Opening Remarks and Introductions

Mr. Eduardo Klien, Regional Director of HelpAge Asia Pacific, welcomed participants to the workshop and introduced representatives from 20 participating countries and three international and regional organizations. The Executive Director of the Asian Forum of Parliamentarians on Population and Development (AFPPD), Ms. Mika Marumoto, introduced Hon. Dr. Jetn Sirathranont, Member of Parliament in the National Assembly of Thailand, and Secretary General of AFPPD.

Opening Presentations

Opening address: Hon. Dr. Jetn Sirathranont, Member of Parliament, National Assembly of Thailand, and Secretary General of AFPPD

It is my honor to address the Workshop on the Effective Use of Data for Policy Making on Aging. This is a unique workshop, bringing together a tripartite combination of stakeholders from parliaments, governments, and academia. I would like to thank the Asian Forum of Parliamentarians on Population and Development (AFPPD), HelpAge International, and the East-West Center for organizing this very important meeting and for inviting me to participate. I would like to convey my special appreciation to the United Nations Population Fund (UNFPA) for their generous support in making this possible.

It is increasingly clear that aging is no longer a national issue, but a regional and global one that requires international cooperation and collective action. The Asia-Pacific region that is represented here today is currently home to more than one-half of the world's elderly population. My own country, Thailand, for example, has the third most rapidly aging population in the world. Today there are nearly 11 million Thai people over the age of 60 years, accounting for 16 percent of the population. By 2040, this age group is expected to increase to 17 million and account for 25 percent of the population. This is a huge number—and a frightening reality—with deep social, economic, and political implications.

In order to address the issues raised by rapid population aging, the Thai government has taken several key initiatives:

- A universal healthcare finance policy was established in 2002, covering the whole population including the elderly poor.
- The government has encouraged the establishment of clubs and recreation centers where the elderly can join social activities and events in local communities to help promote their physical and mental health.
- The government extended the "Old Age Allowance" in 2009 to provide income security for the elderly. Under this income-support program, persons over the age of 60 years receive monthly allowances starting at 600 Thai baht. The maximum monthly allowance of 1,000 baht is offered to those over age 90 years.
- The National Assembly has just passed a bill to earmark 2 percent of resources from a "sin tax" for the poor elderly.

I serve as the Secretary General of the AFPPD, and I can report that our organization is dedicated to promoting healthy and active aging and protecting the rights of older persons through policies and legal frameworks. In August 2017, the AFPPD organized its second Standing Committee Meeting on Active Aging in Ho Chi Minh City, Vietnam, on the sidelines of the third Senior Officials' Meeting of the Asia-Pacific Regional Cooperation (APEC). This meeting brought together 55 parliamentarians from 22 AFPPD and APEC member economies. The participants clarified the goals of long life with good health, emphasizing the importance of monitoring and improving the quality of long-term care and facilitating cross-border collaboration to enhance policy on aging and care.

This workshop comes at an opportune time for us to discuss, using the National Transfer Accounts (NTA) methodology, how data can guide policy making to enable all of our aging countries to prepare for rapid demographic change. Please allow me to conclude my speech with a quote from the recent AFPPD Standing Committee Meeting: "The challenge of aging is not a long life but a long life in good health."

Policy implications of population aging: Eduardo Klien, HelpAge International

Throughout the world, the share of elderly people in national populations is going up, and the share of children is going down. The primary cause is substantially reduced fertility, although increased longevity also plays a role.

The pace of population aging is much faster in Asia than it was in Europe, resulting in a much shorter window of opportunity to design and implement appropriate policies. Given the speed of population aging, policy makers face three key challenges: to ensure economic growth; support harmonious, equitable societies; and maintain fiscal sustainability.

Economic growth is related to the size and quality of the workforce. The size of the workforce can be enhanced by promoting a longer working life, broadening the participation of women in the workforce, and developing appropriate policies on immigration. The quality of the workforce can be enhanced by investments in education systems (including lifelong education), capital and technology (including saving and technological advances), social protection (because vulnerable populations tend to have low productivity), social organization (because a lack of social consensus also reduces productivity), and various types of short-term adaptations.

Policies on health and healthcare also have a strong effect on economic growth because a population needs to be healthy to be productive. As economies modernize and populations age, health priorities move from infectious to noninfectious disease. Most countries in Asia are not prepared for this transition. One related policy area is the growing need for long-term care, particularly as family support systems are on the decline.

Social protection in old age is another critical issue. In many countries, the poorest elderly people receive a modest noncontributory "social" pension, and the wealthiest receive public contributory and voluntary pensions, but the 60 to 70 percent in the middle of the income scale have no pension coverage. This "coverage gap" often affects people who have worked in the informal sector.

We need to begin thinking of old people as an economic and social resource rather than strictly in terms of vulnerability. For example, many Asian countries have compulsory retirement laws that take effect at early ages when most people are still productive members of the workforce. In addition, although women tend to live longer than men, in many countries the compulsory retirement age is lower for women—at 55 in Vietnam, for example. In fact, most people continue to work after they retire.

In summary, Asian countries need to start adapting to changing demographic patterns. Delay will only make it more difficult to maintain economic growth and equity in the face of population aging. Successful adaptation will require a comprehensive strategy, not simply the addition of isolated policies. Such a comprehensive strategy needs to be based on evidence and knowledge—including useful contributions from the NTA project—plus strong political will.

Population aging provides opportunities as well as challenges. To seize these opportunities and meet these challenges, this meeting can make an important contribution by improving knowledge, building consensus, and enhancing leadership on many important issues.

Introduction to NTA: Sang-Hyop Lee, East-West Center and University of Hawaii

Population aging raises several questions for policy makers and researchers alike. These include:

- How does population change influence the economy?
- How are the benefits of the demographic dividend shared; what are the disparities among population groups?
- To what extent do today's elderly remain in the workforce, and how much do they earn?
- How do families and governments meet the needs of those elderly people who consume more than they produce?
- What does the future hold?
- What public policies can be pursued to influence future outcomes?

To help answer these questions, the NTA project quantifies how each age group acquires and uses economic resources, Integrates population issues into economic analysis using population estimates, surveys, administrative records, and macroeconomic data, and produces results that are consistent with United Nations System of National Accounts.

The NTA network consists of national research teams in more than 60 countries around the world. Analysis is shared through publications, global and regional meetings, and training workshops. NTA provides information to support policy making in several priority areas, including gender, socioeconomic, and regional inequality; education and employment

status of young people; aging and social-protection policy; health policy; labor-force structure and occupational status; and public vs. private consumption.

NTA data on consumption and labor income by age make it possible to construct a "support ratio"—the number of effective workers in an economy relative to the number of effective consumers. When the support ratio is rising, effective workers are supporting fewer effective consumers, freeing up resources to raise consumption, saving, and investment. This is the first demographic dividend.

Among low- and middle-income countries in Asia, Bangladesh, India, Indonesia, Iran, Lao People's Democratic Republic (PDR), Malaysia, the Maldives, Nepal, the Philippines, and Timor-Leste are all currently experiencing a first demographic dividend. Between 2035 and 2055, however, only Indonesia, Lao PDR, Mongolia, and Timor-Leste will still be enjoying this special demographic boost to economic growth.

NTA analysis of consumption by age reveals how much support families and governments are providing to children and the elderly. Among Asian economies, consumption by children is particularly high relative to consumption by prime-age adults in China, the Republic of Korea, and Taiwan Province of China. It is particularly low in India, Cambodia, and the Philippines. Consumption by the elderly is particularly high in Japan and the Maldives and particularly low in Lao PDR and Vietnam.

NTA also shows the sources of support for children and the elderly. On average, per capita labor income drops below consumption levels when people reach their late 50s. From this age on, older adults rely all or in part on three other sources of support—family transfers, government pension and healthcare programs, and assets accumulated earlier in life.

The relative importance of these sources of support often changes over time. In Thailand, for example, the support system for the elderly first evolved from a strong reliance on family transfers to a greater use of asset income. Then, with the introduction of a government pension scheme in 1997, elderly Thais began to rely in part on government support. The question today is whether the support system for the elderly in Thailand will evolve toward a "United States-style" emphasis on personal assets or a "European-style" emphasis on government programs. Government policy will have a major impact on how this question is answered.

Support systems for the elderly are particularly important in Asia because populations in the region are aging so rapidly. As in Thailand, many Asian countries are also experiencing major changes in their old-age support systems. Moreover, many countries will have to support large elderly populations before they reach high levels of national income—they are getting old before they get rich.

What are the options for the future?

- Should Asians continue to work into old age? It is appropriate for healthy older people to continue working, but higher labor-force participation may not be sufficient to meet the challenges of population aging. Increasing productivity and female labor-force participation may be particularly important in Asia.
- Should families continue to support the elderly? Family transfers have provided important support in the past, but the family-support system is deteriorating. Young people may not be willing, or able, to support elderly family members, and the elderly may not want to rely on their children for support.
- Should Asian governments increase public transfers to the elderly? Increased public support may be inevitable, but if government support is to remain sustainable, programs must be designed keeping in mind that tomorrow's elderly populations will be much larger than populations today.
- Should the elderly increase their reliance on personal capital accumulation? Increased saving and investment can have positive effects on economic growth, but investment in human capital is also important. Countries need to have banking systems in place to facilitate capital accumulation.

In summary, the negative effects of population aging can be offset by policies that: improve education and training to increase labor productivity; encourage stronger labor-force participation by young people, the elderly, and women; support saving and investment; avoid excessive reliance on transfers to support the elderly; and, where appropriate, encourage immigration. To help achieve these policy goals, NTA provides data linking population and the economy, capacity building, and tools for policy making and advocacy.

A generational perspective on aging and policy: Andrew Mason, East-West Center and University of Hawaii

Populations are aging everywhere in the world, raising four broad questions:

- What are the effects, good and bad, of population aging?
- How do these effects vary with the pace and level of aging?
- What policies will enhance the benefits of aging?
- What policies will mitigate the adverse effects of aging?

Overall, population aging is a great success story. There have been substantial gains in life expectancy, smaller child populations have led to more human-capital investment in children, and slower population growth has brought significant economic and environmental benefits.

In some countries of Asia and Europe, however, very low fertility has led to extreme population aging. Young people with few children tend to invest substantially in the health and education of each child, but some young people are having no children at all and are thus investing nothing in the next generation. Governments in several countries are providing support to families with children, in part in an effort to increase fertility levels. France, for example, spends 5–6 percent of gross domestic product (GDP) on family-support programs.

Increasing life expectancy also contributes to populating aging, but improving health in old age moderates the negative impact of aging. The emphasis needs to be on healthy life expectancy. Immigration policy can also play a limited role in moderating the effects of population aging. Immigration policies are controversial, however, and they will not solve aging problems in any significant way.

What does it mean to be old? We know that individual abilities, needs, and wants vary inherently with age, but the economic contributions and the resources consumed at each age also depend on macroeconomic conditions, culture, public policy, private-sector practice, and behavioral responses. NTA helps us understand these processes by showing how the linkages between age and economic outcomes vary across countries and over time.

NTA data make it possible to look at aging not just as numbers of people, but in terms of the amount of consumption that must be covered by sources other than labor income. In the United States, for example, NTA analysis shows that people age 65 and over in 2011 consumed on average $58,700 a year and earned $12,000, leaving a gap of $46,700. To fill this consumption gap required an amount equal to 21 percent of the annual income of the entire population.

The total cost of filling this old-age support gap depends on the size of the average gap for each elderly person plus the total size of the old-age population. Looking at NTA member countries around the world, the cost of filling the gap is rising particularly steeply in high-income countries, but it is also rising in upper-middle, lower-middle, and low-income countries. In Asia, costs will vary widely among countries. China and the Republic of Korea, for example, have rapidly growing elderly populations, but the lifecycle gap is growing more slowly because old-age consumption is low. Japan, by contrast, has the highest old-age support gap in the world—at 37 percent of total labor income—and this gap is projected to nearly double by 2065.

Several policies are available to slow down the rising old-age support gap. One option is to increase labor income for the relatively young and healthy people in the old-age group by relaxing mandatory retirement ages, reducing other forms of age discrimination, and initiating programs for lifelong learning. Historically, the age at retirement has declined in high-income countries, but recently the trend in many countries has reversed. Between 2003 and 2011 in the United States, the rise in labor income at older ages was equivalent to a two- to three-year delay in retirement.

Increases in old-age consumption can be slowed by policies to reduce the cost of healthcare and long-term care. In the United States, old-age consumption has risen more rapidly than old-age labor income, and as a result, the gap between labor income and consumption has widened.

The old-age support gap is filled by a combination of public transfers from governments, private transfers from families, and income from assets accumulated earlier in life. The economic impact of aging depends, in part, on the relative importance of these three funding mechanisms. Reliance on public transfers can lead to higher taxes and greater public debt, and reliance on family transfers can lead to financial strains and a heavy burden on women, who are most often caregivers for the elderly. Reliance on assets can lead to higher saving rates and increases in capital, but can also expose the elderly to financial risks.

In most Asian countries, the elderly rely heavily on their assets for support in old age. In China and Japan, the elderly also rely on public transfers. In China, the Republic of Korea, Taiwan Province of China, and Cambodia there is also some reliance on family transfers, but the traditional system of family support is eroding across the region.

Each type of support for the elderly has implications for policy makers. Public transfers—in the form of pensions and healthcare programs—have an important role to play, but these systems are underdeveloped in many Asian countries. In introducing and expanding public transfers, it is important to ensure that programs will be sustainable in the future as elderly populations expand. To encourage asset accumulation, governments need to provide financial education and help protect their citizens against financial risk. And finally, governments need to recognize the unique value of family support systems and in particular the role of family caregivers.

Case Studies and Panel: What NTA Analysis Reveals about Disparities among Population by Income, Gender, and Urban/Rural Residence

    Chair: Narayana Muttur Ranganathan, Institute for Social and Economic Change, Center for Economic Studies and Policy

A lifecycle approach to inequality in the Philippines: Michael Abrigo, Philippine Institute for Development Studies

In recent years, the Philippines has enjoyed robust economic growth, averaging 6–7 percent annually. Changes in population age structure stemming from a slow but steady fertility decline have led to rising support ratios that can boost economic growth, and achieving this demographic dividend is a major goal of the current national development plan.

At the same time, the Philippine economy has been plagued by persistent inequality. Poor and poorly educated women still have more children than they want, inequalities persist in nutrition and health outcomes, and access to education is uneven, leading to low completion rates for some population groups.

NTA data reveal wide disparities in consumption between urban and rural populations and across income groups. Analysis by age shows that consumption goes up with age for the wealthy but down with age for the poor. Wealthy Filipinos spend much more private resources on education in childhood and adolescence and on healthcare in old age than do Filipinos in the low- or middle-income groups. As a result, private human-capital spending is highly skewed toward the wealthy, with 13 percent of the population age 3–26 receiving 50 percent of private human-capital resources.

By contrast, government human-capital spending is allocated fairly equally across socioeconomic groups. Public spending favors the poor more strongly in basic education than at higher levels.

Differences in human-capital spending are important because adults who enjoyed larger investments in health and education when they were children tend to have higher labor incomes. These adults also have higher levels of consumption, investment, and saving than those who received smaller human-capital investment in the past.

Across the population, income disparities tend to accumulate over the lifecycle, so that inequality grows larger with age. As a result, adults who earned less when they were young are more likely than others to continue working in old age. As these findings indicate, NTA offers a unique perspective from which to analyze inequality across the lifecycle and formulate appropriate policies for every age group.

National Transfer Accounts in China by income group and gender: Shen Ke, Fudan University

Although income equality, including gender equality, is an important goal of the Chinese government, rapid economic growth has actually been accompanied by rising inequality. In response, the government has introduced a variety of social-welfare programs, and increases in government spending on healthcare, education, and pensions have outpaced growth of the GDP. But how are public transfers in China distributed among income groups and between men and women? And do China's social-welfare programs actually promote income equality?

Looking at gender, per capita spending on public education is allocated evenly between girls and boys. At the tertiary level, per capital spending is slightly higher for males, but today more women go to college than men.

In infancy and early childhood, per capita public healthcare spending is higher for boys than for girls. This is partly due to son preference in some Chinese families, which means that parents may be more likely to take a baby boy for medical treatment than a girl.

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Public healthcare spending is higher for men than for women, largely because older men are more likely than older women to have had careers that offered health insurance. Among adolescents and working-age adults, public healthcare spending is about equal for men and women. Public pension payments are also higher for men than for women. This is largely because older women in China tend to have weaker employment histories than men.

Turning to income groups, government spending on education tends to favor those with higher income despite efforts to improve income equality. This pattern is related to the large variation in public education spending among China's provinces. In addition, students from higher-income families are more likely than others to seek enrollment at the tertiary level and are also more like to be admitted.

Public healthcare spending on children and working-age adults is evenly distributed across income groups but is highly skewed toward higher income groups among the elderly. There is little use of private healthcare.

Coverage by public pension systems is spotty, and as a result, pension benefits are strongly regressive. At age 75 and above, pensioners in the top income quartile receive an average of renminbi (RMB) 11,793 per year, compared with RMB 4,000 for those in the second income quartile and only RMB 250 for those in the bottom quartile.

Combining healthcare, education, and pension benefits, total per capita public spending is roughly equal for children, adolescents, and working-age adults, but is highly skewed toward the wealthy at older ages.

In the past decade and half, the Chinese government has made great efforts to strengthen the social-welfare system and to provide a social safety net to the Chinese population. One important goal—gender equality in public spending on education—has largely been realized. The social-welfare system is highly fragmented, however, and as a result, public spending on the elderly still favors males and those with higher incomes. The implementation of a more inclusive and equitable social-welfare system is important, not only to make China a more just and equal society, but also to provide the political legitimacy required for social stability.

Disparities among Timor-Leste's youth population: Their present and future: Nicholas McTurk, UNFPA

At more than six children per woman, Timor-Leste's fertility rate is the highest in Asia. Most of the population survive by subsistence agriculture, and more than one-half live below the international poverty line. In 2016, 79 percent of government expenditure derived from the Timor-Leste Petroleum Fund, but this fund is already being depleted and is projected to run out by 2021.

The good news is that fertility in Timor-Leste is declining very rapidly, creating favorable changes in the age structure of the population. The proportion of dependent children is projected to decline from 40 percent in 2015 to 26 percent in 2050. At the same time, the proportion at working age (25–59) is projected to increase from 32 percent in 2015 to 46 percent in 2050.

These large shifts in age structure result in a strong improvement in the support ratio, making possible a demographic dividend for Timor-Leste that could last through the next 30 years. Actually achieving a demographic dividend, however, requires a focus is on tomorrow's workers—the country's large population of adolescents and young adults.

Compared with an economically advanced country such as the Republic of Korea, public spending on children's health and education is very low in Timor-Leste, and private spending is almost nonexistent. Human-capital spending is particularly low in the rural areas where two-thirds of the population live.

About one-fifth of adolescents and young adults are not attending school but are also not in the workforce. As a result, labor income at young ages is very low. Starting at age 17, girls are less likely to be in school than are boys, and the gender gap in education grows wider with each year of age. Labor-force participation rates are also lower for young women than for men, and the gender disparity in wage income increases steadily with age.

In conclusion, the demographic dividend is not automatic, and favorable changes in population age structure do not guarantee rapid economic growth. Strong growth in the support ratio is advantageous only if sufficient employment opportunities are available to absorb new workers into the economy. Currently, Timor-Leste is at risk of missing the demographic dividend because children, adolescents, and young adults are not receiving the necessary investments in health and education that will make them highly productive members of the workforce. Other important issues are the wide disparity in human-capital investment between men and women and between residents of rural and urban areas.

Questions and comments

The Philippines

Inequality increases with age in the Philippines, as it does in other countries. The elderly rely much more on asset income for support than on government transfers, and as a whole, they elderly population holds substantial assets. Those who have not been able to build up assets need to continue working in old age.

Because income disparities begin at early ages, public education and health programs for poor children play an important role in reducing inequality later in life. The highest returns can be achieved from improvements in basic education for the poor. Already, the Philippines has substantial cash-transfer programs that pay families to send children for healthcare and schooling and provide free healthcare for the elderly. Benefits from investment in human capital go beyond individual recipients because the government obtains more tax revenue as incomes rise.

China

China needs to make substantial investments in the child population and in rural areas. In the past, most of the rural population was not covered by public healthcare programs. Today, they are included. Programs for rural residents are not as generous as for urban residents, but it is a good start.

In looking at China's elderly population, it is difficult to disentangle cohort effects from age effects because economic status is changing so rapidly. For example, gender gaps much larger among the elderly than among the young.

Pension coverage is still limited and needs to be extended to the private sector. Another issue is that China's internal migrants contribute to economic growth in the cities but do not have the rights or benefits enjoyed by official urban dwellers. This situation calls for reform, but change will not be accomplished quickly.

Timor-Leste

In Timor-Leste, oil-reserve depletion is just around the corner, and the government needs to find other sources of funding to support public programs. Overall consumption is very low, health and education spending is very low, the pension system is minimal, and many rural residents cannot access health services because of the mountainous terrain.

Policy makers in Timor-Leste can learn from other countries that have experienced rapid population decline. Suggestions include: stronger programs for young people beginning in early childhood; a sharper focus on rural development and infrastructure, particularly to create more education and work opportunities in rural communities; greater investment in tourism, industry, and sustainable agriculture (currently a large percentage of food is imported); expanded, but sustainable, pension programs for the elderly and disabled; a priority on joining the Association of Southeast Asian Nations (ASEAN) so young people can migrate for work opportunities; and policy changes that will improve the balance of imports and exports.

Presentation and Panel: Counting Women's Work: Evidence from Asia and Other Regions

    Chair: Gretchen Donehower, University of California at Berkeley and East-West Center

Counting women's work: Evidence from Asia and other regions: Gretchen Donehower, University of California at Berkeley and East-West Center

NTA's fundamental purpose is to map how resources are produced and consumed at every age and how they are transferred between age groups. Providing a gender perspective involves calculating separate market-based production and consumption estimates by sex and adding the value of unpaid care and housework, which is largely contributed by women.

Capturing the value of unpaid work begins with time-use surveys that reveal how much time family members spend on a variety of activities. The monetary value of time spent is then calculated based on the average wage for each type of work in the paid economy. NTA adds an age dimension to these values and also estimates how unpaid work is consumed and transferred among household members.

The case of the United States is typical. Men produce a lot more monetary value than women in the market economy, but women spend more time than men on unpaid housework and care. As a result, the total value of women's work is higher when unpaid work is added to the total.

In all the countries analyzed so far, women work more total hours than men do. Yet, because family care and housework command low wages, the market value of women's care and housework tends to be low. Thus, even though women work more hours, the monetary value of their work remains somewhat lower than the value of men's work.

Taking unpaid care into account also adds a great deal to the "cost" of raising children. Among 25 NTA member countries, on average, the value of childcare and the proportion of housework attributable to children is considerably higher than the value of both public and private goods and services provided through the market in the first years of life. When governments introduce programs to help raise fertility, however, they only look at the market costs of raising children. In fact, public subsidies and other benefits only cover a small part of the total cost of child raising.

Counting women's work in Bangladesh: A cross-gender comparison: Mohammad Moshuir Rahman, South Asian Network on Economic Modeling

Although Bangladesh's population is still growing rapidly, fertility has been going down for some time—from an average of just under three children per woman in the early 2000s to slightly more than two children today. Fertility decline is associated with important changes in Bangladesh's population age structure—with fewer dependent children as a proportion of the total and more working-age adults. As a result, the support ratio (number of effective workers as a percentage of the number of effective consumers) is increasing, indicating the potential for a demographic dividend.

Women's labor-force participation, although increasing, is still low—at 36 percent—compared with rates in many other Asian countries. This is due largely to social and cultural factors. Three-quarters of women's labor is in self-employment or unpaid family work. Because women are much more likely than men to work in the informal sector, they generally receive lower wages than men do. Their educational attainment is also lower than men's, particularly at the secondary and tertiary levels.

A time-use survey conducted in 2012 indicated that women spend considerably more time than men on unpaid housework and family care. As a result, women work more total hours per day than men, even though men work more hours in the market. Because housework and care have a low market value, however, women still "earn" considerably less than men even when their unpaid work is included in the total. Nevertheless, when women's full contribution is taken into account, estimates of Bangladesh's GDP are considerably higher than when based on market work alone.

To increase women's participation in paid employment, policies are needed that will increase female enrollment in secondary and tertiary education and provide daycare for children and the dependent elderly. Laws are also need to ensure equal pay for equal work.

Counting women's work: Evidence from Vietnam: Pham Ngoc Toan, Institute of Labor Science and Social Affairs

Vietnam's first time-use survey was conducted on a pilot basis in six cities in 2014–2015. A total of 585 respondents age 10 and above kept 24-hour time diaries, and their activities were coded using the United Nations' International Classification of Activities for Time-Use Statistics (ICATUS).

Activities listed by respondents were combined into four groups:

- Unpaid care work: Time spent in direct care such as childcare or eldercare plus general housework such as cooking, cleaning, household maintenance, and management
- Market work: Paid and unpaid work for family farms and businesses
- Education: Time spent in school and in class preparation outside of school
- Leisure and self-care

The survey revealed several interesting gender differences in time use. As expected, women spend less time on market work and more time on unpaid care and housework than men do. Combining work in the market and at home, a 25-year-old woman works a total of seven hours per week more than a man of the same age and has six hours per week less time for leisure and self-care. At age 41, women have 10 hours less time for leisure and self-care than men do. At age 15, boys

spend four hours more per week on education than girls do, and perhaps not surprisingly, men earn considerably more in the labor market than women.

Depending on how it is valued, the monetary value of unpaid care work in Vietnam is equivalent to 17 to 48 percent of total GDP. The elderly perform quite a bit of this unpaid care work, and quite a bit of unpaid care work is consumed by children. In fact, young children consume much more in care time than in market goods and services.

These results present a number of implications for policy:

- Heavy housework and care responsibilities may reduce the time girls have for education, limit the ability of adult women to earn and income and pursue a career, and discourage women from marrying and having children.
- Not recognizing unpaid care work underestimates women's contribution, both to the economy and to household well-being. Placing a value on unpaid care work will result in better policies on gender, work, and human-capital investment.
- There is a need for more and better time-use surveys, both in Vietnam and in other countries around the world.
- Policies are needed to reduce the gender wage gap in market work.
- Programs are needed that provide infrastructure and social services to reduce the time women must spend on household chores.
- Encouragement of small and medium enterprises will help women improve their incomes and increase their status within their families.
- Policies could help the labor market shift from insecure, low-paid jobs to more stable employment.
- Women need better access to credit and occupational skills so they can seek better opportunities in the labor market.
- Finally, the government need to encourage rethinking of gender roles.

Gender gap in the lifecycle deficit of non-market and market production in India, Laishram Ladusingh, International Institute for Population Sciences

In India, the gender-based division of roles and responsibilities not only discriminates against women, but it also deprives women of their basic human rights. The NTA project captures the full value of women's work by assessing the time spent and the monetary value of both market and household production.

In 1998–99, the National Sample Survey Office (NSSO) of India conducted a time-use survey covering market and non-market work by women and men. Survey results revealed that, on average, men spend slightly more time per day than women on market work but women spend considerably more time than men on housework and thus on work overall.

Women in their 20s and early 30s spend, on average, about six hours per day cooking, cleaning, and caring for children, while men spend very little time on any of these activities. Women also spend a lot more time than men providing care to adults and the elderly. The market value of the care and housework work performed by women adds considerably to India's GDP.

Government programs and policies need to inform the public about women's full economic role and improve sensitivity to gender issues. In addition, public childcare services would ease the burden for women, particularly women who work outside the home.

Questions and comments

Responsibilities for care and housework place an extra burden on women in several ways. In some countries, girls do more unpaid work than boys, which can impede their education and career development. Also women do not accrue pension benefits from unpaid work, and with divorce becoming more common, women cannot rely on pension benefits from their husbands. Governments in some countries are discussing the introduction of pension benefits for unpaid care work.

When women spend many houses on care and housework, their increased participation in the labor market can result in severe time poverty. In some very low-fertility countries, women do as much market work as men but still do much more care and housework. As a result, marriage and parenthood seem unattractive to women, which is one probable cause of these countries' extreme low fertility.

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Panel discussion: What is NTA telling us about income security in old age?

Chair: Andrew Mason, University of Hawaii and East-West Center

Andrew Mason (University of Hawaii and East-West Center) opened the discussion by pointing out that the welfare of elderly does not depend on income security alone. Other forms of security are also important, such as co-residence with adult children and goods and services provided to and from the elderly.

Sang-Hyop Lee (University of Hawaii and East-West Center) said that the Republic of Korea has enjoyed rapid growth but still has a very high poverty rate among the elderly. Many are forced to retire because of Korea's mandatory retirement laws. Because wages rise with age, companies have an incentive to fire older workers with relatively high wages rather than offering training to improve their productivity.

Many retirees would like to start second careers, but it is difficult for them to find jobs. Those who do fine work tend to move from high-paying positions in the formal sector to low-paying positions in the informal sector.

In countries where young people face high unemployment, many favor early retirement because they think, "If old people keep working, there are no jobs for us." This is not how economies work, however, because the number of jobs is not fixed. If labor productivity goes up, the whole economy expands. Andrew Mason added that in recent years, labor income has gone up for older workers in the United States and stayed constant for young workers.

Bazlul Haque Khondker (Dhaka University) noted that the loss of manufacturing jobs in many countries has different effects on people at different income levels. Policy makers need to go beyond the aggregate level and introduce programs and policies that target specific groups. In the United States, for example, poverty is increasing among children and the elderly because public support is falling. In this case, rising employment is not reducing poverty. Another issue is that current projections are based on assumptions of a static labor market, but the labor market could be quite different in the future. Andrew Mason added that NTA needs to look specifically at support systems for men and women and for different income groups.

Tengku Aizan Hamid (Universiti Putra Malaysia) stressed that women do not have income security in old age because their employment history tends to be interrupted when they are younger. In Malaysia, the social-protection system is highly fragmented. The government is looking at ways to improve social protection for the elderly because Malaysia is becoming an old society. One question is whether the retirement system for civil servants will be sustainable as the number of retirees expands.

At present, the elderly in Malaysia are financing 20 percent of their consumption by labor income and 60 by personal assets, but the younger generation does not have enough money to accumulate assets for the future. Programs are needed to help educate the young on how to manage financially. Andrew Mason added that to plan ahead young people need to know what they can expect from their governments, although some uncertainty is inevitable.

Maliki (Ministry of National Development Planning) noted that the recent census in Indonesia showed lower fertility than expected, implying that the elderly age group is growing more rapidly than expected as a proportion of the total population. The government introduced a mandatory pension in 2003, but coverage is limited, especially in the informal sector. Many older Indonesians are pushing their children to become government employees so they will have a pension.

As of 1993, older people in Indonesia as a whole were receiving support from younger family members, but since then the direction of family transfers has changed. Today, the elderly are giving resources to the younger generation, including houses and support for education and weddings. When the elderly live with their adult children, the children may not provide financial support, but they often provide care.

Questions and comments

NTA provides comprehensive estimates of support for every age group, including labor income, public and private transfers, and asset reallocation. In most countries, labor income drops below consumption levels at about age 57, and family support systems are deteriorating rapidly. Given these trends, public transfer systems and asset allocations assume more importance in providing support of the elderly. For example, the Republic of Korea has the highest elderly workforce participation rate in world, but salaries are low and elderly poverty is high. This suggests that the government should consider providing retraining for elderly workers to increase their productivity.

The NTA methodology allows comparison between countries and provides insights into the outcome of alternative policy scenarios. For example, the International Monetary Fund (IMF) has advised the Korean government to increase public transfers to the elderly. This makes sense given the size of Korea's current elderly population, but a more generous program might not be sustainable as the elderly become a much larger share of Korea's population as a whole. Given the unprecedented speed of population aging, NTA data can help policy makers plan for the future because they can compare their situation with similar trends in other countries.

By law, public support programs in Indonesia must go to the poorest 40 percent of the population. As a result, it is difficult to provide support for the middle 40 percent, many of whom work in the informal sector. Nevertheless, NTA data have been used to build social-protection programs. Currently, NTA data suggest that the elderly in Indonesia can fully finance their own consumption, but their consumption levels are declining.

Policy changes and other events can affect consumption in specific age groups dramatically. For example, after Japan introduced long-term care insurance, consumption by the elderly went up steeply. In many countries, the economic downturn had a much larger effect on labor income than on assets, and as a result, the elderly are providing more support to their adult children.

Spending on healthcare in old age is spiraling up everywhere. In the United States, the main reason healthcare expenses have gone up so steeply at the oldest ages is the cost of institutional care. There have recently been efforts to decrease rates of institutionalization. Old people tend to be healthier than in the past, and they often prefer to remain in their homes through old age. The government has begun encouraging the elderly to stay in their homes, using assistance from home healthcare aids who are paid market wages. Among the younger elderly population, healthcare costs spike at age 65 because people wait to have procedures until they become eligible for Medicare. This is not a good basis for medical decision-making and is not cost-effective.

Currently in the United States, there has been a great deal of dissention about the Affordable Care Act ("Obamacare"). One problem is that the law requires all people to pay for health insurance, so young people who are healthy have to pay for insurance they do not want. This constitutes a "backdoor tax" on young people, but the current program is a big improvement over the situation in the past. Further improvements are needed, but they may not be realized under current political leadership. As background, it is important to remember that the healthcare system in the United States has always been almost entirely private, as a matter of long-term political commitment. The private nature of the system has led to considerable inequality.

Should NTA members simply provide data and analysis, or should they make specific policy recommendations? It is difficult to educate government officials about NTA because they tend to transfer so frequently. In addition, there is the political perspective. People do not always support government policies that are actually good for them. In the Republic of Korea for example, taxes are progressive, and tax income is used to provide support for the poor. Nevertheless, the poor tend to oppose tax increases more than the wealthy.

NTA may not provide all the information necessary to make sound policies in the face of populating aging, but NTA data can dispel troublesome myths. For example, NTA analysis shows that people generally do not spend down their savings as they progress through old age, so, contrary to what many people have thought, there is no reduction in capital with population aging.

What are NTA's limitations? NTA makes projections based on existing data for a few specific years, so the methodology cannot explain what happens when there is an unexpected crisis, for example, the dramatic financial downturn in Japan. NTA is also largely a volunteer operation with very limited resources, and national NTA teams need support from their home institutions. The network will be strengthened considerably in countries where NTA becomes part of the formal national statistical system.

Case Studies and Panel: The Policy Application and Policy Implications of NTA

    Chair: Christophe LeFranc, UNFPA

Development of NTA in Korea; Yong Soo Bae and Hyun Kyung Kim, Statistical Research Institute, Statistics Korea

Between 1980 and 2017, total fertility in the Republic of Korea dropped from 2.30 to 1.04 children per woman, one of the lowest rates in the world. As a result, the Korean population is aging at unprecedented speed.

The NTA team in Korea has constructed accounts for several years, ranging from 2010 to 2015, and in 2017, the team began constructing national time-transfer accounts to take better account of the unpaid work of women. The team is creating an NTA manual for use by local governments and is working to have NTA included in Korea's official national accounts by 2019. Another goal is to conduct an international comparative study to demonstrate to policy makers that NTA is a useful addition to other statistics in explaining important demographic and economic trends.

The policy application and policy implications of NTA in Thailand: Angkana Chaiwiriya, Office of the National Economic and Social Development Board

The NTA project in Thailand was initiated in 2002–03 with support from UNFPA and the International Development Research Center (IDRC) of Canada. Since then, the Thailand team has constructed accounts for several years, and their work has been recognized by the Thai government's Subcommittee on Implementation of Population Policy and Plan. One problem that has emerged is the high turnover of researchers, which has caused inconsistencies in the data for different years.

In Thailand, labor income exceeds consumption from age 25–59, while the age groups 0–25 and 60 and above consume more than they earn through their labor. The older dependent population is growing rapidly. As of 2021, 20 percent of Thailand's population will be elderly, increasing to 30 percent by 2036. The implications are a decrease in the relative size of the labor force, so that the larger fiscal burden posed by the elderly will be combined with a reduced capacity for revenue collection. This fiscal burden is particularly problematic because most of the education needs of the young and healthcare needs of the elderly are financed by the public sector. Overall, however, nearly all consumption by Thais age 60 and above is financed by personal assets accumulated earlier in life.

The results of NTA analysis were used to develop forecasts that were incorporated in Thailand's 12th National Economic and Social Development Plan and Long-Term Population Plan. NTA data indicate to what extent increasing productivity and raising the retirement age will help raise aggregate labor income. Other policy implications include the importance of increasing youth employment rates, promoting a healthy lifestyle to reduce healthcare costs, and helping working-age Thais save for retirement.

The largest share of public investment in education is directed toward children age 5–14, suggesting that more support should be offered for early-childhood education and life-long learning opportunities. The very low public funding currently allocated for support of the elderly also suggests that the government might usefully direct more resources toward an old-age security system.

Iran's NTA data decomposed by age and sex: Majid Koosheshi and Mohammad Jalal Abbasi-Shavazi, University of Tehran

Beginning in early 2015, the NTA team in Iran has estimated labor income and all categories of consumption. The team is now working on estimates of saving and transfers among age groups, although data for estimating intra-household transfers are not currently available.

Fertility has declined to an average of 1.8 births per woman, which is leading to extreme population aging. Only one-fourth of this growing elderly population receive pensions, and well over one-half are living in poverty.

NTA data on consumption and labor income reveal a short period during the lifecycle when income exceeds consumption. Moreover, this period is becoming shorter as Iranians tend to enter the workforce later and retire sooner.

For the population as a whole, per capita labor income is much lower for women than for men because few women work outside the home. Among those working outside the home, wage income is higher for women, while self-employment income is higher for men.

The proportion of women with university education has improved dramatically since the 1980s, so that today university education is nearly as common for women as for men. Women's labor-force participation also increased steadily from the 19080s through 2006, but in recent years, it has gone down slightly.

Questions and comments

NTA provides many useful insights that are not available from other statistics. For example, NTA provides information on consumption by the elderly and how much education children consume at specific ages. If NTA is to become sustainable and play a valuable role in policy making, it needs to be communicated effectively to policy makers and institutionalized as part of each country's official National Accounts system.

One problem is that NTA data can be difficult to understand outside the academic community. Some have argued that the NTA methodology is based on too many assumptions, but other official statistics are also based on assumptions. For example, the Gini coefficient makes very tenuous assumptions about how income is distributed within households.

Many NTA country teams are facing challenges related to the limited availability of data. In other cases, there is a wealth of data, but policy makers do not know how to analyze or interpret the numbers. Training is also an issue. One of the best ways to institutionalize NTA would be for NTA teams to extend training to the next generation of economists and demographers. Participants can also learn how to communicate better with policy makers and can be encouraged to publish NTA reports.

The Korean government may be the first to institutionalize NTA as part of the National Accounts system. This could serve as a role model for other countries. Alternatively, if a government does not wish to include all NTA data in its system of National Accounts, it could include a few specific NTA indices.

Although Thai policy makers find it difficult to understand NTA data, NTA has been used to develop government budgets in Thailand. Recently, for example, NTA data were used to analyze the Thai government's policy on investment in early childhood education.

Iran is currently going through a very rapid demographic transition, and the government is worried about youth unemployment and the future implications of population aging. Given concern about declining fertility rates, government policy shifted to a pro-natalist position about five years ago. The NTA team in Iran is helping government officials understand the demographic dividend and recognize that demography is complicated. The team has conducted a workshop and issued a report that was well received.

NTA data complement other statistics and provide useful insights on many issues in addition to aging. One issue is to determine the correct periodicity of NTA analysis. Unlike National Accounts, it may not be possible to produce new NTA estimates every year, but every three years or five years might be feasible.

Social pensions as an important component of public transfers: Eduardo Klein, HelpAge International

Once people retire from the workforce and consume more than they earn, one important component of income is often pensions. These come in two forms—contributory pensions that are a type of saving and tax-financed or social pensions. Social pensions can be universal or means tested.

In Asia, many people age 60 and above, particularly women, do not receive any pension benefits. The coverage of contributory schemes tends to be very narrow, but even so, reserves are rapidly diminishing as people live longer. Governments can intervene to support pension schemes, but this requires a large investment and the beneficiaries are only a small proportion of the population.

Non-contributory, tax-funded social pensions that provide a minimum income to the poor are an alternative. In countries where social pensions are available, eligibility is based on age and citizenship or residency, and sometimes there is also a means test (only those with low incomes are eligible), a pension test (only those who do not receive any other pension are eligible), or geographic restrictions (higher pensions in poorer regions). The value of pensions and the schedule of payments vary across countries.

Pension coverage has been increasing rapidly since about 1990. In the world as a whole, 83 percent of countries now have some form of pension, and 56 percent have social pensions. About 60 percent of social pensions are means tested, and 40 percent are universal.

In designing a pension scheme, it is critical to assure that payments will be sustainable as the elderly population expands. Based on forecasts of population growth, changes in population age structure, and economic growth, it is possible to estimate what percentage of GDP will be required to fund pensions of different amounts, covering different proportions of the population, and beginning at different ages of eligibility.

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Targeted pension schemes that cover only a portion of the population have certain disadvantages. Bangladesh and the Philippines, for example, have social pensions for the poor and contributory pensions for the wealthy, but they leave out the middle-income population. In fact, in countries where pensions are targeted toward specific population groups, it is normal for one-half of the target population to miss out from pension coverage.

Targeted pension schemes may also lead to stigma and divisions within communities. They may create undesirable incentives because people who expect to receive pensions may not be motivated to work or to save for the future. The administrative costs of poverty-targeted pensions also tend to be high.

Universal social pensions are less expensive to administer, but they may also create perverse incentives, discouraging employment, saving, and contributions to other pension schemes. This effect may be minor, however, because universal pension benefits tend to be small. Because benefits are universal, they tend to be popular politically.

A third option is a minimum pension that covers all of the elderly population who do not receive another pension. The Thai government introduced such a near-universal social pension in 2009.

Because old people are integral parts of family networks, pension systems benefit entire families. In addition to enjoying a boost to their own dignity and autonomy, pension recipients are able to contribute resources to their children and grandchildren, increasing school enrollment and nutrition levels in poor countries.

In short:

- Social pensions are becoming an increasingly popular social policy across the globe.
- Social pensions can play an important role in addressing poverty and income insecurity in old age.
- Social pensions have redistributive effects.
- Universal pensions have significant advantages given the major limitations in a means-tested approach.
- Long-term affordability is crucial and has to be demonstrated to policy makers.

Report Back from Breakout Sessions

Moderator: Sang-Hyop Lee, University of Hawaii and East-West Center

Country teams met for breakout discussions during both days of the workshop. The came back with ideas for communicating NTA results to a wider audience of policy makers.

One major emphasis was on training, especially for government officials and young scholars. There are individuals in the Asia region who can provide NTA training, but with so many countries now involved, it is difficult to include everyone who needs training in one workshop. Country visits would be more effective.

Communication tools might include policy notes, policy fora that bring academics and policy makers together, and national NTA websites. Explanations of NTA findings need to be simplified for easy understanding by policy makers and the public. Infographics can play a useful role. It is also important to bring in the media to help convey messages about NTA.

In developing messages, it is useful to stress a small number of key indicators. It is also useful to combine NTA data with results from other social and economic research. In Pakistan, for example, it is easy to make a case for investment in children using statistics on child health and child mortality, but NTA can provide indicators of wellbeing for other key groups such as old people or adolescent girls. NTA is also particularly useful in framing messages about the demographic dividend. Even messages about the elderly need to include information about the whole life course because disparities among young people only get worse with aging.

It is critical to interest policy makers in NTA in order to assure sustainable funding. National teams cannot rely on external seed money indefinitely. Rather than just hearing about end products, policy makers are more likely to support NTA if they are informed about the data gathering and analysis process from the beginning.

One strategy for institutionalizing NTA at the national level is to locate the country team in an appropriate government department. In Vietnam, for example, the NTA team is based in the Ministry for Social Welfare, and this makes it easier for policy makers to accept NTA findings. In Thailand, the NTA team is based in a national university, but the government has formally accepted NTA as a planning tool. The institutionalization strategy in Malaysia seems to be working well.

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Panel: What Can NTA Data Do for Policy Making?

Chair: Eduardo Klien, HelpAge

Eduardo Klien (HelpAge) pointed out that one key objective of NTA is to bring together academics, policy makers, and representatives from civil-society organizations to promote fair and equitable societies. In pursuit of this objective, NTA data can provide a better understanding of diversity within a society in terms of gender, income, and urban/rural residence.

Mika Marumoto (AFPPD) informed the audience that AFPPD's network of parliamentarians has expanded to include 30 countries of Asia and the Pacific. The Forum has standing committees on aging, women, and youth.

As support from families declines everywhere in the region, it is important to convince policy makers to come up with public-transfer schemes for the elderly. It is also high time to start counting unpaid work, including childcare and long-term care. And this is not only women's work. In Japan, there is evidence that men are quitting their jobs to care for their aging parents.

Among the goals of AFPPD are to increase gender equality, improve women's wages, assure the demographic dividend, and achieve healthy old age. NTA has great potential as a tool to help understand these important issues, and members of the Forum looks forward to working with NTA to achieve their policy goals.

Christophe LeFranc (UNFPA) mentioned that development agencies within the United Nations are increasingly interested in providing policy advice rather than direct technical assistance, and NTA can play an important role in helping governments formulate good policies. UNFPA recently held a global meeting on aging and will likely focus more on issues of population aging in the future. The United Nations Population Division also works with NTA and was closely involved in producing the NTA manual. The Population Division could possibly help with efforts to include NTA in National Accounts because the United Nations Statistical Division supports the system of National Accounts.

It is important to remember that NTA alone cannot provide recipes for policy making. Rather, NTA is one component of a body of knowledge that can support the formulation of good policies. Policies are also dependent on political decisions, but even politics needs to be informed by good data and analysis.

To make NTA findings relevant for policy makers, it is important to focus on specific issues. This calls for more disaggregated data, identifying the specific vulnerabilities of different population groups, with a stress on leaving no one behind. One of NTA's valuable attributes is that it can be used for international comparisons to see where a country fits into the global context and how it measures up in terms of the Sustainable Development Goals.

Justin Derbyshire (HelpAge International) explained that HelpAge is a network of 136 organizations based in 76 countries around the world NTA gives civil-society organizations such as HelpAge an excellent overview plus specific information that can be used for advocacy to show governments what the issues are and to push policy agendas.

HelpAge is concerned with income security and healthcare for old people as well as increased productivity based on lifelong learning, opportunities for retraining to take up new careers, and possibly delaying or abolishing compulsory retirement ages. One challenge is the poor availability of data on poverty. In the Philippines, however, NTA data have shed light on the incidence of poverty, showing poverty as a lifecycle issue and giving organizations such as HelpAge a powerful tool for advocacy.

Sang-Hyop Lee (University of Hawaii and East-West Center) responded that NTA is a very useful tool, but NTA members could do a better job communicating their findings to policy makers and the public. For example, many policy makers recommend increasing labor-force participation among the elderly, but NTA data show that old-age labor-force participation is already high in many countries, but productivity is low. NTA data can be used more creatively, in combination with other data and always considering the gender dimension.

Questions and comments

What is the best way to inform policy makers, who are not necessarily demographers or economists, about NTA? It is helpful to start from specific issues where NTA data are relevant rather than from general descriptions of NTA as a whole. National NTA teams need to work with other groups to make NTA data more accessible, including civil-society organizations and donors. UNFPA has a role to play because one of its objectives is to promote the use of data in policy making.

One strategy is to combine NTA results with other types of social analysis, for example, in areas such as gender and socioeconomic inequality. National snapshots are helpful, plus policy-specific messages and compelling visualizations such as NTA's triangle graphs. What-if scenarios are also helpful—how does the situation change with the introduction of specific taxes or programs such as social pensions? Current data can provide the basis for future projections. One big advantage of NTA is that it makes it possible to compare one country's situation with that of others in the region or around the world.

Policy change requires political will, which does not arise solely from informed analysis but rather requires a combination of many factors including social pressure. Policy change often relies on story telling. To provide clues on how NTA can move successfully into the policy arena, it is useful to look at some of the great campaigns for policy change that have been successful. They select research results from a variety of sources and craft communication strategies to meet their campaign needs.

The AFPPD has been involved in several successful campaigns for policy change. For example, the Forum commissioned a survey on aging in Vietnam that provided useful information for advocacy. In New Zealand, the courts ordered a wage increase for long-term care workers based on the argument that low wages constitute gender discrimination because most long-term care workers are women.

Following a survey during the 2007–8 financial crisis in Thailand, academics, civil-society groups, and government ministries came together to promote the introduction of an old-age allowance that not only helped seniors but also increased consumption, providing a boost to the economy. Initially, the allowance was introduced as a short-term measure, but later it was institutionalized.

NTA data can help shed light on the problem of extreme low fertility in some Asian countries, but it is useful to bring in other data sources to understand the situation as a whole. For example, in the Republic of Korea, NTA analysis shows that the private costs of educating children are very high, while other data show the very high cost of housing. Both these factors are likely to discourage young people from marrying and starting a family.

Development of NTA: Achievement and Future Prospects

Chair: Sang-Hyop Lee

Pakistan: National Transfer Accounts: Durre Nayab and Omer Siddique, Pakistan Institute of Development Economics)

NTA analysis in Pakistan is based on nationally representative surveys conducted by the Pakistan Bureau of Statistics plus data from the Ministry of Finance. All surveys are for the years 2011–12.

These data sources have several advantages. The surveys use consistent definitions and take place at regular intervals, which will be helpful when NTA data are revised and updated. There are serious problems of age heaping and digit preference, however, which have been corrected using several internationally accepted methods. It is also difficult to get data on transfers.

Results show that private spending on healthcare is greater than public spending except in early childhood. Overall healthcare consumption goes up steeply with age, largely supported by private out-of-pocket spending. By contrast, the majority of education consumption is supported by public funds. Pakistanis, on average, begin earning a labor income in adolescence and continue earning well into old age. Labor income only exceeds consumption, however, from the mid-twenties through the early sixties.

How Lao PDR will benefit from the demographic dividend: Understanding the generational economy through the NTA approach: Latdavanh Songvilay, Center for Macroeconomic Policy and Economic Restructuring, National Economic Research Institute

The Lao PDR team began constructing accounts in 2009 and recently produced a brief report on results. Current plans include a focus on poverty and inequality.

The total fertility rate (TFR) in Lao PDR has declined steeply in recent years—from an average of 5.6 children per woman in 1995 to 3.2 in 2012. As a result, the proportion of the population at working age has increased significantly.

Per capita consumption of healthcare goes up steadily with age. Overall, however, aggregate consumption is much higher for children than for the elderly because there are many more children than elderly people in the population.

Labor income starts in early adolescence and continues well into old age, with a peak at age 39–40. The large majority of labor income derives from self-employment rather than from wages. There is a strong gender bias in wage income, with men earning much more than women, but men and women have similar earnings from self-employment.

Currently the support ratio (number of effective workers supporting 100 effective consumers) is quite low in Lao PRD because there are large numbers of dependent children and because the labor income of young Laotians tends to be low. However, the support ratio is currently rising steeply and will continue to rise until about 2052, creating conditions for a first demographic dividend.

Appropriate policies to assure the economic benefits of the demographic dividend include strong investment in child health and education. The current low labor income of young workers—likely reflecting a low level of job skills—indicates a need to improve education and training. Today, many Laotians work in seasonal agriculture, which suggests that there is an opportunity to raise labor productivity through a shift toward more productive sectors of the economy.

Future concerns include limited availability of reliable, consistent data; low awareness of NTA among policy makers; uncertain financial support; frequent institutional restructuring; and lack of human resources in part due to staff reshuffling.

National Transfer Account in Mongolia: Enkhtsetseg Byambaa, National University of Mongolia

Mongolia joined the NTA network in 2016, with a team from the National University, the National Statistical Office, and UNFPA. The team has constructed estimates for 2014 and 2017 and has conducted a number of workshops and consultations.

Reasonable data are available for the construction of accounts, although there are some limitations with disaggregated data. Major challenges relate to a lack of capacity, due to limited training and frequent staff turnover, and a lack of financial resources for further analysis. Limited cooperation from key ministries has also been a challenge, stemming from frequent changes in government. Mongolia has had three governments in the past two years, and when a government changes technical specialists change as well as high-level officials. Because of these limitations, there have been few activities to raise awareness of NTA and develop links with policy makers.

Plans include re-establishing an NTA working group with the new government and improving communication with policy makers. The team also plans to translate the NTA manual into Mongolian if funding is available. Future analyses will cover time series, age cohorts, gender, and comparisons with other countries. Plans also include developing an NTA course module for M.A. and Ph.D. students and producing a national report and policy brief in 2018.

Development of NTA in Taiwan Province of China: Achievements and future prospects: Kevin Yu-Ching Hsieh and An-Chi Tung, Anhui Normal University

The NTA team in Taiwan is currently preparing accounts from 1981–2015 and writing an NTA operation manual in Chinese. Plans focus on analysis across time series and age cohorts plus comparisons with other countries.

Problems include missing data for social insurance in 1981–1992 and for employment-based retirement pensions during the entire period under study. Without this information, the income of the elderly is seriously underestimated. The team has developed a methodology for estimating the missing data using age-varying "participation levels" from 1993 and smoothing some age ranges but not others.

The team plans to use historical NTA data for generational accounting to compare generational inequality between current and future cohorts. Analysis will also investigate increases in Taiwanese consumption over time by decomposing possible age, period, and cohort effects.

National Transfer Accounts: Singapore 2013: Christopher Gee, Institute of Policy Studies, Lee Kuan Yew School of Public Policy, National University of Singapore

Potential applications of NTA analysis in Singapore include:

- Evaluating the sustainability of public and private finances in view of the aging population and changing household structure
- Assessing the impact of social policies on intergenerational transfers and public-private expenditures
- Investigating the effects of changing manpower policies, such as extending the retirement age and introducing programs for education and life-long learning
- Predicting the effects of different economic growth models on fiscal sustainability and economic dependency

One special feature of the situation in Singapore is that transients are not included in population estimates, although they make up 30 percent of the resident population. Another issue is that the top age category in official statistics is 85 and above, although many Singaporeans are older. A third issue is that an unusually large proportion of Singapore's GDP comes from foreign sources.

Singapore enjoyed a demographic dividend, based on a rising support ratio, from the late 1960s until about 2010. Since then, immigration has partially offset the aging of the locally born population. Family transfers still play an important role in providing support for the elderly, but the importance of assets is increasing. Public transfers play a very minor role in elderly support, largely because the pension system is based on individual-level saving rather than on transfers.

Educational attainment has been rising dramatically. Today, 53 percent of Singapore's working-age population have a post-secondary degree or diploma, compared with only 10 percent of the population age 65 and above. This dramatic increase in higher education should lead to a lasting second demographic dividend.

The NTA team in Singapore is now seeking government clearance to publish the NTA results for 2013 and will apply for membership in the NTA network. Plans include calculating NTA levels by highest education attained, place of birth, and gender and producing NTA estimates and National Time-Transfer Accounts (NTTA) for 2017/18.

Questions and comments

National NTA teams from 19 countries participated in this meeting, although not all made presentations or participated in panels. Feedback from participants emphasizes problems related to high staff turnover and the need for training. Clearly, capacity building is a top priority, particularly because people who are trained in NTA methodology also learn useful computer applications including STATA.

The 2018 global meeting in Mexico City will include training sessions, and there are opportunities for NTA training at the annual Summer Seminar offered by Statistics Korea. There is enough technical expertise in the region to provide additional training for team members on a country basis.

It would be helpful if country teams would post their code on the NTA website. For example, the code for the United States is posted on the country page.

Data limitations are a problem in nearly every country, but members should not delay creating accounts until they have perfect data. Even National Accounts are based on hundreds of assumptions, such as estimates of tax on rural residents and income. If data are incomplete, it is possible to fill in the numbers with estimates. The team in Taiwan Province of China has a lot of useful experience in this area.