How well do societies meet the consumption needs of all age groups?

A steady, adequate level of consumption is a critical measure of wellbeing at every stage of life—for children, for working-age adults, and for the elderly. Individuals and families support their consumption by earning labor income, saving and investing for the future, and sharing their resources, either directly within families or through governments in the form of taxation and public programs. Working-age adults support their consumption largely through labor income. But an important concern for families and policymakers alike is to support the education, healthcare, and other consumption needs of children and the elderly, who generally earn little income of their own.

Measures of consumption are important for understanding public programs and policies that influence access to resources. For example, the effect of a policy to increase pensions depends on how pensioners respond. Do they consume more, do they save more, or do they give away the extra resources to be consumed by their children and grandchildren? These are very different outcomes with very different implications for the wellbeing of specific age groups.

Until recently, little has been known about consumption patterns among specific age groups or how these might be affected as population age structures change over time. But now the National Transfer Accounts (NTA) project is bringing together and analyzing information on private and public consumption at every age. This research covers 37 economies around the world at widely varying stages of economic development. This issue of the NTA Bulletin is based on information from 32 of these economies.

Clearly, consumption needs vary with age, and values and preferences vary in different societies. In several wealthy societies, for example, the elderly consume a great deal of healthcare, much of it provided by the public sector. Without more information, it is not possible to say whether this reflects what people value or merely indicates waste and inefficiency in healthcare systems.

In general, NTA findings show that societies meet the consumption needs of broad population age groups—children, working-age adults, and the elderly—fairly equitably. This general pattern holds whether societies are rich or poor and whether people rely largely on families, governments, or financial markets to support their consumption. These findings are based on averages for population age groups as a whole, however. They do not reflect the variation, often considerable, in consumption levels among socio-economic groups at all ages.
How does NTA measure consumption?
The UN System of National Accounts (SNA) provides estimates of public and private consumption for populations as a whole in most economies. The NTA project builds on these estimates by providing comprehensive estimates of consumption by one-year age groups. NTA disaggregates consumption into three components—education, healthcare, and other consumption—and distinguishes two forms of consumption: private consumption, the goods and services purchased by individuals and families; and public consumption, goods and services provided directly by the government.

Consumption is estimated on a per capita basis, and also for age groups as a whole. This final distinction is important. In a high-fertility economy, for example, the consumption of education may be low for each child, but the overall cost may be very high because there are so many children.

Consumption by children and investment in human capital
Children tend to consume less than prime-age adults because their needs tend to be less. A child (age 0–19) consumes less than a working-age adult (age 20–64) in every NTA economy except Slovenia (Table 1).

| Table 1. Consumption indicators for 32 NTA member economies in a recent year. |
|----------------------------------|------------------|------------------|------------------|------------------|
|                                  | Per Capita Consumption by Children and the Elderly (per capita consumption age 20–64) | Per Capita Human-Capital Spending (% average annual labor income of a prime-age (30–49) adult) | Importance of Per Capita Healthcare Consumption Age 65+ (% all per capita consumption age 65+) | Note: Values for regions are simple averages of the values for included economies. They are not weighted by population. |
| Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ | Age 0–19 | Age 65+ |
| Africa   | 49  | 98  | 124  | 99  | 59  | 98  | 86  | 86  | 171  | 83  | 10  | 2  | 2  | 3  | 3  | 10  |
| Kenya, 1994 (KE) | 50  | 101 | 140  | 95  | 60  | 100 | 17  | 60  | 78  | 1  | 2  | 3  | 3  | 10  |
| Nigeria, 2004 (NG) | 52  | 111 | 95  | 95  | 55  | 110 | 191 | 21  | 212 | 15  | 1  | 15 |
| Senegal, 2005 (SN) | 54  | 89  | 120 | 97  | 61  | 90  | 46  | 65  | 111 | 5  | 2  | 6  |
| South Africa, 2005 (ZA) | 40  | 90  | 140 | 110 | 59  | 94  | 89  | 196 | 285 | 10  | 7  | 17  |
| East Asia | 68  | 94  | 168 | 152 | 88  | 105 | 210 | 240 | 450 | 8  | 14  | 22  |
| China, 2002 (CN) | 64  | 94  | 148 | 136 | 84  | 104 | 166 | 156 | 322 | 15  | 3  | 28  |
| Japan, 2004 (JP) | 58  | 109 | 219 | 227 | 88  | 131 | 140 | 389 | 529 | 5  | 18  | 23  |
| South Korea, 2000 (KR) | 71  | 85  | 160 | 121 | 87  | 91  | 225 | 202 | 427 | 8  | 9  | 16  |
| Taiwan, 1998 (TW) | 80  | 87  | 143 | 126 | 94  | 96  | 307 | 213 | 520 | 6  | 11  | 17  |
| South & Southeast Asia | 59  | 94  | 171 | 114 | 70  | 96  | 108 | 132 | 240 | 9  | 3  | 12  |
| India, 2004 (IN) | 54  | 109 | 135 | 141 | 63  | 113 | 68  | 107 | 175 | 11  | 8  | 18  |
| Indonesia, 2005 (ID) | 62  | 82  | 214 | 120 | 73  | 85  | 84  | 137 | 221 | 3  | 5  | 3  |
| Philippines, 1999 (PH) | 58  | 104 | 155 | 107 | 69  | 104 | 124 | 111 | 235 | 6  | 2  | 8  |
| Thailand, 2004 (TH) | 56  | 97  | 206 | 105 | 76  | 98  | 80  | 251 | 331 | 18  | 4  | 22  |
| Vietnam, 2008 (VN) | 65  | 80  | 144 | 99  | 71  | 82  | 186 | 523 | 239 | 6  | 1  | 7  |
| Latin America & Caribbean | 54  | 101 | 161 | 124 | 70  | 104 | 127 | 218 | 346 | 8  | 16  | 16  |
| Argentina, 1997 (AR) | 56  | 96  | 153 | 125 | 78  | 103 | 98  | 229 | 327 | 6  | 13  | 19  |
| Brazil, 2002 (BR) | 47  | 105 | 128 | 110 | 65  | 106 | 82  | 218 | 300 | 98  | 17  |
| Chile, 1997 (CH) | 55  | 99  | 184 | 139 | 70  | 103 | 99  | 193 | 292 | 8  | 7  | 15  |
| Colombia, 2008 (CO) | 50  | 106 | 171 | 144 | 69  | 112 | 139 | 248 | 398 | 7  | 10  | 17  |
| Costa Rica, 2004 (CR) | 50  | 99  | 136 | 144 | 63  | 105 | 72  | 252 | 324 | 4  | 15  | 19  |
| Jamaica, 2002 (JM) | 57  | 95  | 166 | 130 | 70  | 99  | 180 | 169 | 349 | 6  | 7  | 12  |
| Mexico, 2004 (MX) | 54  | 90  | 164 | 118 | 65  | 93  | 100 | 233 | 332 | 2  | 7  | 9  |
| Peru, 2007 (PE) | 54  | 112 | 175 | 92  | 68  | 109 | 139 | 194 | 334 | 8  | 2  | 11  |
| Uruguay, 2006 (UY) | 63  | 104 | 176 | 114 | 79  | 105 | 234 | 229 | 464 | 19  | 6  | 25  |

Source: Calculated from data on the NTA website (www.ntaccounts.org).

One reason for low spending on children in poor societies is that fertility tends to be high. As a result, a large proportion of children are below school age, with relatively few expenses. Age structure explains a relatively small part of the differences, however. Apart from general levels of economic development, variation in children's consumption tends to reflect important features of each economy, such as income distribution, the number of children per household, the average age at childbearing, the extent of single-parent families, and the relationship between income and fertility. Among wealthy economies, children's consumption is relatively low in the United States (US). Compared with an adult's consumption, a child consumes less in the US than in every NTA economy of East Asia and Europe (Figure 1).

In all economies, support for the consumption of children is a shared public-private responsibility (Table 1), with the public sector particularly important in the provision of education. A closer look at public and private consumption by one-year age groups in Sweden and the Republic of Korea (South Korea) illustrates common patterns and unique features (Figure 2). In both economies, per capita consumption climbs steadily throughout childhood and exhibits a peak in late adolescence, reflecting
Taiwan and South Korea stand out with particularly high private consumption by children because families in these economies are paying a relatively large proportion of their children’s education costs (Table 1). By contrast, children’s public consumption is particularly high—at more than twice the consumption of working-age adults—in Japan, Indonesia, Slovenia, Sweden, and Thailand.

As fertility comes down and the number of children diminishes, families and governments have an opportunity to invest more in each child, improving their well-being and increasing the productivity of future workers. In fact, among 32 NTA members, economies with low fertility do tend to spend more on the health and education of each child than do economies with high fertility. Human-capital spending on each child in low-fertility European and East-Asian economies is from three to more than five times the average annual labor income of a prime-age adult (Table 1). In the high-fertility economies of Africa and South and Southeast Asia (excluding Thailand where fertility is low), human-capital spending is much lower.

The role of the public sector in supporting children’s healthcare and education varies widely, even among economies at similar levels of development (Table 1). In five European economies—Austria, Finland, Hungary, Slovenia, and Sweden—the government provides nine-tenths or more of all human-capital consumption by children, while in Japan and the United States the government provides less than three-fourths, and in South Korea and Taiwan less than one-half.

Consumption by the elderly, including consumption of healthcare

An elderly person (age 65 and above) consumes more than a child in all 32 NTA economies covered here. In most economies, an elderly person also consumes more than a working-age adult (Table 1). Per capita consumption by the elderly is particularly high relative to consumption at other ages in Japan, Sweden, and the United States (Figure 1). It is particularly low in Indonesia and Vietnam.

High per capita consumption by the elderly poses two important policy questions.
First, are current consumption patterns based on the values of a society, or do they reflect waste and inefficiency, particularly within the healthcare system? And second, will current high consumption costs be sustainable as elderly populations expand?

The balance between public and private consumption by the elderly is similar to the pattern observed for children. Private consumption is lower for the elderly than for working-age adults in two-thirds of the NTA economies, spread across different regions and levels of development (Table 1), but public consumption is higher for the elderly than for working-age adults in most economies. The most extreme case is Sweden, where private consumption by an elderly person is less than private consumption by a person of working age, but public consumption is nearly three times greater.

The very steep rise in consumption among the oldest age groups in Sweden (Figure 2) is also evident in the United States. In Japan and some of the other high-income economies of Europe, public consumption also rises steadily with age, but not as steeply. In middle- and low-income economies, as in South Korea, both public and private consumption tend to be flat throughout old age.

Among 32 NTA economies, healthcare consumption by those age 65 and above ranges from nearly one-half of that age group’s overall consumption in Sweden to less than 10 percent in Kenya, Indonesia, Mexico, the Philippines, and Senegal (Table 1). The mix between public and private healthcare consumption also varies. A large proportion of all healthcare for the elderly is funded by public resources in the NTA economies of Europe plus Japan, Costa Rica, and Mexico. In the other economies, the private sector plays a more important role.

Generally, the elderly tend to consume more healthcare in high-income economies, but there is wide variation within and between regions. An elderly person in the Philippines, for example, consumes somewhat more overall than an elderly person in Thailand, relative to consumption by a working-age adult, but an elderly Thai consumes a great deal more healthcare, provided largely by the public sector (Table 1). An elderly Nigerian consumes much more healthcare than an elderly Kenyan, provided almost entirely by the private sector.

Apart from differences in spending, consumption of healthcare by the elderly is affected by the age structure of the elderly population. In societies with relatively high life expectancy, a larger proportion of the elderly population will be very old. In Japan and the United States, for example, long-term care for the oldest age groups has an important effect on overall consumption of healthcare by the elderly.

**Some observations for policymakers**

One important policy concern relates to fairness in the allocation of resources among age groups. Data from 32 NTA economies do not show that the elderly gain resources at the expense of children or vice versa (Figure 1). If such a pattern were widespread, many countries (data points) would be clustered in the upper left of the chart, indicating high consumption by the elderly and low consumption by children, or in the lower right, indicating high consumption by children and low consumption by the elderly. We do not see that pattern. In many economies shown in Figure 1, both child and elderly consumption are either low or high.

NTA analysis shows that the public sector tends to play an important role in smoothing consumption levels across age groups. In all 32 NTA economies covered here, private consumption is lower for children than for working-age adults, and in two-thirds of these economies, private consumption is also lower for the elderly. But public consumption is higher for children and the elderly than for working-age adults in every economy except for the elderly in Africa. In a few economies, it is more than twice as high. And in many cases, public support for the elderly is even greater than this analysis reveals because a substantial proportion of their private consumption is funded by income from public pensions.

Funding for public consumption by children and the elderly comes from taxes paid largely by the working-age population, so public consumption by children and the elderly amounts to a transfer of funds between age groups. In general, this redistributive function tends to be stronger in high-income economies, where the public share of consumption is relatively high and where a relatively large portion of public consumption is spent on education and healthcare. Now and in the future, the magnitude of this transfer will be strongly influenced by the relative size of the three population age groups—most importantly by population aging.

As low fertility results in smaller numbers of children, governments and families alike have an opportunity to invest more in each child’s health and education. NTA findings show that some economies are meeting this challenge better than others.

Investment in children’s health and education ranges widely—from more than five years of labor income for a person in the prime working years in Japan, Slovenia, Sweden, and Taiwan to less than two years’ income in Kenya and Senegal. Public human-capital investment is particularly important in Europe.

Among wealthy economies, per capita consumption by the elderly is particularly high in Japan, Sweden, and the United States (Table 1). In all three economies, an important component of consumption by the elderly is the consumption of healthcare. But consumption by the elderly can also be quite high in less-wealthy economies, such as Colombia, India, Nigeria, and Peru. Economies with high levels of healthcare and other consumption by the elderly will experience increasing financial pressure as elderly populations expand relative to the size of the working-age population. Where consumption by the elderly is financed largely through public programs, pressure on government budgets will intensify.

Economies at every stage of population aging need programs and policies that provide financial security for people of all ages while sustaining strong economic growth. They need policies that support adequate levels of consumption by encouraging saving, employment, and investment in health and education. To support these policies, every economy needs well-functioning financial and labor markets. In addition, they need public-pension programs that will provide consumption and economic security for the elderly but that will be sustainable as elderly populations expand. And finally, they need strong investment in children to boost the productivity of the future workforce.

**Additional resources**
