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Fertility Transition: Southeast Asia

The population of Southeast Asia was only one third the size of Europe's in 1950 (182 million compared to 547 million in Europe), but by 2050, the population of Southeast Asia is projected to be 25 percent larger

than Europe's (786 million vs. 628 million, United Nations 1999, pp. 442-3). This dramatic reversal is the product of a lag, of about a century, in the demographic transitions of the two regions. Fertility began to decline in several northwestern Europe countries during the last quarter of the nineteenth century and spread to all of Europe over the first half of the twentieth century. Fertility in Southeast Asia first showed signs of decline in a few countries in the late 1960s, and then moved downward, at varying speeds, throughout the region from the 1970s to the 1990s. Although fertility in Southeast Asia is likely to approach the replacement level (around two births per woman) early in the twenty-first century, the force of demographic momentum and the power of compound rates of growth will continue to expand the population of Southeast Asia relative to Europe (and North America).

Southeast Asia consists of the 11 countries that lie between the Indian subcontinent and China (see Fig. 1). While there are common geographical, historical,



Figure 1
Countries of Southeast Asia

Table 1

Estimates of population, life expectancy, and fertility in Southeast Asia

Southeast Asian Countries	POP (in 000) 2000 estimate	Life Expectancy		Total Fertility Rate	
		1965–70	1995–00	1965–70	1995–00
Brunei Darussalam	328	64.9	75.5	5.9	2.8
Cambodia	11,168	45.4	53.4	6.2	4.6
East Timor	885	37.5	47.5	6.2	4.4
Indonesia	212,107	46.0	65.1	5.6	2.6
Laos	5,433	40.4	53.2	6.2	5.8
Malaysia	22,244	59.4	72.0	5.9	3.2
Myanmar	45,611	47.4	60.1	6.0	2.4
Philippines	75,967	56.2	68.3	6.0	3.6
Singapore	3,567	67.9	77.1	3.5	1.7
Thailand	61,399	56.7	68.8	6.1	1.7
Vietnam	79,832	47.9	67.4	6.0	2.6
Total	518,540	47.8	65.7	5.8	2.7

Source: United Nations. 1999. *World Population Prospects: The 1998 Revision: Volume 1: Comprehensive Tables*. United Nations, New York

and cultural features of Southeast Asia, diversity is the hallmark of the region (Reid 1988, 1993, Wolters 1999). Indonesia, one of the world's most populous countries, comprises about 40 percent of population of the region as a whole (see Table 1). The other largest countries are the Philippines and Vietnam, each with estimated populations of more than 75 million in 2000, and Thailand at approximately 60 million. At the other extreme are the microstates of Brunei and East Timor, each with less than a million people. Singapore, a city-state, has a population of only 3.5 million, and Laos is only slightly larger at 5 million (Table 1). Myanmar (Burma) at 45 million, Malaysia with 22 million, and Cambodia with a population of 11 million are the other countries in the region.

The major geographical and cultural divisions are between mainland and insular Southeast Asia and between the lowlands and uplands within each region (and country). The populations of the mainland countries generally practice Buddhism while Islam is the major religion of Indonesia, and Christianity is the predominant religion of the Philippines. While part of Malaysia (Peninsular Malaysia) is on the mainland, it is usually considered as belonging to insular Southeast Asia because the Malay population of Malaysia shares a common language, religion, and cultural heritage with much of the Indonesian population. The lowland countryside of both mainland and insular Southeast Asia consists of villages knitted together by small and medium size market towns. Wet (irrigated) rice agriculture is the predominant feature of the countryside, but rubber, oil palm, coconut, and sugar plantations (and small holdings) as well as mining remain as legacies of the colonial export economies that once dominated the region. Every country has remote highland and mountainous regions, which are often populated by cultural and religious minorities (a

minority in one country is sometimes the dominant cultural group in neighboring countries).

Located along the major sea route between the great civilizations of East Asia and South Asia, the 'plural society' has been one of the defining features of Southeast Asia, which has been relatively open and absorptive of peoples, ideas, and cultural practices from elsewhere. In the twentieth century, assimilation into Southeast Asian societies and interethnic relations became more difficult with the creation of 'national' states and the translation of cultural differences by religion, language, and region into political categories with differential status and rights. Throughout the region, the 'overseas Chinese' continue to be over-represented in commercial and professional occupations. Over the centuries, a good share of Chinese-origin peoples have intermarried and blended with local populations in many Southeast Asian countries, but there remains a segment of the Chinese population that has been residentially and socially segregated even after three or four generations of local residence (Cushman and Wang 1988, Reid 1996, Chaps. 1–3).

The new Southeast Asian economies are dominated by the major metropolitan areas, including Jakarta, Surabaya, Bangkok, Singapore, Manila, Rangoon, Kuala Lumpur, and Ho Chi Minh City. These major cities typically originated as trading and administrative areas along major rivers or coastal ports. At the present time, these cities are bustling metropolises with large-scale manufacturing, commercial, service, and governmental functions. Contemporary indicators of development in Southeast Asia, including very low levels of mortality and almost universal secondary schooling, are approaching the prevailing standards of developed countries. The economic crisis that hit the region in 1997 notwithstanding, the

prevailing trajectory of Southeast Asia appears to be heading along the lines of the modernizing East Asian countries of Japan, Korea, and Taiwan.

1. *A Demographic Overview*

The major demographic attributes and trends of Southeast Asia, based on the latest UN population estimates and projections, are reported in Table 1. The extraordinary pace of demographic and social change in the region is registered in the measures of life expectancy and the total fertility rate (a summary measure of annual fertility expressed in terms of the average number of births per woman) from the late 1960s to the late 1990s. Over this 30-year period, the average life expectancy in Southeast Asia increased from 48 years to 66 years and fertility declined from almost six births per woman to less than three. These rates of change are unprecedented in the historical record and have only been exceeded in the modern era by several East Asian countries. In the late 1960s, the only countries in the region with life expectancy above 60 were Singapore and Brunei, although Malaysia was not far behind. Thirty years later, every country had life expectancies above 60, except for Cambodia, East Timor, and Laos (the poorest countries in the region). The declines in fertility are no less pervasive. Even in the relatively poor countries of Myanmar (Burma) and Vietnam, fertility has dropped below three children per couple. Fertility is below the replacement level of two births per couple in Singapore and Thailand.

The broad picture of rapid fertility decline conceals significant variations from country to country. For example, there has been very little socioeconomic development and only modest demographic change in Laos and Cambodia, countries that were victims of the Indochina wars of the 1960s and 1970s. After the 'victory' of the Khmer Rouge in 1974, the mortality rate may have doubled as a result of executions and starvation during the Pol Pot regime (United Nations 1999, p. 124, Heuveline 1998). There are signs of fertility declines in the UN data for Laos, Cambodia, and East Timor, but the absolute levels of fertility remain very high in these countries. Much further along the path of fertility decline are the large countries of Vietnam and Myanmar, although economic conditions in these countries remain far below the rest of the region (Haugton 1997, Myint 1991).

Fertility dropped below the replacement level in Singapore in the late 1970s (Saw 1999). Perhaps the most celebrated case of rapid fertility decline in the region is Thailand, where fertility declined from more than six births per woman in the 1960s to less than two births per woman in less than 30 years (Knodel et al. 1996, Hirschman et al. 1994). Fertility declines have also been registered in other Southeast Asian countries with estimates of total fertility rates ranging between

three and four births in Malaysia, the Philippines, and Indonesia (Hirschman and Guest 1990a, Palmore et al. 1995). The case of falling fertility in Indonesia is particularly salient, given the size of the country and its major influence on the region as a whole.

2. *Explanations of Fertility Decline in Southeast Asian Countries*

The postponement of marriage has contributed modestly to the temporal decline in fertility in several Southeast Asian countries, but the major component has been declines in marital fertility (Retherford and Cho 1973, Hirschman and Guest 1990a). Declines in marital fertility are due primarily to increased contraceptive use. Indeed other factors, such as decreases in spouse mortality and reduced durations in breastfeeding, would probably have led to rising marital fertility in the absence of increased contraceptive practice. The underlying question is what has caused the increase in contraceptive use.

There are two widespread interpretations for the widespread adoption of contraception and rapid fertility declines in the region: the efficacy of family planning programs and the rapid pace of socioeconomic change in the region. These interpretations are not incompatible, and in their classic study, John Knodel and colleagues conclude that Thailand's reproductive revolution is due to the combination of four factors: rapid social and economic development, a favorable cultural setting (female autonomy and weak intergenerational influences in reproductive decisions), a latent demand for fertility control, and an effective national family planning program (Knodel et al. 1987). The challenge for the field has been to test the relative significance of these explanatory factors in different times and places. At present, the research record points to a broad mosaic of varied patterns and causes without a simple overarching interpretation.

The fundamental prerequisite for fertility transitions is a mortality transition, especially declines in infant and child mortality. In Southeast Asia, mortality declines began in the decade after World War II, as antibiotics, other aspects of modern medicine, and preventive health programs were introduced and spread in many Southeast Asian countries. The continuing pace of mortality declines in the region is shown in Table 1. According to demographic transition theory, declines in mortality and other aspects of socioeconomic change are predicted to increase pressures on families and married couples to lower their desired number of children and to increase their 'demand' for family planning.

In almost every Southeast Asian country, there have been empirical studies that find the predicated associations between modern characteristics and lower levels of fertility. Social change, or modernization, is usually indexed by a variety of individual level characteristics,

such as female education and employment, urban residence and nonagricultural employment, exposure to the mass media, and ownership of modern goods. Such associations, however, do not explain how macrochanges (in society as a whole) lead to individual-level modernization nor whether cross-sectional associations reflect actual historical (over time) patterns of social change. Hirschman and colleagues (Hirschman and Guest 1990b, Hirschman et al. 1998) have attempted to explain fertility declines in four Southeast Asian countries (Indonesia, Philippines, Malaysia, and Thailand) from 1970 to 1990 in terms of changes in provincial level measures of social change in the status of women, the economic roles of children, and infant mortality. Although based on fertility transitions still in process, the findings are consistent with the logic of demographic transition theory, albeit with wide variations in the significance of specific independent variables over time and across countries.

Impressionistic evidence would suggest that governmentally sponsored family planning programs have been the major reason for rising contraceptive use in Thailand, Indonesia, and other Southeast Asian countries with declining fertility. Family planning programs were instituted in many Southeast Asian countries in the 1970s, just about the same time that fertility began to edge downward in the region. Several authors have attributed the decline of fertility in Indonesia to a very successful family planning program there (Freedman et al. 1981, Hull et al. 1977, Ross and Poedjastoerti 1983), and some observers attribute the slower declines in fertility in Malaysia and the Philippines to relatively less energetic family planning programs in these countries. These conjectures, however, are very difficult to evaluate empirically because the emergence and characteristics of family planning programs are correlated with other determinants of fertility decline, most notably socioeconomic development.

One analytical approach to this question is to measure the spatial pattern of fertility decline relative to the geographical location of family planning clinics and aspects of the program that may provide family planning information or contraceptives. The problem with this approach is that the location of family planning clinics may be endogenous, i.e., program resources such as clinics are directed to populations with very high fertility (just as police stations are often located in high crime areas). Moreover, contraceptives are available from nongovernmental outlets such as private clinics and drugstores. These conditions mean that empirical tests of the impact of family planning programs on fertility decline are extraordinarily difficult to estimate empirically.

Using econometric techniques to control for the endogenous role of family planning inputs, Gertler and Molyneaux (1994) find that almost all of the fertility decline in Indonesia from 1982 to 1987 was due to rising incomes and education and that very little

of the fertility decline could be attributed directly to family planning efforts. These findings do not rule out the interpretation that the Indonesian family planning programs played an important role through the provision of readily available means for fertility control (and at a modest cost) for women who were already motivated to limit their number of births, which is what Robinson and Rachapaetayakom (1993) argue was the major role of the Thai family planning program. Family planning programs may play a more influential role in the origins of a fertility transition than on its continuation.

Govindasamy and DaVanzo (1992) conclude that public policies, other than family planning programs, have been more influential in promoting more rapid fertility declines among the Chinese and Indian populations than among the Malay population of Malaysia during the 1970s and 1980s. The Malaysian government provided educational and economic subsidies (as part of an affirmative action program) for Malays that reduced the costs of children in a rapidly modernizing society. Leete (1996) adds the additional interpretation that Malay fertility has remained high because of the resurgence of Islam and pronatalist cultural values. There are, however, quite wide variations in levels and trends of Malay fertility between Singapore and Malaysia and across states in Malaysia that raise questions about a simple cultural or religious preference for high fertility (Hirschman 1986, Jones 1990).

Perhaps the single most important cultural characteristic of Southeast Asia is the relatively high status of women, especially when compared with East Asia and South Asia (Reid 1988, pp. 162–72, Van Esterik 1982). While women still face many socioeconomic obstacles in Southeast Asia, the situation is quite different from the patriarchal societies of East and South Asia. Southeast Asian kinship systems are typically bilateral with equal importance attached to the husband's and wife's families. For the most part, there is no strong sex preference for children in Southeast Asia (Wongboonsin and Ruffolo 1995) nor are there strong prescriptions on residence with the groom's family after marriage. Cultural variables are difficult to quantify, especially at the microlevel, which makes it difficult to estimate their relative role in shaping fertility levels and change, but it seems likely that greater freedom for women to pursue nonfamilial roles and to influence household decision making have been important factors in the region's rapid fertility decline.

3. The End of the Fertility Transition in Southeast Asia

If the current pace of decline continues, replacement-level fertility (two children per woman) should be reached early in the twenty-first century in most

countries and regions of Southeast Asia. Indeed, if the recent history of East Asia, and Singapore, is any guide, modern fertility levels may not stop at the replacement level, but continue to decline below the level of fertility needed to replace the parental generation. The explanations for these rapid fertility declines, although still hotly debated, are likely to be the complex interplay of rapid socioeconomic change, organized family planning programs, and spatial and social diffusion processes that vary in significance and intensity over time.

An additional factor that is likely to accelerate the decline of fertility is the postponement and perhaps decline in marriage. The most celebrated case is Singapore, where the 'the flight from marriage' and declining fertility among the highly educated population prompted the government to organize social activities to encourage unmarried persons in their twenties and thirties to marry and have babies (Leete 1994, p. 815, Yap 1995). The trend toward marital postponement throughout the region has been underway for 30 years, but the 1990 round of censuses revealed how far the trend had progressed. In Malaysia, Thailand, and the Philippines, from 13 to 15 percent of women in their early thirties remained unmarried (Jones 1995, 1997).

The figures for marital postponement are even higher in cities and among those with higher education. In several countries of Southeast Asia, the average age at marriage of women and men is older than in many Western countries. Since the historical pattern in Southeast Asia was of young and universal marriage, this is a remarkable transformation in custom. Perhaps, there may be a lag in the adjustment of social institutions to replace traditional match-making arrangements. Another hypothesis is that some highly educated men in Southeast Asia may prefer to marry women with lower educational attainment who are considered to more likely to follow traditional gender roles than highly educated women.

Although there is likely to be an adjustment in marriage patterns before high levels of celibacy are reached, the current pattern of marital postponement is certain to likely to accelerate the downward trend in fertility in most Southeast Asian countries. Indeed, the fertility transitions in Southeast Asia are among the most rapid in the developing world, and the trend may accelerate. Nonetheless, rates of rapid population growth of 2 percent per annum during much of the second half of the twentieth century and subsequent demographic momentum will lead to continued rapid growth of the population of Southeast Asia during the first half of the twenty-first century.

See also: Family Size Preferences; Family Systems and the Preferred Sex of Children; Fertility Control: Overview; Fertility Transition: Cultural Explanations; Fertility Transition: East Asia; Fertility Transition: Economic Explanations; Land Rights and Gender;

Southeast Asia: Sociocultural Aspects; Southeast Asian Studies: Gender; Southeast Asian Studies: Health

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Fertility Trends in the Formerly Socialist Countries of Europe

The Formerly Socialist Countries of Europe (FSCE) include Albania, Bulgaria, Hungary, Poland, and Romania, as well as the newly independent states, namely the Czech Republic and the Slovak Republic from the former Czechoslovakia; Belarus, Estonia, Lithuania, Latvia, Moldova, Russia, and Ukraine from the former USSR; Croatia, Bosnia and Herzegovina, Slovenia, Macedonia, and Yugoslavia from the Socialist Federated Republic of Yugoslavia; and

finally the eastern *Länder* of Germany, which from May, 1949 to October 3, 1990 formed an independent state—the German Democratic Republic (GDR).

Relatively heterogeneous demographically, the FSCE have *grosso modo* followed a common pattern during the twentieth century, namely a late onset and high speed of the fertility transition as compared to Western and Northern Europe; a specific environment of family economics and other family policies applied under the socialist system during the four post-war decades; and a rapid transition from a centralized to a market economy since the beginning of the 1990s.

1. The Fertility Transition

The fertility transition started during the last quarter of the nineteenth century in the more industrialized and urbanized Czech Republic (which was part of the Austro-Hungarian Empire until 1918), in the former GDR (Western Prussia), and in Hungary (the Kingdom of Hungary in the Austro-Hungarian Empire). Elsewhere (Albania excluded), the beginning of a stable fertility decline may be dated to about the first two decades of the twentieth century, though exact estimation is difficult because of social troubles and wars in 1912–20 (Coale 1969, Pavlik 1991). The completed fertility (CF) of women born in 1910, a central cohort whose reproductive behavior reflected fertility dynamics during the first half of the twentieth century, was below 2.5 births per woman in the Czech Republic, the GDR, and Hungary (as it was in England and Wales), about 3.0 in Bulgaria and Slovakia (as in The Netherlands), and between 3.5 and 4.0 in Poland, Rumania, Yugoslavia, and Russia (Festy 1991). In general, the FSCE followed the West European fertility transition pattern between the two World Wars, and on the eve of World War II, Albania was the only country not to have begun its fertility transition.

2. Trends after World War II

Fertility in the FSCE in the second half of the twentieth century was marked by a notable deviation from the Western and Northern European pattern. While fertility rose throughout the West after the 1950s (see *Baby Booms and Baby Busts in the Twentieth Century*), in the FSCE it continued to decline without interruption, reaching the then European low in the early 1960s (Sardon 1998). In Hungary, the TFR fell below 2 in 1961, in Romania in 1964, in the Czech Republic in 1967, in the Ukraine in 1965, and in Russia in 1968. The TFR level necessary for generation replacement (at least 2.1) was still maintained in Poland, the GDR, Belarus, Bulgaria, Moldova, and all of Yugoslavia,