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The fertility of migrants
to urban places in Thailand

by Sidney Goldstein and Penporn Tirasawat



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PREFACE

The research for this paper was conducted pursuant to Contract No. NIH-70-2190 with the National Institutes of Health, Department of Health, Education, and Welfare. The assistance of Alice Goldstein is sincerely appreciated. Comments by John Knodel and Alvan O. Zarate on an earlier draft of this paper proved most helpful. A briefer version of the paper was presented at the International Geographical Union Symposium on Population at Macroscale, Minsk, U.S.S.R., in July 1976. This expanded paper was completed at the East-West Population Institute, whose support is gratefully acknowledged.

ABSTRACT *Using both special tabulations based on the 1960 and 1970 Thai censuses and data gathered by the National Longitudinal Survey of Social, Economic, and Demographic Change in Thailand, this paper analyzes the extent of fertility differentials between migrant and nonmigrant women in Thailand as well as differentials between categories of migrants as defined by origin and recency of move. In all the assessments, the similarities and differences between the experience of the population in the primate city (Bangkok) and smaller urban places receive special attention.*

The findings indicate that cumulative fertility is lower for migrant women than for nonmigrant women in either place of origin or place of destination. This pattern is not uniform for all migrants, however: Urban-born migrants tended to have fewer children than rural-born migrants, especially in Bangkok; and recent migrants had lower fertility than long-term migrants. Data on pregnancy in the two years preceding the survey suggest, however, that the differentials between the recent and long-term migrants may narrow with time. Overriding the differences by migration status are the urban-rural differentials. Considerably higher rural fertility persists even after migration status is controlled, as does higher fertility in Provincial Urban Places compared with that of Bangkok.

Several factors may account for the lower fertility of the migrants and especially that of recent migrants. The move itself may be sufficiently disruptive to interfere with childbearing; the socioeconomic characteristics of the migrants, including labor force participation, educational achievement, and extent of previous urban exposure, may be conducive to lower fertility; the recent migrants may be more innovative whereas earlier migrants and nonmigrants may be more conservative.

The pace of urbanization and its significance for social and economic conditions in the less developed countries emphasize the need for increasing consideration of the role of migration in the urbanization process, and of the relation between migration on the one hand and social, economic, and demographic changes on the other. Migration may well have a strong impact not only on the growth of the large metropolises and the other urban places, but also on the small, isolated villages that the migrants leave and to which a number of them return. Movement

in both directions may serve as a catalyst to speed up development and modernization in the less developed areas. At the same time, heavy migration may also exacerbate the problems of urban places and create new problems for the areas of out-migration through its effects on population structure. But migration is not the only factor to affect urban growth and urbanization levels. It operates jointly with natural increase to produce differential rates of urban and rural growth and, as a consequence, the rate of urbanization itself. Moreover, migration affects natural increase through the births occurring to the migrant women. Differential fertility levels among migrants may inflate or deflate rates of natural increase in places of origin and destination, depending on whether and how migration operates selectively to affect fertility.

The importance of assessing more fully the interrelations between migration and natural increase in the less developed nations is emphasized by three demographic developments characteristic of these countries: the rapid growth of the urban population, the increasing number of big cities, and the significant contribution of both migration and natural increase to urban growth generally and to the growth of big cities in particular.

Between 1950 and 1975, the urban population of the less developed areas is estimated to have tripled, to about 775 million persons. By 1975, the urban population accounted for just over one fourth of the less developed area's total population, in contrast to the 16 percent it represented at mid-century. Yet this change is dwarfed by the projected growth of the urban population to 2.0 billion by the year 2000, a number almost as great as the total population of the less developed regions in 1960. At the same time, the rural population will also continue to experience substantial growth, and is estimated to increase from 2.1 billion in 1975 to 2.9 billion by the turn of the century (United Nations, 1975a).

If these projections prove correct, 40.8 percent of the almost 5 billion persons in what are now less developed regions will be living in urban places, and a considerable portion of them will be concentrated in large cities. The number of million-plus cities in the less developed areas increased from 23 to 90 between 1950 and 1975. The United Nations (1975b) estimates that by the year 2000 there will be 264 million-plus cities. The sharp growth in the number and size of large cities and their increasingly dominant position in the urban hierarchy argues strongly for particular research attention to such cities and to the role of migration and natural increase in their growth.

The comparative importance of natural increase and of population transfer (migration)¹ to urban and rural population growth is evidenced in recent United Nations statistics (United Nations, n.d.). In the less developed areas as a whole, the U.N. estimates show the rate of natural increase in 1970–75 to have been quite similar for urban and rural places, 22 and 26 per 1,000, respectively, although these rates do suggest somewhat lower urban natural increase. Yet, because urban places gained 19 per 1,000 from net population transfer, they grew at a total rate of 41 per 1,000 during this five-year interval. By contrast, the rural population of the less developed regions was growing at an annual rate of only 17 per 1,000; the effect of their high rate of natural increase was decreased by a negative population transfer of 9 per 1,000. Population transfers thus reduce the overall impact of the high rates of natural increase in rural areas while increasing the rate of urban growth. But these data also emphasize the importance of natural increase both as a component of urban growth and in increasing the already high population reservoir that exists in rural areas. The projections of continuing rural population growth underscore the ever present threat of a significant upsurge in the rural-to-urban exodus if pressures on rural resources should become greater than already anticipated.

The United Nations projections suggest considerable regional and national variation in the levels and rates of urbanization and in the roles of migration and natural increase in the urbanization process. But gross data of the kind prepared and analyzed by the United Nations, as well as those sometimes available in the censuses of different countries, do not lend themselves to the type of intensive analysis needed to assess fully the role of migration in the urbanization process. In particular, in-depth analysis is needed on such questions as the following: To what extent is rural-to-urban migration a factor in the urbanization process? Who are the migrants and how do they differ from the nonmigrants? How does the migration experience of the population in big cities differ from that of people in smaller urban places? To what extent do individuals move about repeatedly in their efforts to adjust better to their environment? How does the fertility behavior of migrants differ from that of the nonmigrant population and how does it vary among different categories of migrants?

1 Population transfers represent the combined effects of population gains or losses from rural-to-urban migration and rural-to-urban area reclassification. Data needed to separate out the contribution of migration are lacking. It is believed, however, that a very high proportion of population transfers consists of migrants (United Nations, n.d.).

Migration's effect on urban population growth is both direct and indirect. The direct effects stem from the actual movement into urban centers of migrants from rural places. The indirect effects result from the contributions of migrants to the natural increase of urban places after their arrival in them. In any concern with the components of urban growth, including particularly the relative contribution of migration and natural increase, special interest focuses on the decomposition of natural increase into that part attributable to natives of the cities and that part attributable to the migrants. United Nations (n.d.) statistics indicate that 44 percent of the urban growth in the less developed countries between 1970 and 1975 resulted from population transfers. This means that over half of all growth resulted from an excess of births over deaths. How much of that 56 percent is constituted of births to natives and how much of births to migrants is an open question. The same question can be raised about the components of growth of big cities. For example, for Bangkok the best estimate is that natural increase actually accounts for two thirds of all the growth (Goldstein, 1971b); but again the distribution of births between natives and migrants remains to be determined.

Closely related to the issue of how much migrants contribute to the natural increase of urban places are a number of questions on the extent and character of fertility differentials between migrants and non-migrants. Do women who migrate have higher or lower fertility than those who remain behind, and, if so, for what reasons? In the place of destination, do migrants have higher or lower fertility than persons who were born there, and do the observed differentials tend to narrow with length of residence in the urban place? Particularly relevant is whether fertility levels of migrants to urban places differ by place of origin and by whether or not the migrants grew up and were socialized in urban or rural environments. Beyond this is the question of whether the fertility behavior of migrant women also differs, for reasons related to selectivity at place of origin, from that of women in the place of destination. One hypothesis raises the possibility that the migration process itself is somehow disruptive of fertility, so that any differentials at time of migration tend to dissipate with longer residence in the city as the disrupting effects of the migration process themselves weaken.

The comprehensive and critical review of the literature on the interrelations between migration and fertility undertaken by Zarate and Zarate (1975) documents a variety of conflicting evidence available on these questions. Different studies have concluded that migrant fertility

is higher, lower, or the same as that of nonmigrants; but many of the differences in conclusions reflect differences in study design, in analytic methods, in definitions of migrants, and in the measures of fertility used. As Zarate and Zarate put it, we need clarification regarding, among other matters, who the migrant is, who the urban native is, what constitutes urban fertility, and what the effects of differences in urban size are before we can have a clearer assessment of the interaction between migration and fertility and their joint impact on growth rates in both urban and rural places.

Because Thailand is one of the countries in which urbanization is assuming increased importance and for which a growing body of survey and census data is becoming available, it lends itself well to an intensive study of the urbanization process and the role of migration and natural increase in it. Analyses of the patterns of urbanization in Thailand between the 1947 and 1970 censuses (Goldstein, 1971b; S. Goldstein, Prachuabmoh, and A. Goldstein, 1974) indicate that in those 23 years Thailand's urban population increased from 10 to 15 percent of the total population and the number of urban places containing 20,000 or more persons grew from 6 to 38. United Nations projections estimate that Thailand's urban population, which numbered only 2 million persons in 1950—equal to only 10 percent of the population—will reach over 23 million persons by the year 2000 (United Nations, 1975a). By then, it is projected to account for 27 percent of Thailand's total population, which will have grown from 20 to 85 million persons in that same 50-year interval. Both the high total growth rates and the increasing percentage of population living in urban places parallel developments in other less developed countries.

Thailand's urban growth rate has been high, averaging about 5 percent a year, just above the average for the world's less developed regions. Because the rural growth rate of 3 percent is considerably higher than that of the rest of the world, however, the speed of urbanization is not as marked as elsewhere. Particularly noteworthy in Thailand is the very rapid population growth of Greater Bangkok, which between 1947 and 1975 grew from just over 780,000 persons to about 3.3 million. Its future growth, like that expected for other big cities of the less developed areas, is projected to be sharp, reaching about 11 million by the turn of the century, according to United Nations projections (United Nations, 1975b). Containing over half of all of Thailand's urban population, Greater Bangkok accounted for almost two thirds of all urban population growth in the country during the 1960s. Moreover, its population, 32 times that of Thailand's next largest city,

makes its urban primacy one of the most striking in the world. Yet urban development has begun to permeate all regions of Thailand and has become an important factor in the complex process of national, social, and economic development. For this reason, this analysis will focus heavily on the differences between migration to Bangkok and migration to the smaller urban centers of Thailand. In particular, it will examine the contribution of migration to urban growth and the extent of fertility differentials between migrant and nonmigrant women, as well as between categories of migrants as defined by origin and recency of move. Finally, within the limits imposed by the available data, an attempt will be made to gain some insight into how much of the natural increase occurring in urban places is attributable to natives of the cities and how much to migrants. In all these assessments, too, the similarity and differences between the experience of the population in the primate city (Bangkok) and smaller urban places will be compared.

Sources of data and definitions

Until recently, the only statistics available for analysis of the national patterns of internal migration in Thailand have been those from the published data of the 1960 Census and special tabulations obtained from a 1 percent sample tape (see, for example, Goldstein, 1973). Comparable data have just become available from the 1970 Census (Arnold and Boonpratuang, 1976).

Recognizing the problems inherent in census data and also realizing that the collection of data only once every ten years introduces serious limitations for purposes of monitoring developments in a society undergoing rapid demographic and social change, in 1968 the Institute of Population Studies at Chulalongkorn University initiated a National Longitudinal Survey of Social, Economic, and Demographic Change in Thailand. This interview survey of a national sample of households in rural and urban Thailand began field operations in the spring of 1969, when members of about 1,500 rural households were interviewed. In the second phase, undertaken a year later, a similar set of questions was administered to a sample of about 2,100 urban households. As far as feasible, the rural sample was reinterviewed in 1972, and the urban sample in 1973. Replacement of those respondents who could not be covered in the follow-up surveys served to maintain the cross-sectional character of the samples in the later years. The interviews covered a wide range of demographic, social, economic, and health topics intended to provide insights into the direction and extent of

attitudinal and behavioral changes in addition to the circumstances under which such changes occurred. (For a full discussion of the methodology of the Longitudinal Study, see Prachuabmoh et al., 1971, and Prachuabmoh, Knodel, and Pitaketsombati, 1973.)

The migration and fertility data to be examined in this report are restricted to those drawn from the first-round urban sample. For this sample, which was based on a three-stage selection process, 2,115 households were chosen for interviews and 2,030 were actually interviewed. Within each household, whenever possible and appropriate, the male head, his wife, female heads, and all other ever married women under age 60 living in the household were interviewed. The overall response rate was high. Only 4 percent of the households could not be interviewed at all and in 16 percent the heads of household could not be interviewed, usually because of temporary absence from home or unusual working hours.

A source of potential bias in the 1970 urban sample has particular relevance for migration analysis, although probably more so for males than females. In the first round of the urban survey, households occupying "temporary" shacks put up at construction sites to house the workers and their families were excluded from the sampling frame. This exclusion also applied to a few other isolated units, but not those located in squatter areas. Overall, the number of such excluded households is small and probably, as indicated by efforts to include them in the second round, represent about 1 percent of all urban units. Since almost all persons in these households were migrants to Bangkok, they constitute a greater proportion of the migrant group, and especially of the recent migrant group. An estimate suggests that they probably equal about 7 percent of all the migrants who came to Bangkok within the five years preceding the survey. Almost all of these temporary residents had very complicated migration histories; a number regarded themselves as seasonal migrants. Examination of their characteristics suggests that the temporary residents are disproportionately concentrated among young adults whose marriage had been broken by divorce or separation. This reduces any bias due to their omission from the analysis, which focuses largely on women. As with all social survey data, the additional problems associated with sample selection, response error, and data processing also argue in favor of a certain skepticism when interpreting the findings.

Of the total of 2,030 household interviews obtained in the urban sample, 1,885 contained heads of household who were males. Of these, 351 were not fully or directly interviewed and those cases are omitted

from the analysis (see S. Goldstein, Pitaktepsombati, and A. Goldstein, 1976). In addition, 252 foreign-born heads of households have been omitted because this analysis focuses on internal migration in Thailand. In all, therefore, a total of 1,282 cases forms the basis for the analysis of the migration experience of male household heads.

The urban households from which interviews were obtained also included 2,397 eligible ever married women. Interviews were obtained from 2,284 of these women, including 1,685 wives and 599 other women. Of these women, however, 283 were foreign born and are excluded from the present analysis. Thus a total of 2,001 ever married women forms the basis of this analysis of the interrelations between migration and fertility. For both males and females, in particular tabulations, the number of cases may be slightly lower owing either to the omission of cases lacking specific information or to processing problems.

For purposes of this analysis, the urban population refers to residents of those places designated as municipal areas by the Thai government. Altogether, there are 119 such places in Thailand. In general, localities classified legally as municipalities are probably largely the same ones that would be categorized as urban places by most academic definitions.² Within the urban category, for reasons cited earlier, the joint capital cities of Bangkok and Thon Buri (henceforth referred to as Bangkok) are treated in this report separately from the smaller urban places, referred to as Provincial Urban Places.

Because the movement of the head of the household largely determines the movement of other household members, particular emphasis was given by the Longitudinal Survey to the migration history of the head of household and to the factors influencing his (or her) decision to move. Among the 20 sections of the Longitudinal Survey, one focused exclusively on the migration history of the head of the household and of household members who had moved away within the previous two years.

The first round of the urban survey obtained only limited information on the migration experience of women, based on two questions: (1) where were you born, and (2) when did you move to this municipal area? The follow-up round of the urban sample did obtain complete migration histories, and these data will be used in a later analysis. The information collected from ever married women focused heavily on fertility, including a pregnancy history. From this history,

2 For a recent evaluation of the effect of the classification system on the size of the urban population and on the number of urban places, see Robinson (1976).

the number of children ever born to ever married women has been ascertained, and it is this measure of fertility that forms the major focus of this analysis relating fertility levels to migration experience. The information contained in the pregnancy history also permits determination of the number of children born within a specified time interval, such as the two years preceding the survey. In addition, information was obtained on pregnancy status at the time of the survey. The latter two sets of data will be used to evaluate the relation between migration and current fertility.

The following analysis focuses on all ever married women of ages 15 and over, including those beyond childbearing age, except in the analyses of current fertility. It must be recognized, however, that the quality of information on children ever born varies by age of respondent and is generally poorer for older women because of the greater likelihood of faulty memory, including the failure to report births of children who had died or who no longer lived at home (Goldstein, 1971a). There is no evidence to indicate whether these errors operated differently among the migrant and nonmigrant segments of the population. In the interests of being able to compare the interrelations between migration and fertility for the full life-cycle span, the older women have been retained in this analysis. Their inclusion also provides the opportunity to compare migrant and nonmigrant women who have completed their childbearing and for whom differences reflect variations in completed family size rather than varying spacing patterns.

Since this analysis is based on the urban sample, all respondents were living in urban places at the time of the survey. For purposes of the migration analysis, any person who moved from a different municipal area or from a rural area to the municipal area of current residence was considered a migrant. All migrants are, in turn, subdivided on the basis of rural or urban birthplace and on the basis of length of residence. Recent migrants are defined as persons who had moved to their municipal area of current residence during the five years preceding the survey; long-term migrants are persons who moved there more than five years before. These distinctions permit comparison of the effects of origin and recency of move on fertility levels of migrants.

Use of information on children ever born has an obvious limitation in any attempt to relate fertility to migration. It represents a cumulative measure of fertility and fails to identify the specific ages at which a woman had a child and therefore precludes relating childbearing to

timing of migration; that is, it is impossible to ascertain how many of the children were born before a move and how many after. It should have been possible to undertake such an evaluation using the available pregnancy history in relation to the date at which the woman moved into the present place of residence. Regrettably, however, the pregnancy data were not coded in an appropriate form so that their exploitation for this purpose has not been possible. As a result, the evaluation of the relation between fertility and migration must be on a rather crude basis. In the second round of the Longitudinal Study, when both pregnancy and migration histories were obtained for all ever married women, greater advantage was taken of the data in the coding phase of the study, and the resulting data will be exploited in later analyses for more comprehensive assessment of the relations between migration and fertility.

Migration patterns

The very substantial role of migration in urban growth in Thailand is evidenced in the fact that 70 percent of all male household heads living in urban places in 1970 were born outside their place of current residence. Moreover, this very high level of migration showed minimum variation among different age groups, ranging only between 68 and 72 percent (Table 1). Although the age of migrants at the time they moved to urban places is different from their present age, the high proportion of migrant household heads in all age groups suggests that migration has been and continues to be a major factor in the growth of the urban population.

Interestingly, the proportion of migrants among the total urban population differs considerably between Bangkok and the Provincial Urban Places. In Bangkok, only 63 percent of all male household heads were migrants to the city. But in the Provincial Urban Places, nearly eight out of every ten male household heads had been born elsewhere. The levels of migration are obviously high in both categories, but the extremely high level in Provincial Urban Places strongly suggests an even more important role for migration in the growth of the smaller places. In part, this finding reflects the more recent development of the smaller urban centers and their growing attractiveness to migrants. Yet one must also note that because of Bangkok's longer history as the primate city of Thailand, a number of former migrants to the capital city may have moved again, to smaller urban places or back to rural places. In addition, its longer history would give natural increase an opportunity to play a more important role

TABLE 1 Percentage distribution of urban male household heads, by migration status and by current residence and age: 1970

Current residence and age	Nonmigrants	Migrants	Total	
			Percent	Number
Bangkok				
15–24	39.3	60.7	100.0	56
25–34	36.4	63.6	100.0	225
35–44	39.3	60.7	100.0	229
45–64	34.4	65.6	100.0	151
65 and over	37.9	62.1	100.0	29
All ages	37.2	62.8	100.0	690
Provincial Urban Places				
15–24	19.5	80.5	100.0	41
25–34	17.4	82.6	100.0	184
35–44	23.1	76.9	100.0	195
45–64	23.3	76.7	100.0	146
65 and over	23.1	76.9	100.0	26
All ages	21.1	78.9	100.0	592
Total urban				
15–24	30.9	69.1	100.0	97
25–34	27.9	72.1	100.0	409
35–44	31.8	68.2	100.0	424
45–64	29.0	71.0	100.0	297
65 and over	30.9	69.1	100.0	55
All ages	29.8	70.2	100.0	1,282

SOURCE: Longitudinal Survey of Social, Economic, and Demographic Change in Thailand.

in the city's growth, as well as to result in a reduction of some of the city's earlier in-migration through mortality.

For Provincial Urban Places, the proportion of migrants in the various age groups varies slightly more than in Bangkok and is higher in each age group, but especially among those under age 35. Since the peak periods of migration occur at these younger ages, this age differential probably reflects the greater attractiveness of the smaller urban places to migrants in recent years compared with Bangkok.

Comparable data on the migration status of ever married women also point to high levels of migration both to Bangkok and to Provincial Urban Places. For both locations, about 60 percent of all ever

married women were born in a different place of residence and therefore qualified to be classified as migrants. This overall percentage of migrants in the population is comparable to that of the male household heads for Bangkok but is considerably lower than the proportion of male migrants in the population of the Provincial Urban Places. This finding probably reflects the more recent growth of the smaller urban places and the greater attraction they have had for males because of the job opportunities available there; furthermore, a greater proportion of migrants to smaller urban places tends to be government officials and businessmen who take up residence there for several years and then either return to Bangkok or go on to other urban places (see S. Goldstein, Pitaktepsombati, and A. Goldstein, 1976).

For both Bangkok and Provincial Urban Places, among females there is a general inverse relation between the percentage who migrated and age, although the specific levels vary between the two places. This pattern differs from that of the male migrants, among whom comparatively minimal age variations characterized the two residence categories. The data on females suggest that the attractiveness of urban locations for females has been greater in recent years, accounting for the higher percentage of migrants among the younger groups. The 15–19-year-old women in Provincial Urban Places represent an exception to this pattern, however, for reasons that are not easily identifiable. The lower percentage of migrants among older females could also reflect a greater rate of return migration on the part of female migrants, especially those who came as single persons and who did not marry and settle permanently in the city. This life-cycle effect could, of course, operate concurrently with changing patterns of sex selectivity over time.

Because the later analysis will explore interrelations between migration and fertility, based on the migration experience of the female respondents, greater attention is needed here to the origins and to the recency of migration of the women migrants. Comparable data for the males have been presented elsewhere (S. Goldstein, Pitaktepsombati, and A. Goldstein, 1976). For urban places as a whole, and for both Bangkok and Provincial Urban Places, the major portion of ever married women came from rural origins (Table 2), but a considerably higher proportion of those moving to Provincial Urban Places were rural in origin than of those going to Bangkok, 72 compared with 55 percent. Among those going to Bangkok, there is a general tendency for the percentage born in rural places to decline with increasing age. Since it is unlikely that more of the earlier migrants had been urban in

TABLE 2 Percentage distribution of ever married women, by migration status, place of birth, recency of migration, and current residence and age: 1970

Current residence and age	Migration status				Migrants' place of birth ^a		Recency of migration ^b	
	Non-migrants	Migrants	Total		Rural	Urban	Recent	Long-term
			Percent	Number				
Bangkok								
15-19	23.1	76.9	100.0	26	84.2	15.8	85.7	14.3
20-24	31.7	68.3	100.0	123	62.3	37.7	73.5	26.5
25-34	37.3	62.7	100.0	391	58.2	41.8	49.0	51.0
35-44	43.5	56.5	100.0	338	48.8	51.2	34.2	65.8
45-54	41.6	58.4	100.0	161	46.7	53.3	23.4	76.6
55 and over	45.2	54.8	100.0	84	53.6	46.4	26.7	73.3
All ages	39.4	60.6	100.0	1,123	55.0	45.0	44.0	56.0
Provincial Urban Places								
15-19	52.0	48.0	100.0	25	66.7	33.3	75.0	25.0
20-24	30.9	69.1	100.0	110	81.9	18.1	73.7	26.3
25-34	39.0	61.0	100.0	272	70.3	29.7	39.5	60.5
35-44	36.9	63.1	100.0	249	68.4	31.6	23.9	76.1
45-54	44.9	55.1	100.0	138	72.0	28.0	21.6	78.4
55 and over	57.1	42.9	100.0	84	77.8	22.2	16.2	83.8
All ages	40.4	59.6	100.0	878	72.0	28.0	36.4	63.6
Total urban								
15-19	37.3	62.7	100.0	51	77.4	22.6	81.8	18.2
20-24	31.3	68.7	100.0	233	71.8	28.2	73.6	26.4
25-34	38.0	62.0	100.0	663	63.3	36.7	45.2	54.8
35-44	40.7	59.3	100.0	587	58.2	41.8	29.5	70.5
45-54	43.1	56.9	100.0	299	58.2	41.8	22.6	77.4
55 and over	51.2	48.8	100.0	168	64.9	35.1	22.0	78.0
All ages	39.9	60.1	100.0	2,001	62.7	37.3	40.7	59.3

a From this and succeeding tables, 66 migrants of unknown urban or rural birthplace are omitted.

b From this and succeeding tables, 35 migrants of unknown recency of migration are omitted.

SOURCE: Longitudinal Survey of Social, Economic, and Demographic Change in Thailand.

origin, the data suggest that a considerable number of older women may have returned to rural areas. On the other hand, in Provincial Urban Places, the relation between rural origin and age is much more irregular. Overall, these data on place of origin are noteworthy both because they support the heavy contributions of rural-to-urban migration in the growth of urban places, and because they indicate the comparatively important role played by urban-to-urban population shifts in the total migration process, particularly in Bangkok. As an increasing proportion of the population comes to live in urban places in Thailand, as in other less developed countries, the percentage of interurban movement will likely grow just as it has in the more developed regions.

Among male household heads, 20 percent of the migrants to Bangkok qualified as recent migrants (having moved within five years prior to the survey) in contrast to 35 percent of the migrants in Provincial Urban Places. This difference and the fact that it extends to all age groups except those 65 and over clearly document the greater importance for males of recent migration to smaller urban places (S. Goldstein, Pitaktepsombati, and A. Goldstein, 1976).

For ever married women, the difference between Bangkok and smaller urban places is not so great (Table 2), and the direction of the difference is the opposite of that for male household heads in all age groups. But perhaps most important is the finding that, for ever married women, the percentage of recent migrants among the total migrant group is greater (41 percent) than it is for male household heads (28 percent). This difference is particularly great in the case of Bangkok, where 44 percent of the females are so classified in contrast to 20 percent of the male household heads who were migrants. Of course, to the extent that male household heads and ever married women do not constitute the total male and female migrant populations, any comparison between these two groups is not necessarily indicative of the pattern of sex differentials that characterizes the population as a whole. Regrettably, such comparisons for the total group are not possible with the survey data.

The high percentage of ever married women who are recent migrants does suggest that fairly substantial movement into urban places by women has occurred in recent years, particularly in Bangkok. The especially high percentage of recent migrants among the youngest groups partly reflects the universal tendency for migration to be concentrated within this age range. The higher percentage of recent migrants among females compared with males may also reflect a greater tendency on the part of women to return eventually to their place of

origin after a period of work in the city. However, the sex differential pointing to a considerably higher proportion of female migrants who moved recently most likely reflects a substantial increase in female migration during the 1960s, a development also evidenced in census statistics.

The lower levels of recent female migrants among all age groups but one in Provincial Urban Places are undoubtedly related in part to the fact that a disproportional number of the male migrants to such places are government officials and businessmen who do not remain resident there for more than several years and who often, as a result, do not bring their families with them. But the greater recent attractiveness of Bangkok to female migrants in all age groups is certainly also indicated by the comparison. These two factors in combination would help to explain the lower percentage of ever married women who are recent migrants to Provincial Urban Places compared with those moving to Bangkok.

Overall, therefore, these data on the migration status of ever married women suggest that for both Bangkok and Provincial Urban Places migrants constitute a high percentage of the total population; that a significant proportion of the migrants were born in rural places, especially among those who have moved to Provincial Urban Places; and that of all the female migrants, two out of five in smaller urban places and half of those in Bangkok had moved into their current urban places of residence within the previous five years. That recent migrants constituted a large segment of all ever married women migrants in the younger ages is of particular interest, since it means that their recent migration experience coincided closely with recent childbearing behavior. Any differences between their childbearing patterns and those of long-term migrants may therefore be particularly useful in providing insights into the interrelations between migration and fertility.

Migration and fertility in 1960

Previous analysis of the interrelations between migration and fertility in Thailand relied on data collected in the 1960 Thai Census and was based on special tabulations of a 1 percent sample tape of that census. The analysis used the migration information collected through a question on place of birth, as well as one related to place of residence five years before the census, cross-tabulated by number of children ever born to ever married women, the only fertility information collected in the census. Through these data, it was possible to ascertain the number of children ever born to recent (five-year) and lifetime migrants in Thai-

land. The combination of information based on rural-urban residence in 1960 and major household economic activity permitted a fivefold continuum of urban-rural status ranging from Bangkok at one extreme—representing the most urbanized segment of the population—to rural, agricultural households at the other end.

Such data, while providing useful insights, have several major weaknesses for purposes of assessing interrelations between migration and fertility. As already noted, because they contain information only on total number of children ever born, it is not possible to distinguish those births that occurred before migration from those that occurred after the move. Any assessment of the interrelations between migration and fertility, therefore, reflects only migration differentials in cumulative fertility behavior. More refined analysis of the interaction between migration and fertility requires both migration and pregnancy histories, and these were not available in the census. A second limitation relates to the fact that data available from the 1960 Census did not include the rural or urban origin of the migrants; tabulations could be made therefore only of their type of residence in 1960. Such a limitation can be particularly serious if rural-urban differentials in fertility behavior exist.

Finally, these data were limited in that the tabulations available from the sample tape distinguished only between the recent and lifetime migrants, and the latter group included the five-year migrants.³ Nonetheless, these data did provide some opportunity to gain insights into the effect of migration on fertility and the impact of length of urban residence. Moreover, a comparison of the number of children ever born to migrants with those still living in rural areas, where presumably most of the migrants originated, might shed light on the selection process at point of origin and also on the extent of differentials persisting at the time of the census in the place of destination.

The relations between fertility and migration varied depending on the measure of migration used (Table 3). On the basis of lifetime migration data, the number of children ever born to the migrant women was slightly less than that to the nonmigrant women, 4,339 per 1,000 ever married women compared with 4,205, with age standardized. Within the urban categories, nonmigrant fertility was above that of the migrants, although the differences remained minimal except in the ur-

3 Since the tabulations were made by a government agency, no opportunity was provided to separate the former from the latter, and this made any effort to assess the impact of short- versus long-term residence in urban places more difficult.

TABLE 3 Number of children ever born per 1,000 ever married women, by migration status and urban-rural residence of women: 1960

Type of migration and residence	Migration status			
	(Nonstandardized)		(Standardized for age)	
	Non-migrants	Migrants	Non-migrants	Migrants
Lifetime				
Bangkok	3,310	3,487	3,443	3,340
Other urban, nonagricultural	3,777	3,845	3,813	3,725
Urban, agricultural	4,307	3,881	4,113	3,665
Rural, nonagricultural	3,847	3,969	3,998	4,039
Rural, agricultural	4,361	4,850	4,434	4,713
Total kingdom	4,255	4,308	4,339	4,205
Recent (five-year)				
Bangkok	3,517	2,376	3,427	2,982
Other urban, nonagricultural	3,850	3,175	3,794	3,485
Urban, agricultural	4,285	2,222	4,032	3,058
Rural, nonagricultural	3,920	3,160	4,032	3,740
Rural, agricultural	4,424	3,682	4,468	4,242
Total kingdom	4,292	3,284	4,326	3,878

SOURCE: Special tabulations, 1960 Thai Census.

ban, agricultural category. In the two rural residence groups, the fertility of the migrants was above that of the nonmigrants, but only in the rural, agricultural category did the difference exceed more than 100 per 1,000 women. Overall, therefore, the lifetime data failed to point to any substantial difference in fertility levels between the migrant and nonmigrant women in the Thai population at point of destination.

This does not necessarily mean that migration status does not affect fertility level. A serious limitation of the place-of-birth data is that they do not permit determination of when migration occurred, nor is it possible to ascertain whether the children were born before or after the move. By failing to indicate migrants' duration of residence in their place of destination, these data also preclude any effort to evaluate the extent to which the migrants had an opportunity to assimilate the fertility values and behavior of the nonmigrant population. Moreover, selective return migration and mortality may affect the fertility differentials; the fertility of the migrants remaining in their place of

destination may be lower than that of earlier migrants who returned to rural places. Within these limitations, the fertility differentials observed among nonmigrants and lifetime migrants do not, on balance, suggest that the migrants differ significantly from those of the nonmigrants in place of destination. If, however, one assumes that the migrants to urban places came largely from rural origins, a comparison of the fertility levels of the migrants in urban places with those of the nonmigrants in the rural, agricultural category points to selection at place of origin. For example, the average number of children ever born to migrant women in Bangkok (3,340 per thousand) is well below the average for rural nonmigrants (4,434), and the differences are even greater for women aged 45 and over who have already completed their childbearing (4,012 versus 6,254 for women 45–49 and 3,678 versus 5,926 for women 50 and over).

A major advantage of using place of residence five years preceding the census to determine migration status lies in the shorter time during which geographic mobility could occur, although it still does not permit exact determination of when children were born in relation to migration. But for younger migrant women, in particular, the chances are greater that the move preceded at least a portion of their childbearing; fertility differentials among younger women therefore take on particular significance.

The five-year migration data indicate a pattern quite different from that characterizing the lifetime statistics. For the total kingdom, the age standardized fertility level of migrant women is below that of the nonmigrants, averaging 3,878 compared with 4,326 per thousand ever married women. Moreover, the differential persists for all urban-rural categories. It is narrowest for the rural, agricultural group and widest for the urban categories. In Bangkok, for example, the average number of children ever born to migrant women is only 2,982 per thousand, compared with 3,427 to nonmigrants.

With age controlled (see Goldstein 1971a for detailed data), using the five-year migration data, only the fertility levels of the younger recent migrants—that is, women under age 40—in Bangkok are well below those of the nonmigrant women; fertility levels of older recent migrants who presumably bore all or most of their children before migration were quite similar to those of the nonmigrants. But again, comparison of the fertility levels of the Bangkok migrants with those of the nonmigrant women in rural places shows that at all ages Bangkok migrants displayed fertility levels far below those of the rural, agricultural women.

Overall, then, these two sets of migration data for Thailand in 1960, based on census materials, lend support to the conclusion that the fertility levels of migrants do not exceed those of nonmigrants; in fact, for recent migrants they were below those of the nonmigrating population in place of destination. This finding may reflect the selection of women with lower average number of children at place of origin or lower fertility in the years immediately following settlement in the place of destination—possibly as the result of obstructing factors, social or physiological, associated with the migration process. It may also reflect the lesser likelihood that women who are pregnant or have small children will migrate. The differential for recent migrants characterized all urban-rural categories, suggesting that it operated independently of place of destination. On the other hand, the fact that the fertility of migrants, like that of the nonmigrants, had a direct relation to urban-rural residence suggests that place of destination influences the selective process, so that either urban places attract those with much lower fertility levels or migrants fairly rapidly assimilate the general pattern of fertility behavior in the place of destination. Increasing movement to urban places, although compounding some of the problems associated with rapid urbanization, may thus have the positive by-product of reducing fertility levels for migrant women, and, to the extent that migrants constitute a high percentage of the urban population, for the total urban population as well. At the same time, if there is a considerable movement out of Bangkok by former in-migrants or by natives of the city to other parts of Thailand, these out-migrants may serve as catalysts for affecting fertility levels in the smaller places through the ideas and patterns of behavior they bring with them after exposure to life in the metropolis.

Urban-rural fertility differentials in 1960 and 1970

Regardless of the fertility differentials observed between migrants and nonmigrants, the 1960 Census data clearly show urban-rural residence to be related to fertility level. The average number of children born, with age standardized, ranged from 3,375 per thousand ever married women in Bangkok to a high of 4,461 for those in the rural, agricultural category.

A similar urban-rural relation is clear from the data available from the 1970 Census for which the data are, however, restricted to three residence categories: Bangkok, provincial urban, and rural (Table 4). The standardized data show Bangkok's average fertility to be 78 percent of that of the rural population. This average contrasts to the 76

TABLE 4 Number of children ever born per 1,000 ever married women, by age and urban-rural residence of women: 1970

Age	Total urban	Bangkok	Provincial Urban Places	Rural	Total kingdom
15-19	776	803	751	735	739
20-24	1,662	1,598	1,735	1,837	1,818
25-29	2,604	2,503	2,726	3,096	3,036
30-34	3,670	3,522	3,860	4,416	4,317
35-39	4,631	4,411	4,895	5,676	5,541
40-44	5,270	4,994	5,591	6,525	6,365
45-49	5,497	5,213	5,819	6,698	6,549
50-54	5,345	5,089	5,647	6,533	6,378
55-59	5,160	4,918	5,447	6,391	6,232
60 and over	4,749	4,513	5,012	6,059	5,893
All ages	4,036	3,855	4,248	4,785	4,693
Age standardized ^a	3,907	3,727	4,345	4,766	4,693

a The age distribution for ever married women in the total kingdom was used as the age standard.

SOURCE: Special tabulations, 1970 Thai Census.

percent characterizing the 1960 differentials. On the basis of these data, there is no evidence that the urban-rural differential has narrowed. Rather, the important points are (a) that the differential exists in both periods, and (b) that it is of a relatively substantial magnitude, 20-25 percent, for a country in which overall fertility levels are still very high.

Moreover, the urban-rural differentials exist at all age levels, with the sole exception of the 15-19 age group; and the differences appear to be substantially greater at the older ages. The underlying factors accounting for urban-rural differentials may thus have a greater impact on completed fertility than on differentials during the childbearing period. This pattern may reflect a stronger tendency, especially on the part of urban women, to initiate fertility control late in the reproductive cycle to restrict the number of children ever born rather than to use such control to space children during the earlier years of childbearing. But since a considerable portion of the Bangkok women consists of migrants to the city, further attention must certainly be given to the influence of migration in accounting for the lower fertility levels of the urban women. This will be done later.

TABLE 5 Average number of children ever born, by age and current residence of women

Age	Bangkok	Provincial Urban Places	Total urban	Rural
15-19	0.6	0.6	0.6	0.7
20-24	1.4	1.4	1.4	1.4
25-34	2.8	3.3	3.0	3.6
35-44	4.7	5.1	4.8	6.3
45-54	5.2	5.9	5.5	6.7
55 and over	4.9	5.4	5.1	6.6
All ages	3.7	4.1	4.0	5.0
Age standardized ^a	3.8	4.1	3.9	4.8

a In this and succeeding tables, the age distribution of all native-born ever married women living in all urban places was used as the age standard.

SOURCE: Data in this and succeeding tables are based on the 1970 round urban sample of the Longitudinal Survey; the rural data are based on the 1969 rural round of the Survey.

The data from the Longitudinal Study also confirm the existence of urban-rural differentials.⁴ As shown in Table 5, the number of children born to ever married women in Bangkok averages one less than the number born to rural women, and the average for mothers in smaller urban places is much closer to that of the Bangkok women, although somewhat higher. As with the 1970 Census data, the differentials are much greater for the older women who either have completed their fertility or are near doing so. This finding again suggests that urban-rural differentials manifest themselves more in the average completed family size than in the timing of childbearing. The close similarity in average number of children ever born to the youngest women in urban and rural places may reflect that women who marry at young

4 The differences between the 1970 Census and Longitudinal Study averages for urban and rural places result from several factors: the Longitudinal Study data are based on a sample survey, in contrast to the complete coverage of the census; the rural sample survey was conducted in 1969 and the urban survey in 1970, whereas the census was completed in its entirety in 1970; some geographic areas were omitted from the survey because they were considered politically "sensitive areas"; the foreign born are excluded from the survey data presented in Table 5 because of the focus of the present analysis on internal migration in Thailand. In addition, the Longitudinal Study had fewer cases of women with an unknown number of children. Such women were excluded from the averages in both data sets and this undoubtedly contributes to the higher averages shown by the census, especially in younger ages where such cases tend to be concentrated (see Knodel and Prachuabmoh, 1973).

ages in urban places are not typical, since the average age at marriage is generally higher than in rural places (Prachuabmoh et al., 1972); the women who marry young in urban places may also be more likely to have higher fertility than those who postpone marriage and thus may more closely resemble their rural counterparts than do women who marry at older ages.

Since 60 percent of both the Bangkok and the Provincial Urban ever married women were born elsewhere, the question immediately arises of whether the differences between urban and rural fertility in fact reflect largely differentials between migrants and nonmigrants in the city or differentials between the migrants to urban places and the nonmigrants remaining in rural origins. The same question was raised in analyzing the 1960 Census data, but now some answers can be sought in the data of the Longitudinal Study since they allow distinctions by rural-urban place of origin as well as recency of migration.

Migration and fertility in 1970

When a distinction is made among ever married women between those born in the urban place in which they were living at the time of the urban round of the Longitudinal Survey in 1970 and those who had moved there at any earlier time, migrants to both Bangkok and Provincial Urban Places are found to have somewhat lower fertility than did the nonmigrant women (Table 6). This differential is consistent with that observed for 1960 for the lifetime migrants, who represent the comparable migration group. As in 1960, the differential is not particularly large. Moreover, lower fertility for migrants is characteristic primarily of the age groups under 45 in Bangkok. The differences are less and more irregular for those in Provincial Urban Places. Overall, these data suggest that migration is associated with lower fertility at place of destination, but that for the lifetime migrants the differences are not particularly sharp, except for the younger age groups in Bangkok.

The pattern of differences between nonmigrant and migrant women may be seen in the data showing the distribution of number of births (Table 7). The age-standardized data show that in Bangkok a slightly higher percentage of the migrant women had no children and slightly fewer had four and over. In Provincial Urban Places, the pattern of differentials was somewhat different. A slightly higher proportion of migrant women had no children compared with the nonmigrants, but somewhat more of the migrant women also had four and more children. The sharpest difference for the Provincial Urban Places actually

TABLE 6 Average number of children ever born, by migration status, place of birth, recency of migration, and current residence and age of women

Current residence and age	Migration status		Migrant place of birth		Recency of migration	
	Nonmigrants	Migrants	Urban	Rural	Recent	Long-term
Bangkok						
15-19	*	0.6	*	0.6	0.7	*
20-24	1.6	1.3	1.3	1.4	1.3	1.3
25-34	3.1	2.7	2.5	2.9	2.2	3.1
35-44	5.2	4.3	4.1	4.6	3.9	4.6
45-54	4.8	5.4	4.9	6.0	5.1	5.5
55 and over	4.8	5.0	4.7	5.4	4.8	5.2
All ages	4.0	3.5	3.4	3.6	2.6	4.1
Age standardized	3.9	3.6	3.3	3.9	3.2	3.8
Provincial Urban Places						
15-19	0.8	0.5	*	*	*	*
20-24	1.5	1.4	1.8	1.4	1.2	2.0
25-34	3.3	3.3	3.4	3.2	2.8	3.7
35-44	5.3	5.0	4.7	5.1	4.5	5.2
45-54	6.0	5.8	5.2	5.9	5.4	5.8
55 and over	5.4	5.4	*	5.4	*	5.4
All ages	4.3	4.0	4.0	4.0	2.8	4.6
Age standardized	4.2	4.0	4.0	4.1	3.7	4.3
Total urban						
15-19	0.7	0.6	*	0.5	0.6	*
20-24	1.6	1.4	1.5	1.4	1.2	1.6
25-34	3.2	3.0	2.8	3.1	2.4	3.4
35-44	5.2	4.6	4.3	4.9	4.1	4.9
45-54	5.4	5.6	5.0	6.0	5.3	5.6
55 and over	5.1	5.2	4.9	5.4	5.1	5.3
All ages	4.2	3.7	3.6	3.8	2.7	4.4
Age standardized	4.0	3.8	3.5	4.0	3.4	4.0

* Fewer than 10 cases in the category.

TABLE 7 Percentage distribution of number of births, by migration

Current residence and age	Births to nonmigrants					Total Percent
	None	One	Two	Three	Four and over	
Bangkok						
15-19	*	*	*	*	*	*
20-24	17.9	35.9	23.1	12.8	10.3	100.0
25-34	4.8	17.1	19.9	19.2	39.0	100.0
35-44	2.7	7.5	7.5	10.9	71.4	100.0
45-54	4.5	10.4	14.9	9.0	61.2	100.0
55 and over	10.5	13.2	5.3	18.4	52.6	100.0
All ages	6.1	14.9	13.8	14.0	48.8	100.0
Age standardized	6.9	16.4	14.2	13.9	48.6	100.0
Provincial Urban Places						
15-19	46.1	30.8	23.1	0.0	0.0	100.0
20-24	17.6	32.4	32.4	17.6	0.0	100.0
25-34	5.7	12.2	18.9	23.6	39.6	100.0
35-44	5.5	6.5	8.7	14.1	65.2	100.0
45-54	4.9	3.2	14.5	3.2	74.2	100.0
55 and over	6.2	14.6	4.2	6.2	68.8	100.0
All ages	8.2	12.1	14.9	13.8	51.0	100.0
Age standardized	8.0	12.2	15.7	15.0	49.1	100.0
Total urban						
15-19	42.1	42.1	15.8	0.0	0.0	100.0
20-24	17.8	34.2	27.4	15.1	5.5	100.0
25-34	5.2	15.1	19.4	21.0	39.3	100.0
35-44	3.8	7.1	8.0	12.1	69.0	100.0
45-54	4.7	7.0	14.7	6.2	67.4	100.0
55 and over	8.1	14.0	4.7	11.6	61.6	100.0
All ages	7.0	13.7	14.3	13.9	51.1	100.0
Age standardized	7.4	14.4	14.9	14.2	49.1	100.0

* Fewer than 10 cases in the age group.

status and by current residence and age of women

Births to all migrants							
Number	None	One	Two	Three	Four and over	Total Percent	Number
*	50.0	35.0	15.0	0.0	0.0	100.0	20
39	20.2	39.3	27.4	13.1	0.0	100.0	84
146	10.6	17.6	20.0	22.4	29.4	100.0	245
147	6.3	11.0	11.0	8.4	63.3	100.0	191
67	3.2	8.5	5.3	9.6	73.4	100.0	94
38	10.9	10.9	10.9	4.3	63.0	100.0	46
443	10.7	17.2	15.6	13.7	57.2	100.0	680
	10.4	16.7	15.1	13.2	44.6	100.0	
13	58.4	33.3	8.3	0.0	0.0	100.0	12
34	23.7	34.2	25.0	14.5	2.6	100.0	76
106	9.6	9.6	13.9	24.7	42.2	100.0	166
92	2.5	8.3	7.0	8.3	73.9	100.0	157
62	3.9	6.6	6.6	6.6	76.3	100.0	76
48	2.8	8.3	13.9	11.1	63.9	100.0	36
355	9.4	12.8	12.2	14.2	51.4	100.0	523
	9.0	12.1	11.9	14.2	52.8	100.0	
19	53.1	34.4	12.5	0.0	0.0	100.0	32
73	21.9	36.9	26.3	13.7	1.2	100.0	160
252	10.2	14.4	17.5	23.4	34.5	100.0	411
239	4.6	9.8	9.2	8.3	68.1	100.0	348
129	3.5	7.7	5.9	8.2	74.7	100.0	170
86	7.3	9.8	12.2	7.3	63.4	100.0	82
798	10.2	15.3	14.1	13.9	46.5	100.0	1,203
	9.8	14.8	13.8	13.6	48.0	100.0	

occurs in the lower percentage of migrant women who had two children. Overall, for both Bangkok and Provincial Urban Places the index of dissimilarity⁵ is identical and very low, 4.7, indicating the generally close similarity between the fertility behavior of the nonmigrant and migrant women in both locations.

Duration of residence differentials

An advantage of the Longitudinal Study data is the opportunity they provide to further distinguish within the migrant group between recent and long-term migrants. For both Bangkok and Provincial Urban Places, a clear-cut differential characterizes these two migrant groups. Consistently, the recent migrants have the lower average number of children ever born, a differential of approximately 0.6 children, suggesting that recent migration is associated with lower fertility.

Differences exist not only between the recent and long-term migrants, but also between each of these groups and the nonmigrants in the respective places of residence. Such comparisons indicate a fairly close similarity in the average number of children ever born to long-term migrants and to nonmigrants in the same location. In fact, virtually all of the differential characterizing the nonmigrant and the migrant groups as a whole (that is, columns 2 and 3 of Table 6) is attributable to the sharper differences between the recent migrants and the nonmigrants. The greater similarity between long-term migrants and nonmigrants suggests strongly that duration of residence in urban places, and probably arrival there either before or during the reproductive period, results in the migrants' adopting the same fertility behavior as the nonmigrants at point of destination, so that the average number of children ever born is quite similar for both groups. The fact that the sharpest differences between the recent and the long-term migrants are in the younger groups, among whom reproduction is still in process, supports such an explanation. It argues strongly for further decomposition of the long-term migrant group into several groups based on duration of urban residence, and particularly an evaluation of how arrival predating the beginning of the reproductive years affects the differentials. As later discussion will suggest, the influence of temporary separation of spouses on the fertility of recent migrants needs to be assessed.

5 The index of dissimilarity shows the percentage of cases that would have to be redistributed in order to have the two distributions resemble each other exactly. The index can range between 0 and 100. For a description of how the index is calculated, see Shryock and Siegel, 1973.

The differences between the average fertility of recent and long-term migrants are shown in Table 8. In both Bangkok and Provincial Urban Places, there were considerably fewer childless women and women with only one or two children among long-term than among recent migrants. By contrast, the long-term migrants were disproportionately concentrated in the three and the four and over parity groups. Although the extent of the differences varied somewhat between women in Bangkok and Provincial Urban Places, the basic pattern was virtually identical: the index of dissimilarity between recent and long-term migrants was 10.3 and 11.3, respectively, for Bangkok and Provincial Urban Places. The fact that this index was considerably greater than that characterizing women divided into migrant and nonmigrant groups confirms the variations within the migrant group, and points to the greater differences between recent migrants and nonmigrants.

For both recent and long-term migrants, comparison of number of children ever born with the number of children born to women in rural places (shown in Table 5) indicates that regardless of duration of residence in the urban setting, fertility levels are below those of rural women. Since the majority of the migrants, particularly those in small urban places, came from rural areas, selectivity at origin or factors associated with the migration process itself contribute to such differentials. The lower average number of children born to women in each migrant category in Bangkok compared with the corresponding migrant category in Provincial Urban Places suggests either that selectivity is greater for those moving to Bangkok or, alternatively, that the migrants come closer to adopting the fertility norms of those natives with whom they have the greatest contact. The fact that the fertility levels of the nonmigrants in Provincial Urban Places are somewhat higher than those in Bangkok and that a comparison of the levels of the recent migrants with the nonmigrants shows quite similar ratios for both Bangkok and Provincial Urban Places lends weight to the latter interpretation.

By cross-tabulating current age and length of residence in current place of residence, it becomes possible to explore further the effects of duration of residence on fertility levels of migrants (Table 9). It comes as no surprise that for both Bangkok and Provincial Urban Places, a strong positive correlation characterizes the overall relation between duration of residence and average number of children ever born; the interaction between age and duration of residence would lead one to expect such a relation.

Because the detailed cross-tabulations by age and duration result in a small number of cases in many cells, comparisons are necessarily re-

TABLE 8 Percentage distribution of number of births, by recency of

	Births to recent migrants					Total Percent
Current residence and age	None	One	Two	Three	Four and over	
Bangkok						
15-19	50.0	33.3	16.7	0.0	0.0	100.0
20-24	20.6	38.2	29.4	11.8	0.0	100.0
25-34	11.5	23.7	24.5	22.3	18.0	100.0
35-44	13.9	12.7	10.1	8.9	54.4	100.0
45-54	3.8	7.7	3.8	3.8	80.8	100.0
55 and over	0.0	14.3	7.1	0.0	78.6	100.0
All ages	14.8	23.0	19.5	13.7	29.0	100.0
Age standardized	12.1	19.2	16.1	12.0	40.6	100.0
Provincial Urban Places						
15-19	*	*	*	*	*	*
20-24	27.1	35.6	27.1	10.2	0.0	100.0
25-34	11.7	14.3	15.6	23.4	35.0	100.0
35-44	2.2	13.0	8.7	6.5	69.6	100.0
45-54	0.0	11.8	5.9	5.9	76.4	100.0
55 and over	*	*	*	*	*	*
All ages	14.5	20.1	16.4	13.6	35.4	100.0
Age standardized	9.1	15.3	13.5	13.1	49.0	100.0
Total urban						
15-19	51.9	33.3	14.8	0.0	0.0	100.0
20-24	23.6	37.0	28.4	11.0	0.0	100.0
25-34	11.5	20.4	21.3	22.7	24.1	100.0
35-44	9.6	12.8	9.6	8.0	60.0	100.0
45-54	2.3	9.3	4.7	4.7	79.0	100.0
55 and over	0.0	10.0	10.0	5.0	75.0	100.0
All ages	14.7	21.9	18.3	13.6	31.5	100.0
Age standardized	11.0	17.9	15.1	12.3	43.7	100.0

* Fewer than 10 cases in the age group.

migration and by current residence and age of women

Number	Births to long-term migrants					Total	
	None	One	Two	Three	Four and over	Percent	Number
18	*	*	*	*	*	*	*
61	18.7	43.8	25.0	12.5	0.0	100.0	22
119	8.8	12.4	15.1	21.2	42.5	100.0	124
64	1.7	8.7	11.3	8.7	69.6	100.0	123
22	2.9	10.3	5.9	11.8	69.1	100.0	72
12	14.3	11.4	11.4	5.7	57.2	100.0	33
296	6.6	12.3	12.0	13.2	55.9	100.0	377
	8.5	15.5	13.1	13.3	49.6	100.0	
*	*	*	*	*	*	*	*
56	11.1	27.8	22.2	27.8	11.1	100.0	20
64	5.9	3.5	12.9	27.1	50.6	100.0	98
37	2.8	5.5	6.5	9.3	75.9	100.0	118
16	5.2	5.2	6.9	6.9	75.8	100.0	58
*	3.3	10.0	13.3	10.0	63.4	100.0	31
188	5.3	7.0	9.9	14.9	62.9	100.0	328
	6.8	8.5	10.9	16.8	57.0	100.0	
27	*	*	*	*	*	*	*
117	14.7	35.3	23.5	20.6	5.9	100.0	42
183	7.6	8.6	14.1	23.7	46.0	100.0	222
101	2.2	7.2	9.0	9.0	72.6	100.0	241
38	4.0	7.9	6.3	9.5	72.3	100.0	130
18	9.2	10.8	12.3	7.7	60.0	100.0	64
484	6.0	9.8	11.1	14.0	59.1	100.0	705
	7.8	12.2	12.0	14.9	53.1	100.0	

TABLE 9 Average number of children ever born, by duration of residence in current place and by current residence and age of women

Current residence and age	Duration of residence in current place				
	Under 5 years	5-9 years	10-14 years	15-19 years	20 years or more
Bangkok					
15-19	0.7	*	*	*	na
20-24	1.3	1.3	*	*	*
25-29	2.0	2.4	3.5	*	*
30-34	2.5	3.2	4.2	*	*
35-39	3.1	3.7	4.3	5.1	*
40-44	5.3	*	4.4	4.4	6.3
45-49	4.9	*	5.3	*	*
50-54	5.4	*	*	*	*
55 and over	4.8	*	*	*	5.8
All ages	2.6	3.3	4.3	4.6	5.2
Provincial Urban Places					
15-19	*	*	*	*	na
20-24	1.2	*	2.1	*	*
25-29	1.8	2.7	*	*	*
30-34	3.6	3.8	3.9	*	*
35-39	4.0	5.1	3.3	5.6	*
40-44	5.2	6.2	5.2	6.3	6.1
45-49	5.6	*	*	*	6.6
50-54	*	*	*	*	5.4
55 and over	*	*	*	*	5.5
All ages	2.8	4.2	3.6	5.5	5.6
Total urban					
15-19	0.6	*	*	*	na
20-24	1.2	1.4	1.8	*	*
25-29	1.9	2.5	3.8	*	*
30-34	2.9	3.5	4.1	3.6	*
35-39	3.4	4.2	3.9	5.4	3.5
40-44	5.3	5.3	4.8	5.3	6.2
45-49	5.3	5.3	4.9	6.6	6.0
50-54	5.2	4.9	*	6.0	5.2
55 and over	5.1	*	*	3.9	5.6
All ages	2.7	3.6	4.0	5.1	5.4

na—not applicable.

* Fewer than 10 cases in the category.

stricted. But these limited data point to a direct relation between duration of residence and fertility for the younger women—i.e., those under age 40 in Bangkok and under 35 in Provincial Urban Places. Beyond these age groups, the patterns are less regular, and the comparisons possible suggest that the direction of the relation may be reversed. To the extent that younger women have not yet completed their childbearing, the relation may change with longer residence. Nevertheless, the findings support the earlier noted differentials between recent and long-term migrants based on broader duration categories. Moreover, long periods of residence in present urban place by younger women mean that they were probably socialized in this location and had all of their children after migration. The positive relation between duration of residence and children ever born for these age groups therefore suggests that lower fertility is most characteristic of those women whose childbearing began before migration. This in turn suggests therefore either that migration itself was selective of persons with fewer children or that the move itself led to lower fertility in the post-migration period, or both. For those whose entire childbearing experience occurred after migration, these data very tentatively suggest that fertility is higher and more like that of the nonmigrants, pointing to more complete assimilation by migrants of the urban fertility levels and less direct effect of migration per se. But all of these relations remain to be tested more fully with more adequate data.

Urban-rural origin differentials

An advantage of the Longitudinal Study data lies in the opportunity they provide for identifying whether the migrant women were born in an urban or rural place (Table 6).⁶ For both Bangkok and Provincial Urban Places, the average number of children ever born to women who were themselves born in rural places was higher than that of women born in urban places; but only for Bangkok was the differential large, averaging 0.6 children with age standardized. In Bangkok, the higher fertility of rural-born migrants characterized all age groups, but was greater among the older women than among the younger, suggesting that it may be completed family size rather than child spacing that is most affected by rural or urban birthplace.

6 Ideally, such information should also be provided on other previous places of residence, and particularly the place of residence immediately preceding the move to Bangkok or Provincial Urban Places. Such data were collected for women only in the second round of the Longitudinal Survey; these will be available for later analysis.

The smaller difference for other urban places and the fact that urban-born women actually had on the average somewhat more children in the younger age groups than did the rural-born may indicate a general similarity between fertility levels of smaller urban and rural places. For the population as a whole, a difference of 0.7 children characterized these two residence categories, compared with 1.0 between rural places and Bangkok (Table 5). Perhaps most noteworthy is the similar number of children ever born among rural migrants to Bangkok and among both rural and urban migrants to Provincial Urban Places; only the urban migrants to Bangkok had substantially fewer children on the average than the nonmigrants in the capital. This may reflect the higher proportion of recent movers among the migrants in Bangkok; it also lends support to the earlier observation that more continuous residence in an urban place, and particularly Bangkok in more recent years, coupled with migration selectivity itself contributes to lower fertility.

The parity distributions (Table 10) reflect the higher average fertility of rural-born compared with urban-born migrants to Bangkok and to Provincial Urban Places, as well as the somewhat greater fertility differential between urban and rural migrants to Bangkok compared with that between urban and rural migrants to Provincial Urban Places. These data also point to the greater impact of urban environment on lowering fertility; the lower levels are displayed by migrants who originated in urban places and who thus probably had the longest exposure to an urban situation; and among these, the lowest level characterizes those whose destination was the big city. Length and intensity of urban exposure, therefore, seem to be strongly associated with lower fertility among migrants.

Again, the fertility levels of migrants can be compared with fertility of all women (migrants and nonmigrants) in the rural or urban places of origin (Table 5). The fertility of migrants from rural places to both Bangkok and Provincial Urban Places is considerably below that of the women in rural places, a difference of almost one child for Bangkok migrants and 0.7 in Provincial Urban Places. But the age-specific data suggest that the major differences characterize the older ages. The fertility of urban-born migrants to Provincial Urban Places is not very different from that of all women in urban places, suggesting that migration between urban places is only minimally selective with respect to fertility. However, such a conclusion may have to be modified once the data permit the urban origin of the migrant women to be decomposed into Bangkok and smaller urban places. By contrast, for migrants

to Bangkok, the 3.3 average number of children for the urban-born migrants is not only below that of the nonmigrant population in Bangkok itself (3.9) but still lower than the 4.2 average of nonmigrants in Provincial Urban Places, where all the urban migrants to Bangkok were born. Again, however, the difference tends to be sharper for the older women. That this difference is greater than that of Provincial Urban Places, when judged by place of origin, supports the earlier conclusion that continued residence in urban places and final migration to Bangkok are particularly associated with lower than average fertility.

Rural-urban differentials by recency of migration

In a critical review of the analysis of the 1960 patterns of migration differentials with respect to fertility, which relied on the census materials, Zarate and Zarate (1975) pointed out the desirability of distinguishing between the recent and long-term migrants by rural or urban place of origin. Such a distinction can be made with the Longitudinal Study data; but holding age constant does result in dilution of a number of the cells, and therefore the resulting analysis can be viewed only as suggestive.

If the rural-urban place of birth is held constant (Table 11), the evidence consistently indicates that recent migrants have a lower average number of children ever born than do long-term migrants from similar origins. For both Bangkok and Provincial Urban Places, the average for the long-term migrants is at least 0.5 children greater than that of recent migrants for the age standardized data. Consistently, the averages were higher for the Provincial Urban Places, again documenting that size of place has an influence on fertility level independent of migration status.

Comparisons of the differentials by urban-rural place of birth, holding recency of migration constant, shows a different pattern for Bangkok than for Provincial Urban Places. For Bangkok, in accordance with the earlier observations made on the basis of the data of Table 6, among both recent and long-term migrants the rural-born have more children than do the urban-born. For Provincial Urban Places, with age held constant, only among the recent migrants do the urban-born have lower fertility, but the difference is less than for Bangkok; the long-term migrants of both rural and urban origins have higher averages than do the recent migrants. Again, therefore, these data suggest that, either because of the kinds of migrants the metropolitan area attracts or because of the impact of residence in the metropolitan area itself, the fertility of urban-born migrants to Bangkok is most affected by

TABLE 10 Percentage distribution of number of births, by birthplace

Current residence and age	Urban birthplace					Total Percent
	None	One	Two	Three	Four and over	
Bangkok						
15-19	*	*	*	*	*	*
20-24	24.2	31.0	31.0	13.8	0.0	100.0
25-34	8.5	25.5	20.2	18.1	27.7	100.0
35-44	9.2	11.5	11.5	6.9	60.9	100.0
45-54	2.1	8.3	10.4	12.5	66.7	100.0
55 and over	15.8	10.5	10.5	5.3	57.9	100.0
All ages	10.0	18.2	16.1	12.2	43.5	100.0
Age standardized	10.8	19.3	16.1	11.9	41.9	100.0
Provincial Urban Places						
15-19	*	*	*	*	*	*
20-24	23.1	7.7	38.4	30.8	0.0	100.0
25-34	14.3	6.1	10.2	22.5	46.9	100.0
35-44	4.1	12.2	4.1	10.2	69.4	100.0
45-54	4.8	14.3	4.8	4.8	71.3	100.0
55 and over	*	*	*	*	*	*
All ages	10.4	9.7	11.1	16.0	52.8	100.0
Age standardized	10.6	9.3	12.5	16.8	50.8	100.0
Total urban						
15-19	*	*	*	*	*	*
20-24	23.8	23.8	33.3	19.1	0.0	100.0
25-34	10.4	18.9	16.8	19.6	34.3	100.0
35-44	7.4	11.8	8.8	8.1	63.9	100.0
45-54	2.9	10.1	8.7	10.1	68.2	100.0
55 and over	11.1	7.4	14.8	11.1	55.6	100.0
All ages	10.2	15.3	14.4	13.5	46.6	100.0
Age standardized	10.9	15.7	14.9	13.5	45.0	100.0

* Fewer than 10 cases in the category.

and by current residence and age of women

Number	Rural birthplace					Total	
	None	One	Two	Three	Four and over	Percent	Number
*	56.2	25.0	18.8	0.0	0.0	100.0	16
29	16.7	43.7	27.1	12.5	0.0	100.0	48
94	11.5	12.2	19.8	25.2	31.3	100.0	131
87	4.8	10.9	8.4	9.6	66.3	100.0	83
48	4.8	7.1	0.0	7.1	81.0	100.0	42
19	4.6	13.6	9.1	0.0	72.7	100.0	22
280	11.4	16.4	14.9	14.6	42.7	100.0	342
	9.7	15.2	13.4	13.7	48.0	100.0	
*	*	*	*	*	*	*	*
13	22.0	39.0	23.7	11.9	3.4	100.0	59
49	7.8	11.2	15.5	25.0	40.5	100.0	116
49	1.9	6.6	8.5	7.5	75.5	100.0	106
21	3.7	3.7	7.4	7.4	77.8	100.0	54
*	3.6	10.7	10.7	7.1	67.9	100.0	28
144	8.6	13.8	12.9	13.5	51.2	100.0	371
	8.1	12.6	12.4	13.6	53.3	100.0	
*	58.3	29.2	12.5	0.0	0.0	100.0	24
42	19.6	41.1	25.2	12.2	1.9	100.0	107
143	9.7	11.8	17.8	25.1	35.6	100.0	247
136	3.1	8.5	8.5	8.5	71.4	100.0	189
69	4.2	5.2	4.2	7.3	79.1	100.0	96
27	4.0	12.0	10.0	4.0	70.0	100.0	50
424	10.0	15.0	13.9	14.0	47.1	100.0	713
	8.8	13.7	13.1	13.7	50.7	100.0	

TABLE 11 Average number of births, by recency of migration, place of birth, current residence, and age of women

Current residence and age	Recent migrants		Long-term migrants	
	Urban-born	Rural-born	Urban-born	Rural-born
Bangkok				
15-19	*	0.6	*	*
20-24	1.3	1.4	1.4	1.2
25-34	2.0	2.4	3.0	3.3
35-44	3.7	4.2	4.2	5.0
45-54	4.5	5.8	5.0	6.1
55 and over	*	*	4.8	5.7
All ages	2.6	2.7	3.9	4.3
Age standardized	2.9	3.5	3.5	4.1
Provincial Urban Places				
15-19	*	*	*	*
20-24	*	1.1	*	2.0
25-34	2.6	2.8	4.2	3.6
35-44	4.3	4.5	4.8	5.3
45-54	*	5.8	5.4	5.8
55 and over	*	*	*	5.5
All ages	3.1	2.8	4.6	4.6
Age standardized	3.5	3.8	4.3	4.3
Total urban				
15-19	*	0.6	*	*
20-24	1.4	1.2	1.6	1.7
25-34	2.2	2.6	3.4	3.4
35-44	3.9	4.3	4.5	5.2
45-54	4.5	5.8	5.1	5.9
55 and over	*	5.3	5.0	5.5
All ages	2.8	2.7	4.2	4.5
Age standardized	3.1	3.6	3.8	4.2

* Fewer than 10 cases in the category.

the city. This means that being both urban-born and a recent migrant to Bangkok is associated with the lowest average fertility level, 2.9 with age standardized, in contrast to the 3.5 to 4.3 range characterizing all other place of birth and recency of migration categories and the

3.8 to 4.8 range characterizing the total resident populations in Bangkok, provincial urban, and rural places. That this low average may dissipate with longer residence in the metropolitan center has already been suggested by the earlier analysis.

Current fertility differentials

In addition to ascertaining the number of children ever born, the Longitudinal Survey questionnaire asked all female respondents who were still in their reproductive years whether they were pregnant at the time of the survey. Information was also obtained on whether they had been pregnant during the two years preceding the survey. The resulting data make it possible to add still another dimension to the evaluation of differentials between migrants and nonmigrants—the relation between migration status and current fertility. In particular, such an assessment should provide insights on whether the differentials identified on the basis of information on children ever born persist with these more current indicators of fertility, or whether, indeed, current fertility behavior suggests that the fertility differentials change among migrants with longer residence in the community. For example, it was suggested earlier that the lower fertility displayed by recent migrants, judged by children ever born, might reflect a number of factors associated with the disruptive character of recent migration. If, however, recent migrants have had more pregnancies in the one or two years preceding the survey or more of them were actually pregnant at the time of the survey, they may instead be narrowing the fertility gap between themselves and the long-term migrants as they “adjust” to residence in the new environment.

Perhaps the most striking observation to be made on the basis of the data showing the percentage of women who reported having been pregnant at least once during the two years immediately preceding the urban survey in 1970 (Table 12) is the high proportion of all urban women who were pregnant during this interval—just under one third of the women in Bangkok and over one third of those in Provincial Urban Places. Among all migrant categories, a fairly similar proportion of women were pregnant during the two years immediately preceding the survey. With age standardized, the percentages vary only by a few points among most of the categories being compared, suggesting considerable homogeneity among the various migration-status subgroups. But the small differences that do exist point in the direction of higher fertility among migrants compared with nonmigrants, and among recent migrants compared with long-term migrants. It is not possible to

TABLE 12 Percentage of currently married women who were pregnant during two years before survey or at time of survey, by migration status, place of birth, recency of migration, and current residence
(Standardized for age of women)

Current residence	Non-migrants	Migrants	Migrant place of birth ^a		Recency of migration	
			Urban	Rural	Recent	Long-term
Pregnant during two years before survey						
Bangkok	27.1	29.6	31.4	31.3	31.0	28.4
Provincial Urban Places	33.7	35.6	33.2	36.7	37.6	35.6
Total urban	29.4	32.4	32.3	34.2	33.8	31.9
Pregnant at time of survey						
Bangkok	8.3	9.2	9.1	8.7	11.7	7.2
Provincial Urban Places	9.2	10.1	12.1	9.0	12.3	7.3
Total urban	8.8	9.2	10.4	8.8	12.0	7.1

a The separate values for rural- and urban-origin migrants to Bangkok deviate slightly from the value for combined migrants owing to the exclusion of women of unknown rural-urban birthplace. See footnote to Table 2.

ascertain for the recent migrants whether the pregnancy occurred before or after the move since these migrants may have arrived in their place of destination at any point within the five years preceding the survey.

If the data on pregnancy at the time of the survey are considered, for both Bangkok and Provincial Urban Places the percentage of women who were pregnant suggests that current fertility is slightly higher among the migrants than among nonmigrants when age is standardized (Table 12). With age standardized, for Bangkok, for example, 9.2 percent of the migrant women were pregnant compared with 8.3 percent of the nonmigrants. The levels for both groups were slightly higher in Provincial Urban Places, but the direction and magnitude of the difference was about the same.

Interestingly, when the comparison is made between migrants of rural and urban birthplace, it is among the urban-born migrants that the higher proportion was currently pregnant; but the differential is substantial only for Provincial Urban Places, where 12 percent of the urban-born migrants compared with 9 percent of the rural-born migrants were reported pregnant at the time of the survey. Again, therefore, there is some evidence to suggest that the migrant group with the lowest cumulative fertility was making up some of the differential through higher levels of current fertility.

The sharpest differentials in levels of pregnancy are those between recent and long-term migrants. Again, the direction of the differential is opposite that characterizing the children-ever-born index of fertility; that is, a higher proportion of women are pregnant among recent migrants than among long-term migrants. Both in Bangkok and in Provincial Urban Places, the differential is over 60 percent. The age-specific data not presented here also generally point to much higher pregnancy levels among the recent migrants.

These two sets of data on pregnancy thus indicate (1) higher levels of current fertility, as measured by the percentage of women pregnant at the time of the survey, among those groups of migrants who were characterized by lower fertility as measured by children ever born; and (2) considerable homogeneity among the various migration categories if the percentage pregnant in the two years prior to the survey is considered. To the extent that children ever born reflects a cumulative measure of fertility and one that incorporates childbearing both before and after migration, it cannot be used to assess the full impact of migration on fertility levels. These data on percentage pregnant suggest that migrant women who had lower fertility because of the selection

process at place of origin, disruptions associated with the move, or adjustments in the place of destination actually evinced higher levels of pregnancy in the two years before and at the time of the survey. Whether these higher levels of childbearing will persist to the point that earlier differences will eventually disappear cannot be ascertained here.⁷ But at a minimum, these data do point to a narrowing of the earlier differences and suggest, therefore, that whatever causes underlie differentials in cumulative fertility, especially those characterizing recent migrants, other factors come into operation that tend to reduce those differentials among the migrants to Bangkok and to smaller urban places as well.

These data again emphasize the need to proceed with caution in generalizing about the interrelations between fertility and migration on the basis of any single measure without taking into account the limitations of that particular measure vis à vis the migration process. They also emphasize the need for both migration and pregnancy histories and for follow-up data covering the postmigration fertility experience, since the postmigration period of residence might be characterized by a change in reproductive behavior. They also argue for more attention to the selective character of return migration. Within the limits of available data from the first round of the Longitudinal Survey, the statistics on pregnancy levels both at the time of the survey and in the two-year period preceding it among those remaining in the urban centers suggest that some change in the pattern of fertility differentials may in fact occur, and that it has the effect of reducing the differentials noted on the basis of cumulative fertility. Moreover, if the differentials in current fertility levels persist for several years, they could result in a narrowing or elimination of fertility differentials between recent and long-term migrants, between migrants from urban and rural places, and between the migrants and the non-migrants in Bangkok and Provincial Urban Places.

Overview

This analysis lends strong support to the key role that migration has played and continues to play in the growth of the metropolitan center and, increasingly, in the growth of smaller urban places. The migration data examined here and more detailed attention given to them elsewhere (S. Goldstein, Pitaktepsombati, and A. Goldstein, 1976)

⁷ Analysis at a later date of the follow-up data from the Longitudinal Survey, which will permit assessments of childbearing in the three-year period following the first survey, should be helpful in answering this type of question.

also suggest strongly that the character of movement to the metropolitan center is quite different from that to smaller urban places, and that growing attention must therefore be given to the selective character of the migration streams, to the motives underlying movement, to the differential patterns of adjustment faced by the migrants, and to the character of movement from these two types of urban places to rural places and between the urban places themselves. Above all, analysis of the migration experience of migrants to Bangkok and Provincial Urban Places suggests strongly that the migration process is much more complex than a simple rural-to-urban population exchange; failure to recognize this fact may lead to serious shortcomings in any attempt to assess the full nature of the relation between migration and urbanization as well as between migration and other components of demographic change.

The complexity extends to the relation between migration and fertility. Cumulative fertility is lower for migrants compared with nonmigrants in both places of destination and origin. This finding suggests that selection occurs among those who leave rural areas, and that conditions associated either with the move itself or with the place of destination contribute to lower fertility than that of the nonmigrants in the urban destinations. The pattern of differentials is by no means uniform for all migrants, however.

Age at marriage must be considered as a possible explanation. The Longitudinal Survey showed that in Thailand age at first marriage is later in urban than in rural places: women residing in Bangkok marry approximately one year later than women in rural places. Both because of these residential differences in age at marriage and because migration itself could be expected to lead to a postponement of marriage, one must question whether the fertility differences observed between migrants and nonmigrants and between the various subcategories of migrants are affected by differences in age at marriage among these groups. The comparative data on average age at first marriage do not lend much support to such a relation, however. For Bangkok, only a few months separate the average age at marriage of migrants and nonmigrants, and in Provincial Urban Places the average is identical. This close similarity extends to migrants categorized by origin and recency of migration, leading to the conclusion that age at first marriage does not significantly account for the observed fertility differentials and suggesting that the reasons for these differences must be sought in other factors.

The lower fertility of recent compared with the long-term migrants

suggests several possible relations. First, the migration process itself may be disruptive of fertility, but the resulting delay in childbearing may be compensated for after longer periods of settlement in the urban place. This possibility may account for the quite similar fertility levels of long-term migrants and of nonmigrants in urban places. It would also help account for the fact that the greatest differentials exist among the youngest group of migrants—that is, among those in the peak reproductive years—and for the fact that the differentials dissipate when judged by current, rather than cumulative, fertility.

There may be reasons for the disruptive character of the migration process. The move itself may be sufficiently disturbing from a socio-psychological perspective as to interfere with the physiological capacity to conceive and bear children. But disruption may also operate on a different level. Previous research concerning Bangkok (Goldstein, 1972:23) and Bombay (Visaria, 1969) has suggested that migration often involves an initial period of separation between spouses, a period that constitutes a larger portion of the total stay of recent than of earlier migrants, thus reducing the fertility of the recent migrants (Borrie and Cameron, 1969:72). Bangkok, for example, had a high percentage of ever married women without spouse present in its 1960 population (28.6 percent among women aged 13–34); and these women had considerably lower fertility than those with spouse present. This may partly explain the lower fertility of recent migrants. Furthermore, some recent female migration to the city may have been to obtain employment. Recent female migrants participate in the labor force to a greater extent than do the rest of the female population, and this, too, is likely to contribute to the lower fertility of the recent in-migrants (S. Goldstein, A. Goldstein, and Tirasawat, 1972). Also operating to account for differences between recent and long-term migrants would be Visaria's (1969) thesis that the latter group, because of their arrival in the city during an earlier period, had not been exposed to the same type of modern urban influence, especially the availability of family planning information and clinics, that the more recent migrants encountered.

An alternative explanation, using Petersen's typology (Petersen, 1969:289–300), is that more recent migration in Thailand may be more innovative in character than earlier migration, which was more conservative. That is, earlier migrants may have responded to changes in their environment by conforming more closely to older behavioral patterns, including higher fertility levels. In contrast, more recent migrants, motivated by improved communication, more education, and

higher levels of modernization, may be leaving their old environments in order to achieve new goals, and therefore may be willing to forego the old in favor of new behavioral patterns, including lower fertility than that of couples at place of origin and even nonmigrants in place of destination. Further testing of this hypothesis is needed through assessment of whether the differential pattern of fertility levels of recent young migrants changes after additional years of residence in the areas of in-migration. The data on pregnancy raise questions about the validity of this interpretation, but these findings must be viewed as very tentative.

Overriding the differences by migration status are the urban-rural fertility differentials as measured by children ever born as well as by age-specific marital fertility rates (Prachuabmoh et al., 1972). These differentials are even greater than those between the migrants and nonmigrants, and persist even after migration status and rural-urban origin of migrants are controlled. Clearly, then, urbanization is associated with lower cumulative fertility among both migrants and nonmigrants. On this basis, it can be argued that more urbanization serves a positive function if the goal is to reduce fertility levels, even though it may have other negative effects. These differentials also suggest the need to identify those aspects of urbanization that contribute to lower fertility and may be introduced in rural areas as part of efforts to reduce fertility there. Research elsewhere suggests that, for Thailand, female labor force participation in the modern sector, more education (S. Goldstein, A. Goldstein, and Tirasawat, 1972), and both later age at marriage and separation of spouses (S. Goldstein, A. Goldstein, and Piam-piti, 1973) help to account for the lower urban fertility.

These data also suggest that the high fertility levels in rural areas may in small part reflect the net effects of selective migration; that is, the more traditional population—persons tending to have high fertility—remains behind in rural areas. This assumes that the fertility level of the migrants, had they remained in rural areas, would have been lower than that of the stable elements in the population. If this assumption is correct, the fertility level of the rural population may, in fact, become higher still if reduced pressure on the land resulting from out-migration or from greater economic opportunities for the use of manpower, possibly in conjunction with the Green Revolution, places a premium on children.

If fertility control becomes widespread in rural areas of Thailand as a result of the general effort to develop rural areas and the more specific efforts to introduce family planning there, the fertility differen-

tials between rural and urban women will likely narrow, and the selection process of rural-to-urban migration with regard to fertility may change. The specific nature of the change can vary, however; during a period of transition from higher to lower fertility, movement may in fact become more selective of those with lower fertility if those who initially adopt modern modes of behavior, including fertility control, are also strongly motivated to migrate to the cities. Eventually, with more widespread introduction of "urban ways" into rural settings, such selective out-migration may taper off, and fertility differentials between migrants and nonmigrants at origin, as well as at destination, may diminish. But this hypothesis remains speculative.

For the present, with respect to the relation between migration and urbanization, these data make it clear that migration in itself is a key factor in the growth of urban places in Thailand; up to 60 percent of all ever married women in urban places were born elsewhere. But this significant contribution of migration to urban population growth is compounded by the children the migrants bring with them as well as by those children who are born after migration. Although the present data do not permit separate measurement of the childbearing experience before and after migration, the available evidence strongly suggests that migrant fertility makes an important contribution to urban growth. Since two thirds of all recent urban growth is attributable to natural increase and since almost 60 percent of the ever married women in the population, and even more of those in the peak reproductive years, are migrants, the fertility of migrants undoubtedly constitutes a major component of the total natural increase of the urban population. That 67 percent of all ever married women reporting themselves as pregnant at the time of the survey were migrants and that 47 percent were recent migrants, both in Bangkok and in Provincial Urban Places, lend support to such an assumption. Yet the data also make clear that the relative contribution of migrant fertility to urban growth, judged by fertility levels, is not greater than that of the nonmigrants and may actually be less. This conclusion is based on the lower average number of children ever born to migrants compared with nonmigrants; since a number of these children were born before migration they may have been left behind in the mother's place of origin. Nonetheless, the finding that by age 50 both migrants and nonmigrants in Bangkok and in Provincial Urban Places had borne approximately five children and that current high fertility levels were not as different as cumulative levels further points to the persistence of high fertility levels among all segments of the population and the substantial contri-

bution of natural increase to urban growth on the part of both migrants and nonmigrants.

All of the relations evaluated in the foregoing analysis and the conclusion based on them will be subject to further review when the data from the second round of the urban survey are assessed. Such an assessment will focus on the extent to which the earlier noted patterns of differentials between migrants and nonmigrants and between the various subgroups of migrants changed during the three-year interval encompassed by the first and second rounds of the survey. It will benefit by the added information obtained on the migration and marital histories of the women respondents. But beyond this follow-up analysis, the interrelations between migration, fertility, and urbanization in Thailand are also to be assessed by attention to differences in knowledge of, attitudes toward, and practices of birth control. In addition, exploitation of special tabulations from the 1970 Thai Census will allow more careful attention, because of the larger number of cases available, to the influence of such background variables as education, literacy, labor force status, occupation, and religion on the fertility of migrants and nonmigrants. Together, these diverse sources of data and the additional information they provide should allow fuller and more careful evaluation of the interrelations among fertility, migration, and urbanization.

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