# PART ONE

# REPORT OF THE MEETING AND INFORMATION PAPERS

## REPORT OF THE MEETING

The Population Division of the Department of Economic and Social Affairs (DESA) of the United Nations Secretariat, in collaboration with the Consejo Nacional de Población (CONAPO) of Mexico and with the support of the National Institute of Aging (NIA) of the United States, organized an Expert Group Meeting on the Social and Economic Implications of Changing Population Age Structure, held in Mexico City from 31 August to 2 September 2005.

The meeting was chaired by Ms. Hania Zlotnik, Director of the United Nations Population Division/DESA, and Ms. Elena Zuñiga, Secretary General of the Consejo Nacional de Población of Mexico. Mr. Kevin served as rapporteur. This report summarizes the presentations and discussion that took place during the six substantive sessions of the Expert Group Meeting. The meeting agenda and lists of participants and documents are annexed to the present report.

### A. OPENING REMARKS

The Meeting was opened by Ms. Elena Zuñiga. She pointed out the importance of understanding the complex relationships between demographic dynamics and development for the achievement of central objectives such as reduction of social inequality and eradication of poverty. She reminded participants of the significant declines in fertility and infant mortality experienced by the Mexican population since 1974 as a result of the population policy implemented by CONAPO.

Mexico, she indicated, was currently in the middle of a period of “demographic bonus” in which the share of the working-age population was increasing relative to the share of the population in the dependent ages (children and older persons). It was important for the country to take advantage of this particularly favourable period for economic and social development by making effective use of the productive potential of the working-age population.

However, she noted, the recurring crises and short periods of recovery that had characterized the Mexican economy during the past three decades had seriously constrained its capacity to create new jobs. As a consequence, informal employment had proliferated, in most cases involving low-productivity and low-income jobs, without links to the social security system. The lack of job opportunities in the formal sector of the economy also helped explain the escalation of out-migration from Mexico, together with the increasing demand of the United States economy for Mexican workers and the consolidation of strong bi-national social networks.

Ms. Zuñiga also referred to the challenges posed by the rapid population ageing that Mexico would face in the coming decades. The main concern was that in Mexico, as in many other developing countries, population ageing would occur in a context of development problems and social disparities. Thus, for the progress and well-being of Mexican society, it would be crucial to take advantage of the period of “demographic bonus” before population ageing intensified.

Ms. Hania Zlotnik, in her opening remarks, noted that population ageing had been identified by the United Nations Secretary-General as one of the priority areas for social and economic development. The international community had confirmed the importance of this issue by adopting the Madrid International Plan of Action on Ageing during the Second World Assembly on Ageing in Madrid in 2002. In addition, in 2007, coinciding with the fifth anniversary of the adoption of the Madrid International Plan of Action on Ageing, “the social and economic implications of changing population age structures” would be the special theme of the 40th session of the United Nations Commission on Population and Development. In this regard, the Commission was expected to benefit greatly from the conclusions of the present meeting.

Ms. Zlotnik affirmed that there was increasing evidence that most developing countries, including Mexico, could benefit from the proportional increase in the working-age population before population ageing intensified, if the right policies were put in place. In this case, the demographic context could contribute to faster economic growth and to improving general life conditions.

Mr. Richard Suzman of the United States National Institute on Aging emphasized the strong commitment of the NIA to promoting collaborative work on global ageing research through linkages between major projects now underway or in the planning stages. He highlighted the importance of one set of studies that had begun to yield important cross-national information on health, work, and well-being in older age, through the use of a harmonized survey design. These studies included the United States Health and Retirement Study, the English Longitudinal Study of Aging, the Mexican Health and Aging Study, and the 11-country Survey on Health, Aging and Retirement in Europe. The key features of these studies, he noted, were the multidisciplinary approach used in the study designs and the longitudinal nature of the surveys. These features would afford researchers a much fuller understanding of the dynamic nature of the ageing process than was possible from cross-sectional or sporadic data collections. The study designs also encouraged an experimental nature within surveys by permitting the use of topic-specific modules (for example, on time use, risk aversion, and nutrition) as well as innovative methods such as vignettes and biomarker assessment.

After stressing the important role of CONAPO and other academic institutions in the achievements of Mexican population policies, Mr. Rodolfo Tuirán of the Mexican Ministry of Social Development recalled that the changes in age structure that had opened the demographic “window of opportunity” for development in Mexico would start closing in about three decades. It would be crucial to continue mainstreaming demographic considerations into the political process of national development.

He recognized the importance of education, health and nutrition as instruments for breaking the cycle of intergenerational transmission of poverty and for creating the proper conditions to benefit from the period of “demographic bonus”. The *Programa Oportunidades*, currently assisting about 5 million poor families around the country, was one example of Mexican Government intervention in this direction. Mr. Tuirán also identified population ageing as an enormous challenge for Mexico’s development, emphasizing the unprecedented responsibilities and compromises that this process would impose on the Government and on the entire Mexican society.

Mr. Julio Frenk of the Mexican Ministry of Health reiterated the importance of population ageing for all dimensions of social organization. The ageing process would have particularly large implications for the area of health. The increasing number of cases of chronic diseases, which are more common among older persons, would impose enormous pressure on health systems around the world. These diseases are normally associated with higher treatment costs and more intensive use of health services.

Mr. Frenk stated that in order to prepare for the health implications of population ageing, the Mexican government had adopted two lines of action: first, preventive actions aimed at the younger population; and second, the extension of the social protection system, particularly towards the poorest segments of the population. As an example of this second line of action, Mr. Frenk mentioned the *Seguro Popular* programme that was the operational arm of the recently created Social Protection System. This system was conceived to be complementary to the traditional Social Security System that had been in place for the previous 60 years. The *Seguro Popular* was the subject of a further presentation at the Meeting, as is discussed below.

## B. World population ageing

Fertility decline and urbanization arguably were the dominant global demographic trends during the second half of the twentieth century, much as rapid improvements in life expectancy characterized the early 1900s. As the twenty-first century unfolds, population ageing is poised to emerge as the pre-eminent worldwide demographic phenomenon.

The initial substantive session of the Meeting set the stage for subsequent presentations and discussion by providing an overview of global changes in population age structure, with an emphasis on the diversity of experience among major world regions. Consideration was given to trends in dependency ratios and to various factors that affect changes in age structure. The session also outlined recent and anticipated efforts by the United Nations to address the many challenges posed by large-scale demographic shifts.

Mr. Paulo Saad provided an overview of global trends in population age structure. He noted that the world's major regions were at very different stages of the demographic transition. Africa had the youngest age distribution, with more than 40 per cent of the population under the age of 15 and a mere 5 per cent aged 60 or over. Europe stood at the other end of the regional spectrum with 16 per cent of persons under age 15 and 21 per cent aged 60 or older. While Europe currently was the only region with more older persons than children, population projections suggested that older persons would outnumber children in all regions of the world, except Africa, before the middle of the twenty-first century. The median age of the population, that is, the age at which half the population is younger and half older, had, by 2005, reached 39 years in the more developed regions, and was projected to exceed 45 years by 2050. The median age in less developed regions, currently 26 years, was projected to reach 37 years by 2050. For countries identified by the United Nations as "least developed", the aggregate median age was still below 19 years. Many of the latter nations still had high levels of fertility that would keep their population age structure relatively young for many decades.

Mr. Saad discussed trends in demographic dependency ratios, which relate the size of population groups generally considered to be economically dependent, such as children under age 15 and older adults aged over 59 years, to the number in the age groups considered to be economically active (ages 15-59). The overall dependency ratio (children plus older adults relative to the working age population) in more developed regions had increased slightly between 1950 and 1975, and then began a decline to the present time. While fertility was low in those regions, the large absolute growth at older ages would, in the future, produce a rise in overall dependency ratio. In contrast, the dependency ratio in developing countries rose more significantly between 1950 and 1975, largely due to reduced childhood mortality. After 1975, however, a decline in the proportion of children due to declining fertility, coupled with a rising proportion of persons aged 15-59, led to major reductions in the child and overall dependency ratios. By 2050, the overall dependency ratio in less developed regions would be lower than it had been a century earlier, and the age composition would have shifted dramatically. By 2050, older persons would probably account for half of the dependency burden, as opposed to 15 per cent in 1950.

Several other important factors related to changing population age structures were noted. Although the more developed regions had older populations than other parts of the world, the rapid fertility declines in much of Asia, Latin America and parts of Africa meant that less developed countries as a whole were ageing faster than their more developed counterparts. Because women lived longer than men in virtually all countries, the ageing of populations was accompanied by a rising proportion of females. Women made up a large majority of the oldest-old. Also, increased longevity had led to the vertical extension of families; three- and four-generation families were increasingly common. This had implications for social support structures and intergenerational relations. Currently, older people in less developed regions tended to live with their children while, in most developed countries, older persons typically lived alone or with a spouse only. This theme was explored more thoroughly in the final session of the Meeting.

Mr. Robert Huber continued the global overview by describing the 2002 Madrid International Plan of Action on Ageing, which was a major outcome of the Second World Assembly on Ageing. The Madrid Plan focused largely on developing countries, many of which would experience a rapid process of population ageing in the twenty-first century. Most of these countries would need to respond to rapid population ageing with fewer economic and social resources than were available in the more developed countries at a comparable demographic stage. The Madrid Plan had three primary foci: (1) older persons and development, a theme that, *inter alia*, promoted intergenerational solidarity by entailing active participation and integration of older persons in the development process while enabling income security and access to education; (2) health and well-being in old age, which emphasized that good health of a population was essential for national development, that good health was an individual's most important asset and that enjoyment of the highest attainable standard of health was a human right; and (3) building enabling and supportive environments, including intergenerational solidarity within social institutions (family, community, and State), generating greater access to services, resources, and the physical environment, and enhancing positive perceptions of the ageing process.

Mr. Huber noted that while the Madrid Plan laid out recommendations for what *could* be done to adjust to an ageing world, it was essential that countries design plans to implement the recommendations in their own national contexts. He described an evolving "roadmap" for implementation, emphasizing national capacity-building and the mainstreaming of ageing into national development agendas. There was a need to move away from a "welfare approach" to older persons, which overemphasized support, care and benefits, and towards a more inclusive and participatory framework emphasizing participation of older persons in formulating and monitoring the development agenda. With regard to review and appraisal, the Commission for Social Development had endorsed a "bottom-up" process linking local and national activities to United Nations regional and global intergovernmental bodies. This novel approach would rely on information from the grass-roots level to generate direct feedback on policies and programmes, thereby encouraging advocacy and awareness-raising.

During the discussion, it was pointed out that demographic dependency ratios provided only a crude indicator of the dependency burden within a society. Many older persons were still economically active or engaged in productive functions not captured in economic statistics. Likewise, some people in the 15-59 age range were not economically active, nor did they necessarily provide support to children or older persons. In addition, many adolescents and young adults attended school beyond age 15 and were still economically dependent. It also was noted that spending on children was often viewed partly as an investment, while support of older persons was more often viewed simply as a social expenditure.

Several participants remarked upon the need for better integration of demographic research with other scientific disciplines. It was noted that much of the public discussion about population ageing neglected gender considerations and socioeconomic disparities. The consideration of healthy, active life expectancy in addition to general life expectancy would be a useful step forward in terms of projections. Time-use surveys could help provide much-needed information on activities relevant to well-being of older persons and on cultural differences in the experience of older age, especially for women. It was stressed that today's cutting-edge survey research on the behavioural and social aspects of ageing was largely of a longitudinal nature and was informed by a multidisciplinary perspective.

Some participants asked what steps countries were taking towards implementing the Madrid Plan of Action on Ageing. It was noted that, in spite of the growing recognition of population ageing as a pre-eminent demographic phenomenon, there was no international organization devoted to older persons as there was, for instance, to children and workers. With regard to promoting the implementation of the

Madrid Plan, it was noted that a common way to elevate media and government attention was to present the situation of a disadvantaged group as a crisis. However, the principles of the Madrid Plan discouraged this approach. Older people, and other population groups, should not be regarded as consisting mainly of persons needing sympathy and care, but rather, as assets for social development.

## C. THE DEMOGRAPHIC DIVIDEND

From an economic perspective, changing population age structures entail shifting balances within societies between those who produce more than they consume and those who are net consumers. This session considered the implications of such shifting balances. The concept of demographic dividends arising from age structure changes formed the core of the discussion. Demographic changes in Brazil, the Republic of Korea and China were examined with an eye towards understanding related changes in labour force structure, economic output, and social security provisions. Considerable attention was given to the idea that the economic outcome of demographic change is policy-dependent, and that potential demographic dividends may be diminished or even negated by static and rigid public policies.

Mr. Andrew Mason launched the discussion on the relationship between demographic transitions and demographic dividends. He noted that one important aspect of changing population age structures was that virtually all countries in the world had experienced or would experience a large increase in the share of their population concentrated in the working ages. Other things being equal, this increase in the share of the working-age population should have a positive effect on growth of per capita income and governmental tax revenues, leading to what was commonly labelled a “demographic dividend”, which Mr. Mason called the *first* demographic dividend. This dividend would last for decades in many countries, but as populations continued to grow older, the share of population in the working ages would eventually stop rising and begin decline, and the falling share of the working-age population would begin to have the opposite economic effects as during the dividend period.

Mr. Mason noted that the prospect of rapid growth of the non-working older population, with likely strains on public pension and health care systems, had led to pessimistic outlooks concerning future economic performance. Rather than being a source of economic decline, however, population ageing might give rise to a *second demographic dividend*. A major economic challenge for ageing societies was to provide for old-age consumption while the economically productive proportion of the population was declining:

“With a rise of the share of the elderly population on the horizon, consumption in the future can be maintained only through the accumulation of wealth in some form. One possibility is that individuals and/or firms and governments acting on behalf of consumers accumulate capital. If invested in the domestic economy, the result will be capital deepening and more rapid growth in output per worker. If invested abroad, the result will be an increase in the current account and in national income. In either case, per capita income will grow more rapidly than it would otherwise” (Mason, in this volume).

Thus, if population ageing were to prompt a substantial increase in savings and wealth, population ageing could give rise to a second demographic dividend, that is, an enhanced possibility for economic growth. Unlike the first demographic dividend, this second dividend need not be transitory in nature. Population ageing might in theory produce a permanent increase in capital and in per capita income.

Mr. Mason presented calculations for 228 countries/areas of the world, indicating that the duration of the first demographic dividend was 30-35 years in most industrial and transitional economies, but would be considerably longer in much of Asia and Latin America, and was likely to be longer still in sub-Saharan Africa. He also constructed estimates of both the first and second dividends so as to contrast regional experiences. One key conclusion was that the demographic dividends, if fully exploited, would have contributed between one and two percentage points to income growth during the period 1970-2000 for most regions of the world.

The concept of demographic dividends was examined more specifically for the case of Brazil by Mr. Cassio Turra. It has been noted in the literature that demographic dividends are not automatic, and that the economic impact depends to a large extent on the existence of strong institutions and policies that transform favourable changes in population age structure into economic growth. For example, weaknesses in the governance and management of pension programmes (e.g., significant tax evasion or unsustainable increases in public pension benefits) might offset much of the potential benefits of the demographic dividend. Mr. Turra examined several factors bearing upon current and future social security finances in Brazil, specifically fertility and mortality change, related changes in the labour supply, and social-security-system benefit structure and contribution rates. His findings suggested that (1) most of the projected demographic effects were due to changes in fertility; (2) increases in labour supply were important to social security support ratios, but that effects were tempered by the fact that the rapid increase in female labour force participation had been highly concentrated in the informal sector, which contributed little to social security finances; and (3) Brazil's social security system was characterized by generous benefits and low contribution rates. Between 1984 and 2002, beneficiary rates increased for all age groups, the average age at retirement declined, and taxpaying rates declined. Among men in 2002, only half of those in the labour market made contributions to the system, compared to nearly two thirds 20 years earlier. In 2004, the public pension system transferred about 12 per cent of Gross Domestic Product (GDP) from the working-age population to older persons in Brazil, even though the population aged 65 or over constituted only 6 per cent of the total population. Mr. Turra concluded that policy in Brazil had overlooked the temporary nature of the demographic transition by granting new forms of benefits without requiring commensurate contributions, and had failed to implement reforms that would encourage payment of taxes.

The Republic of Korea has often been mentioned as a prime exemplar of the demographic dividend. Mr. Hanam Phang described the steep fertility decline that occurred in Korea between 1950 and 1985, noting the emergence of delayed marriage and decreasing marital fertility rates. Due to the baby boom after the Second World War, however, the country's population increased by 150 per cent between 1950 and 2000. During the same period, the share of the population in the main working ages (15-64 years) rose from 50 per cent to more than 70 per cent of the population. Thus, overall population growth was accompanied by a large increase in the proportion of people in the working ages. The demographic transition was accompanied by a significant investment in human capital. Average educational attainment doubled from 6 to 12 years between the early 1970s and 2000, and education levels grew in tandem with the growth rate of GDP until the mid-1980s. Since then, however, the trends lines for these variables had moved in opposite directions. Mr. Phang suggested that the divergence was, in part, due to an over-supply of educated labour relative to the productive capacity and industrial structure of the economy, and possibly to a decline in the quality of college education.

Given the rapidity of demographic change in the Republic of Korea, the nation would experience one of the world's fastest rates of population ageing in the future, with the percentage aged 65 or over doubling every 20 years between 2000 and 2040. With a large increase in the old-age dependency ratio on the horizon, more attention was being given to projected changes in the labour force. There would be a large increase in the number of persons aged 50-64 during the next 20 years, and over the next 50 years, the proportion of people aged 50 or over among the total labour force was projected to rise from roughly one quarter to one half. Such ageing of the labour force would inevitably affect labour market institutions and policies. Mr. Phang noted that the country's labour force participation rate at older ages was already among the highest in OECD nations, due in large part to the prominence of the self-employed sector. This relatively high participation rate of older workers should help to alleviate the potentially negative effects of declining labour force growth in the coming decades, provided that the quality of employment opportunities and working conditions for older workers improved. He also considered other factors that could influence the robustness of the future labour force. Immigration was not seen as a solution for a declining labour force, given the large numbers of immigrants that would be required and the administrative difficulties that would be involved. More promising were prospects for an enhanced role of women in the labour force. Currently, female labour force participation rates were very low relative to other OECD nations, in spite of fairly high and increasing levels of education. Policy changes and incentives could significantly increase the formal economic contributions of women. In conclusion, he noted that all population projections for the Republic of Korea indicated that the country was in the midst of a twenty-year grace period, lasting through 2020, during which the vestiges of the old developing economy would disappear. During this period the population and labour force would continue to grow, albeit slowly, but by the year 2020 the post-war baby boom cohort would largely be retired and the smaller subsequent cohorts would form the core of a new labour force.

Mr. Feng Wang returned to the discussion of demographic dividends, focussing on the case of China. He noted that there was considerable diversity in the way in which authors have used the term “demographic dividend”, and emphasized the importance of considering both productivity and consumption when attempting to quantify the notion of demographic dividend. He presented estimates of support ratios for China, where the support ratio was defined as the ratio of the effective number of workers (the population weighted by age-specific productivity weights) to the effective number of consumers (the population weighted to allow for variation in consumption by age). The economic implications of changing population age structure were examined by considering how the support ratio would change over time, given recently observed age patterns of production and consumption in China and projected demographic changes. Between 1982 and 2000, the demographic changes were highly favourable: the support ratio increased at an average annual rate of 1.3 per cent. The first demographic dividend was estimated to have accounted for 15 per cent of China’s economic growth during the period 1982-2000. Between 2000 and 2013, the projected support ratio would continue to rise, but at a much slower annual rate of 0.3 per cent. Thus, China already had enjoyed most of the gains from the first demographic dividend. The support ratio would peak in 2013 and then gradually decline through 2050.

Mr. Wang then elaborated a stylized model of China’s economy in order to consider a potential second demographic dividend. Using a framework developed by Ronald Lee and others, he examined inter-generational resource flows from workers to children and from workers to older persons. With the relatively young age structure of China in 1982, transfers were mainly in a downward direction from workers to children. As population ageing proceeded, downward flows to children would decline and upward flows to older persons greatly increase, implying that China must experience a rapid growth in capital stock and/or a substantial expansion of public/private transfer programmes to avoid a decline in living standards among its older population. Echoing Mr. Turra’s remarks about Brazil, Mr. Wang noted that the efficacy of institutional forms of resource allocation would be paramount, especially as China addressed the complexities of new market structures.

Discussion centred on the concept and use of the term “demographic dividend”. It was noted that there was no standard, commonly accepted definition of this and related terms such as “demographic bonus” and “demographic window of opportunity”. Beyond this, participants agreed that the demographic dividend represented only a potential for enhanced economic growth, which would not necessarily be realized. Policymakers and others had sometimes referred to the demographic dividend without recognizing the concomitant need for job creation. A rise in the proportion of the working-aged population might not enhance economic growth in the context of high unemployment and underemployment. A low participation rate in formal employment and polarized socioeconomic strata could also prevent societies from benefiting from otherwise favourable changes in the age structure. Likewise, investments in education and job creation might not be effective in economic terms unless the age groups comprising the demographic dividend were integrated into other socioeconomic institutions.

Indeed, in some settings age-structural change might be better regarded as a challenge rather than as a bonus. There could be negative aspects to a rapid rise in numbers of working-age adults, such as an increase in crime.

Several participants wondered about how the first and second demographic dividends might evolve differently depending on social context. In societies with a high prevalence of HIV/AIDS, the disease may be killing off a large portion of the "first dividend". In such conditions, there was reason to question whether a second dividend was possible. More generally, in societies that have experienced an upswing in mortality (e.g., many economies in transition in Central and Eastern Europe), excess adult mortality could undercut savings and hence the second dividend. Social policy changes also could have effects on the magnitude of any dividends. The elimination of mandatory retirement ages, for example, might be expected to increase the first dividend and perhaps to decrease the second.

It was suggested that the potential for a second demographic dividend might be limited in some parts of the world. In societies where the formal social security system continued to be a pay-as-you-go structure, the incentives and ability to accumulate wealth may be relatively weak. Participants noted that at present, the second demographic dividend was still mainly a theoretical proposition. It needed to be part of the research agenda, and researchers would need to incorporate feedback effects into the modelling process.

There was strong agreement about the usefulness of focusing on consumption and production in the analysis of the economic effects of age structure changes. Estimates that took into account actual consumption/production relationship were viewed as preferable to those based on traditional demographic dependency or support ratios. By incorporating the age variable into national income and product accounts, researchers could generate life-cycle composites of consumption and production, and use these to produce estimates of intergenerational reallocations (including savings patterns, spending on public programmes, and family support systems for children and older persons). Researchers could construct complementary historical (and projected) time series of the age profiles of production, consumption, and lifecycle deficit, and examine how these were influenced by social, economic and demographic factors. It was noted that, as little as one year previously, the use of age-specific consumption/production profiles was uncommon, but with recent analytic advances yielding realistic estimates of such profiles, their use was rapidly being extended to the analysis of lifecycle variations in many national contexts.

## D. MACRO-ECONOMIC EFFECTS OF POPULATION AGEING, INCLUDING SOCIAL SECURITY

Public pensions have become the financial lifeline of older persons in many societies. While some European public pension systems date back to the end of the 19th century, current systems are the result of changes instituted largely after the Second World War. The most obvious and, to Governments, most worrisome consequence of projected population ageing will be an increase in budgetary outlays in the form of old-age pension payments, especially in those countries where public pensions are predominately financed on a pay-as-you-go basis. Many nations, both developed and developing, are now reconsidering their existing old-age security systems, often with an eye towards introducing or strengthening private pension schemes. This session considered some of the myths and promises surrounding social security provision, with the aim of identifying systemic shortcomings particularly in the context of Latin America.

Mr. Roland Sigg began the discussion by recognizing the threat that demographic ageing poses to many social security systems around the world. However, although shifts in age structure appeared daunting, he highlighted several myths that paint a gloomier picture of population ageing than was warranted by the facts. He noted that the very definition of "old" was to some extent socially determined. One misconception was that population ageing is an ever-growing problem, when in fact the period of especially rapid population ageing in industrialized countries is linked to the ageing of the "baby boom" cohorts born after the Second World War. By the middle of 21st century, population projections suggested that an approximate demographic balance would obtain in most industrialized countries, with the projected percentage of older persons being relatively stable for decades thereafter. While many forecasters asserted that population ageing threatened economic growth, it should be borne in mind that economic growth was driven by many factors of which demography was only one. With regard to pension plans, a common fear was that ageing would overwhelm formal social security systems. To date, however, industrial societies had been sufficiently productive to generate enough wealth to provide for their older members, and it was not unrealistic to think that continued productivity growth would be able to cover the projected rise in pension and health-care spending. Another myth was that population ageing would destroy public pay-as-you-go social security schemes, which must therefore be converted to more privatized arrangements. Mr. Sigg noted that both pay-as-you-go and funded schemes required economic growth and wealth creation in order to remain sustainable; demographic change per se was not a strong argument for shifting towards funded pension regimes. Finally, he noted the often-voiced fear that growth of the older population would inevitably mean skyrocketing health care costs and increased frailty and dependency. In fact, most older persons were neither sick nor dependent, and older persons were enjoying a longer period of healthy life.

While rejecting alarmist views about the implications of population ageing, Mr. Sigg conceded that meeting the challenges posed by ageing would require many changes in social policies and attitudes in developed countries. He noted that it was important to reverse the trend towards early retirement and noted that such a trend reversal was already emerging in some developed countries. It was also important to combat ageism, as well as to encourage increased employment levels among younger men and, especially, women. Higher levels of immigration might also bring economic benefits to some rapidly ageing societies.

Mr. Sigg noted that there were a number of pension-related issues of particular concern to middle and low-income countries. The most prominent was the coverage gap and the need to extend coverage to excluded groups. He estimated that less than 25 per cent of the world's population currently had access to adequate social security coverage, and half of the population did not enjoy any form of social protection. The level of social security coverage in a country was related to indicators such as GDP, the percentage of persons employed in agriculture, and the share of the labour force that was self-employed. Population groups most often excluded from, or poorly served by, social security systems included women, migrants, rural agricultural workers, and urban informal sector workers. Several steps were recommended to reduce these coverage shortcomings. The foremost would be to modify the contributory principle by reducing contribution rates that were unaffordable to many low-income groups. In a related vein, entitlement conditions could be amended to take into account the particular circumstances of groups such as the self-employed and migrants. Universal entitlement schemes, in spite of the obvious funding problems, were gaining increased international attention as useful mechanisms both to extend nominal coverage and to reduce poverty rates for the young as well as the old. Other necessary steps involved the tightening of links between benefits and contributions, and painful but necessary improvements in the State's capacity to collect taxes and contributions and to manage them efficiently.

Mr. Fabio Bertranou focused his remarks on ageing and systems of social protection in Latin America. Endorsing a comment made earlier, he asserted that the major problem facing social protection systems in the region was low coverage. A comparison of pension coverage among older adults in 17 Latin American countries (circa 2001) revealed that, in 11 of the 17, under 25 per cent of the population had pension coverage. This overarching problem was associated with, and might result from, several other problems: inadequate definition of priorities in terms of which population groups to target; unstable system financing due to cyclical macroeconomic trends; deficiencies in the structure and capacity of institutions vis-à-vis administrative functions; and unequal social access to various protection schemes, which perpetuated structural inequalities in many societies. From one perspective, then, coverage gaps in social protection schemes might have the effect of increasing inequities within society.

Mr. Bertranou noted that concrete structural reform of pension systems had occurred or been legislated in 11 Latin American nations since the early 1990s. Several other countries, including notably Brazil, had undertaken non-structural reforms. While the specifics of each reform were related to the national context, most of the reforms had emulated the so-called Chilean model, following reforms that were instituted in that country in 1981. Also influential were the recommendations of the World Bank, as represented in a landmark 1994 volume, *Averting the Old Age Crisis*. The defining characteristic of the reforms had been a shift from social to individual responsibility. Mr. Bertranou argued that structural reforms in Latin America had overemphasized the private pillars of pension systems while neglecting the public pillars. The latter constituted the basis of any social protection system for the older population who had had little or no opportunity to directly participate in the revamped systems.

Mr. Roberto Ham discussed some of the pressing needs and social risks involved with overhauling retirement pension systems. He emphasized the basic requirements for a successful and socially responsible pension system: providing protection for the whole population; granting uniform and equitable benefits; redistributing wealth in a manner that enhanced social solidarity; offering suitable and sufficient benefits; and financial, economical and social sustainability. At present, he argued, none of the above conditions was being met in Latin America. Furthermore, the element of financial sustainability was the only item that was receiving significant political attention.

A large share of the "pension problem" was said to lie in the relative generosity and unevenness of pension systems, and Mr. Ham presented different worker scenarios to illustrate this problem. He used calculations of average salary contributions, retirement ages, and estimates of life expectancy for male Mexican workers and their spouses to determine the difference between the number of monthly salaries contributed to the pension system and the number of monthly benefits that were received in various programmes that were available to certain groups of workers. In one scenario, this exercise suggested that 9 months of contribution could translate into 593 months of pension payments. Mr. Ham contended that many of today's defined benefit plans were very expensive commodities that pensioners had never paid for in real terms, and further, that there were certain pension plans providing extremely generous privileges and payments. When considering the conversion from defined benefit to defined contribution schemes, however, it was important to remember that all schemes represented a sharing of future production between workers and pensioners. Hence it was critical to overhaul the excessive privileges that some plans provided, to integrate true savings incentives into pension systems, and to involve the younger generations in the current pension debate.

In the discussion, participants underscored that some proponents of structural pension reform were making huge assumptions about the level of worker knowledge with regard to contributions and benefits. It was argued that the majority of workers did not understand the intricacies of individual accounts (including different investment options), had little idea of their life expectancy at retirement, and were ill-informed about the rationale for moving away from defined benefit programmes.

It was noted that there was currently a proliferation of different pension systems. Ten years previously, the World Bank formulated its view of global pension reform based on three pillars: (1) a mandated, unfunded and publicly managed defined benefit system; (2) a mandated, funded, and privately managed defined-contribution scheme; and (3) voluntary personal retirement savings. Many organizations and countries currently embraced the concept of a fourth pillar that could include non-traditional sources of retirement income such as work well beyond the "normal" retirement age, tapping into home equity, and income-protection and wealth-transfer mechanisms through products such as life insurance and long-term care insurance. The World Bank had more recently conceptualized a five-pillar system including a basic (zero) pillar to address issues of extreme poverty, and a non-financial fourth pillar to consider social policy concerns such as family support, access to health care, and housing.

There was some debate about using universal entitlements to help close the pension coverage gap. The effect of a universal pension option might be to undermine the second demographic dividend. It was noted, however, that proponents of universal schemes generally advocated very modest amounts of per capita assistance that would not be expected to have a major disincentive effect on saving for retirement. A means-tested minimum pension, on the other hand, could have a greater negative effect on incentives to save.

Participants raised several issues related to the movement away from defined-benefit plans and towards defined-contribution structures. It was mentioned that in Japan, public faith in the sustainability of the defined-benefit system had eroded to the point where many persons evaded their payments. Thus, one aim of define-contribution schemes was to reinstill confidence. It was noted that changes in emphases within systems could take many years to become politically and publicly acceptable; Sweden's recent pension modifications were the result of 10 years of debate. Concern was also expressed about the high administrative costs that often accompany the introduction of individual accounts.

Discussion also focused on policies meant to moderate observed or projected declines in the numbers of workers in various countries. It was noted that there had been a reversal of or stagnation in the decades-long decrease in labour force participation at older ages in numerous OECD nations. Whether an increase in the actual average age of retirement could be attributed to specific policy decisions was difficult to determine. An important policy consideration was to design an environment where most people would work up to the "normal" legal retirement age. This could have a larger impact than urging people to continue working after that age. With regard to policy levers intended to affect fertility, some participants considered that without reformulated family policies, birth rates would remain very low or continue to decline. Others argued that that previous policies aimed at increasing birth rates had largely been ineffective.

## E. MACRO-ECONOMIC EFFECTS OF LONGER LIFE, AND IMPACT OF AGE STRUCTURAL CHANGES ON THE HEALTH SYSTEM

As the average length of life increases and the number and proportion of older persons grow in most societies, a central question is whether population ageing will be accompanied by better health, an improved quality of life, and sufficient social and economic resources. The answer to this question lies partly in the ability of families and communities, as well as modern social, economic, political, and health service delivery systems, to provide optimal support to older persons. Participants contrasted the impressive achievements in some parts of the world with different social trajectories elsewhere, and discussed the development of new data sources and methodologies that were beginning to yield better information about health outcomes.

Mr. Naohiro Ogawa opened the session by observing that, in 2005, Japan had joined Italy as the nation with the highest percentage of population aged 65 or older. While the rapid ageing of the population was continuing, total population size was expected to start declining soon. Mr. Ogawa described the evolution of Japan's social security system, which encompassed both old-age pension schemes and medical plans, including a long-term care insurance scheme. Whereas pension benefits and medical benefits accounted for 22 per cent and 57 per cent, respectively, of total social security expenditures in 1965, by 2002 the figures were 53 per cent and 31 per cent, respectively. When Japan's pensions schemes were first established, they were organized on the principle of reserve financing. Between 1965 and 2002, the amount of reserved funds for all public pension schemes grew from near zero to roughly one third of GDP. Mr. Ogawa noted that these accumulated funds could be considered as part of the second demographic dividend that was discussed earlier. In spite of this capital accumulation, the combination of changes in the social security system and rapid population ageing had required the Government to shift away from reserve financing towards pay-as-you-go financing using general tax revenues. As a result, Japan's public pension schemes had an increasing transfer component, raising questions of intergenerational equity and prompting further policy changes to make Japan's system more transparent to younger workers.

The absolute amount of financial resources allocated to medical care plans also had risen continuously, and this was reflected in improved population health and the world's highest average life expectancy. While Japan's proportion of GDP allocated to medical services was still low by OECD standards, costs had escalated, in part because of the unusually high use of hospitalization. Mr. Ogawa discussed empirical work suggesting two promising options to help offset the rising pension and health system costs. Using longitudinal survey data to estimate trends in healthy life expectancy, researchers projected that the number of healthy or active Japanese older persons would increase from 19 million in 2000 to 30 million in 2025. Better utilization of older workers, in conjunction with an extension of the retirement age, was one option. Another was making more effective use of financial and non-financial wealth of older persons. Mr. Ogawa and colleagues estimated that the average 60-year-old owned assets of more than 50 million yen (US $500,000), not including the value of private pensions. With the dwindling attractiveness of real estate as an investment, older Japanese needed better information about alternative investment strategies that would not only enhance individual financial well-being but also would benefit the national economy.

Ms. Etelka Daroczi considered the health impact of population ageing in the economies in transition of Europe. She noted that many of those countries had experienced not one but two major socio-political transitions in a period of 75 years or less. Prior to the transitions of the late 1980s and early 1990s, many regimes restricted access to information regarding public health, working conditions and worker health. Hence, relatively few detailed studies of population health were available, and information on survival probabilities was less developed and less reliable than needed for policy purposes. There clearly were spectacular improvements in mortality, especially at younger ages, during the two or three decades following the Second World War. However, by the mid-1970s (in some cases the mid-1960s) the trend towards lower mortality had ceased or reversed in many transition countries.

A second wave of mortality increase, or in some cases stagnation, accompanied the transition period around 1990. More recently the situation had improved in much of Northern and Central Europe, but not in most of the successor States of the former U.S.S.R. Increasing middle-age mortality, particularly among men, was the major factor in halting the progress of overall life expectancy. For the older population in transition countries, the loss of former rights and privileges with regard to health care had had a deleterious effect.

Ms. Mary McEniry presented results on health status of older persons based on a recent, first-of-its-kind cross-national study in seven Latin America and the Caribbean countries, the Survey on Health and Well-Being of Older Persons (SABE). Self-reported health status showed large inter-country variability, but the patterns by age and sex were similar to those found in other parts of the world. Women consistently reported more health problems and poorer health status than did men. The proportion of older persons with at least one limitation in activities of daily living (ADLs, which include bathing, eating, toileting, walking, etc.) or instrumental activities of daily living (IADLs, e.g., shopping, managing money, using transportation) was also strongly related to age and gender. The proportion with difficulty in carrying out IADLs also varied significantly across the seven survey sites, although the prevalence of difficulty with ADLs did not. Self-reported health was only moderately related to ADLs and IADLs.

A comparison of SABE data with information from the United States Health and Retirement Study showed that the prevalence of at least one ADL was considerably higher in the United States, at least among women, but that the opposite was true for IADLs. SABE respondents reported lower average numbers of chronic conditions, but levels of diabetes were as high if not higher than found in the United States. Diabetes prevalence was highest in Barbados and Mexico. Levels of obesity were also strikingly high in several of the SABE samples, reaching or exceeding 30 per cent in Chile, Mexico and Uruguay.

Ms. McEniry observed that the relationship between health conditions in early and later life was the focus of much current research in developed countries. SABE data offered the opportunity to explore this issue in a developing-country context. Birth cohorts reaching age 60 after 1990 in Latin America and the Caribbean had received medical interventions that greatly increased their probability of survival through childhood, but frequently in the absence of significant improvements in standards of living. It was hypothesized that the exposure to the disease regimes that prevailed many years ago might have long-lasting deleterious effects on health of those entering old age now and during the next decades. Analyses of SABE data offered some support for this hypothesis insofar as the regional health profile of older persons showed a high prevalence of chronic disease and disability. However, the data provided only weak evidence of a relationship between individuals' early-life conditions and prevalence of diabetes in later life. Ms. McEniry concluded that definitive answers would require better indicators of early-life conditions, preferably from longitudinal cohort data. She also described an experimental use of so-called Waaler surfaces to infer expected relative mortality risks for persons according to height and weight. The obese sub-samples in SABE countries tended to have weight/height values that were associated, in the reference population, with higher mortality risk. Comparing across countries, both obese and non-obese older persons in Latin American and Caribbean countries had average height/weight values associated with higher mortality risk than did their counterparts in the United States.

The impact of HIV/AIDS and antiretroviral treatment (ART) on population age structure was considered by Mr. Jacques van Zuydam. He outlined the situation in the South Africa, where the older population was growing ever more rapidly, while the number of orphans was also rapidly rising. Current estimates suggested that 600,000 South African children had lost a mother due to AIDS. Prior population projections in South Africa and many other countries had focused on the impact of AIDS deaths on population size and age structure, typically by creating mortality scenarios that included and excluded deaths due to AIDS. Mr. Van Zuydam described a set of population projections that attempted to gauge the potential impact of ART on population size, life expectancy, and different illnesses. When properly used, ART was expected to extend a person's life expectancy by 10-15 years on average. In the projections, this would imply 450,000 fewer AIDS deaths in the year 2010 than expected in the absence of ART. For the population as a whole, ART could reverse the downward trend in average life expectancy by the end of the present decade, and produce an average life expectancy 10 years higher than in the non-ART scenario. Because the impact of HIV/AIDS was greater among females than males, ART could benefit women especially. Other socio-demographic impacts of providing ART could also be anticipated, including: (1) a growing number of persons living with chronic AIDS and AIDS-related complications, implying greater care and support needs for chronically ill persons and children in affected households; (2) urban/rural differences in effectiveness early in the implementation of ART provision, probably favouring urban areas during the initial rollout stages; (3) the need for welfare services to focus on the nutritional needs that must be met to ensure ART effectiveness; and (4) a need for income support for increased numbers of households depending on wage earners whose earning ability was diminished by chronic AIDS-related illness. The South African Government was considering bolstering a number of programmes for income support, including child support grants, care dependency grants, disability grants, and expanded poverty relief.

In the general discussion, participants considered several aspects of Government policy in Japan in the face of rapid population ageing. Despite projections of labour shortages, only 1 per cent of current workers were foreign-born. Japan had experienced decades of relatively restrictive immigration policy, but more liberal rules had recently been adopted with respect to labour migrants, especially in certain occupational categories (nurses, caregivers and lawyers). Also discussed were the implications of high real estate ownership among Japanese older individuals, and whether this might eventually result in a major sell-off of these assets. It was noted that one response had been an increasing prevalence of reverse mortgages. Another policy change had been the introduction of long-term care insurance. Public demand for such insurance had been stronger than anticipated, and the high take-up rate might make this option more costly for the Government than originally envisioned.

Issues of family support and intergenerational transfers were raised in the context of Japan and Eastern Europe. In Eastern Europe, there were few long-term policies regarding family support. Japan had a long tradition of support flowing from married adult children to older parents, largely through co-residence. However, more than 20 million single men and women now lived with their parents, and in many such cases co-residence represented support flowing from older to younger generations.

Participants recognized the desirability (and also the difficulty) of incorporating additional variables into projections of health care demands and costs. It would be useful to include variables that might capture such factors as likely technological change, shifting balances in age-related health care demand (e.g., maternity services), and the impact of service usage (e.g., number of doctor visits). It would also be desirable to compare countries and health systems in terms of qualitative outcomes rather than, or in addition to, health costs. In particular, what was the impact in terms of patient outcomes and quality of care of the enormous international differences in doctor salaries, use of certain machinery, and other factors driving costs?

With regard to cross-national surveys, it was noted that international comparisons of self-reported health were problematic. Participants also noted the seeming paradox between reported health and longevity, in which men consistently reported better health than women, but consistently had higher mortality rates and lower life expectancy. This could be related to the higher prevalence of certain chronic conditions, such as arthritis, among women. In light of earlier remarks about the value of a multidisciplinary approach, it was suggested that demographic and health surveys collect more and better data on biomarkers as one means of improving understanding of health differences and trends. Another desirable step in cross-national survey design would be to expand sample size to permit a systematic investigation of ethnic differences across societies.

## F. Focus on Mexico: transformations in demographic structure, intergenerational relations and policy responses

Mexico is experiencing an interrelated set of transitions in the demographic, economic, health, and socio-political realms. This session highlighted the implications of ongoing rapid changes with regard to fertility, mortality, epidemiology and migration. Participants described and discussed several novel approaches that Mexico has taken in response to such changes, ranging from the projection of health service demand to changes to the pension system to the radical restructuring of the national health delivery system.

Mr. Virgilio Partida presented an overview of the demographic transition in Mexico. The combination of high birth rates and declining death rates after the 1920s led to a steadily increasing rate of natural increase, which peaked at an annual rate of 3.5 per cent around 1965. Since then, fertility declines had outpaced mortality declines. In 2000, more than 70 per cent of women of reproductive age were using some form of contraception, the total fertility rate was approaching replacement level and the natural rate of population increase had declined to 1.3 per cent. Life expectancy at birth more than doubled between 1920 and 2000, reaching 72 years for males and 77 years for females early in the twenty-first century. Mr. Partida attributed the rapid decline in mortality in the 1900s primarily to the expansion of the educational sector and improvements in public health, particularly sanitation. The extension of health services also was important, as was the creation of the Mexican Social Security Institute in the early 1940s. International migration became significant after 1960, and net out-migration had reduced the population growth rate by approximately 0.4 per cent per year during the past 40 years. Fertility declines had resulted in a notable shrinking of the base of the population age-pyramid by the year 2000 relative to previous decades, and projections of age structure implied a fairly rapid transformation from a pyramid to a pillar shape as the population aged.

In considering the potential for a demographic bonus arising from changing population age structures, Mr. Partida emphasized the importance of population momentum, which could be analyzed by tracking changes in age-specific population growth rates, along the lines previously suggested by demographer Ian Pool. Mr. Partida noted that during the first 15 years of the present century, Mexico would need to create more than 800,000 jobs annually to accommodate the growth of the labour force. Between 2015 and 2030, the labour force would continue to grow by roughly 500,000 persons per year. As the working-age population "age waves" moved through time, however, the extent of needed job creation would decline, and would likely turn negative in the years after 2040. Whether the enormous labour force growth over the next 20 years proved to be a window of opportunity for Mexico would depend on investments in education, on the creation of productive employment and on bringing more workers into the formal sector.

Ms. Felicia Knaul discussed current work on projecting the demands for and costs of health care in Mexico, using social-security cost data in combination with CONAPO population projections and economic data from the World Bank. This work was driven by recognition of the rapid epidemiological transition in Mexico during the past 30 years, and the heightened demand for hospitalization and outpatient care for persons aged 65 or older. Data on per capita cost structure from the Mexican Social Security Institute showed a pronounced rise with age after age 60, and projections of health expenditures as a percentage of GDP followed an upward trajectory similar to that seen in other countries of the Americas.

There were clear regional differences in mortality in Mexico, with lower rates in the north, intermediate rates in the centre of the country, and relatively high rates in the south. This "epidemiological backlog" was closely correlated with the percentage of population with insurance coverage. Data on insurance coverage by quintiles of expenditure per capita suggested that current coverage in Mexico was quite regressive.

Estimates using OECD data suggested that the most effective health systems were not necessarily the most costly, suggesting that countries such as Mexico currently had an opportunity to invest in a more efficient health system. The three primary challenges to a more effective health system in Mexico were equity, quality and financial protection. Ms. Knaul focused on the latter, and described a major reform undertaken in 2003. Changes in the General Health Law resulted in the creation of the Social Protection System in Health. A central aim of this reform was to prevent catastrophic health expenses for uninsured individuals.

Mr. Emilio José García began his presentation by noting that the epidemiologic transition in Latin America had not followed the classical model first elaborated by Abdel Omran in 1971. In the twentieth century, improvements in standards of living were not uniform within populations, and this had given rise to a multiplicity of transition variants. And, while the prevalence of chronic diseases had risen as expected with changing population age structures, infectious diseases were still an important component of many national profiles in the region. Looking specifically at disability in Mexico, Mr. García noted that the increases in overall life expectancy had not been accompanied by similar increases in healthy life expectancy.

Drawing on data from several sources (among them the Mexican Health and Aging Study and the SABE results described by Ms. McEniry), he explained that 6 per cent of Mexicans aged 65 or over were considered severely disabled as measured by the ability to perform activities of daily living, and nearly 13 per cent needed assistance with instrumental activities of daily living. Survey data showed that disability was related to age, sex, and access to health services, but was not related to place of residence. Most physical support to older disabled individuals was provided by women, and most economic support was provided by men. The prevalence of chronic diseases and disabilities among older persons was estimated to be higher in Mexico than in industrialized countries. Data from the SABE implied an inverse correlation between the level of education and levels of disability, depression and diabetes. Mr. García also described the development of a new index designed to indicate the biological age of older persons, as opposed to relying on chronological age as a major descriptor and predictor. The index was based on the existence of selected chronic health conditions and health behaviours, as well as self-perception of health. Initial applications of this index suggested that biological age was more closely linked to disability and mortality than was chronological age.

The characteristics and impact of Mexico's Seguro Popular were described by Mr. Rafael Lozano. Seguro Popular was the operative arm of the Social Protection System in Health, implemented in January 2004 as the result of a major structural reform of the national health system. One of the goals of reform was to provide affordable care to the entire population, especially those persons with limited financial resources. Towards this end, the objective of Seguro Popular was to extend health insurance to all people who were not covered by health insurance, and to do so within seven years. The programme was voluntary, and was aimed at all uncovered persons regardless of their ability to pay. Eligibility did not depend on pre-existing health conditions of those seeking to enrol. Programme financing consisted of three parts: a social share provided by the federal Government; a solidarity share based on contributions from both federal and state Governments; and a family share based on income level.

Seguro Popular had had a demonstrable impact since its inception. Current coverage exceeded 1.7 million families, more than 90 per cent of whose household income was in the lowest two deciles of the overall population income distribution. The age structure of enrolees was predominantly young, resembling the age structure of the non-insured population in general. Looking at programme outlays for older individuals (age 60 or over), the highest expenditures were for diabetes mellitus and chronic obstructive pulmonary disease. Mr. Lozano noted that since the establishment of Seguro Popular there had been a marked decrease in the proportion of households experiencing catastrophic health expenditures.

The discussion of social security and population ageing in Mexico was taken further by Mr. Alberto Valencia, who presented an analysis of individual savings accounts for retirement that constituted the mandatory component of many social security systems, including the Instituto Mexicano de Seguridad Social (IMSS) in Mexico. He began by noting that, as of 2004, about 16 million workers participated in a pension plan, but that more than 26 million workers (63 per cent of the labour force) did not. He discussed several problems with the Mexican system, including low coverage, low contribution rates by workers, and high administration fees. For workers earning a 5 per cent rate of return on contributions, and paying a 1.7 per cent administrative fee on contributions, the real rate of return on their contributions was negative for about 12 years, and then rose gradually to about 3.8 per cent after a period of 40 years.

Mr. Valencia explained that the value of individual accounts depended basically on three factors: the total amount of regular contributions; the length of time during which a worker made contributions; and the rate of return. With regard to the duration of contributions, he introduced an important concept called the density of contributions, or the proportion of one's total working life during which retirement contributions were made. Because available Mexican statistics did not allow an empirical calculation of this measure, he constructed estimates for Mexico based on survey data from Chile's Undersecretary of Social Prevision. By explicitly including consideration of contribution density, and combining this information with IMSS data on the distribution of workers by salary level, Mr. Valencia generated a model to assess the importance of individual savings outcomes for current IMSS-covered workers. The key implication of this model was that, for those workers making between one and five times the minimum wage and who survived to age 65, roughly two-thirds would have insufficient resources for their retirement. The figures for men and women were 60 per cent and 77 per cent, respectively. Thus it seemed likely that many future retirees would require significant subsidies to compensate for the projected deficits in individual savings. Mr. Valencia concluded that it was necessary for the Government to introduce major revisions of the retirement savings system that would reduce foreseeable individual shortfalls and address gender inequalities within the system.

In the discussion, participants were interested in the economic aspects of international migration, including levels of repatriated earnings and whether these were consumed or invested. Such earnings might be construed as a positive outcome of age-structural changes, i.e., a part of the demographic dividend. In the case of Mexico, it was estimated that approximately 1.5 million households received remittances from the United States. It was believed that remittances were used primarily for consumption rather than investment, but the full impact, including indirect effects, was difficult to assess.

With regard to Mexico's Seguro Popular, it was noted that a similar non-contributory scheme existed in Costa Rica. Participants wondered about the mechanisms being used to evaluate Mexico's programme, and how the programme's impact on health and mortality might be measured. The discussion pointed out that it was still too early to see visible effects on general health conditions and mortality, but that the programme design included a monitoring component that would eventually yield evaluative results. There was interest in the quantity and quality of services offered under Seguro Popular relative to other health insurance plans, and whether there was enough existing health infrastructure to handle large numbers of new enrolees. The programme offered incentives to expand and improve services, and would evolve in response to demand. It was important to keep in mind that one aim of Seguro Popular was to reduce the use of services in the long run, through emphasis on preventive behaviours early in life.

## G. INTERGENERATIONAL TRANSFERS IN THE CONTEXT OF AGE STRUCTURAL CHANGES

The demographic forces that generate population ageing also affect the structure of the family and the social arrangements for supporting older persons. Mortality decline means that the number of living generations within families increases, and lower fertility eventually means that care obligations are concentrated among fewer kin. The division of labour between public and family resource-transfer systems generally rests upon long-established social conventions, and is not necessarily motivated by concerns for efficiency or specialized competency. Interactions between the two broad types of transfers systems—public and private—define many of the more important policy issues for an ageing society. This session examined some of the global diversity in living arrangements and transfer patterns, and considered ways of anticipating and measuring changes in system parameters.

South-eastern Asia contains some of the most rapidly ageing nations in the developing world. In the face of sharply declining fertility throughout the region, Governments are being forced to recognize the implications of changing age structure for both younger and older citizens. Ms. Mary Beth Weinberger presented work done by Ms. Angelique Chan on changes in formal and informal intergenerational support systems in South-eastern Asia. It was noted that previous research in many countries around the world showed a decline in multi-generational living arrangements, due not only to fertility change but also to migration, increased joint survival of spouses and changing preferences of younger generations. Data for selected South-eastern Asian nations, however, continued to show high levels of co-residence: 68-88 per cent of older persons living with at least one child. Most Governments in the region viewed co-residence as the pre-eminent form of support, and some (e.g., Malaysia and Singapore) provided tax incentives to children living with older parents. Ms. Chan noted that, while information on living arrangements was relevant, more detailed information was needed to determine intergenerational transfer flows within families. As had been elaborated by demographer Albert Hermalin, it was important to understand the functional aspects of intergenerational dynamics rather than simply their form. Survey data for South-eastern data showed that, while in most countries a preponderance of older persons received monetary transfers and material goods, significant proportions of older people also provided money and goods to their children.

Formal public or private support appeared to be much less prominent than family support in those South-eastern Asian nations with available information. Survey data indicated that typically under 10 per cent of older adults had pensions as a major source of income. Ms. Chan characterized formal support for the current generation of older adults as insufficient and ineffective, although several Governments in the region were developing more cohesive policies on formal support mechanisms and were grappling with questions about the effectiveness of legislating family care requirements. A major concern was whether the provision of formal support served to "crowd out" family support. With regard to policy considerations, several areas were emphasized: the need to institute or enhance mechanisms that enabled families to support older members; a recognition of the burden on the growing number of middle-aged children supporting both an older and a younger generation; a focus on the emotional, financial and time constraints faced by caregivers; and the need for programmes that would allow older persons to remain economically and physically independent, thereby reducing stress on the family.

Ms. Gunhild Hagestad offered micro- and macro-perspectives on intergenerational relations and transfers in Europe. Because Europe has had a long history of population ageing, researchers have had many opportunities for exploring family consequences of dramatic social change, for contrasting families under different demographic and political regimes, and for comparing transfer patterns and mechanisms in different policy contexts. Ms. Hagestad observed that the term "generation" embraced three different concepts: (1) membership in an age category or age group; (2) a cohort anchored in historical time; and (3) a location in a vertical family lineage. Likewise, the term "transfers" referred to three broad types: (1) material transfers, such as money, food, housing, and physical objects; (2) in-kind transfers, including care, emotional support, and practical help; and (3) symbolic transfers, such as knowledge and skills. All of these transfer types could move both up and down generational lines, and might have both private and public components.

Ms. Hagestad noted that family structures in ageing societies were characterized by several factors, including verticalization (4 or 5 generations, labelled by Bengston as the "beanpole" family), co-longevity of members, and increased top-heaviness with the decline in the relative number of younger members. Data from recent cross-national studies in Europe showed that the proportion of persons aged 50-59 with at least one living parent ranged from 47 per cent to 62 per cent in ten nations, and at least one in seven people aged 60-69 also had at least one living parent. Data from another study showed that more than 30 per cent of adults aged 30-39 in Norway, England, Germany, and Spain had living grandparents. Among grandparents aged 50-59, between 11 per cent and 20 per cent also had a living parent (except in Spain; 7 per cent).

Ms. Hagestad introduced a multigenerational model of parent-child relations, with supporting data that showed substantial amounts of care and practical and emotional support flowing from older to younger generations. Recent survey data revealed that high percentages (50-80 per cent) of grandmothers helped care for grandchildren. Other data on reported transfers and potential support in Europe offered little evidence of an extensive burden on middle generations (the "squeeze" phenomenon), because the middle generation's children were usually grown by the time older parents needed extensive care.However, there was a need for qualitative data to shed further light on this dynamic. Ms. Hagestad also considered the issue of crowding out of family support, which was manifested in the fear of many policymakers that family caregivers would stop providing services if publicly supported services were available. The “care substitution” hypothesis would predict that the amount of informal care received by disabled older persons would decrease when state or community care was increased. Ms. Hagestad pointed to several lines of evidence suggesting that social support services did not crowd out family care. In at least some settings, family and formal support services appeared to complement rather than substitute for one another, and availability of both family and formal services allowed those with the greatest need to receive better care. Some authors had even argued that the availability of social services had had the effect of “crowding in” family care, by permitting family providers to focus on the types of support, including affective support, that they were best qualified to provide. She also described several current research emphases in Europe, including investigations of the extent to which family transfers served a socially redistributive function, how intergenerational transfer patterns differed across income and wealth categories, and how the nature and flows of transfers were affected by major political changes such as those experienced by countries in transition. A final point of concern involved the social integration of childless people, an issue that would be of growing importance in the face of persistent low fertility.

Mr. Jorge Bravo presented profiles of consumption and labour income that illustrated the size, broad shape, and net direction of intergenerational reallocations in Chile, Mexico and El Salvador. These profiles were constructed using consumption and income data from household consumption/budget surveys in the three countries. The estimates suggested that there were substantial intergenerational transfers in these countries, representing between 36 per cent and 42 per cent of total labour income and between 30 per cent and 39 per cent of aggregate consumption. The data confirmed the expected positive relationship between younger population age structures and a relatively greater volume of transfers moving in the direction of younger dependents. A predominance of such “downward” transfers was to be expected in countries with a relatively young population and welfare systems for the old that were not highly developed. As populations aged, the aggregate profiles of consumption and labour income were expected to shift towards higher ages.

Mr. Bravo also reviewed available evidence on studies of intergenerational transfers and generational accounting in Latin America, noting that there had been an increasing awareness on the part of analysts and policymakers of the usefulness of age-specific measures of public spending and transfers. To date, though, only a few countries in the region had examined the distributive effects of taxes and public spending according to the age of the target groups. One such study in Mexico concluded that net transfers, both public and private, had reduced inequality in recent years. The most progressive programmes were said to be pre-school and primary school education programmes and broadly based health programmes. On the other hand, spending on state pensions and institutional health schemes tended to be regressive. Country analyses using the generational accounts procedure (measuring the present value of taxes paid over a cohort’s lifetime net of benefits received from the public sector) suggested that significant intergenerational imbalances existed in Argentina and Brazil, due in part to the degree of population ageing but also to inherent insolvency in some aspects of national pension programmes. Conversely, in Mexico and Chile there was evidence that the overall fiscal position and transfer programmes were intergenerationally balanced and sustainable over time.

Mr. Andrew Mason presented highlights of ongoing collaborative work on National Transfer Accounts. The project aimed to measure at the aggregate level the reallocations of economic resources from one age group to another, using comparable standards in various countries. These transfer accounts, in addition to illuminating the age patterns of reallocations, would also quantify types of allocation according to age, including private inter-vivos transfers, bequests, public transfers and asset reallocations[1]. Several of the participants at the present meeting were involved in this work. The age profiles of production and consumption discussed in several of the contributed papers were an important part of the full accounting system.

In the discussion, several participants pointed out the need for rigour in the analysis of income/consumption profiles. The reliability of income data, for example, was a major issue that affected the results. It would be useful to include information on in-kind transfers, both for consumption profiles and for poverty measurement. There was a call for enhanced research on the macro-economic demography of intergenerational transfers. The ongoing work on the National Transfer Accounts had the potential to explicate how such transfers related to the potential second demographic dividend that was discussed during the current Meeting.

Participants also returned to the question of whether public care tended to crowd out private family care of older persons. It was noted that most European countries, as well as many Asian nations, had family responsibility laws that included legal requirements for the care of older members. For example, Germany was experimenting with a cash voucher system for long-term care, but family members were expected to remain involved with care regimens. Some countries currently had pension tax credits for both child care and care of older persons. In some Northern European nations, long-term care had come to be seen as a public (State) responsibility. There was debate about the quality of care in such contexts, particularly with regard to psychiatric treatment and dementia care.

The phenomenon of persistent low fertility led some participants to wonder about its implications for future family structure. A rise in childlessness could eventually reduce the average number of living generations within vertically integrated families. Despite improvements in mortality, delayed marriage and childbearing could mean that fewer people would live to become great-grandparents. Even so, few people would predict the demise of the four-generation family.

## H. CONCLUSIONS

The rapporteur, Mr. Kinsella, reviewed the main points emerging from the presentations and discussion, focusing on new developments and next steps. He noted that the meeting had highlighted the great international variation in population age structures. Developed countries began the demographic transition earliest and currently had relatively high and increasing proportions of older persons. In contrast, most developing countries started the transition to lower fertility in the 1960s or later and still had relatively young age structures. However, those countries would undergo a faster process of ageing than had their more developed counterparts. The meeting had discussed the social and economic implications of the worldwide process of population ageing, including regional specificities as well as more general aspects of the ageing process such as the rising proportion of women and the vertical extension of families brought about by increasing longevity.

In the past, although many analysts noted that demographic dependency ratios provided only a crude indicator of the dependency burden within a society, the scarcity of comparable data on age patterns of production and consumption had generally meant that international comparisons relied purely on demographic dependency ratios. Thus, it was encouraging that authors at the meeting had presented new estimates of age patterns of production and consumption for a range of societies at different stages of economic development. A firmer empirical basis was developing for understanding the economic

[1] See Mason and others (2005), *Population Aging and Intergenerational Transfers: Introducing Age into National Accounts,* working paper, National Transfer Accounts Database. Available at http://www.schemearts.com/proj/nta/web/nta/show/Working%20Papers)

implications of changing population age structures, and ongoing work made it likely that there would be further progress in this regard.

Participants stressed that economic outcomes of demographic change depended on the policy environment. The demographic dividend was agreed to represent only a potential for enhanced economic growth, which might be diminished or even negated by unfavourable policies. In countries that had realized the most benefit from the demographic dividend, for instance, the demographic transition had invariably been accompanied by significant investments in human capital. On the other hand, a rise in the proportion of the working-aged population might not enhance economic growth in the context of high unemployment and underemployment. Indeed, a rise in the number and proportion of job seekers might at times be viewed more as a challenge for a society than as a bonus.

Conversely, rather than serving as a drag on the economy, population ageing might represent a potential for enhanced economic growth through increased investment. Participants at the meeting discussed the possibility that population ageing would prompt a substantial increase in savings and wealth, giving rise to a second and more enduring demographic dividend. However, further research on this concept was required; the "second dividend" remained a theoretical proposition. Better data on age patterns of production, consumption, savings and investment would help advance the investigation of these ideas. Projects such as the one on National Transfer Accounts held out promise in this regard.

There was a consensus that population ageing would inevitably affect labour market institutions and policies. In general, immigration was not seen as a solution for a declining labour force in developed countries, though migration might play a significant role in some settings. Promising responses discussed at the meeting included an enhanced role of women in the labour market and steps that would encourage more people to work up to the "normal" legal retirement age.

Although the impact of ageing on social security was already being felt in many developed countries where pension systems were reaching maturity, the most pressing issue in developing countries was to extend coverage to excluded population groups, mainly women, migrants, rural agricultural workers and urban informal sector workers. In many recently reformed pension systems in Latin America, coverage and contribution rates remained low and administrative fees were high. Estimates of intergenerational reallocations in selected countries implied substantial intergenerational transfers, both public and private. Country analyses using generational accounting procedures suggested that significant intergenerational imbalances existed in some countries, such as Argentina and Brazil.

Funding of health care for an ageing population was also a serious policy challenge. The Seguro Popular, the operative arm of the Social Protection System in Health of Mexico, was an example of a novel approach to the health challenges brought by the changing age structure in developing countries. The programme aimed at extending health insurance to all people not already covered, including older persons. Following its inception, the proportion of households experiencing catastrophic health expenditures had decreased markedly.

One impediment to informed policy on health care was that reliable and comparable information about health status of older persons in developing countries remained scarce. There had, however, been some recent progress in this regard, as was exemplified by the results for seven Latin American and Caribbean countries presented at the meeting. Health assessments had often been limited to qualitative ratings of self-reported health, for which international comparisons were problematic. Collection of data on biomarkers in conjunction with health surveys represented one promising means of improving understanding of health differences and trends.

It was clear that informal support transfers were frequent between family members of different generations, particularly—although by no means exclusively—in developing countries. Although studies had found a preponderance of older persons receiving monetary transfers and material goods from their children, significant proportions of older people, especially the "younger-old", also provided material support to their children. They also provided substantial amounts of care to grandchildren as well as other practical and emotional support.

A major concern for policy makers was whether the provision of formal support served to "crowd out" rather than to complement family support for those needing assistance. The issues were complex, since there were many dimensions of "care", which differed in degree of substitutability between family and formal services. There was evidence from both developed and developing countries that family members continued to provide assistance even when formal assistance was available, and needy older persons were likely to benefit from having both types of assistance. A full consideration of the issues also required attention to the needs of caregivers and the costs to them of providing care, including opportunity costs. Programmes allowing older persons to remain economically and physically independent would also reduce stress on the family. Special attention should be given to the social integration and support of older people who could not count on family support, in particular the childless, who were expected to be of growing importance in the face of persistent low fertility.