

DIFFERENTIAL FERTILITY IN THE PHILIPPINES

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ABSTRACT. This study of fertility differentials in the Philippines consists of two parts: the first establishes regional differences in fertility for 1960 and 1968, and the second explains the variation in fertility which exists among the various provinces. The latter is accomplished by examining socioeconomic characteristics and geographic factors of the provinces and their populations.

The number of children ever born is examined in relation to (1) woman's education, (2) wife's religion, (3) wife's residence (rural or urban), (4) type of community of current residence, (5) wife's occupation, (6) husband's annual income, and (7) type of household (nuclear or non-nuclear). This analysis is limited to two age groups, namely, women aged 35-44 and 45-54 years.

The five socioeconomic categories in which the provinces of the Philippines are placed were arrived at by devising an index of economic and social development giving equal weight to three indicators: per cent of the population that is urban, per cent of occupied dwelling units with radios, and per cent of male employed persons 10 years old and over working in non-agricultural occupations.

The study of differentials in fertility has become increasingly important in recent years. This is so because these differentials provide valuable information regarding the relative contribution of different groups in any given population to the overall level of fertility, and hence give an indication of probable future changes.

The present study deals with fertility differentials in the Philippines. It consists of two parts. The first seeks to establish regional and other differences in fertility for two time periods, namely, 1960 and 1968. For the 1960 period, characteristics of individual women such as age at marriage, education, and religion are considered, while for 1968, additional variables such as occupation of wife, income, and type of residence are included. The second part seeks to explain interprovincial variations in fertility through an examination of the socioeconomic and geographic characteristics of the provinces

and their populations. Differences between individuals within regions are likewise analyzed. Multiple regression analysis is used to explain the fertility differentials between individuals and among the provinces.

The major sources of data utilized in this study are the 1960 Census of Population of the Philippines and the National Demographic Survey (NDS) of 1968. Fertility questions for the 1960 Census were asked of a 10-per-cent sample of the population. The NDS data were collected for every ever-married woman in some 7,000 sample households throughout the country.

Fertility is here defined as the number of children ever born alive per 1,000 ever-married women. This measure constitutes the dependent variable, and is computed separately for women in the late phase of childbearing (ages 35-44) and in the post-childbearing period (ages 45-54).

It is with these two age groups that this paper is concerned.

Number of children ever born tends to be underreported. If the number of children ever born is used only to measure differentials in fertility, it is not always necessary to correct the data for underreporting; it may often be presumed that underreporting is equally serious among all subgroups. For Philippine data, however, this presumption cannot arbitrarily be made. Keeping this shortcoming in mind will minimize serious errors in interpretation. One should also bear in mind that we cannot infer change over time of current fertility from children-ever-born data. For while these data are very useful indices of size of family, they are a measure of cumulative fertility.

To assess the influence of level of development on fertility, the Philippine provinces were grouped into categories (henceforth referred to as "divisions"). The five divisions used in this paper were arrived at by devising an index of economic and social development which gives equal weights to three indicators: per cent of population urban, per cent of occupied dwelling units with radios, and per cent of males 10 years and older employed in non-agricultural occupations. For a listing of the provinces and their scores as well as the range of scores included in each division, the reader is referred to the Appendix, below.

Fertility Differentials

Fertility is determined by an elaborate set of diverse factors. In general, important biological, geographic, socioeconomic, and psycho-religious elements contribute to the determination of fertility. However, these fertility determinants do not act in isolation. Each factor is connected with a whole spectrum of other factors of various kinds. For the purpose of this study it was considered important that they be examined individually or in combination before they could all be put together to form a meaningful and conclusive picture. More specifically, this paper will proceed to examine important variables such as residence, age at marriage, education, religion, occupation, labor force status, income, and type of household to see their effects on fertility in the Philippines. All these variables are characteristics of the individual women, except for income and type of household.

Differentials by level of regional development. For 1960, cumulative fertility ratios for the age group 35-44 increased from Division I (most developed) to Division III (Division V being the most underdeveloped in terms of the index used) and decreased thereafter. Between Divisions I and III a difference of 24 per cent in average number of children ever born is evident. Among the 45-54 group, an identical pattern exists, as presented in Table 1.

Table 1

Children ever born per 1,000 ever-married women for selected ages in years by division (Philippines, 1960 and 1968)

Division	1960		1968	
	35-44	45-54	35-44	45-54
PHILIPPINES	5,700	5,793	5,976	6,090
Division I	4,781	4,819	5,203	5,926
Division II	5,809	6,006	6,431	6,259
Division III	5,946	6,129	6,289	6,653
Division IV	5,889	5,858	6,619	6,201
Division V	5,653	5,751	5,476	5,622

Sources: 1960 Census and the National Demographic Survey (1968)

Analysis of the 1968 data shows that for both age groups the most developed (Division I) and the least developed (Division V) divisions report the lowest fertility. The highest fertility level is manifested by the 35–44 group in Division IV, while peak fertility for the older age group is reported by Division III. Additional information as to variations in the accuracy of reporting would be required to give a more definitive interpretation of these findings, but results such as these suggest qualification of the commonly accepted theory concerning an inverse relation between fertility and economic development.

Rural-urban differentials. Tabulations by rural-urban residence were available only from the 1968 data. The difference between rural and urban fertility for the 35–44-years-old group is substantial, and is shown in Table 2. Data for the older cohort display an unexpected pattern, with urban fertility slightly exceeding that of rural dwellers.

The fact that the cumulative fertility ratio for urban women increases with age, while that for rural residents decreases, raises some doubt as to the accuracy of birth reporting among rural women. It is possible, theoretically speaking, that rural fertility is higher for younger birth cohorts than for older ones, but other evidence seems to imply that underreporting must have occurred most frequently among older rural women. For example, underreporting may also

have occurred among urban women 45–54 years old because of the often-observed memory lapse of older people, but since illiteracy, a factor believed to be related to accuracy of reporting, is more widespread in rural than in urban areas, the suspicion persists that underreporting affected rural data more. If we assume that underreporting occurred also among rural women aged 35–44, the estimated fertility differentials can be termed minimum estimates.

As will be shown later, rural women tend to marry at an earlier age than the urban ones. Differences in age at marriage could explain part of the residence differentials observed. Concentrating on the 35–44 age group and controlling for age of marriage, it is readily apparent from the data presented in Table 2 that residence differentials observed among all women persist within each age-at-marriage group. However, differences are not uniform; they become narrower as age at marriage increases and eventually are reversed for women who married at age 25 or later.

Fertility differentials for wives aged 45–54 do not follow the pattern of the younger cohorts. In fact, no clear pattern at all is discernible. One possible explanation could be that illiteracy is higher among rural than among urban women and more frequently among older than younger ones and that, as a consequence, birth reporting is least accurate among the older rural folk.

Table 2

Children ever born per 1,000 ever-married women for selected ages, by age at marriage and by residence (Philippines, 1968)

Age group and residence	Age at marriage (years)						
	All ages	10–17	18–19	20–21	22–24	25–29	30 and over
Women aged 35–44							
Urban	5,601	6,817	6,276	5,971	4,981	4,301	2,388
Rural	6,162	7,591	6,640	6,370	5,281	4,147	2,517
Women aged 45–54							
Urban	6,203	7,920	6,729	6,939	5,786	4,884	2,922
Rural	6,034	7,445	6,796	5,788	6,013	4,634	3,583

Source: National Demographic Survey (1968)

Among the women aged 35–44, urbanites have lower cumulative fertility ratios than their rural counterparts in all divisions (Table 3). Metropolitan Manila (Division I) has the lowest average. On the whole, fertility increases as level of development decreases. But for some incomprehensible reason the data show that for urban women fertility is lowest in Division V. This may be the result of a high rate of miscarriages and/or underreporting of actual number of children born, a suggestion which seems plausible since this division is the most underdeveloped of all and displays the highest rate of illiteracy. Further support for this suggestion comes from the fact that, for rural women as well, fertility is lowest in Division V.

For the age group 45–54, average numbers of children born are likewise lower for urban than rural dwellers, except in Divisions IV and V. That illiteracy resulting in underreporting is the main cause also of this fact is indicated by an examination of the distribution of women by education (Table 4). This distribution shows that, compared with urban dwellers in the same divisions, rural dwellers in Divisions IV and V have about twice as many women who either had no schooling at all or four years of elementary education at best (81.7 versus 41.4 per cent in Division IV and 77.4 versus 46.7 per cent in Division V).

For the age group 35–44, examination by age at marriage for each place of residence within divisions reveals the same pattern as that shown for all women, with some exceptions. In Divisions IV and V three age-at-marriage groups in each division show lower ratios in the rural than in the corresponding urban categories. For the 45–54 year olds, the patterns display the same inconsistencies observed earlier. Besides underreporting, sampling fluctuations, especially for the first three divisions, may account for these inconsistencies.

Differentials by type of community of current residence. Urban communities were grouped into four categories based on population size and predominant occupation of residents: Urban non-farm A (urban non-farm

household community with 100,000 people or more); Urban non-farm B (urban non-farm household community with 50,000–99,999 people); Urban non-farm C (urban non-farm community with under 50,000 people); and Urban farm D (urban farm household community with under 50,000 population). For rural dwellers, the small sample size permitted the distinction of only two community types: Rural non-farm E (rural non-farm household community with under 50,000 population) and Rural farm F (rural farm household community with under 50,000 population).

Despite the expectation that farm couples would have somewhat larger families than non-farm couples, the data show no clear difference between groups B and D or C and D among urban women aged 45–54 (Table 5). By contrast, differences are substantial among the rural dwellers. Looking at the two categories, Rural farm F and Urban non-farm A, the difference in favor of rural farm households is surprisingly small. However, overall similarities mask some important differentials by place of residence which become evident if age at marriage is taken into account. For ages at marriages lower than 21, the average number of children ever born to women is unexpectedly low for wives of rural farm households; further, fertility differences between urban non-farm and rural farm residents are small. The picture changes considerably when we compare women who married at ages 20 and 21: urban-rural differences which appear are relatively large, with the urban non-farm women of completed fertility having almost 1,700 more births per 1,000 than the rural farm women.

Looking at the younger cohorts (35–44), the unexpected relationship between type of residence and fertility observed for older women persists: in rural areas, non-farm couples have somewhat higher average fertility rates than couples living on farms. The expected pattern of farm fertility being higher than non-farm fertility is found only when urban farm and non-farm women are compared. However, holding age at marriage constant reveals that even in

Table 3

Children ever born per 1,000 ever-married women for selected ages, by age at marriage and by residence for each division (Philippines, 1968)

Division, age group, and residence	Age at marriage (years)					
	All ages	10-17	18-19	20-21	22-24	25 and over
Division I						
Women aged 35-44						
Urban	5,203	6,807	6,203	5,318	4,500	3,604
Rural	-	-	-	-	-	-
Women aged 45-54						
Urban	5,926	7,574	6,136	7,250	5,564	4,064
Rural	-	-	-	-	-	-
Division II						
Women aged 35-44						
Urban	5,744	6,875	6,073	5,828	5,200	3,500
Rural	6,986	7,857	7,529	7,250	6,333	5,000
Women aged 45-54						
Urban	6,032	7,583	7,476	5,333	6,533	3,564
Rural	6,442	7,667	6,000	6,667	6,500	5,182
Division III						
Women aged 35-44						
Urban	5,941	7,400	6,212	6,349	4,778	4,139
Rural	6,431	7,196	7,410	6,769	5,656	4,042
Women aged 45-54						
Urban	6,486	8,158	7,143	7,028	6,167	4,286
Rural	6,748	9,045	7,370	5,312	6,600	4,706
Division IV						
Women aged 35-44						
Urban	6,196	6,911	6,909	6,892	5,944	4,062
Rural	6,751	7,970	7,375	6,618	5,194	3,500
Women aged 45-54						
Urban	6,828	8,903	7,333	7,762	5,438	3,750
Rural	6,059	7,500	6,625	6,037	5,800	3,667
Division V						
Women aged 35-44						
Urban	5,370	5,930	6,139	5,874	5,227	3,627
Rural	5,494	7,419	5,456	5,929	4,912	3,357
Women aged 45-54						
Urban	5,958	7,261	6,148	6,688	5,095	5,091
Rural	5,558	6,679	6,677	5,536	5,435	4,317

Source: National Demographic Survey (1968)

Table 4
Percentage distribution of women aged 45–54 years for division IV and V,
by residence and by education (Philippines, 1968)

Educational attainment	Division IV		Division V	
	Urban	Rural	Urban	Rural
All levels	100.0	100.0	100.0	100.0
No schooling	14.7	34.1	20.0	38.5
Grades 1–4	26.7	47.7	26.7	38.9
Grades 5–7	29.2	13.5	29.1	19.2
High school 1–4	20.7	2.9	16.7	2.9
College 1–4 and over	7.8	1.8	7.5	—
No information	0.9	—	—	0.5

Source: National Demographic Survey (1968)

Table 5
Children ever born per 1,000 ever-married women for selected ages by age at marriage
and by type of community of current residence (Philippines, 1968)

Age group and type of community of current residence	Age at marriage (years)						
	All ages	10–17	18–19	20–21	22–24	25–29	30 and over
Women aged 35–44							
Urban non-farm A ¹	5,399	6,790	6,325	5,433	4,895	4,500	2,000
Urban non-farm B	5,622	6,860	6,128	5,692	5,273	4,130	2,000
Urban non-farm C	5,674	6,822	6,324	6,319	4,688	4,125	2,864
Urban farm D	5,978	6,725	6,474	6,444	5,615	4,529	3,200
Rural non-farm E	6,329	8,000	6,429	7,333	4,762	4,000	2,750
Rural farm F	6,103	7,414	6,711	6,075	5,523	4,195	2,421
Women aged 45–54							
Urban non-farm A	6,114	7,605	6,909	7,711	5,462	4,500	3,050
Urban non-farm B	6,105	7,806	6,952	6,370	5,881	4,889	2,538
Urban non-farm C	6,194	8,236	6,554	6,660	6,020	5,098	2,720
Urban farm D	6,276	7,593	5,813	7,250	5,000	5,235	4,400
Rural non-farm E	5,654	6,725	6,222	5,429	6,000	4,529	2,700
Rural farm F	6,140	7,595	6,806	6,039	6,182	4,544	3,967

¹Urban non-farm A = Urban non-farm household community with 100,000 or more pop.; Urban non-farm B = Urban non-farm household community with 50,000 to 99,999 pop.; Urban non-farm C = Urban non-farm household community with under 50,000 pop.; Urban farm D = Urban farm household community with under 50,000 pop.; Rural non-farm E = Rural non-farm household community with under 50,000 pop.; and Rural farm F = Rural farm household community with under 50,000 pop.

Source: National Demographic Survey (1968)

these cases differences do not consistently point in the expected direction.

Age-at-marriage differentials. Age at marriage is one of the most important determinants of fertility levels. An examination of Philippine marriage data for 1960 and 1968 reveals a clear trend toward younger ages at marriage. The proportion of wives aged 45–54 who were married before reaching age 20 increased from 39 per cent in 1960 to 43 per cent in 1968. The trend toward younger ages at marriage is likewise evident within each of the characteristics considered, i.e., it occurs independently of level of development, education, religion, wife's occupation, husband's income, or household type. There are only a few exceptions: women of Division I with 5–7 years of elementary schooling or with college education show a slight increase in marriage age (Tables 6 and 7).

Analysis of the median ages at marriage for women aged 45–54 by educational attainment reveals a direct relationship between education and age at marriage. The trend toward younger ages at marriage is evident for women at all levels of education except for the college group.

It is generally observed that rural women tend to marry at an earlier age compared to urban women. Philippine data indicate that 45 per cent of the rural married women got married before age 20 while only 39 per cent of the urban women did so.

The highest income group shows the highest median age at marriage (23.4 years), and the middle income group has the lowest (20.2 years). The three other income groups do not differ significantly from one another.

Tabulations of fertility by age at marriage

Table 6
*Age at marriage and median ages at marriage of women aged 45–54
by selected characteristics (Philippines, 1960)*

Characteristic	Median age at marriage (years)	Distribution of women		Age at marriage (years)				
		Per cent	Number	All ages	Under 20	20–24	25–29	30 and over
Total	21.5	100.0	775,440	100.0	39.0	37.8	15.2	8.0
Regions								
Division I	21.2	9.6	74,320	100.0	30.8	40.3	19.5	9.4
Division II	22.0	8.9	68,910	100.0	34.9	38.7	17.2	9.2
Division III	21.1	21.4	166,770	100.0	42.1	36.8	14.2	6.9
Division IV	21.3	25.4	196,610	100.0	40.3	37.4	14.2	8.1
Division V	21.4	34.7	268,830	100.0	39.2	37.9	14.9	8.0
Education								
No schooling	21.3	43.3	335,540	100.0	40.6	37.2	14.2	8.0
Grades 1–4	21.1	32.2	250,050	100.0	41.6	37.1	14.2	7.1
Grades 5–7	20.1	15.1	117,140	100.0	38.8	38.0	15.7	7.5
High school 1–4	22.6	6.2	48,110	100.0	26.8	44.1	19.1	10.0
College and over	24.5	3.2	24,600	100.0	13.2	40.8	29.8	16.2
Religion								
Roman Catholic	21.5	83.4	646,850	100.0	39.1	37.4	15.3	8.2
Non-Catholic	21.5	16.6	128,440	100.0	38.2	40.0	14.7	7.1

Source: 1960 Census of the Philippines

Table 7

*Age at marriage and median ages at marriage of women aged 45–54
by selected characteristics (Philippines, 1968)*

Characteristic	Median age at marriage (years)	Distribution of women		Age at marriage (years)				
		Per cent	Number	All ages	Under 20	20–24	25–29	30 and over
Total	20.9	100.0	956,800	100.0	43.0	32.1	16.0	8.9
Regions								
Division I	21.8	10.7	102,400	100.0	35.8	39.8	16.0	8.6
Division II	21.5	11.8	112,800	100.0	37.5	39.7	16.8	6.0
Division III	20.6	20.2	193,600	100.0	44.4	36.3	13.3	6.0
Division IV	20.2	26.2	250,400	100.0	48.6	28.6	13.4	9.4
Division V	21.1	31.1	297,600	100.0	42.3	26.6	19.6	11.5
Education								
No schooling	20.8	27.4	261,200	100.0	44.4	29.0	17.0	9.6
Grades 1–4	20.5	38.6	367,200	100.0	46.1	33.7	13.2	8.0
Grades 5–7	20.6	22.6	216,400	100.0	45.8	30.5	16.0	7.7
High school 1–4	21.6	7.5	71,600	100.0	36.9	38.0	16.2	8.9
College and over	25.2	3.9	37,600	100.0	10.6	38.3	31.9	19.2
Religion								
Roman Catholic	20.8	86.3	823,200	100.0	43.8	31.7	15.4	9.1
Non-Catholic	21.4	13.8	131,600	100.0	38.2	34.8	19.8	7.2
Residence								
Urban	21.3	33.3	317,200	100.0	38.9	36.7	16.3	8.1
Rural	20.6	66.8	639,600	100.0	45.2	29.8	15.8	9.2
Wife's occupation								
Professional or clerk	24.3	2.9	27,600	100.0	20.3	34.8	23.2	21.7
Proprietor or sales	20.2	13.6	130,000	100.0	49.0	24.4	14.9	11.7
Farmer	20.9	23.3	222,400	100.0	44.0	26.8	16.8	12.4
All others	20.5	8.3	79,600	100.0	44.7	38.2	14.1	3.0
Not in the labor force	20.3	51.9	494,000	100.0	46.6	42.8	8.7	1.9
Husband's income								
₱000–₱499	21.0	37.5	357,600	100.0	42.2	28.7	18.2	10.9
₱500–₱999	20.8	20.5	195,600	100.0	44.0	32.3	16.9	5.8
₱1,000–₱2,999	20.2	30.3	288,400	100.0	48.3	32.0	12.3	7.4
₱3,000–₱4,999	21.1	5.9	56,400	100.0	37.6	41.1	12.8	8.5
₱5,000 and over	23.4	5.8	54,800	100.0	23.3	43.8	20.5	12.4
Type of household								
Nuclear	21.0	81.9	780,000	100.0	41.8	32.1	16.9	9.2
Non-nuclear	20.1	18.1	172,400	100.0	49.3	32.7	11.4	6.6

Source: National Demographic Survey (1968)

reveal that fertility varies inversely with age at marriage (Table 8). The 1968 data show that wives of completed fertility who married before age 18 have 11 per cent more births than those who married at ages 18 and 19, about 38 per cent more births than the 25–29 marriage group, and 55 per cent more than those who married at age 30 or later. The depressing effect that later marriage has on fertility is also visible when various characteristics are considered separately.

Table 8

Children ever born per 1,000 ever-married women, for selected ages by year reported and age at marriage (Philippines, 1960 and 1968)

Year reported and age at marriage	Age group (years)	
	35–44	45–54
1. 1960 (1960 Census)		
Under 20 years	6,499	6,876
20–24 years	5,394	5,635
25–29 years	4,304	4,651
30 and over	2,463	2,854
2. 1968 (National Demographic Survey)		
10–17 years	7,352	7,580
18–19 years	6,532	6,774
20–21 years	6,233	6,194
22–24 years	5,185	5,919
25–29 years	4,211	4,720
30 and over	2,461	3,380

Religious differentials. Slight differences in the number of children ever born exist between Catholics and non-Catholics, a fact which becomes obvious when data for the various age groups in the different birth cohorts are compared. For the Philippines as a whole, as indicated in Table 9, Catholics aged 45–54 in 1960 display higher fertility than non-Catholics, with the exception of women who married at ages 25 and over. The difference between the two religious groups decreases with each succeeding age-at-marriage category and is reversed for ages 25 and over. A similar pattern is observable for the 35–44 age groups of 1960 and 1968, although the reversal occurs only at ages-at-

marriage of 30 years or older. For the older age group of women in 1968, non-Catholic fertility exceeded Catholic fertility for women who married below 22 years of age.

When level of development is taken into account (as in Table 10), the pattern of relationship between religion and fertility observed for all women reappears in Divisions IV and V, but an inversion in the direction of the religion effect becomes obvious for Divisions I, II, and III, showing higher non-Catholic fertility. The fact that non-Catholics are concentrated in the lower socioeconomic ranks (using education as indicator) may explain the higher fertility averages of this group in the first three divisions.

Data for Division V, which contains the least developed provinces, do not fit the explanation just given; non-Catholics, despite their generally lower socioeconomic status, show lower fertility than Catholics. The apparent discrepancy may be due to the fact that a large proportion of non-Catholics in the provinces included in Division V are Muslims. Polygamy, still practiced among the Muslims residing in these provinces, may have depressed the average fertility of the women there.

Education. Analysis of the 1960 data by educational attainment of women in the two age groups produces a somewhat confusing picture (Table 11). The relationship which appears is neither a clear-cut negative nor a straightforward linear one. In the first place, the largest families are not found among the unschooled, but among those who had some elementary schooling, an observation which holds true for the older as well as the younger cohorts. Second, differences between successive educational categories are slight, except for those between the high-school and college groups and between those women with intermediate schooling and with high-school education.

There is no evidence of an increase or decrease of the negative relationship between education and fertility when the two age cohorts represented are compared. The total range of fertility variation is not great. Women aged 45–54 with primary schooling have had 1.4

Table 9

*Children ever born per 1,000 ever-married women for selected ages,
by religion and by age at marriage (Philippines, 1960 and 1968)*

Year reported and age at marriage	35-44 years			45-54 years		
	All	RC	Non-RC	All	RC	Non-RC
1. 1960 (1960 Census)						
All ages	5,700	5,767	5,388	5,793	5,826	5,625
Under 20 years	6,639	6,741	6,183	6,993	7,049	6,707
20-24 years	5,444	5,511	5,131	5,648	5,693	5,438
25-29 years	4,261	4,294	4,094	4,621	4,619	4,633
30 and over	2,437	2,424	3,506	2,872	2,867	2,897
2. 1968 (National Demographic Survey)						
All ages	5,976	6,054	5,560	6,090	6,132	5,821
10-17 years	7,352	7,527	6,460	7,580	7,575	7,604
18-19 years	6,532	6,582	6,172	6,774	6,740	6,956
20-21 years	6,233	6,388	5,438	6,194	6,144	6,500
22-24 years	5,185	5,244	4,833	5,919	5,957	5,695
25-29 years	4,211	4,218	4,167	4,720	4,968	3,492
30 and over	2,461	2,436	2,714	3,380	3,451	2,870

Table 10

*Children ever born per 1,000 ever-married women for selected ages,
by religion and by division (Philippines, 1960 and 1968)*

Year reported, age group, and religion	I	II	III	IV	V
1. 1960 (1960 Census)					
Women aged 35-44					
Roman Catholic	4,767	5,803	5,936	5,956	5,821
Non-Catholic	4,960	5,848	6,020	5,338	5,259
Women aged 45-54					
Roman Catholic	4,803	5,985	6,080	5,923	5,853
Non-Catholic	4,978	6,152	6,485	5,320	5,470
2. 1968 (National Demographic Survey)					
Women aged 35-44					
Roman Catholic	5,176	6,299	6,234	6,685	5,697
Non-Catholic	5,583	7,550	7,043	6,417	4,810
Women aged 45-54					
Roman Catholic	5,937	6,008	6,587	6,348	5,712
Non-Catholic	5,941	7,578	7,366	5,069	5,234

Table 11

Children ever born per 1,000 ever-married women for selected ages, by education (Philippines, 1960)

Educational attainment	Children ever born per 1,000 women		Change from previous category (per cent)		Distribution of women (per cent)	
	35-44	45-54	35-44	45-54	35-44	45-54
All levels	5,701	5,794	-	-	100.0	100.0
No schooling	5,636	5,745	-	-	34.2	43.3
Grades 1-4	6,004	6,104	+6.5	+6.2	35.1	32.2
Grades 5-7	5,764	5,902	-4.0	-3.3	19.7	15.1
High school 1-4	5,261	5,119	-8.7	-13.3	7.1	6.2
College 1-4 and over	4,050	4,117	-23.0	-19.6	3.9	3.2

Source: 1960 Census

times as many births as those with college education.

The pattern of relationship between education and fertility evident from the 1968 data is almost identical with that of 1960 (Table 12). Excluding the unschooled group, fertility starts at a high level for women with little education and declines over the entire educational range at about the same rate. However, the fertility level reported for each educational category in 1968 is always higher than that for the corresponding category in 1960 (excepting the unschooled older women).

When age at marriage is controlled (Table 13), the 1960 data show that for the two age groups of wives the inverse relationship between fertility and education observed for all women is maintained within each age-at-marriage category. The same does not hold true when the 1968 data are scrutinized. A closer examination of the 1968 data shows that within each age-at-marriage group existing relationships are rather weak for age group 35-44. The relationship is an inverse one for those who married before age 20; it is almost direct for women who married at ages 29-24; and it is virtually non-existent for those who married at ages over 24.

Table 12

Children ever born per 1,000 ever-married women for selected ages, by education (Philippines, 1968)

Educational attainment	Children ever born per 1,000 women		Change from previous category (per cent)		Distribution of women (per cent)	
	35-44	45-54	35-44	45-54	35-44	45-54
All levels	5,976	6,090	-	-	100.0	100.0
No schooling	5,688	5,548	-	-	17.8	27.4
Grades 1-4	6,457	6,496	+13.5	+17.1	36.9	38.5
Grades 5-7	6,099	6,353	-5.5	-2.2	25.1	22.7
High school 1-4	5,770	5,827	-5.4	-8.3	12.1	7.5
College 1-4 and over	4,271	4,819	-26.0	-17.3	8.1	3.9

Source: National Demographic Survey (1968)

Table 13

Children ever born per 1,000 ever-married women for selected ages, by age at marriage and by education (Philippines, 1960 and 1968)

1960							
Age group and educational level	Age at first marriage (years)						
	All ages	Under 20	20-24	25-29	30 and over		
Women aged 35-44							
No schooling	5,636	6,486	5,299	4,246	2,521		
Grades 1-4	6,004	6,875	5,695	4,446	2,561		
Grades 5-7	5,764	6,710	5,536	4,298	2,460		
High school 1-4	5,261	6,228	5,193	4,224	2,252		
College and over	4,050	5,179	4,610	3,625	1,990		
Women aged 45-54							
No schooling	5,745	6,887	5,522	4,621	2,979		
Grades 1-4	6,104	7,236	5,938	4,819	2,922		
Grades 5-7	5,902	7,080	5,797	4,742	2,757		
High school 1-4	5,119	6,292	5,339	4,255	2,662		
College and over	4,117	5,289	4,639	3,815	2,405		
1968							
Age group and educational level	Age at first marriage (years)						
	All ages	10-17	18-19	20-21	22-24	25-29	30 and over
Women aged 35-44							
No schooling	5,688	6,665	6,102	5,965	5,106	4,500	1,545
Grades 1-4	6,457	7,849	6,926	6,257	5,175	4,143	2,870
Grades 5-7	6,099	7,458	6,440	6,480	5,213	4,072	2,500
High school 1-4	5,770	6,775	6,402	6,537	5,515	4,375	2,174
College and over	4,271	4,563	4,688	4,973	4,800	4,125	2,818
Women aged 45-54							
No schooling	5,548	7,741	6,128	4,648	5,170	4,009	3,850
Grades 1-4	6,496	7,894	6,951	6,638	6,380	4,933	3,247
Grades 5-7	6,353	6,872	7,518	7,125	6,060	4,977	3,512
High school 1-4	5,827	7,267	6,083	5,414	6,026	5,586	3,250
College and over	4,819	6,000	5,429	7,100	5,500	4,800	2,167

Sources: 1960 Census and National Demographic Survey (1968)

Within the 45-54 age group, the same relationship as for all women exists for the 10-17 and 18-19 age-at-marriage groups, except that it is strongest for women with 5-7 years of elementary or with high school education. The college-educated do not in all cases produce the smallest number of children; only those who married either very early or very late do so. For

the other age-at-marriage groups it is the un-schooled who display the lowest fertility.

The above observations, which indicate no clear trend of the fertility-education relationship when age at marriage is controlled, suggest that education exercises a somewhat independent influence on fertility. In view of the magnitude of the observable differences it appears

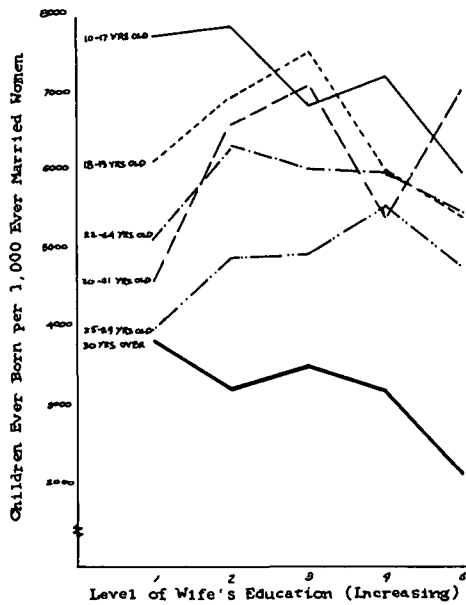


Fig. 1 – Children ever born per 1,000 ever-married women aged 35–44, by age at marriage and by education (Philippines, 1968)

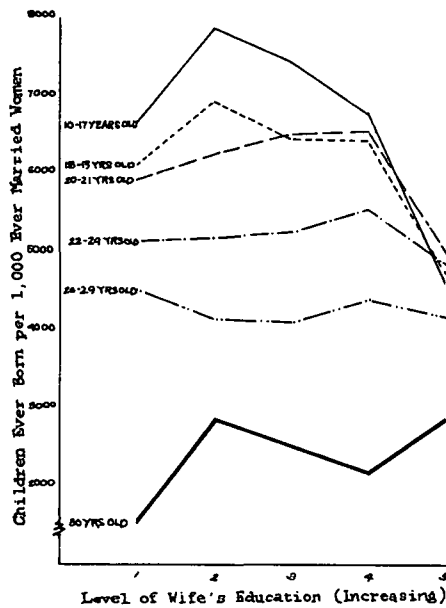


Fig. 2 – Children ever born per 1,000 ever-married aged 45–54, by age at marriage and by education (Philippines, 1968)

unlikely that sampling fluctuation alone accounts for the differences.

Another variable which may help to evaluate the influence of education on fertility is residence. As mentioned earlier, analysis by rural-urban classification was possible only for 1968.

Although within the 45–54 age group the overall negative relationship between fertility and education observed for all women is maintained when urban and rural women are examined separately, some interesting patterns emerge (Table 14). For urban women, the two lowest educational groups have the highest number of children ever born, while among the rural women those with elementary education have the largest families. Surprisingly, rural women show lower average-fertility rates than do urban women for corresponding educational groups, except the women of intermediate schooling. The very low averages among the rural unschooled could be due either partly or wholly to deficient reporting. However, the fact that rural averages are lower than urban regardless of levels of schooling requires a different explanation. Unfavorable health and environmental conditions still found in many rural areas may have led to relatively many miscarriages among the rural women and depressed overall fertility levels.

Table 14

Children ever born per 1,000 ever-married women aged 45–54 years, by residence and by education (Philippines, 1968)

Educational level	Urban	Rural
No schooling	6,584	5,359
Grades 1–4	6,767	6,415
Grades 5–7	6,130	6,541
High school 1–4	5,952	5,273
College 1–4 and over	4,959	4,000

Source: National Demographic Survey (1968)

As in the case of education, data presented in Table 14 suggest that residence exerts an independent influence on fertility. When educational attainment is controlled, the previously

found pattern (that urban fertility exceeds rural fertility) is maintained for all educational groups, except the grade 5–7 category. The difference is greatest among unschooled wives.

Occupation of wife. Among the 35–44 age group, those who were willing and able to work in 1968 show a lower average number of children ever born than those who were not in the labor force, regardless of residence. For women 45–54 years old, urban residents show the same pattern. For rural women, however, the relationship is reversed (Table 15).

Table 15

Children ever born per 1,000 ever-married women for selected ages, by labor-force status and by residence (Philippines, 1968)

Labor-force status	35–44 years	45–54 years
Total		
In the labor force	5,701	6,146
Not in the labor force	6,211	6,029
Urban		
In the labor force	5,186	6,087
Not in the labor force	5,885	6,264
Rural		
In the labor force	5,920	6,190
Not in the labor force	6,396	5,898

Source: National Demographic Survey (1968)

For either age cohort, professionals display the lowest fertility averages, followed by women of the all-other-occupations category in the case of urban dwellers, and by those of the farm category in the case of rural dwellers (Table 16). It is somewhat surprising that wives of farmers residing in rural areas have fertility rates which are not much above those of the professional and clerical groups. If this low fertility among the farmers' wives is not entirely due to deficient reporting, it most probably is the result of unfavorable health and living conditions.

Husband's income. With the exception of the lowest income group, husbands' income as re-

Table 16

Children ever born per 1,000 ever-married women for selected ages, by residence and by occupation (Philippines, 1968)

Residence and occupation	35-44 years	45-54 years
Urban		
Professional or clerk	3,810	5,074
Proprietor or sales	5,898	6,264
Farmer	5,840	6,730
All others	5,243	6,110
Not in the labor force	5,885	6,264
Rural		
Professional or clerk	4,765	5,400
Proprietor or sales	7,108	6,500
Farmer	5,564	6,012
All others	6,362	6,556
Not in the labor force	6,396	5,898

Source: National Demographic Survey (1968)

ported in 1968 is negatively related to fertility for the 35-44-year-old wives (Table 17). When age at marriage is controlled, however, a positive relationship for those women who married below 25 and are at the lower income levels becomes apparent, a fact which does not hold true for

women with high-salaried (P5,000 and over) husbands. For women of completed fertility (45-54) irrespective of age at marriage, an inverted U-shaped pattern emerges. Detailed examination of various income groups within each age-at-marriage group reveals that relationship patterns for the older cohorts are similar to those exhibited by the younger women.

Comparisons of relationships among divisions suggest that significant differences exist in the way income affects the number of children ever born (Table 18). In Division I, the inverted U-shaped pattern mentioned for income groups is evident again. In Divisions IV and V the relationship between fertility and regional level of economic development is consistently positive for each age at marriage category. In the remaining two divisions, no clear-cut pattern is discernible.

The existence of a positive relationship in Divisions IV and V seems inconsistent with the previous finding of negative relations between education and fertility, since education and income correlate positively. This inconsistency, as well as the unclear patterns exhibited by the various age-at-marriage categories, warrants the

Table 17

Children ever born per 1,000 ever-married women for selected ages, by age at marriage and by husband's income (Philippines, 1968)

Age group and husband's income	Age at first marriage (years)						
	All ages	10-17	18-19	20-21	22-24	25-29	30 and over
Women aged 35-44							
P000-P499	5,439	6,712	6,134	5,774	4,472	3,892	2,143
P500-P999	6,308	7,918	6,213	6,157	5,653	4,702	2,000
P1,000-P2,999	6,299	7,597	6,741	6,701	5,654	4,171	2,803
P3,000-P4,999	5,824	7,204	7,651	6,160	4,547	4,255	2,737
P5,000 and over	5,569	7,242	6,333	5,962	5,343	4,568	2,182
Women aged 45-54							
P000-P499	5,400	6,900	5,796	5,412	5,466	4,519	3,400
P500-P999	6,462	7,855	7,658	6,267	6,108	4,247	3,357
P1,000-P2,999	6,738	8,011	7,210	7,060	6,252	5,364	3,736
P3,000-P4,999	6,255	7,450	7,485	7,065	5,519	4,778	2,667
P5,000 and over	5,825	9,333	6,071	4,353	6,186	5,429	3,118

Source: National Demographic Survey (1968)

Table 18

Children ever born per 1,000 ever-married women for selected ages, by
husband's income in each division (Philippines, 1968)

Age group and husband's income	Age at first marriage (years)				
	10-17	18-19	20-21	22-24	25 and over
<i>Division I</i>					
Women aged 35-44					
P000-P999	5,857	5,533	4,462	3,333	3,077
P1,000-P2,999	7,814	6,000	6,185	4,750	3,452
P3,000 and over	5,833	6,846	4,880	4,606	3,891
Women aged 45-54					
P000-P999	6,588	5,875	7,500	5,692	3,381
P1,000-P2,999	8,500	6,727	8,059	5,591	5,136
P3,000 and over	8,000	5,231	6,200	5,481	3,889
<i>Division II</i>					
Women aged 35-44					
P000-P999	7,583	6,320	5,950	6,241	a
P1,000-P2,999	7,161	6,926	7,400	6,032	4,182
P3,000 and over ^b					
Women aged 45-54					
P000-P999	7,028	6,688	6,600	6,516	5,161
P1,000-P2,999	8,278	6,545	a	7,143	4,313
P3,000 and over ^b					
<i>Division III</i>					
Women aged 35-44					
P000-P999	6,593	7,180	6,814	5,470	4,000
P1,000-P2,999	7,694	6,878	6,373	5,262	3,950
P3,000 and over ^b					
Women aged 45-54					
P000-P999	8,859	6,875	5,319	6,647	4,475
P1,000-P2,999	8,778	7,904	6,655	6,806	5,000
P3,000 and over ^b					
<i>Division IV</i>					
Women aged 35-44					
P000-P999	7,911	6,723	6,410	4,746	3,375
P1,000-P2,999	7,971	7,889	7,191	6,217	3,778
P3,000 and over ^b					
Women aged 45-54					
P000-P999	7,595	6,897	5,956	5,345	3,645
P1,000-P2,999	7,918	5,758	7,484	6,214	4,444
P3,000 and over ^b					

Table 18 (continued)

Age group and husband's income	Age at first marriage (years)				
	10-17	18-19	20-21	22-24	25 and over
<i>Division V</i>					
Women aged 35-44					
P000-P999	7,000	5,260	5,504	4,678	2,077
P1,000-P2,999	7,407	5,776	6,577	5,847	3,118
P3,000 and over ^b	a	6,700	a	4,238	3,143
Women aged 45-54					
P000-P999	6,311	5,556	5,270	4,811	4,280
P1,000-P2,999	7,321	8,026	5,962	5,348	4,837
P3,000 and over ^b					

^aOmitted because of small numbers.

^bOmitted because of small samples in almost all categories.

Source: National Demographic Survey (1968)

conclusion that income also seems to be a relatively poor discriminator of differentials in fertility compared to the variable of education or occupation. A better understanding of the influence which income exerts on fertility may be achieved when additional control variables are introduced.

Type of household. Regardless of type of residence and age of woman, the number of children ever born is higher for nuclear than for non-nuclear households (Table 19). The reason for this difference is not yet clear. A fuller understanding of household-type differentials will most probably require a detailed examination of amount and degree of wives' and couples' involvement in kin networks and of fertility pressures exerted on couples by kin or friendship groups living in close physical proximity.

Multiple Regression Analysis

Multiple regression models using the individual as unit of analysis permit conclusions which would be unwarranted if no further information were available other than the usual cross-tabulations utilized so far in this study. When the analysis involves more than one in-

dependent variable, multiple regression techniques make it possible to assess the effect of each one of them separately, while statistically holding all the others constant. Eight independent variables (age at marriage, husband's income, wife's education, wife's religion, rural-urban residence, labor force status of the wife, type of household, and use of contraceptives)

Table 19

Children ever born per 1,000 ever-married women for selected ages, by residence and type of family (Philippines, 1968)

Residence and type of household	35-44 years	45-54 years
Total		
Nuclear	6,064	6,258
Non-nuclear	5,290	5,378
Urban		
Nuclear	5,371	6,174
Non-nuclear	4,944	6,283
Rural		
Nuclear	6,214	6,294
Non-nuclear	5,636	4,527

were included in the regression model developed for this study. The calculated coefficient of determination indicates that the eight independent variables employed explain 16 per cent of the variance in fertility for the Philippines as a whole. If divisions are taken separately, the explanatory power of the eight variables for Divisions I and V is about the same as for the country as a whole. In Divisions II to IV the amount of variance explained increases to about 22–24 per cent.

Examination of regression coefficients reveals that most of the independent variables exert somewhat different influences on fertility, depending on the level of development of the region in which they operate. Age at marriage proves to be the most important determinant of fertility. It is the only variable which affects fertility in the same direction regardless of divisions, even though there are differences in the magnitude of these effects. It can be observed that each increase in marriage age of one year tends to decrease completed fertility by an average of one-fourth of a child in Divisions I through IV, and by approximately one-sixth of a child in Division V.

The effects which education and income exercise on fertility seem to be somewhat smaller than those reported in other studies. The rather homogeneous nature of the developmental divisions employed in this study may account for this, at least in part.

Multiple regression analysis using 53 provinces as subgroups, instead of five developmental divisions, shows that median age at marriage and median number of school years completed are the best predictors of fertility of married women. Taken together, these variables account for 36 per cent of the observed variance in fertility. When five other variables are added (proportion of population living in urban areas, percentage of males in non-agriculture, infant mortality rate, density of area, and proportion of females in the labor force), 49 per cent of the variance in fertility can be explained.

Implications

The results of this study of fertility differen-

tials in the Philippines have implications both for the country itself and for similarly situated nations. The threat of hunger is ever present in any country where the rate of population growth exceeds that of economic growth. In the Philippines as well as in many parts of Asia and Africa, control of population growth is becoming more and more imperative for survival. An analysis of fertility differentials can help point to choices available and necessary for checking unprecedently high population growth rates.

This study shows, for example, how a delay in marriage results in a substantial reduction in the average number of children per couple. The multiple regression model, using the individual as the unit of analysis, calculated an average reduction in fertility of about one-fourth of a child for each year of delay in marriage, apart from the effects of the other variables. Of course, bringing about a shift to a later age at marriage in a society where available evidence shows a *decline* in age at marriage for most women, and where existing cultural norms seem to press for early marriage, is a considerable problem. But despite these difficulties, the development of programs to defer marriage in order to decrease fertility certainly is worthy of consideration.

If direct programs designed to increase age of marriage are not feasible, alternatives may be considered which work through other variables, as, for example, education. Age at marriage in 1968 shows a decline from the 1960 levels for most educational levels, except for women who passed grades 5–7 (an increase of half a year) or who went to college (an increase of 0.7 of a year). If more young women could be induced to acquire at least intermediate schooling, a considerable reduction in fertility would probably result because of the negative effect which education has on fertility. If a greater proportion of women were to enter college in the future, fertility levels might be expected to go down even further. However, developments like this take time, and it is questionable that the Philippines, with its acute population problem, can afford this luxury. The decision whether the Philippines should embark on a long-range project to reduce fertility by means of education, or should em-

ploy a short-cut method relying on efforts to spread contraception is a crucial one.

Promotion of female participation in the labor force outside the home may be another way to reduce the birth rate. This could work in two ways: (1) it may provide new roles and interests supplementary to marriage, introduce non-familial distractions into people's lives, and cause a restructuring of the family's socializing function; (2) it may provide roles and interests for women as alternatives to marriage and cause a postponement of marriage. As pointed out earlier, women in urban areas who reported a usual occupation in 1968 have a lower average number of children ever born than those who reported no occupation. The reverse is true for the rural population. The difference is most probably the result of the predominance of traditional, home-based occupations in rural areas, which do not necessarily conflict with child-bearing. What can clearly be inferred from the data is that only an increase in the proportion of women in the professional and clerical and "all-other" occupations of the type found in urban areas, as contrasted with typical rural occupations, can assure that employment of women will result in lower fertility. To draw rural women from their homes means establishment of light industries in rural areas, a rather difficult feat for an agricultural country like the Philippines. In addition, promoting female participation in the labor force is precarious in a situation of already high male unemployment. It is not unlikely that the Philippine government will show reluctance to promote female employment if it is to be at the expense of males. As in

the case of education, one may ask again whether promotion of birth control would not result in a greater reduction in fertility than would programs aiming at industrialization and increased female labor-force participation.

The data on occupation available for this analysis are quite limited for a study of differential fertility. The NDS classified women by usual occupation with reference to the time of the survey. Additional variables, like length of time worked in each occupation held after marriage, and classification of usual occupation before or after marriage, would have been useful. A better understanding of the relation between labor force and fertility can come about if this additional information is considered in conjunction with the woman's pregnancy history.

Another question often raised about the relation between labor-force participation and fertility is, which one comes first. If employment were antecedent to fertility, one would expect that the inverse relation would be strongest in the upper classes, where birth control is more likely to be practiced. To find a more definitive answer, occupation and socioeconomic status should be controlled simultaneously.

The analysis presented does not exhaust all the variables important for a study of differential fertility. One important variable left out of this analysis is fecundity. Further investigation of such topics as fecundity differences, migration, and child-spacing will add considerably to an understanding of observable fertility differentials.

Appendix

Listing of Philippine provinces by division according to scores obtained using available provincial characteristics (1960)

Division and province	Per cent of population urban	Per cent of occupied dwelling units with radio	Per cent of male employed persons 10 years and over in non-agricultural occupations	Average percentage (score)
Division I				
Manila	100.0	55.3	98.6	85
Rizal	91.6	51.0	85.6	76

Appendix (continued)

Division and province	Per cent of population urban	Per cent of occupied dwelling units with radio	Per cent of male employed persons 10 years and over in non-agricultural occupations	Average percentage (score)
Division II				
Cavite	51.2	26.2	36.8	38
Laguna	41.0	22.4	39.0	34
Pampanga	35.3	16.7	43.9	32
Bulacan	25.1	24.4	46.2	32
Zambales	35.9	16.5	43.3	32
Division III				
Negros Occ.	48.3	5.6	23.7	26
Cebu	33.4	8.9	30.1	24
Nueva Ecija	28.9	9.3	26.8	22
Quezon	27.4	10.7	26.4	22
Pangasinan	24.6	7.4	27.3	20
Bataan	16.2	13.0	29.6	20
Tarlac	24.0	9.4	27.4	20
Division IV				
Camarines Norte	24.7	7.5	25.0	19
Albay	16.1	4.8	33.4	18
Iloilo	25.1	6.4	23.6	18
Misamis Oriental	23.3	9.0	21.7	18
Sorsogon	22.3	3.2	25.9	17
Camarines Sur	26.1	5.0	19.0	17
Batangas	14.6	10.6	24.8	17
Davao	26.0	8.2	15.9	17
Mt. Province	24.8	6.1	17.8	16
Catanduanes	22.4	1.9	22.2	16
Agusan	23.3	5.3	21.0	16
Nueva Vizcaya	31.0	3.7	11.0	15
Leyte	19.9	5.5	18.3	15
Division V				
Misamis Occ.	11.6	7.4	22.6	14
Ilocos Norte	18.9	5.3	15.5	13
Lanao del Norte	21.7	6.4	11.1	13
Marinduque	7.6	5.8	25.5	13
Negros Oriental	19.6	3.9	15.9	13
Samar	17.8	2.6	19.1	12
Ilocos Sur	12.2	5.1	17.3	12
Occ. Mindoro	12.2	5.1	19.6	12
Or. Mindoro	12.9	5.8	15.8	12
Surigao	19.0	3.4	14.6	12
Zamb. del Sur	16.2	5.0	13.8	12
La Union	11.1	6.8	16.1	11
Isabela	13.7	3.2	16.7	11
Romblon	4.4	4.4	24.8	11
Sulu	16.6	1.8	13.3	11
Batanes	0	2.2	26.7	10
Palawan	12.2	4.1	12.2	10
Masbate	13.9	3.1	12.2	10
Aklan	3.7	3.0	24.7	10
Capiz	8.5	4.0	17.7	10
Bohol	5.5	4.9	19.6	10

Appendix (continued)

Division and province	Per cent of population urban	Per cent of occupied dwelling units with radio	Per cent of male employed persons 10 years and over in non-agricultural occupations	Average percentage (score)
Cotabato	17.3	3.3	8.9	10
Zamb. del Norte	16.4	2.9	11.0	10
Lanao del Sur	21.9	1.4	8.0	10
Cagayan	12.8	2.7	11.1	9
Bukidnon	13.8	4.3	9.6	9
Antique	7.3	2.7	13.7	8
Abra	6.6	2.6	13.6	8

Source: 1960 Census

Note

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References

- Abu-Lughod, Janet
1965 The emergence of differential fertility in urban Egypt. *Milbank Memorial Fund Quarterly* 43(2):235-51.
- Collver, Andrew, et al.
1967 Local variations of fertility in Taiwan. *Population Studies* 20(3):329-42.
- Concepción, Mercedes B.
1963 Fertility differences among married women in the Philippines. Unpublished Ph.D. dissertation. Department of sociology, University of Chicago.
- Freedman, Ronald, et al.
1967 The continuing fertility decline in Taiwan: 1965. *Population Index* 33(1):3-16.
- Kamerschen, David
1967 Socio-economic determinants of fertility patterns. *Population Review* 11(1):24-37.
- Regudo, Adriana C.
1965 Fertility patterns of ever-married women in the Ilocos, Central Luzon and Bicol Regions, 1960. Unpublished M.A. thesis. Statistical Center, University of the Philippines.
- Rele, J. R.
1963 Fertility differentials in India. *Milbank Memorial Fund Quarterly* 41(2):183-99.
- Smith, Peter
1966 Age at marriage in the Philippines. Unpublished M.A. thesis. Population Institute, University of the Philippines.
- Stycos, J. Mayone
1965 Female employment and fertility in Lima, Peru. *Milbank Memorial Fund Quarterly* 43(1):42-54.

Percentage of Males and Females 10 Years and Older in the Labor Force
by Level of Education, Urban and Rural Philippines, May, 1968*

<u>Educational Level</u>	Urban		Rural	
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>
<u>All Educational Levels</u>	69.3	40.9	82.0	46.9
No Schooling	70.3	40.1	83.8	51.1
Primary	56.8	34.9	76.4	44.4
Intermediate	66.5	39.1	86.2	45.8
Some High School	64.4	37.7	83.3	45.8
High School Graduate	85.3	41.7	92.3	51.7
College Undergraduate	72.0	42.2	75.5	44.7
College Graduate	94.2	82.6	98.0	33.3
Median Year of Schooling of those in the Labor Force	8.0	6.9	5.0	4.6

*In the Labor Force = Employed or unemployed but looking for a job

Percentage of Males and Females 10 Years and Older Who
Are Unemployed, by Level of Education, Urban
and Rural Philippines, May, 1968

<u>Educational Level</u>	Urban		Rural	
	<u>Males</u>	<u>Females</u>	<u>Males</u>	<u>Females</u>
<u>All Educational Levels</u>	12.1	13.7	4.1	8.6
No Schooling	10.2	9.7	2.6	5.3
Primary	7.7	8.1	2.3	6.6
Intermediate	9.8	10.2	3.5	9.7
Some High School	19.2	19.0	8.7	11.1
High School Graduate	13.5	20.2	10.7	30.3
College Undergraduate	15.4	24.7	13.3	15.2
College Graduate	6.2	9.2	6.2	5.7

Taken from: Corazon G. Mejia-Raymundo, "The Characteristics of, and
Extend of Unemployment Among the Philippine High Level
Manpower," Unpublished M. A. Thesis in Demography,
Manila, University of the Philippines, 1972.