

## Aging in Asia: Setting the research foundation

Albert I. Hermalin

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*This report is based on a lecture that Professor Hermalin presented as part of the Distinguished Lecturer Series commemorating the Program on Population's Twenty-Fifth Summer Seminar on Population, held in Honolulu and Taipei during June-July 1994. The seminar provided an opportunity for 80 population professionals from 25 countries to share their experience, increase their knowledge, and develop plans for collaborative research.*

*Asia's populations will grow older at a rapid rate during the next 50 years. Many countries of the region have already completed the transition from high to low fertility rates and are experiencing a rise in the proportions of elderly in their populations. Their governments are concerned about the social and economic consequences of population aging and desire to fashion policies and programs that reflect national cultural and economic profiles. This report first develops a framework for understanding the factors that affect the status and well-being of the elderly. It then spells out the elements of a policy-oriented research agenda that can monitor the transformations likely to occur in the cultural, social, and economic arrangements for the elderly.*

**T**here is little doubt that Asia's elderly populations will grow rapidly in absolute and relative numbers over the next 25 to 30 years. Given this likelihood, what can the research community, particularly the demographic community, do to maximize its understanding of how population dynamics are interacting with culture, social change, and economic development to affect the well-being of the elderly and the relationships between older and younger generations? Stated otherwise, how can research funds, which are likely to be constrained, best be used to study the consequences for Asian societies and families of the expected

changes in population age structure over the next 30 years?

It is useful to contrast the current situation with that of 25 to 30 years ago. Then, throughout most of Asia, the predominant demographic concern was about rapid population growth and its effects on economic development as governments sought to advance the welfare of their citizens at the end of World War II. How and when, and at what rate, fertility would decline was the overriding question. At that time social scientists were just beginning to develop many of the demographic and related research tools needed for studying fertility and family planning dynamics.

Today the situation is quite different. In contrast with the determinants of fertility levels (or of mortality or migration levels), the determinants of age structure are well known—they are determined by these other demographic processes—and this knowledge gives us a high level of assurance about the future trends in population aging. Current and projected increases in the proportions of elderly are primarily a result of the sharp declines in fertility that have occurred in many East and Southeast Asian countries, and also a result of increases in life expectancy. Barring a significant change in the levels of childbearing, future age structures are highly predictable.

In addition, the field of population studies has matured considerably in its theoretical, substantive, and methodological dimensions, as have related research fields. We now have much richer arrays of data available, more powerful tools for analyzing them, and deeper insights into the interrelationships between demographic and other societal forces.

Along with achieving lower fertility and improvements in life expectancy, many countries in Asia have made great strides in such areas of social and economic development as per capita income, educational levels, and women's labor force participation. Accordingly, these countries are grappling with new population-related issues—internal migration, urbanization, immigration (including temporary foreign labor), labor supply and demand, environmental impacts, and social welfare programs—in addition to a changing age structure, which of course intersects with most of these other issues. The leaders of these countries have grown much more aware of the complex interrelationships between demographic and socioeconomic factors, as well as the interplay among

the demographic factors themselves.

An indication of this awareness is that although only two Asian societies, Japan and Hong Kong, had more than 10 percent of their populations in the 60 and older age group as of 1990, since the early 1980s there has been an outpouring of conferences, research projects, books, and papers about aging in Asia (Andrews 1992). Policymakers in both the public and the private sector have been trying to anticipate the implications of aging trends and to devise appropriate policy responses.

This self-awareness has several dimensions. Many governments are interested in setting several demographic goals simultaneously or, more precisely, in fine-tuning their demographic responses to balance various social needs. Thus, in some countries policymakers continue to be concerned about reducing fertility—but not too much—and in others where fertility is very low they are attempting to raise birth rates to offset what are thought to be potentially deleterious effects of an aging society. Some societies perceive potential conflicts between their achievements in providing advanced educational opportunities for women and the delays in marriage and childbearing that are often associated with these educational trends.

Many Asian leaders are well aware of the high cost and other problems associated with social welfare programs for the elderly in the West and are seeking approaches that will provide needed support at a much lower cost. They wish to know whether "modernization" inevitably means "Westernization," or whether they can choose different arrangements. An intriguing possibility is that Asians, with their long-standing family traditions, including the Confucian tradition of reverence for the elderly, on the one hand and their willing-

ness to seek new solutions on the other, might develop policies and institutions that could influence Western approaches to issues of population aging.

From a researcher's standpoint, this early self-awareness is an advantage because it provides an opportunity to fashion a research agenda for tracing the effects of social and demographic forces on the well-being of the elderly and for helping government officials and business owners to develop appropriate policies and programs in response to population aging. It also represents a challenge because policymakers will expect research to be responsive to these policy and program needs. Therefore, we researchers must ask ourselves how best to prepare for the tasks ahead.

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## FASHIONING A CONCEPTUAL FRAMEWORK

In developing a research agenda, it is useful to begin with a conceptual framework that describes the interrelationships of the major factors involved. Figure 1 portrays the well-being of the elderly as a function of, first, the political, sociocultural, and economic systems of a society; second, the society's demographic structures; and, third, the resultant policies and programs (such as the tax structure and land-use regulations) that affect the elderly either directly or indirectly. This conceptual framework views these policies and programs as shaped not only by the needs of the elderly but also by the economic and political power that the older segment of the population can exert in its own behalf. Governments adopt them in accordance with the goals and values of their constituents and in response to socioeconomic and demographic forces.

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Many countries in Asia have already completed the transition from high to low fertility rates, and others are now undergoing rapid fertility declines. Although a few are experiencing slower rates of change, Asian populations as a whole will age rapidly over the next 25 to 30 years, primarily as a result of lower birth rates. Governments of the region are distinctive in their awareness of emerging demographic trends and their desire to fashion policies and programs that reflect each country's unique cultural and economic profile. Given this desire, a research agenda is needed that will provide maximum insight into how population aging interacts with cultural traditions and economic development, and how these interactions affect the well-being of the elderly and the relationships between generations.

This Research Report first develops a framework for understanding the factors affecting the status and well-being of the elderly, tracing the broad demographic trends, projecting those trends into the future, and examining current living arrangements of the elderly throughout Asia. By 2025, the proportion of the population 60 and older is expected to approach 20 percent in East Asia and to be around 11 to 12 percent in South Asia and Southeast Asia. Currently from two-thirds to four-fifths of Asia's elderly reside with a grown child; but diminishing family size, rapidly rising educational levels among the future elderly, and other factors have created uncertainty about future trends in coresidence.

The report next spells out the elements of a research agenda that can monitor the transformations likely to occur in the cultural, social, and economic arrangements of the elderly. These elements include the types of quantitative and qualitative data to be used, questions that can be added to current data-collection efforts, and modifications in the design of surveys, censuses, and related efforts—all of which can greatly enhance our knowledge of emerging patterns at reasonable costs. The ultimate goal is to inform public policies affecting the elderly.

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Figure 1 does not portray the dynamic aspects of the situation, and so it is important to remember that the broad cultural, socioeconomic, and demographic dimensions are all shifting over time, presenting opportunities and constraints that affect the development of programs and impinge directly on the welfare of the elderly. Indeed, some of the major theoretical formulations about the status of the elderly attempt to describe what happens to them over the course of economic development.

For example, after reviewing several factors associated with development—industrialization, urbanization, modern health technology, and increased education—Cowgill (1974) concluded that all of them tended to reduce the status of the elderly by trapping them in more traditional and less rewarding jobs, separating them from their families, depriving them of meaningful roles through early retirement, and lowering their social status relative to the young. Nevertheless, he and others recognize that several benefits have accrued to the elderly from development. Treas and Logue (1986) suggest that the relationship between economic development and the welfare of the elderly depends on many situational factors.

Figure 2 is an alternative framework that stresses the dynamic aspects of the elderly population's situation and calls attention to exchanges with family members, friends, and the formal sectors of society that affect the well-being of the elderly. The larger societal system, policies and programs, and the exchange system all evolve over time, and the status, needs, and resources of the elderly, along with many other cultural and social factors, influence this evolution.

Taken together, Figures 1 and 2 help to set the broad research agenda. At any given point, it is important to measure

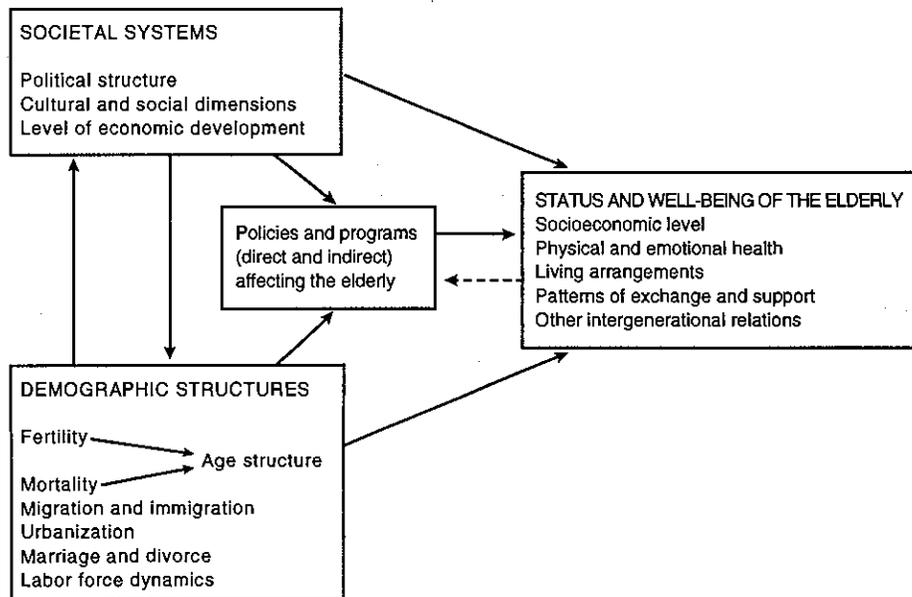


Figure 1. Conceptual framework for factors affecting the status and well-being of the elderly

the well-being of the elderly and to be aware of the exchanges, programs, and other factors that shape that outcome. At the same time, we must try to measure changes in the broader cultural and economic context and to develop a research program that provides a sufficiently dynamic picture of all the key factors. It is not likely that any single data-collection tool, such as an occasional cross-sectional survey, will suffice, and therefore an array of research strategies needs to be developed to accomplish the tasks at manageable costs.

### DEMOGRAPHIC TRENDS

It is beyond the scope of this report to take stock of all the measures implied by Figure 1. Focusing briefly on current demographic trends and on indicators of change in the status of the elderly is useful, however.

The age structure of a population responds primarily to fertility levels and secondarily, once low fertility levels are reached, to mortality. Table 1 presents recent trends, for selected Asian coun-

tries, in fertility, mortality, and the proportion of each population at older ages. Figure 3 graphically portrays the regional patterns of observed change in the three variables and of projected changes in the relative size of the elderly population.

The most dramatic declines in fertility have taken place in East Asia, where over a span of 25 years the total fertility rate fell from an average of 5.35 children per woman to just 2.3, with little variation among countries. A number of countries in that subregion currently have fertility rates at or below the population replacement level of 2.1 children per woman. Southeast Asia also shows a sharp fertility decline on average between 1960–65 and 1985–90; but the region exhibits considerable variability, with some countries at or near the replacement level and others remaining at high fertility. South Asia shows the least reduction overall; but significant fertility declines in the last 10 to 15 years are apparent in each of the countries shown except Pakistan.

Improvements in life expectancy

across Asia are no less dramatic. Between 1960–65 and 1985–90, life expectancy at birth rose in each subregion by 10 years or more. East Asia shows the lowest level of mortality in 1990, with life expectancy at about 70 years, in large part because of the spectacular gains in China. Southeast Asia has a life expectancy of 61 years overall, but considerable variation exists among countries. South Asia's level is somewhat lower, at 57 years.

These changes are the main forces driving the increased proportions of the elderly. As Table 1 shows, the growth in the proportions of elderly tends to re-

fect the rate of fertility decline: countries and subregions showing the largest and earliest declines generally have the highest proportions at the older ages. Nearly 10 percent of East Asia's population was 60 or older as of 1990, and that proportion is projected to rise to nearly 20 percent by 2025, with several countries in the subregion exceeding 30 percent in that age category by then. The somewhat lower proportions of elderly projected for 2025 in Southeast Asia and South Asia reflect the later onset of fertility decline and differences in mortality levels in those subregions. Overall, little difference exists between

Southeast Asia and South Asia in past, current, or projected proportions at older ages, despite their somewhat different recent trajectories of fertility and mortality. Within all three subregions, the relative size of elderly populations shows growing diversity.

Given the dramatic demographic and socioeconomic changes that have occurred in Asia, it is appropriate to consider how much change has taken place in the factors associated with the well-being of the elderly. Detailed time series of the topics identified in Figure 1 are not generally available, but living arrangements of the elderly have been studied widely as a prime indicator of their well-being and a harbinger of changes that may occur with greater industrialization and urbanization. In many agricultural societies of Asia, as elsewhere, parents would traditionally coreside with one or more married children and be supported by them in old age. It was even common for one grown child and his or her spouse to remain in the parents' household upon marriage, so that, for parents, coresidence with a married child began at a fairly early age.

Despite the importance of coresidence as an indicator of elderly individuals' welfare in Asia, several cautions need to be observed in measuring and interpreting its prevalence. On the measurement side, some measures do not distinguish between coresidence with married and unmarried children. When an older parent lives with unmarried children, particularly those who are young adults, it may be unclear whether support is flowing primarily from the children to the parent or vice versa. If couples delay childbearing, or if husbands are significantly older than wives, then over time there can be an *increase* in the number of couples over age 60 who have unmarried children living at home, without signifying any change in

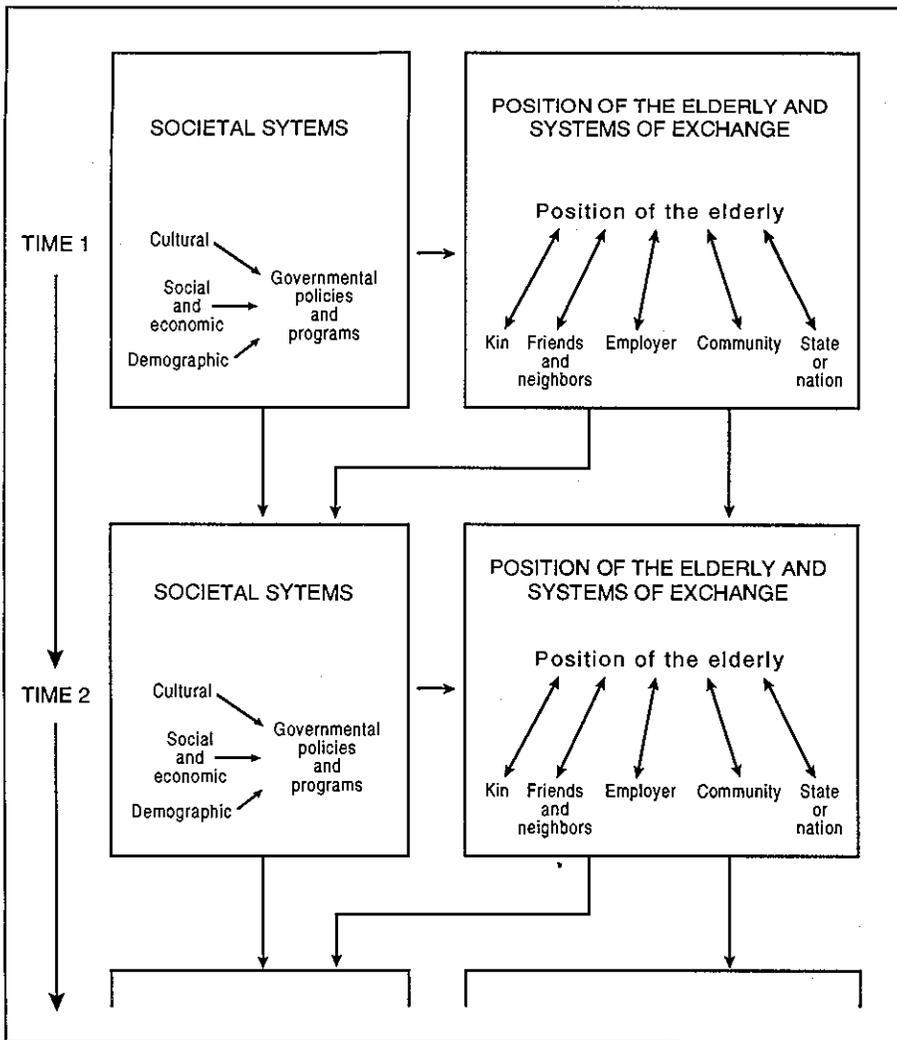


Figure 2. Framework for analyzing the relationships of societal systems to systems of exchange and the position of the elderly over time

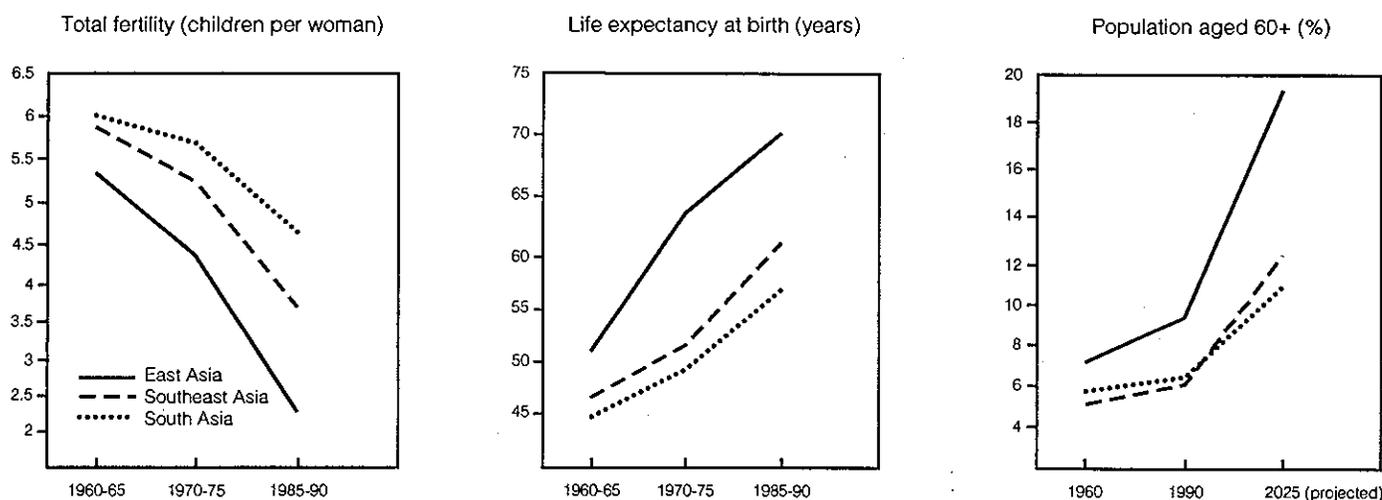


Figure 3. Trends in total fertility, life expectancy, and the percentage of elderly: East Asia, Southeast Asia, and South Asia, 1960-2025

Source: Table 1.

the support arrangement of the parents.

Even when a consistent set of data collected over time is available on the level of coresidence with married children, several cautions should be observed. Most obviously, coresidence in itself may not mean an active or substantial level of support of the elderly. Conversely, older parents living alone

may still have frequent contact and receive substantial support from their children. (For information on this phenomenon in the United States and Britain, see Townsend 1957, Bumpass 1990, and Eggebeen and Hogan 1990.) The absence of coresidence may signify a greater preference for privacy and independence on the part of both parents and

children, combined with the economic means to achieve this. At the same time, economic constraints may promote coresidence even among more modern sectors of the population. As an example, DeVos and Lee (1993) report that while the proportion of elderly persons living in extended families declined in rural areas and cities of South

Table 1. Fertility, mortality, and percentage of population 60 and older: selected Asian countries, recent periods

Subregion and country	Total fertility rates (TFRs)			Life expectancy at birth			Percentage of population 60 or older		
	1960-65	1970-75	1985-90	1960-65	1970-75	1985-90	1960	1990	2025 (projected)
East Asia	5.35	4.40	2.30	51.0	63.8	70.3	7.3	9.5	19.6
China	5.93	4.76	2.38	49.5	63.2	69.4	7.2	8.8	18.8
Hong Kong	5.30	2.89	1.36	67.6	72.0	77.0	4.8	12.9	31.0
Japan	2.01	2.07	1.68	69.0	73.3	78.3	8.9	17.2	30.3
Korea (South)	5.40	4.11	1.73	55.2	61.5	69.4	5.3	7.5	22.0
Southeast Asia	5.89	5.26	3.73	46.7	51.6	61.3	5.3	6.2	12.5
Indonesia	5.42	5.10	3.48	42.5	47.5	60.2	5.2	6.3	13.6
Malaysia	6.72	5.15	4.00	55.7	63.0	69.5	5.3	5.8	12.6
Philippines	6.61	5.29	4.30	54.5	57.9	63.5	4.9	4.9	10.9
Singapore	4.93	2.63	1.69	65.8	69.5	73.5	3.7	8.7	27.0
Thailand	6.42	5.01	2.57	53.9	59.6	67.3	4.5	6.3	16.8
South Asia	6.03	5.70	4.66	45.0	49.5	57.0	5.8	6.5	11.0
Bangladesh	6.68	7.02	5.10	40.6	44.9	50.7	6.2	4.9	7.6
India	5.81	5.43	4.20	45.5	50.3	57.9	5.7	7.1	12.7
Pakistan	7.00	7.00	6.75	44.4	49.0	56.5	6.3	4.6	8.0
Sri Lanka	5.16	4.00	2.67	63.5	65.0	70.3	5.7	8.0	16.9

Sources: TFRs and life expectancy for 1960-65 and 1970-75: Ogawa and Tsuya (1993, tables 2.3 and 2.4). TFRs and life expectancy for 1985-90 and all data for percentage of population 60 and older: United Nations (1993).

*Nearly 10 percent of East Asia's population was 60 or older as of 1990, and that proportion is projected to rise to nearly 20 percent by 2025—and to more than 30 percent in several countries.*

Korea outside the capital between 1970 and 1980, it remained the same in Seoul, undoubtedly reflecting the tight housing market there.

In general, it is important to distinguish between the form and the function of family arrangements. Just as the family has changed its primary functions over time, reducing its role as a unit of production but maintaining or enhancing its importance in other spheres, coresidence of an elderly parent with a married child can involve a wide variety of arrangements. In an urban setting, for example, elderly parents may be heavily engaged in child care, shopping, and meal preparation for the busy younger couple rather than being on the receiving end of various forms of social support.

With these observations as background, Table 2 presents data on recent

levels of coresidence in selected countries of Asia, and Table 3 presents changes in coresidence levels in Japan, South Korea, and Taiwan since the 1970s. For comparative purposes these data should be regarded as broad estimates, given the wide variety in the breadth and methods of data collection represented. Despite this qualification, Table 2 reveals a high degree of coresidence among persons 60 years old and over in the 11 Asian societies as of the mid- to late 1980s, the proportions ranging from about two-thirds to more than four-fifths. Both the East Asian and the Southeast Asian data show considerable variability. Elderly persons who do not live with children are not necessarily living alone, of course, since many are living as couples. The proportions of the elderly living alone in Asian countries are very low, rarely reaching 10 percent and often below 5 percent in the countries studied (Knodel and Debavalya 1992; Martin and Kinsella 1994).

Table 3, which presents changing levels of coresidence over time and in the case of South Korea and Taiwan restricts the definition of coresidence to living with married children, indicates that coresidence has declined in the three East Asian societies over the last two decades. (In Taiwan the decline may be overstated because among the elderly the proportion of Chinese mainlanders—those who migrated to Taiwan in 1949–50 after the Chinese Civil War—increased sharply over this period. High proportions of mainlanders are unmarried and childless.) Although the proportions of elderly coresidents appear to have been higher in Japan than in South Korea or Taiwan, this is due entirely to differences in the definition of coresidence, the Japanese data including coresidence with unmarried as well as married children. In 1989 the proportion of the elderly Japanese (those 65 and

**Table 2.** Percentage of elderly (60 and older) living with children: 11 Asian societies, recent years

Subregion and country	Year	Percentage
<b>East Asia</b>		
China	1987	82
Cities	1987	73
Towns	1987	70
Rural areas	1987	89
Japan	1989	58
Korea (South)	1984	78
Taiwan	1989	71
<b>Southeast Asia</b>		
Indonesia	1990	67
Malaysia	1984	69
Philippines	1988	68
Singapore	1986	88
Thailand	1986	77
<b>South Asia</b>		
India (rural)	1982	83
Sri Lanka	1990	84

*Sources:* China: Cai (1991, 123). India: Martin (1990, table 8 [13 villages in Bihar]). Indonesia, South Korea, the Philippines, Sri Lanka, and Thailand: Knodel and Debavalya (1992, 10). Malaysia: Martin (1989b, table 1). Singapore and Taiwan: Knodel (1995, table 1).

older) coresiding with a *married* child was 42 percent, substantially lower than the comparable figure for Taiwan (Japan Aging Center, n.d., 46).

Despite the evidence of a downturn, the current levels of coresidence depicted in both tables are considerably higher than those currently observed in Western industrialized countries (Hiroshima 1993, table 1). In this connection, however, it is worth noting that in 1910 about 60 percent of U.S. elderly (those 65 and older) lived with a child—close to the proportions shown in Table 3 (Ruggles 1994, table 4). Future trends in coresidence as well as many other aspects of aging in Asia are still an open question.

#### DEMOGRAPHIC VERSUS NONDEMOGRAPHIC RESPONSES TO POPULATION AGING

Aware of Asia's aging populations and of the social and economic implications of an older population, many observers regard these developments as an "aging problem," particularly in view of the rapid pace of these changes. Given the demographic origins of the "problem," some policymakers have been tempted to seek demographic solutions. This approach overlooks several key consid-

erations. First, an older aging structure should be viewed as a recent human triumph, reflecting on the one hand a regime of low fertility, due to couples' success in achieving desired small numbers of children, and on the other low mortality, representing gains toward a universal aspiration for longer and healthier lives. Moreover, the attempt to fashion a demographic solution to the perceived problem assumes that a society's demographic behavior can be fine-tuned up or down—contrary to widespread evidence on the outcome of efforts to adjust fertility rates through exhortation or financial incentives. (See the discussion by Uhlenberg 1992, 464.) It also overlooks the potential social and economic dislocations caused by frequently shifting fertility rates, as societies, for example, cope first with the costs of expanding schooling and training capacities after an upturn in fertility, and then cope with the costs of excess capacity after a downturn.

A sounder approach is to view the demographic trends as providing a set of challenges and opportunities within which to develop social policies and programs commensurate with other societal changes, as suggested by Figure 1. As an example, even though an older population eventually has a high ratio

*An older age structure should be viewed as a human triumph, reflecting gains toward a universal aspiration for longer and healthier lives and success in achieving desired small numbers of children.*

Table 3. Trends in the percentage of elderly living with children: Japan, South Korea, and Taiwan

Year	Living with any child, Japan <sup>a</sup>	Living with married children	
		South Korea <sup>b</sup>	Taiwan <sup>a</sup>
1970	77	71	u
1975	73	u	67 <sup>c</sup>
1980	69	64	61
1985	65	56 <sup>d</sup>	55
1989	60	u	57

Sources: Japan, 1970–85: Martin (1989a, 15); 1989: calculated from Japan Aging Center (n.d., 46). South Korea, 1970 and 1980: DeVos and Lee (1993, table 2); 1984: Kim and Choe (1992, table 5). Taiwan: Hermalin, Ofstedal, and Chang (1995, table 2).

u—data unavailable. a. Elderly 65 and older. b. Elderly 60 and older. c. Data for 1976. d. Data for 1984.

of elderly dependents to working-age people, with a potential loss of productivity and higher social-welfare costs, many possible points of intervention can mitigate those costs. These include adjustments in the age of retirement, training and effective employment of older workers, increased labor force opportunities for women, better education and training of young people, and appropriate policies for regulating immigration and temporary foreign labor.

## DEMOGRAPHIC PERSPECTIVES ON AGING

Demography offers useful perspectives and techniques for improving our understanding of these opportunities and challenges, and for monitoring the well-being of the elderly. Although it shares many procedures of scientific inquiry with other social sciences, its insights into population dynamics and its emphasis on particular research strategies provide valuable leverage for research on aging.<sup>1</sup> A major accomplishment of demography is the ability to trace the effect of population processes—of fertility, mortality, and migration—on the age structure of a population. The levels and trends of these vital processes across Asia, and their interconnections with other demographic factors, have several implications for population aging in the region besides the projected increases in proportions of elderly shown in Table 1:

- Although future fertility levels will largely determine the *proportion* of elderly people within each country,

1. This and the following sections elaborate on several issues discussed in Hermalin (1993).



*By 1990, life expectancy in East Asia had risen to about 70 years, largely because of China's spectacular mortality decline.*

the *number* of elderly is essentially a function of past births and mortality levels. Because of the past large birth cohorts, Asian countries must anticipate a sharp increase in the number of elderly irrespective of the precise future age distributions.

- For countries with low fertility, the future path of mortality will be important in determining the proportion elderly and the age distribution within the older ages—that is, the relative numbers of so-called younger-old versus the oldest-old. As these groups can differ sharply in their labor force participation rates, health-care utilization, and needs for family and other supports, it is important for policymakers to have accurate estimates of the numbers within each group. The recent reductions in mortality at the older ages have led some analysts to make optimistic forecasts about future extensions of life expectancy, whereas other analysts have cautioned that these scenarios may be overly rosy.

More study of mortality trends at the older ages in Asia appears warranted, along with close attention to the implications of various scenarios.

- The other factors that determine demographic structure—migration, urbanization, marriage and divorce, and labor force dynamics—can also impact the well-being of the elderly and impinge on policy. Migration patterns affect the location of adult children in relation to their parents and set bounds on the types of exchanges that can take place across generations. Marriage patterns are under rapid change in many parts of Asia, with both women and men marrying at later ages, and rising proportions of those of reproductive age are still unmarried. (For a discussion of these trends in Japan, see Atoh and Otani 1988, 382.) In some countries divorce rates are rising and no longer negligible. These changes in patterns of family formation and dissolution, if sustained and magnified, can have a strong effect on intergenerational flows of assistance and on the needs of future cohorts of the elderly.
- One manifestation of an older age structure is thought to be a higher dependency ratio, generally measured as the ratio of the population under age 15 or over age 65 to that aged 15–64. Some regard it as reflecting the increased “burden” on the productive portion of the population. But since the dependency ratio is made up of both older and younger dependent groups, one-to-one correspondence does not exist between an increase in the proportion elderly and a rise in the dependency ratio.

For a number of countries, particularly those in South Asia, the total dependency ratio will decrease between 1990 and 2025 because the proportion of the population under

age 15 will decrease to a greater extent than the proportion of older people will rise (Table 4). As many of those countries have low per capita incomes, this should be a stimulus to economic growth. For Japan, Singapore, and Hong Kong, the total dependency ratios will rise between 1990 and 2025 because of the sharp rise in the older component, but these countries are relatively affluent and best able to adjust to the changes in age composition.

Moreover, between 1960 and 1990 the entire region benefited from declines in the dependency ratio (Ogawa and Tsuya 1993). Thus a more refined analysis of the changes in fertility, mortality, and their effects on age structure can provide valuable insights about the magnitude and timing of important demographic shifts, which in turn can help policymakers develop appropriate policies.

## COHORT ANALYSIS

A key concept in demography is the cohort—persons who share a common birth year, or period, or the timing of another significant demographic event, such as marriage (Ryder 1965). Future cohorts of the elderly in Asia are expected to be quite different in their social, economic, and demographic characteristics from today's elderly cohorts as a result of the rapid societal changes taking place there. Most policymakers agree that these shifts in composition should figure prominently in the development of policies and programs (Rowland 1994).

For characteristics that become fixed in early to middle adulthood, it is possible to project forward the composition of the future elderly sharing those characteristics (Hermalin and Christenson 1992). Table 5, for example, shows the projected number of children who will

have ever been born to women 60 and older in Taiwan between 1980 and 2020. The top portion of the table shows how the average number of children ever born is carried forward for each five-year birth cohort of women as they age. The bottom portion gives the average number of children by broader age groups, obtained by combining the five-year averages according to the number of women reported, or projected, for each year shown.

The projections indicate that women of ages 60–69 will start to show a decrease of about half a child every five years starting in 1990, ending up with about 2.5 children ever born (and a smaller number of living children) in 2020. Women 70 and over, by contrast, will not start to show significant declines in their completed fertility until the beginning of the next century, ending up with an average of about 3.5 children ever born in 2020. These differ-

Table 4. Changes in age structure for selected Asian countries: 1960, 1990, and 2025

Subregion and country	1960				1990				2025 (projected)			
	Dependency ratio			Index of aging	Dependency ratio			Index of aging	Dependency ratio			Index of aging
	Total	Young	Aged		Total	Young	Aged		Total	Young	Aged	
East Asia	75.1	66.6	8.5	12.8	47.1	37.8	9.3	24.6	46.8	26.6	20.1	75.7
China	77.7	69.1	8.6	12.4	47.2	38.6	8.6	22.3	45.4	26.5	18.9	71.4
Hong Kong	77.6	72.6	5.0	6.8	44.5	31.8	12.7	39.8	58.4	25.2	33.2	131.6
Japan	56.1	47.2	9.0	19.0	43.3	26.5	16.8	63.3	63.5	24.8	38.7	156.1
Korea (South)	82.7	76.6	6.1	7.9	45.4	38.5	6.9	17.9	45.7	25.5	20.2	79.5
Southeast Asia	80.9	74.9	6.0	8.1	67.3	60.8	6.5	10.7	45.5	33.5	11.9	35.6
Indonesia	77.0	71.1	5.9	8.3	63.7	57.4	6.3	11.0	44.8	31.5	13.3	42.3
Malaysia	94.9	88.2	6.6	7.5	66.7	60.3	6.4	10.6	47.3	33.5	13.8	41.0
Philippines	91.0	85.2	5.8	6.8	76.9	70.9	6.0	8.5	46.7	36.5	10.1	27.8
Singapore	82.8	79.0	3.8	4.8	39.6	31.9	7.7	24.3	55.4	25.7	29.7	115.5
Thailand	90.3	85.0	5.2	6.2	57.6	51.4	6.2	12.0	45.2	30.5	14.7	48.3
South Asia	78.5	72.4	6.2	8.5	74.4	67.3	7.1	10.5	47.0	36.3	10.7	29.3
Bangladesh	80.8	74.1	6.7	9.1	87.9	82.5	5.5	6.6	46.0	39.2	6.8	17.4
India	76.1	70.0	6.0	8.6	69.5	61.8	7.6	12.3	46.0	34.0	12.0	35.4
Pakistan	92.3	84.3	8.0	9.5	93.7	88.4	5.2	5.9	50.3	42.7	7.6	17.9
Sri Lanka	84.1	77.4	6.7	8.6	60.5	52.2	8.3	15.9	50.8	32.5	18.3	56.3

Source: Ogawa and Tsuya (1993, table 2.6).

Notes: The young dependency ratio is the ratio of the population under age 15 to the population aged 15–64, whereas the aged dependency ratio is the ratio of those 65 and older to the population aged 15–64. The total dependency ratio is the sum of the two. The index of aging is the ratio of the population 65 and older to the population under 15, which is equivalent to the ratio of the aged dependency ratio to the young dependency ratio.

**Table 5.** Projected number of children ever born: Taiwan, women 60 and older, 1985–2020

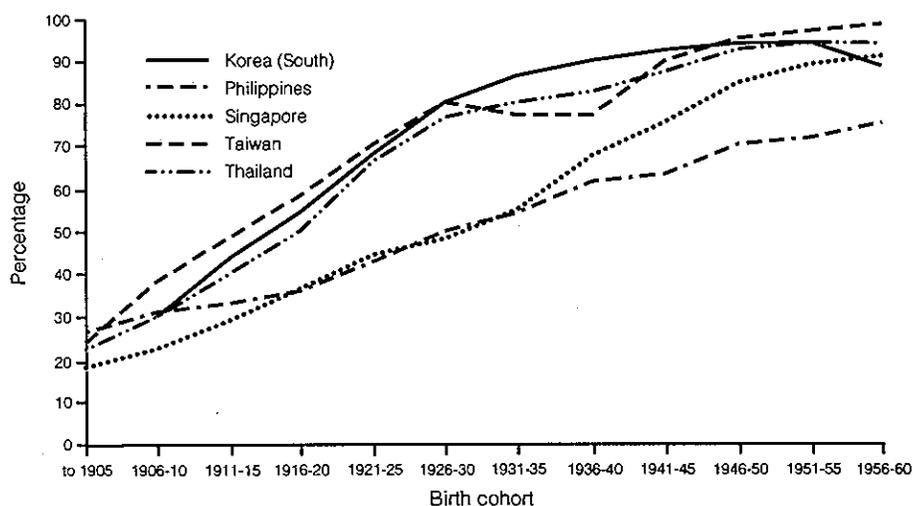
Age group	1980	1985	1990	1995	2000	2005	2010	2015	2020
<b>5-year age groups</b>									
60–64	5.5	5.4	5.1	4.6	4.1	3.6	2.9 <sup>a</sup>	2.6 <sup>a</sup>	2.4 <sup>a</sup>
65–69	5.4	5.5	5.4	5.1	4.6	4.1	3.6	2.9 <sup>a</sup>	2.6 <sup>a</sup>
70–74	5.3	5.4	5.5	5.4	5.1	4.6	4.1	3.6	2.9 <sup>a</sup>
75–79	5.3	5.3	5.4	5.5	5.4	5.1	4.6	4.1	3.6
80+	5.3	5.3	5.3	5.4	5.5	5.4	5.1	4.6	4.1
<b>Broader age groups</b>									
60–69	5.45	5.44	5.23	4.82	4.33	3.84	3.20	2.71	2.49
70+	5.35	5.35	5.42	5.41	5.28	4.96	4.53	4.07	3.48
60+	5.41	5.40	5.31	5.06	4.73	4.36	3.83	3.29	2.89

Source: Hermalin and Christenson (1992, table 2).

a. Includes forecast of completed fertility.

ences reflect, of course, the various levels of fertility experienced by these cohorts during their reproductive years. By tracing the implications of earlier fertility into later years, policymakers can identify the groups and time points when older people may face shortfalls in support because they have few adult children to depend upon. This knowledge enables governments and the private sector to plan for appropriate types of social welfare.

Birth cohorts can be traced for educational attainment as they age since most people complete their education by early adulthood. Figures 4 and 5 show the proportions of men and women in South Korea, the Philippines, Singapore, Taiwan, and Thailand, who have, or will have, attained at least a primary school education by age 60; and Figures 6 and 7 display the percentages of those cohorts by secondary-school attainment.

**Figure 4.** Percentage of adult males with at least a primary education, by birth cohort: five Asian societies

Source: Based on data in Christenson and Hermalin (1991, tables 2a–6a).

For men, Figure 4 shows a steady upward trend in cohorts completing primary school throughout this century but divergent trajectories among the societies. Among the earliest cohorts, those born prior to 1905, fewer than 30 percent attained a primary education, whereas for the birth cohort of 1931–35 (men now around 60), the figure is over 50 percent for the Philippines and Singapore, and over 75 percent for South Korea, Taiwan, and Thailand. When males born in 1956–60 reach age 60 in the early part of the next century (between 2016 and 2020), almost all of them, except in the Philippines, will have attained at least a primary education.

Interestingly, the last statement applies equally to the 1956–60 birth cohort of females, shown in Figure 5. Given that the earliest female cohorts start off at a much lower level than males, the rate of increase across cohorts is generally sharper than among males. The rapid improvement for females in Singapore, starting with those born during 1931–35, is particularly noteworthy, as is the rather slow gain among females in the Philippines. For cohorts born in the early part of the century, Philippine women were more likely to achieve a primary or secondary education (see also Figure 7) than their counterparts in the four other societies, so that among current elderly women, Philippine women are relatively well educated. But improvements in education occurred faster in the other societies, and therefore among women entering the older ages in the future, Philippine women will have somewhat lower percentages with a primary education.

Figures 6 and 7 show that among the men and women born early in this century, the attainment of a secondary education was quite rare, but it has become more common during the course of the century. South Korea and Taiwan in

particular show rapid progress in making secondary schooling available. Gains in the Philippines and Singapore have been more modest, and Thailand has lagged behind in this respect. These differences will translate not only into the levels of education that can be expected among the future elderly but also into the distribution of resources, expectations, and attitudes associated with specific levels of education. Anticipating these changes in the characteristics of the future elderly is necessary if policymakers are to develop sound social policies.

### DISAGGREGATING THE AGING PHENOMENON

Much demographic analysis involves disaggregating an event or phenomenon into its component parts with a view to studying the determinants or trajectory of each part. Examples of this approach in classical demography are the residual accounting equation for estimating net migration (i.e., the number of net migrants equals the change in the total population minus births plus deaths over the period) and viewing age-specific fertility, in populations where most childbearing occurs within marriage, as a product of the proportion of women married and the marital fertility rate. In the demography of aging, disaggregation is used to analyze the relationship between age structure on the one hand and fertility and mortality on the other.

The relationship between lower fertility and older age structure implies, among other things, that future educational opportunities for children may be enhanced because families will be smaller. This represents a potential productivity gain for society that should be taken into account as a possible offset to a larger burden of elderly dependents.

My earlier discussion of older parents' coresidence with married versus unmarried children also illustrates the value of this type of analysis, since the flows of support may differ in each case.

### DATA-COLLECTION CONCERNS

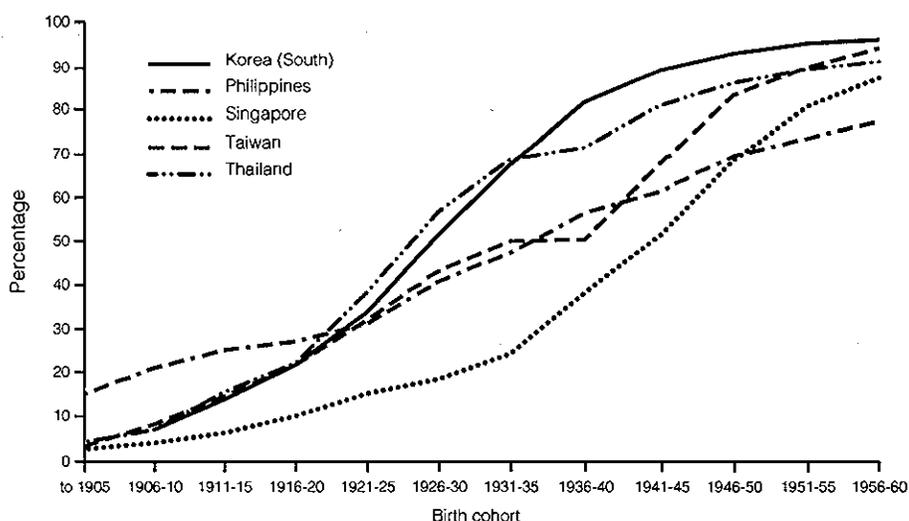
As social scientists, demographers pay special attention to the quality of their data and to measuring the degree of error in their data. This practice stems no doubt from their historical association with censuses and vital registration systems. More recently they have extended their concern with accuracy to surveys and other sources of data. These tendencies should prove beneficial in the study of aging, given the range and complexity of the relevant material. Special challenges include going beyond household members to include the institutionalized elderly wherever they represent a significant number, using proxies for those who cannot respond adequately, and obtaining sufficiently high response rates to avoid drawing



GRIFFITH FEENEY

*In many Asian societies, adult children have traditionally lived with and cared for elderly parents. Yet coresidence may involve an exchange of benefits, such as baby-sitting by grandparents for busy parents.*

misleading samples from among those who can be most readily located—generally those who are not working and are less healthy.



**Figure 5.** Percentage of adult females with at least a primary education, by birth cohort: five Asian societies

Source: Based on data in Christenson and Hermalin (1991, tables 2b-6b).

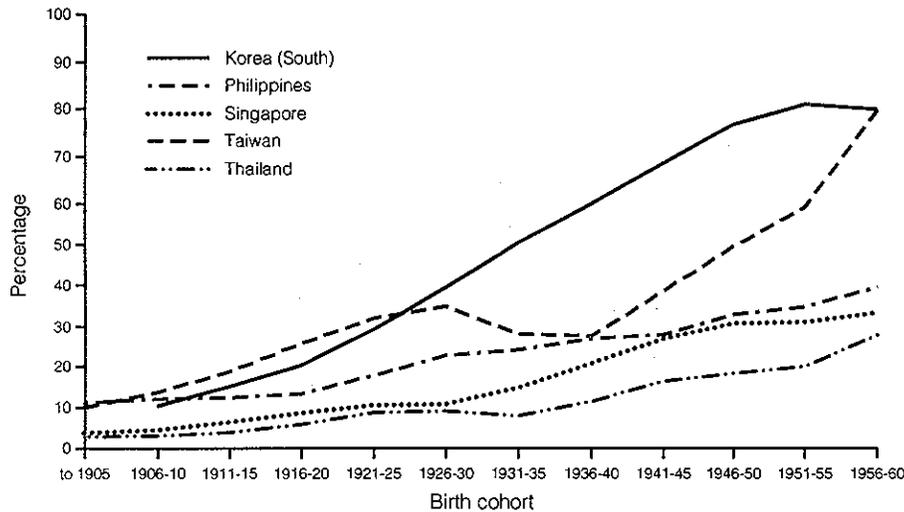


Figure 6. Percentage of adult males with at least a secondary education, by birth cohort: five Asian societies

Source: Based on data in Christenson and Hermalin (1991, tables 2a-6a).

To conclude this overview of demographic perspectives, I should also mention that demography focuses on rates that measure the frequency of events relative to a base of possible events. In the case of the demography of aging, this focus manifests itself in attention to measuring appropriate denominators—such as the number of children or other kin, regardless of location, who might

provide specific forms of support to the elderly—in addition to the actual flows received (i.e., the numerators), in developing adequate indicators of support for the elderly. Also worth noting is the long involvement of population experts in evaluating family planning programs, which has produced useful methods that may carry over to the evaluation of programs serving the elderly.

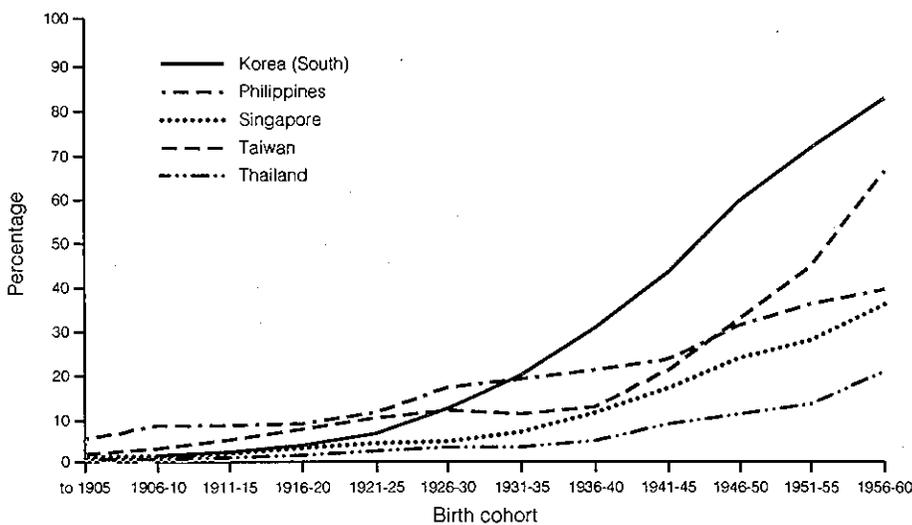


Figure 7. Percentage of adult females with at least a secondary education, by birth cohort: five Asian societies

Source: Based on data in Christenson and Hermalin (1991, tables 2b-6b).

## SYSTEMATIC REFORMS IN DATA COLLECTION

The growing attention to older age structures in Asia and the other demographic changes I have enumerated point to the merit of reviewing the data-collection system within each country to see whether it is optimally geared to the emerging research questions and whether adjustments are possible that will advance research without sacrificing efficiency. As I have noted, many of the intriguing questions associated with older population structures involve dynamic relationships between aging and other social, cultural, and economic developments. It is useful to define the research objectives associated with any broad study and then identify the data sources that can be used to achieve each objective.

This approach is exemplified in Table 6, which lists the primary and secondary sources deemed relevant to an ongoing study that the Population Studies Center of the University of Michigan is conducting on the health and welfare of the elderly in the Philippines, Taiwan, Thailand, and Singapore. The study focuses on the socioeconomic and physical well-being of the elderly and on factors likely to affect their future status. Major research questions include the demographic, social, and economic characteristics of the older population; the systems in place and being developed that provide social, economic, and emotional support; and the implications of the study's findings for public policy. Given these broad objectives, and our interest in anticipating the effects of social change and the policy relevance of those effects, we are making use of census and survey data, qualitative data (gathered mostly through focus groups), and information on existing and emerging government policies.

Beyond this kind of mapping for a specific study, it is desirable to reexamine the functional interrelationships of a data-gathering system to see whether the assumed interconnections still hold or new relationships need to be forged. In some cases, it may turn out that existing data bases used as sampling frames are inadequate—because of increased migration, for example—whereas other systems have been strengthened and present new research opportunities. Changed socioeconomic and demographic conditions may dictate revised definitions or changes in the amount of detail collected. As a case in point, more frequent job changes by workers and increased longevity may make it advisable to collect mortality data by educational category rather than by occupation; or, to take another example, increases in “partial” retirement and special occupational niches may lead to new labor force definitions that distinguish changes in title from changes in duties and define part-time work more clearly.

At a minimum, researchers preparing tabulations from labor force surveys and other large-scale surveys, as well as from censuses, should reexamine the age ranges used to ensure that sufficient detail is provided at the older ages to reflect increasing numbers of elderly,

their greater life expectancy, and possibly their longer attachment to the labor force. These changes also suggest new alignments and new opportunities for cooperation among government ministries, the most obvious being the potential for more joint research efforts between health specialists and behavioral and social scientists, since many questions about the elderly require attention to both their health and their socioeconomic situation.

Although the specific steps that should be taken in any country depend on a host of factors, a few general guidelines can be enumerated:

- Researchers should review carefully the breadth of planned surveys and the potential of those surveys to serve multiple objectives. It may be unreasonable to advocate the cessation of narrowly focused surveys—particularly ones that are carefully designed to test some well-formulated hypotheses—but certainly there should be a review of standard ongoing data-gathering activities to see whether they can be readily broadened to capture important dimensions of aging.
- To identify eligible respondents, many fertility and other surveys start by collecting household rosters from

a representative sample of households. These rosters provide the basis for a representative sample of the elderly and their living arrangements. If the rosters define household headship carefully, they can be highly useful in measuring the household status of the elder population.

- Fertility and other surveys can incorporate attitudinal and related questions that elicit important time-series data on cultural shifts in family dynamics. In Taiwan, for example, fertility surveys regularly include a question on whether respondents expected to be supported by their sons in old age. The sharp declines in positive responses to this question that occurred between 1973 and 1986 (from 51 to 18 percent) underscore the ongoing transformation in expectations more dramatically than do changes in living arrangements or other indicators of change among the elderly (Chang and Ofstedal 1991). Similar data collected for Japan in the Mainichi survey series over a long period show a sustained decline in respondents' expectations of support in old age (Ogawa and Retherford 1993, table 2). Including questions on this topic in fertility and other ap-

**Table 6.** Sources of data relevant to the objectives of the University of Michigan's study on the elderly in four Asian societies

Objective	Primary sources		Secondary sources		
	Sample surveys <sup>a</sup>	Focus groups	Government statistics <sup>b</sup>	Ethnographic material	Government policy documents <sup>c</sup>
Socioeconomic and demographic context and trends	x		xx		
Cultural context and government policies	x	xx		x	xx
Current position of the elderly	xx	xx	x	x	
Exchange system involving the elderly	xx	xx		x	
Effects of future changes on position and exchange systems	x	xx		x	x
Implications for policies and programs	xx	xx			x

xx = major source; x = supplementary source.

a. Include panel and cross-sectional surveys.

b. Include censuses, projections, and socioeconomic data.

c. Information on health, pensions, and other government policies and programs affecting the elderly, including private-sector programs where applicable.

*Researchers ought to stop treating each of their surveys and data-collection efforts in isolation from other efforts.*

- appropriate surveys in countries that still have young age structures can produce important insights into the timing of social and economic transformations. Questions of this type were recently added to the Philippine Demographic and Health Survey, and it is desirable that other countries follow suit.
- Researchers ought to stop treating each of their surveys and data-collection efforts in isolation from other efforts. In many countries and statistical programs there is now reasonable knowledge about the sequence of planned surveys and studies. Researchers should take this sequence into account in designing and planning the content of their own studies. Perhaps a follow-up survey should have a panel, or longitudinal, design, using the same sampling units as in the first survey if more knowledge of the environmental factors is needed—for example, about a community's programs for the elderly. This leads to consideration of which changes should be studied and what is the optimal period between surveys, given the changes of major interest. In short, the shift to a more dynamic perspective in data gathering opens up many new possibilities, as well as new challenges, in study design.
  - The research community should make more efficient use of information already collected. For example, creating household microsamples from census returns adds the flexibility of a survey to the broad coverage of a population census. Such microsamples are becoming more common in Asia. Researchers should consider the feasibility of creating microsamples from selected earlier censuses where feasible, and of mounting comparative studies of several countries to exploit the potential of these data to identify cultural similarities and differences in household dynamics.
  - Another possibility for increasing the analytic potential of existing data is to use, where feasible and appropriate, administrative data in combination with census or survey information to extract the details of health or pension programs that respondents may have difficulty recalling. A related suggestion is to use both survey data and independently obtained information about the surveyed communities so as to gain a better understanding of how their health and social services are used and how effective those services are at maintaining well-being among the elderly.
  - Yet another approach is to use the savings and efficiencies garnered from a systematic review of available information to experiment with new study designs or to mount new data-collection efforts that can serve various long-term needs. As I have noted, we can expect rapid changes in the social and economic characteristics of elderly people in many Asian countries because of the sharp transformations in educational opportunities and occupational structure that have occurred in recent decades. Asians approaching retirement in the coming years will be a large and highly varied group, as a result of earlier birth rates and levels of development, and those in the 45–60 age span have been understudied in comparison with other adult age groups.
- A large-scale panel study that was recently mounted in the United States and is called the Health and Retirement Survey is investigating how family, work, economic status,

**Table 7.** Mean numbers of kin living in specific locations, by age of respondent: Taiwan, elderly men

Kin	60-69			70+			All elderly (60+)		
	In same household	Nearby <sup>a</sup>	All locations	In same household	Nearby <sup>a</sup>	All locations	In same household	Nearby <sup>a</sup>	All locations
Child	1.35	1.20	5.00	1.00	1.80	5.48	1.22	1.42	5.17
Married son	0.60	0.44	1.81	0.70	0.81	2.40	0.64	0.57	2.02
Unmarried son	0.44	0.04	0.69	0.17	0.03	0.32	0.34	0.04	0.56
Married daughter	0.04	0.69	2.07	0.06	0.93	2.57	0.04	0.78	2.25
Unmarried daughter	0.27	0.03	0.43	0.07	0.03	0.19	0.20	0.03	0.34
Grandchild	1.47	3.20	9.45	2.10	6.02	15.76	1.69	4.19	11.68
Sibling	0.01	1.49	3.49	0.00	0.99	2.01	0.01	1.31	2.97

Source: Hermalin, Ofstedal, and Li (1992, table 4).

Note: Data refer only to elderly Taiwanese—those residing in Taiwan prior to the 1949-50 migration from mainland China in the aftermath of the Civil War.

a. In same village or city.

and health status have affected the retirement decisions of Americans born during 1931-41 and their spouses; it is also assessing their subsequent well-being (Juster and Suzman 1995). The study's design permits the addition of new birth cohorts over time to reflect the changing composition of the U.S. population. This combination of a panel design with repeated sampling of cross-sections of the retirement-age population can be highly effective in capturing important aspects of social change along with key life-course transitions.

### SPECIFIC MECHANISMS FOR ENHANCING RESEARCH ON AGING

Over the past several years, research on aging has identified a number of specific strategies that can be readily incorporated into ongoing surveys and censuses. A few of these deserve mention.

- Surveys of the elderly must move beyond the narrow confines of the household. Information should be obtained about the characteristics and location of all the respondents' children and other close relatives, such as parents and siblings. This

"mapping" of kin availability provides a measure of respondents' potential support network and adds considerable insight beyond the simple fact of coresidence. By identifying kin who live nearby as well as further away, it also reduces the ambiguity that exists in many places about what constitutes a separate dwelling.

Tables 7 and 8, based on the 1989 Taiwan Survey of Health and Living Status of the Elderly, illustrate these gains. They show that among Taiwanese men and women (generally those born in Taiwan rather than

**Table 8.** Mean numbers of kin living in specific locations, by age of respondent: Taiwan, elderly women

Kin	60-69			70+			All elderly (60+)		
	In same household	Nearby <sup>a</sup>	All locations	In same household	Nearby <sup>a</sup>	All locations	In same household	Nearby <sup>a</sup>	All locations
Child	1.22	1.45	5.19	0.96	1.67	5.00	1.12	1.53	5.10
Married son	0.65	0.60	2.09	0.73	0.71	2.25	0.68	0.65	2.15
Unmarried son	0.35	0.04	0.54	0.10	0.03	0.21	0.25	0.03	0.40
Married daughter	0.06	0.78	2.26	0.08	0.89	2.36	0.07	0.82	2.30
Unmarried daughter	0.16	0.03	0.30	0.05	0.04	0.18	0.12	0.03	0.25
Grandchild	1.82	4.07	11.24	2.30	6.13	16.08	2.02	4.92	13.28
Sibling	0.01	1.28	3.50	0.00	0.75	2.00	0.01	1.06	2.89

Source: Hermalin, Ofstedal, and Li (1992, table 4).

Note: Data refer only to elderly Taiwanese—those residing in Taiwan prior to the 1949-50 migration from mainland China in the aftermath of the Civil War.

a. In same village or city.

those who migrated there from the Chinese mainland after 1949), those 60–69 had about five living children on average, with about half of the grown children either coresiding with the respondents or living in the same village or town and the remainder living further away. Although older Taiwanese were much more likely to coreside with a married son than with a married daughter, married daughters were more likely than married sons to reside nearby, so that respondents had only slightly less access to married daughters than to married sons.

- Elderly respondents can usually provide reasonably accurate information about the location of their kin. For several reasons, however, it may be desirable to interview all or at least some of their children. This is particularly the case when the purpose is to measure the full gamut of exchanges taking place across generations, attitudes about the importance of these exchanges, the degree of conflict within the household, and other perceptions about which one would expect to find differences between generations.

For the follow-up to the Taiwan Survey of Health and Living Status of the Elderly, we interviewed all elderly members of each household. In addition, for one-fourth of the respondents we conducted in-person interviews with all their children, including daughters-in-law, who were living in the household and interviewed by telephone those children living elsewhere. In the Indonesian Family Life Survey carried out in 1994 by the RAND Corporation, primary respondents included ever-married women under age 50 as well as household members 50 and older and their spouses.

- By using a few fairly simple steps, census organizations can enhance the usefulness of the census data to research on aging. Because household living arrangements are a crucial indicator of elderly individuals' well-being, it is important that the census data clearly represent relationships within the household. The definition of household head often requires clarification, for example. In some cases the attribution may be nominal, signifying little about decision-making authority or economic control, whereas in other cases it may be based on home ownership or other meaningful status. The census questionnaire should clarify the basis for designating one household member as the head.
- Census data on household composition would also be greatly enhanced if it included information on how long each person has resided in the household. This information would indicate recent moves of the elderly into another's residence or moves of children to coreside with parents. A number of censuses have started to introduce questions about disabilities or restricted activity. Several well-designed questions can illuminate potential needs of the elderly, age differences in their health status, and variation across small geographic areas and among special groups.

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### SPECIAL OPPORTUNITIES AND CHALLENGES

Several broader challenges closely, if not exclusively, connected with research on aging are likely to come to the fore with increased research and policy emphasis on aging. Although some of these can

be addressed through existing conceptualizations and research tools used in the social behavioral sciences, others demand a high level of interdisciplinary effort and the refinement of existing approaches.

- A persistent theme in this overview has been the need to monitor the evolving interrelationships between cultural and socioeconomic shifts and the status of the elderly. This involves not only identifying current family arrangements and social, health, and economic characteristics that serve cross-sectional models, but also capturing shifts in attitudes, beliefs, and expectations that can presage future norms and behaviors.

For example, in Asian societies influenced by Confucianism, older parents traditionally coreside with sons rather than daughters; but with lower fertility, significant proportions of these populations will find it difficult or impossible to maintain a strong gender preference. Determining whether there are early signs of changes in this norm will be of interest—both for understanding the dynamics of social change and for drawing policy implications. Other normative attitudes include elderly people's expectations of support from children or coresidence with them, attitudes toward privacy and independence among close relatives, and preferences for family versus government support.

- A related topic is the need to anticipate the new forms of accommodation that may be emerging among generations. This involves, of course, identifying the types of conflicts that do occur and how they are resolved, but in addition it requires going beyond the conflicts and potential conflicts to measure how each generation may be making adjustments to

the needs and concerns of the other. Many observers have written about frictions that exist between mothers-in-law and daughters-in-law in Asia, but focus-group research also indicates a growing mutual understanding of their different life-styles (Lee, Lin, and Chang 1993; Mehta, Lee, and Osman 1992).

Although surveys can shed light on some of these issues, especially when the issues become well articulated, research on aging is likely to benefit from a range of qualitative approaches, including focus groups, case studies, and ethnographic studies. Such qualitative analysis may detect major cultural shifts at an early stage and better inform the content of quantitative investigations.

- A distinguishing feature of older people is that they have a high probability of experiencing major transitions, such as the death of a spouse, development of a chronic illness or disability, and leaving the world of work—any of which may have serious repercussions on their living arrangements, financial status, and sense of well-being. To understand the consequences of these key life transitions, researchers should pay more attention to how family members spanning several generations, with perhaps very different circumstances and attitudes, respond to a situation that may sharply increase an elder member's need for coresidence, financial assistance, or day-to-day physical or emotional support.

Although existing techniques are sufficient to monitor current exchanges and living arrangements, it may be difficult to gauge how these came about and the likely direction of future relationships from the standard characteristics available in most surveys. Often the outcomes of these

transitions are the result of an explicit decision-making process among family members. At present we know little in a systematic sense about this process, nor about how the constraints facing each member come into play as the family works out a change in residence or support arrangements for an elderly relative.

- Another research goal implied in the foregoing is to measure the needs of elderly people as the basis for judging whether the levels of support they receive are adequate. In general, researchers do better at accounting for levels and types of exchanges than at determining levels and ranges of needs.
- Within the wider society, there is a need to advance models that link the demographic structure of a population to the economic dimensions of earnings, consumption, and savings, and to measure the effect of various pension schemes and other transfer arrangements on these dimensions. Lee [1994] provides an overview of this topic and identifies some promising developments. This type of analysis is particularly relevant to policy decisions about social welfare programs intended largely for the elderly. Two examples are the sophisticated macromodeling of demographic-economic interrelationships that can show the effect on consumption levels of a decrease in productivity and the analysis of the relative merits of fully funded as compared with pay-as-you-go pension schemes under various assumptions of growth in population and productivity (Lee 1992).

One implication of all these examples for the academic community is that interdisciplinary links between demography and other disciplines need to be strengthened. Another is that we

*Researchers may have to pay more attention to how families respond to a situation that may sharply increase the need of an elder member for coresidence, financial assistance, or day-to-day physical or emotional support.*

should pay greater attention to the array of conceptualizations and methods that we typically use and teach.

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## CONCLUSION

This is an exciting time for social and economic research on population dynamics in Asia. Opportunities abound to study, at a level of detail rarely possible in the past, the consequences of the rapid transformations in age structure, other demographic trends, and the social and economic changes that are likely to take place there over the next 30 years. It is a challenging task, requiring flexible and imaginative approaches to conceptualizing issues and collecting and analyzing information.

As the region continues to change, not only demographically but also economically and socially, there is growing self-confidence that Asia, with its unique history, traditions, and goals, can chart its own path in addressing emerging issues. Many Asian countries were pioneers in fertility and family planning research, developing innovative programs and research methods. The serious attention that Asian governments and scholars are paying to the implications of population aging suggests that Asia will achieve a position of centrality in this area of research as well.

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## REFERENCES

- Andrews, Gary. 1992. Research directions in the region: Past, present and future. In David R. Phillips (ed.), *Ageing in East and South-East Asia*. London: Edward Arnold.
- Atoh, Mekoto, and Kenji Otani. 1988. Change in age composition and its effects on the youth population. In *Economic and social implications of population aging: Proceedings of the International Symposium on Population Structure and Development, Tokyo, 10-12 September 1987*. New York: Department of International Economics and Social Affairs, United Nations.
- Bumpass, Larry L. 1990. *A comparative analysis of coresidence and contact with parents in Japan and the United States*. NSFH Working Paper Series, 41. Madison: Center for Demography and Ecology, University of Wisconsin.
- Cai, Wenmei. 1991. *Changing family structures in the process of ageing population in rural and urban China*. Population Ageing in Asia, Asian Population Studies Series, 108. New York: United Nations.
- Chang, Ming-Cheng, and Mary Beth Ofstedal. 1991. *Changing attitudes toward old-age support in Taiwan: 1973-1985*. Comparative Study of the Elderly in Asia Research Report 91-8. Ann Arbor: Population Studies Center, University of Michigan.
- Cowgill, Donald O. 1974. Aging and modernization: A revision of theory. In Jaber F. Gubrium (ed.), *Late life: Communities and environmental policy*. Springfield, Illinois: Charles C. Thomas.
- Christenson, Bruce A., and Albert I. Hermalin. 1991. *Comparative analysis of the changing educational composition of the elderly population in five Asian countries: A preliminary report*. Comparative Study of the Elderly in Asia Research Report 91-11. Ann Arbor: Population Studies Center, University of Michigan.
- DeVos, S., and Y. Lee. 1993. Change in extended family living among the elderly in South Korea, 1970-1980. *Economic Development and Cultural Change* 41(2): 377-93.
- Edgbeeen, D. J., and D. P. Hogan. 1990. Giving between generations in American families. *Human Nature* 1(3): 211-32.
- Hermalin, Albert I. 1993. Fertility and family planning among the elderly in Taiwan, or integrating the demography of aging into population studies. *Demography* 30(4): 507-17.
- Hermalin, Albert I., and Bruce A. Christenson. 1992. Census-based approaches for studying aggregate changes in characteristics of the elderly. *Asian and Pacific Population Forum* 6(2): 35-42, 58-67.
- Hermalin, Albert I., Mary Beth Ofstedal, and Ming-Cheng Chang. 1995. Types of supports for the aged and their providers in Taiwan. In Tamara Hareven (ed.), *Aging and generational relations over the life course: A historical and cross-cultural perspective*. Berlin: Walter de Gruyter and Co. (forthcoming).
- Hirosima, Kiyosi. 1993. *Recent changes in gender roles and multigenerational living arrangements in Japan*. Working Paper Series, 14. Tokyo: Institute of Population Problems, Ministry of Health and Welfare.

- Japan Aging Research Center. n.d. *Aging in Japan*. International Publication Series, 2. Tokyo.
- Juster, F. Thomas, and Richard M. Suzman. 1995. The health and retirement study: An overview. Paper presented at Health and Retirement Study Early Results Workshop, September. *Journal of Human Resources* (forthcoming.)
- Kim, Ik Ki, and Ehn Hyun Choe. 1992. Support exchange patterns of the elderly in the Republic of Korea. *Asia-Pacific Population Journal* 7(3): 89-104.
- Knodel, John. 1995. Introduction. *Journal of Cross-Cultural Gerontology* 10(1, Special Issue) (forthcoming).
- Knodel, John, and Nibhon Debavalya. 1992. Social and economic support systems for the elderly in Asia: An introduction. *Asia-Pacific Population Journal* 7(3): 5-12.
- Lee, Mei-lin, Hui-sheng Lin, and Ming-Cheng Chang. Living arrangements of the elderly in Taiwan: Qualitative evidence. Comparative Study of the Elderly in Asia Research Report 93-26. Ann Arbor: Population Studies Center, University of Michigan.
- Lee, Ronald. 1992. Population aging and its social and economic consequences. Berkeley: Institute of International Studies, University of California.
- . 1994. The formal demography of population aging, transfers, and the economic life cycle. In Linda G. Martin and Samuel H. Preston (eds.), *Demography of aging*. Washington, D.C.: National Academy Press.
- Martin, Linda G. 1989a. The graying of Japan. *Population Bulletin* 44(2): 43 pp.
- . 1989b. Living arrangements of the elderly in Fiji, Korea, Malaysia, and the Philippines. *Demography* 26(4): 627-43.
- . 1990. The status of South Asia's growing elderly population. *Journal of Cross-Cultural Gerontology* 5:93-117.
- Martin, Linda G., and Kevin Kinsella. 1994. Research on the demography of aging in developing countries. In Linda G. Martin and Samuel H. Preston (eds.), *Demography of aging*. Washington, D.C.: National Academy Press.
- Mehta, Kalyani, Alexander E. Y. Lee, and Mohd. Maliki Bin Osman. 1992. *Living arrangements in Singapore: Cultural norms in transition*. Comparative Study of the Elderly in Asia Research Report 92-22. Ann Arbor: Population Studies Center, University of Michigan.
- Ogawa, Naohiro, and Robert D. Retherford. 1993. Care of the elderly in Japan: Changing norms and expectations. *Journal of Marriage and the Family* 55(August): 585-97.
- Ogawa, Naohiro, and Noriko O. Tsuya. 1993. Demographic change and human resource development in the Asia-Pacific Region: Trends of the 1960s to 1980s and future prospects. In Naohiro Ogawa, Gavin W. Jones, and Jeffrey G. Williams (eds.), *Human resources in development along the Asia-Pacific rim*. New York: Oxford University Press.
- Rowland, D. J. 1994. Population policies and ageing in Asia: A cohort perspective. In *The Ageing of Asian Populations: Proceedings of the United Nations Round Table on the Ageing of Asian Populations, Bangkok, 4-6 May 1992*. New York: Department for Economic and Social Information and Policy Analysis, United Nations.
- Ruggles, Steven. 1994. The transformation of American family structure. *American Historical Review* 99(1): 103-28.
- Ryder, Norman B. 1965. The cohort as a concept in the study of social change. *American Sociological Review* 30(6): 843-61.
- Townsend, Peter. 1957. *The family life of old people: An inquiry in East London*. London: Routledge & Kegan Paul.
- Treas, Judith, and Barbara Logue. 1986. Economic development and the older population. *Population and Development Review* 12(4): 645-73.
- Uhlenberg, Peter. 1992. Population aging and social policy. *Annual Review of Sociology* 18:449-74.
- United Nations, Department for Economic and Social Information and Policy Analysis. 1993. *World Population Prospects: The 1992 Revision*. New York.

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