

Own Children Fertility Estimates
For the Pacific Islands:
Methodology and Comparisons

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ABSTRACT This paper reports fertility estimates derived by applying the own-children method to census data for 18 Pacific Island groups. Since each application of the own-children method provided fertility estimates for a 15-year period before the census (except in one case), the method provides overlapping trend estimates for island groups having at least two censuses. This overlap provides a basis for checking the consistency of the fertility estimates, and provides a broad picture of fertility levels and trends in the region over the past five decades. The own-children fertility estimates are compared with estimates based on vital registration or other sources when these are available. The estimates show general declines, often rapid declines, in all of the Pacific Islands countries and territories. The paper discusses results as they are affected by migration, economic development, and family planning programs in the various islands.

Introduction

This paper reports fertility estimates derived by applying the own-children method to census data for 18 Pacific Island groups. The Pacific Islands is divided into three large, relatively homogenous groups: Polynesia (many islands), Melanesia (dark islands), and Micronesia (small islands). Micronesia is made up of Guam, the Commonwealth of the Northern Mariana Islands (CNMI), Palau, Federated States of Micronesia, the Marshall Islands, Kiribati, and Nauru. The four Federated States of Micronesia are Yap, Chuuk, Pohnpei, and Kosrae. Because of the historical differences, and availability of data, these are treated together as well as separately. Melanesia is

comprised of Papua New Guinea, Fiji, Vanuatu, the Solomon Islands, and Wallis and Futuna. The island groups in Polynesia include American Samoa, the independent country of Samoa, Tonga, the Cook Islands, Tuvalu, Niue, Tokelau and some other, smaller ones. Summary characteristics for the island groups, by Census year treated, appear in Appendix A.

The method computed estimates for 8 successive censuses for one group (Kiribati), 7 censuses for one (Palau), 6 censuses for five (Northern Mariana Islands, Yap, Chuuk, Pohnpei, and Kosrae), 5 censuses for six (Fiji, Federated States of Micronesia, Marshall Islands, Samoa, Tonga, and Tuvalu), 4 censuses for two (Solomon Islands and American Samoa), 3 censuses for two (Papua New Guinea and Guam), and two censuses for two (Vanuatu and the Cook Islands). Since each application of the own-children method provided fertility estimates for a 15-year period before the census (except in one case), the method provides overlapping trend estimates for all of the island groups having at least two censuses (except the Cook Islands). This overlap provided a basis for checking the consistency of the fertility estimates. The own-children fertility estimates are compared with estimates based on vital registration or other sources where available. Due to the unavailability of census microdata for some countries, not all island groups in the Pacific are included in this analysis, but the coverage is complete enough to provide a broad picture of fertility levels and trends in the region over the past five decades.

The Pacific Islands Census data sets are relatively small but are complete samples. Most, but not all, countries make every effort to collect, process, and analyze by general geographical distribution, as well as by urban and rural residence, and by

various social and economic characteristics. Sometimes the data sets are too small for further disaggregation, but, in most cases, fertility estimates by first and second level geography, education, ethnicity, etc., are possible.

General Own Children Methodology

The own children method of fertility estimation is a reverse-survival or back-projection technique for estimating age-specific and total fertility rates for up to 15 years prior to a census or household survey. The method uses a population's current age structure with assumptions about mortality to reconstruct the birth rate for defined periods in the past. The procedure involves matching enumerated children aged 0 to 14 years (by single years of age) to their mothers (also by single years of age) within each household. The method then applies the reverse-survival technique year by year, using pre-determined age-specific mortality rates, to estimate the number of births by mother's age for each of the 15 years preceding the survey or census. A similar procedure obtains the numbers of women by single year of age at corresponding periods (Cho, Rutherford and Choe 1986).

The own children method is, therefore, a quasi-birth-history reconstruction technique, although adjustment for children living away from their mothers is potentially problematic. Theoretically, however, children who move in compensate for those who move out, thereby neutralizing the anticipated bias (Rutherford et al. 2005).

For this reason, the method usually does not compute the estimates further back than 15 years because births would then have to be based on children aged 15 years or older at enumeration, a large proportion of whom may no longer reside in the same households as their mother and hence be difficult to match. Also, going more than 15

years back in time is likely to create scenarios whereby some women are both mother and child, a situation which might further complicate matching.

The method initially makes all calculations by single years of age for each full year before the census. However, the method also allows for three- or five-year period rates that decrease distortions due to age misreporting.

Methods of matching. The own child method uses two matching procedures. The first one is termed Relationship to Head of Household Matching (RHH), whereby the relationship code is used to identify the children of the head on the household schedule. This method of matching is fairly straightforward when the household head is female. However, it can be problematic when the head is male, in which case it is often assumed that the children belong to the spouse of the head. At any rate, simple algorithms can be developed to ensure consistency in age difference between the child and the supposed mother. Most of the data sets studied here use this method of matching mothers and children.

In other cases, matching is facilitated by a special census or survey question on line number of mother in the household listing, a procedure known as Mother's Personal Number Method of Matching (MPN). This method is better, particularly in households with children potentially belonging to different mothers, and results in better matching with fewer non-own children compared to the former method. Nonetheless, in practice, these different matching procedures often result in negligible differences in fertility estimates, unless there is systematic bias in the distribution of non-own children by mother's age. Matching can also be done without either of the above (Levin and Retherford).

Whichever method is used, a mother-child matrix results. This paper uses the own children fertility estimates software (FERTRATE, developed by the East-West Center in Hawaii) to generate the fertility estimates. The procedure involves first matching children aged 0 to 14 to their mothers (aged 15 to 65) where possible – these are the *own-children*. From the matched data file obtained, women are tabulated by single years from 15 to 49 for women at the time of the estimate by their own children – hence, by the child's age and the mother's age.

The un-matched children aged 0 to 14, referred to as the *non-own children*, tabulated by the child's age, are then re-distributed to women aged 15 to 64 by single years according to the proportion of own children at each age. The children are then “reverse-survived” to obtain the number of births by age of mother in single calendar years, for up to 15 years prior to the enumeration date. Reverse survival is similarly applied to estimate the number of women by single years of age for the corresponding periods. Adjustments can be made for total and for selective single year of age under-enumeration if Post-Enumeration Survey (PES) data are available. However, none of the censuses in this study collected PES, so, as in almost all applications of the method, no adjustments were made. For further technical details on the own children technique, see Cho, Rhetherford and Choe (1986), Feeney (1975), and United Nations (1983).

The own children method, compared to other methods like birth histories (which are rarely collected in censuses), has many strengths, including use of children under 15 years whose ages are relatively accurately reported and who are not prone to migration, and the use of the Brass-logit life table or other systems to yield robust estimates of childhood mortality for the estimates. The method is also robust to errors in mortality,

and facilitates the study of differential fertility in addition to giving trends for the 15-year period preceding a census or household survey. Finally, the method is appealing for its ability to use the estimates derived to assist in looking at data collected for non-demographic purposes (Cho, Retherford and Choe 1986), but also to check on the edit for fertility in the census (Levin, MS).

These advantages notwithstanding, the own children estimates can be significantly distorted by age misstatement and adoption of children. The heightened adoption of young children in most developing countries and large amounts of migration, particularly from rural to urban areas, can be particularly problematic. None of these countries have significant HIV/AIDS, so this does not need to be factored into the estimates.

Own Children Methods for the Pacific Islands Censuses

Appendix B shows an example of a mother-child matrix for Fiji in the 2007 Census. The actual own child package gives some summary statistics first, including number of people surveys, number of households, number of potential mothers, matched children, and unmatched children. Then, as the illustration shows, it then provides a line-by-line listing of the available information. In those applications using the children ever born and children surviving, the package displays (and later uses for mortality estimation, if the researcher chooses) single year frequencies (sums of reported children ever born and children surviving) by single year of age of woman 15 to 65 years old. Those only collecting this information from specific age groups may see truncated figures.

Then, on each line, the number of children matched at each of child is shown, as well as a total number of children for all women of that age. This continues, line by line, for all single year ages of women and children. A brief analysis of the figures, in many cases, will show age heaping, particularly of women, so those figures may need to be used with some caution. After the last line of data, the totals for the columns will appear – the sum of the own children in each case. Then, the line for the non-own children, those children whose ages we know, but who could not be matched to their mothers, will appear, and, finally, the total number of children at each age group will appear.

When the method is applied in the final stage, called stage 3 since the first two stages in the old main-frame package are combined in the personal computer package, the first operation is to distribute the non-own children in the same proportions as the own children through the matrix.

As shown in Appendix B, the package tries to match all children by age to their mothers, also by single year of age. When the mothers are present in the house, a match can be directly. When a mother is absent (through death or adoption, fosterage, or relative's care), then the child becomes an own-child based on its single year of age. These are collected at the bottom of the table in a single line. And, as noted above, they are later distributed through the matrix proportionately. Because the non-own child do affect the rates by their distribution, it is useful to know the percentage of own children by age and for all 15 years to help assess the reliability of the own child estimates.

Appendix C shows the percentages of non-own children by age for the censuses in the sample. As would be expected, the older the child, the larger the percentage non-

own. Data sets with large percentages of non-own children need to be used with some caution since the rates will affect the age specific and total fertility rates.

After the non-own children are redistributed, the package then uses algorithms to adjust the numbers of women and children to the midpoints of the ages of the children and the mothers within the matrix (see Cho, Retherford, and Choe, 1986).

The matrix provides information only about living women and living children, of course, so “reverse-survival” is needed in order to put the women and children who have died back into the matrix artificially in order to obtain the numerators and denominators needed to obtain the rates. In order to do this, we need mortality rates by age and sex – the age and sex rates for the women, and the age rates for the children. These mortality estimates can come from a variety of sources (see Cho, Retherford, and Choe 1986, and others). Life tables can be developed from information on the survey itself (e.g., children ever born and surviving, orphanhood) or from vital registration, if it is fairly complete.

Mortality estimates

The mortality rates used for the estimates presented in this paper came from a variety of sources. Sometimes, the countries provided the rates. Sometimes the rates came from the Census Bureau’s International Data Base. And, sometimes the rates were estimated based on knowledge of the current mortality in the islands considered. A table of the mortality rates and their sources will appear in the final paper.

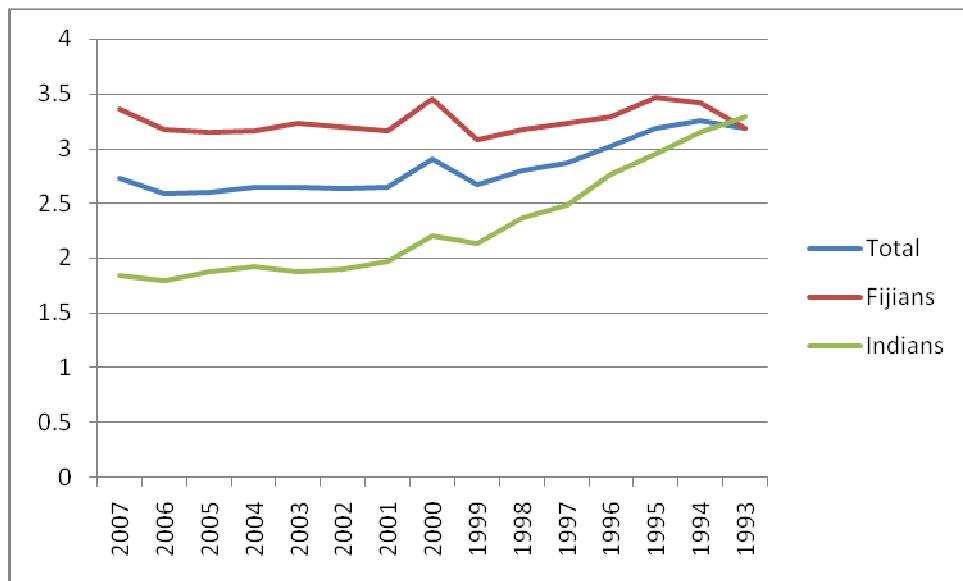
Results and Discussion

As noted in the section describing the method itself, the own child package provides estimates for single years before the census or survey, and grouped years. Many

users break up the 15 years into three 5-year groups for trends analysis. But, because of the tendency to find under-reporting of 0 and 1 year olds, and the fact that by age 12 many children have left their houses, the data are also often grouped by 2 to 6 years before the survey, and 7 to 11 years before. And, in recent years, we also run a series of 3 year groups to smooth the data, but give more points. Hence, we can show ASFR and TFR for 0 to 2 years before the survey, 3 to 5 years, 6 to 8 years, 9 to 11 years, and 12 to 14 years before.

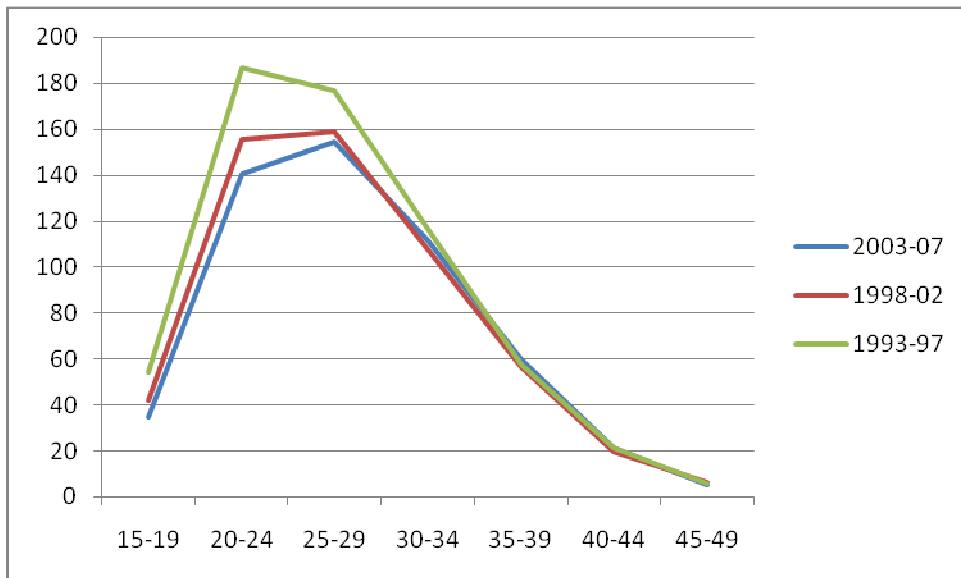
The following figure shows the results of a run for the 2007 Fiji census for the total, and then Fijians and Indians separately; runs were also made for smaller ethnic groups, but they are not shown here. While the total decreased from about 3.2 children to 2.7 or so, Indians saw considerable decline, from about 3.2 to less than 2 children per woman (and, hence, below replacement), while Fijians saw almost no decline during the period.

Figure . Total Fertility Rates, Fijians and Indians: 1993 to 2007



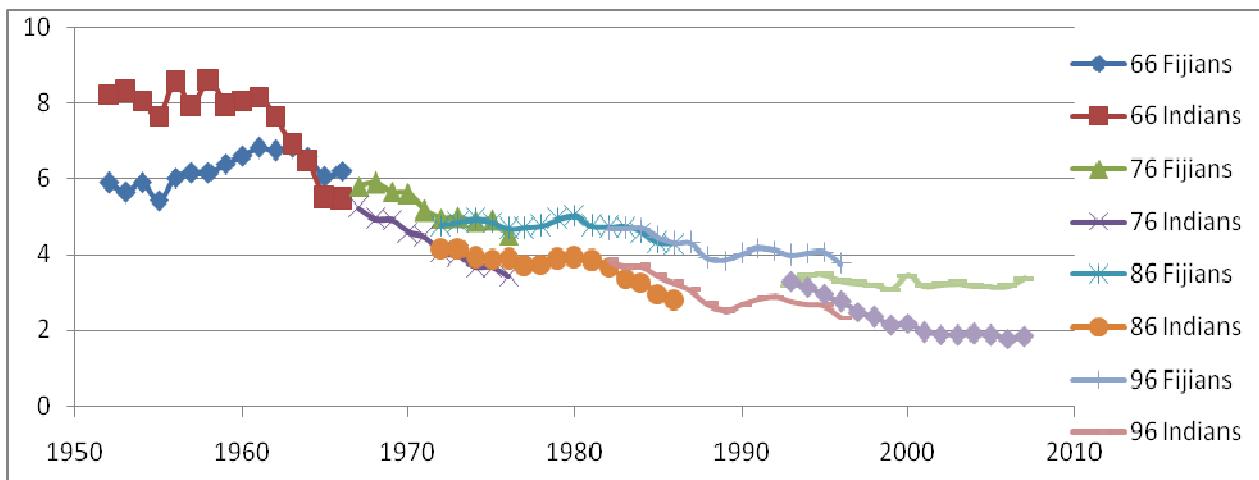
And, the following graph shows the results of runs for the 5-year grouped data for the age-specific rates. Note that while females in the older ages showed little change, and the youngest women (15 to 19) showed small change as well, those 20 to 29 showed noticeable decrease during the period covered.

Figure . 5-Year Age-Specific Fertility Rates, Fiji: 2007



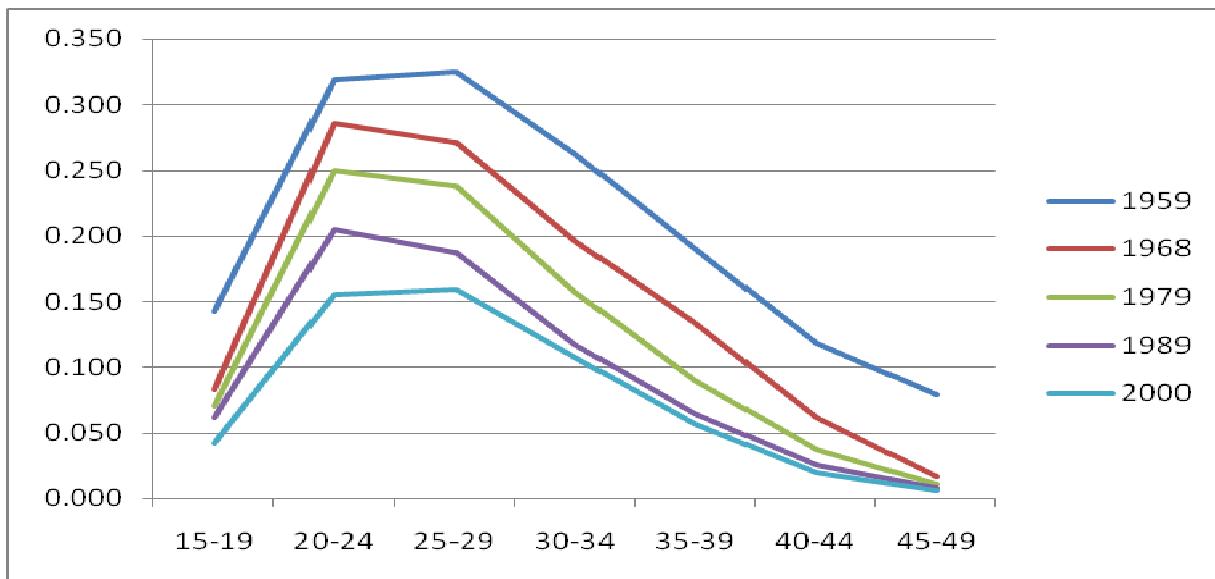
Because this paper intends to show fertility trends over longer periods, graphs are being made for each country to contain data from each of the censuses. As an example, the following graphic shows single year total fertility rates for Fiji for the five censuses included – 1966, 1976, 1986, 1996, and 2007. It is immediately apparent that the year-to-year rates are fairly smooth. While Indians had higher fertility in the early years of the display, starting about 8 children per women in the early 1950s, as noted, their TFR decreased to less than 2 in the 2000s. And, while Fijians showed less total decline, from about 6 to less than 3 per woman, they still showed decline.

Figure . Total Fertility Rates for Fijians and Indians, Fiji: 1951 to 2007



Similar, the graph below shows changing age-specific rates over the whole period by looking at the mid-point of the middle (or second) 5-year period for each of the census years. Hence, the designation “1959” shows the age-specific rates for the middle 5 years, years 1957 to 1961, for the 1966 census. Once again, the method clearly elucidates the changing – downward – trends for each age group over time.

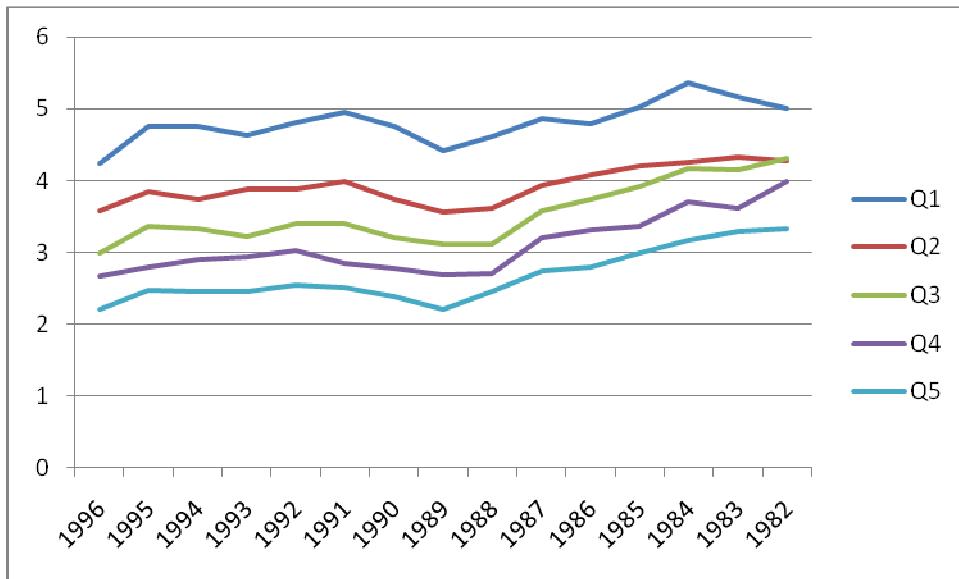
Figure . Age-Specific Fertility Rates, Fiji: 1959 to 2000



And, finally, the method also allows for differential fertility estimates for various characteristics. The graphic above for total fertility rates for Fiji before the 2007 census also showed the changes for Fijians and Indians separately. The full paper will look at various characteristics like urban and rural residence, education, and others, depending on the availability of the characteristics, and the size of the various populations.

As an example, by using the principal components method based on assets, quintiles for Fiji for the 1996 census could be obtained. Then, ASFRs and TFRs were obtained using the own children method for the 15 years before the census. The results, as seen below, show a direct and inverse relationship between “wealth” and fertility. That is, the “poorer” the household, the higher the fertility, for each of the quintiles, and in every year (except in the earliest year before the census for quintiles 2 and 3). Fertility decreased for all quintiles, and by relatively similar amounts.

Figure . TFRS for Quintiles, Fiji: 1982 to 1996



Work to be shown in the Final Paper and Conclusions

Total fertility rates for single years before each census in each of the countries appear in Appendix D, and age-specific rates for single years and grouped rates appear in Appendix E. The final paper will explore the various countries in detail similar to that described for Fiji above.

The own children method provides trend estimates by using data on women and children from a single source – in this case, Pacific Islands censuses – and reverse surviving both numerators and denominators to obtain age-specific and total fertility rates. By looking at a series of censuses, overlap provides both validation of the census instruments as well as the ability to obtain more detailed overlapping fertility estimates.

The final paper also discusses results as they are affected by migration, economic development, and family planning programs in the various islands.

Because Pacific Islands' populations are so much smaller than those of Latin America and Africa – other developing geographic areas – they tend to get less attention. But the need for high quality data for planning for schools and school rooms, hospitals and clinics, and recreation facilities is no less important. When vital registration is less complete than it should be, as is the case in most of the Pacific countries, any additional help in determining what the current and future populations will look like is very important. The own children estimates assist in this planning and policy formation.

Bibliography

Appendix A
Selected Demographic Indicators, Selected Countries and Census Years

Table 1. Selected demographic indicators			Area (km2)	Per Km2	Female Myers	SMAM	Sex Ratio	Age ratio score for males	Age ratio score for females	Age-sex accuracy index
Country	Census date	Population								
Melanesia										
Fiji	9/12/1966	476,727	18,272	26.1	8.23	21.1	103.7	4.4	4.4	16.5
	9/13/1976	588,068	18,272	32.2	7.26	25.6				
	8/31/1986	715,375	18,272	39.2	6.46	27.3	102.7	3.1	3.7	13.4
	8/25/1996	775,077	18,272	42.4	6.13	22.9	103.4	4.5	5.0	15.3
Papua New Guinea	9/22/1980	3,010,727	462,243	6.5	7.26	25.6				
	7/9/1990	3,727,250	462,243	8.1	7.26	25.6				
	7/9/2000	4,796,176	462,243	10.4	7.26	25.6				
Solomon Islands	2/7/1970	160,998	28,530	5.6	6.15	23.3	112.3	9.2	10.3	42.1
	2/7/1976	196,823	28,530	6.9	8.89	21.0	107.3	6.5	8.7	36.6
	11/23/1986	285,176	28,530	10.0	8.53	21.3	108.8	5.6	6.0	33.9
	11/30/1999	409,042	28,530	14.3	8.38	22.7	106.9	5.0	4.6	19.9
Vanuatu	5/16/1989	142,419	12,190	11.7	8.32	22.5	106.1	9.5	4.7	34.5
	11/16/1999	186,678	12,190	15.3	7.26	25.6				
Micronesia										
FSM	x/x/67	50,172	701	71.6	7.26	25.6	106.0	9.8	9.5	35.6
	9/18/1973	62,731	701	89.5	7.15	21.5	93.8	11.4	7.7	50.2
	9/15/1980	73,160	701	104.4	6.45	27.0				
	9/18/1994	105,506	701	150.5	7.85	29.2	104.5	8.6	6.1	36.3
	4/1/2000	107,008	701	152.7	7.68	25.0	102.6	7.1	5.9	26.9
Kosrae										
	1967	3,260	109	29.9			108.1	20.7	15.7	121.7
	1973	3,266	109	30.0	9.68	23.8	104.2	18.3	13.4	104.6
	1980	5,491	109	50.4	8.68	28.1				
	1986	6,607	109	60.6	8.46	24.2	102.1	10.4	9.6	58.7
	1994	7,317	109	67.1	8.00	29.8	108.4	15.3	9.7	82.6
	2000	7,686	109	70.5	6.99	29.5	100.8	13.0	9.0	69.3
Pohnpei										
	1967	15,044	341	44.1			107.1	10.2	11.5	58.8
	1973	18,926	341	55.5	7.74	21.5	106.3	5.4	9.2	35.7
	1980	22,080	341	64.8	6.96	27.2				
	1985	28,671	341	84.1	7.96	22.6	105.7	10.3	7.0	36.8
	1994	33,692	341	98.8	7.88	28.3	105.0	9.1	7.7	41.5
	2000	34,486	341	101.1	6.76	28.5	105.0	6.4	5.4	28.4
Chuuk										
	1967	25,107	127	197.7			103.8	14.2	13.0	49.6
	1973	31,609	127	248.9	6.81	21.3	104.2	15.7	10.4	63.2
	1980	37,488	127	295.2	6.51	26.7				
	1989	47,871	127	376.9	7.34	23.7	102.0	7.1	6.8	31.1
	1994	53,319	127	419.8	8.19	29.4	104.9	8.7	6.7	38.4

	2000	53,595	127	422.0	7.70	30.3	102.7	7.2	7.9	32.0

Table 1. Selected demographic indicators

Country	Census date	Population	Area (km2)	Per Km2	Female Myers	SMAM	Sex Ratio	Age ratio score for males	Age ratio score for females	Age-sex accuracy index
Yap										
	1967	6,761	191	35.4			110.8	13.7	12.9	46.3
	1973	7,870	191	41.2	7.55	21.2	106.3	8.9	10.8	70.1
	1980	8,100	191	42.4	4.45	27.2				
	1987	10,139	191	53.1	7.03	22.7	106.5	11.5	10.5	66.0
	1994	11,178	191	58.5	6.51	30.1	99.1	11.9	9.8	68.0
	2000	11,241	191	58.9	6.31	30.0	96.1	11.3	8.5	51.4
Guam	4/1/1980	105,979	541	195.9	5.77	22.1	109.2	7.7	5.3	37.5
	4/1/1990	133,152	541	246.1	4.86	24.4	109.2	7.7	5.3	37.5
	4/1/2000	154,805	541	286.1	3.58	27.1	104.7	5.2	5.7	23.1
Kiribati	12/6/1968	47,735	810	58.9	6.92	19.9	98.5	9.6	11.1	42.5
	12/8/1973	51,926	810	64.1	7.42	20.5	97.6	10.0	10.5	42.1
	12/12/1978	56,213	810	69.4	7.70	20.8	96.5	9.2	8.1	40.8
	1985	93,883	810	115.9	7.15	21.1	98.3	5.6	5.3	20.9
	11/7/1990	70,421	810	86.9	4.23	21.5	97.8	6.1	10.8	35.5
	11/7/1995	77,636	810	95.8	7.08	21.7	98.2	5.5	5.9	27.6
	11/7/2000		810		7.26	25.6				
Marshall Islands	x/x/67	18,926	181	104.6	7.26	25.6	104.0	16.8	11.2	68.8
	9/18/1973	24,135	181	133.3	8.81	25.6	107.6	5.9	6.7	43.8
	9/15/1980	30,873	181	170.6	7.57	20.9	105.5	8.9	7.7	53.9
	11/13/1988	43,380	181	239.7	8.48	21.0	104.6	6.2	6.4	41.3
	6/1/1999	50,840	181	280.9	8.95	23.0	104.9	8.9	7.3	42.3
Northern Mariana Is	x/x/67	10,986	471	23.3	7.26	25.6	101.1	13.0	9.7	64.8
	9/18/1973	14,333	471	30.4	9.90	22.9	110.6	8.0	8.1	75.3
	4/1/1980	16,780	471	35.6	7.26	23.4	110.7	12.3	6.1	78.4
	4/1/1990	43,345	471	92.0	6.07	28.5	111.0	12.0	15.7	114.3
	9/9/1995	58,846	471	124.9	5.99	27.4	99.0	11.1	13.7	82.3
	4/1/2000	69,221	471	147.0	4.35	27.8	85.9	10.8	13.6	77.5
Palau	x/x/67	10,983	487	22.6	7.26	25.6	106.3	13.5	9.1	60.5
	9/18/1973	12,673	487	26.0	7.26	24.1	109.7	9.0	13.9	63.5
	9/15/1980	12,116	487	24.9	7.79	25.2	107.6	11.4	14.9	74.0
	4/1/1990	15,122	487	31.1	6.59	25.7	116.6	4.7	5.5	31.5
	9/9/1995	17,225	487	35.4	4.55	26.2	115.0	7.5	7.0	43.7
	4/1/2000	19,129	487	39.3	3.19	27.5	120.4	7.6	9.8	50.0
Polynesia										
American Samoa	9/25/1974	29,190	200	146.0	8.03	23.3	101.9	8.8	5.5	60.2
	4/1/1980	32,297	200	161.5	6.42	24.3	103.0	6.1	8.3	43.2
	4/1/1990	46,773	200	233.9	6.07	25.7	105.6	5.5	5.5	36.8
	4/1/2000	57,291	200	286.5	5.12	25.3	104.4	3.5	6.3	33.5

Cook Islands	12/1/1976	18,127	237	76.5					
	12/1/1996	18,034	237	76.1	4.78	28.8	106.3	5.7	4.5
									34.2

Table 1. Selected demographic indicators

Country	Census date	Population	Area (km ²)	Per Km ²	Female Myers	SMAM	Sex Ratio	Age ratio score for males	Age ratio score for females	Age-sex accuracy index
Western Samoa	9/25/1961	114,427	2,935	39.0	7.26	25.6				
	9/21/1966	131,377	2,935	44.8	8.42	20.9	106.7	8.8	8.2	38.0
	11/3/1971	146,627	2,935	50.0	7.77	22.0	107.5	5.1	7.8	35.3
	11/3/1986	157,408	2,935	53.6	7.93	24.8	112.6	5.3	5.3	22.6
	Nov-91	161,298	2,935	55.0	6.85	24.3	110.3	5.4	4.9	25.8
	11/6/2001	176,848	2,935	60.3	7.26	25.6				
Tonga	11/30/1966	77,429	747	103.7	7.50	24.0	105.8	4.7	4.4	18.9
	11/30/1976	9,085	747	12.2	7.24	24.3	104.5	4.7	4.4	24.4
	11/28/1986	93,049	747	124.6	7.26	24.7	101.4	7.1	6.8	25.4
	11/30/1996	97,784	747	130.9	6.73	25.5	103.0	4.3	4.2	20.4
Tuvalu	12/6/1968	5,782	26	222.4	7.79	24.3	84.9	11.3	11.1	61.4
	12/8/1973	5,887	26	226.4	7.45	25.0	86.3	11.7	12.5	73.0
	5/27/1979	7,349	26	282.7	7.96	25.4	87.9	11.1	8.1	54.2
	11/17/1991	9,043	26	347.8	3.33	21.6				
	11/x/02		26		7.26	21.6				

Appendix B
Sample Mother-Child Matrix: 2007 Fiji Census

Table . Mother-child Matrix, Fiji: 2007											
Woman	Total	<1	1	2	3	...	12	13	14	Total	
Age	Women										
15	8,452	23	0	0	0	...	0	0	0	23	
16	8,187	49	17	0	0	...	0	0	0	66	
17	7,787	100	55	22	0	...	0	0	0	177	
18	7,063	197	112	36	31	...	0	0	0	376	
19	7,215	413	212	99	41	...	0	0	0	788	
20	7,654	565	365	221	119	...	0	0	0	1,345	
21	7,881	732	491	368	244	...	0	0	0	2,042	
22	7,747	905	682	540	404	...	0	0	0	2,985	
23	8,069	1,006	824	746	573	...	0	0	0	4,029	
24	7,676	1,034	957	818	719	...	0	0	0	4,982	
25	7,838	1,061	1,044	951	833	...	0	0	0	6,131	
26	7,312	1,057	957	906	911	...	0	0	0	6,949	
27	7,567	989	956	1,001	964	...	57	0	0	8,139	
28	6,855	960	857	931	893	...	83	63	0	8,681	
29	6,526	834	843	844	821	...	148	86	54	9,073	
30	7,194	777	729	790	796	...	339	168	70	9,403	
...	
49	4,354	17	24	11	31	...	222	231	253	1,528	
50	4,466	0	12	25	12	...	175	206	225	1,221	
51	3,940	0	0	14	13	...	122	152	182	892	
52	3,784	0	0	0	11	...	120	141	136	724	
53	3,885	0	0	0	0	...	91	115	133	599	
54	3,719	0	0	0	0	...	57	96	91	432	
55	3,830	0	0	0	0	...	66	76	67	386	
56	2,854	0	0	0	0	...	30	38	58	221	
57	3,005	0	0	0	0	...	30	34	41	164	
58	2,785	0	0	0	0	...	32	31	31	137	
59	2,952	0	0	0	0	...	12	20	17	80	
60	2,845	0	0	0	0	...	11	16	7	49	
61	2,498	0	0	0	0	...	4	10	9	23	
62	2,421	0	0	0	0	...	0	11	8	19	
63	2,142	0	0	0	0	...	0	0	12	12	
64	2,258	0	0	0	0	...	0	0	0	0	
65	2,380	0	0	0	0	...	0	0	0	0	
Own children	15,460	13,914	13,566	13,300	...	13,110	13,006	11,998	193,812		
Non-own Children	2,384	2,541	2,654	2,925	...	3,704	3,994	4,513	48,682		
Percent Non-own	13.4	15.4	16.4	18.0	...	22.0	23.5	27.3	20.1		
Total	274,239	17,844	16,455	16,220	16,225	...	16,814	17,000	16,511	242,494	

Appendix C

Percent Non-Own Children for Years before the Census, Selected Countries and Years

Table . Percent non-own for years before the census, Selected Countries and Years

Group	Census	Years before the census															
Country	date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Average
Melanesia																	
Fiji																	
	9/12/1966	13.5	12.5	12.3	12.2	12.3	12.9	14.3	14.9	16.0	16.9	18.2	18.3	20.3	22.9	25.2	
	9/13/1976	7.5	10.3	11.4	12.8	13.5	14.2	15.3	16.0	16.5	17.0						
	8/31/1986	7.5	9.9	11.7	13.5	14.0	15.3	16.1	17.3	17.5	18.8	19.7	20.1	21.3	21.8	23.1	
	8/25/1996	16.2	19.6	23.5	23.7	24.2	25.4	26.1	27.9	28.0	28.2	29.2	30.6	31.4	32.8	34.3	
Papua New Guinea																	
	9/22/1980																
	7/9/1990																
	7/9/2000																
Solomon Islands																	
	2/7/1970	NA	11.3	12.5	12.1	13.0	13.6	15.8	18.0	20.9	24.1	25.8	29.4	35.0	37.9	43.4	
	2/7/1976	3.6	5.4	6.7	7.8	8.4	10.2	10.7	12.1	13.1	14.7	15.2	19.5	21.1	25.9	28.4	
	11/23/1986	3.2	4.4	6.4	7.7	9.2	9.8	12.1	14.4	15.3	17.1	18.7	21.1	24.6	25.6	29.0	
	11/30/1996	4.3	5.3	6.9	7.6	8.4	9.5	9.6	11.0	12.6	14.3	16.9	18.4	19.0	23.0	26.9	
Vanuatu																	
	5/16/1989	9.1	10.4	13.1	13.7	15.8	17.5	19.0	26.0	38.8	33.6	30.6	33.3	35.8	40.0	41.6	24.04
	11/16/1999	19.7	18.4	18.6	18.1	18.6	18.4	17.8	18.5	18.5	18.8	20.5	20.5	21.0	21.4	21.5	19.3
Micronesia																	
FSM																	
	x/x/67	9.9	14.0	15.7	17.6	18.1	20.0	19.1	20.4	23.8	23.5	24.1	30.3	30.1	32.9	33.6	21.57
	9/18/1973	7.3	9.0	12.9	13.0	14.4	14.1	16.4	16.8	18.2	18.6	19.0	21.4	20.5	25.5	33.0	16.55
	9/15/1980	34.5	32.9	32.5	30.1	29.3	28.5	27.1	26.0	25.1	24.3	24.2	23.0	23.2	23.9	24.9	
	9/18/1994	31.1	29.0	28.4	27.1	25.1	25.7	25.2	23.7	23.6	23.5	24.0	23.4	23.3	23.2	25.8	25.61
	4/1/2000	31.7	31.1	30.9	28.9	28.1	27.0	27.1	25.9	25.3	24.5	24.4	25.0	24.5	24.2	25.9	27.09
Chuuk																	
	x/x/67	12.1	14.3	16.4	17.8	18.3	20.0	19.8	21.3	21.6	23.8	25.1	30.1	30.2	32.4	34.6	21.89
	9/18/1973	6.9	7.7	12.1	12.3	13.3	13.1	15.8	15.2	16.4	17.6	17.5	22.1	20.5	25.4	32.9	15.69
	9/15/1980	32.1	31.3	31.0	29.0	27.4	26.2	25.1	24.5	23.9	22.9	22.4	22.3	21.6	22.6	24.0	
	1989	15.2	17.0	18.7	19.3	20.5	18.9	20.0	23.0	23.1	26.0	26.1	29.5	31.6	33.1	40.2	
	9/18/1994	29.7	27.9	27.6	25.7	24.0	24.1	24.2	22.8	22.3	23.2	22.7	22.7	22.6	21.8	25.2	24.56
	4/1/2000	31.0	30.8	30.3	27.1	26.1	24.8	25.0	24.1	23.1	22.5	22.1	23.8	24.4	22.7	25.6	25.7
Kosrae																	
	x/x/67	6.7	10.6	10.5	8.5	5.7	10.6	6.6	7.0	16.5	10.8	11.4	19.0	15.5	21.9	14.5	11.17
	9/18/1973	6.2	9.9	11.9	12.9	13.6	8.7	12.4	11.3	12.3	18.7	12.4	14.5	11.4	15.6	26.0	12.77
	9/15/1980	38.4	36.1	34.7	31.1	28.6	29.9	26.3	25.0	27.3	26.7	24.8	18.9	20.0	18.5	20.6	
	1986	34.4	35.1	28.8	27.4	28.3	21.5	27.2	19.9	25.0	21.1	24.0	19.0	29.9	26.4	29.9	
	9/18/1994	33.1	32.0	29.5	31.4	25.6	30.5	24.5	23.6	25.3	23.9	21.8	25.6	23.7	24.0	23.1	26.44
	4/1/2000	24.1	25.3	25.7	24.5	25.3	25.0	25.7	22.6	24.2	22.3	21.9	22.0	19.1	21.5	22.7	23.45
Pohnpei																	
	x/x/67	5.7	13.6	13.5	16.2	15.0	18.0	16.6	16.9	21.2	19.5	19.1	27.7	27.3	28.9	31.5	18.79
	9/18/1973	6.9	10.2	12.9	13.6	13.9	14.3	15.0	16.4	18.2	15.9	19.4	18.4	18.2	24.1	28.8	15.78
	9/15/1980	33.3	32.9	31.6	28.2	27.6	28.7	25.0	25.1	23.0	22.1	23.0	20.5	19.7	18.1	20.1	
	1985																
	9/18/1994	32.7	30.5	29.2	28.2	26.8	26.4	25.7	24.7	24.4	22.8	24.9	22.3	22.3	23.0	26.1	26.26
	4/1/2000	34.1	32.5	32.0	32.1	30.7	30.1	29.6	28.7	27.2	27.9	27.4	26.7	24.9	26.0	26.1	29.33

Table . Percent non-own for years before the census, Selected Countries and Years

Group	Census	Years before the census														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	Average
Country	date															
Yap	x/x/67	12.3	16.7	21.2	25.3	32.4	31.1	30.2	33.2	42.7	38.0	38.5	44.8	45.2	48.8	45.6
	9/18/1973	10.8	11.7	17.6	14.5	20.5	22.3	25.2	28.1	28.9	30.0	28.2	30.5	30.9	35.2	47.6
	9/15/1980	29.6	29.2	28.9	29.0	26.2	25.6	28.7	27.1	25.8	26.1	26.1	24.9	25.6	29.6	31.7
	1987	21.8	24.1	23.9	28.0	31.2	29.7	31.9	34.0	37.2	32.5	40.7	33.7	39.2	39.1	52.6
	9/18/1994	31.7	28.6	28.9	29.0	24.9	28.3	28.8	25.0	27.1	26.6	29.4	28.8	28.9	29.5	30.3
	4/1/2000	30.7	31.3	33.0	28.8	30.0	28.4	30.3	26.9	30.7	25.1	26.8	26.8	28.2	28.0	29.4
Guam																
	4/1/1980	19.5	16.6	15.5	13.4	12.0	13.2	11.6	12.4	10.8	10.0	9.4	10.0	10.3	9.9	9.6
	4/1/1990	23.8	22.0	20.1	18.6	18.6	18.1	17.7	16.3	16.6	16.7	15.1	14.8	15.3	15.1	16.1
	4/1/2000	32.1	30.7	28.8	28.0	27.6	27.4	26.6	25.2	24.7	24.7	24.0	23.0	23.7	22.4	23.1
Kiribati																
	12/6/1968	25.7	24.1	19.8	19.3	18.9	17.2	17.8	17.0	18.3	19.0	19.4	21.2	25.3	25.0	29.7
	12/8/1973	15.1	17.5	14.1	16.3	18.6	16.5	19.6	21.1	19.3	22.3	22.6	25.3	24.7	29.1	29.7
	12/12/1978	3.6	11.3	15.7	17.8	21.3	22.0	24.0	21.8	23.8	24.3	26.6	28.2	32.9	34.2	37.0
	1985	4.0	6.6	7.8	9.8	11.0	12.6	14.7	15.8	16.0	17.5	22.1	22.6	24.5	28.3	32.7
	11/7/1990	12.8	12.2	13.9	15.0	14.6	15.4	16.7	16.6	17.8	19.1	21.3	22.3	25.7	30.1	35.4
	11/7/1995	21.5	21.5	21.7	20.9	21.3	24.3	22.5	21.9	23.3	24.0	25.2	25.7	25.9	34.6	41.2
	11/7/2000															
Marshall Islands																
	x/x/67	11.8	21.6	26.6	25.0	25.9	28.4	26.6	30.8	30.9	30.3	33.8	37.6	39.7	40.4	39.0
	9/18/1973	12.2	17.8	16.8	19.2	20.2	18.4	18.8	20.3	20.3	22.1	22.7	25.5	28.0	28.9	36.5
	9/15/1980	34.5	32.9	32.5	30.1	29.3	28.5	27.1	26.0	25.1	24.3	24.2	23.0	23.2	23.9	24.9
	11/13/1988	16.3	16.3	14.8	15.9	16.4	18.5	16.4	18.0	18.5	19.2	21.7	22.1	23.9	25.8	32.9
	6/1/1999	16.4	19.2	17.6	16.2	16.9	17.3	19.4	18.1	16.7	17.1	17.9	15.7	18.1	18.2	19.3
																17.6
Northern Mariana Is																
	x/x/67	8.3	4.7	7.4	8.1	7.6	10.0	11.1	10.0	10.4	14.3	12.9	10.9	13.4	12.8	15.4
	9/18/1973	7.8	8.3	10.9	10.9	13.7	12.5	12.8	12.3	10.2	12.2	12.2	12.5	14.2	16.8	20.1
	4/1/1980	26.5	26.0	24.9	20.2	22.6	18.0	20.7	20.0	18.0	19.4	19.7	18.2	17.5	19.6	18.8
	4/1/1990	25.3	25.5	20.9	21.8	18.8	20.2	18.0	17.3	18.6	16.2	18.4	16.7	16.2	19.0	18.8
	9/9/1995	27.6	25.5	22.8	22.7	22.1	20.7	20.7	18.0	18.4	17.7	18.6	16.1	17.1	18.2	19.8
	4/1/2000	32.9	30.7	31.3	27.9	27.5	26.8	24.9	25.1	22.8	24.9	23.7	22.5	22.5	23.6	22.9
																26.48
Palau																
	x/x/67	11.8	17.5	21.0	22.8	24.7	20.5	24.2	28.2	25.6	26.8	22.7	28.3	29.6	32.1	25.7
	9/18/1973	17.0	19.5	26.5	25.3	27.6	28.9	26.1	26.8	28.9	25.6	27.6	25.2	26.4	30.7	42.7
	9/15/1980	34.5	32.9	32.5	30.1	29.3	28.5	27.1	26.0	25.1	24.3	24.2	23.0	23.2	23.9	24.9
	4/1/1990	25.1	24.1	22.1	23.6	23.1	24.9	26.4	21.7	22.7	23.2	23.4	21.9	22.9	22.4	23.4
	9/9/1995	30.3	29.3	24.6	28.9	27.0	26.4	25.2	26.3	24.6	25.2	26.2	26.6	24.7	27.1	30.5
	4/1/2000	23.5	26.8	28.8	30.0	26.1	26.3	27.1	24.8	27.1	24.2	24.9	26.3	25.6	24.8	27.0
																26.28
Polynesia																
American Samoa																
	9/25/1974	11.9	13.4	15.5	14.7	16.0	17.3	15.0	17.0	16.6	16.9	17.9	19.5	17.4	21.6	21.6
	4/1/1980	36.3	33.2	31.0	30.1	29.6	28.0	25.5	25.1	24.4	22.6	23.3	22.6	22.4	23.5	22.9
	1985	25.9	30.4	27.1	24.1	26.1	20.8	19.5	27.3	24.6	26.6	21.9	25.0	24.9	23.8	25.0
	4/1/1990	14.4	14.7	14.4	13.9	14.6	12.6	13.4	12.0	12.2	13.0	12.6	12.3	15.1	13.4	16.3
	1995	21.0	20.8	19.0	18.8	15.7	16.1	18.6	18.9	18.1	17.6	16.7	18.8	17.8	18.2	19.5
	4/1/2000	26.9	25.4	23.7	22.8	21.4	20.3	21.1	21.9	21.6	23.0	22.1	21.6	22.3	22.4	23.9

Table . Percent non-own for years before the census, Selected Countries and Years

Group	Census	Years before the census														
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Country	date															
Cook Islands																
	12/1/1976															
	12/1/1996															
	2001															
Niue																
	1976	5.9	20.8	19.4	14.4	21.6	19.2	19.8	29.1	29.6	27.5					
	1994															
	1997															
Samoa																
	9/25/1961	24.6	24.2	21.8	20.8	19.8	19.4	21.7	21.5	22.9	21.8	23.9	24.6	28.9	32.1	33.2
	9/21/1966	9.8	11.5	15.0	15.1	16.7	18.2	21.1	22.9	24.9	26.3	26.5	28.6	32.6	35.0	41.3
	11/3/1971	5.0	8.2	10.7	12.2	12.9	14.9	16.4	19.2	20.3	22.5	24.8	27.7	30.1	33.4	38.2
	11/3/1986	31.7	29.1	28.4	28.6	28.2	29.5	29.2	29.9	29.7	29.6	30.1	30.2	31.6	31.6	34.6
	Nov-91	24.9	25.8	26.3	26.6	27.7	28.7	28.7	29.6	29.1	30.8	31.7	31.9	33.0	35.4	38.6
	11/6/2001															
Tonga																
	11/30/1966	4.4	6.6	8.2	10.8	12.5	11.2	8.1	10.0	10.3	11.1	12.3	12.5	14.2	16.2	17.5
	11/30/1976	5.7	6.7	8.5	8.4	8.4	8.8	9.5	8.9	10.5	11.9	11.7	11.7	13.2	14.8	14.4
	11/28/1986	3.2	4.4	6.4	7.7	9.2	9.8	12.1	14.4	15.3	17.1	18.7	21.1	24.6	25.6	29.0
	11/30/1996	9.3	11.0	12.1	13.6	13.7	14.4	15.8	15.8	18.6	19.1	21.0	22.2	23.3	25.1	26.0
Tuvalu																
	12/6/1968	34.8	36.9	34.8	23.8	28.9	24.5	21.1	22.8	24.0	24.1	23.5	18.2	17.3	21.9	29.5
	12/8/1973	25.7	27.9	24.6	24.8	24.8	20.1	20.6	28.5	15.7	22.7	22.8	24.5	26.8	23.0	32.9
	5/27/1979	4.4	20.6	18.7	20.7	25.2	21.2	47.3	25.6	25.8	24.7	21.8	44.3	54.9	48.2	41.7
	11/17/1991	10.9	16.2	15.6	15.0	19.0	21.6	15.1	19.3	20.5	15.3	19.9	18.4	24.8	21.1	32.2
	11/x/02															

Appendix D

Total Fertility Rates for Single Years before the Census, Selected Countries and Years

Table . Total Fertility Rates for single years before the Census, Selected Countries and Selected Years

Table . Total Fertility Rates for single years before the Census, Selected Countries and Selected Years																
Group	Years before the Census															
Country	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Yap	x/x/67	5,899	4,692	6,317	6,502	6,398	5,958	6,012	6,298	5,964	6,449	6,551	5,178	5,709	5,631	4,931
	9/18/1973	6,120	5,131	5,450	6,388	7,275	5,637	6,146	6,306	6,886	6,372	5,635	6,367	5,763	6,238	5,684
	9/15/1980	5,106	5,715	5,147	5,309	5,726	6,445	7,030	6,146	5,388	6,916	6,077	6,776	6,106	7,081	5,984
	1987	4,281	4,293	4,593	5,253	5,216	6,181	5,584	5,439	5,078	6,033	5,453	6,240	5,243	5,499	6,514
	9/18/1994	3,625	3,712	4,522	3,927	3,834	4,420	4,403	4,454	4,693	4,661	4,935	4,853	6,061	5,723	5,609
	4/1/2000	3,265	3,162	3,686	3,823	3,863	3,410	3,884	4,390	3,993	3,822	4,072	4,235	4,681	4,451	4,432
Guam																
	4/1/1980	3,260	3,049	2,998	3,250	3,023	3,340	3,382	3,888	3,813	3,955	4,062	3,984	4,353	4,458	4,733
	4/1/1990	2,596	2,991	2,939	2,905	2,849	2,855	2,763	2,836	2,809	2,858	2,999	2,923	3,081	3,241	3,132
	4/1/2000	2,959	2,824	2,817	2,744	2,861	2,841	2,794	2,887	2,783	2,832	2,820	2,707	2,705	2,724	2,749
Kiribati																
	12/6/1968	6,618	6,675	7,033	7,344	7,090	7,092	7,315	6,927	7,139	6,232	5,984	4,747	6,101	5,759	6,336
	12/8/1973	4,496	4,619	5,335	6,054	6,706	7,379	6,984	6,564	7,348	6,320	6,323	7,104	6,803	7,124	7,026
	12/12/1978	4,462	4,446	4,783	4,390	4,495	4,387	4,787	5,084	5,594	6,512	6,818	6,924	6,752	7,050	6,696
	1985	5,211	4,977	5,290	4,804	4,360	5,307	5,088	4,444	4,643	4,459	4,446	4,630	4,944	5,102	5,490
	11/7/1990	4,482	5,221	4,855	4,769	5,157	4,939	5,160	4,946	4,933	4,283	4,510	5,227	4,565	4,079	4,273
	11/7/1995	4,332	4,230	4,774	4,898	4,720	4,921	5,710	4,588	4,668	4,886	4,937	4,605	5,102	4,901	3,837
	11/7/2000	3,050	4,350	4,554	4,809	4,703	4,588	4,615	4,410	4,718	4,017	4,536	5,206	4,261	4,462	4,196
Marshall Islands																
	x/x/67	7,758	7,233	7,793	8,624	8,158	8,397	9,221	7,981	7,683	6,693	8,262	6,590	7,771	6,922	6,195
	9/18/1973	8,178	8,071	8,597	9,050	8,202	9,018	9,141	8,168	8,803	8,355	7,784	7,858	7,807	8,184	7,368
	9/15/1980	9,398	8,637	8,486	8,386	9,373	8,809	9,668	8,074	8,368	8,012	9,209	7,675	8,774	8,409	8,567
	11/13/1988	6,122	7,565	7,241	7,351	7,473	7,935	7,903	7,544	8,610	8,000	7,717	7,506	7,863	7,911	7,663
	6/1/1999	4,619	4,763	4,367	4,553	4,770	4,725	4,101	4,197	5,398	6,089	5,876	6,622	6,685	7,070	7,056
Northern Mariana Is																
	x/x/67	7,256	6,756	7,352	8,039	8,072	8,677	9,020	8,064	8,493	9,083	9,480	8,573	9,233	8,196	8,281
	9/18/1973	5,754	5,401	6,121	7,072	6,980	8,054	7,333	7,561	7,796	7,377	7,762	8,208	7,900	7,916	7,579
	4/1/1980	4,231	4,326	4,510	4,356	4,679	4,518	5,024	5,065	4,893	5,629	6,275	7,119	6,740	7,713	7,181
CNMI-born	4/1/1990	3,312	3,714	3,739	4,116	3,755	3,960	3,796	4,475	4,492	4,218	4,974	4,368	5,588	5,086	5,585
CNMI-born	9/9/1995	3,446	3,102	3,836	3,708	3,669	4,046	3,977	4,202	4,088	3,858	4,216	3,714	4,071	4,606	4,141
CNMI-born	4/1/2000	3,010	2,722	2,730	2,604	2,845	2,902	3,298	3,700	3,836	3,925	3,667	3,958	3,770	4,104	3,822
Palau																
	x/x/67	7,582	6,645	8,497	8,597	8,982	8,621	9,094	8,549	8,146	7,931	8,123	8,294	7,910	7,876	7,153
	9/18/1973	6,924	6,263	6,065	6,668	7,250	7,743	8,516	8,590	8,815	8,572	8,256	8,299	8,104	8,369	7,699
	9/15/1980	3,929	4,143	4,925	5,258	6,074	6,394	6,961	7,230	6,824	6,672	6,575	7,503	7,857	8,337	8,645
	4/1/1990	1,821	3,046	3,176	3,260	3,893	3,434	3,677	3,303	3,381	3,344	3,714	2,834	4,439	4,112	5,014
	9/9/1995	2,414	2,729	2,601	2,854	2,752	2,616	2,688	2,420	2,758	3,013	3,036	3,175	3,007	2,854	3,055
	4/1/2000	1,165	1,736	1,770	1,956	2,221	2,411	2,507	2,436	2,650	2,308	2,476	2,258	2,396	2,655	2,847
Polynesia																
American Samoa																
	9/25/1974	5,098	5,007	5,731	5,756	6,074	6,657	6,584	6,397	6,837	7,005	6,769	6,566	6,479	6,791	6,611
	4/1/1980	4,794	5,156	5,187	5,432	5,361	5,572	5,197	5,367	5,681	5,637	6,253	6,322	6,637	6,241	6,810
	1985	3,969	3,952	4,108	4,246	4,511	5,048	4,270	5,351	4,659	5,150	4,632	3,766	5,415	5,218	7,053
	4/1/1990	3,184	4,661	4,608	4,436	4,634	4,421	4,119	4,123	3,981	4,278	4,642	4,579	4,850	4,963	5,494
	1995	4,567	4,905	4,486	4,525	4,580	4,250	4,092	3,940	4,271	4,705	4,509	3,786	4,718	4,365	4,156
	4/1/2000	4,265	4,070	3,776	3,718	3,869	4,133	4,282	4,349	4,080	4,121	4,037	3,782	4,045	4,183	4,131

Group	Census	Years before the Census														
Country	Date	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cook Islands																
	12/1/1976															
	12/1/1996															
	2001															
Niue																
	1976	4,495	4,696	5,434	5,910	5,904	7,650	8,028	8,020	6,353	7,644					
	1994															
	1997															
Samoa																
	9/25/1961	8,118	7,737	8,621	8,403	8,590	8,507	8,321	8,409	8,322	8,216	7,814	8,001	8,309	7,929	8,737
	9/21/1966	8,008	7,447	7,971	9,006	8,929	9,380	8,955	8,656	8,718	8,863	8,151	8,127	8,214	7,986	7,876
	11/3/1971	7,582	7,651	7,893	8,443	8,002	8,581	8,472	8,745	8,804	8,737	8,405	8,757	9,032	8,490	8,413
	11/3/1986	4,334	5,562	5,547	5,828	5,749	5,648	6,690	6,341	6,336	6,531	6,916	7,180	7,963	7,758	8,200
	Nov-91	4,918	5,291	5,373	5,176	5,422	5,489	5,808	5,736	6,010	5,778	5,986	6,703	6,831	6,881	7,172
	11/6/2001															
Tonga																
	11/30/1966	6,868	7,224	6,853	7,528	7,328	6,935	7,048	6,138	6,751	6,065	6,596	6,291	6,667	6,452	6,419
	11/30/1976	4,354	4,901	5,319	5,720	5,892	6,103	7,132	7,055	7,781	7,095	8,001	7,210	7,278	6,914	6,935
	11/28/1986	5,822	5,847	6,217	6,441	6,380	6,245	6,657	7,003	7,147	7,206	7,533	7,664	8,280	7,370	7,853
	11/30/1996	4,031	4,871	4,752	5,079	4,891	4,813	5,279	5,029	4,966	5,213	5,746	5,837	5,805	6,030	5,899
Tuvalu																
	12/6/1968	5,405	4,609	5,085	6,901	6,788	7,303	6,773	6,575	6,477	6,301	5,989	4,357	6,819	5,684	5,405
	12/8/1973	2,637	3,772	3,721	4,118	4,659	5,451	5,693	5,171	6,022	5,803	6,261	6,511	6,440	5,951	5,875
	5/27/1979	2,740	2,817	2,639	3,142	2,788	2,846	3,157	3,362	3,179	4,234	4,207	5,335	4,985	5,361	5,376
	11/17/1991	3,812	3,728	3,933	3,230	3,903	3,268	2,816	3,409	3,007	4,136	3,148	2,842	2,888	2,278	2,708
	11/x/02															

Appendix E

Five-Year Age-Specific and Total Fertility Rates, Selected Countries and Years

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Group	Census									
Country	date	Period	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Solomon Islands	2/7/1970	1956-60	92.2	223.6	282.2	266.1	210.7	140.5	58.8	6,370
		1961-65	80.8	235.1	296.6	278.5	228.4	140.0	66.0	6,627
		1966-69	66.1	212.4	261.9	253.7	202.9	130.9	62.8	5,953
	2/7/1976	1962-66	118.7	256.8	286.6	256.6	190.7	123.1	51.8	6,422
		1967-71	119.6	264.1	306.7	296.0	226.7	129.8	64.0	7,035
		1972-76	135.4	291.1	332.5	304.2	240.9	144.1	53.7	7,510
	11/23/1986	1972-76	156.5	311.1	344.4	312.3	229.5	143.2	50.8	7,739
		1977-81	132.2	284.9	316.8	273.4	202.4	112.3	45.0	6,835
		1982-86	116.2	264.3	286.8	250.9	182.2	90.7	34.3	6,127
	11/30/1996	1985-89	110.5	263.9	277.6	235.2	166.0	93.8	31.2	5,891
		1990-94	84.4	212.7	246.5	204.3	141.9	76.5	27.9	4,971
		1995-99	82.9	193.3	224.4	194.6	129.6	65.6	28.5	4,595
Vanuatu	5/16/1989	1975-79	123.5	274.0	313.6	274.5	112.8	0.5	0.1	5,495
		1980-84	104.5	283.3	280.1	250.4	179.3	63.3	0.0	5,805
		1985-89	80.6	246.2	279.1	216.4	155.1	90.6	25.9	5,469
	11/16/1999	1995-99	65.4	215.8	240.5	196.3	128.4	68.1	30.3	4,723
		1990-94	84.1	243.1	273.6	225.5	150.5	81.9	36.1	5,474
		1985-89	97.3	261.7	283.8	236.7	157.9	83.3	36.4	5787
Micronesia										
FSM	x/x/67	1953-57	179.9	311.6	286.0	238.3	159.8	80.0	20.6	6,382
		1958-62	159.5	326.6	335.9	276.6	196.8	86.4	17.3	6,996
		1963-67	111.9	294.6	318.7	291.4	204.3	92.4	22.4	6,678
	9/18/1973	1959-63	157.1	311.1	321.6	267.8	184.3	88.2	32.1	6,812
		1964-68	120.9	293.9	329.0	312.1	240.6	114.6	36.1	7,236
		1969-73	104.5	287.3	340.1	316.0	258.2	125.5	35.3	7,335
	9/15/1980	1975-79	57.4	212.9	310.2	337.3	290.4	174.2	60.2	7,213
		1970-74	77.0	254.9	341.5	338.2	288.7	161.9	58.4	7,604
		1965-69	108.4	289.1	338.3	326.2	257.8	129.4	51.1	7,501
	9/18/1994	1990-94	38.0	160.0	230.6	247.3	205.3	134.4	72.6	5,441
		1985-89	63.2	219.2	278.0	263.6	208.8	120.9	51.8	6,028
		1980-84	95.1	269.4	319.3	287.9	210.0	112.1	39.8	6,668
	4/1/2000	1995-99	30.4	142.6	207.4	221.4	177.6	105.6	41.4	4,632
		1990-94	54.5	179.4	237.0	229.2	177.5	94.1	34.4	5,030
		1985-89	70.5	219.2	285.7	264.5	183.0	97.1	30.7	5,754
Chuuk	x/x/67	1953-57	200.3	319.3	265.9	229.9	141.2	65.5	16.4	6,193
		1958-62	159.2	315.8	331.7	280.3	179.9	76.6	19.8	6,817
		1963-67	116.2	280.3	312.2	279.5	199.8	78.9	21.5	6,443
	9/18/1973	1959-63	160.1	295.3	318.3	259.9	179.7	80.0	31.4	6,624
		1964-68	132.1	288.6	324.1	302.7	235.4	95.5	34.5	7,065
		1969-73	101.9	284.1	340.9	325.2	256.4	125.1	33.3	7,335
	9/15/1980	1975-79	48.5	200.0	315.9	341.2	306.5	193.1	63.4	7,343
		1970-74	69.7	252.0	330.3	344.1	298.1	159.7	67.2	7,605
		1965-69	120.0	289.1	331.4	328.4	250.2	132.5	40.1	7,459
	1989	1975-79	95.6	290.4	351.9	302.1	228.6	112.8	31.6	7,065
		1980-84	89.6	269.6	346.5	328.5	235.6	108.1	33.5	7,058
		1985-89	57.9	228.1	307.1	311.4	237.5	119.1	37.6	6,494
	9/18/1994	1990-94	27.6	147.3	245.1	286.8	252.6	177.2	96.7	6,167
		1985-89	53.1	209.6	300.5	307.6	258.3	147.3	69.6	6,730
		1980-84	89.5	265.2	349.1	327.9	243.3	138.8	52.7	7,332
	4/1/2000	1995-99	25.6	123.8	199.6	235.3	203.7	128.6	56.5	4,866
		1990-94	44.6	158.3	249.7	267.3	218.5	121.1	47.2	5,535
		1985-89	57.7	213.4	301.3	311.7	228.4	120.4	40.4	6,366

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Group	Census									
Country	date	Period	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Kosrae	x/x/67	1953-57	85.6	350.5	396.0	316.0	311.8	166.0	69.9	8,479
		1958-62	76.5	373.4	409.1	376.3	300.6	162.5	19.9	8,592
		1963-67	54.0	288.2	390.1	384.4	327.6	169.5	31.3	8,226
	9/18/1973	1959-63	89.7	306.0	390.2	393.5	284.9	155.8	32.7	8,263
		1964-68	68.6	326.6	351.4	398.9	374.1	204.1	33.2	8,784
		1969-73	47.4	265.5	396.5	342.2	291.3	198.7	47.3	7,945
	9/15/1980	1975-79	20.8	121.8	280.9	492.4	481.1	248.5	85.8	8,656
		1970-74	32.4	200.8	425.7	450.7	331.2	215.5	31.8	8,441
		1965-69	50.5	289.4	427.8	394.9	315.9	174.5	54.4	8,536
	1986	1972-76	63.3	255.8	395.5	346.4	234.1	124.0	19.3	7,192
		1977-81	45.5	252.7	345.9	340.5	296.8	153.1	56.0	7,453
		1982-86	38.3	206.5	299.6	267.7	215.7	145.3	22.4	5,977
	9/18/1994	1990-94	22.6	171.6	200.3	204.4	172.2	84.6	45.2	4,505
		1985-89	53.5	212.1	301.5	256.9	218.7	96.4	37.8	5,884
		1980-84	52.7	267.1	312.8	305.6	225.6	129.0	35.9	6,643
	4/1/2000	1995-99	27.2	166.6	208.8	202.8	152.4	84.4	22.7	4,325
		1990-94	58.0	174.6	230.2	185.0	152.8	61.7	20.2	4,412
		1985-89	68.2	205.2	318.2	255.2	174.6	79.8	16.5	5,588
Pohnpei	x/x/67	1953-57	173.0	309.2	306.4	266.9	187.5	82.2	20.4	6,728
		1958-62	184.6	344.8	339.8	269.8	232.0	107.5	16.2	7,474
		1963-67	121.2	330.5	321.7	307.6	201.7	115.2	26.5	7,122
	9/18/1973	1959-63	174.3	345.8	331.4	271.5	199.9	107.8	28.2	7,294
		1964-68	119.8	317.8	348.5	322.9	237.9	138.7	40.9	7,632
		1969-73	123.1	319.0	355.2	321.1	272.5	122.7	38.0	7,758
	9/15/1980	1975-79	75.5	255.3	327.2	339.0	267.1	161.5	56.0	7,408
		1970-74	98.1	287.2	357.1	337.7	295.2	165.0	45.0	7,927
		1965-69	101.0	312.0	359.1	329.4	260.1	126.5	63.5	7,757
	1985									
	9/18/1994	1990-94	56.1	189.9	223.5	212.8	168.4	99.2	63.3	5,066
		1985-89	84.4	247.5	258.0	218.1	142.4	108.8	41.3	5,503
		1980-84	110.8	291.2	297.4	232.9	170.6	81.0	28.1	6,060
	4/1/2000	1995-99	39.7	173.5	235.2	218.3	162.3	90.9	31.6	4,758
		1990-94	71.2	226.0	235.0	200.5	133.2	74.5	24.0	4,822
		1985-89	94.7	250.1	284.4	214.8	125.0	76.9	26.2	5,360
Yap	x/x/67	1953-57	176.2	272.6	258.2	177.2	128.4	88.6	18.8	5,600
		1958-62	161.2	313.9	311.4	230.6	140.6	60.0	11.7	6,147
		1963-67	103.7	275.2	308.1	253.1	173.7	62.2	15.7	5,958
	9/18/1973	1959-63	144.6	310.8	277.7	218.5	133.7	52.3	48.1	5,928
		1964-68	97.5	233.1	304.1	285.5	200.4	98.2	33.1	6,260
		1969-73	100.5	232.4	265.5	264.1	218.7	98.5	33.0	6,063
	9/15/1980	1975-79	71.2	212.0	254.9	218.3	192.2	89.4	43.8	5,409
		1970-74	83.0	217.6	299.2	261.9	211.5	132.8	72.5	6,392
		1965-69	117.1	213.2	274.6	271.2	245.1	97.8	66.3	6,426
	1987	1973-77	110.9	230.5	276.2	244.2	159.0	82.2	59.0	5,810
		1978-82	97.0	232.7	275.7	225.3	188.9	74.7	44.0	5,691
		1983-87	84.1	196.2	239.6	203.5	139.2	53.1	25.5	4,707
	9/18/1994	1990-94	39.7	133.6	208.8	204.7	128.4	55.8	12.0	3,915
		1985-89	53.5	188.7	234.7	210.7	147.1	55.1	16.0	4,529
		1980-84	102.3	233.7	263.4	237.6	158.8	71.9	17.3	5,425
	4/1/2000	1995-99	30.8	128.5	164.4	186.1	127.0	60.7	12.7	3,551
		1990-94	55.9	158.0	200.0	174.9	133.5	43.6	13.8	3,898
		1985-89	64.5	174.8	211.8	210.3	139.6	59.5	15.1	4,378

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Group	Census									
Country	date	Period	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Northern Mariana Is	x/x/67	1953-57	121.1	360.3	452.5	394.1	284.7	123.4	15.8	8,759
		1958-62	128.4	383.6	420.4	381.0	278.8	113.2	26.3	8,658
		1963-67	78.1	307.4	389.4	355.3	239.6	101.9	22.4	7,471
	9/18/1973	1959-63	108.5	352.1	411.9	315.0	249.5	120.8	16.6	7,872
		1964-68	100.3	328.1	377.1	351.3	241.4	105.0	25.6	7,644
		1969-73	104.6	293.3	292.1	251.7	205.3	81.4	17.5	6,230
	4/1/1980	1975-79	78.5	223.5	221.8	185.7	105.6	50.3	17.9	4,416
		1970-74	80.3	240.7	244.2	195.2	145.0	81.4	14.9	5,009
		1965-69	89.7	292.0	339.7	268.9	264.9	106.9	35.5	6,988
	4/1/1990	1985-89	21.2	57.6	100.6	101.1	59.6	21.1	7.0	1,841
		1980-84	17.1	68.9	104.7	105.4	61.5	22.1	6.3	1,930
		1975-79	29.0	94.0	131.4	110.6	68.9	46.6	12.8	2,467
	citizens	1985-89	55.9	194.4	201.4	167.7	94.5	24.2	4.5	3,713
		1980-84	68.6	212.4	217.4	182.0	109.1	33.6	9.8	4,165
		1975-79	108.6	250.6	246.8	208.3	117.4	71.5	15.5	5,093
	non-citz	1985-89	8.1	28.6	75.3	78.3	43.9	19.8	8.3	1,312
		1980-84	6.3	32.9	66.3	70.8	40.9	16.1	3.4	1,183
		1975-79	9.1	40.6	79.5	68.3	43.5	26.2	9.4	1,383
	9/9/1995	1990-94	27.1	56.9	87.6	92.9	59.2	25.1	7.7	1,783
		1985-89	17.1	55.3	93.1	88.4	55.7	20.7	11.5	1,709
		1980-84	17.6	68.6	102.1	89.8	61.9	22.8	12.2	1,875
	citizens	1990-94	66.8	201.1	198.6	125.9	77.8	27.6	12.1	3,549
		1985-89	92.7	223.4	202.9	154.5	88.5	23.2	21.4	4,033
		1980-84	82.8	213.5	220.0	153.6	105.8	35.1	13.4	4,121
	non-citz	1990-94	9.7	31.8	69.6	85.6	53.3	24.0	5.6	1,398
		1985-89	4.0	28.0	68.8	67.5	40.9	19.5	6.4	1,175
		1980-84	7.1	36.6	64.7	60.9	40.5	16.4	11.0	1,186
	4/1/2000	1995-99	13.5	34.9	54.6	80.7	56.0	23.3	6.8	1,349
		1990-94	13.2	39.9	85.1	90.9	56.9	25.0	10.9	1,610
		1985-89	13.5	58.8	102.3	95.0	51.7	24.1	6.1	1,757
	citizens	1995-99	45.1	141.3	153.0	123.7	55.8	26.3	11.4	2,784
		1990-94	79.0	191.4	182.7	122.6	75.0	32.7	20.1	3,518
		1985-89	84.3	222.0	193.3	149.1	82.3	28.0	11.2	3,851
	non-citz	1995-99	4.4	19.9	42.3	71.7	56.4	24.5	6.7	1,129
		1990-94	4.0	21.0	66.7	82.5	51.2	23.5	8.2	1,286
		1985-89	4.6	29.7	76.5	75.1	39.3	25.1	11.7	1,310
Palau	x/x/67	1953-57	103.2	303.5	366.6	359.2	268.3	146.2	28.5	7,877
		1958-62	92.9	292.2	406.4	384.3	322.5	159.0	36.3	8,468
		1963-67	80.5	310.0	348.5	370.8	300.3	165.1	37.2	8,061
	9/18/1973	1959-63	90.9	273.1	373.7	364.5	318.7	136.3	75.8	8,165
		1964-68	77.0	280.8	351.9	361.7	324.9	203.3	85.5	8,426
		1969-73	80.8	253.0	296.1	272.3	222.5	147.2	55.2	6,636
	9/15/1980	1975-79	21.2	142.1	245.1	180.4	129.0	121.3	129.1	4,841
		1970-74	60.5	209.1	297.2	266.9	218.0	187.9	120.1	6,799
		1965-69	58.0	251.2	336.5	306.5	316.9	187.4	96.3	7,764
	4/1/1990	1985-89	43.6	111.3	144.2	133.4	92.3	53.7	24.9	3,017
		1980-84	52.0	141.0	157.1	144.6	99.3	62.5	30.7	3,436
		1975-79	58.5	163.3	204.6	164.4	108.3	77.8	24.2	4,006
	9/9/1995	1990-94	26.8	83.9	129.1	133.9	89.5	46.7	23.4	2,667
		1985-89	37.4	90.3	118.1	117.7	88.5	53.5	35.1	2,703
		1980-84	39.0	118.4	132.0	126.3	91.3	52.5	45.7	3,026
	4/1/2000	1995-99	13.4	53.2	86.1	87.2	68.5	31.7	12.9	1,766
		1990-94	30.3	73.3	115.4	125.9	82.7	49.6	15.6	2,465
		1985-89	30.5	92.7	121.7	117.5	81.3	45.5	15.5	2,524

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Table . 5-year age specific and total fertility rates, Selected Countries and Selected Years

Group Country	Census date	Period	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Tonga	11/30/1966	1962-66	36.8	222.1	325.3	313.8	262.9	177.6	93.4	7,160
		1957-61	56.8	229.7	304.7	293.7	229.8	136.2	70.8	6,608
		1952-56	78.3	226.2	285.8	281.8	219.3	125.6	80.5	6,488
	11/30/1976	1962-66	64.2	262.0	370.1	329.8	254.5	139.4	35.6	7,277
		1967-71	59.8	266.6	356.6	317.0	239.1	127.2	38.1	7,021
		1972-76	43.8	195.4	265.6	242.9	180.6	86.2	28.8	5,216
	11/28/1986	1972-76	156.5	311.1	344.4	312.3	229.5	143.2	50.8	7,739
		1977-81	132.2	284.9	316.8	273.4	202.4	112.3	45.0	6,835
		1982-86	116.2	264.3	286.8	250.9	182.2	90.7	34.3	6,127
	11/30/1996	1982-86	54.7	219.6	307.2	281.5	197.1	89.1	22.8	5,860
		1987-91	40.7	168.0	266.7	250.1	184.7	80.6	20.0	5,054
		1992-96	32.2	151.1	239.1	233.7	172.8	88.8	24.6	4,711
Tuvalu	12/6/1968	1954-58	83.7	219.6	240.0	251.1	166.4	94.3	75.2	5,652
		1959-63	81.2	229.0	268.5	284.5	256.1	133.4	85.4	6,691
		1964-68	45.9	199.2	238.0	251.9	220.1	119.1	71.2	5,727
	12/8/1973	1959-63	72.9	188.2	249.4	290.7	256.1	108.6	76.3	6,211
		1964-68	63.4	180.2	236.4	256.2	210.5	115.0	62.1	5,620
		1969-73	31.7	135.3	153.3	151.9	109.4	83.9	89.1	3,773
	5/27/1979	1975-79	27.2	139.1	160.3	144.5	69.8	20.9	2.2	2,820
		1970-74	46.4	190.0	175.5	128.4	77.4	40.8	4.6	3,315
		1965-69	42.2	213.0	258.3	225.2	172.6	77.7	8.5	4,988
	11/17/1991	1977-81	38.1	119.2	146.9	121.6	70.6	34.7	25.0	2,781
		1982-86	48.7	125.9	164.1	145.8	100.7	62.5	17.3	3,325
		1987-91	60.1	150.3	173.5	151.7	123.1	57.2	29.4	3,726
	11/x/02									