

## Population and the Asian Economic Miracle

*Asia-Pacific Population & Policy summarizes research on population and reproductive health for policymakers and others concerned with the Asia-Pacific region.*

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Forty years ago, the countries of East Asia, already among the most densely populated in the world, were experiencing rapid population growth. They had limited natural resources and low standards of living. Few observers were optimistic about their development prospects.

Since then, several East Asian countries have achieved extraordinary economic success. Economic growth over the past three decades in countries such as Japan, Taiwan, and South Korea is central to current debate on development policy. Much of the discussion, however, has neglected the fundamental and important ways in which demographic forces have contributed to East Asia's economic miracle.

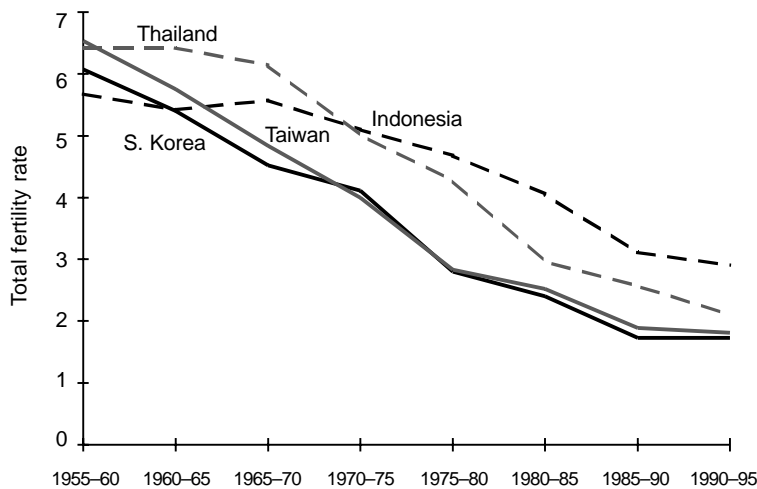
Have slower rates of population growth accelerated economic development in East Asia? The answer is yes. Experience over the past 30 years demonstrates that a rapid decline in fertility, in conjunction with effective economic policies and other favorable conditions, can have a strong positive impact on economic growth. Can this experience be replicated in other parts of the developing world? Perhaps.

Based on an international study of six East Asian economies, this issue of *Asia-Pacific Population & Policy* will discuss three important ways in which the decline in childbearing and accompanying improvements in mortality have influenced economic development—through increases in the relative size of the labor force, improvements in education, and higher rates of saving and investment.

### ABOUT THE STUDY

The East-West Center's Program on Population initiated a comprehensive project in 1996 to investigate the links between East Asian population change and economic growth. More than two dozen U.S. and Asian scholars examined the salient features of demographic and economic change in Japan, South Korea, Taiwan, Singapore, Thailand, and Indonesia. They compared the distinctive approaches to population policy in the six countries and examined the main channels through which population change has affected economic development. Preliminary results, presented at a conference in Honolulu in January 1997, will be published in an edited volume. In July 1997, the World Bank and the East-West Center cosponsored a "learning forum" in Washington, D.C., where key results were presented and discussed by academics, World Bank staff, and other members of the development community. In October 1997, a third meeting will be held at Nihon University in Tokyo to present results of the study to senior government officials in Asia.

Financial support for the project has been provided by the United States Agency for International Development (USAID), the Ministry of Foreign Affairs of Japan (MOFA), the Rockefeller Foundation, and the William and Flora Hewlett Foundation. The University Research Center of Nihon University is a collaborating institution. Support from USAID and MOFA is being provided as



**Figure 1 Fertility transition in Thailand, South Korea, Taiwan, and Indonesia, 1955-95**

Source: United Nations. 1994. *World population prospects 1950-2050 (the 1994 revision)*. New York: Population Division.

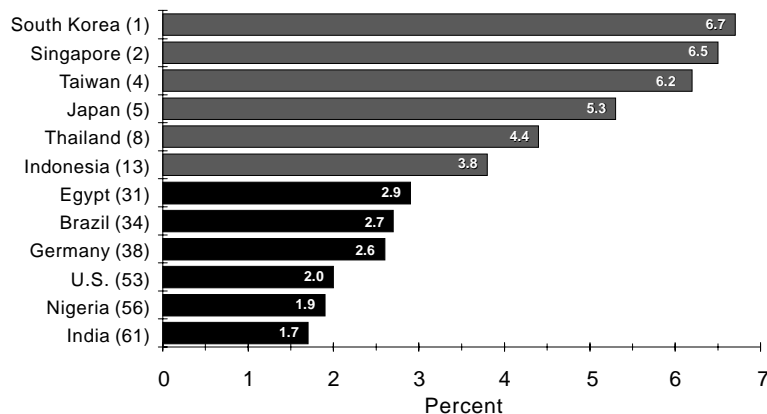
part of the Common Agenda for Cooperation in Global Perspective.

## FERTILITY REVOLUTION— ECONOMIC MIRACLE

Women in East Asia have reduced their childbearing at a remarkable speed, from an average of six children or more to two children or fewer in a single generation (Figure 1). Singapore completed this fertility transition in only 22 years, Japan and

South Korea in 24, Taiwan in 26, and Thailand in 28 years. Indonesia is expected to complete the transition in 33 years. The developed countries of Europe and North America completed a similar fertility transition much more slowly. Countries such as India, Egypt, and the Philippines are projected to take as long as 60 years.

Rapid demographic change coincided with remarkable economic growth. From 1960 to 1990, the five top-performing economies in the world were in East Asia:



**Figure 2 Annual growth of per capita gross domestic product (GDP) in selected countries, 1960-90 (international rankings in parentheses)**

Source: Robert Summers, Alan Heston, Bettina Aten, and Daniel A. Nuxoll. 1995. *Penn World Tables*. Mark 5.6a. Philadelphia: Center for International Comparisons, University of Pennsylvania.

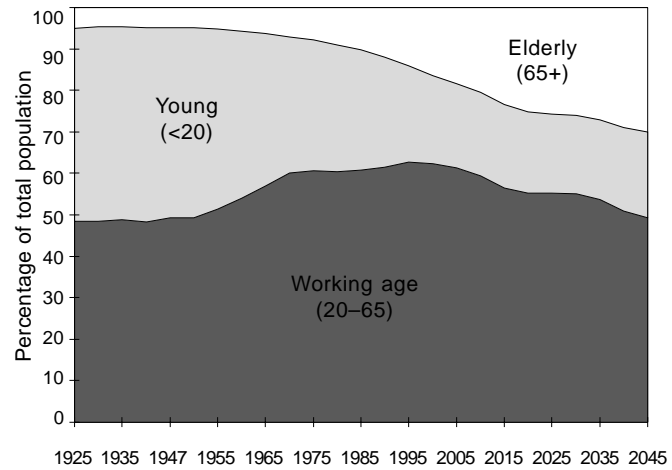
South Korea, Singapore, Hong Kong, Taiwan, and Japan (Figure 2). Thailand and Indonesia were not far behind. The success of these economies has been attributed to a number of factors: a fiscally conservative, export-oriented economic policy; a well-educated, disciplined, hard-working labor force; a favorable global economy; an innovative, dynamic business sector; industrial policies that supported development of key sectors; and high rates of saving and investment that led to a rapid increase in capital per worker. Studies conducted under this project have shown how demographic trends over the 30-year period have also influenced key factors behind this unprecedented economic growth.

## MORE OF THE POPULATION IN THE WORK FORCE

Changes in age structure are a prominent feature of demographic change in the region. Figure 3 traces the broad outlines of this change for Japan, using projections to examine changes in the relative size of the working-age population (20-64) and two dependent populations, children (0-19) and the elderly (65 and older).

Japan's population was the first in the region to undergo the demographic transition. Starting around 1950, the proportion of the population in the working age group increased from about 50 percent to about 60 percent within two decades. This high proportion will persist through the 1990s and will then gradually decline until eventually about half the population will again fall into the working age group. This change in age structure is characteristic of all countries going through a demographic transition. The six countries covered by this study are distinctive, however, in that the shifts in the relative size of population age groups are greater and the changes are occurring earlier than in other developing regions of the world.

Rapid growth of the working-age population has been likened to a “demographic bonus” because an increase in the proportion of the population earning incomes can produce an increase in the overall income per capita. For countries to realize this bonus, however, their economies must be strong enough to absorb the growing workforce without increasing unemployment or depressing wages. The high-performing economies of East Asia have proven more than equal to the task.



**Figure 3 Transition in the age structure of Japan’s population, 1925–2045**

Source: Andrew Mason. 1997. *Population change in East Asia*. Paper presented at the World Bank/East-West Center Learning Forum, 21–22 July, Washington, D.C.

**MORE AND BETTER EDUCATION**

Fertility decline has an almost immediate impact on education budgets. Fewer births mean fewer children entering school a few years down the line. If the education budget remains constant, then expenditures per school-age child will be higher. Alternatively, a reduced share of national income can be invested in education without reducing expenditures per child.

In fact, the countries of East Asia have increased, rather than reduced, the share of national income invested in education. In Taiwan, for example, the decline in the relative size of the school-age population in the 1970s and 1980s was accompanied by an increase in the share of GNP (gross national product) devoted to education. Combined with the rapid growth of GNP over the same period, this allocation of resources resulted in a dramatic increase in expenditure per school-age child.

Increasing funds available for education can be used either to improve or expand the schooling system, or a combination of both. In South Korea, the proportion of the school-age population enrolled in school increased from 54 percent in 1950 to 97 percent in 1990. In Indonesia over the same period, the increase was from 21 percent to 81 percent. In other countries of the region, the additional funds available for education have been

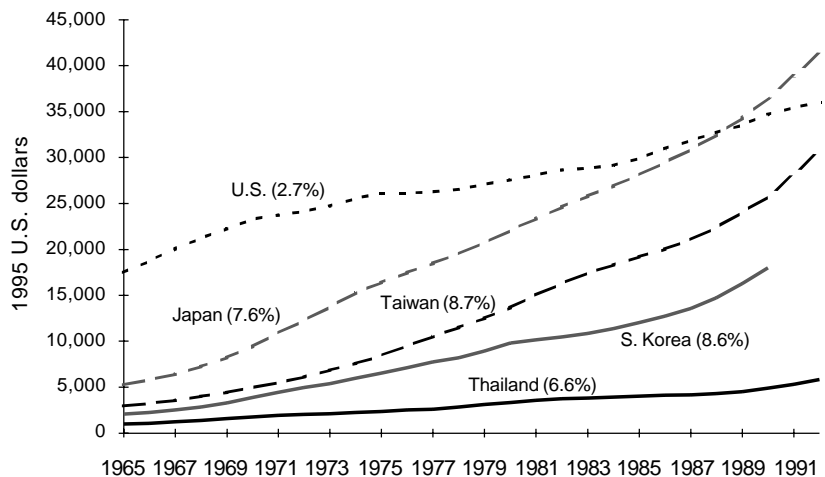
used primarily to increase expenditures on existing students rather than bringing more students into the system. In some countries, funds have been used to reduce class size, in others, to improve the quality of teachers.

**HIGH RATES OF SAVING AND INVESTMENT**

Studies of East Asian economic growth consistently find that capital deepening—the increase in capital per worker—is one

of the primary reasons why economic growth has been so rapid. Between 1965 and 1990, capital per worker grew at an annual rate of more than 8 percent in Taiwan and South Korea, nearly 8 percent in Japan, and more than 6 percent in Thailand (Figure 4). This was two to three times faster than the growth of capital per worker in the U.S. In fact, Japan surpassed the U.S. in terms of capital per worker in 1988.

The rapid pace of capital deepening can be traced to high and increasing rates of saving and investment. Compared



**Figure 4 Rising capital per worker, 1965–91 (annual growth rates in parentheses)**

Source: Robert Summers, Alan Heston, Bettina Aten, and Daniel A. Nuxoll. 1995. *Penn World Tables*. Mark 5.6a. Philadelphia: Center for International Comparisons, University of Pennsylvania.

with 1970s levels, average annual saving and investment nearly doubled in the 1980s and nearly doubled again in the 1990s. In Japan, Taiwan, and Singapore, saving rates have been high enough to finance all domestic investment plus substantial investment abroad. In 1992, for example, the current account surplus for Japan—essentially Japan's net foreign investment—totaled \$121 billion, compared with \$70 billion for all other surplus countries combined.

Why are saving rates so high in East Asia? Population change is one of the important factors emphasized in recent studies. As East Asians have fewer children, they can afford to save more. With life-expectancy increasing and the average retirement age declining, they also have a greater incentive to save in anticipation of longer periods of retirement. In Japan, the expected retirement period for men nearly doubled between 1975 and 1990—from 4.4 to 8.7 years.

In the past, elderly East Asians relied on their children for old age support, but as traditional values erode, the elderly are increasingly relying on accumulated wealth, rather than children, for economic security. In Japan, the proportion of non-working elderly women who depended on their children as their primary source of income dropped from 52 percent in 1980 to 24 percent in 1988.

A further boost to saving rates can be traced to the relatively rapid growth in the number of middle-aged "empty-nesters." This group is no longer burdened by high childrearing costs. Rather, they are likely to be concerned about retirement, which is just over the horizon.

For most East Asian countries, demographic conditions should support high saving rates for several decades. After that—and even sooner in Japan—saving rates are likely to decline as growth of the low-saving, retired population begins to dominate other demographic forces. This possibility has been the source of a good deal of pessimism

about the future of the Japanese economy. Is this pessimism warranted? Probably not.

The anticipated downturn in saving rates in Japan, and eventually elsewhere in East Asia, mirrors fundamental changes in capital requirements. At the end of World War II, the investment opportunities in Japan were enormous. There were severe shortages of capital due to wartime destruction, and a rapidly growing labor force had to be "equipped." Under these circumstances, high rates of saving and investment could fuel rapid economic growth. In recent years, attractive domestic investment opportunities have not kept up with the accumulation of wealth. Rather than financing domestic investment, high saving rates are increasingly financing Japan's remarkable rate of foreign investment.

In the absence of a new economic miracle, the extraordinary growth rates of the past four decades are unlikely to continue in Japan. This should not be grounds for pessimism, however. The economic growth that has already occurred has allowed Japan and other East Asian societies to achieve standards of living comparable to, and in some instances exceeding, those in the West. Slower growth, once a high standard of living is achieved, is certainly no cause for pessimism.

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## CONCLUSIONS AND POLICY IMPLICATIONS

In East Asia, demographic conditions will favor high rates of economic growth for several decades. Populations will be heavily concentrated at the working ages, high rates of investment in education will ensure an educated, productive labor force, and high rates of saving will support additional capital deepening.

What are the policy lessons? East Asia's accelerated demographic transition was a product both of rapid socioeconomic change and of deliberate popula-

tion policy. Achieving a slower rate of population growth was an explicit development objective in Indonesia, Singapore, South Korea, Taiwan, and Thailand, dating from the 1960s. A national commitment to slower population growth combined with support for voluntary family planning programs was an important component of a policy environment that proved to be remarkably successful. The resulting rapid fertility decline has had an important impact on economic growth and standards of living in the region.

An accelerated demographic transition, by itself, however, was not sufficient to produce the economic miracle. Rather, favorable demographic conditions created opportunities for economic growth, and these opportunities were fully exploited. Indeed, Thailand's recent financial crisis vividly demonstrates that short-term economic fluctuations can undermine economic progress, even when fundamental demographic conditions are favorable.

A rapidly expanding labor force yielded economic benefits in part because a successful export-promotion policy generated rapid growth in employment opportunities. Changing demographic conditions favored investment in education, but the opportunity would have been squandered had the resources that became available been diverted to less productive uses. Lower rates of childbearing and longer life expectancy substantially increased the incentives for saving, but these conditions were reinforced by economic stability and a dynamic business sector.

In short, assessing the experience of East Asia's high-performing economies yields no "magic bullet" guidelines for other regions. East Asia's economic miracle owes its success to a broad set of conditions and development policies, including important conditions and policies that affected population change.