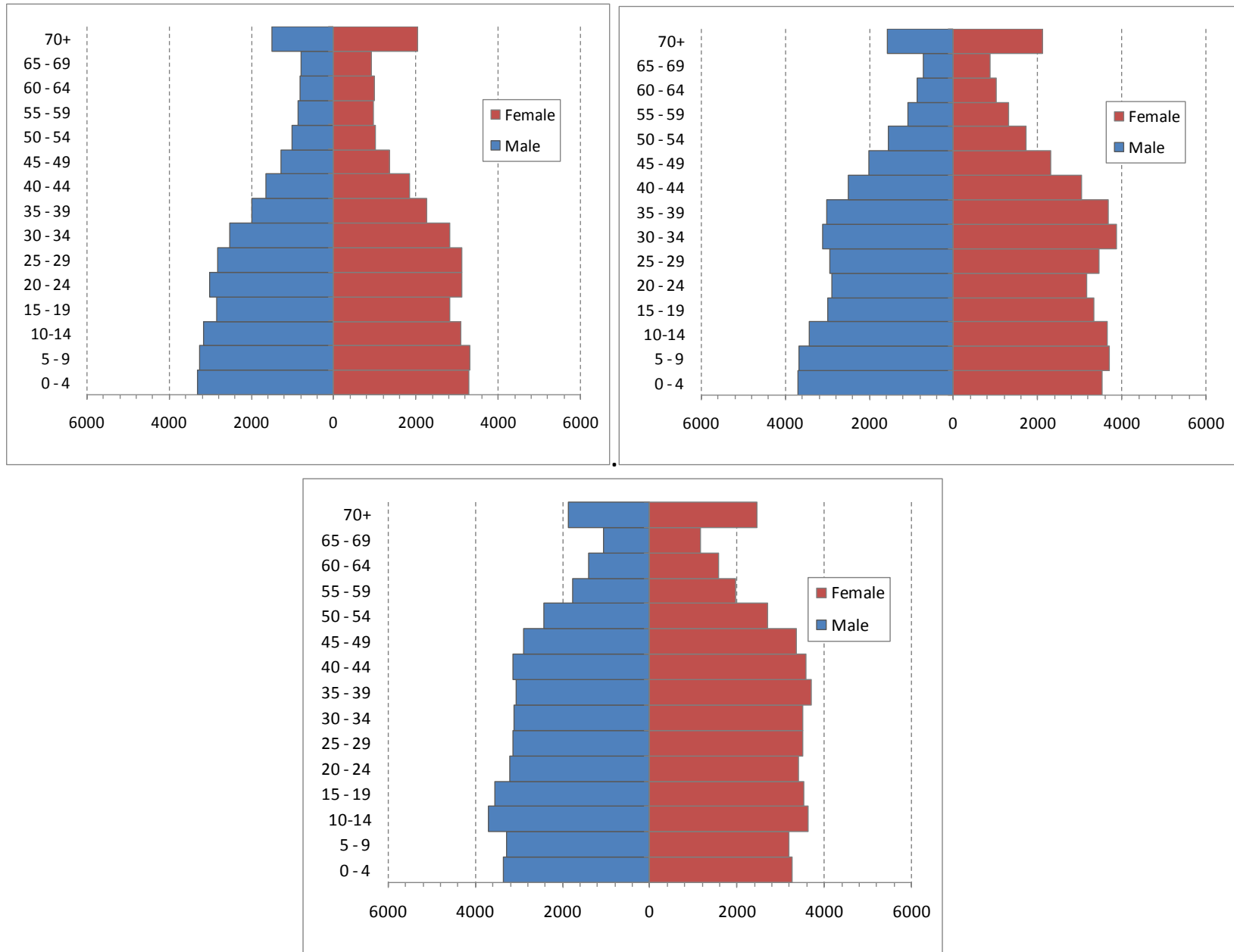
As time passed, persons belonging to the birth cohorts of past high fertility move through the age groups and are found back at older ages in the pyramids for 2001 and 2011. Both pyramids show clearly how the population of Antigua and Barbuda is ageing. However, because of immigration, the population pyramids at later points in time are not just echoing the earlier age structure. Over the years, the influx of large groups of foreign laborers have had a profound effect on the composition of the population living in Antigua and Barbuda. Because of this effect, we the following section discusses foreign-born persons that occupy the country's demographic landscape.

2011 Population and Housing Census – A Demographic Profile

Table 1.6. Population by Sex and Five-Year Age groups (1980 - 2011)

Age	1980			1991			2001			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	3,281	3,272	6,553	3,315	3,306	6,621	3,709	3539	7,248	3,369	3,265	6,634
5 - 9	3,232	3,285	6,517	3,266	3,319	6,585	3,683	3704	7,387	3,280	3,191	6,471
10-14	3,116	3,067	6,183	3,149	3,099	6,248	3,435	3656	7,091	3,699	3,641	7,340
15 - 19	2,807	2,799	5,606	2,836	2,828	5,664	3,000	3326	6,326	3,562	3,522	7,084
20 - 24	2,980	3,093	6,073	3,011	3,125	6,136	2,897	3165	6,062	3,214	3,421	6,635
25 - 29	2,791	3,088	5,879	2,820	3,120	5,940	2,944	3454	6,398	3,142	3,515	6,657
30 - 34	2,507	2,796	5,303	2,533	2,825	5,358	3,106	3876	6,982	3,108	3,519	6,627
35 - 39	1,965	2,237	4,202	1,986	2,260	4,246	3,019	3667	6,686	3,056	3,702	6,758
40 - 44	1,626	1,830	3,456	1,643	1,849	3,492	2,505	3046	5,551	3,131	3,591	6,723
45 - 49	1,271	1,364	2,635	1,284	1,378	2,662	2,021	2306	4,327	2,900	3,351	6,251
50 - 54	989	1,021	2,010	999	1,032	2,031	1,541	1727	3,268	2,422	2,696	5,118
55 - 59	851	964	1,815	860	974	1,834	1,080	1310	2,390	1,767	1,959	3,726
60 - 64	800	985	1,785	808	995	1,803	863	1021	1,884	1,402	1,570	2,972
65 - 69	773	916	1,689	781	926	1,707	723	857	1,580	1,069	1,173	2,242
70+	1,486	2,028	3,514	1,502	2,049	3,551	1,583	2125	3,708	1,865	2,463	4,329
Total	30,473	32,742	63,215	30,793	33,085	63,878	36,109	40,779	76,886	40,986	44,581	85,567

2011 Population and Housing Census – A Demographic Profile
Figure 1.4. Population Pyramids 1991, 2001, 2011



A Large Foreign Population

Population changes in Antigua and Barbuda are to a large extent driven by in and out migration. While mortality and fertility have remained fairly constant since the census of 1991, migration has followed a more erratic pattern. As was the case for other islands in the region (Anguilla, British Virgin Islands, Cayman Islands, Curacao and Aruba), migration was triggered by the expansion of the tourism industry². According to the Country Strategy Paper³ for the period 2008 -2013, from the government and the European Community, Antigua and Barbuda had the third largest concentration of immigrants in the Caribbean region. It can be expected that the further integration of the Organisation of Eastern Caribbean States (OECS) together with continued economic recovery will have an effect on the levels of migration in the coming years. Immigrants contribute through their labour to the economy of the country. Over the years an important contribution to the country's economy was also made by persons who left Antigua and Barbuda and who sent remittances from overseas. For instance, Gammeltoft indicates that during the period 1995 - 1999, remittances from abroad to Antigua and Barbuda constituted 6.9 percent of GDP. It is interesting to note that globally, among countries for which remittance data were available, Antigua and Barbuda received the highest per capita inflow of remittances totaling US\$3,997⁴.

Migration flows from and to Antigua and Barbuda have created a diverse society. At the moment of the Census 2011, 25,411 persons, i.e. 30.4 percent of the total population residing in the country, were foreign-born. Most migrants originate from surrounding Latin American and Caribbean countries. As a whole, people living in Antigua and Barbuda share 108 countries of birth. Over the years, people from all over the world have settled on the islands. For instance, one would not expect that in a small country as Antigua and Barbuda persons from 17 African countries are present. Compared to 2001, the proportion of the population born abroad has remained more or less the same. At that time, 53,284 persons were born in Antigua and Barbuda and 23,602 were born abroad, which was 30.7 percent of the total population. Table 1.7 presents the number of persons born on the island and abroad by five-year age groups and sex. Note that the totals for all categories do not add up to 84,816 (population in private households), as information on country of birth was missing for 1,337 persons. The age distribution for local/foreign-born persons is depicted in three population pyramids. In the first, persons born in

² Elizabeth Thomas-Hope (2005), Current Trends and Issues in Caribbean Migration, in: *Regional and International Migration in The Caribbean And Its Impact on Sustainable Development Compendium on Recent Research on Migration in The Caribbean. Caribbean Expert Group Meeting on Migration, Human Rights and Development in the Caribbean.* 14-15 September 2005. Port of Spain, Trinidad and Tobago, p. 58.

³European Community- Antigua and Barbuda Country Strategy Paper and National Indicative Programme for the period 2008-2013 (10th EDF), s.l.n.d., p. 15.

⁴Gammeltoft, Peter (2003), Remittances and Other Financial Flows to Developing Countries. In: Nicholas Van Hear and Ninna Nyberg Sørensen: *The Migration-Development Nexus.* United Nations, IOM, p.109.

Antigua and Barbuda and abroad are combined, and in the second and third pyramid the local and foreign-born persons are presented separately (see Figure 1.5).

Table 1.7. Antigua and Barbuda Born and Foreign-Born Population by Sex and 5 Year Age groups (2011)

Age-	Antigua & Barbuda		Foreign born	
	Male	Female	Male	Female
0 - 4	2,907	2,815	404	398
5 - 9	2,705	2,632	526	520
10 - 14	2,932	2,880	709	703
15 - 19	2,544	2,548	936	914
20 - 24	2,086	2,150	948	1,182
25 - 29	1,862	2,011	1,092	1,428
30 - 34	1,969	1,956	1,052	1,509
35 - 39	1,817	2,003	1,126	1,649
40 - 44	1,870	1,869	1,152	1,669
45 - 49	1,744	1,820	1,060	1,478
50 - 54	1,556	1,631	793	1,034
55 - 59	1,219	1,332	492	606
60 - 64	1,005	1,135	346	412
65 - 69	807	898	225	259
70 - 74	532	620	144	168
75 - 79	414	512	90	130
80 - 84	259	419	57	76
85 - 89	160	231	40	45
90 - 94	49	100	11	18
95+	22	47	4	8
Total	28,458	29,610	11,206	14,205

Source: Population and Housing Census Antigua and Barbuda, 2011.

These population pyramids illustrate the large differences in age composition between the population born in Antigua and Barbuda and those born abroad. Looking at the population structure of the population born abroad, two important features catch the eye. First, in the foreign-born population there is a large surplus of women. Among the population of 25,411 foreign-born persons, there are 2,999 more females than males. The overall sex ratio⁵ for the Antigua and Barbuda population is 96.1, while for the foreign-born population it is only 78.9. The sex ratios are lowest (disregarding for a moment the population above 90 years of age) among foreign-born persons in the age group 35 to 39. In this age category, there are 68.3 foreign men present for every 100 foreign women.

⁵ The sex ratio is defined as the number of males per 100 females.

The low values of sex ratios among the foreign-born population in Antigua and Barbuda is on par with those found in some other countries in the region that rely heavily on foreign workers to fill positions in the tourism industry. For instance, on the basis of the 2011 Curacao Population Census, Ter Bals⁶ found a sex ratio of only 69.6 among the foreign-born population. In Aruba, the sex ratio among the foreign-born population was 77.7, according to the 2010 census figures⁷.

The second striking feature is the very narrow base of the population pyramid for the foreign-born. In a sense this could be expected, as foreign-born women give birth while living in Antigua and Barbuda they will have their children on the island. The age distribution of the population of the persons born on Antigua and Barbuda still has more or less the features of a real pyramid. One would not expect this in a population that has already gone through its fertility transition. In the census, children born on the island to foreign women were registered as Antigua and Barbuda born. The wider base of the Antigua and Barbuda population pyramid is therefore formed by both foreign and local women who contribute to the number of children born on the island(s).

St John City has the highest concentration of foreign-born persons with 36.6 percent of all persons living in the capital born outside the country (See Table 1.8). St John rural areas have just a slightly lower percentage of foreign-born persons (34.8). The other parishes all have between 20 and 26 percent of foreign-born persons. A far lower proportion of foreigners find their way to Barbuda. Only 10.5 percent of its population indicates that they were not born in the country.

Table 1.8. Population by Parish and by Place of Birth

	Antigua & Barbuda born	Foreign born	Total	% Foreign born
ST.JOHN (C)	13,561	7,819	21,379	36.6
ST.JOHN (R)	18,891	10,088	28,979	34.8
ST.GEORGE	5,818	2,028	7,846	25.9
ST.PETERS	4,047	1,134	5,180	21.9
ST.PHILLIP	2,540	636	3,176	20.0
ST.PAUL	6,156	1,877	8,034	23.4
ST.MARYS	5,608	1,660	7,268	22.8
BARBUDA	1,447	170	1,616	10.5
Total	58,068	25,411	83,479	30.4

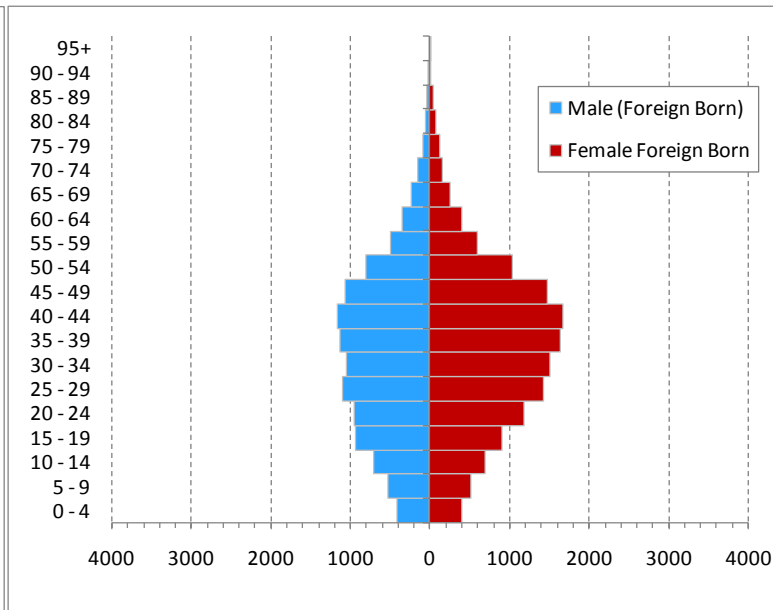
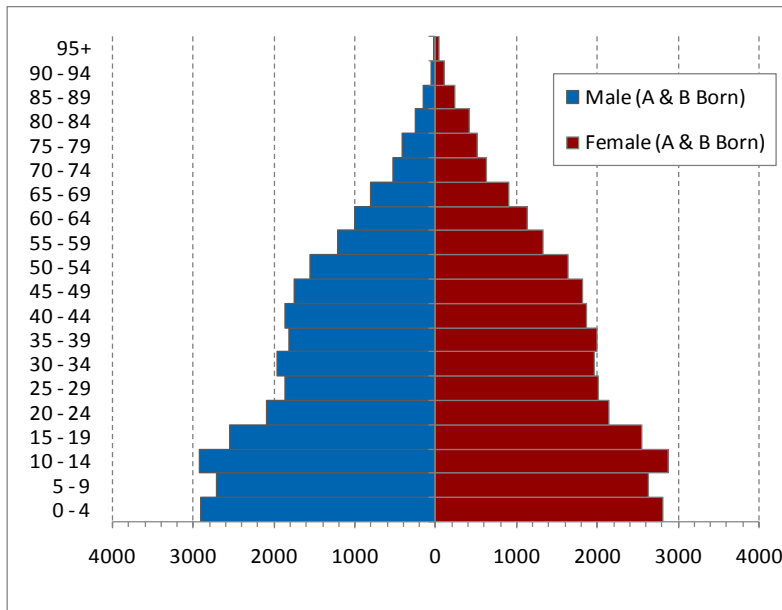
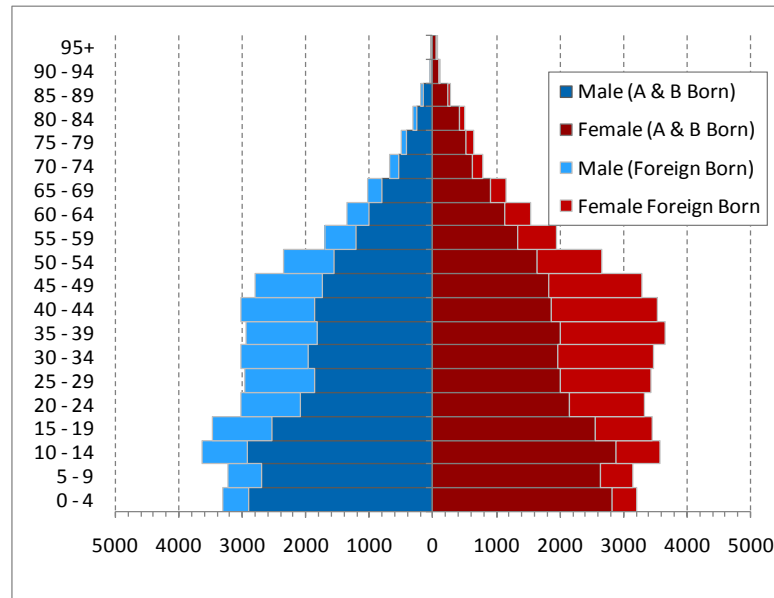
Note: Institutional population is not included in these figures, only cases for whom information on Type of Country of Birth is non-missing

⁶Ter Bals, Menno (2014), *Demography of Curaçao. Publication Series Census 2011*. Willemstad, Central Bureau of Statistics 2014, p. 58.

⁷ CBS-Aruba (s.d.), *The Foreign Born Population*, Oranjestad, p. 6.

2011 Population and Housing Census – A Demographic Profile

Figure 1.5. Population Pyramids for Persons born in Antigua and Barbuda and for Persons born Abroad



It lies outside the scope of this report to give a full description of the immigrant population living on Antigua and Barbuda. Some further analysis on this topic is recommended because of the importance of migration for the social, economic and demographic constitution of the country. In this upcoming report, an overview will be given of the characteristics of the immigrant population, e.g. country of origin, position on the labor market, nationality, educational level, and duration of stay.

Ethnicity

According to the UN- Principles and Recommendations⁸ ethnicity *"is based on a shared understanding of history and territorial origins (regional and national) of an ethnic group or community, as well as on particular cultural characteristics such as language and/or religion. Respondents' understanding or views about ethnicity, awareness of their family background, the number of generations they have spent in a country, and the length of time since immigration are all possible factors affecting the reporting of ethnicity in a census. Ethnicity is multidimensional and is more a process than a static concept, and so ethnic classification should be treated with movable boundaries"*.

The measurement and interpretation of ethnicity in a census is not a straightforward matter, in the first place, because ethnicity is a self-declared characteristic of the enumerated person. Liebler et al.⁹ used anonymized data from 162 million persons whose information from the 2000 and 2010 United States' censuses were linked, to investigate changes in the individual responses to ethnicity and race. They estimated that 8.3 of all enumerated people in the census changed their race and/or Hispanic origin between the 2000 and 2010 census. Their research showed that the notion of race and ethnicity as 'in-born and life-long' is not really tenable. When using the census data to describe the ethnic and racial composition of the people living in a country, it should be noted that the information is effective only for that particular point in time. In earlier or later years, people's reporting of their race or ethnicity may change related to their perception, especially among people with a mixed background or when ethnicity is linked to a geographical background (e.g. Latino).

In Census 2011, 87.3 percent of the population living in Antigua and Barbuda is of African descent. This is slightly less than 10 years earlier, when 91.0 percent indicated they were of African descent (see Figures 1.6-1.9.). The second largest ethnic category (3.8 percent) in 2011 consists

⁸ United Nations. (2008). *Principles and Recommendations for Population and Housing Censuses, Revision 2*. Department of Economic and Social Affairs. New York: United Nations, p. 139.

⁹Liebler, C.A., Rastogi S., Fernandez L.E, Noon J.M. and Ennis S.R. (2014), *America's Churning Races: Race and Ethnic Response Changes between Census 2000 and the 2010 Census*. CARA Working Paper Series. Working paper # 2014-09. Center for Administrative Records Research and Applications. U.S. Census Bureau Washington, D.C. 20233

of persons who identify themselves as of mixed (other) background. Note that in 2001 other categories were used than in 2011 and therefore comparisons over time are hard to make. For instance, in 2011 there were two 'mixed' categories (Black/white and other) when there was only one in 2011. 'Hispanic' is a new category in 2011, and - 2.7 percent of the population consider themselves as Hispanic. It may well be possible that this group is underreported, because there is some overlap between the various categories and people with a Latino background may favor to report themselves as Caucasian, mixed or almost any other category.

Figure 1.6. Population by Ethnicity, 2011

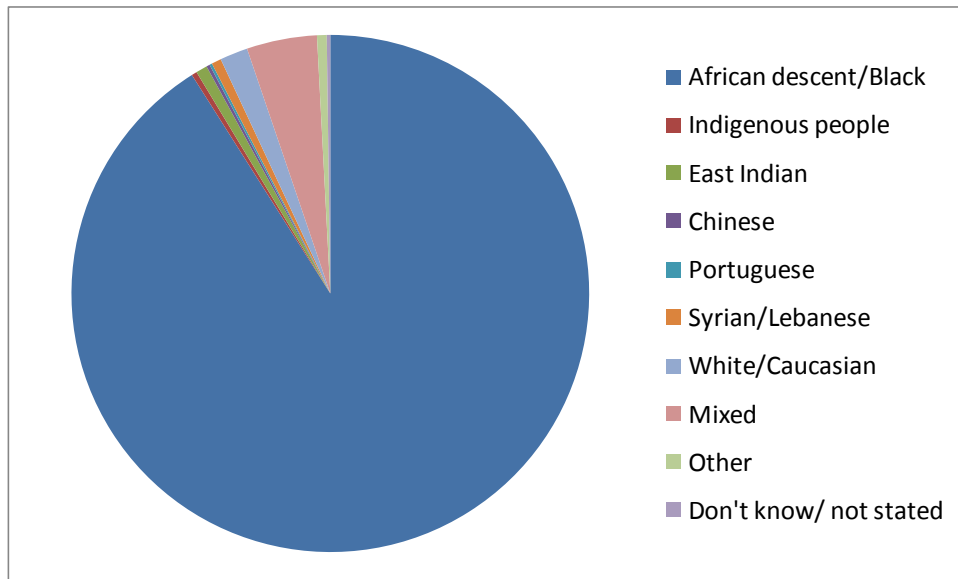


Figure 1.7. Population by Ethnicity, excluding African descent 2011

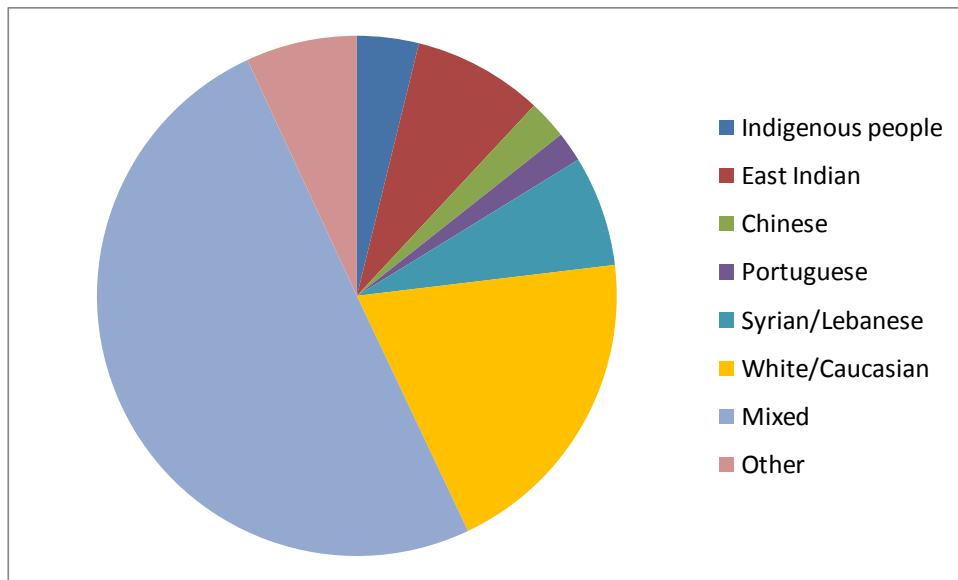
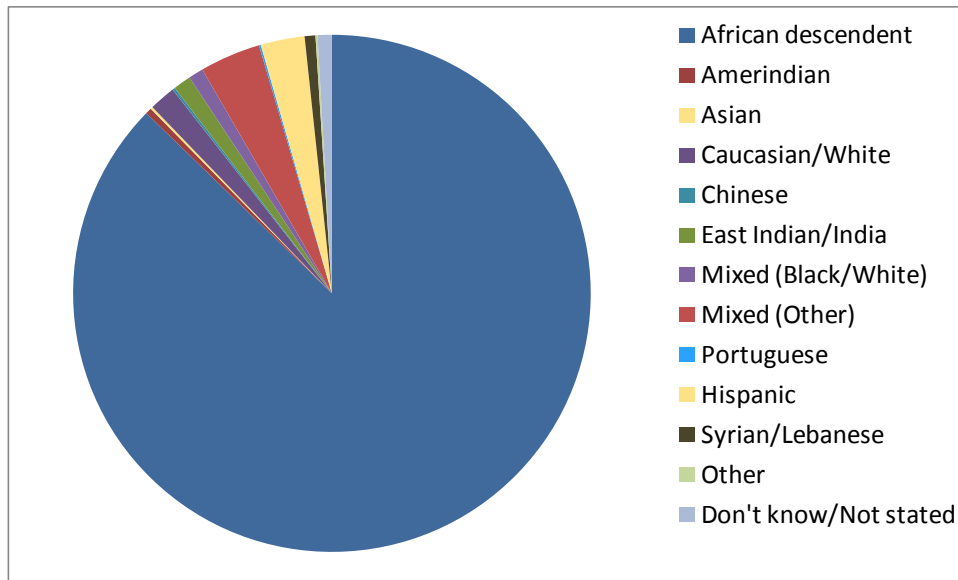
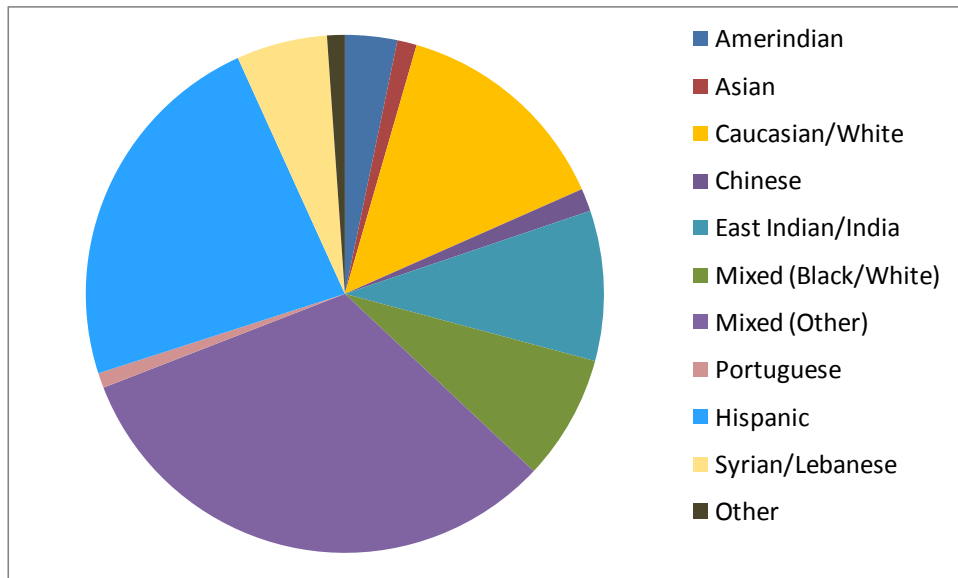


Figure 1.8. Population by Ethnicity, 2001



Source: Population and Housing Census Antigua and Barbuda, 2011.

Figure 1.9. Population by Ethnicity, excluding African Descent, 2001

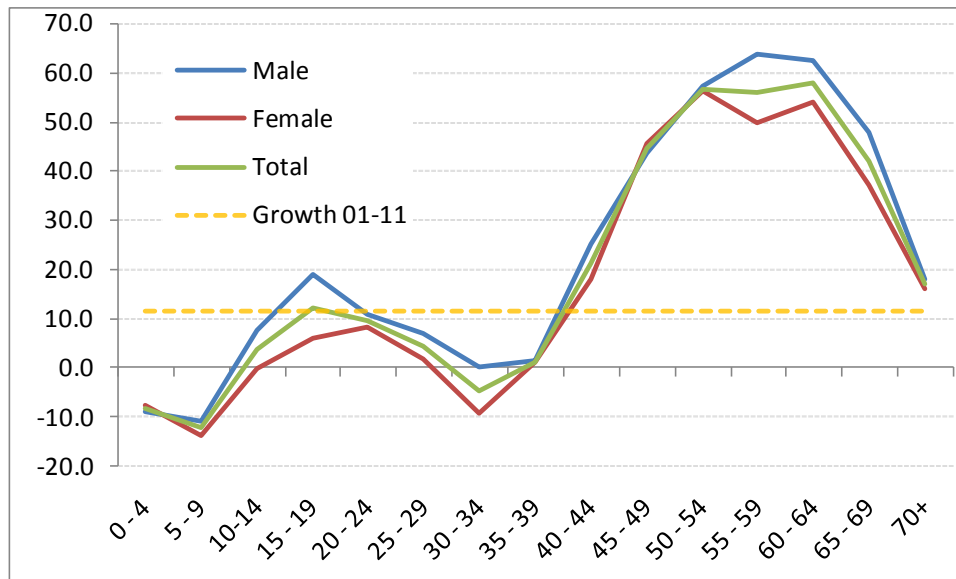


Changing Age Structures

The population pyramids of the previous section showed that the age-structure of the population of Antigua and Barbuda has witnessed some profound changes during the ten years between the 2001 and 2011 censuses. Figure 1.10 depicts the percentage differences in each five-year age group between the last two censuses by sex and clearly shows the magnitude of these changes.

As a point of reference, the overall growth rate during the intercensal period (11.3 percent - see dotted orange line) was included. Compared to 2001, the number of children below 10 years has decreased by about 10 percent. In 2011, 13,104 persons were below age 10 years, which is 15.3 percent of the total population. In 2001, this was 14,635, representing 19.0 percent of the total population. Population growth was quite slow in the age groups 10 to 30 years and even negative (-5.1 percent) between ages 30 and 35 years. After age 45 years, the age-specific population growth was most pronounced, with a peak of well above 50 percent between ages 50 and 64 years. Note that the population above 70 years grew almost at pace with the total population.

Figure 1.10. Percentage Change per Age group and Sex: 2001-2011



Source: Population and Housing Census Antigua and Barbuda, 2001 and 2011.

Figure 1.10 shows that a dejuvenation process is taking place in Antigua and Barbuda. For the moment, together with this 'degreening' of the population, a growth of 41.9 percent of the population in the age group 65 to 69 years and growth rates of more than 50 percent in the age group 50 to 64 years are observed. These increases are a clear sign of the onset of an aging process in Antigua and Barbuda. The sharp increase in the number of persons in the age group 50 to 64 shows that in the coming ten to fifteen years more and more persons will reach retirement age. This trend is highlighted by the fact that over the last twenty years the mean age of the population has increased from 29.3 years in 1991 to 33.0 years in 2011. The increase has been most significant during the last ten years. At the current pace, every 4 years, one year is being added to the mean age of the population.

Table 1.9. Indicators for Age/Sex Structure, 1991 - 2011

<u>Absolute number of persons in specific age segment</u>	1991			2001			2011		
<u>Age groups</u>	Male	Female	Total	Male	Female	Total	Male	Female	Total
0-15	9,730	9,724	19,454	10,827	10,899	21,726	10,347	10,097	20,444
20-59	15,136	16,563	31,699	19,111	22,551	41,662	22,740	25,755	48,495
60+	3,091	3,970	7,061	3,169	4,003	7,172	4,336	5,207	9,543
70+	1,502	2,049	3,551	1,583	2,125	3,708	1,865	2,463	4,329
<u>Percentage of persons in specific age segment</u>									
0-15	31.6	29.4	30.5	30.0	26.7	28.3	25.2	22.6	23.9
20-59	49.2	50.1	49.6	52.9	55.3	54.2	55.5	57.8	56.7
60+	10.0	12.0	11.1	8.8	9.8	9.3	10.6	11.7	11.2
70+	4.9	6.2	5.6	4.4	5.2	4.8	4.6	5.5	5.1
<u>Mean age of the population</u>	28.5	30.1	29.3	29.5	31.0	30.3	32.3	33.7	33.0
<u>Functional Age-Groups (%)</u>									
Young child (0-4)	10.8	10.0	10.4	10.3	8.7	9.4	8.2	7.3	7.8
Child (5-14)	20.8	19.4	20.1	19.7	18.0	18.8	17.0	15.3	16.1
Youth (15-24)	19.0	18.0	18.5	16.3	15.9	16.1	16.5	15.6	16.0
Active population (15 - 64)	61.0	61.6	61.3	63.6	66.0	64.9	67.6	69.2	68.4
Age group (25-64)	42.0	43.6	42.8	47.3	50.0	48.8	51.1	53.6	52.4
Elderly (65+)	7.4	9.0	8.2	6.4	7.3	6.9	7.2	8.2	7.7
<u>Age indicators</u>									
Dependency Ratio	64.0	62.3	63.1	57.2	51.6	54.2	47.9	44.5	46.1
Elderly Dependency Ratio	12.2	14.6	13.4	10.0	11.1	10.6	10.6	11.8	11.2
Youth Dependency Ratio	51.8	47.7	49.7	47.1	40.5	43.6	37.3	32.7	34.9
Index of aging (65+)	23.5	30.6	27.0	21.3	27.4	24.3	28.4	36.0	32.1
Women of childbearing age (15-49 yrs.)		17,385			22,840			24,622	

Source: Population and Housing Census Antigua and Barbuda, 1991, 2001, 2011.

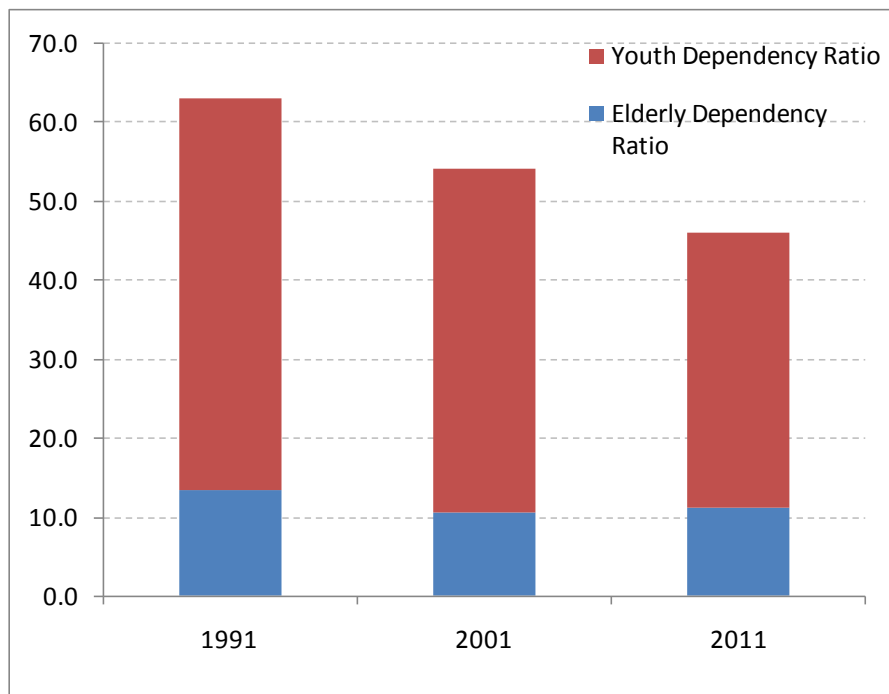
To have a more detailed account of population dynamics in the country, a series of age indicators (Table 1.9) for the years 1991, 2001 and 2011 were calculated. Next to some measures on the absolute and relative number of persons in different broad age categories, some specific demographic measures are presented:

- ***Dependency ratio***: the dependency ratio can be calculated as $((\text{Pop. 0 to 14 yrs}) + (\text{Pop. 65+ yrs})) / (\text{Pop. 15 to 64 yrs})$. The age dependency ratio is the ratio of dependents, i.e. the number of persons younger than 15 years plus those who are 65 years and older, to the working-age population, that is, those ages 15 to 64 years. Data are shown as the proportion of dependents per 100 working-age population. It indicates how many persons in the dependent age groups have to be supported by 100 persons in the active age groups. A high dependency ratio means that those of working age - and

implicitly the overall economy - face a greater burden to support the very young and the old.

- Elderly dependency ratio: is similar to the overall dependency ratio, but is limited to old age dependents. It is calculated as $(\text{Pop } 65+\text{yrs}) / (\text{Pop } 15 - 64 \text{ yrs}) \times 100$.
- Youth dependency ratio¹⁰: Similar, but only for young dependents and calculated as $(\text{Pop } 0 - 14 \text{ yrs}) / (\text{Pop. } 15 - 64 \text{ yrs}) \times 100$. Note that the sum of the elderly and the youth dependency ratios equals the overall dependency ratio.
- Index of aqing: is another indicator of the age structure and sometimes referred to as the elder-child ratio. It is defined as the number of people aged 65 and over per 100 youths under age 15 and calculated as $(\text{Pop } 65+\text{yrs}) / (\text{Pop } 0 - 14 \text{ yrs}) \times 100$.

Figure 1.11. Youth and Elderly Dependency Ratios (1991 - 2011)



Source: Population and Housing Census Antigua and Barbuda, 1991, 2001, 2011.

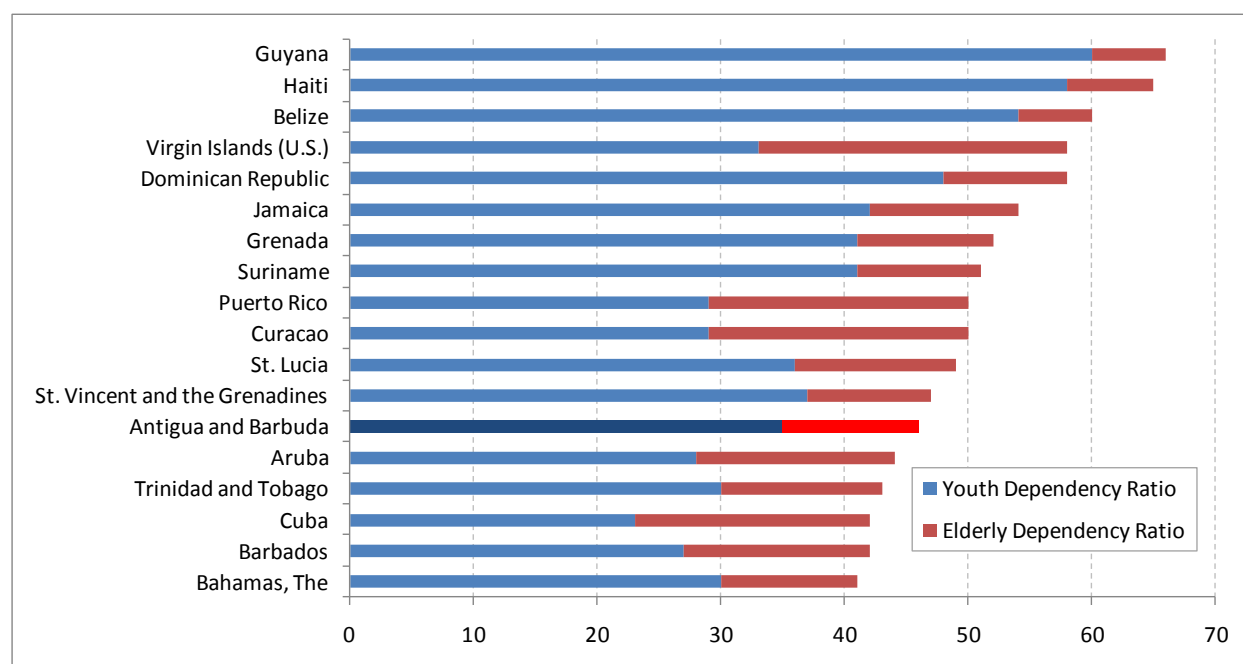
In 2011, the dependency ratio stood at 46.1, meaning that on average, 100 persons in the active age groups support 46.1 persons in the dependent younger and older age categories. During the last twenty years dependency ratios decreased significantly. In 1991 and 2001 the ratios were respectively 63.1 and 54.2. Most of this decrease is caused by the reduction in the youth

¹⁰ The age group can be adjusted to the national definition of youth – in this case persons 15 to 35 years

dependency ratio: from 49.7 in 1991, to 43.6 in 2001 to 34.9 in 2011, a reduction of 30 percent. In contrast, the elderly dependency ratio did not change considerably (see Figure 1.11.)¹¹.

The global dependency ratio was 52 in 2013, which is also the same level as in the whole of Latin America and the Caribbean. Among Caribbean countries, Antigua and Barbuda still belongs to the group with low dependency ratios (Figure 1.12). The lowest dependency ratios in the region are below 50, with the Bahamas having the smallest relative number of dependents (41). On the other side of the spectrum, Guyana, Haiti and Belize, with a fairly young population, due to a slower fertility transition, have dependency ratios higher than 60. The high elderly dependency ratios in Figure 1.12 also clearly show that some countries in the region are well underway to become aging societies (e.g. US Virgin Islands, Puerto Rico, Curacao, and Aruba).

Figure 1.12. Dependency Ratios in Selected Caribbean Countries (2013)



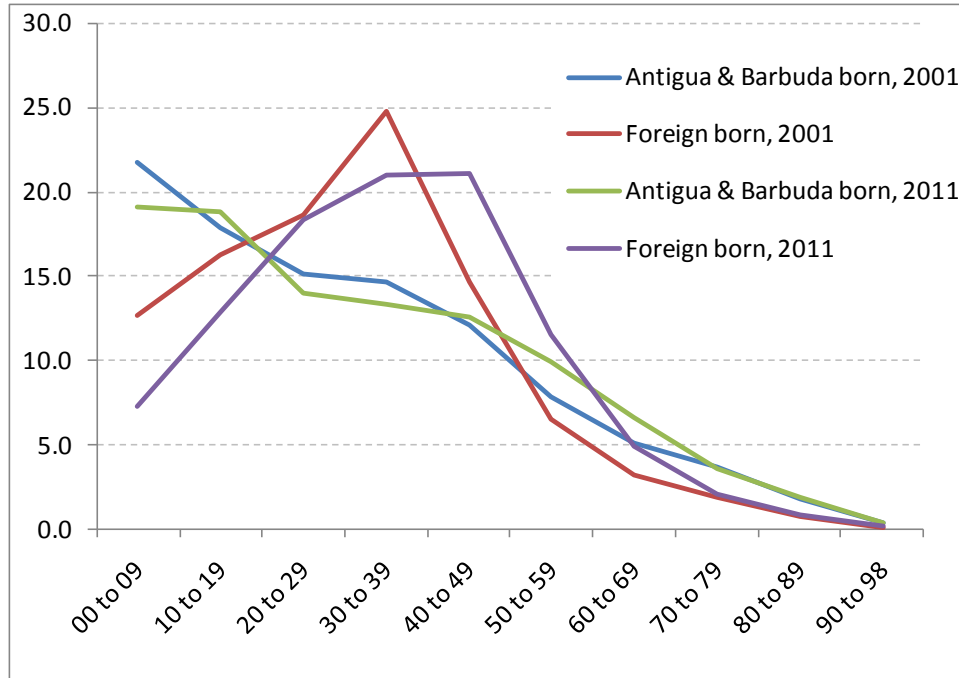
Source: World Bank Indicators

An analysis of the age structure of the population of Antigua and Barbuda would be incomplete without looking at the effect of migration on the processes of dejuvenation and ageing. Figure 1.13 shows the relative age distribution by place of birth as recorded in the censuses of 2001 and 2011. As cross-tabulated data from the 2001 census were only available for ten-year age groups,

¹¹ Data for dependency ratios were obtained from the World Bank Indicators: Population Dynamics for the year 2013. Website: <http://wdi.worldbank.org/table/2.1#>.

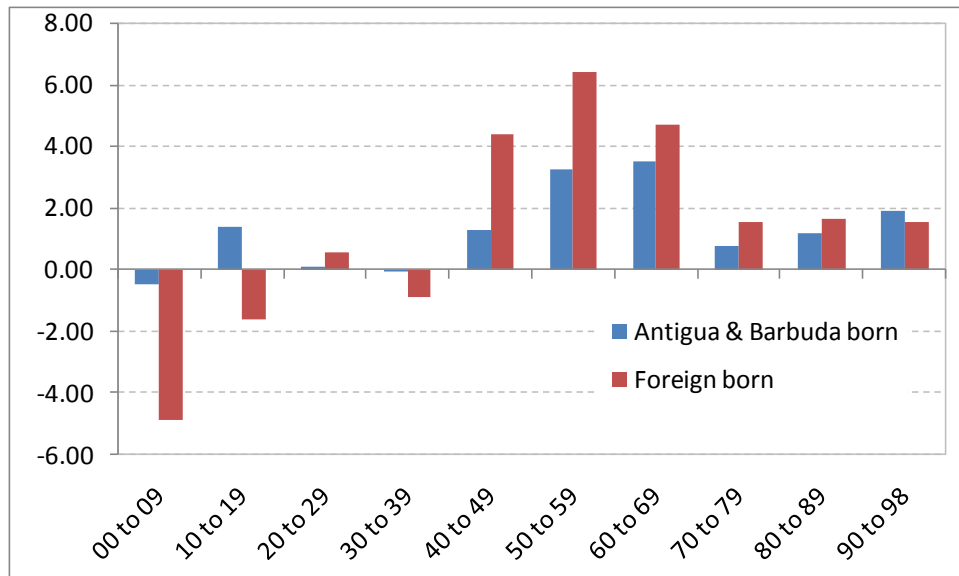
they were used to make the comparison. The graph clearly shows that already in 2001, the relative age distribution for the foreign-born population was markedly different

Figure 1.13. Relative Age-distribution of Population by Place of Birth (2001 - 2011)



Source: Population and Housing Census Antigua and Barbuda, 2011

Figure 1.14. Average Yearly Growth between 2001 and 2011 of Population by Place of Birth, Age group



Source: Population and Housing Census Antigua and Barbuda, 1991, 2001, 2011

from those who were born in Antigua and Barbuda. Again, the very small basis of the age distribution for the foreign-born and the large middle section are observed. However, compared to 2001, in 2011 there is a clear shift in the relative age structure of the foreign-born population. First, the number of foreign-born children in the population has come down markedly. In the census of 2001, 2,996 foreign-born children below age 10 years were counted. In the Census 2011 this had dropped to 1,847, a reduction of no less than 38.4 percent. The foreign-born adolescents also dropped in numbers, but far less pronounced (14.9 percent). On the other end of the scale, a rapid increase of persons over 40 years among the foreign-born is observed. In 2001 there were 6,452 foreign-born persons over age 40 years, by 2011 this had increased by 59.9 percent to 10,319 persons. The biggest change took place in the age group 50 to 59 years with an increase of 89.6 percent from 1,543 persons in 2001 to 2,926 persons in 2011.

To illustrate the changes in the age structure of the persons born in Antigua and Barbuda and abroad, the average yearly growth between 2001 and 2011 by whether born in Antigua or not are depicted in Figure 1.14. The figure shows the large reduction of the foreign-born children, with an almost 5 percent yearly reduction and the very rapid growth of middle-aged foreign-born population.

Demographic Dividend

The current age structure of the population of Antigua and Barbuda has implications for the country's future economic development. Globally, there is a wide evidence base that a rise in the share of the population in the working age has an important impact on aggregate savings and on economic growth. The effect of a favourable age structure on rapid economic development has been named the 'Demographic Dividend' and has been defined as *'the accelerated economic growth that may result from a decline in a country's mortality and fertility and the subsequent change in the age structure of the population. With fewer births each year, a country's young dependent population grows smaller in relation to the working-age population. With fewer people to support, a country has a window of opportunity for rapid economic growth if the right social and economic policies developed and investments are made'*.¹²

Mason distinguishes two separate phases in the demographic dividend¹³. The first demographic dividend is caused by the demographic transition (decline in both the levels of fertility and mortality) that increases the share of the population in the working ages. This relative increase of the working-age population leads to an increase in per capita output. The first demographic

¹² Gribble J. & Bremner J. (2012), *The Challenge of Attaining the Demographic Dividend*, Population Reference Bureau, Policy Brief, September 2012, p.1.

¹³ Mason, A. (2005) *Demographic Transition and Demographic Dividends in Developed and Developing Countries*, United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures, Mexico City, p.81.

dividend is finite in time and comes to an end when the boom generation starts moving into retirement. The end of the first demographic dividend stage involves ageing of the population and signals the beginning of the second. The provision of old age consumption for the elderly, who normally have lower levels of labor income, is a serious challenge for ageing societies. The response to this challenge, whether through special support systems for the elderly or through capital savings, often generates an increase in economic growth.

It should be clear that the demographic dividend does not automatically lead to more rapid economic growth. The demographic dividend should rather be seen as a development opportunity. Only when the right key policy measures are taken to create a growth-oriented economic landscape, can a country fully exploit its demographic dividend. Critical policy areas that need intervention are: public health and family planning, education, infrastructure and economic and fiscal policies that promote labor market flexibility, openness to trade and savings¹⁴. Over the years, the world has seen various examples of countries that have used the demographic dividend for rapid economic development. Especially countries in East Asia, spearheaded by South Korea, have seized the opportunity to bring their economies to a higher level. A conservative estimate of the effect of the favorably age structure on economic growth in the East Asian countries is that as much as one third was contributed to the demographic dividend¹⁵.

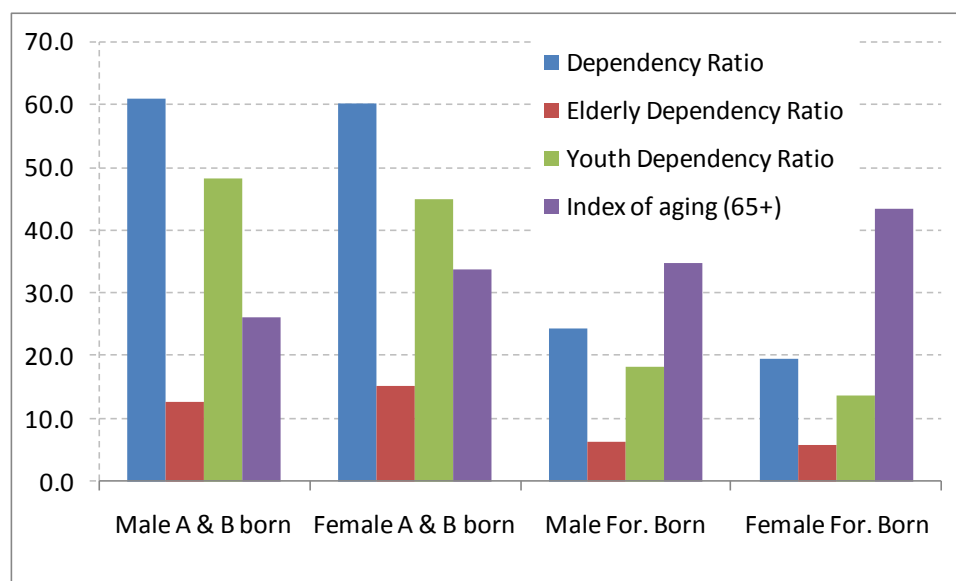
As discussed earlier, the age dependency ratio in Antigua and Barbuda has come down over the years from a level of 63.1 in 1991 to 54.2 in 2001 to 46.1 in 2011. This decline is mainly due to a strong reduction in the youth dependency ratio. The fertility decline that has taken place since the 1960's, combined with an increase of life expectancies has created the 'sweet spot' in history in which the active population has to take care of a relatively small group of dependent youth and elderly. The population projections, which will be discussed in Chapter 5, indicate that in each of the three projection scenarios (high, medium, and low) the dependency ratios will first decline a little more to a level of 42 to 43 years and then will start to increase gradually to a level that is still well below 50 years in 2026. In the case of Antigua and Barbuda, it is not only the past reduction in fertility and mortality that causes the low level of age dependency, but also the high levels of immigration. The previous section showed the age structure of the foreign-born on the islands. As most migrants come to work on the island and bring only a limited number of dependents, they increase the number of persons in the working age groups and have a lowering effect on the age dependency ratios (See Figure 1.15). Continued high levels of migration will

¹⁴ Bloom, D.E., Canning D. and Sevilla J. (2003), *The Demographic Dividend. A New Perspective on the Economic Consequences of Population Change*. RAND. Population Matters, Santa Monica. p. 68.

¹⁵ Ross, J. (2004), *Understanding the Demographic Dividend*. POLICY Project, Futures Group, September 2004, Washington, p.4.

both increase and prolong the demographic dividend for Antigua and Barbuda. Whether this demographic position will translate into rapid and sustainable growth will depend on the actions the government takes before this unique window of opportunity closes.

Figure 1.15. Dependency Ratios for Antigua and Barbuda and Foreign-born by Sex



Source: Population and Housing Census Antigua and Barbuda, 2011.

Population Estimates During the Intercensal Period 2001 - 2011

Countries need data on the size and composition of its population on a yearly basis. This information is essential as denominators for vital statistics and per capita economic indicators, for survey controls, for demographic time series and for measures of demographic changes. In many countries, the intercensal population size and age/sex structures are calculated by applying the age and sex specific number of births, deaths and international net migrants to the initial census population. In the case of Antigua and Barbuda this is not possible. Although the country has a long tradition of birth and death registration, (vital records are available since 1856), no records are kept in a systematical manner on immigrants and emigrants. Therefore, the Statistics Division uses population projection figures as yearly population estimates after a census is conducted. As soon as a next census is held, retrospectively the population estimates are revised for the inter census period and corrected population estimates for the last intercensal period are calculated.

For making population estimates on the basis of two consecutive censuses, two types of interpolations are normally applied: a) linear, and b) exponential. In this report, the exponential interpolation was selected as it is most often more theoretically sound than the linear

interpolation. The US Bureau of the Census has developed a series of spreadsheets to do demographic analysis and to perform population data handling. These spreadsheets are gathered in the Population Analysis Spreadsheet (PAS)-toolkit¹⁶. The interpolation is made using the number of days between two points in time, in this case, the dates of the censuses of 2001 and 2011. Interpolations are done by five-year age groups, using an open ended last age interval of 80+ years. The results of the intercensal population estimates are presented separately for males, females and total number of persons in Tables 1.10. to 1.12. Under the table with population figures, an estimate of persons in age groups 80 to 84, 85 to 89, 90 to 94 and 95+ years was added. These estimates were based on the relative age distribution of the male and female population above age 80 years in the 2001 and the 2011 population census.

Although the exponential interpolation of population figures is a sound method to make yearly population estimates for the intercensal period, a word of caution is appropriate because of the special nature of the decade between the two censuses. The first ten years of the new millennium showed some serious economic turbulence starting with a decline in economic activities in the early years due to the 'Dot-com bubble' burst, followed by some years of recovery, during which years the 'housing bubble' started to grow. In 2007, the collapse of the housing market started the most serious financial and economic crisis since the Great Depression. The economic crisis led to a significant decline in the number of tourists visiting Antigua and Barbuda. When the growth in the number of stay-over tourist arrivals was still 8.3 percent over the 2007-2008 period, it tumbled 14.0 percent between 2008 and 2009¹⁷. According to figures from the Statistics Division, the number of stay-over arrivals dropped from a level of 265,844 in 2008 to 234,410 in 2009. It was only in 2011 that the number of stay-over arrivals started to rise again to 241,331 (2011) and 246.926 in 2012. One can assume that the reduction in tourists and the contracting job market caused foreign workers to return to their country of origin. After the recuperation of the tourism industry, many workers may have returned. If this scenario really took place the intercensal figures would show an underestimation for the years just before the population census. Unfortunately, no flow data on trends of in-and out-migration for Antigua and Barbuda are available, and for the time being our interpolations remain the best estimates of intercensal population dynamics.

¹⁶the spreadsheet AGEINT of the PAS system was used. It can perform both linear and exponential interpolations of population data between two censuses. The methodology is explained in Appendix II - 6 of Eduardo E. Arriaga, Peter D. Johnson And Ellen Jamison (1994), Population Analysis using Microcomputers. Volume 1. Presentation of Techniques. US Bureau of the Census. This manual and the accompanying spreadsheets of the PAS-system can be downloaded from the Bureau's website at address:

<http://www.census.gov/population/international/software/pas/>

¹⁷ ECLAC (2010), The Tourism Sector and The Global Economic Crisis. Development Implications for The Caribbean, Economic Commission for Latin America and the Caribbean. Sub regional Headquarters for the Caribbean. LC/CAR/L255, p. 20.

2011 Population and Housing Census – A Demographic Profile

Table 1.10. Intercensal Population Estimates for Males by Five-Year Age groups (2001 - 2011)

Age	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Census 2011
Under 1	710	693	678	664	650	636	622	609	595	583	571
1 - 4	2,999	2,976	2,956	2,935	2,915	2,895	2,875	2,855	2,835	2,815	2,798
5 - 9	3,683	3,637	3,595	3,553	3,512	3,472	3,432	3,392	3,353	3,314	3,280
10-14	3,435	3,463	3,489	3,515	3,541	3,567	3,593	3,620	3,647	3,674	3,699
15 - 19	3,000	3,057	3,110	3,164	3,219	3,274	3,331	3,389	3,448	3,507	3,562
20 - 24	2,897	2,930	2,960	2,991	3,023	3,054	3,086	3,118	3,151	3,183	3,214
25 - 29	2,944	2,965	2,984	3,004	3,023	3,043	3,063	3,083	3,103	3,124	3,142
30 - 34	3,106	3,106	3,106	3,106	3,107	3,107	3,107	3,107	3,108	3,108	3,108
35 - 39	3,019	3,023	3,027	3,031	3,034	3,038	3,042	3,045	3,049	3,053	3,056
40 - 44	2,505	2,567	2,625	2,684	2,745	2,806	2,870	2,935	3,001	3,069	3,131
45 - 49	2,021	2,102	2,180	2,260	2,343	2,429	2,518	2,611	2,707	2,806	2,900
50 - 54	1,541	1,619	1,694	1,772	1,854	1,940	2,030	2,124	2,222	2,324	2,422
55 - 59	1,080	1,139	1,197	1,258	1,321	1,388	1,458	1,531	1,609	1,690	1,767
60 - 64	863	910	955	1,003	1,052	1,105	1,159	1,217	1,278	1,341	1,401
65 - 69	723	754	784	816	848	882	917	954	992	1,031	1,069
70 - 74	588	598	608	618	628	638	649	660	670	681	692
75 - 79	471	477	482	488	494	499	505	511	517	523	528
80+	525	537	548	560	571	583	595	608	621	634	646
Total	36,107	36,553	36,978	37,422	37,880	38,356	38,852	39,369	39,906	40,460	40,986

Estimation Population 80+ by 5 year age-groups

80-84	309	312	314	317	319	321	323	326	328	331	332
85-89	148	154	160	167	173	179	186	193	200	208	215
90-94	60	61	62	64	65	66	67	68	70	71	72
95+	8	10	11	13	15	17	19	21	23	25	27
Total	525	537	548	560	571	583	595	608	621	634	646

2011 Population and Housing Census – A Demographic Profile

Table 1.11. Intercensal Population Estimates for Females by Five-Year Age groups (2001 - 2011)

Age	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Census 2011
Under 1	717	699	683	668	652	638	623	609	595	582	570
1 - 4	2,822	2,808	2,795	2,782	2,769	2,757	2,744	2,732	2,719	2,707	2,695
5 - 9	3,704	3,644	3,590	3,537	3,485	3,433	3,382	3,332	3,283	3,234	3,191
10-14	3,656	3,654	3,653	3,651	3,650	3,648	3,647	3,646	3,644	3,643	3,641
15 - 19	3,326	3,347	3,366	3,386	3,405	3,425	3,444	3,464	3,484	3,504	3,522
20 - 24	3,165	3,192	3,217	3,242	3,267	3,293	3,319	3,345	3,371	3,397	3,421
25 - 29	3,454	3,461	3,467	3,473	3,479	3,485	3,491	3,497	3,503	3,510	3,515
30 - 34	3,876	3,835	3,798	3,762	3,726	3,690	3,654	3,619	3,585	3,550	3,519
35 - 39	3,667	3,671	3,674	3,678	3,681	3,685	3,688	3,692	3,696	3,699	3,702
40 - 44	3,046	3,101	3,153	3,205	3,258	3,313	3,367	3,424	3,480	3,538	3,591
45 - 49	2,306	2,402	2,494	2,589	2,687	2,790	2,896	3,006	3,121	3,239	3,351
50 - 54	1,727	1,813	1,896	1,982	2,073	2,167	2,266	2,369	2,477	2,590	2,696
55 - 59	1,310	1,369	1,425	1,484	1,545	1,608	1,674	1,743	1,814	1,889	1,959
60 - 64	1,021	1,070	1,117	1,167	1,218	1,271	1,327	1,386	1,447	1,510	1,570
65 - 69	857	887	915	944	975	1,006	1,038	1,071	1,105	1,140	1,173
70 - 74	752	758	764	770	776	781	787	793	799	805	811
75 - 79	551	561	571	581	591	602	612	623	633	644	655
80+	822	840	856	873	890	907	925	943	962	981	998
Total	40,779	41,112	41,434	41,774	42,127	42,499	42,884	43,294	43,718	44,162	44,581

Estimation Population 80+ by 5 year age-groups

80-84	419	429	438	448	458	468	478	489	499	511	520
85-89	258	262	266	270	274	278	282	286	290	295	298
90-94	123	123	123	124	123	123	123	123	123	123	122
95+	22	25	28	31	35	38	42	45	49	53	57
Total	822	840	856	873	890	907	925	943	962	981	998

2011 Population and Housing Census – A Demographic Profile

Table 1.12. Intercensal Population Estimates for Both Sexes by Five-Year Age groups (2001 – 2011)

Age	Census 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Census 2011
Under 1	1,427	1,392	1,361	1,332	1,302	1,274	1,245	1,218	1,190	1,165	1,141
1 - 4	5,821	5,784	5,751	5,717	5,684	5,652	5,619	5,587	5,554	5,522	5,493
5 - 9	7,387	7,281	7,185	7,090	6,997	6,905	6,814	6,724	6,636	6,548	6,471
10-14	7,091	7,117	7,142	7,166	7,191	7,215	7,240	7,266	7,291	7,317	7,340
15 - 19	6,326	6,404	6,476	6,550	6,624	6,699	6,775	6,853	6,932	7,011	7,084
20 - 24	6,062	6,122	6,177	6,233	6,290	6,347	6,405	6,463	6,522	6,580	6,635
25 - 29	6,398	6,426	6,451	6,477	6,502	6,528	6,554	6,580	6,606	6,634	6,657
30 - 34	6,982	6,941	6,904	6,868	6,833	6,797	6,761	6,726	6,693	6,658	6,627
35 - 39	6,686	6,694	6,701	6,709	6,715	6,723	6,730	6,737	6,745	6,752	6,758
40 - 44	5,551	5,668	5,778	5,889	6,003	6,119	6,237	6,359	6,481	6,607	6,723
45 - 49	4,327	4,504	4,674	4,849	5,030	5,219	5,414	5,617	5,828	6,045	6,251
50 - 54	3,268	3,432	3,590	3,754	3,927	4,107	4,296	4,493	4,699	4,914	5,118
55 - 59	2,390	2,508	2,622	2,742	2,866	2,996	3,132	3,274	3,423	3,579	3,726
60 - 64	1,884	1,980	2,072	2,170	2,270	2,376	2,486	2,603	2,725	2,851	2,972
65 - 69	1,580	1,641	1,699	1,760	1,823	1,888	1,955	2,025	2,097	2,171	2,243
70 - 74	1,340	1,356	1,372	1,388	1,404	1,419	1,436	1,453	1,469	1,486	1,502
75 - 79	1,022	1,038	1,053	1,069	1,085	1,101	1,117	1,134	1,150	1,167	1,183
80+	1,347	1,377	1,404	1,433	1,461	1,490	1,520	1,551	1,583	1,615	1,643
Total	76,886	77,665	78,412	79,196	80,007	80,855	81,736	82,663	83,624	84,622	85,567

Estimation Population 80+ by 5 year age-groups

80-84	728	741	753	765	777	789	802	815	828	841	852
85-89	406	417	426	437	447	457	468	479	491	502	513
90-94	183	185	186	187	188	189	190	192	193	194	194
95+	30	35	39	44	49	55	60	66	72	78	84
Total	1347	1377	1404	1433	1461	1490	1520	1551	1583	1615	1643

SECTION 2

FERTILITY

Section II. Fertility

Fertility Information in the Census

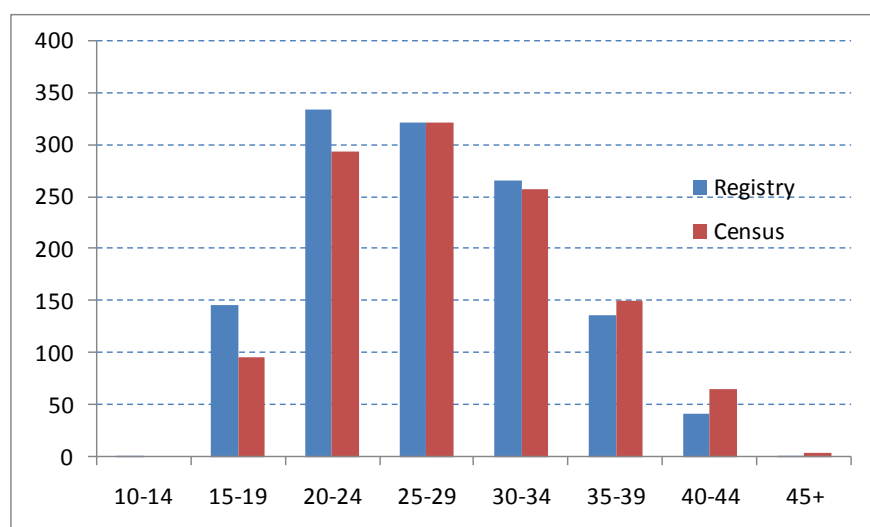
Several questions to measure fertility were included in the 2011 census. First, a question was asked to women 15 years and older how many live born children they had ever had. The respondent was then asked to specify how many of these children were male and how many were female. If the woman had given birth to one or more children, she was asked how many of these children were still alive. The next three questions dealt with the timing of fertility. Women were asked how old they were at the time when they gave birth to their first and last child. Then, women were asked the day, month and year of their last birth. Finally, women were asked how many births they had during the last 12 months before the census. Additional information from the population registry was used to analyze recent fertility in Antigua and Barbuda. For many years, all live births in the country are registered in a systematic way.

Table 2.1 and Figure 2.1 show the number of births in the last twelve months before the census from the census data and from the birth register. As registry data are provided on a yearly basis and the census took place at the end of May 2011, 5/12 of the number of births born to women aged x to $x+5$ years in 2011 and 7/12 of births born to women aged x , $x+5$ years in 2010 were selected from the register. It is assumed that registered births were evenly distributed over time during the years 2010 and 2011. The comparison between the census and registry data on the number of births shows a) that reported parities in the census are somewhat lower than in the registry. While 1,256 births were registered in the 12 months before the census, 1,189 were observed in the census, i.e. 5.6 percent less. b) Differences between the census and the birth registration vary by age group.

Table 2.1. Number of Births by Age of Mother during Period of 12 Months before the Census

	Registry	Census	Difference
10-14	2		
15-19	146	96	50
20-24	334	294	40
25-29	322	322	0
30-34	267	258	9
35-39	137	150	-14
40-44	42	65	-23
45+	1	4	-3
NS	5		5
	1256	1189	67

Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry.

Figure 2.1. Number of Births by Age of Mother (Birth Registry and Census)

Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry.

In the age groups 15 to 19 years and 20 to 24 years there is a big discrepancy between both sources. For the combined age groups, 90 more births were registered than were observed in the census. At ages above 35 years somewhat less births are registered than reported in the census.

It is not uncommon that census information on recent fertility is underreported. In censuses, errors in the number of births, which occurred during the 12 months preceding the interview, are often due to a misperception of the length of the reference period¹⁸. Women may be unsure whether the birth took place just inside or outside the 12month period before the census. However, this cannot explain why in Antigua and Barbuda the underreporting is concentrated in the age groups below 25. It is unclear what the exact reason is for this underreporting. There is some evidence that some stillbirths are included in the registered data. But also, perhaps young women were not very willing to report on their recent fertility experiences or interviewers were shy to ask about fertility to adolescent girls and young women. The fact is that in 13.9 and 7.4 percent of cases, census information on children ever born was not filled in for females 15 to 19 years and 20 to 24 years respectively. Non-response in these age groups is much higher than among older women, where non-reporting rates are typically 2 to 3 percent.

Fertility Indicators

As data on civil registration are of good quality in Antigua and Barbuda, these figures will be used, together with the number of women enumerated in the census, to calculate a set of fertility

¹⁸ United Nations (1983), *Manual X. Indirect Estimation for Demographic Estimation*. Department of International Economic and Social Affairs. Population Studies No. 81, New York, p.31.

indicators. Fertility information from the census will then be used to do some in-depth, multivariate analysis on trends and characteristics of the fertility behavior of women in the country.

As mentioned at the beginning of this report, the *crude birth rate (CBR)* in Antigua and Barbuda stood at 14.6 per thousand in 2011. Though widely used, the crude birth rate carries several disadvantages as it does not eliminate the effect of differential age structures. Therefore, instead of dividing the number of births in a year by the total population, the ratio of the number of births to the mid-year population of females in their reproductive ages (i.e. 15 to 49 years) is computed. This measure is called the *General Fertility Rate (GFR)*. In the case of Antigua and Barbuda, the GFR equals 44.3. In 2001, the CBR and the GFR were respectively 17.7 and 59.5. This suggests that during the intercensal period fertility has come down. However, since changes in the age structure that occurred between 2001 and 2011 cannot be controlled for both the CBR and the GFR, conclusions based on these measures cannot be drawn.

The level and age pattern of a country's fertility, at a certain moment in time, is described in a fertility table. In a fertility table, age-specific fertility rates¹⁹ are presented together with the sum of these age-specific rates -the *Total Fertility Rate (TFR)*. The TFR is the single most important indicator of the period fertility behavior of a population. It is ' *the average number of children a woman would bear if she survived through the end of the reproductive age span and experienced at each age a particular set of age-specific fertility rates*'. ²⁰In our case, these age-specific fertility rates refer to the period 6 months before and 6 months after the census, i.e. 1 December, 2010 until 1 November, 2011.

Currently, the Total Fertility Rate in Antigua and Barbuda stands at 1.78 children per woman. The age-specific fertility is highest among women 20 to 24 years old (0.098), which is slightly higher than fertility among women 25 to 29 years (0.090). More than just a few young women below age 20 years already give birth. A total of 151 babies were born to women younger than 20 years of age, implying an age-specific fertility rate of 0.042 in the age group 15 to 19 years.

The sex ratio at birth indicates the number of boys born alive per 100 girls born alive. Worldwide, the natural level of sex ratio at birth is about 105 and quite consistent among countries. The sex

¹⁹ The age-specific fertility rate is calculated by dividing the number of births occurring to mothers of a certain age-interval by the number of person-years lived by women in that age-interval. The age-fertility rate is therefore a ratio, rather than a proportion or a probability. The number of person years lived by the women in a particular age-group is approximated by taking the number of women at the middle of the time interval. For that reason, the number of children born six months before and six after the census by age of mother were taken to calculate the age-specific fertility rates. To calculate the Total Fertility Rate, the sum of all age-specific fertility rates is multiplied by 5, because a woman spends 5 year in each age-interval.

²⁰ Preston, S. H., Heuveline, P., &Guillot, M. (2001). *Demography: Measuring and Modeling. Population Processes*. Oxford: Blackwell Publishing Ltd, p.92.

ratio at birth in the Caribbean region and Latin America is currently 105 boys for 100 girls²¹. Generally speaking, only sex-selective abortion and sex-specific underreporting of births can have a real effect on the level of the sex ratio at birth. Worldwide, the sex ratio at birth stands at 1.07. This is due to the fact that some of the largest countries in the world (China, India) have very high sex ratios at birth due to gender biased prenatal sex selection.

Table 2.2. Fertility Table Antigua and Barbuda, Census 2011

Age of Mother	Births	Number of women	Age-specific fertility rates
10-14	2	3,638	0.001
15-19	146	3,519	0.041
20-24	334	3,418	0.098
25-29	322	3,512	0.092
30-34	267	3,516	0.076
35-39	137	3,699	0.037
40-44	42	3,588	0.012
45-49	1	3,348	0.000
NS	5		
Total	1256	28,238	1.78

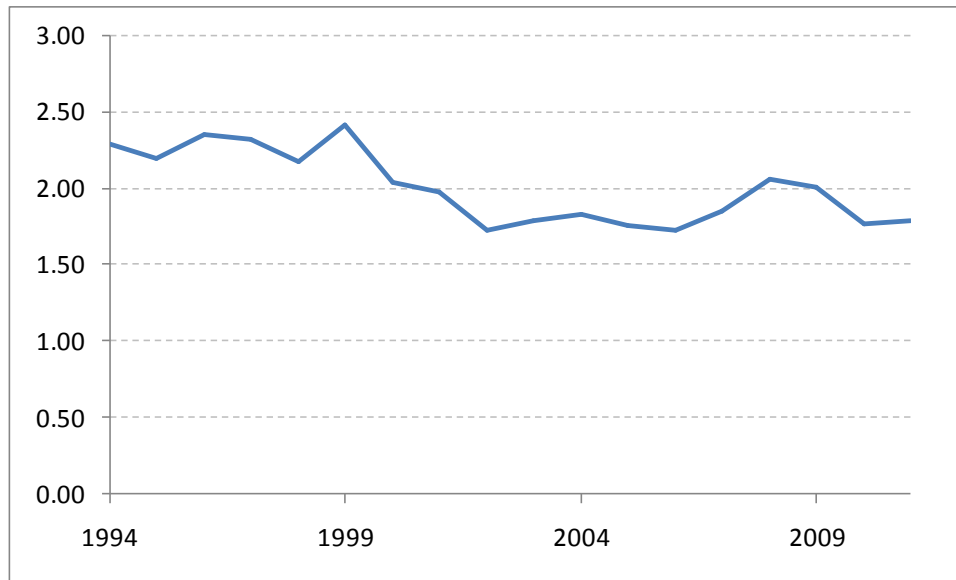
Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry.

In Antigua and Barbuda, the number of boys and girls born in the 12 months preceding the 2011 census was respectively 594 and 568. This implies a sex ratio at birth of 104.6, which is around the natural level of sex ratios at birth.

Replacement level in a population is reached when the average number of children a woman has is sufficient to reproduce herself by bearing a daughter who survives to childbearing age. On average replacement level fertility is reached when the TFR is 2.1 or higher. The fertility table shows that at a level of 1.78, fertility in Antigua and Barbuda is currently very low and well below replacement level.

²¹ The World Bank (2013), *The Little Data Book on Gender 2013*. Washington, p.5.

Figure 2.2. Total Fertility Rates, Antigua and Barbuda, 1994 - 2011



Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry.

Figure 2.2. depicts the *Total Fertility Rates* between 1994 and 2011. Some moderate changes have taken place over the period of 17 years for which there are fertility estimates. Fertility tables on which these year specific TFR's are based can be found back in Appendix 2. Up to 2000, the TFR was still above 2.0 children per woman, and hovering around replacement level. At the onset of the new millennium, fertility somewhat dropped to below a level of 2.0. It is interesting to see that apparently, there was a slight upward shift in 2008 and 2009 when TFR again climbed above 2.0.

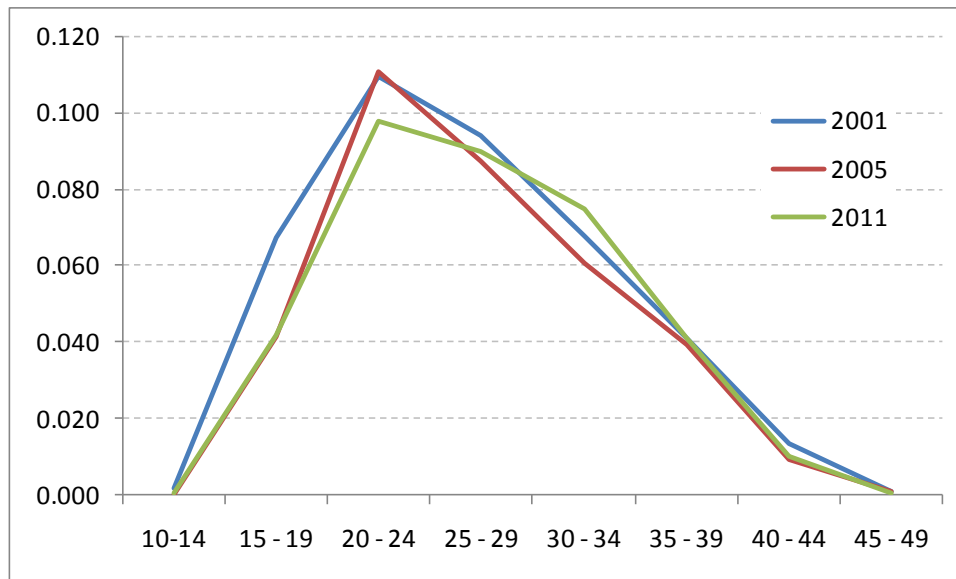
In their assessment of demographic changes in Latin America and the Caribbean, Guzman et al.²² indicated that it is one of the characteristics of the fertility transition in the Latin American and Caribbean region that the mean age at childbearing²³ came down from a level of around 30 years in the 1960's to about 27 years between 2000 and 2005. Within the Caribbean region some diversity still exists in terms of timing of fertility. Guzman et al. observed the lowest level in the Dominican Republic (25.7 years) and the highest level in Haiti (30.1) during the period 2000 to 2004. Antigua and Barbuda currently has about the same timing of fertility as observed in the whole region between 2000 and 2004. According to the 2011 Antigua and Barbuda fertility table,

²² José Miguel Guzmán, Jorge Rodríguez, Jorge Martínez, Juan Manuel Contreras And Daniela González (2006), *The Demography of Latin America and the Caribbean since 1950*. In: Population, English Edition 5, 2004 and 5-6, 2005, p. 533.

²³ The mean age at childbearing is the average age of mothers at the birth of their children, if each woman was subject throughout her life to the age-specific fertility rates observed in a certain time period. The mean age at childbearing is calculated as the sum of age-specific fertility rates multiplied by the mid-point of each age group, and divided by the sum of the age-specific rates.

the mean age at childbearing was 27.6 years. In Antigua and Barbuda the mean age at childbearing did not come down in recent years, it actually went up. In 2001, the mean age at childbearing was 26.8 years, which is almost a year lower than in 2011.

Figure 2.3. Age-specific Fertility Rates (2001, 2005, 2011)



Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry.

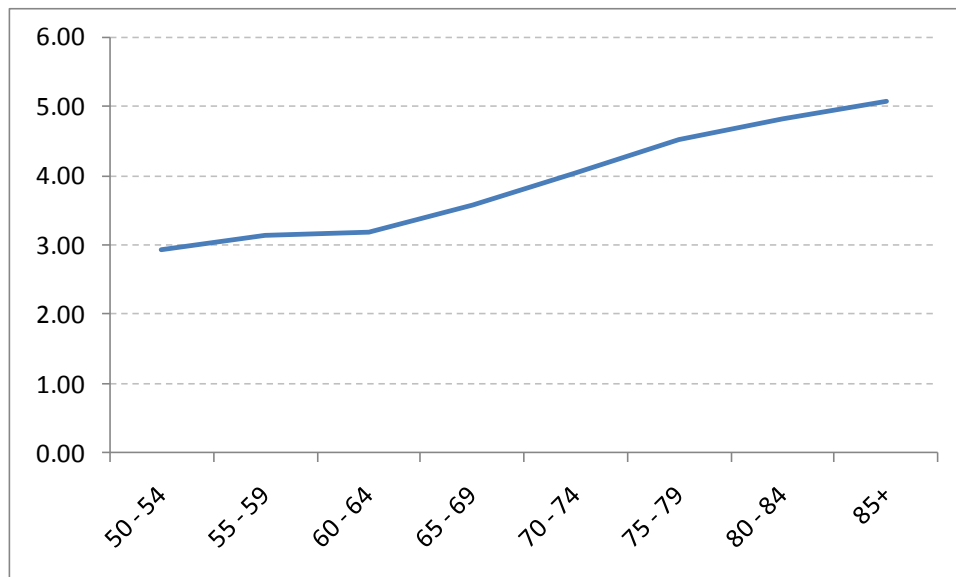
There is some evidence that between 2001 and 2011 some changes took place in the age pattern of fertility in Antigua and Barbuda. Figure 2.3 depicts the age-specific fertility rates in 2001, 2005 and 2011. It seems that over the years fertility before age 25 years has somewhat come down and that fertility between 30 and 35 years is slightly higher than in 2001 and 2005. This indicates that there is a tendency among women to plan to have their children at a somewhat older age. This is a trend seen among many countries with low fertility levels.

Past Fertility

The 2011 Population Census allows us to look back at past fertility levels of women on Antigua and Barbuda. The question on lifetime number of births gives an idea about the fertility experience of older women, who had their children many years ago. The average number of children ever born by women, who have passed their childbearing ages (50 years and older) is a clear indicator of fertility levels in the past. It is important to note that in this case it is assumed that women who have passed away or who have migrated out of the country had the same fertility experience as those who were interviewed during the census.

A common data problem in censuses and demographic surveys, i.e. the large number of women who have *not stated* recorded for their parity makes it difficult to calculate average parities of women residing in Antigua and Barbuda. Out of 34,342 women older than 15 years in the 2011 census, 1,706 have their life time parity *not stated*. This accounts for about 5 percent of all cases. The error which is often made in censuses is that women of zero parity are classified by enumerators as women whose parity is not stated. Interviewers have the tendency not to write '0', but simply to leave the answer box open. In 1961, El-Badry developed a technique to estimate the proportion of childless women, who were erroneously classified as 'not stated'.²⁴ However, this technique is only valid for women in the age group 15 to 49 years. Therefore, in the analysis of women 50 years and older, women with parity 'not stated' was removed. As a number of these women may in fact have zero parity, this may lead to a slight overestimate of age-specific parity.

Figure 2.4. Average Parity of Women 50 Years of Age and Older



Source: Population and Housing Census Antigua and Barbuda, 2011

Graph 3.4 shows the mean number of children ever born (CEB) by women 50 years of age and over, as recorded in Census 2011. Age groups in the graph in fact represent birth cohorts for women born 50 to 54, 55 to 59, 60 to 64... years ago, i.e. women who were born 50 to 54, 55 to 59 ... years before the census. The mean parity of women, who are at the end of their childbearing period, is theoretical equal to the cohort's total fertility rate. The graph clearly shows the decline of fertility in the past. Women 50 to 54 years have a life-time fertility of 2.93 which is considerably higher than the current period level of 1.78. Note that with each increase in five-year age groups,

²⁴ For an explanation of the El-Badry technique, see: United Nations (1983), *Manual X. Indirect Estimation for Demographic Estimation. ANNEX II. The El-Badry Correction for Data on Children Ever Born*. New York, p. 230.

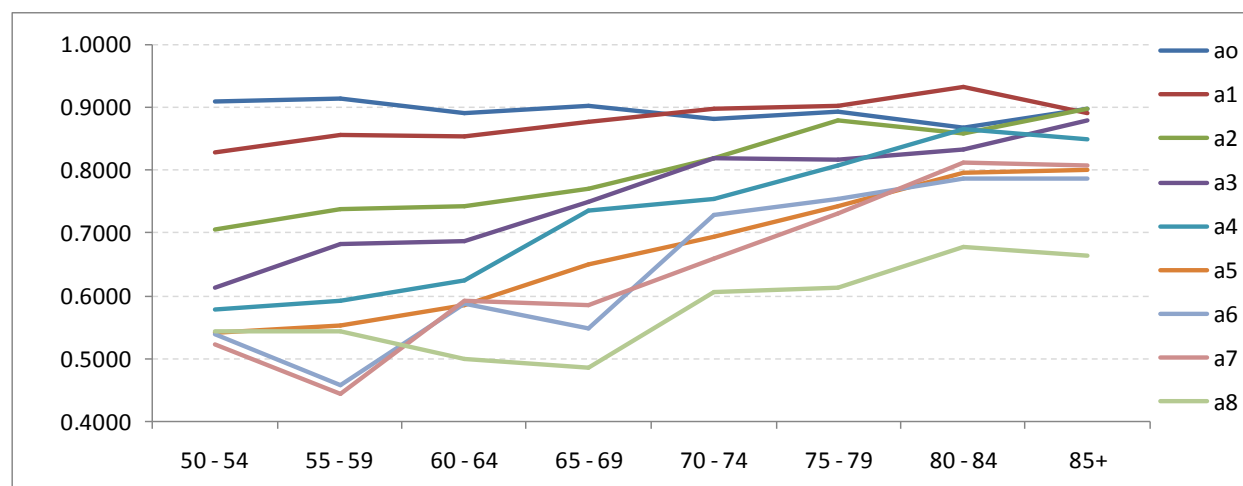
the mean number of children ever born rises. On average, women who are currently between 70 and 75 years old had 4.05 children. Women who are above 85 had a life-time fertility of more than 5 children. However, it must be noted that among the oldest cohorts some bias may be present because the group of women who survived may not be representative for the whole birth-cohort in terms of their fertility experience. If the surviving women would have had different life time fertility experience than the women who died (or migrated), then our figures would be biased.

Table 2.3. Parity Progression Ratios Women Aged 50 Years and Older, Antigua and Barbuda, 2011

Age	a ₀	a ₁	a ₂	a ₃	a ₄	a ₅	a ₆	a ₇	a ₈
50 - 54	0.9112	0.8285	0.7054	0.6135	0.5775	0.5402	0.5394	0.5221	0.5424
55 - 59	0.9149	0.8557	0.7373	0.6815	0.5932	0.5536	0.4579	0.4432	0.5427
60 - 64	0.8918	0.8540	0.7431	0.6867	0.6252	0.5843	0.5877	0.5927	0.5003
65 - 69	0.9035	0.8770	0.7699	0.7507	0.7353	0.6492	0.5487	0.5856	0.4861
70 - 74	0.8828	0.8996	0.8205	0.8191	0.7555	0.6935	0.7290	0.6588	0.6060
75 - 79	0.8939	0.9033	0.8792	0.8170	0.8085	0.7438	0.7539	0.7308	0.6132
80 - 84	0.8695	0.9337	0.8580	0.8344	0.8656	0.7958	0.7874	0.8129	0.6787
85+	0.8989	0.8905	0.8978	0.8795	0.8506	0.8016	0.7874	0.8081	0.6642

Source: Population and Housing Census Antigua and Barbuda, 2011

Figure 2.5. Parity Progression Ratios Women Aged 50+ Years Old, Antigua and Barbuda, 2011



Source: Population and Housing Census Antigua and Barbuda, 2011

Another way to look at past fertility trends is through women's progression from a specific parity to the next, instead of one age group to the next. To do so, the proportion of women with a certain number of children who have at least one other child must be used. This measure is commonly referred to as a *Parity Progression Ratio (PPR)*. PPR's are normally only calculated for

cohorts of women who have already ended their fertility career²⁵. The Census 2011 has all necessary information to calculate parity progression ratios, i.e. the number of women in five-year age groups above age 50 years and their respective total number of children ever born. Table 2.3 presents the parity progression ratios for women aged 50 years plus, according to the 2011 Antigua and Barbuda Census.

In the table, a_0 stands for the PPR from parity 0 to 1, a_1 is the PPR from parity 1 to 2 etc. ... No PPR's larger than 8 were calculated, because there were too few cases. Figure 2.5 gives a visual representation of the PPR's by age. A first observation that can be made is that for all cohorts of females born more than 50 years ago, about 10 percent of women remained childless. Only small differences exist in childlessness between the different cohorts. Second, the fertility transition can clearly be seen in the different PPR's. For instance, a_3 , i.e. the proportion of women who go on to have a fourth child, is 88.0 percent for women who are currently above 85 years. For women who are currently between 50 and 55 years, it is 61.4 percent. The graph also shows that the fertility transition has been a gradual process. Respective PPR's are gradually coming down starting with the cohort of women about 75 to 80 years. This would place the onset of the fertility transition in Antigua and Barbuda somewhere during the 1960's.

Fertility, Marital Status and Unions

According to the World Marriage Patterns²⁶, published by the UN Population Division, among 159 countries with available data for the 2000's, in 143 at least 80 percent of women aged 45 to 49 years, had ever been married. Additionally in 125 out of 162 countries at least fifty percent of women aged 25 to 29 years were ever married. Antigua and Barbuda does not follow this pattern, but is more in line with other Caribbean countries with a high proportion of consensual and visiting unions. Figure 2.6 shows the percentage distribution of all women between ages 15 and 49 years, by marital status and five-year age groups. Among all women in the reproductive age groups, 71 percent are never married. In the age group 45 to 49 years, 37.8 percent are currently married and only 22.2 percent of all women in the reproductive age groups are married.

Though a large proportion of women remain unmarried throughout their reproductive life-span, does not mean they are not connected to a partner in a steady relationship. Out of 24,526 women between 15 and 50 years, 3,276 (14.2 percent) are in a consensual union and 4,341 (18.9 percent) have a visiting partner²⁷. The majority of women in a consensual or visiting union are never

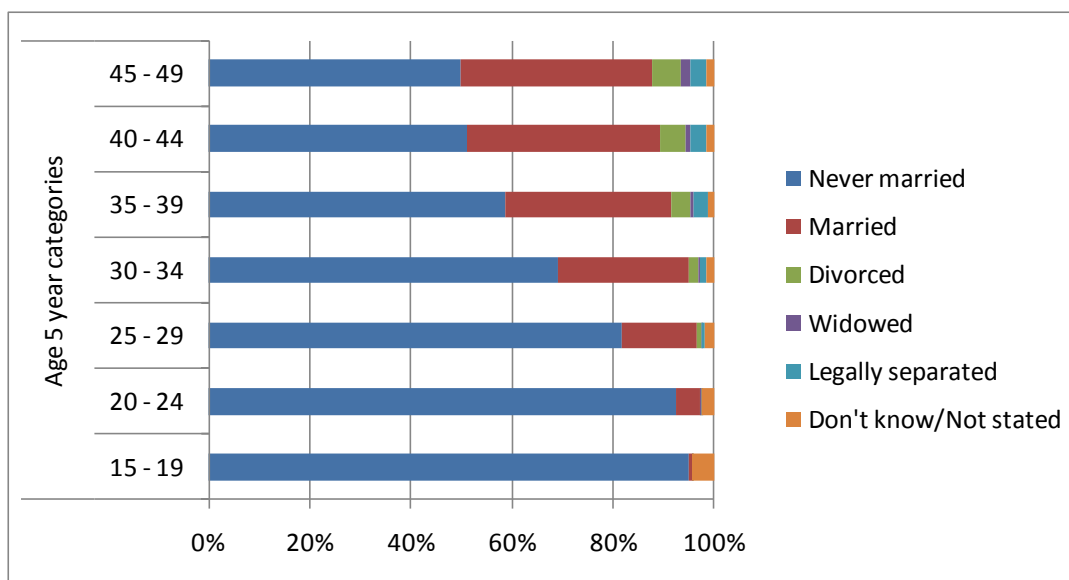
²⁵ Preston, S. H., Heuveline, P., &Guillot, M. (2001). *Demography: Measuring and Modeling. Population Processes*. Oxford: Blackwell Publishing Ltd, p.105. Explains the way parity progression ratios are calculated.

²⁶ United Nations (2011), *World Marriage Patterns, Population Facts, No. 2011/1*, Department of Economic and Social Affairs. Population Division, p.2.

²⁷ To calculate these percentages, the 'Don't know/not stated' cases were removed from the denominator.

married. Moreover, a large proportion of women are not in a union at all. In total, 10,283 (44.8 percent) of all women in their reproductive ages do not have a partner.

Figure 2.6. Percentage Distribution of Women between Ages 15 - 49 Years by Marital Status and Five-year Age groups



Source: Population and Housing Census Antigua and Barbuda, 2011

Table 2.4. Women Aged 15 - 49 Years of Age by Marital and Union Status

	Union Status					
	Married and living with spouse	Common Law/de facto marriage	Visiting partner	Not in Union	Don't know/Not stated	Total
Marital Status Never married	0	3,090	4,118	9,282	920	17,411
Married	5,072	42	46	208	89	5,457
Divorced	0	80	108	381	33	602
Widowed	0	13	14	105	8	140
Legally separated	0	38	53	300	18	409
Don't know/Not stated	0	14	1	8	486	508
Total	5,072	3,276	4,341	10,283	1,554	24,526

Source: Population and Housing Census Antigua and Barbuda, 2011

Given the large variety of types of union in Antigua and Barbuda, many children are born outside formal wedlock. Table 2.5 shows that 25.7 percent of all children in Antigua and Barbuda are born

inside a family where mother and father are present and legally married to each other; 70.7 percent of children are born to mothers that have never been married.

Among all 1,189 children, enumerated in the census as being born in the 12 months before the census, an almost equal number are born in common law marriages and in visiting unions, 299 and 308 children respectively. Combined, they constitute almost half of all children born in the country. Almost 20 percent of children born during the 12 months before the census, are born to mothers who were not in a union at the time of the census. Only very few children were born to women who were divorced, widowed or legally separated at the time of census enumeration, only 23 mothers in these three statuses indicated they had given birth during the year before the census.

Another way to look at fertility by marital and union status is to calculate birth rates for women according to their status at the time of the census. These birth rates are calculated by dividing the number of children born in a specific marital and union status of the mother, by the total number of women aged 15 to 49 years old in the corresponding marital and union status. These birth rates, together with the number of women by marital and union status are presented in Table 2.6. One should keep in mind that these birth rates are crude rates, i.e. they do not remove the impact of differential age structures within each cell. In our case, as many of the cells have only a limited number of cases, it was impossible to add ages to the tables.

Birth rates are highest in the group of never married women living in a common-law marriage, for every 1,000 women in this marriage/union group, 93.8 children were born in the year before the census. This is significantly higher than in the group of women who are married and who are living with a spouse. These women have a birth rate of 60.3, almost a third lower. The reason for this lower fertility is most probably since women who are married and are living with a spouse are older than women in common law marriages. In the census, the mean age of married women is 38.3 years, against 33.7 years for women in a common-law marriage. Although the average age of women in a visiting union is still lower (30.8 years), their fertility is well below that of women in a common-law marriage (72.4 children per 1,000 women). Women who are never married and not currently living in a union, have a birth rate of 24.6, meaning that in a given year 1 in 40 women in this category will give birth.

2011 Population and Housing Census – A Demographic Profile

Table 2.5. Absolute and Percentage Distribution of Births Born to Women by Marital and Union Status

Union Status	Marital Status													
	Never married		Married		Divorced		Widowed		Legally separated		Don't know/Not stated		Total	
	No. of births	% of all birts	No. of births	% of all birts	No. of births	% of all birts	No. of births	% of all birts	No. of births	% of all birts	No. of births	% of all birts	No. of births	% of all birts
Married and living with spouse	0	0.0	306	25.7	0	0.0	0	0.0	0	0.0	0	0.0	306	25.7
Common Law/de facto marriage	290	24.4	3	0.3	3	0.3	0	0.0	2	0.2	0	0.0	299	25.1
Visiting partner	298	25.1	2	0.2	4	0.4	0	0.0	3	0.3	0	0.0	308	25.9
Not in Union	228	19.2	6	0.5	1	0.1	0	0.0	8	0.6	0	0.0	243	20.5
Don't know/Not stated	25	2.1	2	0.2	1	0.1	0	0.0	0	0.0	5	0.5	33	2.8
Total	841	70.7	320	26.9	10	0.8	0	0.0	13	1.1	5	0.5	1,189	100.0

Source: Population and Housing Census Antigua and Barbuda, 2011

Table 2.6. Women Aged 15 - 49 Years of Age by Marital and Union Status and Birth Rate by Status

Union Status	Marital Status													
	Never married	Birth rate Never married	Married	Birth Rate Married	Divorced	Birth Rate Divorced	Widowed	Birth Rate Widowed	Legally separated	Birth Rate Separated	Don't know/Not stated	Birth Rate DK	Total	Birt Rate Total
Married and living with spouse	0	-	5,072	60.3	0	-	0	-	0	-	0	-	5,072	60.3
Common Law/de facto marriage	3,090	93.8	42	78.0	80	40.4	13	0.0	38	59.0	14	0.0	3,276	91.2
Visiting partner	4,118	72.4	46	48.2	108	39.6	14	0.0	53	59.6	1	0.0	4,341	70.9
Not in Union	9,282	24.6	208	31.1	381	2.8	105	0.0	300	25.4	8	0.0	10,283	23.6
Don't know/Not stated	920	27.0	89	23.4	33	33.2	8	0.0	18	0.0	486	11.2	1,554	21.5
Total	17,411	48.3	5,457	58.6	602	16.1	140	0.0	409	31.8	508	10.7	24,526	48.5

Source: Population and Housing Census Antigua and Barbuda, 2011

Teenage Fertility

Over the years, teenage pregnancy has drawn a lot of international attention. According to figures from UNFPA, every year 16 million adolescent girls give birth. The associations of teenage pregnancy and childbirth with increased risk of maternal mortality, obstetric complications and adverse fetal outcome are well documented²⁸. Reducing adolescent pregnancies forms part of Goal 5 'Improve Maternal Health' of the UN-Millennium Development Goals (MDGs). Adolescent fertility not only poses risks to the health of the young mother and her child, giving birth at a very young age also has serious consequences for the young mother's educational career, her social development and her opportunities on the labour market.

Various indicators can be used to measure adolescent fertility. A good, often used indicator is the Adolescent Birth Rate (ABR), which is defined as '*the annual number of births to women 15 to 19 years of age per 1,000 women in that age group. It represents the risk of childbearing among adolescent women 15 to 19 years of age. It is also referred to as the age-specific fertility rate for women aged 15-19*'.²⁹ In the analysis, the ABRs per thousand females in the age group 15 to 19 years was used.

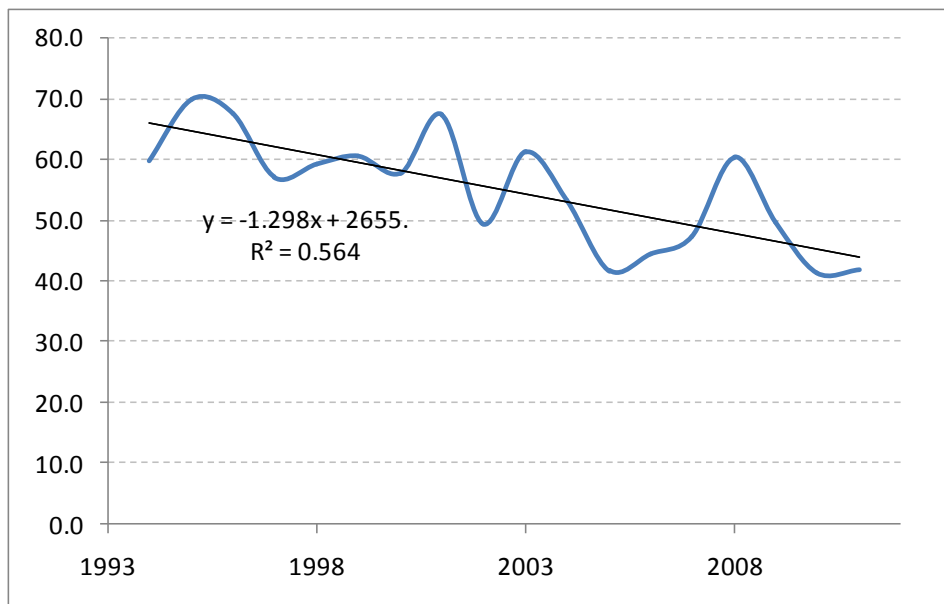


Figure 2.7. Adolescent Birth Rates (1994-2011)

²⁸ See for instance: Edilberto Loaiza & Mengjia Liang (2013), *Adolescent Pregnancy: A Review of the Evidence*. UNFPA, New York.

²⁹ See UN website: <http://mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=761>.

In 2011, out of 1,257 registered babies born in Antigua and Barbuda, 150 were born to women who were less than 20 years old, which is 11.9 percent of all births. Three children were born to girls who were younger than 15 years old. The fertility table, presented earlier, shows an ABR of 41.9. Table 2.7 shows the adolescent birth rates per thousand for Antigua and Barbuda for the years 1994 to 2011 from birth registration. The graph in Figure 2.7 gives a smoothed representation of these figures, including a trend line, based on a linear regression of the ABRs.

Table 2.7. Adolescent Birth Rates (1994-2011)

Age	ABR 15 - 19	% of TFR
1994	59.9	13.1
1995	69.8	15.9
1996	67.5	14.4
1997	57.0	12.3
1998	59.2	13.6
1999	60.6	12.5
2000	57.8	14.2
2001	67.3	17.0
2002	49.3	14.3
2003	61.2	17.1
2004	53.2	14.6
2005	41.7	11.9
2006	44.4	12.8
2007	47.3	12.8
2008	60.3	14.6
2009	49.7	12.4
2010	41.4	11.7
2011	41.9	11.7

Over the years, the ABRs varied quite a bit, with a maximum of 69.8 per thousand in 1995 and a minimum of 41.4 in 2010. The linear regression trend line shows a slope of -1.298. This means that during the period 1994 to 2011 the fertility rates for adolescent girls on average declined by about 1.3 per thousand annually. Next to the adolescent fertility rates, the ABRs are presented as a percentage of the Total Fertility Rates. Over the whole period, ABRs are typically between 10 and 15 percent of the TFR. Some years are slightly higher than others. Because of the relatively small number of births in a year, this may well be due to small sample variability.

There is another way to look at adolescent fertility. Instead of calculating the ABR, which is an exposure rate, the proportion of women older than 20 years who have given birth before age 20 years can also be calculated. Table 2.8 shows the number of women by five-year age groups,

together with the percentage of each age group that gave birth to a child before age 20 years. The corresponding graph also includes a trend line. In this case a polynomial function³⁰ best fitted the data.

Table 2.8. Women Aged 20 Years and Over by Reported Teenage Birth and Five-Year Age Group

Age category	Teenage births			
	Woman did not have child before age 20	Woman had child before age 20	Total	% who had child
20 - 24	2,687	620	3,307	18.7
25 - 29	2,628	776	3,404	22.8
30 - 34	2,515	866	3,381	25.6
35 - 39	2,543	1,017	3,560	28.6
40 - 44	2,310	1,094	3,404	32.1
45 - 49	2,080	1,082	3,162	34.2
50 - 54	1,621	889	2,510	35.4
55 - 59	1,149	659	1,808	36.4
60 - 64	953	492	1,445	34.0
65 - 69	709	345	1,054	32.7
70 - 74	459	238	697	34.1
75 - 79	352	205	557	36.8
80 - 84	283	145	428	33.9
85 +	247	112	359	31.2
90 - 94	60	26	86	30.2
95+	31	11	42	26.2
Total	20,627	8,577	29,204	29.4

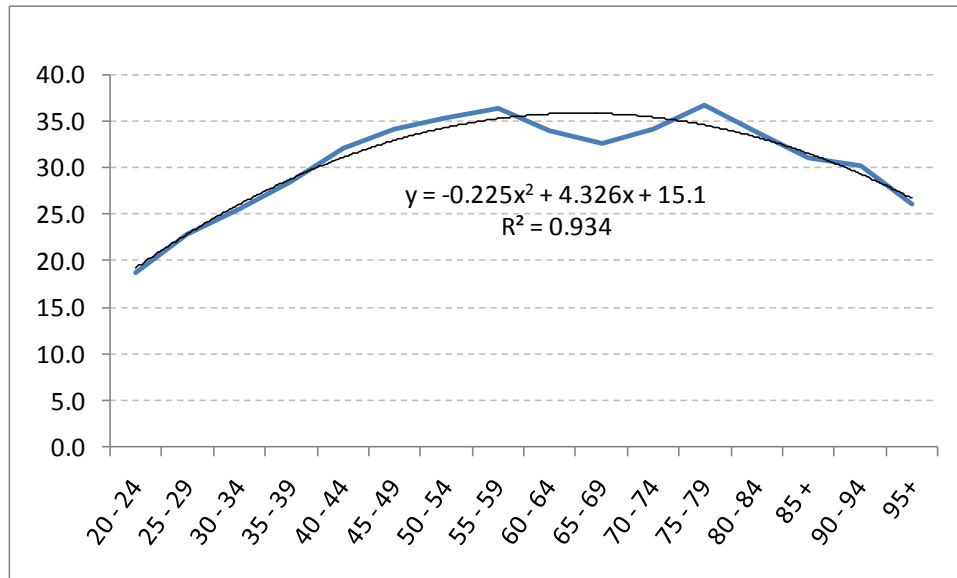
Source: Population and Housing Census Antigua and Barbuda, 2011

Among all women aged 20 years and older living in Antigua and Barbuda, 29.4 percent had a child before age 20 years. The census clearly shows that younger women have considerably lower adolescent fertility than middle aged women. There is a gradual increase from 18.7 percent for women currently 20 to 24 years old to 36.4 among women 55 to 59 years old. Interestingly, women in an older age- group again have a lower percentage. Figure 2.8 shows that the quadratic

³⁰A polynomial function is a function with a non-negative power of x. For example, a quadratic, a cubic, a quartic function...

equation is a good fit of the percentages of adolescent fertility over time, with a coefficient of determination (R^2) of no less than 0.934. In this way, the graph clearly shows that adolescent fertility was indeed higher in the past, but that probably many years ago, with the current generation of elderly women, it came close to the present level.

Figure 2.8. Women Aged 20 Years and Over by Reported Teenage Birth and Five-Year Age Group



Source: Population and Housing Census Antigua and Barbuda, 2011

It is important for policy-making, to know which categories of adolescent girls run higher risk of experiencing birth at a very young age. To investigate differential adolescent fertility, a logit regression among women aged 20 years and older was used. Logit (or logistic) regression is a generalized linear regression technique used to model a dichotomous dependent variable. In this case the dichotomy is whether the woman experienced childbirth before age 20 years (value = 1) or not (value = 0). In the logit regression, the log odds of the dichotomy (birth before age 20 years or not) is made a linear function of the predictor variables (independent variables). After some testing, the following explanatory variables were included in the regression model:

- Age-category (five-year age groups)
- Parish
- Educational level
- Religion
- Ethnic group
- Country of birth of mother

2011 Population and Housing Census – A Demographic Profile

In the regression model, a reference category had to be chosen for each explanatory variable. Reference categories are: age 20 to 24 years, the Parish of St. Johns, No education, Religion Adventist, African descendent and mother born in Antigua and Barbuda. Table 2.9 presents the results of the logit regression. For each category of the explanatory variables first the frequency is given. Column 'B' shows the regression coefficients. These are the natural logarithms of the odds for women to have given birth to a child before the age of 20. The larger the B-coefficient,

Table 2.9. Logit Regression for Teenage Childbirth with Selected Explanatory Variables

Variable	Frequency	B	Exp(B)	Variable	Frequency	B	Exp(B)
Age category				Educational level (cont'd)			
20 - 24	2,836			Post Primary -	541	-.498	.608
25 - 29	2,905	.241	1.273	Special	95	-1.634	.195
30 - 34	2,926	.402	1.495	University	2,723	-2.558	.077
35 - 39	3,062	.459	1.583	Other	390	-.421	.657
40 - 44	2,952	.523	1.688	Religion			
45 - 49	2,729	.556	1.744	Adventist	3,168		
50 - 54	2,170	.585	1.795	Anglican	4,734	-.075	.928
55 - 59	1,541	.519	1.681	Baptist	952	-.156	.856
60 - 64	1,227	.405	1.500	Church of God	1,182	.154	1.167
65 - 69	889	.244	1.277	Evangelical	602	.045	1.047
70 - 74	586	.205	1.228	Jehovah Witness	419	-.018	.982
75 - 79	465	.166	1.180	Methodist	1,538	-.227	.797
80 - 84	339	-.076	.927	Moravian	2,213	-.035	.965
85 - 89	179	-.017	.983	Nazarene	465	.147	1.159
90 - 94	70	-.331	.718	None/no religion	1,044	.131	1.140
95+	32	-.475	.622	Pentecostal	3,414	.086	1.089
Parish Household				Roman Catholic	2,387	-.166	.847
St.Johns (City)	7,000			Weslyan Holiness	1,163	-.044	.957
St.Johns (Rural)	8,745	-.137	.872	Other	1,627	.040	1.041
St.George	2,526	-.293	.746	Ethnic group			
St.Peters	1,670	-.001	.999	African descendent	21,654		
St.Philip	927	-.157	.854	Amerindian	127	-.299	.741
St.Paul	2,549	-.109	.897	Asian	45	-1.960	.141
St.Marys	2,303	-.051	.951	Caucasian/White	448	-1.385	.250
Barbuda	440	.250	1.283	Chinese	25	-20.400	.000
Educational level				East Indian/India	303	-.635	.530
None	174			Mixed (Black/White)	227	-.338	.713
Primary/elementary (1-3)	318	.458	1.581	Mixed (Other)	949	-.068	.935
Primary/elementary (4-7)	3,086	.188	1.206	Portuguese	36	-.342	.710
Junior Secondary	1,636	.210	1.234	Hispanic	946	.307	1.359
Secondary (Form 1-3)	1,379	.137	1.147	Syrian/Lebanese	112	-.360	.697
Secondary (Form 4-5)	9,949	-.852	.427	Other	36	-.294	.745
Sixth Form (A'Level) -	256	-1.745	.175	Country of Birth of Mother			
Sixth Form (A'Level) -	563	-1.826	.161	In this country	15,384		
Post Secondary	483	-1.023	.360	Abroad	9,524	.080	1.083
Post Sec/Pre-	3,315	-1.841	.159	Constant		-.387	.679

the larger will be the effect of the variable on the logit of the dependent variable. Obviously, this measure is hard to interpret. Therefore, the exponential function of each regression coefficients (Exp (B)) was calculated. This transformation, which is presented in column Exp (B), gives the odds ratio, i.e. the ratio to have given birth to a child before age 20 years, against not having

given birth before 20 years compared to the reference category. Note that confidence levels were not included in the table because the census and not a survey is the source of data.

The odds for women to have given birth to a child before age 20 years, follows the same pattern as illustrated in Figure 2.8, i.e. women in the reference category 20 to 24 years have low risk, steadily higher risks are experienced by women up to age 50 to 54 years and then gradually lower risks for older women. For instance, women who are currently 50 to 54 years old had an odds ratio which was 1.8 times larger to have experienced teenage birth, than women who are currently 20 to 24 years. After age 80 years, odds are smaller than for women 20 to 24 years.

After controlling for all other intervening explanatory variables, only Barbuda (odds ratio 1.28) has higher adolescent fertility than St. John City. St. Peter and St. Mary levels are almost the same as in St. John, but all other parishes have lower levels of teenage fertility. St George has the lowest level. In this parish, the odds for having a teenage birth is about a quarter smaller than in St John City.

Education is definitely an important discriminating factor in terms of the risk for teenage childbirth. Women with primary education (1 to 3 years) have the highest chance of having a teenage birth. Their odds are 1.581 higher than women with no education at all. This is a bit contradictory to expectation and no immediate explanation could be found. However, generally, the higher the educational level, the lower the risk of having a teenage birth. Women who have finished university, have an odds ratio which is about 14 times smaller (1/.077) than women with no education and more than 20 times smaller than women with primary education (1 to 3 years). An important difference exists between women with lower secondary education (1 - 3 years) and higher secondary education (4 to 5 years) compared to the reference category of women with no education at all. Women with lower secondary education have 1.147 higher odds, while the odds ratio for women with higher secondary education is 0.427. Note that in the case of education sometimes a spurious relationship may be present between teenage birth and education. Not only does level of education have an effect on the level of adolescent fertility, but vice versa, having a birth at a very young age may prevent the girl from pursuing a higher level of education.

Compared to educational level, religion does not have such a serious discriminating effect as education. All odds ratios are between 0.80 and 1.17 for all religions compared to Adventists (reference category). A much bigger role is played by ethnic affiliation. Only Hispanic women have a higher level of teenage pregnancy than female African descendants. Their odds ratio is 1.36 times higher than our reference group. All other ethnic groups show much lower levels of teenage birth, with the exception of the mixed (other) group. Their odds are only marginally lower than for the women with African ancestry. Finally, only a small difference exists between women who were born in Antigua and Barbuda and those born abroad.

Median Age at First Birth

Unfortunately, no registered data are available for births by birth order for the period. Therefore, it is not possible to calculate the mean age of the mother at her first birth from register data. In the census, a question was asked to all women age 15 years and above about the age at which they had their first child. Obviously, this information was only completed for women who already experienced childbirth. To have an indication about the onset of women's fertility, the median age of first birth for five-year age groups starting at age 25 years was calculated. The median for the age group 25 to 29 years refers to a time period of about ten years before the census and is the closest possible estimate in terms of time.

Table 2.10. Median Age at First Birth by Age Category of Mother

Age - category	Median age at First Birth
25 - 29	24.0
30 - 34	23.4
35 - 39	22.6
40 - 44	22.0
45 - 49	21.9
50 - 54	21.7
55 - 59	21.5

Source: Population and Housing Census Antigua and Barbuda, 2011

Table 2.10 shows that age at which women had their first birth has increased over the years. The median age, i.e. the age at which fifty percent of women have had their first birth, is 24 years. A look at the older age groups reveals a gradual decrease in the age at first birth. Women, who were 40 to 44 years old at the time of the Census 2011, had a median age of 22.0 years at the time they gave birth to their first child. For women 45 years and older, the decrease in median age is much more limited. Between women aged 40 to 44 years and women age 55 to 59 years there is only half a year difference. This means that especially in more recent years the age at first birth has increased significantly.

Unfortunately, there is little information about ages at first birth for other countries in the region. The World Fertility Report 2009³¹, published by the United Nations Population Division (DESA), only provides relatively recent information on mean age at birth for the Dominican Republic (2007) and Haiti (2005/2006). Information for both countries was derived from the Demographic Health Survey (DHS). In both cases the median age at first birth was taken as an approximation

³¹ International indicators on fertility presented in the World Fertility Report 2009, can be found on the internet at address: http://www.un.org/esa/population/publications/WFR2009_Web/Data/DataAndSources.html.

for the mean age at first birth. In both countries, the median age at first birth was much lower than in Antigua and Barbuda. Median ages at first birth were 22.2 and 20.3 years respectively.

SECTION 3

MORTALITY AND MORBIDITY

Section III. Mortality and Morbidity

During the years 1955 to 1966, Dr. Kenneth Uttley served as Chief Medical Officer in Antigua and Barbuda. Throughout this period, he did a large amount of historical demographic work on infant and child mortality and epidemiological work on several specific diseases (e.g. tuberculosis, malaria, leprosy, etc.). These historical studies were based on the governmental demographic registers of all births, deaths and causes of death enacted through the *Compulsory Birth and Death Registration Ordinance of 1856*. In his scientific papers, Dr. Uttley pictures a regime of very high mortality and morbidity in the 19th century that only gradually reached more modest levels during the first half of the previous century. For instance, in the period 1877 to 1886 the infant mortality rate was 255 per thousand live births and the death rate for children 1 to 4 years was 46 per thousand. This implies that out of 10 live births only 7 would survive up to age 5 years. These high levels persisted well into the beginning of the 20th century. Only after 1916 is there a decline in the high levels of infant and child mortality. However, up till the 1950s did mortality at young ages remain high. In the period 1947 to 1956 infant mortality was equal to 78 per thousand and child mortality (1 to 4 years) equal to 20. About one in ten children did not make it up to age 5 years³².

Since then conditions have drastically improved. Although a census is definitely no detailed mortality or morbidity study, it provides interesting data, and combined with the data from the population register, to learn more about the current levels of mortality, morbidity and disability in Antigua and Barbuda.

Infant and Child Mortality

As indicated, in the period 6 months before and 6 months after the census, 480 persons died in Antigua and Barbuda. This implies a death rate of 5.6 per thousand.

Table 3.1 shows measures of infant mortality in the period 2008 to 2012. As Antigua and Barbuda is a small country with less than 1,500 births and around 500 total deaths per year, measures of infant and child mortality have the tendency to fluctuate because of small sample variability. The measures shown below should therefore not be over interpreted in terms of short term trends. For instance, the infant mortality rate fluctuates between 19.9 and 12.8 during the period 2008 - 2012. To minimize the effect of random variability the weighted average of each of the infant and child mortality indicators are calculated and presented in Table 3.1. For the rest of the analysis we will be using these weighted averages as estimates for current infant and child mortality.

³²Uttley, K.H. (1960), *Infant and Early Childhood Death Rates over the Last Hundred Years in The Negro Population of Antigua, British West Indies*, in: *British Journal of Preventive & Social Medicine*, 14, p. 187.

Table 3.1. Measures of Infant and Child Mortality in Antigua and Barbuda, 2008 - 2011**A. Data Infant and Child Mortality**

Age groups	2008	2009	2010	2011	2012	Weighted Average
0 days	14	7	1	12	4	
1-6 days	4	6	7	8	8	
7-27 days	3	2	4	0	4	
28 days- 11 Months	4	5	4	5	3	
1-4 years	1	6	6	3	3	
All deaths	538	515	498	475	507	
Births	1,452	1,418	1,253	1,255	1,192	

B. Indicators Infant and Child Mortality

Neonatal mortality rate						
	14.46	10.58	9.58	15.94	13.42	12.79
Neonatal mortality as percentage of all deaths						
	3.90	2.91	2.41	4.21	3.16	3.32
Post-neonatal mortality rate						
	2.75	3.53	3.19	3.98	2.52	3.20
Post-neonatal mortality as percentage of all deaths						
	0.74	0.97	0.80	1.05	0.59	0.67
Infant Mortality Rate (IMR)						
	17.22	14.10	12.77	19.92	15.94	15.98
Infant mortality as percentage of all deaths						
	4.65	3.88	3.21	5.26	3.75	3.51
Under 5 mortality rate per 1000 births						
	17.91	18.34	17.56	22.31	18.46	18.87
Under 5 mortality as a percentage of all deaths						
	4.83	5.05	4.42	5.89	4.34	4.03

Source: Population and Housing Census Antigua and Barbuda, 2011; Population Registry

The level of neo-natal mortality, i.e. mortality of children born alive during the first month (27 days) of life, currently stands at 12.8 per thousand births. Neonatal deaths account for 3.3 percent of all deaths in the population. This is about half of the level of 25 observed by Uttley in the 1950's and a far cry from the 108 per thousand he observed in the period 1877 to 1886³³. During the period 1977 to 1886, the neonatal mortality rate (NMR) was 20 per 1000 live births

³³Uttley, K.H. (1960), *Infant and Early Childhood Death Rates over the Last Hundred Years in The Negro Population of Antigua, British West Indies*, in: *British Journal of Preventive & Social Medicine*, 14, p. 187.

and in 2000 it was 8 per thousand live births³⁴. The latter figure, estimated by Martin et al., is somewhat lower than the current rate, but of course small sample variability may be involved.

Neonatal mortality is closely connected to the health status of the mother at the time of birth and the availability and quality of delivery services. In a study on the survival of low birth weight babies in Antigua and Barbuda, Martin et al. (2010) found that out of 26,455 children born between 1986 and 2006, 1.3 percent had a birth weight below 1500 grams. Over the period of 21 years the survival rate of very low birth weight babies increased significantly from 45 percent to 60 percent. The improvements of survival of low birth weight children have contributed to lowering infant mortality rates over the last decades.

The current neonatal mortality rate in Antigua and Barbuda in 2013 is the same as for the Americas as a whole and only slightly higher than in Europe (11 per thousand). Globally the NMR stands at 34 per thousand live births³⁵.

When neonatal mortality is closely connected to the conditions surrounding birth, post-neonatal mortality (i.e. between age 1 month and the first birthday of the child) is largely determined by infections and the nutritional condition of the child. The post-neonatal mortality rate (PNMR) is calculated as the number of infants who die in a calendar year between ages 1 month and 12 months, divided by the number of births in the year. Currently the PNMR in Antigua and Barbuda is equal to 3.2 per thousand live births. A comparison with the data from Uttley shows that reduction of mortality in the post-neonatal period has been most successful. At the end of the 19th century, PNMR still stood well above 150 per thousand. At the middle of the 20th century (1947 to 1956) the PNMR was still 53 per thousand. Through advances in the control of infectious diseases and improvements in the nutritional and hygienic conditions, post-neonatal mortality has dropped dramatically. None of the years from 2008 to 2013 show a PNMR higher than 4 per thousand.

The infant mortality rate is currently 16 per thousand live births. Figure 3.1 shows Antigua and Barbuda's position in IMRs compared to other countries in the region³⁶. According to the figures from the World Bank, the average IMR for the small Caribbean Islands is 17.3 which is slightly higher than the level in Antigua and Barbuda. Infant mortality is still very high in Haiti (54 per thousand). However, some of the countries listed in the graph in Figure 3.1 are not as developed

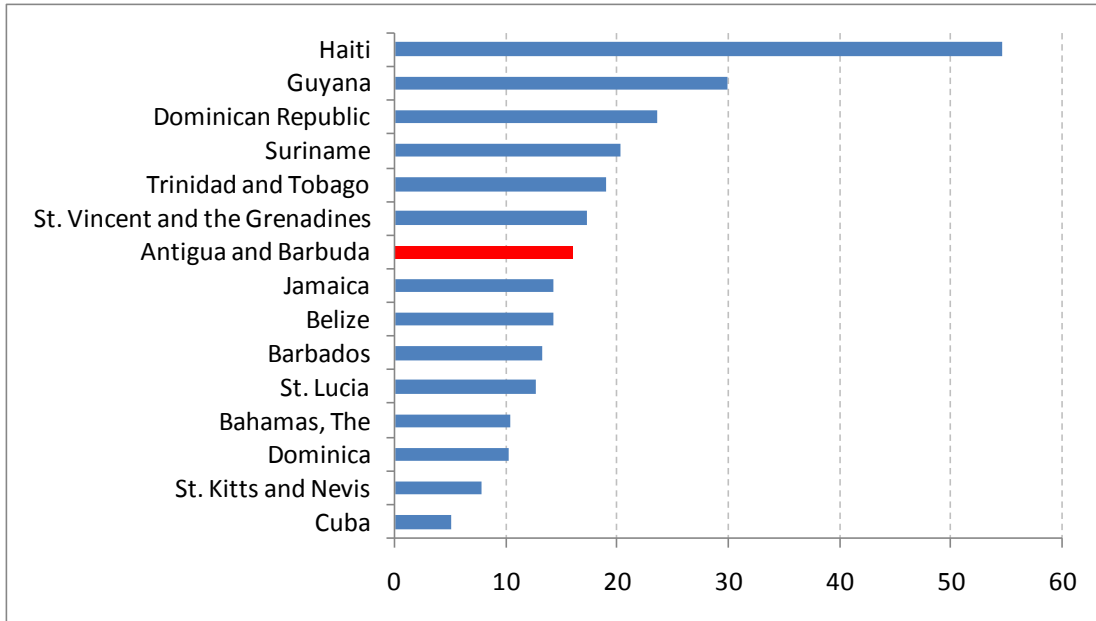
³⁴ TC Martin, J Howe, B Smart, P Hansen, L Lovell-Roberts, V Francis (2010), *Small Babies on a Small Island: Survival of Very Low Birthweight Infants in Antigua and Barbuda 1986 to 2006*. In: West Indian Medical Journal, 2010, 59(1): 29, p. 31.

³⁵ Data taken from the WHO Global Health Observatory Data Repository:
<http://apps.who.int/gho/data/view.main.CM1300R?lang=en>

³⁶ Data obtained from the World Bank indicator database at:
<http://data.worldbank.org/indicator/SP.DYN.IMRT.IN/countries?display=default>

as Antigua and Barbuda in terms of economic position but show significantly lower levels of infant mortality.

Figure 3.1. Infant Mortality Rates for Selected Countries in the Caribbean Region (2013)



Source: World Bank, indicator database

To indicate a trend in the current level of IMR, IMRs were calculated for the period 2000 - 2012 on the basis of births and deaths recorded in the population registry. As data are distorted by small sample variations, moving averages (3 data points) were calculated. These moving averages are presented in Table 3.2, together with the yearly IMRs. Results are depicted in Figure 3.2. In addition to the moving averages, a trend line was included, based on a linear regression of all data points. The trend line shows that over the last 13 years a further reduction in infant mortality has taken place. The slope of the regression line is -0.283, indicating that on average, every year mortality among children below age 1 year, decreases with 0.283 per thousand.

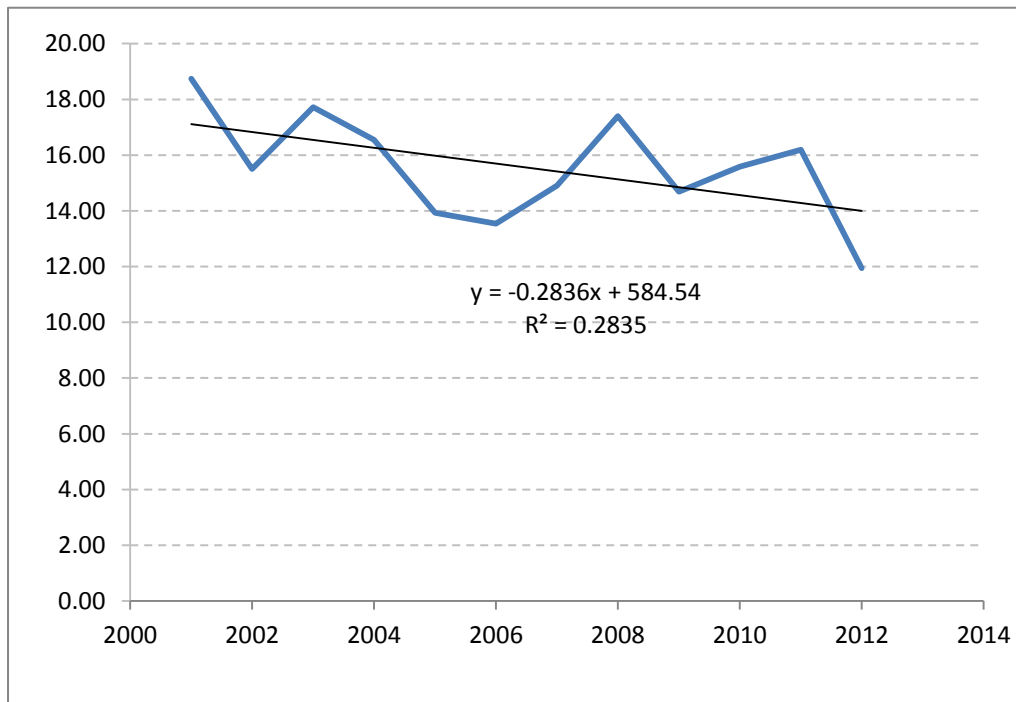
Currently, the level of mortality under age five years is 18.9 per thousand live births. Note that the under 5 years mortality rates (U5MR) are different from the age-specific death rates found in the life table (next section) because the denominator in this case is the number of life births in 2011 and not the number of children alive below age 5 years. Some of the deaths used in the calculation of the U5MR do not necessarily belong to the group of births in the denominator. Some of the deaths under age 5 years belong to birth cohorts from earlier years. Although this is not theoretically sound, this is the way the U5MR is normally calculated. The bias created through this anomaly is small because of the averaging out over the years.

Table 3.2. Trends in Infant Mortality 2000 - 2013

Year	IMR	Moving average IMR
2000	24.2	-
2001	15.3	18.7
2002	16.7	15.5
2003	14.5	17.7
2004	22.0	16.6
2005	13.1	13.9
2006	6.6	13.5
2007	20.9	14.9
2008	17.2	17.4
2009	14.1	14.7
2010	12.7	15.6
2011	19.9	16.2
2012	15.9	11.9

Source: Population Registry

Figure 3.2. Trends in Infant Mortality, 2000 - 2013 Moving Averages of IMR



Life tables

To gain insight into the timing and intensity of mortality, demographers use life tables. The life table is one of the most important tools used in demography. Through a series of age-specific

indicators the mortality experience of a population at a certain point in time is quantified. The 2011 life tables for males, females and both sexes together are presented in Table 3.3³⁷.

The Antigua and Barbuda Statistics Division estimated that in 2001, life expectancy was 71.5 years for males and 78.2 for females. Life expectancy for both sexes combined was 74.9 years. The current life tables are based on the number of persons per five-year age group, as observed in the population census and age-specific deaths for males and females from the population registry for the period of six months before and six months after the census (December 2010 - November 2011). The life tables show that in the last ten years the life expectancy has further increased. Currently, life expectancy is 73.8 years for males. For the first time in history women in Antigua and Barbuda can now expect to live on average for more than 80 years. Their life expectancy in 2011 was 80.4 years. It is interesting that the difference between male and female life expectancy did not change during the intercensal period. In 2001 the difference was 6.7 years and now it is 6.6 years. Both sexes saw their life expectancy go up by a little more than 2 years and combined life expectancy reached a level of 77.1 years.

Persons who survive up to 60 years can expect to live another 21 years, if they are male and 25 years if they are female. At 75 years, people's life expectancy is 10.7 and 13.1 years respectively. Figure 3.3 depicts the age-specific probabilities of dying for men and women. The graph clearly shows how men at all ages after 20 years have higher risks of dying. As age increases, the difference between male and female mortality becomes more pronounced. Consequently, at older ages many more females than males are present. A look at the lifetable population, starting

³⁷ In the life table, the following functions are used:

- $M(x,n)$ the age-specific mortality rate defined as the number of deaths in age group x to $x+n$, divided by the mid-year population in age group x to $x+n$.
- $Q(x,n)$ the age-specific probability of dying between ages x and $x+n$.
- $l(x)$ the function of survival, being the number of survivors in the life table at exact age x , out of an Initial population of 100000 at age 0.
- $D(x,n)$ the function of death, being the number of deaths in the life table between ages x and $x+n$.
- $L(x,n)$ the total number of person years lived by the total population between ages x and $x+n$ in the life Table.
- $S(x,n)$ the survival rate $S(x,n)$ is the probability of surviving between two groups of completed years. This survival rate is necessary for the construction of demographic projection models.
- $T(x)$ the 'total after lifetime' $T(x)$ is the total number of person-years lived by the cohort after exact age x .
- $e(x)$ the expectation of life, or life expectancy represent the average after lifetime at exact age x .

2011 Population and Housing Census – A Demographic Profile

Table 3.3. Life Table Antigua and Barbuda 2011, Males

Age	Deaths	Pop. 27/5/2011	$M(x,n)$	$q(x,n)$	$l(x)$	$D(x,n)$	$L(x,n)$	$S(x,n)$	$T(x)$	$e(x)$
0	14	571	0.02450	0.02397	100,000	2397	98,202	0.97324	7,374,863	73.75
1	2	2,798	0.00071	0.00285	97,603	279	389,855	0.99706	7,276,661	74.55
5	0	3,280	0.00000	0.00000	97,324	0	486,622	0.99932	6,886,806	70.76
10	1	3,699	0.00027	0.00135	97,324	131	486,293	0.99932	6,400,184	65.76
15	0	3,562	0.00000	0.00000	97,193	0	485,965	0.99767	5,913,891	60.85
20	3	3,214	0.00093	0.00466	97,193	453	484,833	0.98901	5,427,926	55.85
25	11	3,142	0.00350	0.01735	96,740	1679	479,505	0.98570	4,943,093	51.10
30	7	3,108	0.00225	0.01120	95,062	1064	472,648	0.99113	4,463,588	46.95
35	4	3,056	0.00131	0.00652	93,997	613	468,454	0.98962	3,990,940	42.46
40	9	3,131	0.00287	0.01427	93,384	1332	463,590	0.98265	3,522,486	37.72
45	12	2,900	0.00414	0.02048	92,052	1885	455,546	0.97357	3,058,896	33.23
50	16	2,422	0.00661	0.03250	90,167	2930	443,507	0.95774	2,603,350	28.87
55	19	1,767	0.01075	0.05235	87,236	4567	424,764	0.94611	2,159,842	24.76
60	16	1,401	0.01142	0.05551	82,669	4589	401,875	0.92185	1,735,078	20.99
65	23	1,068	0.02153	0.10213	78,081	7975	370,467	0.87648	1,333,203	17.07
70	22	692	0.03181	0.14733	70,106	10329	324,709	0.80939	962,737	13.73
75	29	528	0.05490	0.24137	59,777	14429	262,815	0.69907	638,028	10.67
80	31	331	0.09366	0.37944	45,349	17207	183,726	1.04224	375,213	8.27
85+	46	313	0.14696	....	28,142	28142	191,486		191,486	6.80

Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry

2011 Population and Housing Census – A Demographic Profile

Table 3.4. Life Table Antigua and Barbuda 2011, Females

Age	Deaths	Pop. 27/5/2011	$M(x,n)$	$q(x,n)$	$l(x)$	$D(x,n)$	$L(x,n)$	$S(x,n)$	$T(x)$	$e(x)$
0	10	570	0.01756	0.01728	100000	1728	98704	0.98049	8037476	80.37
1	1	2695	0.00037	0.00148	98272	146	392795	0.99745	7938772	80.78
5	1	3191	0.00031	0.00157	98126	154	490246	0.99922	7545976	76.90
	0	3641	0.00000	0.00000	97972	0	489862	0.99929	7055730	72.02
15	1	3522	0.00028	0.00142	97972	139	489514	0.99565	6565868	67.02
20	5	3421	0.00146	0.00728	97833	712	487386	0.99635	6076354	62.11
25	0	3515	0.00000	0.00000	97121	0	485605	0.99929	5588968	57.55
30	1	3519	0.00028	0.00142	97121	138	485261	0.99727	5103363	52.55
35	3	3702	0.00081	0.00404	96983	392	483936	0.99451	4618102	47.62
40	5	3591	0.00139	0.00694	96591	670	481280	0.98987	4134166	42.80
45	9	3351	0.00269	0.01334	95921	1280	476406	0.98688	3652886	38.08
50	7	2696	0.00260	0.01290	94641	1221	470156	0.97485	3176480	33.56
55	15	1959	0.00766	0.03757	93421	3510	458330	0.95947	2706324	28.97
60	14	1570	0.00891	0.04360	89911	3920	439754	0.96334	2247995	25.00
65	7	1173	0.00597	0.02940	85991	2528	423634	0.93876	1808240	21.03
70	16	811	0.01974	0.09404	83463	7849	397692	0.87084	1384607	16.59
75	24	655	0.03666	0.16793	75614	12698	346326	0.80057	986915	13.05
80	28	520	0.05385	0.23729	62916	14929	277258	1.31044	640588	10.18
85+	63	477	0.13208	....	47987	47987	363330		363330	7.57

Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry

2011 Population and Housing Census – A Demographic Profile

Table 3.5. Life Table Antigua and Barbuda 2011, Both Sexes

Age	Deaths	Pop. 27/5/2011	$M(x,n)$	$q(x,n)$	$l(x)$	$D(x,n)$	$L(x,n)$	$S(x,n)$	$T(x)$	$e(x)$
0	24	1141	0.02104	0.02064	100000	2064	98452	0.97684	7708308	77.08
1	3	5493	0.00055	0.00218	97936	214	391316	0.99725	7609856	77.70
5	1	6471	0.00015	0.00077	97722	75	488422	0.99927	7218540	73.87
10	1	7340	0.00014	0.00068	97647	66	488067	0.99931	6730118	68.92
15	1	7084	0.00014	0.00071	97580	69	487729	0.99664	6242051	63.97
20	8	6635	0.00121	0.00601	97511	586	486091	0.99288	5754322	59.01
25	11	6657	0.00165	0.00823	96925	797	482632	0.99287	5268231	54.35
30	8	6627	0.00121	0.00602	96128	578	479193	0.99441	4785598	49.78
35	7	6758	0.00104	0.00517	95549	494	476513	0.99224	4306406	45.07
40	14	6723	0.00208	0.01036	95056	985	472817	0.98651	3829893	40.29
45	21	6251	0.00336	0.01666	94071	1567	466438	0.98058	3357076	35.69
50	23	5118	0.00449	0.02222	92504	2055	457382	0.96671	2890638	31.25
55	34	3726	0.00913	0.04461	90449	4035	442156	0.95313	2433256	26.90
60	30	2972	0.01010	0.04923	86414	4254	421433	0.94320	1991100	23.04
65	30	2242	0.01338	0.06475	82159	5320	397497	0.90906	1569667	19.11
70	38	1502	0.02529	0.11895	76839	9140	361347	0.84240	1172170	15.25
75	53	1183	0.04481	0.20147	67700	13640	304399	0.75681	810823	11.98
80	59	851	0.06933	0.29544	54060	15972	230371	1.19830	506424	9.37
85+	109	790	0.13797	....	38088	38088	276053		276053	7.25

Source: Population and Housing Census Antigua and Barbuda, 2011, Population Registry

Figure 3.3. Age-specific Probabilities of Dying for Men and Women, Antigua and Barbuda, 2011

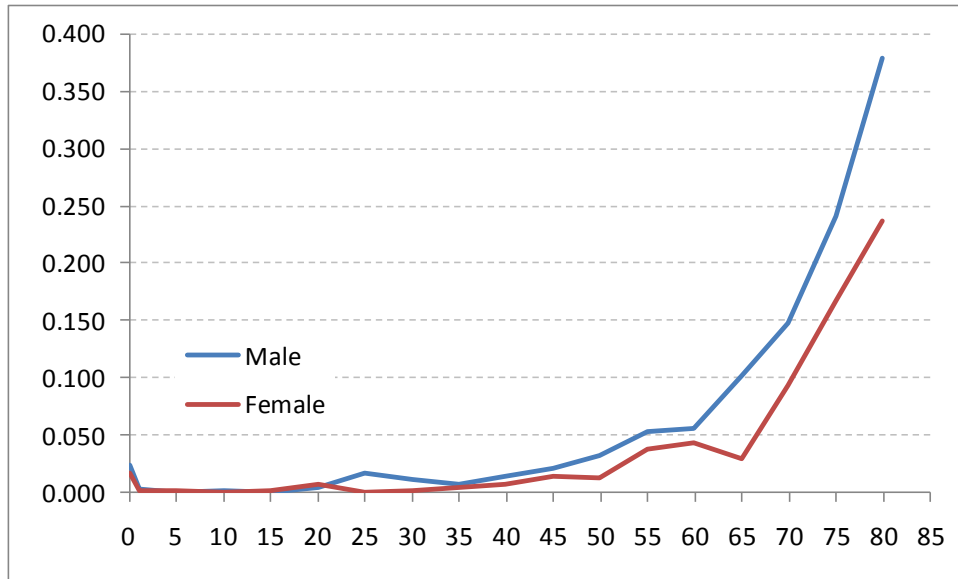
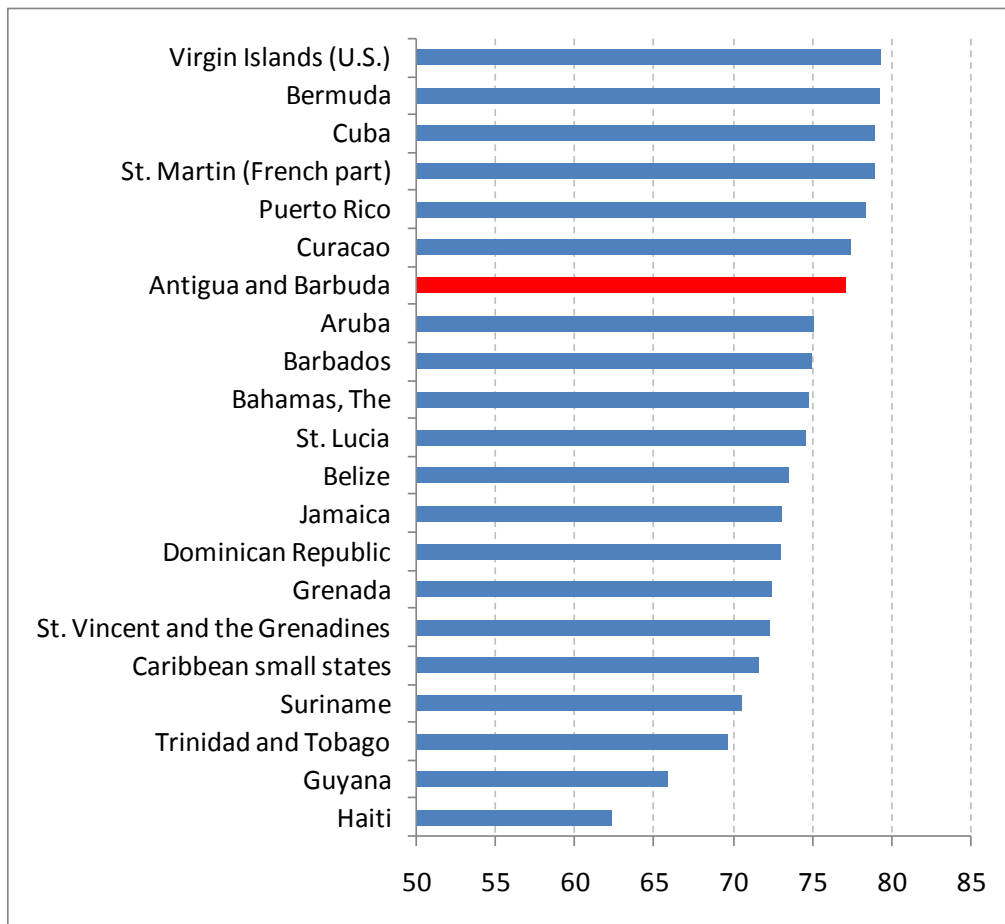


Figure 3.4. Life expectancy in the Caribbean Region



Source: World Bank Indicators

with 100,000 baby boys and 100,000 baby girls, at exact age 70 years, 83,463 women are alive against only 70,106 men, a difference of 13,357 persons. At the very old ages, the difference is even more prominent. At exact age 85 years almost half of all women are still alive (47,987), but only slightly more than a quarter of men (28,142) are alive.

Figure 3.4 shows that compared to other countries in the region, the life expectancy of people residing in Antigua and Barbuda is quite high³⁸. Three countries in the Caribbean region have life expectancies that are still below age 70 years - Trinidad and Tobago, Guyana and Haiti, which has only a life expectancy of 62.3 years, about 15 years less than people in Antigua and Barbuda. People living in Bermuda (79.3 years) and the US Virgin Islands (79.4 years) have the highest life expectancy in the region and can look forward to living 2 years longer than people in Antigua and Barbuda.

Disability in Antigua and Barbuda

The notion of disability has evolved over the years. The new notions used by the WHO encompass conflicting past models that viewed disability either as a medical or a social problem. In 2001, after ten years of deliberation, the WHO adopted the International Classification of Functioning (ICF) based on a 'biopsychosocial' model. Disability is defined by the ICF: *as an umbrella term for impairments, activity limitations, and participation restrictions. Disability refers to the negative aspects of the interaction between individuals with a health condition (such as cerebral palsy, Down syndrome, depression) and personal and environmental factors (such as negative attitudes, inaccessible transportation and public buildings, and limited social supports)*³⁹.

In the light of the new definition of disability, the census questionnaire was adapted and included questions on the 6 domains proposed by the Washington Group⁴⁰ - seeing, hearing, walking, cognition, self-care and communication. In addition, a question was asked on upper body function as proposed by the 'Principles and Recommendations' for Population Censuses⁴¹. Answering the questions on disability, respondents had 4 options: 1) no difficulty; 2) some difficulty; 3) lots of difficulties; and 4) cannot do at all. Normally, a person who answers 'lots of difficulties' or 'cannot do at all' is considered to be disabled⁴². Figure 3.5 depicts the number of males and females by type of disability and severity of the disability. The figure shows that the two main disabilities in the country are 'walking' and 'seeing'. A total of 348 men and 607 women

³⁸ Data obtained from the World Bank indicator database at: <http://data.worldbank.org/indicator/SP.DYN.LE00.IN>

³⁹ World Health Organization, World Bank (2011), Summary. World Report on Disability. Malta, p. 7.

See also the WHO-website on Disabilities: <http://www.who.int/topics/disabilities/en/>

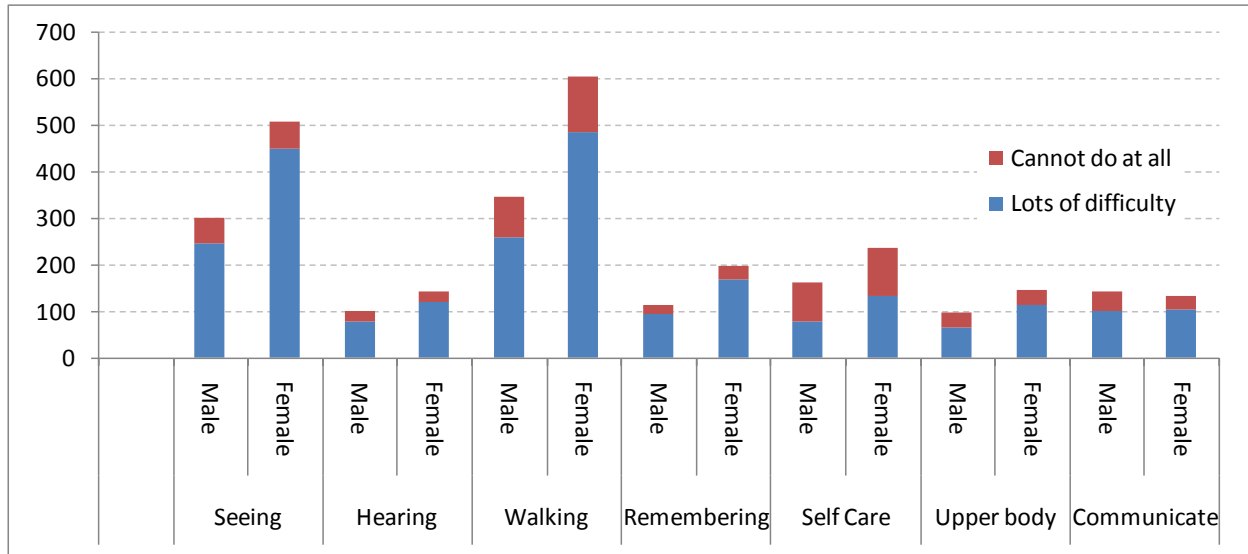
⁴⁰<http://unstats.un.org/unsd/methods/citygroup/washington.htm>

⁴¹ United Nations. (2008). *Principles and Recommendations for Population and Housing Censuses, Revision 2*. Department of Economic and Social Affairs. New York: United Nations, p. 178.

⁴² Washington Group on Disability Statistics. The measurement of disability: Recommendations for the 2010 round of Censuses. Paper published on: http://www.cdc.gov/nchs/washington_group.htm.

indicated in the census that they were having lots of difficulties to walk or they could not walk at all. Three hundred men and 510 women were visually disabled. In the case of walking, this accounts for 1.15 percent of the total population, in the case of seeing this is 0.98 percent.

Figure 3.5. Number of Persons by Type of Disability, Sex and Severity of Disability

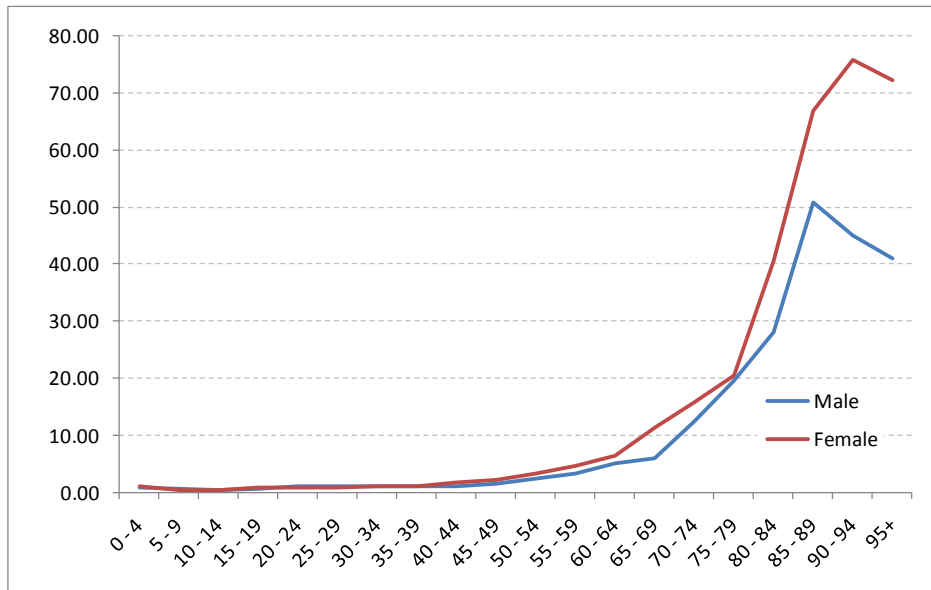


Source: Population and Housing Census Antigua and Barbuda, 2011

For all but one type of disabilities (communication), women have higher reported levels than do the men. This sounds logical as disabilities are typically more frequent at older age and much more women than men are present at the highest age groups. However, our figures show that it is not only a matter of older women than men. A look at the age-specific distribution of disability for men and women separately reveals that after age 35, the percentage of women with a disability is consistently higher than for men (Figure 3.6.). Below age 35 years men have a higher prevalence than women. This observation is in line with the findings from the World Report on Disability⁴³ which also showed that in some regions in the world prevalence of disability was somewhat higher for males at younger ages, but gave higher prevalence for women at older ages. A comprehensive comparison of the data from Antigua and Barbuda and the data provided in the *World Report on Disability* is however not possible as the data on which the report was based are from the beginning of the millennium, when different definitions were still used.

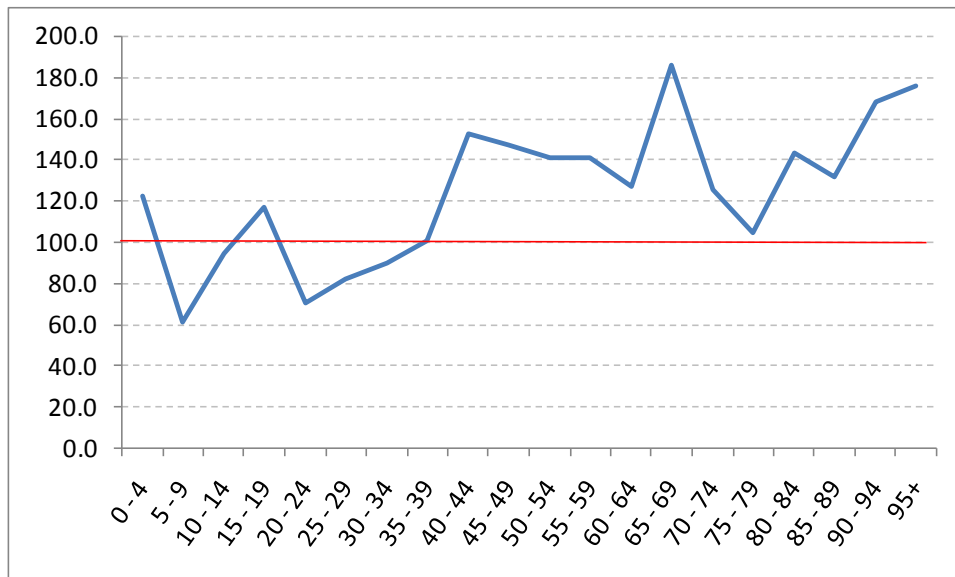
⁴³ World Health Organization, World Bank (2011), Summary. World Report on Disability. Malta, p. 30.

Figure 3.6. Percentage of Persons with a Disability by Sex and Five-Year Age Group



Source: Population and Housing Census Antigua and Barbuda, 2011

Figure 3.7. Prevalence of Disability for Women Compared to Prevalence of Disability for men (x 100),



Source: Population and Housing Census Antigua and Barbuda, 2011

In the census, 834 males and 1,250 females indicated that they had at least one function for which they answered either 'lots of difficulty' or 'cannot do at all', 1,215 males and 1,172 females did not provide sufficient information to establish whether they were disabled or not. The total prevalence rate for males, according to the 2011 population census, was 2.25 percent and 3.06

percent for females. A clear indication that disability is closely connected with ageing is the large difference between the mean age of persons with and without a disability. Men and women, who are not disabled, have a mean age of 31.6 and 32.8 years respectively. Among disabled men and women this is 56.6 and 61.4 years respectively. Figure 3.6 clearly shows the very high prevalence rates of persons at the oldest age groups. Although few persons are in these age groups, the percentage of persons having to deal with a disability is higher than 50 percent.

Although it is hard to make global and inter-regional comparisons because data from countries using the ICF framework in their censuses are still rather scarce, the prevalence of disability in Antigua and Barbuda seems to be rather low. On the basis of the Global Burden of Disease data, the *World Report on Disability* estimates that 2.9 percent of the world population has a severe disability and 15.3 percent had either a moderate or severe disability. For the Americas, this was respectively 2.6 and 14.1 percent⁴⁴. In the census of Aruba, the same questions were asked about disability, but only for the 4 core functions and not for 7 functions as in Antigua and Barbuda. Although Aruba has similar life expectancies to Antigua and Barbuda (73.9 years for males and 79.8 years for females) its disability prevalence is significantly higher: 7.0 percent for males and 8.2 percent for females⁴⁵. It is unclear why the estimates of disability in Antigua and Barbuda are lower than would be expected. This would certainly be an area where additional research is needed.

Who are the Disabled?

In research on disability, it is not only important to describe the situation in terms of the number of people with a disability, it is equally important to look at the diversity of disabled persons in the population. The question is which groups in society have the highest prevalence of disability, in other words which persons are most vulnerable of becoming disabled in the future. To study this diversity, a logit regression was set up, on which the dependent variable was whether a person enumerated in the census was disabled or not. The same explanatory variables were used - five-year age groups, Educational Level, Parish, Sex and Born in the Country/Abroad. The odds ratios (Exp B) show the net effect of a category compared to the control category, with all other variables being equal. Table 3.6. shows the results of the logit regression.

⁴⁴ World Health Organization, World Bank (2011), Summary. *World Report on Disability*. Malta, p. 30.

⁴⁵ CBS-Aruba (2013), *The prevalence of disability in Aruba*, Oranjestad

2011 Population and Housing Census – A Demographic Profile
Table 3.6. Logit Regression Disability, Antigua and Barbuda 2011

		Frequency	B	Exp(B)
Age 5 year categories	0 - 4	5,730		
	5 - 9	5,812	.338	1.402
	10 - 14	6,562	.112	1.119
	15 - 19	6,294	1.138	3.119
	20 - 24	5,750	1.341	3.821
	25 - 29	5,775	1.470	4.350
	30 - 34	5,816	1.555	4.733
	35 - 39	5,890	1.556	4.739
	40 - 44	5,840	1.839	6.293
	45 - 49	5,442	2.114	8.278
	50 - 54	4,415	2.483	11.977
	55 - 59	3,196	2.650	14.151
	60 - 64	2,514	3.032	20.728
	65 - 69	1,863	3.382	29.424
	70 - 74	1,224	3.779	43.763
	75 - 79	930	4.055	57.686
	80 - 84	674	4.574	96.925
85 - 89	374	5.026	152.370	
90 - 94	145	5.011	150.075	
95+	60	4.770	117.886	
Educational Level	None	3,551		
	Day care	1,056	-.399	.671
	Pre-school	1,987	-1.080	.339
	Infant/Kindergarden	1,364	-2.525	.080
	Primary/elementary (1-3)	4,502	-1.167	.311
	Primary/elementary (4-7)	11,692	-1.266	.282
	Junior Secondary	4,575	-1.460	.232
	Secondary (Form 1-3)	6,653	-1.494	.224
	Secondary (Form 4-5)	22,389	-2.003	.135
	Sixth Form (A'Level) - Lower	541	-1.908	.148
	Sixth Form (A'Level) - Upper	1,103	-2.186	.112
	Post Secondary	908	-1.779	.169
	Post Sec/Pre-University/College	6,261	-2.118	.120
	Post Primary - Vocational/Trade	1,534	-1.459	.232
	Special School/Education	234	1.418	4.127
	University	5,100	-2.319	.098
	Other	856	-1.052	.349
Parish Household	St Johns (C)	19,370		
	St Johns (R)	25,178	-.062	.940
	St George	7,046	-.073	.929
	St Peters	4,808	.013	1.014
	St Phillip	2,486	-.052	0.950
	St Paul	7,319	.153	1.165
	St Marys	6,603	-.159	.853
	Barbuda	1,496	.834	2.302
Sex	Male	35,242		
	Female	39,064	0.28757	1.33319
Birth Place	Antigua & Barbuda	51660		
	Abroad	22646	-.376	.687
Constant			-4.40932	0.012163

The results of the regression show how aging has a major effect on a person's susceptibility to becoming disabled. The reference category used is 'persons in the age-category 0 to 4 years'. Especially after age 55 years, the odds ratios for a person to be disabled increase very rapidly. For instance, the odds of a person in the age group 60 to 64 years are 20.7 times higher to be disabled compared to a child 0 to 4 years, it jumps to 29.4 times for a person in the age category 65 to 69 years and to 43.8 in the age category 70 to 74 years. The disability odds for the very old persons are well over 100 times higher than for the youngest age category. This finding is important for planning. As the number of older people will increase in the future, due to the ageing of the population, the number of people with disabilities will also increase rapidly.

The link between education and disability is rather spurious, i.e. the direction of causality may in some cases not run from education to disability, but vice versa. Several persons may not have attained a certain level of education because they were disabled. However, because disability is so closely linked to older age, the education in the regression model was kept as most people would already have attained a certain level of education at the time they became disabled. It is clear that for all groups, with the exception of special education, the odds are significantly lower to be disabled than for those with no schooling at all. In general, there is a trend that the higher a person's education the lower his/her chance of being disabled. Differences between educational groups are quite substantial. For instance, persons who have a university degree have odds of less than 10 percent compared to those without any education. The high odds ratio for special education has to do with the spurious relationship, and more young people who have a disability will follow special education than those who have no disability.

The odds of being disabled also vary with the parish in which one resides. The parish with the lowest odds is St Mary (0.853) compared to St John City. St John rural, St George and St Philip have odds that are also slightly lower. Barbuda stands out in terms of its disability prevalence. After the other explanatory variables are statistically controlled, the odds of being disabled on the island are 2.3 times higher than in St Johns City.

It was pointed out earlier that the prevalence of women to be disabled is higher than it is for men. The logit multiple regression confirms this finding. After controlling for discriminating factors such as age (women live longer than men), women still have a disability odds which is 33 percent higher than men. Finally, having been born abroad is also a factor that lowers one's odds of being disabled. Compared to persons being born in Antigua and Barbuda, persons who are born abroad have an odds ratio of 0.687. Note that the type of place of birth has a somewhat bigger effect than sex (i.e. $1/0.687 = 1.46$ against 1.33 for sex).

Cause of Disability

In the census, the origin of the disability for each type of disability was asked. The respondent could choose one of five pre-coded answers: 1) From Birth, 2) Illness, 3) Accident, 4) Old Age or 5) Other. Table 3.7. shows the answers provided for each type of disability.

Table 3.7. Percentage of Persons by Type of Disability and Cause of Disability

Dissability	Cause of Dissability						Total number of cases
	From Birth	Illness	Accident	Old age	Other	Don't know/Not stated	
Seeing	7.86	44.00	9.38	35.17	3.59	84	809
Hearing	24.09	20.45	9.09	43.18	3.18	22	242
Walking	4.88	41.61	18.82	30.95	3.74	76	958
Remembering	12.63	27.02	7.37	45.26	7.72	27	312
Self care	9.52	34.73	7.28	39.50	8.96	43	400
Upper body	9.42	43.05	14.35	30.04	3.14	20	243
Communicating	35.80	34.16	4.94	20.58	4.53	32	275

Source: Population and Housing Census, 2011

For all types of disabilities, except communication, old age is a very prominent cause. For persons with hearing problems, for persons who have problems remembering or concentrating and for persons who cannot care for themselves, old age is the most prominent reason. In the case of visual disability, illness is the most prevalent causes, 44 percent of persons with a visual disability indicate it is caused by illness. Also, persons who have problems with upper body movement (43.1 percent) or who have lots of problems walking, or who cannot walk at all (41.6 percent), indicate illness as the main cause.

Diseases in Antigua and Barbuda

Questions on illnesses are not commonly asked in population censuses. In the *UN-Principles and Recommendations for Population and Housing Censuses*, questions on specific illnesses are not suggested to be included in questionnaires. However, many countries within the Caribbean region have included questions on a number of diseases in both the 2000 and the 2010 round of censuses.

The reader should be aware that census information on diseases refers to self-reported status. Many people suffering from a disease e.g. high blood pressure, may not be aware that they have the disease. Others may not be willing to provide information. In the 2011 Antigua and

Table 3.8. Number of Persons and Percentage of Persons Suffering from Disease by Type

		No	Yes	NR	Total
Aids	Frequency	72,845	14	11,958	84,816
	Percent	99.98	0.02		100.0
Allergies	Frequency	68,011	4,892	11,914	84,816
	Percent	93.29	6.71		100.0
Anemia	Frequency	72,552	308	11,957	84,816
	Percent	99.58	0.42		100.0
Arthritis	Frequency	69,817	3,047	11,952	84,816
	Percent	95.82	4.18		100.0
Asthma	Frequency	68,473	4,407	11,936	84,816
	Percent	93.95	6.05		100.0
Cancer	Frequency	72,557	300	11,959	84,816
	Percent	99.59	0.41		100.0
Carpal Tunnel	Frequency	72,745	112	11,960	84,816
	Percent	99.85	0.15		100.0
Diabetes	Frequency	68,542	4,335	11,939	84,816
	Percent	94.05	5.95		100.0
Glaucoma	Frequency	71,939	922	11,956	84,816
	Percent	98.73	1.27		100.0
Heart disease	Frequency	72,336	521	11,959	84,816
	Percent	99.28	0.72		100.0
HIV	Frequency	72,831	28	11,958	84,816
	Percent	99.96	0.04		100.0
Hypertension	Frequency	65,110	7,851	11,855	84,816
	Percent	89.24	10.76		100.0
Kidney disease	Frequency	72,651	210	11,955	84,816
	Percent	99.71	0.29		100.0
Lupus	Frequency	72,814	45	11,957	84,816
	Percent	99.94	0.06		100.0
Mental illness	Frequency	72,622	241	11,954	84,816
	Percent	99.67	0.33		100.0
Sickle cell	Frequency	72,299	563	11,954	84,816
	Percent	99.23	0.77		100.0
Stroke	Frequency	72,546	317	11,953	84,816
	Percent	99.56	0.44		100.0
Other disease	Frequency	23,490	50,675	10,651	84,816
	Percent	31.67	68.33		100.0
Don't know	Frequency	72,857	11,960		84,816
	Percent	85.90	14.10		100.0

Source: Population and Housing Census, 2011

Barbuda census, 11,960 persons did not answer the questions on diseases, i.e. 14.1 percent of all persons enumerated. Other people may simply lie about their diseased status. This is certainly the case for diseases that carry a certain social stigma. For instance, in the census only 28 persons indicated that they were HIV-infected, while the PAHO reported that 217 persons in Antigua and Barbuda were receiving care for their HIV-infection as of January 2012⁴⁶. Despite the flaws and limitations of the self-reported information on disease, the data can still provide us with some insight into the prevalence and patterns of disease.

Also, a self-reported disease status is often scientifically not accepted to calculate prevalence rates. For instance, simply asking whether a person has high blood pressure is not sufficient to determine a prevalence rate for hypertension. The American Heart Association (AHA) has developed strict rules for the calculation of the prevalence of high blood pressure (HBP). The prevalence rate is defined as the percentage of people who have:

- measured systolic pressure of 140 mm Hg or higher, or diastolic pressure of 90 mm Hg or higher;
- been taking antihypertensive medicine;
- being told at least twice by a physician or other health professional that they have high blood pressure.

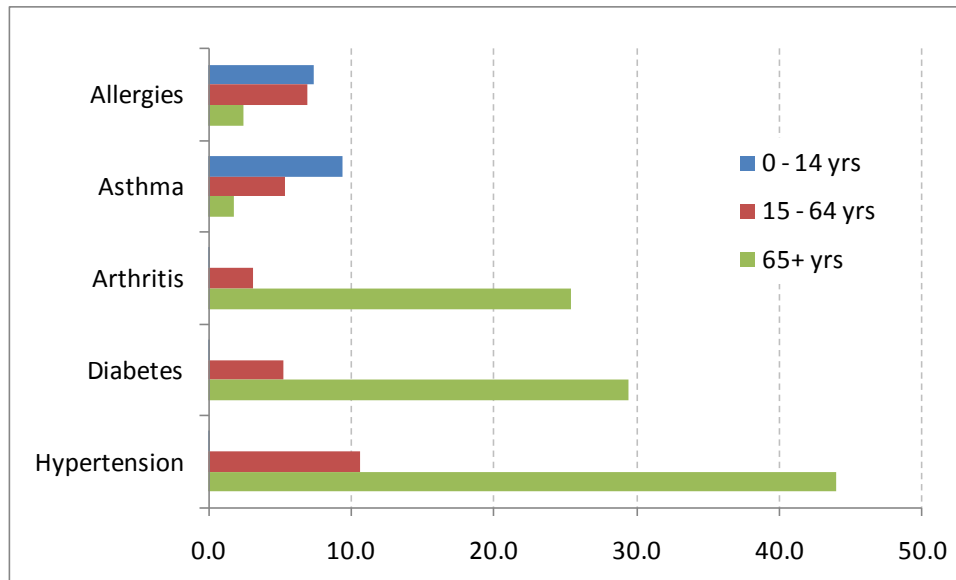
Therefore, the prevalence rates reported based on the census should purely be seen as indicative. Further, epidemiological sound research is necessary to establish the current prevalence rates for diseases in Antigua and Barbuda.

In the 2001 census, although information was gathered, no tables were produced on prevalence of disease. Therefore, no historical comparisons can be made. Table 3.8 shows the high reported prevalence of some diseases in Antigua and Barbuda. The most prominent diseases are allergies (6.7 percent), arthritis (4.2 percent), asthma (6.1 percent), diabetes (6.0 percent) and hypertension (10.8 percent). Note that these 'prevalence rates' are calculated based on persons who have answered the questions on disease, non-responses were left out.

Some typical diseases affect women much more than men. Table 3.9 shows the reported number of persons suffering from a disease by type of disease and sex, together with the ratio female/male cases. Anemia shows the highest sex differential: 3.7 times more women than men suffer from the condition. Also, lupus (3.6 x), carpal tunnel syndrome (2.8 x), arthritis (2.5 x) and hypertension (2.1 x) and diabetes (1.7 x) are significantly higher among women.

⁴⁶ PAHO (2012), Antiretroviral Treatment in the Spotlight: A Public Health Analysis. 2012. At website: http://www.paho.org/HQ/index.php?option=com_docman&task=doc_view&gid=18069&Itemid=

Figure 3.8. Age Distribution of Five Most Common Diseases by Broad Age Categories



Source: Population and Housing Census, 2011

Most of these diseases are linked to ageing, and as many more, older women than men are present, the number of women suffering from these diseases is also higher. An exception may be carpal tunnel syndrome, but relatively few persons suffer from this condition. More women than men also suffer from allergies, asthma, glaucoma, heart disease and sickle cell, but the difference between both sexes are less striking. Men score higher only for very few diseases (AIDS, HIV, mental illness ...). In the case of HIV/AIDS the results are in fact non-conclusive because of the very large under reporting of the disease.

A look at the age distribution of the five most common diseases reveals clear age disparities (Figure 3.8). Because of the relatively small number of cases, age is grouped into three broad categories: 0 to14, 15 to 64 and 65+ years. Allergies and asthma prevalence is more common among persons in the youngest age category. Both diseases seem to be very rare among older persons. This result is in line with WHO findings on food allergies, which indicate that 1 to 3 percent of adults and 4 to 6 percent of children are allergic to certain foods⁴⁷. Asthma and allergies often go hand in hand; worldwide 70 percent of people with asthma also have allergies. Therefore, it should not come as a surprise that also the prevalence of asthma in Antigua is skewed towards the younger age groups.

Prevalence for arthritis, hypertension and diabetes among persons younger than 15 years is very low. It is clear that all three conditions are closely related to a more advanced age. Almost 30

⁴⁷ WHO (2006), *International Food Safety Authorities Network (INFOSAN). INFOSAN Information Note No. 3/2006 – Food Allergies*, p. 1.

percent of persons older than 65 years report they suffer from diabetes, and 44 percent from hypertension. One quarter of older people (65+) suffer from arthritis.

Table 3.9. Number of Persons by Type of Disease and Sex

	Sex		Total	F/M
	Male	Female		
Disease^a				
Aids	11	3	14	0.31
Allergies	1,889	3,003	4,892	1.59
Anemia	65	243	308	3.73
Arthritis	867	2,180	3,047	2.52
Asthma	2,049	2,358	4,407	1.15
Cancer	153	148	300	0.97
Carpal Tunnel	30	82	112	2.75
Diabetes	1,585	2,750	4,335	1.74
Glaucoma	389	533	922	1.37
Heart disease	221	300	521	1.36
HIV	16	12	28	0.74
Hypertension	2,558	5,293	7,851	2.07
Kidney diseases	100	110	210	1.10
Lupus	10	36	45	3.61
Mental illness	142	98	241	0.69
Sickle cell	218	345	563	1.59
Stroke	165	152	317	0.92
Other	25,368	25,307	50,675	1.00
Total	33,340	37,674	71,014	1.13

Throughout the world, a steep rise in the prevalence of diabetes has been observed. This rise is closely connected with rapid changing lifestyles and with the ageing of the population. Shaw et al. (2009) estimate that in 2010, 285 million adults (20 to 79 years) were affected by diabetes and the prevalence was 6.4 percent⁴⁸. According to the WHO, 4 million deaths per year can be attributed to diabetes, about 9 percent of all deaths worldwide. Health care costs for people with diabetes are considerably higher than for people without the condition. In the USA, the average health care costs of a person with diabetes are 3 to 4 times more than a non-diabetic person⁴⁹.

With a reported prevalence of 8.4 percent among the population 15 years and older, Antigua and Barbuda, just as in many other countries in the Caribbean region, scores well above the global

⁴⁸ J.E. Shaw, R.A. Sicree, P.Z. Zimmet (2009), *Global estimates of the prevalence of diabetes for 2010 and 2030*. In: *diabetes research and clinical practice* 87 (2010) 4–14, p. 4.

⁴⁹ WHO (s.d.), *Diabetes: the cost of diabetes*, Fact Sheet N^o 236. At WHO website: <http://www.who.int/mediacentre/factsheets/fs236/en/>

average. It can be expected that the prevalence of diabetes in Antigua and Barbuda will further increase in the future, because of the ageing of the population. This trend could put pressure on the health care system in the country and will drastically increase government and personal expenses for health care.

To analyse diversity, five different logit regression models, in which each of the five most frequent health conditions were taken as dependent variables, were set up. The results of the analyses are presented together in Table 3.10.

After controlling for the other intervening factors in the regression equation, for each of the five diseases, sex remains an important discriminating factor. Women continue to have higher odds of suffering from a disease than men. Place of residence does not have a clear uniform pattern. Barbuda has the highest odds ratios, compared to St John City, for allergies (1.7) and arthritis (1.6), but scores lowest for hypertension (0.8). St Philip scores highest for asthma (1.6) diabetes (1.4) and hypertension (1.6). St Paul is the only parish that scores lower on each of the five diseases compared to St John.

The relationship between education attainment and disease is interesting. For two diseases, allergy and asthma, people with higher education have higher odds than people with lower education. For the other three diseases, hypertension, diabetes and arthritis, women with higher education have lower risks of reporting the disease than people with none or low education. Hypertension, arthritis and diabetes are all highest in the old age group. However, after controlling for educational attainment, it is no longer the youngest group that has the highest prevalence for asthma and allergy, but the group of adults.

2011 Population and Housing Census – A Demographic Profile

Table 3.10. Logit Regressions for the Top Five Reported Diseases, Antigua and Barbuda, 2011

	Allergy		Asthma		Arthritis		Diabetes		Hypertension	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Male										
Female	.349	1.418	.044	1.045	.885	2.422	.470	1.600	.731	2.078
St Johns (C)										
St Johns (R)	-.126	.881	-.174	.841	-.101	.904	.013	1.013	-.053	.949
St George	.113	1.119	-.241	.786	-.128	.880	.090	1.094	.101	1.106
St Peters	.071	1.074	.094	1.098	.164	1.179	.102	1.107	.061	1.063
St Phillip	-.106	.900	.472	1.603	.342	1.408	.337	1.400	.508	1.662
St Paul	-.030	.970	-.234	.791	-.118	.888	-.053	.949	-.138	.871
St Marys	-.070	.933	-.259	.772	-.143	.867	-.042	.959	-.162	.851
Barbuda	.537	1.710	-.097	.908	.497	1.643	.135	1.145	-.232	.793
None										
Day care	.093	1.097	.358	1.430	.247	1.281	-.196	.822	-13.618	.000
Pre-school	.442	1.556	.545	1.725	-1.061	.346	-.874	.417	-13.625	.000
Infant/Kindergarden	.325	1.385	.651	1.918	-.723	.485	-.455	.634	.464	1.591
Primary/elementary (1-3)	.530	1.698	.711	2.035	.026	1.026	.104	1.109	.010	1.010
Primary/elementary (4-7)	.525	1.690	.675	1.964	.026	1.026	.233	1.263	.131	1.140
Junior Secondary	.568	1.764	.810	2.248	-.097	.908	.105	1.110	.000	1.000
Secondary (Form 1-3)	.991	2.694	.998	2.713	-.635	.530	-.476	.621	-.543	.581
Secondary (Form 4-5)	.926	2.525	.794	2.211	-.828	.437	-.686	.504	-.551	.576
Sixth Form (A'Level) - Lower	1.451	4.266	0.787	2.197	-1.426	0.240	-1.298	0.273	-1.249	0.287
Sixth Form (A'Level) - Upper	1.305	3.687	0.779	2.178	-1.338	0.262	-1.314	0.269	-1.219	0.296
Post Secondary	1.110	3.034	0.786	2.195	-0.484	0.616	-0.639	0.528	-0.542	0.581
Post Sec/Pre-University/College	1.232	3.429	0.787	2.196	-1.023	0.359	-0.871	0.419	-0.600	0.549
Post Primary - Vocational/Trade	.986	2.679	.866	2.377	-.482	.618	-.358	.699	-.260	.771
Special School/Education	1.084	2.957	0.732	2.079	-0.404	0.668	-0.004	0.996	-0.143	0.867
University	1.362	3.905	0.470	1.600	-0.948	0.388	-0.766	0.465	-0.493	0.611
Other	.794	2.213	.618	1.855	-.105	.900	-.046	.955	.072	1.075
0 - 14 years										
15 - 64 years	.550	1.734	.771	2.162	-3.545	.029	-4.148	.016	-5.825	.003
65+ years	-.842	.431	-1.044	.352	2.031	7.618	1.698	5.463	1.685	5.392
Constant	-3.717	0.024	-3.543	0.029	-3.334	0.036	-2.740	0.065	-2.143	0.117

Source: Population and Housing Census, 2011

SECTION 4 POPULATION PROJECTIONS

Section IV. Population Projections

Population projections enable policy-makers to incorporate population factors into comprehensive planning. They serve as the basis to estimate a country's future requirements in a wide range of sectors such as education, health, employment, infrastructure, income and consumption and so on. Planning for a healthy social security and pension systems is hardly possible without state of the art projections. Pension funds need to stay in actuarial balance to be able to provide future retirees with sufficient income to enjoy the fruits of their labour. For this reason, they need solid figures on the size and composition of future populations. Scientists use population projections to analyze the effects of specific events on the size, structure and growth of future population. For instance, the UN Population Division studied the impact of the AIDS pandemic on future societies⁵⁰ using projection techniques. Population projections can also be used to measure the effect of certain population policies and programmes. They can act as 'what if' simulations, e.g. what would be the effect of a malaria program that completely would eradicate the disease, or what effect would a successful family planning program have on future populations?

One should realize the difference between a *population projection* and a *population forecast*. According to Demopaedia, the population dictionary of the UN and the International Union for the Scientific Study of Population (IUSSP), '*Population projections are calculations which show the future development of a population when certain assumptions are made about the future course of population change, usually with respect to fertility, mortality and migration. They are in general purely formal calculations, developing the implications of the assumptions that are made. A population forecast is a projection in which the assumptions are considered to yield a realistic picture of the probable future development of a population*'.⁵¹ No population projections are presented in this chapter despite coming up with plausible scenarios.

There are different methods to calculate future population estimates⁵². The simplest projection method is by using a mathematical function and by applying an assumed growth rate to it. Generally, an exponential growth function is applied when a mathematical model is used. In the past, a mathematical model was used to project Antigua and Barbuda's population size. The

⁵⁰The Department of Economic and Social Affairs of the United Nations Secretariat (2004), *The Impact of AIDS*. New York. See publication in the internet at address:

<http://www.un.org/esa/population/publications/AIDSimpact/AIDSWebAnnounce.htm>

⁵¹See: http://en-ii.demopaedia.org/wiki/Population_projection

⁵² For an overview of different modules, see for instance: O'Neill, B.C.m Balk, D., Brickman, M. & Ezra M. (2001): *A Guide to Global Population Projections*. DEMOGRAPHIC RESEARCH. Vol. 4, Article 8, p. 203 - 388. Max-Planck -Gesellschaft, Rostock.

limitation of the mathematical model is that only an estimate of the total population size can be made, but not of the structure of the population.

The current population projections for Antigua and Barbuda were made using the cohort component method. In the component method, age and sex categories are used and expose them to a set of fertility, mortality and migration rates that are pre-defined per time interval in a scenario. In this case, five-year age and time intervals are used.

Three different projections were made based on specific assumptions stated in 3 different scenarios: low, medium and high. Projections were made for 15 years, thus the population enumerated in the 2011 census was projected until 2026. A serious problem in making population projections in Antigua and Barbuda is that insufficient data are available on past trends in immigration and emigration. The only statistical information on migration can be deduced from the 2011 Population Census. However, this information only relates to persons who have come from abroad to live in Antigua and Barbuda. No information is available on migration of persons born in Antigua and Barbuda but who moved abroad. Also, no information is available about migrants who came to live on the islands for some time and then returned home or moved on. This means that in our projection no assumptions of future trends and levels of net migration could be made based on past trends. This is a serious limitation because population dynamics in Antigua and Barbuda are largely determined by migration trends.

The cohort component projection model requires an age and sex distribution of net migrants for each projection interval. As there was no way to calculate these distributions based on observed data, the age pattern of the male and female population of those who came to live on Antigua and Barbuda during the last five years before the 2011 population census, was used. Possibly, this will introduce some bias in the projected age distribution.

Since 2001, no dramatic changes have taken place in the life expectancies for males and females and in the level and distribution of fertility. On the other hand, there is reason to believe that migration ran an erratic course during the intercensal period. There is some evidence that during the years when growth in GDP was very high, many foreign workers were attracted to Antigua and Barbuda. This economic growth came to an abrupt halt during the global financial crisis which started in 2008. During the following years, many migrants probably left the island, as many jobs in tourism, construction and other sectors were lost. The erratic nature of migration and the lack of data make it a challenge to set up projection scenarios for Antigua and Barbuda. Therefore, a somewhat different approach was used:

a) First, mathematical exponential projections for the period 2011 to 2026 were made using three different annual growth rates: 1) a rate of growth of 1.1 percent per year was used for the low variant. This growth rate is equal to the mean growth rate for the period 2001 to 2011 when the

increase in the population size slowed down because of the global economic and financial crisis. 2) An annual growth rate of 1.8 percent was used for the high variant. This growth rate reflects more or less the ten-year period before 2001, a period when the country saw rapid economic growth resulting in high levels of immigration. Large groups of foreign workers were attracted to Antigua and Barbuda because of its favorable economic conditions. 3) A medium variant was added in which the annual growth rate was taken as the average between the growth rates of the high and low variant: i.e. 1.45 percent per year.

The pace of population growth will depend on the country's economic conditions. The high growth rate of 1.8 percent would only be possible in the case of an economic boom which would attract large scores of migrants. On the other hand, low population growth (1.1 percent) would be connected with economic recession and mainly be generated by the natural process of births and deaths. The medium growth (1.45) would be generated by a modest economic growth.

b) Then, a population projection was made without any migration between 2011 and 2026 using the cohort component method. The population was projected with the 'Rural Urban Projection' software (RUP) from the US Bureau of the Census⁵³. The RUP software has several advances over other similar software applications:

- The projection is executed for both single years of age and five-year age groups. This allows obtaining results for special age groups that do not fall into conventional five-year age categories;
- The projection is made for periods of one year. This means no interpolation needs to be done for the years between the five-year projection intervals;
- The program provides output for a large variety of demographic measures for any year interval of the projection;
- Data input is simple and can easily be changed in Notepad.

After the projections were made, the resulting total population was compared through the mathematical projections (low, medium, high) and the cohort component projections without migration and calculated the differences between the corresponding results. These differences indicate the number of net migrants that would need to be added to the resident population to achieve the projected growth rate, if migrants would not be subjected to mortality and fertility while in Antigua and Barbuda.

⁵³The RUP-projection program can be downloaded from the website from the US-Bureau of the Census:<http://www.census.gov/population/international/software/rup/>

c) In a projection model, migrants who enter the country are automatically subjected to the mortality and fertility regime of the country of their new residence. A process of trial and error was applied, for each scenario, to add a specified number of net migrants to the projection until the total population size came as close as possible to the population size of the mathematical projection. During these projections, it was assumed that the number of migrants in the first five-year period would be significantly lower than during the two last periods of the projection. This was decided after consultation with the Immigration Department, the Ministry of Health and the Eastern Caribbean Central Bank. To this number of net migrants per projection interval the age and sex composition of persons who came to the island during the period 2006 to 2011, according to the 2011 population census was applied.

The results of the first step in the projection process, i.e. the mathematical projection, are shown in Table 4.1.

Table 4.1. Mathematical Projections 2011 - 2026

	Assumed yearly growth rate	2016	2021	2026
Mid-scenario				
Future size of population given r =	0.0145	92,001	98,919	106,357
Low scenario r =				
Future size of population given r =	0.0110	90,405	95,517	100,917
High scenario r=				
Future size of population given r =	0.0180	93,625	102,442	112,090

If the population in Antigua and Barbuda would grow according to the medium scenario, with a growth rate of 1.45 percent (the average between the rapid growth of 1991 to 2001 and the slow growth of 2001 to 2011), then the population would grow from 85,567 in 2011 to 106,357 in 2026. With growth rates of 1.1 percent (low scenario) and 1.8 percent high scenario, the population would reach 100,917 and 112,090 respectively by 2026.

Next a cohort component projection was used in which no international migration was involved and thus solely based on fertility and mortality. During the last ten years, only small changes have taken place in terms of total fertility and the level of mortality. Therefore, only small variations in the level of TFR and life expectancy were included in the projections. Table 4.2. shows the assumptions for fertility and mortality used in the projection models. In terms of fertility, the medium scenario fertility was assumed to remain constant in the next 15 years and that life expectancy will increase further to a level of 75 years for men and 81 years for women. The same assumption on the course of life expectancy was used for the high scenario, but in this case, it

was assumed that total fertility would slightly rebound to a level of 2 children per woman. In the low scenario, it was assume that there would be a further decrease in fertility to a level of 1.6 children per woman and no gain in life expectancy during the next 15 years.

Table 4.2. Assumptions for Fertility and Mortality for Projection Scenarios

TFR			
	2011	2016	2021
Medium	1.8	1.8	1.8
High	1.8	1.9	2.0
Low	1.8	1.7	1.6
e0			
	2011	2016	2021
M Medium	73.50	74.00	75.00
F	80.25	80.25	81.00
M High	73.50	74.00	75.00
F	80.25	80.25	81.00
M Low	73.50	73.50	73.50
F	80.25	80.25	80.25

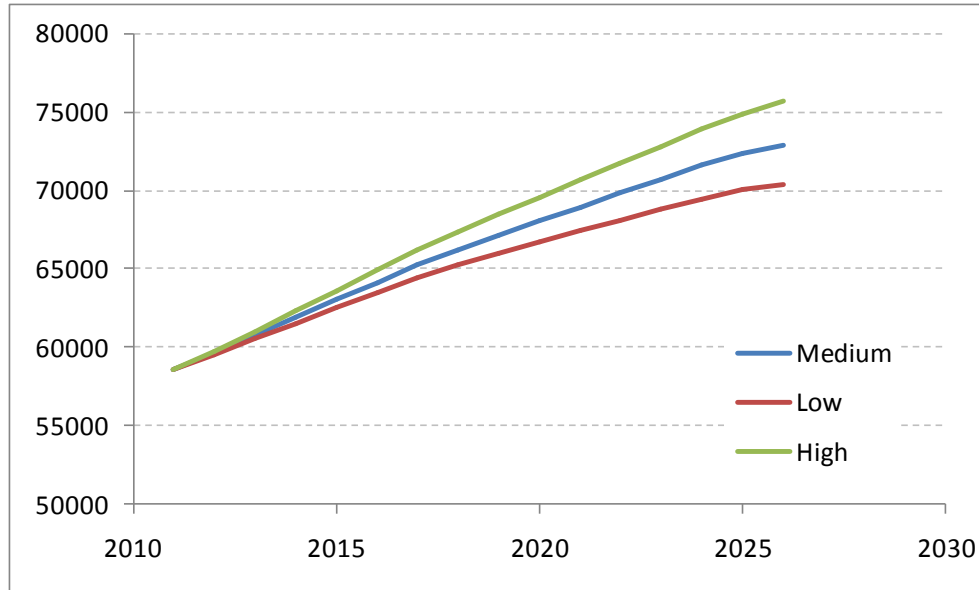
The projection model without migration resulted in a total population of 95,932 for the medium scenario, 94,128 for the low scenario and 97,312 for the high scenario. Therefore, to come to the population sizes set forth by the mathematical projection net migrants were added to the scenarios. However, the number of migrants was less than the difference between the mathematical projection and the cohort component projection because some of these migrants would have children after they arrive, or some could die. A process of trial and error was followed for each of the three scenarios before achieving a total which was (almost) the same as the total size determined by the mathematical projections.

The projected five-year total population by year is for each scenario presented in Tables 4.3., 4.4. and 4.5. Under each of the three tables, a small table is added with a number of indicators on the age distribution of the projected population. Summary tables and tables for males and females separately can be found in Appendix 3. Although projections by single years of age were made, they are not presented in this publication because of lack of space. These tables can be obtained from the Antigua and Barbuda Statistics Division.

A look at all three scenario projections, reveals number of interesting observations catch the eye. First, it is clear that in the period 2011 to 2026 the working age population will increase rapidly. Graph 5.1. shows the projected size of the working age population. In the medium projection model, the population in age group 15 to 64 years will grow from 58,551 in 2011 to 72,934, an

increase of 24.6 percent in just fifteen years. However, for the percentage of the population in the working age group, none of the three shows a significant change during the next fifteen years.

Figure 4.1. Number of Projected Persons in 15 – 64 Years Age group by Projection Scenario

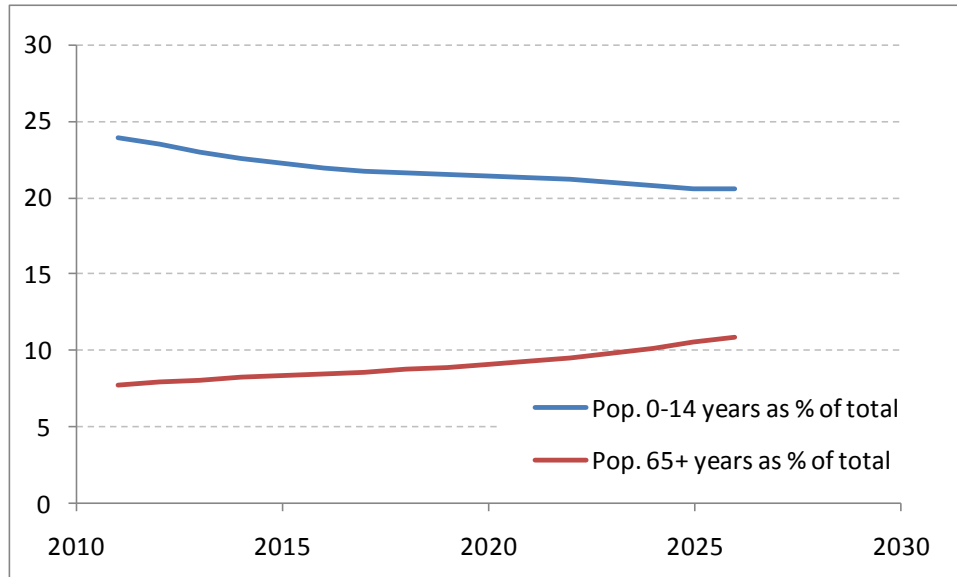


In 2011, 68.4 percent of the population was between ages 15 and 65 years. In the medium scenario, this percentage is almost the same in 2026 (68.5 percent). In the high scenario, the percentage drops a little to 67.5 percent but rises a bit in the low scenario (70.0 percent). The medium scenario clearly shows how the ageing process is taking shape in Antigua and Barbuda. In the period 2011 to 2026, the percentage of persons 65 years and older will increase from 7.7 percent to 10.9 percent if the assumptions of the medium scenario would be realized. The low and high scenarios show more or less similar results. On the other hand, the percentage of young people (< 15 years) is further declining. Chapter 2 describes how, in 1991, the percentage of children below 15 years was 30.5 percent, in 2001 and 2011 this was respectively 28.3 and 23.9 percent. According to the medium projection this percentage will further decline to 20.5. In the high and low scenarios, this will be 22.0 and 19.1 percent (see Figure 4.2).

Because of the changes in the percentage of older persons and the percentage of younger persons, the dependency ratio will change. Up to 2018 the dependency ratio will further decrease from a level of 46.1 in 2011 to 43.4 in 2018 (medium projection). From that moment on, the dependency ratio will start to increase to reach a level of 45.8 in 2026, which is still slightly lower than the current level. If the population growth in the country would follow the high scenario, then the dependency ratios will follow a more or less similar pattern. If the low scenario would play out, then dependency ratios would be at their lowest (42.7) for a more extended period (2018 - 2024) and only then will start to rise. The demographic dividend was discussed in Chapter 2. The projections show that the effect of the demographic dividend will continue for some years

to come. However, in a few years, little by little, the effect of the favorable demographic conditions for further economic development will start to diminish. The timing when this will happen depends on which scenario will become reality.

Figure 4.2. Percentage of Younger and Older Persons in the Medium Projection (2011 - 2026)



Finally, the population projections clearly show that migration, which has been a key factor in Antigua and Barbuda's economic and demographic development, will continue to play a primordial role.

2011 Population and Housing Census – A Demographic Profile

Table 4.3. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	6,634	6,611	6,545	6,460	6,438	6,631	6,715	6,798	6,870	6,938	6,998	7,055	7,106	7,150	7,190	7,223
5-9	6,471	6,486	6,617	6,824	6,993	6,937	6,946	6,903	6,837	6,828	7,029	7,112	7,194	7,266	7,332	7,393
10-14	7,340	7,243	7,078	6,882	6,714	6,628	6,658	6,796	7,013	7,187	7,131	7,138	7,095	7,031	7,023	7,223
15-19	7,084	7,222	7,358	7,475	7,537	7,533	7,449	7,299	7,109	6,943	6,860	6,891	7,030	7,246	7,422	7,364
20-24	6,635	6,750	6,892	7,053	7,228	7,393	7,557	7,710	7,841	7,909	7,905	7,824	7,676	7,485	7,318	7,237
25-29	6,657	6,690	6,729	6,776	6,854	6,972	7,120	7,287	7,465	7,652	7,822	7,985	8,138	8,268	8,337	8,334
30-34	6,627	6,657	6,707	6,773	6,839	6,907	6,971	7,030	7,096	7,183	7,306	7,452	7,619	7,797	7,983	8,154
35-39	6,758	6,761	6,763	6,771	6,790	6,823	6,873	6,947	7,020	7,097	7,163	7,232	7,290	7,358	7,443	7,565
40-44	6,723	6,772	6,812	6,847	6,878	6,904	6,930	6,943	6,966	6,989	7,029	7,075	7,151	7,223	7,301	7,367
45-49	6,251	6,397	6,522	6,621	6,711	6,791	6,858	6,912	6,956	6,994	7,024	7,053	7,066	7,090	7,111	7,151
50-54	5,118	5,376	5,619	5,848	6,052	6,236	6,393	6,528	6,636	6,733	6,814	6,884	6,939	6,984	7,024	7,052
55-59	3,726	3,940	4,193	4,470	4,756	5,033	5,295	5,543	5,774	5,980	6,164	6,318	6,452	6,559	6,655	6,736
60-64	2,972	3,079	3,179	3,290	3,419	3,591	3,801	4,050	4,325	4,604	4,874	5,132	5,371	5,598	5,798	5,974
65-69	2,242	2,364	2,482	2,590	2,698	2,794	2,889	2,981	3,079	3,203	3,366	3,566	3,802	4,061	4,320	4,574
70-74	1,503	1,584	1,686	1,799	1,908	2,011	2,108	2,204	2,293	2,386	2,474	2,561	2,648	2,734	2,849	2,992
75-79	1,183	1,186	1,184	1,185	1,204	1,237	1,288	1,362	1,450	1,531	1,618	1,698	1,778	1,851	1,928	1,998
80-84	852	848	844	840	820	795	770	748	739	751	774	810	855	915	965	1,020
85+	791	827	859	887	916	941	960	973	984	987	986	986	985	987	994	1,008
Total	85,567	86,793	88,069	89,391	90,755	92,157	93,581	95,014	96,453	97,895	99,337	100,772	102,195	103,603	104,993	106,365

Indicators of age-structure:

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Population 0-14 yrs	20,445	20,340	20,240	20,166	20,145	20,196	20,319	20,497	20,720	20,953	21,158	21,305	21,395	21,447	21,545	21,839
Population 15 - 64 yrs	58,551	59,644	60,774	61,924	63,064	64,183	65,247	66,249	67,188	68,084	68,961	69,846	70,732	71,608	72,392	72,934
Population 65+ yrs	6,571	6,809	7,055	7,301	7,546	7,778	8,015	8,268	8,545	8,858	9,218	9,621	10,068	10,548	11,056	11,592
Population 80+ yrs	1,643	1,675	1,703	1,727	1,736	1,736	1,730	1,721	1,723	1,738	1,760	1,796	1,840	1,902	1,959	2,028
Pop. 0-14 years as % of total	23.9	23.4	23.0	22.6	22.2	21.9	21.7	21.6	21.5	21.4	21.3	21.1	20.9	20.7	20.5	20.5
Pop. 15-64 years as % of total	68.4	68.7	69.0	69.3	69.5	69.6	69.7	69.7	69.7	69.5	69.4	69.3	69.2	69.1	68.9	68.6
Pop. 65+ years as % of total	7.7	7.8	8.0	8.2	8.3	8.4	8.6	8.7	8.9	9.0	9.3	9.5	9.9	10.2	10.5	10.9
Pop. 80+ years as % of total	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9
Dependency Ratio	46.1	45.5	44.9	44.4	43.9	43.6	43.4	43.4	43.6	43.8	44.0	44.3	44.5	44.7	45.0	45.8
Elderly Dependency Ratio	11.2	11.4	11.6	11.8	12.0	12.1	12.3	12.5	12.7	13.0	13.4	13.8	14.2	14.7	15.3	15.9
Youth Dependency Ratio	34.9	34.1	33.3	32.6	31.9	31.5	31.1	30.9	30.8	30.8	30.7	30.5	30.2	30.0	29.8	29.9
Index of aging (65+)	32.1	33.5	34.9	36.2	37.5	38.5	39.4	40.3	41.2	42.3	43.6	45.2	47.1	49.2	51.3	53.1
Sex Ratio	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.8	91.8	91.8	91.8	91.8	91.8	91.8

2011 Population and Housing Census – A Demographic Profile

Table 4.4. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	6,634	6,578	6,460	6,315	6,211	6,314	6,301	6,285	6,260	6,228	6,189	6,156	6,129	6,113	6,109	6,113
5-9	6,471	6,473	6,592	6,773	6,919	6,828	6,790	6,690	6,559	6,466	6,571	6,557	6,543	6,519	6,487	6,447
10-14	7,340	7,234	7,056	6,848	6,669	6,570	6,585	6,708	6,892	7,039	6,949	6,914	6,811	6,682	6,585	6,692
15-19	7,084	7,209	7,335	7,436	7,484	7,468	7,372	7,198	6,999	6,823	6,727	6,736	6,862	7,044	7,194	7,103
20-24	6,635	6,728	6,847	6,992	7,140	7,283	7,425	7,566	7,671	7,722	7,709	7,613	7,439	7,241	7,065	6,971
25-29	6,657	6,672	6,688	6,708	6,761	6,848	6,964	7,102	7,260	7,416	7,560	7,705	7,842	7,947	7,999	7,986
30-34	6,627	6,642	6,677	6,723	6,771	6,812	6,849	6,884	6,916	6,975	7,064	7,178	7,320	7,476	7,630	7,771
35-39	6,758	6,750	6,737	6,730	6,731	6,749	6,781	6,825	6,881	6,934	6,976	7,013	7,044	7,079	7,136	7,227
40-44	6,723	6,762	6,791	6,812	6,826	6,836	6,842	6,843	6,841	6,848	6,867	6,898	6,944	6,997	7,053	7,095
45-49	6,251	6,391	6,505	6,597	6,675	6,741	6,793	6,832	6,860	6,878	6,889	6,897	6,894	6,894	6,900	6,918
50-54	5,118	5,369	5,609	5,832	6,028	6,202	6,352	6,471	6,570	6,648	6,715	6,764	6,807	6,834	6,850	6,861
55-59	3,726	3,939	4,189	4,460	4,742	5,013	5,267	5,509	5,728	5,924	6,091	6,240	6,353	6,446	6,525	6,592
60-64	2,972	3,076	3,173	3,281	3,409	3,575	3,785	4,027	4,291	4,566	4,827	5,067	5,301	5,511	5,699	5,854
65-69	2,242	2,364	2,481	2,589	2,693	2,786	2,873	2,959	3,057	3,171	3,328	3,524	3,744	3,989	4,241	4,488
70-74	1,503	1,583	1,683	1,794	1,903	2,005	2,101	2,193	2,280	2,366	2,441	2,514	2,593	2,681	2,782	2,915
75-79	1,183	1,184	1,180	1,180	1,194	1,229	1,277	1,347	1,426	1,507	1,586	1,661	1,734	1,801	1,869	1,931
80-84	852	848	845	839	818	787	760	737	726	732	756	787	829	878	928	976
85+	791	827	859	887	917	943	960	971	979	978	974	971	965	963	963	973
Total	85,567	86,629	87,707	88,796	89,891	90,989	92,077	93,147	94,196	95,221	96,219	97,195	98,154	99,095	100,015	100,913

Indicators of age-structure:

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Population 0-14 yrs	20,445	20,285	20,108	19,936	19,799	19,712	19,676	19,683	19,711	19,733	19,709	19,627	19,483	19,314	19,181	19,252
Population 15 - 64 yrs	58,551	59,538	60,551	61,571	62,567	63,527	64,430	65,257	66,017	66,734	67,425	68,111	68,806	69,469	70,051	70,378
Population 65+ yrs	6,571	6,806	7,048	7,289	7,525	7,750	7,971	8,207	8,468	8,754	9,085	9,457	9,865	10,312	10,783	11,283
Population 80+ yrs	1,643	1,675	1,704	1,726	1,735	1,730	1,720	1,708	1,705	1,710	1,730	1,758	1,794	1,841	1,891	1,949
Pop. 0-14 years as % of total	23.9	23.4	22.9	22.5	22.0	21.7	21.4	21.1	20.9	20.7	20.5	20.2	19.8	19.5	19.2	19.1
Pop. 15-64 years as % of total	68.4	68.7	69.0	69.3	69.6	69.8	70.0	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.0	69.7
Pop. 65+ years as % of total	7.7	7.9	8.0	8.2	8.4	8.5	8.7	8.8	9.0	9.2	9.4	9.7	10.1	10.4	10.8	11.2
Pop. 80+ years as % of total	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9
Dependency Ratio	46.1	45.5	44.8	44.2	43.7	43.2	42.9	42.7	42.7	42.7	42.7	42.7	42.7	42.6	42.8	43.4
Elderly Dependency Ratio	11.2	11.4	11.6	11.8	12.0	12.2	12.4	12.6	12.8	13.1	13.5	13.9	14.3	14.8	15.4	16.0
Youth Dependency Ratio	34.9	34.1	33.2	32.4	31.6	31.0	30.5	30.2	29.9	29.6	29.2	28.8	28.3	27.8	27.4	27.4
Index of aging (65+)	32.1	33.6	35.1	36.6	38.0	39.3	40.5	41.7	43.0	44.4	46.1	48.2	50.6	53.4	56.2	58.6
Sex Ratio	91.9	91.9	91.9	91.9	91.8	91.8	91.7	91.7	91.7	91.6	91.6	91.5	91.5	91.4	91.4	91.3

2011 Population and Housing Census – A Demographic Profile

Table 4.5. Projected Total Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	6,634	6,651	6,637	6,622	6,680	6,971	7,163	7,352	7,533	7,711	7,881	8,036	8,173	8,288	8,380	8,451
5-9	6,471	6,498	6,650	6,879	7,083	7,063	7,122	7,139	7,153	7,223	7,522	7,714	7,905	8,085	8,264	8,434
10-14	7,340	7,253	7,097	6,912	6,759	6,688	6,731	6,895	7,132	7,346	7,323	7,387	7,403	7,420	7,487	7,786
15-19	7,084	7,237	7,391	7,523	7,600	7,613	7,546	7,406	7,230	7,083	7,017	7,056	7,221	7,456	7,672	7,649
20-24	6,635	6,779	6,948	7,141	7,336	7,530	7,717	7,898	8,046	8,131	8,146	8,083	7,941	7,766	7,619	7,552
25-29	6,657	6,711	6,776	6,850	6,965	7,118	7,305	7,508	7,726	7,938	8,137	8,322	8,504	8,650	8,738	8,751
30-34	6,627	6,674	6,743	6,832	6,926	7,023	7,114	7,209	7,304	7,429	7,588	7,778	7,980	8,199	8,409	8,610
35-39	6,758	6,774	6,792	6,815	6,853	6,908	6,985	7,076	7,183	7,285	7,386	7,475	7,572	7,667	7,792	7,950
40-44	6,723	6,783	6,836	6,885	6,929	6,973	7,013	7,049	7,085	7,134	7,192	7,270	7,360	7,468	7,571	7,673
45-49	6,251	6,407	6,539	6,652	6,753	6,846	6,927	6,998	7,061	7,113	7,163	7,202	7,236	7,275	7,323	7,380
50-54	5,118	5,379	5,629	5,866	6,079	6,274	6,445	6,588	6,709	6,816	6,912	6,995	7,070	7,131	7,184	7,233
55-59	3,726	3,944	4,201	4,480	4,772	5,052	5,319	5,575	5,815	6,032	6,226	6,394	6,538	6,657	6,762	6,856
60-64	2,972	3,079	3,182	3,294	3,429	3,604	3,821	4,077	4,352	4,638	4,910	5,175	5,421	5,655	5,863	6,053
65-69	2,242	2,368	2,487	2,599	2,709	2,805	2,902	2,995	3,098	3,225	3,394	3,600	3,845	4,100	4,370	4,621
70-74	1,503	1,585	1,689	1,803	1,913	2,023	2,123	2,217	2,311	2,406	2,493	2,581	2,665	2,761	2,875	3,027
75-79	1,183	1,186	1,184	1,187	1,205	1,238	1,293	1,368	1,456	1,540	1,631	1,714	1,791	1,871	1,948	2,018
80-84	852	850	847	844	825	797	768	752	744	755	775	816	865	921	973	1,028
85+	791	827	859	887	917	945	966	976	986	991	993	991	991	994	1,005	1,018
Total	85,567	86,985	88,487	90,071	91,733	93,471	95,260	97,078	98,924	100,796	102,689	104,589	106,481	108,364	110,235	112,090

Indicators of age-structure:

Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Population 0-14 yrs	20,445	20,402	20,384	20,413	20,522	20,722	21,016	21,386	21,818	22,280	22,726	23,137	23,481	23,793	24,131	24,671
Population 15 - 64 yrs	58,551	59,767	61,037	62,338	63,642	64,941	66,192	67,384	68,511	69,599	70,677	71,750	72,843	73,924	74,933	75,707
Population 65+ yrs	6,571	6,816	7,066	7,320	7,569	7,808	8,052	8,308	8,595	8,917	9,286	9,702	10,157	10,647	11,171	11,712
Population 80+ yrs	1,643	1,677	1,706	1,731	1,742	1,742	1,734	1,728	1,730	1,746	1,768	1,807	1,856	1,915	1,978	2,046
Pop. 0-14 years as % of total	23.9	23.5	23.0	22.7	22.4	22.2	22.1	22.0	22.1	22.1	22.1	22.1	22.1	22.0	21.9	22.0
Pop. 15-64 years as % of total	68.4	68.7	69.0	69.2	69.4	69.5	69.5	69.4	69.3	69.0	68.8	68.6	68.4	68.2	68.0	67.5
Pop. 65+ years as % of total	7.7	7.8	8.0	8.1	8.3	8.4	8.5	8.6	8.7	8.8	9.0	9.3	9.5	9.8	10.1	10.4
Pop. 80+ years as % of total	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8
Dependency Ratio	46.1	45.5	45.0	44.5	44.1	43.9	43.9	44.1	44.4	44.8	45.3	45.8	46.2	46.6	47.1	48.1
Elderly Dependency Ratio	11.2	11.4	11.6	11.7	11.9	12.0	12.2	12.3	12.5	12.8	13.1	13.5	13.9	14.4	14.9	15.5
Youth Dependency Ratio	34.9	34.1	33.4	32.7	32.2	31.9	31.8	31.7	31.8	32.0	32.2	32.2	32.2	32.2	32.2	32.6
Index of aging (65+)	32.1	33.4	34.7	35.9	36.9	37.7	38.3	38.8	39.4	40.0	40.9	41.9	43.3	44.7	46.3	47.5
Sex Ratio	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.9	91.8	91.8	91.8	91.8	91.8	91.8	91.8

APPENDICES

Appendix I. Definitions

Adolescent Birth Rate: (ABR) is defined as ' the annual number of births to women 15 to 19 years of age per 1,000 women in that age group. It represents the risk of childbearing among adolescent women 15 to 19 years of age.

Age-specific Fertility Rate: the number of births to women of a specific age divided by the total number of women of that specific age.

Consensual Union: A form of cohabitation by a man and a woman, who live together in a steady relationship, but whose relationship is not formally registered and ratified by the judicial system.

Crude Birth Rate: (CBR) the number of births per 1000 persons in the population in a given year.

Crude Death Rate: (CDR) the number of deaths per 1000 persons in the population in a given year.

De Facto Population: Includes all persons present in the country at midnight on Friday 27 May, 2011 Census Day.

Degreening: see dejuvenation.

De Jure population: Includes persons who usually reside in the country at the time of the census. Census 2011 considered the de facto and de jure populations. Only the de facto population was accounted for in previous censuses.

Dejuvenation: dejuvenation is the demographic process in which over time the relative size of young persons within the total population diminishes.

Dependency Ratio: the dependency ratio can be calculated as $((\text{Pop. 0 - 14 yrs}) + (\text{Pop. 65+yrs})) / (\text{Pop. 15 - 64 yrs})$. The age dependency ratio is the ratio of dependents, i.e. the number of persons younger than 15 and 65 years and older, to the working-age population - those ages 15-64 years.

Elderly Dependency Ratio: is similar to the overall dependency ratio, but is limited to old age dependents. It is calculated as $(\text{Pop 65+yrs}) / (\text{Pop 15 - 64 yrs}) \times 100$.

Foreign-born Population: persons whose place of birth is outside Antigua and Barbuda.

General Fertility Rate: (GFR) the ratio of the number of births to the mid-year population of females in their reproductive ages (i.e. 15 - 49 years). Usually expressed per 1000.

Growth Rate of the Population: the annual rate of change of population size, usually expressed per 100 persons.

Index of Aging: is another indicator of the age structure and sometimes referred to as the elder-child ratio. It is defined as the number of people aged 65 years and over per 100 youth under age 15 years and calculated as $(\text{Pop } 65+\text{yrs}) / (\text{Pop } 0 - 14 \text{ yrs}) \times 100$.

Infant Mortality Rate (IMR): is the number of deaths of infants under one year old per 1,000 live births.

Life Expectancy at Birth: (e_0) the average number of years a newborn can expect to live if he or she is exposed throughout his or her lifetime to the age-specific mortality rates of that period.

Local-born Population: persons born in Antigua and Barbuda.

Logit Regression: a logit regression is a type of multivariate regression technique in which the dependent variable is a binary response. The model measures the relationship between one or more explanatory variables and the binary response variables.

Median Age at First Birth: the age at which fifty percent of women have had their first birth.

Neonatal Mortality: A neonatal death is defined as a death during the first 28 days of life (0-27 days).

Parity: The number of children previously born alive to a woman; for example, 'two-parity women' are women who have had two children and 'zero-parity women' have had no live births.

Parity Progression Ratio: The PPR is simply the proportion of women with a certain number of children who go onto have another child.

Population Density: the number of persons living in the country (or part of the country) per square kilometer.

Post-neonatal Mortality: mortality between day 28 and the first birth day of the child

Sex Ratio: the number of males per 100 females.

Sex Ratio at Birth: the number of male births per 100 female births.

Total Fertility Rate: (TFR) the average number of children a woman would bear if she survived through the end of the reproductive age span and experienced at each age a particular set of age-specific fertility rates

Youth Dependency Ratio: Similar to dependency ratio, but only for young dependents and calculated as $(\text{Pop } 0 - 14 \text{ yrs}) / (\text{Pop. } 15 - 64 \text{ yrs}) \times 100$. Note that the sum of the elderly and the youth dependency ratios equals the overall dependency ratio.

Appendix II. Additional Tables

Table A2.1. Population by Sex and Five Year Age groups (1980 - 2011)

Age	1980			1991			2001			2011		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
0 - 4	3,281	3,272	6,553	3,315	3,306	6,621	3,709	3,539	7,248	3,369	3,265	6,634
5 - 9	3,232	3,285	6,517	3,266	3,319	6,585	3,683	3,704	7,387	3,280	3,191	6,471
10-14	3,116	3,067	6,183	3,149	3,099	6,248	3,435	3,656	7,091	3,699	3,641	7,340
15 - 19	2,807	2,799	5,606	2,836	2,828	5,664	3,000	3,326	6,326	3,562	3,522	7,084
20 - 24	2,980	3,093	6,073	3,011	3,125	6,136	2,897	3,165	6,062	3,214	3,421	6,635
25 - 29	2,791	3,088	5,879	2,820	3,120	5,940	2,944	3,454	6,398	3,142	3,515	6,657
30 - 34	2,507	2,796	5,303	2,533	2,825	5,358	3,106	3,876	6,982	3,108	3,519	6,627
35 - 39	1,965	2,237	4,202	1,986	2,260	4,246	3,019	3,667	6,686	3,056	3,702	6,758
40 - 44	1,626	1,830	3,456	1,643	1,849	3,492	2,505	3,046	5,551	3,131	3,591	6,723
45 - 49	1,271	1,364	2,635	1,284	1,378	2,662	2,021	2,306	4,327	2,900	3,351	6,251
50 - 54	989	1,021	2,010	999	1,032	2,031	1,541	1,727	3,268	2,422	2,696	5,118
55 - 59	851	964	1,815	860	974	1,834	1,080	1,310	2,390	1,767	1,959	3,726
60 - 64	800	985	1,785	808	995	1,803	863	1,021	1,884	1,402	1,570	2,972
65 - 69	773	916	1,689	781	926	1,707	723	857	1,580	1,069	1,173	2,242
70+	1,486	2,028	3,514	1,502	2,049	3,551	1,583	2,125	3,708	1,865	2,463	4,329
Total	30,473	32,742	63,215	30,793	33,085	63,878	36,109	40,779	76,886	40,986	44,581	85,567

Source: Population and Housing Censuses 2001, 2011.

Source data 1980 and 1991: Women and Men in CARICOM Member States. 1980, 1991 And 2000 Rounds of Population Censuses. CARICOM Secretariat, 2002.

Table A2.2. Population by Ethnicity and Sex, 2001

Ethnic, Racial or National Group	2001			% of Total
	Total	Male	Female	
African descent/Black	69,982	32,932	37,049	91.0
Indigenous people	258	107	150	0.3
East Indian	545	264	282	0.7
Chinese	163	59	104	0.2
Portuguese	126	71	55	0.2
Syrian/Lebanese	464	272	191	0.6
White/Caucasian	1,340	693	647	1.7
Mixed	3,376	1,440	1,936	4.4
Other	465	193	272	0.6
Don't know/ Not stated	169	78	90	0.2
Total	76,886	36,109	40,777	100.0

Source: Population and Housing Census 2001

Table A2.3. Population by Ethnicity and Sex, 2011

Ethnic, Racial or National Group	2011			% of Total
	Total	Male	Female	
African descendent	74,018	35,413	38,605	87.3
Amerindian	327	116	211	0.4
Asian	122	59	64	0.1
Caucasian/White	1,398	727	670	1.6
Chinese	143	77	66	0.2
East Indian/India	942	465	477	1.1
Mixed (Black/White)	786	357	429	0.9
Mixed (Other)	3,225	1,426	1,799	3.8
Portuguese	94	42	51	0.1
Hispanic	2,330	927	1,403	2.7
Syrian/Lebanese	570	349	221	0.7
Other	111	56	55	0.1
Don't know/Not stated	750	382	368	0.9
Total	84,816	40,395	44,421	100.0

Source: Population and Housing Censuses 2011

Table A2.4. Percentage Change of the Population by Age group, 2001 - 2011

Age	Male	Female	Total
0 - 4	-9.2	-7.7	-8.5
5 - 9	-11.0	-13.9	-12.4
10-14	7.7	-0.4	3.5
15 - 19	18.7	5.9	12.0
20 - 24	10.9	8.1	9.4
25 - 29	6.8	1.8	4.1
30 - 34	0.1	-9.2	-5.1
35 - 39	1.2	1.0	1.1
40 - 44	25.0	17.9	21.1
45 - 49	43.5	45.3	44.5
50 - 54	57.2	56.1	56.6
55 - 59	63.7	49.5	55.9
60 - 64	62.5	53.8	57.8
65 - 69	47.9	36.9	41.9
70+	17.8	15.9	16.7
Total	13.5	9.3	11.3

Source: Population and Housing Censuses, 2001, 2011

Table A2.5. Dependency Ratios by Country, Caribbean Region (2013)

Country	Youth Dependency Ratio	Elderly Dependency Ratio	Dependency Ratio
Bahamas, The	30	11	41
Barbados	27	15	42
Cuba	23	19	42
Trinidad and Tobago	30	13	43
Aruba	28	16	44
Antigua and Barbuda	35	11	46
St. Vincent and the Grenadines	37	10	47
St. Lucia	36	13	49
Curacao	29	21	50
Puerto Rico	29	21	50
Suriname	41	10	51
Grenada	41	11	52
Jamaica	42	12	54
Dominican Republic	48	10	58
Virgin Islands (U.S.)	33	25	58
Belize	54	6	60
Haiti	58	7	65
Guyana	60	6	66

Source: <http://wdi.worldbank.org/table/2.1#>

World Development Indicators 2014, THE WORLD BANK

Table A2.6. Absolute and Relative Number of Antigua and Barbuda Born and Foreign-born Persons, by Ten Year Age Groups, 2001 - 2011

Absolute number of persons							
	2001				2011		
	Total	A & B	Foreign born	Not stated	Total	A & B	Foreign born
Total	76,886	53,276	23,497	113	83,479	58,068	25,411
00 to 09	14,575	11,568	2,996	11	12,906	11,060	1,847
10 to 19	13,355	9,509	3,832	14	14,165	10,904	3,261
20 to 29	12,437	8,031	4,390	16	12,759	8,110	4,649
30 to 39	13,651	7,801	5,828	22	13,081	7,745	5,336
40 to 49	9,885	6,407	3,448	30	12,661	7,302	5,359
50 to 59	5,701	4,152	1,543	6	8,664	5,738	2,926
60 to 69	3,494	2,705	778	11	5,087	3,844	1,243
70 to 79	2,383	1,924	455	4	2,609	2,077	532
80 to 89	1,135	950	185	0	1,288	1,069	218
90 to 98	216	181	35	0	259	219	41
n/s	55	47	8	0			
Percentage distribution							
	2001				2011		
	Total	A & B	Foreign born	Not stated	Total	A & B	Foreign born
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
00 to 09	19.0	21.7	12.8	9.7	15.5	19.0	7.3
10 to 19	17.4	17.8	16.3	12.4	17.0	18.8	12.8
20 to 29	16.2	15.1	18.7	14.2	15.3	14.0	18.3
30 to 39	17.8	14.6	24.8	19.5	15.7	13.3	21.0
40 to 49	12.9	12.0	14.7	26.5	15.2	12.6	21.1
50 to 59	7.4	7.8	6.6	5.3	10.4	9.9	11.5
60 to 69	4.5	5.1	3.3	9.7	6.1	6.6	4.9
70 to 79	3.1	3.6	1.9	3.5	3.1	3.6	2.1
80 to 89	1.5	1.8	0.8	0.0	1.5	1.8	0.9
90 to 98	0.3	0.3	0.1	0.0	0.3	0.4	0.2
n/s	0.1	0.1	0.0	0.0	0.0	0.0	0.0

54

Source: Population and Housing Censuses 2011

⁵⁴ Figures for 2015 do not add up to total population, as status Local/foreign born was not reported for some cases.

Table A2.7. Average Yearly Growth of Antigua and Barbuda Born and Foreign-born Population by Ten Year Age groups during the Period 2001 – 2011

	Total	A & B	Foreign born
00 to 09	-1.22	-0.45	-4.84
10 to 19	0.59	1.37	-1.61
20 to 29	0.26	0.10	0.57
30 to 39	-0.43	-0.07	-0.88
40 to 49	2.48	1.31	4.41
50 to 59	4.19	3.24	6.40
60 to 69	3.76	3.51	4.69
70 to 79	0.91	0.77	1.57
80 to 89	1.26	1.18	1.66
90 to 98	1.83	1.89	1.53
n/s			

Source: Population and Housing Census, 2011

Note: for 2011, only cases with non-missing values for place of birth and age are included.

Table A2.8. Annual Number of Registered Births by Year of Birth and by Age of Mother

Age of Mother	2008	2009	2010	2011	2012	2013
10-14	6	7	1	3	1	1
15-19	209	173	145	147	137	127
20-24	407	365	335	333	302	300
25-29	342	374	327	314	290	249
30-34	296	276	271	261	270	237
35-39	150	184	124	154	141	150
40-44	34	37	47	36	44	38
45+	6	2	1	2	4	3
Not Stated	2	0	4	7	4	0
Total	1,452	1,418	1,255	1,257	1,193	1,105

Source: Health Information Division, Cemetery Rd.

2011 Population and Housing Census – A Demographic Profile

Table A2.9. Fertility Tables, 1994 - 2011

Number of births by five year age-group of mother

Age	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10-14	8	4	10	6	8	6	5	6	4	3	4	1	2	6	6	7	1	3
15 - 19	176	209	205	174	183	190	185	224	165	206	180	142	152	163	209	173	145	148
20 - 24	332	377	413	358	342	406	332	347	297	310	338	362	365	367	405	363	333	335
25 - 29	365	351	373	392	376	395	364	325	318	284	289	304	274	322	340	368	325	317
30 - 34	257	246	297	339	282	324	284	263	258	255	246	226	237	230	292	274	268	263
35 - 39	108	127	127	132	143	166	123	150	125	141	169	146	129	151	149	182	123	152
40 - 44	23	23	26	33	27	35	29	41	27	37	38	31	38	45	34	36	45	37
45 - 49	0	2	3	2	1	4	1	2	0	0	1	3	1	1	2	2	1	2

Number of women aged 15 - 49 by five year age-groups

Age	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10-14	3,222	3,280	3,329	3,342	3,390	3,438	3,508	3,656	3,654	3,653	3,651	3,650	3,648	3,647	3,646	3,644	3,643	3,641
15 - 19	2,940	2,993	3,038	3,050	3,093	3,137	3,201	3,326	3,347	3,366	3,386	3,405	3,425	3,444	3,464	3,484	3,504	3,522
20 - 24	3,249	3,307	3,357	3,370	3,418	3,466	3,538	3,165	3,192	3,217	3,242	3,267	3,293	3,319	3,345	3,371	3,397	3,421
25 - 29	3,244	3,302	3,351	3,365	3,412	3,461	3,532	3,454	3,461	3,467	3,473	3,479	3,485	3,491	3,497	3,503	3,510	3,515
30 - 34	2,350	2,990	3,034	3,047	3,090	3,134	3,198	3,876	3,835	3,798	3,762	3,726	3,690	3,654	3,619	3,585	3,550	3,519
35 - 39	1,922	2,392	2,427	2,437	2,472	2,507	2,558	3,667	3,671	3,674	3,678	3,681	3,685	3,688	3,692	3,696	3,699	3,702
40 - 44	1,433	1,957	1,986	1,994	2,022	2,051	2,093	3,046	3,101	3,153	3,205	3,258	3,313	3,367	3,424	3,480	3,538	3,591
45 - 49	1,073	1,458	1,480	1,486	1,507	1,529	1,560	2,306	2,402	2,494	2,589	2,687	2,790	2,896	3,006	3,121	3,239	3,351

Age-specific fertility rates by period

Age	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
10-14	0.002	0.001	0.003	0.002	0.002	0.002	0.001	0.002	0.001	0.001	0.001	0.000	0.001	0.002	0.002	0.002	0.000	0.001
15-19	0.060	0.070	0.067	0.057	0.059	0.061	0.058	0.067	0.049	0.061	0.053	0.042	0.044	0.047	0.060	0.050	0.041	0.042
20-24	0.102	0.114	0.123	0.106	0.100	0.117	0.094	0.110	0.093	0.096	0.104	0.111	0.111	0.111	0.121	0.108	0.098	0.098
25-29	0.113	0.106	0.111	0.116	0.110	0.114	0.103	0.094	0.092	0.082	0.083	0.087	0.079	0.092	0.097	0.105	0.093	0.090
30-34	0.109	0.082	0.098	0.111	0.091	0.103	0.089	0.068	0.067	0.067	0.065	0.061	0.064	0.063	0.081	0.076	0.075	0.075
35-39	0.056	0.053	0.052	0.054	0.058	0.066	0.048	0.041	0.034	0.038	0.046	0.040	0.035	0.041	0.040	0.049	0.033	0.041
40-44	0.016	0.012	0.013	0.017	0.013	0.017	0.014	0.013	0.009	0.012	0.012	0.010	0.011	0.013	0.010	0.010	0.013	0.010
45-49	0.000	0.001	0.002	0.001	0.001	0.003	0.001	0.001	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.001	0.000	0.001
TFR	2.3	2.2	2.4	2.3	2.2	2.4	2.0	2.0	1.7	1.8	1.8	1.8	1.7	1.8	2.1	2.0	1.8	1.8

Source: Population registry 1994 -2011, Population Censuses 1991, 2001, 2011.

Table A2.10. Mean Number of Children Ever Born by Age groups for Women 50 Years of Age and Older

Age	CEB
50 - 54	2.93
55 - 59	3.14
60 - 64	3.18
65 - 69	3.58
70 - 74	4.05
75 - 79	4.53
80 - 84	4.83
85+	5.09

Source: Population and Housing Census, 2011

Table A2.11. Percentage Distribution of Women between Ages 15 and 49 by Marital Status and Five Year Age groups

		Marital Status						Total
		Never married	Married	Divorced	Widowed	Legally separated	Don't know/Not stated	
Age 5 year categori es	15 - 19	94.8	0.6	0.1	0.1	0.0	4.4	3516
	20 - 24	92.5	4.5	0.2	0.1	0.2	2.5	3394
	25 - 29	81.8	14.9	0.7	0.2	0.6	1.8	3499
	30 - 34	69.0	26.0	1.7	0.2	1.5	1.5	3504
	35 - 39	58.5	33.0	3.7	0.6	2.7	1.4	3691
	40 - 44	51.1	38.2	5.1	0.8	3.4	1.4	3578
	45 - 49	49.9	37.8	5.6	2.1	3.2	1.5	3344
Total		71.0	22.2	2.5	0.6	1.7	2.1	24526

Source: Population and Housing Census, 2011

Table A2.12. Infant Mortality Rates in the Caribbean Region (2013)

Cuba	5.0
St. Kitts and Nevis	7.8
Dominica	10.2
Bahamas, The	10.4
St. Lucia	12.7
Barbados	13.3
Belize	14.3
Jamaica	14.3
Antigua and Barbuda	16.0
St. Vincent and the Grenadines	17.2
Trinidad and Tobago	19.0
Suriname	20.3
Dominican Republic	23.6
Guyana	29.9
Haiti	54.7

Source: World Bank, indicator database

Table A2.13. Number of persons by Type of Disability, Degree of Disability and Sex, Antigua and Barbuda, 2011

Dissability	Sex	No difficulty	Some difficulty	Lots of difficulty	Cannot do at all	Don't know	Total
Seeing	Male	37,548	1,646	245	55	901	40,395
	Female	39,996	3,144	452	58	771	44,421
	Total	77,544	4,790	697	113	1,672	84,816
Hearing	Male	38,928	403	77	24	965	40,397
	Female	42,862	565	120	22	851	44,420
	Total	81,790	968	197	46	1,816	84,817
Walking	Male	38,300	798	260	88	949	40,395
	Female	41,358	1,616	486	121	839	44,420
	Total	79,658	2,414	746	209	1,788	84,815
Remembering	Male	38,776	504	95	19	1,001	40,395
	Female	42,439	884	168	29	901	44,421
	Total	81,215	1,388	263	48	1,902	84,816
Self Care	Male	38,967	235	79	84	1,031	40,396
	Female	42,988	262	132	106	933	44,421
	Total	81,955	497	211	190	1,964	84,817
Upper body	Male	39,056	224	64	33	1,018	40,395
	Female	43,041	322	114	31	914	44,422
	Total	82,097	546	178	64	1,932	84,817
Communicating	Male	39,053	173	102	40	1,028	40,396
	Female	43,152	194	103	31	941	44,421
	Total	82,205	367	205	71	1,969	84,817

Source: Population and Housing Census, 2011

Table A2.14. Percentage Distribution of Persons by Type of Disability, Degree of Disability, and Sex, Antigua and Barbuda, 2011

Dissability	Sex	No difficulty	Some difficulty	Lots of difficulty	Cannot do at all	Total
Seeing	Male	95.07	4.17	0.62	0.14	40,395
	Female	91.63	7.20	1.04	0.13	44,421
	Total	93.26	5.76	0.84	0.14	84,816
Hearing	Male	98.72	1.02	0.20	0.06	40,397
	Female	98.38	1.30	0.28	0.05	44,420
	Total	98.54	1.17	0.24	0.06	84,817
Walking	Male	97.09	2.02	0.66	0.22	40,395
	Female	94.90	3.71	1.12	0.28	44,420
	Total	95.94	2.91	0.90	0.25	84,815
Remembering	Male	98.43	1.28	0.24	0.05	40,395
	Female	97.52	2.03	0.39	0.07	44,421
	Total	97.95	1.67	0.32	0.06	84,816
Self Care	Male	98.99	0.60	0.20	0.21	40,396
	Female	98.85	0.60	0.30	0.24	44,421
	Total	98.92	0.60	0.25	0.23	84,817
Upper body	Male	99.18	0.57	0.16	0.08	40,395
	Female	98.93	0.74	0.26	0.07	44,422
	Total	99.05	0.66	0.21	0.08	84,817
Communicating	Male	99.20	0.44	0.26	0.10	40,396
	Female	99.25	0.45	0.24	0.07	44,421
	Total	99.22	0.44	0.25	0.09	84,817

Source: Population and Housing Census, 2011

Table A2.15. Percentage of Persons with a Disability by Sex and Five-Year Age groups

Age	Male	Female	F/Mx100
0 - 4	0.89	1.08	122.2
5 - 9	0.67	0.41	61.0
10 - 14	0.42	0.40	94.6
15 - 19	0.70	0.82	117.1
20 - 24	1.08	0.76	70.4
25 - 29	1.08	0.89	82.0
30 - 34	1.16	1.04	89.9
35 - 39	1.03	1.04	100.9
40 - 44	1.11	1.70	152.6
45 - 49	1.53	2.25	147.2
50 - 54	2.40	3.37	140.7
55 - 59	3.26	4.60	141.1
60 - 64	5.08	6.46	127.2
65 - 69	6.05	11.25	186.1
70 - 74	12.56	15.76	125.5
75 - 79	19.66	20.54	104.5
80 - 84	28.20	40.50	143.6
85 - 89	50.86	66.85	131.4
90 - 94	45.01	75.75	168.3
95+	41.06	72.20	175.8

Source: Population and Housing Census, 2011

Appendix III. Population Projections

A. Medium Projection:

Table A3.1.a. Summary Table: Antigua and Barbuda: Population Projections 2011, Medium Scenario

Year	Expectation of life at birth			Infant mortality rate			Total Fertility rate (5)	Total Fertility rate (1)	Female - male e0	Male/female IMR
	Both sexes	Male	Female	Both sexes	Male	Female				
2011	76.82	73.49	80.24	20.72	24.04	17.30	1.8000	1.8000	6.75	1.39
2012	77.40	73.98	80.92	17.15	21.28	12.89	1.8000	1.8000	6.94	1.65
2013	77.75	74.30	81.30	14.28	18.84	9.59	1.8000	1.8000	7.00	1.96
2014	77.90	74.47	81.43	11.98	16.67	7.14	1.8000	1.8000	6.96	2.33
2015	77.87	74.50	81.34	10.10	14.75	5.31	1.8000	1.8000	6.84	2.78
2016	77.08	74.00	80.25	8.56	13.05	3.94	1.8000	1.8000	6.25	3.31
2017	77.86	74.60	81.23	8.18	12.50	3.72	1.8000	1.8000	6.63	3.36
2018	78.05	74.81	81.39	7.81	11.98	3.52	1.8000	1.8000	6.58	3.40
2019	78.24	75.02	81.56	7.46	11.47	3.32	1.8000	1.8000	6.54	3.45
2020	78.42	75.22	81.72	7.12	10.99	3.13	1.8000	1.8000	6.50	3.51
2021	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56
2022	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56
2023	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56
2024	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56
2025	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56
2026	77.96	75.00	81.00	6.80	10.53	2.96	1.8000	1.8000	6.00	3.56

Year	Midyear population	Exponential growth rate (%)	Calendar year data										
			Growth rate (%)	Births	CBR	Deaths	CDR	Net international		Net internal		Total net	
								Migrants	Rate	Migrants	Rate	Migrants	Rate
2011	85,567	-	1.404	1,265	14.78	482	5.63	418	4.89	0	0.00	418	4.89
2012	86,793	1.423	1.441	1,273	14.67	487	5.61	465	5.36	0	0.00	465	5.36
2013	88,069	1.459	1.477	1,283	14.57	496	5.63	514	5.84	0	0.00	514	5.84
2014	89,391	1.490	1.504	1,294	14.48	511	5.72	561	6.28	0	0.00	561	6.28
2015	90,755	1.514	1.526	1,307	14.40	532	5.86	610	6.72	0	0.00	610	6.72
2016	92,157	1.533	1.540	1,320	14.32	558	6.05	657	7.13	0	0.00	657	7.13
2017	93,581	1.533	1.527	1,333	14.24	561	5.99	657	7.02	0	0.00	657	7.02
2018	95,014	1.520	1.511	1,345	14.16	566	5.96	657	6.91	0	0.00	657	6.91
2019	96,453	1.503	1.494	1,357	14.07	573	5.94	657	6.81	0	0.00	657	6.81
2020	97,895	1.484	1.474	1,367	13.96	581	5.93	657	6.71	0	0.00	657	6.71
2021	99,337	1.462	1.451	1,376	13.85	592	5.96	657	6.61	0	0.00	657	6.61
2022	100,772	1.434	1.419	1,384	13.73	611	6.06	657	6.52	0	0.00	657	6.52
2023	102,195	1.402	1.386	1,392	13.62	633	6.19	657	6.43	0	0.00	657	6.43
2024	103,603	1.368	1.350	1,398	13.49	656	6.33	657	6.34	0	0.00	657	6.34
2025	104,993	1.333	1.317	1,404	13.37	678	6.46	657	6.26	0	0.00	657	6.26
2026	106,365	1.298	1.279	1,406	13.22	703	6.61	657	6.18	0	0.00	657	6.18

2011 Population and Housing Census – A Demographic Profile

Table A3.1.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,369	3,351	3,310	3,259	3,244	3,347	3,389	3,432	3,468	3,504	3,534	3,563	3,589	3,612	3,632	3,649
5-9	3,280	3,293	3,364	3,473	3,559	3,520	3,518	3,486	3,446	3,437	3,546	3,587	3,629	3,664	3,699	3,730
10-14	3,699	3,652	3,573	3,480	3,400	3,361	3,382	3,459	3,572	3,660	3,620	3,618	3,586	3,547	3,540	3,648
15-19	3,562	3,640	3,712	3,768	3,795	3,794	3,752	3,680	3,589	3,511	3,473	3,494	3,571	3,685	3,773	3,732
20-24	3,214	3,295	3,390	3,496	3,606	3,701	3,791	3,869	3,934	3,961	3,961	3,921	3,851	3,759	3,680	3,643
25-29	3,142	3,162	3,191	3,227	3,282	3,363	3,459	3,567	3,680	3,797	3,892	3,983	4,061	4,126	4,153	4,154
30-34	3,108	3,129	3,151	3,179	3,207	3,239	3,278	3,319	3,364	3,424	3,511	3,603	3,712	3,824	3,941	4,037
35-39	3,056	3,065	3,088	3,119	3,154	3,187	3,218	3,253	3,284	3,317	3,348	3,391	3,430	3,476	3,537	3,620
40-44	3,132	3,138	3,131	3,120	3,115	3,121	3,142	3,170	3,209	3,246	3,280	3,310	3,346	3,377	3,410	3,443
45-49	2,900	2,966	3,028	3,081	3,124	3,156	3,170	3,169	3,164	3,163	3,174	3,194	3,223	3,263	3,298	3,330
50-54	2,422	2,531	2,629	2,718	2,800	2,877	2,949	3,017	3,074	3,121	3,152	3,170	3,169	3,165	3,164	3,176
55-59	1,767	1,867	1,984	2,111	2,239	2,360	2,471	2,569	2,659	2,742	2,819	2,889	2,956	3,011	3,058	3,089
60-64	1,402	1,450	1,495	1,547	1,605	1,681	1,774	1,886	2,009	2,132	2,247	2,354	2,447	2,535	2,614	2,686
65-69	1,069	1,118	1,165	1,204	1,247	1,288	1,326	1,365	1,409	1,462	1,532	1,619	1,722	1,835	1,946	2,051
70-74	692	731	779	832	879	918	955	992	1,022	1,057	1,095	1,127	1,164	1,200	1,247	1,306
75-79	528	529	526	524	530	544	566	597	634	667	698	728	756	780	807	835
80-84	332	336	339	342	338	330	322	311	307	310	318	334	351	374	394	411
85+	314	319	325	330	336	342	347	352	356	357	356	355	355	355	356	361
Total	40,988	41,572	42,180	42,810	43,460	44,129	44,809	45,493	46,180	46,868	47,556	48,240	48,918	49,588	50,249	50,901

Estimation Population over 85 years of age

85-89	215	218	222	226	230	234	237	241	243	244	243	243	243	243	243	247
90-94	72	73	75	76	77	79	80	81	82	82	82	82	82	82	82	83
Over 94	27	28	28	28	29	30	30	30	31	31	31	31	31	31	31	31
85+	314	319	325	330	336	342	347	352	356	357	356	355	355	355	356	361

2011 Population and Housing Census – A Demographic Profile

Table A3.1.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Medium Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,265	3,260	3,235	3,201	3,194	3,284	3,326	3,366	3,402	3,434	3,464	3,492	3,517	3,538	3,558	3,574
5-9	3,191	3,193	3,253	3,351	3,434	3,417	3,428	3,417	3,391	3,391	3,483	3,525	3,565	3,602	3,633	3,663
10-14	3,641	3,591	3,505	3,402	3,314	3,267	3,276	3,337	3,441	3,527	3,511	3,520	3,509	3,484	3,483	3,575
15-19	3,522	3,582	3,646	3,707	3,742	3,739	3,697	3,619	3,520	3,432	3,387	3,397	3,459	3,561	3,649	3,632
20-24	3,421	3,455	3,502	3,557	3,622	3,692	3,766	3,841	3,907	3,948	3,944	3,903	3,825	3,726	3,638	3,594
25-29	3,515	3,528	3,538	3,549	3,572	3,609	3,661	3,720	3,785	3,855	3,930	4,002	4,077	4,142	4,184	4,180
30-34	3,519	3,528	3,556	3,594	3,632	3,668	3,693	3,711	3,732	3,759	3,795	3,849	3,907	3,973	4,042	4,117
35-39	3,702	3,696	3,675	3,652	3,636	3,636	3,655	3,694	3,736	3,780	3,815	3,841	3,860	3,882	3,906	3,945
40-44	3,591	3,634	3,681	3,727	3,763	3,783	3,788	3,773	3,757	3,743	3,749	3,765	3,805	3,846	3,891	3,924
45-49	3,351	3,431	3,494	3,540	3,587	3,635	3,688	3,743	3,792	3,831	3,850	3,859	3,843	3,827	3,813	3,821
50-54	2,696	2,845	2,990	3,130	3,252	3,359	3,444	3,511	3,562	3,612	3,662	3,714	3,770	3,819	3,860	3,876
55-59	1,959	2,073	2,209	2,359	2,517	2,673	2,824	2,974	3,115	3,238	3,345	3,429	3,496	3,548	3,597	3,647
60-64	1,570	1,629	1,684	1,743	1,814	1,910	2,027	2,164	2,316	2,472	2,627	2,778	2,924	3,063	3,184	3,288
65-69	1,173	1,246	1,317	1,386	1,451	1,506	1,563	1,616	1,670	1,741	1,834	1,947	2,080	2,226	2,374	2,523
70-74	811	853	907	967	1,029	1,093	1,153	1,212	1,271	1,329	1,379	1,434	1,484	1,534	1,602	1,686
75-79	655	657	658	661	674	693	722	765	816	864	920	970	1,022	1,071	1,121	1,163
80-84	520	512	505	498	482	465	448	437	432	441	456	476	504	541	571	609
85+	477	508	534	557	580	599	613	621	628	630	630	631	630	632	638	647
Total	44,579	45,221	45,889	46,581	47,295	48,028	48,772	49,521	50,273	51,027	51,781	52,532	53,277	54,015	54,744	55,464

Estimation Population over 85 years of age

85-89	298	317	334	348	362	374	383	388	392	394	394	394	394	395	399	404
90-94	122	130	137	142	148	153	157	159	161	161	161	161	161	162	163	165
Over 94	57	61	64	67	69	72	73	74	75	75	75	75	75	76	76	77
85+	477	508	534	557	580	599	613	621	628	630	630	631	630	632	638	647

2011 Population and Housing Census – A Demographic Profile

A. Low Projection:

Table A3.2.a. Summary Table: Antigua and Barbuda: Population Projections 2011, Low Scenario

Year	Expectation of life at birth			Infant mortality rate			Total Fertility rate (5)	Total Fertility rate (1)	Female - male e0	Male/female IMR
	Both sexes	Male	Female	Both sexes	Male	Female				
2011	76.82	73.49	80.24	20.72	24.04	17.30	1.8000	1.8000	6.75	1.39
2012	77.33	73.85	80.92	17.36	21.70	12.89	1.7800	1.7800	7.07	1.68
2013	77.62	74.05	81.30	14.67	19.59	9.59	1.7600	1.7600	7.25	2.04
2014	77.72	74.12	81.43	12.49	17.69	7.14	1.7400	1.7400	7.31	2.48
2015	77.65	74.07	81.34	10.71	15.97	5.31	1.7200	1.7200	7.27	3.01
2016	76.83	73.50	80.25	9.25	14.41	3.94	1.7000	1.7000	6.75	3.66
2017	77.38	73.86	81.00	9.29	14.41	4.01	1.6800	1.6800	7.14	3.59
2018	77.35	73.86	80.95	9.32	14.41	4.08	1.6600	1.6600	7.09	3.53
2019	77.33	73.86	80.89	9.36	14.41	4.16	1.6400	1.6400	7.03	3.46
2020	77.30	73.86	80.84	9.39	14.41	4.23	1.6200	1.6200	6.98	3.41
2021	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34
2022	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34
2023	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34
2024	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34
2025	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34
2026	76.70	73.50	80.00	9.43	14.41	4.31	1.6000	1.6000	6.50	3.34

Year	Midyear population	Exponential growth rate (%)	Calendar year data										
			Growth rate (%)	Births	CBR	Deaths	CDR	Net international		Net internal		Total net	
								Migrants	Rate	Migrants	Rate	Migrants	Rate
2011	85,567	-	1.232	1,265	14.78	482	5.63	271	3.17	0	0.00	271	3.17
2012	86,629	1.233	1.236	1,256	14.50	489	5.64	304	3.51	0	0.00	304	3.51
2013	87,707	1.237	1.236	1,248	14.23	500	5.70	336	3.83	0	0.00	336	3.83
2014	88,796	1.234	1.231	1,241	13.98	516	5.81	368	4.14	0	0.00	368	4.14
2015	89,891	1.226	1.220	1,234	13.73	537	5.97	400	4.45	0	0.00	400	4.45
2016	90,989	1.214	1.206	1,228	13.50	564	6.20	433	4.76	0	0.00	433	4.76
2017	92,077	1.189	1.173	1,222	13.27	575	6.24	433	4.70	0	0.00	433	4.70
2018	93,147	1.155	1.138	1,215	13.04	588	6.31	433	4.65	0	0.00	433	4.65
2019	94,196	1.120	1.102	1,207	12.81	602	6.39	433	4.60	0	0.00	433	4.60
2020	95,221	1.082	1.063	1,198	12.58	619	6.50	433	4.55	0	0.00	433	4.55
2021	96,219	1.043	1.023	1,188	12.35	637	6.62	433	4.50	0	0.00	433	4.50
2022	97,195	1.009	0.995	1,191	12.25	657	6.76	433	4.45	0	0.00	433	4.45
2023	98,154	0.982	0.968	1,194	12.16	677	6.90	433	4.41	0	0.00	433	4.41
2024	99,095	0.954	0.940	1,197	12.08	699	7.05	433	4.37	0	0.00	433	4.37
2025	100,015	0.924	0.910	1,198	11.98	721	7.21	433	4.33	0	0.00	433	4.33
2026	100,913	0.894	0.877	1,197	11.86	745	7.38	433	4.29	0	0.00	433	4.29

2011 Population and Housing Census – A Demographic Profile

Table A3.2.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,369	3,335	3,268	3,187	3,129	3,187	3,180	3,171	3,159	3,142	3,122	3,106	3,092	3,084	3,082	3,084
5-9	3,280	3,286	3,351	3,447	3,522	3,464	3,440	3,382	3,308	3,256	3,315	3,307	3,300	3,289	3,271	3,251
10-14	3,699	3,647	3,561	3,461	3,374	3,331	3,341	3,408	3,505	3,581	3,523	3,501	3,441	3,367	3,315	3,374
15-19	3,562	3,634	3,699	3,747	3,768	3,758	3,711	3,626	3,530	3,444	3,403	3,409	3,479	3,575	3,652	3,594
20-24	3,214	3,284	3,370	3,468	3,565	3,650	3,729	3,801	3,850	3,872	3,864	3,816	3,730	3,636	3,550	3,510
25-29	3,142	3,154	3,171	3,196	3,239	3,305	3,384	3,481	3,584	3,685	3,770	3,852	3,921	3,969	3,992	3,984
30-34	3,108	3,123	3,140	3,157	3,178	3,198	3,224	3,252	3,285	3,330	3,398	3,475	3,575	3,678	3,776	3,860
35-39	3,056	3,060	3,076	3,101	3,128	3,154	3,181	3,202	3,224	3,247	3,268	3,295	3,320	3,354	3,400	3,468
40-44	3,132	3,133	3,120	3,102	3,089	3,088	3,098	3,121	3,148	3,181	3,205	3,231	3,254	3,274	3,297	3,319
45-49	2,900	2,963	3,020	3,069	3,106	3,130	3,137	3,128	3,115	3,102	3,104	3,115	3,134	3,162	3,196	3,218
50-54	2,422	2,527	2,623	2,710	2,788	2,860	2,927	2,986	3,038	3,076	3,100	3,105	3,100	3,087	3,072	3,076
55-59	1,767	1,866	1,982	2,106	2,231	2,348	2,454	2,552	2,635	2,713	2,781	2,848	2,904	2,951	2,990	3,012
60-64	1,402	1,449	1,493	1,542	1,598	1,672	1,765	1,872	1,990	2,108	2,218	2,316	2,409	2,488	2,561	2,623
65-69	1,069	1,118	1,163	1,203	1,245	1,282	1,317	1,353	1,395	1,443	1,511	1,595	1,688	1,794	1,898	1,999
70-74	692	730	777	828	874	914	949	982	1,011	1,044	1,072	1,100	1,133	1,170	1,210	1,264
75-79	528	528	524	521	524	537	557	586	620	651	680	705	729	750	775	797
80-84	332	336	339	341	337	326	316	305	298	300	307	320	337	356	373	390
85+	314	319	325	330	336	343	347	350	353	351	350	349	344	342	342	344
Total	40,988	41,492	42,002	42,516	43,031	43,547	44,057	44,558	45,048	45,526	45,991	46,445	46,890	47,326	47,752	48,167

Estimation Population over 85 years of age

85-89	215	218	222	226	230	235	237	239	241	240	239	239	235	234	234	235
90-94	72	73	75	76	77	79	80	81	81	81	81	80	79	79	79	79
Over 94	27	28	28	28	29	30	30	30	30	30	30	30	30	30	30	30
85+	314	319	325	330	336	343	347	350	353	351	350	349	344	342	342	344

2011 Population and Housing Census – A Demographic Profile

Table A3.2.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, Low Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,265	3,243	3,192	3,128	3,082	3,127	3,121	3,114	3,101	3,086	3,067	3,050	3,037	3,029	3,027	3,029
5-9	3,191	3,187	3,241	3,326	3,397	3,364	3,350	3,308	3,251	3,210	3,256	3,250	3,243	3,230	3,216	3,196
10-14	3,641	3,587	3,495	3,387	3,295	3,239	3,244	3,300	3,387	3,458	3,426	3,413	3,370	3,315	3,270	3,318
15-19	3,522	3,575	3,636	3,689	3,716	3,710	3,661	3,572	3,469	3,379	3,324	3,327	3,383	3,469	3,542	3,509
20-24	3,421	3,444	3,477	3,524	3,575	3,633	3,696	3,765	3,821	3,850	3,845	3,797	3,709	3,605	3,515	3,461
25-29	3,515	3,518	3,517	3,512	3,522	3,543	3,580	3,621	3,676	3,731	3,790	3,853	3,921	3,978	4,007	4,002
30-34	3,519	3,519	3,537	3,566	3,593	3,614	3,625	3,632	3,631	3,645	3,666	3,703	3,745	3,798	3,854	3,911
35-39	3,702	3,690	3,661	3,629	3,603	3,595	3,600	3,623	3,657	3,687	3,708	3,718	3,724	3,725	3,736	3,759
40-44	3,591	3,629	3,671	3,710	3,737	3,748	3,744	3,722	3,693	3,667	3,662	3,667	3,690	3,723	3,756	3,776
45-49	3,351	3,428	3,485	3,528	3,569	3,611	3,656	3,704	3,745	3,776	3,785	3,782	3,760	3,732	3,704	3,700
50-54	2,696	2,842	2,986	3,122	3,240	3,342	3,425	3,485	3,532	3,572	3,615	3,659	3,707	3,747	3,778	3,785
55-59	1,959	2,073	2,207	2,354	2,511	2,665	2,813	2,957	3,093	3,211	3,310	3,392	3,449	3,495	3,535	3,580
60-64	1,570	1,627	1,680	1,739	1,811	1,903	2,020	2,155	2,301	2,458	2,609	2,751	2,892	3,023	3,138	3,231
65-69	1,173	1,246	1,318	1,386	1,448	1,504	1,556	1,606	1,662	1,728	1,817	1,929	2,056	2,195	2,343	2,489
70-74	811	853	906	966	1,029	1,091	1,152	1,211	1,269	1,322	1,369	1,414	1,460	1,511	1,572	1,651
75-79	655	656	656	659	670	692	720	761	806	856	906	956	1,005	1,051	1,094	1,134
80-84	520	512	506	498	481	461	444	432	428	432	449	467	492	522	555	586
85+	477	508	534	557	581	600	613	621	626	627	624	622	621	621	621	629
Total	44,579	45,137	45,705	46,280	46,860	47,442	48,020	48,589	49,148	49,695	50,228	50,750	51,264	51,769	52,263	52,746

Estimation Population over 85 years of age

85-89	298	317	334	348	363	375	383	388	391	392	390	389	388	388	388	393
90-94	122	130	137	142	149	153	157	159	160	160	160	159	159	159	159	161
Over 94	57	61	64	67	69	72	73	74	75	75	75	74	74	74	74	75
85+	477	508	534	557	581	600	613	621	626	627	624	622	621	621	621	629

2011 Population and Housing Census – A Demographic Profile

Table A3.3.a. Summary Table: Antigua and Barbuda: Population Projections 2011, High Scenario

Year	Expectation of life at birth			Infant mortality rate			Total Fertility rate (5)	Total Fertility rate (1)	Female - male e0	Male/female IMR
	Both sexes	Male	Female	Both sexes	Male	Female				
2011	76.82	73.49	80.24	20.72	24.04	17.30	1.8000	1.8000	6.75	1.39
2012	77.40	73.98	80.92	17.15	21.28	12.89	1.8200	1.8200	6.94	1.65
2013	77.75	74.30	81.30	14.28	18.84	9.59	1.8400	1.8400	7.00	1.96
2014	77.90	74.47	81.43	11.98	16.67	7.14	1.8600	1.8600	6.96	2.33
2015	77.87	74.50	81.34	10.10	14.75	5.31	1.8800	1.8800	6.84	2.78
2016	77.08	74.00	80.25	8.56	13.05	3.94	1.9000	1.9000	6.25	3.31
2017	77.86	74.60	81.23	8.18	12.50	3.72	1.9200	1.9200	6.63	3.36
2018	78.05	74.81	81.39	7.81	11.98	3.52	1.9400	1.9400	6.58	3.40
2019	78.24	75.02	81.56	7.46	11.47	3.32	1.9600	1.9600	6.54	3.45
2020	78.42	75.22	81.72	7.12	10.99	3.13	1.9800	1.9800	6.50	3.51
2021	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56
2022	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56
2023	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56
2024	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56
2025	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56
2026	77.96	75.00	81.00	6.80	10.53	2.96	2.0000	2.0000	6.00	3.56

Year	Midyear population	Exponential growth rate (%)	Calendar year data										
			Growth rate (%)	Births	CBR	Deaths	CDR	Net international		Net internal		Total net	
								Migrants	Rate	Migrants	Rate	Migrants	Rate
2011	85,567	-	1.607	1,265	14.78	482	5.63	592	6.92	0	0.00	592	6.92
2012	86,985	1.644	1.678	1,291	14.84	488	5.61	657	7.55	0	0.00	657	7.55
2013	88,487	1.712	1.745	1,320	14.92	498	5.63	722	8.16	0	0.00	722	8.16
2014	90,071	1.774	1.802	1,351	15.00	514	5.71	786	8.73	0	0.00	786	8.73
2015	91,733	1.828	1.854	1,384	15.09	534	5.82	851	9.28	0	0.00	851	9.28
2016	93,471	1.877	1.898	1,418	15.17	560	5.99	916	9.80	0	0.00	916	9.80
2017	95,260	1.896	1.894	1,453	15.25	565	5.93	916	9.62	0	0.00	916	9.62
2018	97,078	1.890	1.889	1,488	15.33	570	5.87	916	9.44	0	0.00	916	9.44
2019	98,924	1.884	1.880	1,522	15.39	578	5.84	916	9.26	0	0.00	916	9.26
2020	100,796	1.875	1.868	1,554	15.42	587	5.82	916	9.09	0	0.00	916	9.09
2021	102,689	1.861	1.853	1,585	15.43	598	5.82	916	8.92	0	0.00	916	8.92
2022	104,589	1.833	1.813	1,599	15.29	619	5.92	916	8.76	0	0.00	916	8.76
2023	106,481	1.793	1.773	1,613	15.15	641	6.02	916	8.60	0	0.00	916	8.60
2024	108,364	1.753	1.731	1,625	15.00	665	6.14	916	8.45	0	0.00	916	8.45
2025	110,235	1.712	1.691	1,637	14.85	689	6.25	916	8.31	0	0.00	916	8.31
2026	112,090	1.669	1.646	1,644	14.67	715	6.38	916	8.17	0	0.00	916	8.17

2011 Population and Housing Census – A Demographic Profile

Table A3.3.b. Projected Male Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,369	3,371	3,356	3,339	3,365	3,517	3,613	3,708	3,800	3,892	3,978	4,057	4,126	4,184	4,230	4,266
5-9	3,280	3,299	3,380	3,501	3,603	3,581	3,603	3,605	3,601	3,633	3,788	3,885	3,981	4,073	4,166	4,252
10-14	3,699	3,658	3,583	3,496	3,423	3,393	3,420	3,506	3,632	3,737	3,715	3,738	3,741	3,739	3,769	3,924
15-19	3,562	3,647	3,728	3,791	3,828	3,834	3,802	3,734	3,651	3,583	3,555	3,580	3,667	3,791	3,897	3,875
20-24	3,214	3,308	3,416	3,537	3,654	3,763	3,864	3,958	4,027	4,067	4,074	4,045	3,975	3,892	3,825	3,797
25-29	3,142	3,171	3,211	3,259	3,331	3,426	3,539	3,662	3,795	3,919	4,030	4,129	4,225	4,292	4,333	4,339
30-34	3,108	3,136	3,167	3,203	3,243	3,289	3,337	3,393	3,451	3,529	3,627	3,742	3,863	3,999	4,122	4,233
35-39	3,056	3,072	3,102	3,141	3,183	3,226	3,269	3,311	3,356	3,398	3,447	3,495	3,552	3,608	3,687	3,784
40-44	3,132	3,143	3,143	3,138	3,141	3,153	3,183	3,220	3,265	3,315	3,358	3,402	3,443	3,489	3,531	3,580
45-49	2,900	2,971	3,036	3,097	3,145	3,181	3,203	3,213	3,217	3,222	3,238	3,267	3,303	3,350	3,399	3,442
50-54	2,422	2,532	2,633	2,726	2,813	2,899	2,975	3,045	3,110	3,160	3,198	3,221	3,234	3,238	3,243	3,261
55-59	1,767	1,870	1,990	2,118	2,248	2,371	2,483	2,587	2,681	2,770	2,856	2,930	3,000	3,064	3,111	3,147
60-64	1,402	1,450	1,497	1,549	1,610	1,687	1,787	1,902	2,025	2,150	2,266	2,377	2,475	2,563	2,649	2,730
65-69	1,069	1,120	1,167	1,209	1,252	1,293	1,333	1,373	1,417	1,473	1,546	1,637	1,744	1,856	1,970	2,075
70-74	692	731	779	833	881	923	960	994	1,029	1,065	1,101	1,136	1,171	1,209	1,259	1,321
75-79	528	529	526	523	529	543	565	598	636	669	702	731	757	787	813	841
80-84	332	337	342	346	342	333	323	314	308	312	320	336	356	378	397	414
85+	314	319	324	330	337	345	352	356	360	362	362	361	360	360	364	369
Total	40,988	41,664	42,380	43,136	43,928	44,757	45,611	46,479	47,361	48,256	49,161	50,069	50,973	51,872	52,765	53,650

Estimation Population over 85 years of age

85-89	215	218	222	226	230	236	241	243	246	248	248	247	246	246	249	252
90-94	72	73	75	76	78	79	81	82	83	83	83	83	83	83	84	85
Over 94	27	28	28	28	29	30	30	31	31	31	31	31	31	31	31	32
85+	314	319	324	330	337	345	352	356	360	362	362	361	360	360	364	369

2011 Population and Housing Census – A Demographic Profile

Table A3.3.c. Projected Female Population Antigua and Barbuda, Five Year Age groups, 2011 - 2026, High Scenario

Age	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
0-4	3,265	3,280	3,281	3,283	3,315	3,454	3,550	3,644	3,733	3,819	3,903	3,979	4,047	4,104	4,150	4,185
5-9	3,191	3,199	3,270	3,378	3,480	3,482	3,519	3,534	3,552	3,590	3,734	3,829	3,924	4,012	4,098	4,182
10-14	3,641	3,595	3,514	3,416	3,336	3,295	3,311	3,389	3,500	3,609	3,608	3,649	3,662	3,681	3,718	3,862
15-19	3,522	3,590	3,663	3,732	3,772	3,779	3,744	3,672	3,579	3,500	3,462	3,476	3,554	3,665	3,775	3,774
20-24	3,421	3,471	3,532	3,604	3,682	3,767	3,853	3,940	4,019	4,064	4,072	4,038	3,966	3,874	3,794	3,755
25-29	3,515	3,540	3,565	3,591	3,634	3,692	3,766	3,846	3,931	4,019	4,107	4,193	4,279	4,358	4,405	4,412
30-34	3,519	3,538	3,576	3,629	3,683	3,734	3,777	3,816	3,853	3,900	3,961	4,036	4,117	4,200	4,287	4,377
35-39	3,702	3,702	3,690	3,674	3,670	3,682	3,716	3,765	3,827	3,887	3,939	3,980	4,020	4,059	4,105	4,166
40-44	3,591	3,640	3,693	3,747	3,788	3,820	3,830	3,829	3,820	3,819	3,834	3,868	3,917	3,979	4,040	4,093
45-49	3,351	3,436	3,503	3,555	3,608	3,665	3,724	3,785	3,844	3,891	3,925	3,935	3,933	3,925	3,924	3,938
50-54	2,696	2,847	2,996	3,140	3,266	3,375	3,470	3,543	3,599	3,656	3,714	3,774	3,836	3,893	3,941	3,972
55-59	1,959	2,074	2,211	2,362	2,524	2,681	2,836	2,988	3,134	3,262	3,370	3,464	3,538	3,593	3,651	3,709
60-64	1,570	1,629	1,685	1,745	1,819	1,917	2,034	2,175	2,327	2,488	2,644	2,798	2,946	3,092	3,214	3,323
65-69	1,173	1,248	1,320	1,390	1,457	1,512	1,569	1,622	1,681	1,752	1,848	1,963	2,101	2,244	2,400	2,546
70-74	811	854	910	970	1,032	1,100	1,163	1,223	1,282	1,341	1,392	1,445	1,494	1,552	1,616	1,706
75-79	655	657	658	664	676	695	728	770	820	871	929	983	1,034	1,084	1,135	1,177
80-84	520	513	505	498	483	464	445	438	436	443	455	480	509	543	576	614
85+	477	508	535	557	580	600	614	620	626	629	631	630	631	634	641	649
Total	44,579	45,321	46,107	46,935	47,805	48,714	49,649	50,599	51,563	52,540	53,528	54,520	55,508	56,492	57,470	58,440

Estimation Population over 85 years of age

85-89	298	317	334	348	362	375	384	387	391	393	394	394	394	396	400	405
90-94	122	130	137	142	148	153	157	159	160	161	161	161	161	162	164	166
Over 94	57	61	64	67	69	72	73	74	75	75	75	75	75	76	77	78
85+	477	508	535	557	580	600	614	620	626	629	631	630	631	634	641	649

References

- Bloom, D.E., Canning D. and Sevilla J. (2003), *The Demographic Dividend. A New Perspective on the Economic Consequences of Population Change*. RAND. Population Matters, Santa Monica.
- CARICOM (2009), *National Census Report Antigua and Barbuda*. CARICOM Capacity Development Programme (CCDP). 2000 Round of Population and Housing Census. Data Analysis Sub-Project. The Regional Statistics Sub-Programme. Information and Communication Technologies. Caribbean Community (CARICOM) Secretariat. Turkeyen, P.O. Box 10827, Greater Georgetown, Guyana
- CBS-Aruba (s.d.), *The Foreign-born Population*, Oranjestad.
- CBS-Aruba (2013), *The prevalence of disability in Aruba*, Oranjestad.
- ECLAC (2010), *The Tourism Sector And The Global Economic Crisis. Development Implications For The Caribbean*, Economic Commission for Latin America and the Caribbean. Sub regional Headquarters for the Caribbean. LC/CAR/L255.
- Edilberto Loaiza & Mengjia Liang (2013), *Adolescent Pregnancy: A Review of the Evidence*. UNFPA, New York.
- Eduardo E. Arriaga, Peter D. Johnson and Ellen Jamison (1994), *Population Analysis using Microcomputers*. Volume 1. Presentation of Techniques. US Bureau of the Census
- Elizabeth Thomas-Hope (2005), *Current Trends And Issues In Caribbean Migration*, in: *Regional And International Migration In The Caribbean And Its Impact On Sustainable Development Compendium On Recent Research On Migration In The Caribbean*. Caribbean Expert Group Meeting on Migration, Human Rights and Development in the Caribbean. 14-15 September 2005. Port of Spain, Trinidad and Tobago.
- European Community- Antigua and Barbuda Country Strategy Paper and National Indicative Programme for the period 2008-2013* (10th EDF), s.l.n.d.
- Gammeltoft, Peter (2003), *Remittances and Other Financial Flows to Developing Countries*. In: Nicholas Van Hear and Ninna Nyberg Sørensen: *The Migration-Development Nexus*. United Nations, IOM
- Gibble J. & Bremner J. (2012), *The Challenge Of Attaining The Demographic Dividend*, Population Reference Bureau, Policy Brief, September 2012.
- Joan Moses, Rohan Anthony, Franck M. Jacobs. Antigua and Barbuda (2004), *Antigua and Barbuda Summary: 2001*. Issued July 2004. Volume I. Summary Social, Economic, Demographic, and Housing Characteristics. Statistics Division of the Ministry of Finance and the Economy.
- J.E. Shaw, R.A. Sicree, P.Z. Zimmet (2009), *Global estimates of the prevalence of diabetes for 2010 and 2030*. In: *diabetes research and clinical practice* 87 (2010) 4–14

2011 Population and Housing Census – A Demographic Profile

José Miguel Guzmán, Jorge Rodríguez, Jorge Martínez, Juan Manuel Contreras And Daniela González (2006), *The Demography of Latin America and the Caribbean since 1950*. In: Population, English Edition 5, 2004 and 5-6, 2005.

Liebler, C.A., Rastogi S., Fernandez L.E, Noon J.M. and Ennis S.R. (2014), *America's Churning Races: Race and Ethnic Response Changes between Census 2000 and the 2010 Census*. CARA Working Paper Series. Working paper # 2014-09. Center for Administrative Records Research and Applications. U.S. Census Bureau Washington, D.C. 20233.

Mason, A. (2005) *Demographic Transition And Demographic Dividends In Developed And Developing Countries*, United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures, Mexico City.

O'Neill, B.C.m Balk, D., Brickman, M. & Ezra M. (2001): *A Guide to Global Population Projections*. DEMOGRAPHIC RESEARCH. Vol. 4, Article 8, p. 203 - 388. Max-Planck-Gesellschaft, Rostock.

PAHO (2012), *Antiretroviral Treatment in the Spotlight: A Public Health Analysis*. 2012. At website: http://www.paho.org/HQ/index.php?option=com_docman&task=doc_view&gid=18069&Itemid=

Preston, S. H., Heuveline, P., & Guillot, M. (2001). *Demography: Measuring and Modeling. Population Processes*. Oxford: Blackwell Publishing Ltd.

Ross, J. (2004), *Understanding the Demographic Dividend*. POLICY Project, Futures Group, September 2004, Washington.

Statistics Division Antigua and Barbuda (2014), *Antigua and Barbuda. 2011 Population and Housing Census. Book of Statistical Tables I*. Compiled and published by: Statistics Division First Floor, ACT Building Cnr. Market and Church Streets St. John's City, Antigua. Government of Antigua and Barbuda, April 2014.

TC Martin, J Howe, B Smart, P Hansen, L Lovell-Roberts, V Francis (2010), *Small Babies on a Small Island: Survival of Very Low Birthweight Infants in Antigua and Barbuda 1986 to 2006*. In: West Indian Medical Journal, 2010, 59(1): 29.

The Department of Economic and Social Affairs of the United Nations Secretariat (2004), *The Impact of AIDS*. New York. See publication in the internet at address: <http://www.un.org/esa/population/publications/AIDSimpact/AIDSWebAnnounce.htm>

Ter Bals, Menno (2014), *Demography of Curaçao. Publication Series Census 2011*. Willemstad, Central Bureau of Statistics 2014.

The World Bank (2013), *The Little Data Book on Gender 2013*. Washington.

United Nations (1983), *Manual X. Indirect Estimation for Demographic Estimation*. Department of International Economic and Social Affairs. Population Studies No. 81, New York

2011 Population and Housing Census – A Demographic Profile

United Nations. (2008). *Principles and Recommendations for Population and Housing Censuses, Revision 2*. Department of Economic and Social Affairs. New York: United Nations.

United Nations (2011), *World Marriage Patterns, Population Facts, No. 2011/1*, Department of Economic and Social Affairs. Population Division.

Uttley, K.H. (1960), *Infant and Early Childhood Death Rates over the Last Hundred Years in The Negro Population Of Antigua, British West Indies*, in: *British Journal of Preventive & Social Medicine*, 14.

Washington Group on Disability Statistics. The measurement of disability: Recommendations for the 2010 round of Censuses. Paper published on: http://www.cdc.gov/nchs/washington_group.htm.

WHO (2006), *International Food Safety Authorities Network (INFOSAN). INFOSAN Information Note No. 3/2006 – Food Allergies*

WHO (s.d.), *Diabetes: the cost of diabetes*, Fact Sheet N^o 236. At WHO website: <http://www.who.int/mediacentre/factsheets/fs236/en/>

WHO, PAHO (2012), *Health in the Americas: 2012 Edition. Regional Outlook and Country Profiles*. Washington, DC: PAHO, 2012. Scientific and Technical Publication No. 636.

World Health Organization, World Bank (2011), *Summary. World Report on Disability*. Malta

Statistics Division
First Floor, ACT Building
Cnr. Market and Church Streets
St. John, Antigua

Tel: (268) 462 3233 / 462 4775 /562 7492

Fax: (268) 562 2542

Email: stats@ab.gov.ag

How to access a copy of the Demographic Profile

Copies of this publication are available free of charge from:

Statistics Division
First Floor, ACT Building
Cnr. Market and Church Streets
St. John's, Antigua

Tel: (268) 462 3233 / 462 4775 /562 7492

Fax: (268) 562 2542

Email: stats@ab.gov.ag

Or online www.ab.gov.ag