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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).

There is considerable variation in children's consumption levels, however. Particularly low consumption by children may have potentially serious implications for their current wellbeing and may also inhibit their development into fully productive members of the adult population.

In poor societies, of course, consumption is low for all age groups. But in addition, the relative consumption of children is lowest in poor, high-fertility societies. The contrast between the four African economies covered in this analysis and the four East Asian economies is striking (Figure 1). The average values for consumption by children and the elderly in all 32 economies divide the figure into four quadrants. Data points for the four African economies lie well to the left of the overall average, indicating relatively low consumption by children. Data points for the four East Asian economies and most of the European economies lie to the right, indicating above-average consumption by children. A child in Africa consumes 59 percent of consumption by a prime-age adult, while a child in East Asia consumes 88 percent of a prime-age adult's consumption (Table 1).

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

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) ^a			Importance of Per Capita Healthcare Consumption Age 65+ (% all per capita consumption age 65+)		
	Private		Public		Combined		Priv.	Pub.	Comb.	Priv.	Pub.	Comb.
	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	8	3	10
Kenya, 1994 (KE)	50	101	140	95	60	100	17	60	78	1	2	3
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	13	28
Japan, 2004 (JP)	58	109	219	227	88	131	140	389	529	5	23	27
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	3	5
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	52	239	6	1	7
Latin America & Caribbean	54	101	161	124	70	104	127	218	346	8	8	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	9	8	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	388	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	232	333	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
Europe, Australia, & the United States	53	93	178	187	82	115	51	352	402	5	24	29
Australia, 2004 (AU)	56	87	165	173	74	102	108	247	355	7	18	25
Austria, 2005 (AT)	52	90	193	158	83	105	24	374	398	4	18	22
Finland, 2004 (FI)	51	91	155	153	80	108	17	344	361	4	17	21
Germany, 2003 (DE)	52	105	149	168	73	119	37	290	327	5	18	23
Hungary, 2005 (HU)	46	97	149	139	77	109	33	361	394	7	19	26
Slovenia, 2004 (SI)	64	90	252	206	106	116	45	460	505	5	30	35
Spain, 2000 (ES)	60	89	181	158	84	102	61	333	395	3	20	23
Sweden, 2003 (SW)	49	84	219	280	97	139	17	525	542	2	47	49
United Kingdom, 2007 (UK)	55	86	142	209	74	113	63	295	359	1	30	31
United States, 2003 (US)	49	112	174	227	71	133	100	287	387	12	21	33

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

Note: Values for regions are simple averages of the values for included economies. They are not weighted by population.

^aHuman-capital spending includes healthcare spending at age 0–17 and education spending at age 3–26 in the base year.

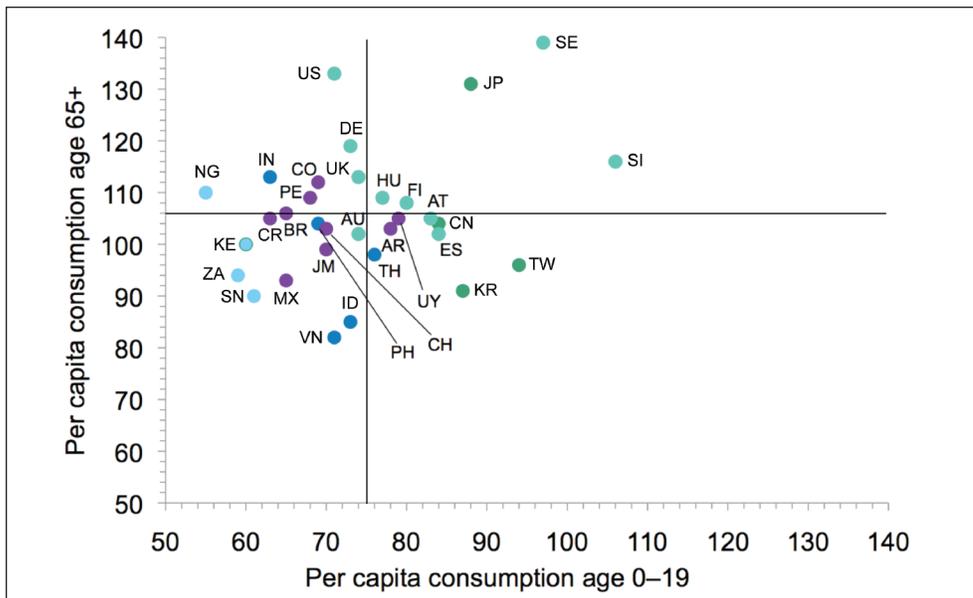


Figure 1. Per capita consumption of children (0–19) and the elderly (65+) expressed as a percent of per capita consumption by adults age 20–64.

Source: Table 1; calculated from data on the NTA website (www.ntaccounts.org).

Note: The average values for consumption by children and the elderly in all 32 economies divide the figure into four quadrants. Data points to the left of the vertical line indicate lower consumption by children than the overall average. Data points below the horizontal line indicate lower than average consumption by the elderly. Light blue dots are for Africa; dark blue dots are for South and Southeast Asia; dark green dots are for East Asia; light green dots are for Europe, Australia, and the United States; and purple dots are for Latin America and the Caribbean. See Table 1 for country designations.

expenditures on education. Education spending starts in infancy in Sweden, but not in South Korea, because the Swedish government provides considerable support for daycare, which is provided by academically trained pre-school teachers. In fact in Sweden, the government provides nearly all the cost of education throughout childhood, while in South Korea, a great deal of the the cost of education is provided privately by families. And finally, spending on education continues in Sweden to much later ages than in South Korea, again dominated by the public sector.

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.

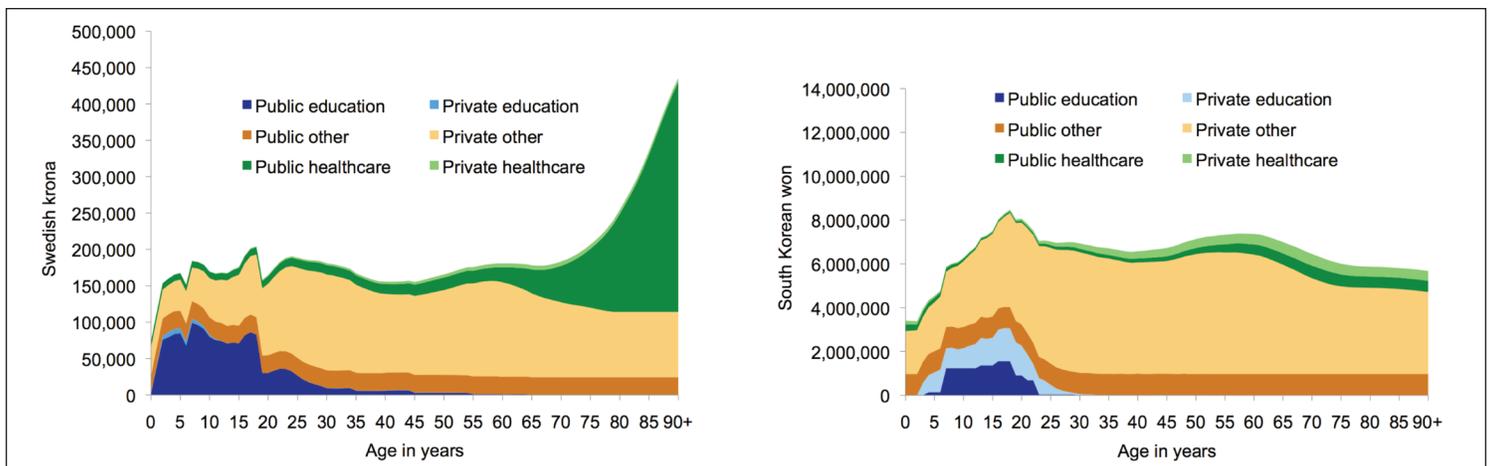


Figure 2. Per capita public and private consumption of education, healthcare, and other goods and services by one-year age groups in Sweden (2003) (left) and South Korea (2000) (right).

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

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

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