



# What Is the Demographic Dividend?

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**I**NDUSTRIAL countries have largely completed what is called the “demographic transition”—the transition from a largely rural agrarian society with high fertility and mortality rates to a predominantly urban industrial society with low fertility and mortality rates. At an early stage of this transition, fertility rates fall, leading to fewer young mouths to feed. During this period, the labor force temporarily grows more rapidly than the population dependent on it, freeing up resources for investment in economic development and family welfare. Other things being equal, per capita income grows more rapidly too. That’s the *first dividend*.

This dividend period is quite long, lasting five decades or more, but eventually lower fertility reduces the growth rate of the labor force, while continuing improvements in old-age mortality speed growth of the elderly population. Now, other things being equal, per capita income grows more slowly and the first dividend turns negative.

But a *second dividend* is also possible. A population concentrated at older working ages and facing an extended period of retirement has a powerful incentive to accumulate assets—unless it is confident that its needs will be provided for by families or governments. Whether these additional assets are invested domestically or abroad, national income rises.

In short, the first dividend yields a transitory bonus, and the second transforms that bonus into greater assets and sustainable development. These outcomes are not automatic but depend on the implementation of effective policies. Thus, the dividend period is a window of opportunity rather than a guarantee of improved standards of living. The dividends are

sequential: the first dividend begins first and comes to an end, and the second dividend begins somewhat later and continues indefinitely. They certainly overlap. The first and second dividends both had positive effects between 1970 and 2000 (see table), except in sub-Saharan Africa.

## Potential sizes of the dividends

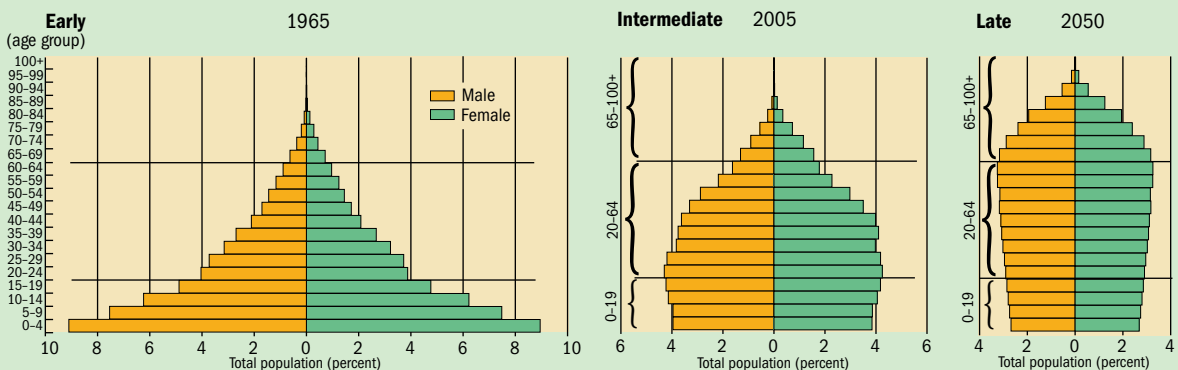
Developing countries are still working their way through the demographic transition (as illustrated by Thailand’s age pyramids in Chart 1). The horizontal lines mark the conventional working-age boundaries (ages 20 to 65). During the *early stage*, the number of children rises rapidly as mortality falls. Later, at an *intermediate stage*, fertility begins to decline, reducing the number of children, and the share of the working-age population increases. During the *late stage*, low mortality and fertility increase the share of the older population, a process known as population aging. Countries at the intermediate stage have the opportunity to exploit the first demographic dividend. The second dividend begins toward the end of the intermediate phase and extends through the late phase, but the policies for realizing the second dividend are best established during the intermediate phase.

The size of the dividends depends on how much people produce and consume at each age. In Thailand, people produce more than they consume only between ages 26 and 59 (see Chart 2); in the United States, these ages are 26 and 57; and in Taiwan, 26 and 55—these three cases are quite different from the conventional working-age boundaries. Multiplying the population age distribution by these age profiles of produc-

Chart 1

### Thailand’s demographic transition

Thailand has just begun the intermediate stage, its chance to seize the demographic dividend.



Source: UN World Population Prospects, 2004 revision.

tion or consumption, we find the effective numbers of producers and consumers; the ratio of producers to consumers is the “support ratio.” During the dividend phase, the support ratio rises. A 1 percent increase in this support ratio allows consumption at each age to rise by 1 percent with no increase in the share of GDP consumed.

Among developing countries, the support ratio began to increase first in four regions of the world: East and Southeast Asia, Latin America, the Middle East and North Africa, and the Pacific Islands. The effect was to raise the annual rate of growth of output per effective consumer by about 0.5 to 0.6 percentage points annually between 1970 and 2000 (see table, first column). The first dividend phase did not begin in South Asia until the mid-1980s and in sub-Saharan Africa until 2000. Indeed, the first dividend was negative between 1970 and 2000 in sub-Saharan Africa because the survival of more children led to a decline in the support ratio.

The second dividend—increased capital accumulation—is larger (second column) than the first dividend, and the combined effects of the two (third column) range as high as 1.9 percent a year in East and Southeast Asia. In that region, the demographic dividends were equal to 44 percent of the actual growth in output per effective consumer (fourth column). Demographics can account for a major part of the rapid growth in East and Southeast Asia. Some regions, however, did not successfully exploit their demographic dividends. In Latin America, the dividends could have contributed economic growth of 1.7 percent a year, but actual growth fell well short of that opportunity.

### Managing the dividends wisely

How much of the first dividend is realized during this demographic window of opportunity hinges on key features of the economic life cycle. The productivity of young adults depends on schooling decisions, employment practices, the timing and level of childbearing, and policies that make it easier for young

### How big are the dividends?

The second has typically been even larger than the first.

	Demographic Dividends: contribution to growth in GDP/N <sup>1</sup>			Actual growth in GDP/N <sup>1</sup>
	First	Second	Total	
Industrial economies	0.34	0.69	<b>1.03</b>	2.25
East and Southeast Asia	0.59	1.31	<b>1.90</b>	4.32
South Asia	0.10	0.69	<b>0.79</b>	1.88
Latin America	0.62	1.08	<b>1.70</b>	0.94
Sub-Saharan Africa	-0.09	0.17	<b>0.08</b>	0.06
Middle East and North Africa	0.51	0.70	<b>1.21</b>	1.10
Transition economies <sup>2</sup>	0.24	0.57	<b>0.81</b>	0.61
Pacific Islands	0.58	1.15	<b>1.73</b>	0.93

Source: Andrew Mason, 2005, “Demographic Transition and Demographic Dividends in Developed and Developing Countries,” United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures (Mexico City).

<sup>1</sup>Actual growth in GDP per effective consumer (GDP/N), 1970–2000, in percent a year. The effective number of consumers is the number of consumers weighted for age variation in consumption needs.

<sup>2</sup>Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, FYR Macedonia, Moldova, Mongolia, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovakia, Slovenia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

parents to work. Productivity at older ages depends on health and disability, tax incentives and disincentives, and, particularly, the structure of pension programs and retirement policies. On the consumption side, some countries, like those in East Asia, place a high value on education expenditures for children. Other countries, like the United States, devote a large share of resources to health care for the elderly.

How much of the second dividend is realized depends on how a society supports its elderly. In the developing world, the elderly are supported by their families and the public sector, but, in addition, they depend on assets they have accumulated during their working years—housing, funded pensions, and personal savings, among other things. As populations age, the support burden placed on families and governments will increase relative to GDP, a matter of great concern in many countries. But through the second dividend, increased numbers of middle-aged workers may substantially raise capital relative to GDP if policies encourage workers to save for their retirement.

To the extent that countries meet the challenge of aging by expanding unfunded familial or public transfer programs, asset growth will be reduced, and the second dividend will be diminished. By contrast, if workers are encouraged to save and accumulate pension funds, population aging can boost capital per worker, productivity growth, and per capita income. Thus, policymakers, especially in developing countries, will need to focus on establishing financial systems that are sound, trusted, and accessible to the millions who wish to secure their financial futures. The time to do so is now so that, as a population ages, its growth-inducing potential will be realized. ■

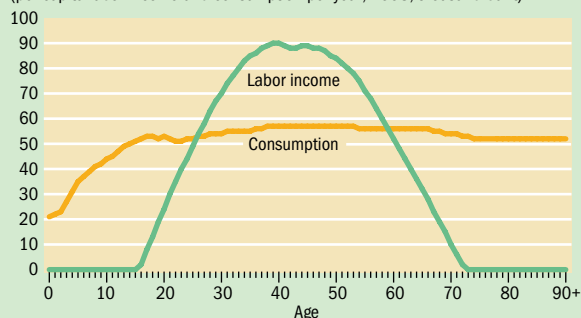
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Chart 2

### Economic life cycle of a typical Thai worker

Each individual has only 33 years to build the dividend.

(per capita labor income and consumption per year; 1998, thousand baht)



Source: Amonthep Chawla, 2006, “National Transfer Account Estimates for Thailand,” [www.ntaccounts.org](http://www.ntaccounts.org).