Chapter 8
Global Aging

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In the sociology of aging and life course, global aging is relatively a new issue; but it has become an increasingly important subject since the early 1990s (Estes and Phillipson 2002). Many factors are contributing to population aging. The single most important factor is the decline of fertility that is taking place in many countries around the globe (Lloyd-Sherlock 2010). Another major factor is decline in mortality rates at all age levels, a trend which translates into increases in life expectancy (Uhlenberg 2009). Because people have come to live longer, including more disability-free years, population aging can and should be viewed as a positive achievement associated with improved healthcare, more government spending on social security, and other age-related social welfare programs, as well as changes in life style, such as less smoking and more exercise (National Research Council 2001).

However, the unprecedented increase in the relative size of the older population has also created major challenges for many countries around the world. It strains existing systems of social and financial support for older people as the burdens of intergenerational dependency increase. In addition to these demographic changes, the trend toward ever-increasing economic globalization is in many countries transforming existing social institutions including the social welfare policies that support older people (Phillipson 2005). Population aging and economic globalization are two major social forces that will be shaping social change around the world throughout the twenty-first century. Research on global aging must give considerable attention to the ways in which these two major social forces affect the lives of older people around the world (Uhlenberg 2009).

As the processes of population aging and economic globalization vary among countries and regions of the world, the consequences of changes linked to these social forces can be expected to vary as well (Phillipson 2005). In general, the economically developed parts of the world – Europe and North America in particular – have been experiencing gradual changes in the age composition of their populations for decades. In contrast, many developing (as well as many transitional) countries are currently experiencing demographic changes at a much faster pace than are the developed countries of the world (United Nations 2009a). In the early twenty-first century, the developing countries are being referred to by some as the *new-old world*, whereas the developed countries are being viewed as the *old-old world* (AARP 2003; Perkins et al. 2004).

Global aging is going to create new challenges and risks, particularly with respect to the allocation of resources to older people for informal care-giving, formal healthcare provision, financial security, and long-term care (LTC). To date, much of the research on global aging has focused on assessing how the implications of population aging and economic globalization for the developed countries differ from those for the developing countries. In the decades ahead, the risks and challenges attributed to global aging are likely to be much greater for developing countries than for

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developed countries (United Nations 2009a). Global aging may create or increase risks for vulnerable populations, such as unmarried older women and widows, particularly in developing countries (Browne and Braun 2008).

The purposes of this chapter are twofold: First, this chapter reviews the main areas of research to date on global aging, including issues such as (1) family structure and living arrangements; (2) epidemiological transition and healthcare burdens; (3) retirement and old-age financial security; and (4) LTC and healthcare worker migration. In each of these areas, the research suggests that in the decades ahead developing countries are likely to be confronted with even greater challenges than the developed countries linked to population aging in an ever more competitive global economy. Second, this chapter suggests three directions for future research on global aging.

Global Population Aging and Economic Globalization

The twenty-first century will witness a rate of population aging without parallel in past history. Considering the global population, young children (aged 5 and younger) have always outnumbered older people (aged 65 and older). However, between 2020 and 2025, for the first time in history, older people will outnumber young children. In 2000, the numbers of young children and older people worldwide were about 627 and 473 million, respectively; by 2025, the figures are projected to increase to about 650 and 714 million. By 2050, the figures are projected to increase to 592 million and 1.5 billion (United Nations 2009a).

Between 1975 and 2000, the median age of the world population increased from 22.4 to 26.4 years. It is projected to rise to 32.8 years by 2025 and to 38.4 years by 2050 (United Nations 2009a). The old-age dependency ratio is another important measure of population aging. Calculated by dividing the number of people aged 65 years and older by that of those of working age (aged 15–64 years), the old-age dependency ratio is an indicator of both the formal and informal burdens of providing for an older population's economic security and well-being (Schulz and Binstock 2006). Globally, the ratio increased from about 8.5% in 1950 to about 10.9% in 2000, and it is projected to steadily increase to about 15.8% by 2025 and to 25.3% by 2050 (Organization for Economic Co-operations and Development 2009a).

Two major determinants of global population aging are increasing life expectancy and decreasing fertility (United Nations 2009b). Globally, the average life expectancy at birth increased from 46.6 years for the 1950–1955 birth cohort to 66.4 for the 2000–2005 cohort. The figure is projected to further increase to 72.1 years for the 2025–2030 cohort and to 75.5 for the 2050–2055 cohort. The world has also experienced an overall decrease in fertility rates since the mid-twentieth century. The world's total fertility rate (average number of children born to each woman over the course of her lifetime) was 4.92 between 1950 and 1955 and the figure decreased to 2.67 between 2000 and 2005. It is currently projected to fall to 2.21 between the years 2025 and 2030 and to 2.02 between the years of 2050 and 2055 (United Nations 2009a).

Generally, the process of population aging differs between the economically developed and developing parts of the world (Lloyd-Sherlock 2010). In most developed countries, European countries in particular, population aging began slowly during the late nineteenth century as birth rates entered a phase of sustained decline and life expectancies began to gradually increase. As of 2008, the percentages of older population (age 65 and older) are highest for Japan (21.6%), Italy (20.0%), Germany (20.0%), Greece (19.1%), and Sweden (18.3%) (United Nations 2009a).

The number and proportion of older people have also been growing in developing regions of the world. By 2015, there will be more people aged 65 and over living in China alone (132 million) than in all of Europe (128 million) (United Nations 2009a). As of 2008, some 62% of the world's population

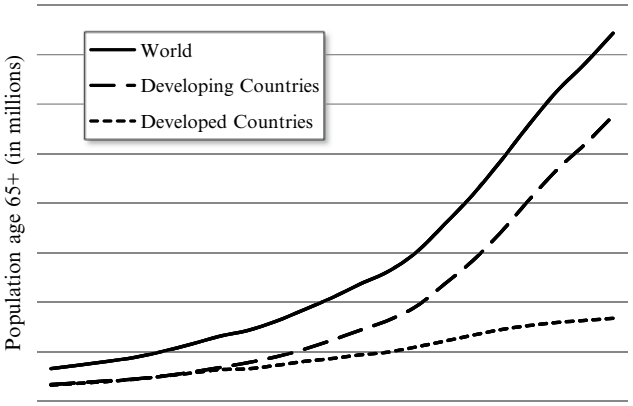

Fig. 8.1 Population age 65 and older, 1950–2050, World, Developed Countries and Developing Countries (United Nations 2009a). *Note*: In United Nations' (2009a) definition, the category of developed countries includes all regions of Europe, Northern America, Australia, New Zealand, and Japan, and that of developing countries comprises all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia

aged 65 and over lived in developing countries – an estimated 313 million people. This figure is projected to increase to 71% (690 million) by 2030. By 2050, almost 1.2 billion of the expected 1.5 billion people aged 65 or older are projected to live in countries that today are classified as developing nations, a designation which very likely will change for some of these countries by 2050 (see Fig. 8.1). Old-age dependency ratios are projected to at least double between 2000 and 2030 in many East and Southeast Asian and Latin American countries, and to triple in South Korea (United Nations 2009a).

The demographic changes that many developing countries are now experiencing have happened at a much faster rate than experienced by most countries currently classified as developed (Uhlenberg 2009). Most of today's developed countries had many decades to adjust to the gradual graying of their age structures. For example, it took 115 years (from 1865 to 1980) for France's population aged 65 and over to increase from 7 to 14% of the total population. To make this same shift it took Sweden 85 years (1890–1975), Canada 65 years (1944–2009), and current projections suggest that it will take Australia 73 years (1938–2011) and the United States 69 years (1944–2013). In contrast, many developing countries are projected to experience similar increases in the proportion that are old much more rapidly, with much less time to make the adjustments needed to deal with the policy implications of these changes. The following illustrate how much more rapid the shift is, according to current projections, going to be in many developing nations: Colombia (2017–2036) 19 years, Brazil (2011–2032) 21 years, Thailand (2002–2024) 22 years, Sri Lanka (2002–2026) 24 years, and China (2000–2026) 26 years (United Nations 2009a).

In addition to these demographic changes, economic globalization has become a social force with major implications for social institutions and public policies that impact the well-being of older people (Higo and Yamada 2009; Phillipson 2005). Globalization takes many forms, both cultural and economic. Of particular relevance for this chapter are the consequences of economic globalization including the process by which local, regional, or national markets become integrated into the global economy and the consequences of this process (Tonkiss 2006). By some accounts, economic globalization has been taking place since the fourteenth century (since the end of restrictive merchant economies). The rate of this process has increased quite dramatically over the past 20–30 years. Modern economic globalization is characterized by integration of developing countries into the global market economy, under terms which has been dominated largely by the developed countries and their multinational corporations (Estes and Phillipson 2002).

This economic globalization involves increases in international trade, foreign direct investment (FDI), and migration. *World trade* as a percentage of *gross world product rose from 8.5% in 1970 to 16.1% in 2001* (World Bank 2008). FDI for the United States, the world's largest economy, has been on the rise around the world since the 1970s. Both inflows and outflows of FDI for the United States have grown from an annual average of $45.3 billion in the 1970s to an average of $117.5 billion in the first half of the 1990s. Between 2000 and 2006, inward FDI stock in Brazil, Russia, India, and China grew from 8 to 14% of global FDI stock. Today, China is by far the leading emerging destination of FDI; in 2008, China ranked second behind the United States in the inflow of FDI, receiving $67.3 billion in FDI inflow (World Bank 2008). In tandem with the flow of trade and investment, economic globalization in the form of the flow of people among countries has also been increasing. Between 2000 and 2005, some 16 million people emigrated form developing to developed nations. This figure is nearly triple the number for the period between 1970 and 1975 (United Nations 2009b).

Family Structure and Living Arrangements

The global trend of decline of birth rates has implications for family size and structure. Most people in the world today eventually have children, grandchildren, and siblings. However, as the proportion of women and men who have only one or two children has been steadily increasing, in future generations it is likely that many who are old will have few, if any, siblings (Uhlenberg 1996). Changes in family structure will have implications for living arrangements. These changes in turn will affect the availability of economic resources and potential sources of informal care (care and support provided by family members) for older people. It is generally known that it will be a problem for the elderly in the developed nations. What is less well known is that this is going to become a big issue in developing countries as well (Agree and Glaser 2009).

In developed countries, over roughly the past three decades, multigenerational living arrangements have been steadily declining. Reflecting rising rates of divorce, delayed marriage, and increasing percentages of never-married and childless adults, an increasing proportion of older people are living alone. In Sweden, Finland, Denmark, and the United Kingdom, well over one-third of older people (aged 65 and older) live alone (Agree and Glaser 2009). In Greece, the proportion of unmarried older people living with a married child dropped from 23% in 1974 to less than 9% in1999. The share of unmarried older people living alone almost doubled (10–19%) during the same 25-year period (Karagiannaki 2005). The growth in the number of households consisting of one older person in developed countries has increased, particularly for women; as of 2006, of all the older people (aged 65 and older) living alone in the United States, women account for about 77% (U.S. Census Bureau 2009). In developed countries, where social support systems outside the immediate family have been well developed, this trend has been fueled by a combination of factors: greater longevity and increases in pension benefits as well as greater emphasis on care and support in the community (Lloyd-Sherlock 2010).

In contrast, older people in less developed countries rely heavily on their family members for well-being and survival. The majority of older people reside with their adult children and/or grandchildren. In Bangladesh, Indonesia, Singapore, and Taiwan, more than 80% of older parents live with one or more children (Ghuman and Ofstedal 2004). While many older people in developed countries report that they prefer living alone, those in developing countries prefer to live with, or at least close to, their children and to see them on a daily basis (Bongaarts and Zimmer 2002). In addition to these cultural preferences and the availability of kin, the lesser development of old-age financial security or social welfare programs is another reason for the prevalence of multigenerational co-residence in many developing countries (Frankenberg et al. 2002).

Such changes in the family size and structure are global phenomena. Over the next few decades, however, population aging in many developing countries is going to create problems particularly for the elderly poor due to the relative lack of familial resources for informal care and support in later life. Due to the decline of family size and traditional living arrangements, some older people, particularly unmarried older women or widows without any children and with fewer social resources, can be left with little support and nowhere to live if extended family members are not available to provide care for them (Lloyd-Sherlock 2010).

Epidemiological Transition and Healthcare Burdens

The world is experiencing an epidemiological transition due to changes in leading causes of death (Wilkinson 2004). Globally, while populations have become less vulnerable to acute and infectious diseases and are living longer, the number of deaths due to chronic and non-communicable disease has been rapidly increasing. Chronic and non-communicable diseases, including ischemic heart disease, cerebral-vascular disease, chronic obstructive pulmonary disease, and lower respiratory infections, are characteristic of old age (World Health Organization 2008). The number of deaths from cardiovascular diseases and cancers in 2004 worldwide was about 19 million; that number is projected to increase to more than 40 million by 2030. Overall, chronic and non-communicable diseases are projected to account for about three quarters of causes of all deaths worldwide in 2030 (WHO 2008).

The epidemiological transition takes on major importance in connection with research on global aging. Changes to leading diseases and causes of death posit challenges for allocating resources for formal care and social intervention such as public expenditures on healthcare (Crystal and Siegel 2009). Worldwide, healthcare costs are rapidly rising – in many countries, the growth rates of expenditures on public healthcare are projected to exceed the national economic growth rates in the decade ahead (WHO 2008).

Although most countries around the world have undergone such an epidemiological transition, developed and developing parts of the world have taken different paths for this transition (Wilkinson 2004). In developed countries, Europe and the United States in particular, the transition began in the late eighteenth century, when birth rates began gradually falling in some countries. In most developing countries, the transition did not start until well into the twentieth century, but since the mid-twentieth century it has been taking place at a much faster pace than in developed countries (Crystal and Siegel 2009). In developing countries, while infectious diseases accounted for about 40% of all deaths in 1990, by 2020 non-communicable diseases are projected to account for more than three quarters of all deaths (WHO 2008).

Research on global aging often refers to *burden of disease* as a measure of the region-specific economic burden caused by diseases in a baseline year. Burden of disease is calculated by combining years of life lost due to premature mortality and years of life lost due to time lived in less than full health (WHO 2008). During the next several decades, the burden of non-communicable disease (as opposed to the burden of infectious disease), already a major problem in the developed nations, is projected to increase rapidly in developing countries as well. The World Health Organization (2008) estimates that in 2004 the share of the total burden of disease attributed to non-communicable diseases was about 85% for developed countries and about 44% for developing countries. By 2030, those figures are projected to increase to 89 and 54%, respectively.

The challenges of the burden of diseases associated with the epidemiological transition are likely to be greater for developing countries than for developed countries (Crystal and Siegel 2009). Chronic and non-communicable diseases are imposing a growing burden on developing countries, many of which have limited resources for informal healthcare relative to developed countries. Simultaneously, in many developing countries, infectious diseases such as malaria, tuberculosis,

and HIV/AIDS are likely to remain a devastating health issue; by 2030, while the share of the burden attributed to infectious diseases in developed countries is estimated to be about 3%, the figure for developing countries is estimated to remain quite high at 32% (WHO 2008). While their health systems are already being stressed due to limited funding, many developing countries are likely to face a double burden of disease – high rates of infectious diseases including HIV/AIDS will co-exist with increasing rates of non-communicable diseases (Wilkinson 2004). Thus, developing countries need to mobilize and allocate resources to address the non-communicable diseases that are characteristically the leading cause of death in aging societies while they continue to struggle with the high prevalence rates for infectious diseases.

Retirement and Old-Age Financial Security

Changes in the patterns of work and retirement among older people have implications for their financial security in later life and for the younger, working-age people who support them (Kohli and Rein 1991). Population aging around the world has contributed to what many analysts refer to as a global pension crisis. At the core of this discussion is the debate over the sustainability of existing public pension programs (Blackburn 2006). The fear of possible public pension fund insolvency is common among policy makers in many countries around the world today. Research suggests that older workers in developing countries are particularly vulnerable as they are more likely than those in developed countries to be exposed to high levels of individual financial risk (Walker 2006).

Public pension schemes were first institutionalized in what are today considered the developed countries. Later, such schemes became widespread throughout most parts of the world including many currently referred to as developing countries. While the origin of public pension schemes can be traced back to Germany at the end of the nineteenth century, such schemes have come to play an increasingly important role in providing financial security to retired workers in developed countries, particularly since the 1950s (Macnicol 2006). By 2000, public pension programs covered more than 90% of the workforce in OECD countries (OECD 2009b). Most public old-age pension schemes around the world are based on the pay-as-you-go defined benefit (PAYG-DB) model. With a DB scheme, the pension benefit is based primarily on some measure of average or final wage and the number of years the worker has contributed; it is not dependent on fluctuations in financial markets. Under the PAYG-DB model, pension benefits are for the most part not pre-funded, although in some countries such as the United States today, a modest amount of pre-funding is introduced by building up substantial reserves in a trust fund, often with a plan to draw down those assets to deal with an anticipated demographic bubble such as the retirement of the baby-boom generation (Williamson, forthcoming). With a PAYG scheme, revenues from the current working population's payroll taxes are used to finance the benefits of current retirees, with a very modest trust fund used to assure that there will be sufficient funds on hand to pay pensions during dips in the revenues collected due to short-term fluctuations in unemployment rates (Macnicol 2006).

From the 1950s through the end of the 1980s, retirement was institutionalized in most developed countries due largely to availability of relatively generous public pension benefits for many retirees (Gruber and Wise 1998). Old age became synonymous with retirement as a phase of individuals' life courses in which workers were encouraged to leave the labor force (Phillipson 2005). During this period, paid labor force activities of older men declined sharply in most develop countries. In the United Kingdom, the labor force participation rate for men aged 65 years and older in 1921 was 60%, but by 1951 the rate had dropped to 32%. The figure continued to fall to 23% by 1971 and then to only 11% in 1981 (Macnicol 2006). With the increasing paid labor force participation of women, they too have increasingly been incorporated into the institutionalization of retirement in later life (Phillipson 2005).

Today, the number of pensioners (retirees) relative to contributors (workers) is increasing and this has raised serious questions about the sustainability of the traditional, PAYG defined-benefit pension schemes in many countries. Many are calling into question the viability of the implicit intergenerational contract that such schemes are based on. In 2003, total public pension expenditures in 25 European Union (EU) countries consumed one-eighth of the EU's total gross domestic product. In Italy in 2004, old-age pension expenditures absorbed 15% of the nation's gross domestic product (OECD 2007). In recent years, pension reform has become a highly charged issue in most developed countries; more than half of the OECD countries have made major changes in their public pension schemes during the past 15 years (OECD 2009b).

In recent years, one pension reform option that has received a great deal of attention has been to shift from a traditional PAYG-DB to a multi-pillar scheme that includes a defined contribution (DC) pillar (Williamson 2004). With a DC pillar what is promised is that a specified amount will be contributed each month, but no promise is made with respect to the size of that actual pension that will be paid based on those contributions. An individual or personal account is created for each covered worker with the funding based on contributions from that worker (often supplemented by contributions from the employer) via payroll taxes and the earnings (or loses) on those assets over the years when those assets are invested by private sector money management organizations in financial markets. This is typically done as part of a set of reforms designed to reduce the government's pension obligations and shift much of the risks associated with paying those pensions from the government to the individual worker.

Although public pension schemes in a majority of OECD countries are still based on the PAYG-DB model, an increasing number are introducing mandatory DC schemes (Cushing-Daniels and Johnson 2008). This trend has been particularly true in some developing parts of the world such as Latin America and Eastern Europe (Bockman and Eyal 2002; Brooks 2004). Because a DC scheme links pension income to the contributions to the account, this alternative provides workers with incentives to delay retirement and remain economically active longer than is the case with the traditional PAYG-DB alternative. DC schemes also reduce demographic risks, such as growth of the older population relative to the younger one, since pension benefits under a defined-contribution scheme do not rely on the earnings of younger generations (Williamson 2004).

Researchers on global aging are starting to pay increasing attention to a new pension model which some countries such as Sweden, Italy, Poland, and Russia have introduced; it is a new type of DC pillar. These countries have implemented notional defined-contribution (NDC) schemes which are based on PAYG financing, but like the DC schemes they also more closely link pension benefits to the individual worker's lifetime contributions than is typically the case with DB schemes. Workers have individual accounts, which record how much has been paid into the pension system via the payroll tax (sometimes including matching contributions from the employer). Under the NDC scheme, the individual account is notional (unfunded) and the analog of interest is the annual credit added based on the size of the account and trends in wage rates, not trends in financial markets (Williamson 2004).

By 2004, public old-age social insurance programs had come to be established in 167 countries, including some of the economically poorest countries (United Nations 2009b). However, in developing countries, public pension programs typically cover a much smaller fraction of workers than in most developed countries. Coverage rates of under 10% are not uncommon in very poor countries. For example, in Malaysia and Thailand, public pension coverage is restricted to certain categories of workers such as public sector employees, civil servants, and military personnel. Nearly one-third of countries in Africa that offer public pension benefits have a life expectancy less than the statutory pensionable age both for men and women. While the projected future costs of public pension schemes are a major concern, many developing countries are even more concerned about how they are going to finance their strategic development plans, particularly those linked to infrastructure, security, education, and health (United Nations 2009b).

Many countries around the world are facing less than enough government resources to cover all workers with pension benefits or in many cases even to pay the promised benefits to the few who are covered (Williamson, forthcoming). Globally, many are looking for ways to reduce the government obligation via reforms that at least partially privatize their existing PAYG-DB schemes. Many of these governments, including those of both developed and developing countries, are attracted to market-oriented partial privatization schemes that: promise less pension support from the government, shift much of the risks to workers, and creative incentives for works both to save more and remain in the labor force longer (Madrid 2003). More than 20 developing countries, including Chile, and many other countries in Latin America and Eastern Europe have introduced funded individual accounts DC pillars thereby partially privatizing their national pension schemes (Phillipson 2005).

The increasing prevalence of pension privatization worldwide, that in developing countries in particular, is of concern to some sociologists and economists who study global trends in pension policy (Schulz and Borrowski 2006). With such schemes financial security in old age depends on a number of factors that involve different forms of risk, of particular note in this context are: what worker is able to save, how those savings are invested, the fees assessed for managing these assets, and fluctuations in financial markets. The combined impacts of population aging, increasing global competition, and the potentially dramatic corrections in financial markets just before retirement, represent a huge shift of risk in many countries from the government to individual workers, many of whom can expect to end up with less than an adequate pension in retirement (Williamson, forthcoming).

In the midst of economic globalization, an increasing number of developing countries such as China are experiencing economic expansion and urbanization. As we know based on the past experience of many of the now developed countries, such social structural transformations tend to weaken informal, familial support for the elderly (Tirrito 2003). Without the protections provided by the traditional DB or the new NDC schemes, the trend toward greater pension privatization is putting millions of workers in both developed and developing countries at financial risk. These risks are problematic for most workers but particularly problematic for low-wage workers, older workers, and single widows in today's developing countries (Walker 2006).

Long-Term Care and Healthcare Worker Migrations

Over the last few decades, the demand for healthcare workers for older people has been increasing in many countries around the world (Kingma 2006). There will be a demand for home and community-based LTC workers to service the frail and disabled elderly. In 2004, there were 60 million healthcare workers worldwide, the majority of whom were LTC workers (WHO 2006).

Since the mid-1980s, many developed countries including Canada, the United Kingdom, and the United States, have promoted aging-in-place for the care of the elderly. In many of these countries, an effort is being made to shift the major site for elderly healthcare from institutions (e.g., hospitals and nursing home) to home and community-based locations (Center for Health Workforce Studies 2006). This promotion of aging-in-place has increased the demand for home and community-based LTC services designed to provide older people with social, medical, and health support in their residential settings and local environments (Connell 2008). In addition, the ever-increasing cost of LTC in an institutional context has also contributed to the demand for home and community-based LTC services. Compared to traditional, institutional care, home and community LTC is much less costly. In the United States, whereas the LTC average cost is $70,900 per year for nursing home care, 4 h/day of care from a home health aide only averages $36,500 a year (Feder et al. 2007).

Many countries around the world have been formulating a global market of LTC workforce. Due partly to declining birth rates, increasing divorce rates, and increasing female employment, developed

countries are increasingly facing shortages of LTC workers. In the United States, over $207 billion was spent on LTC in 2005, and by 2010 the demand for LTC workers is projected to increase by about 64% (Center for Health Workforce Studies 2006). This growing demand has made the developed countries major employers and importers of LTC workers from the global LTC workforce. Over the last three decades, the migration of healthcare workers has increased significantly. In the United States, where foreign-born workers accounted for only 5% of the total LTC workforce in 1980, the figure increased to 17% by 2003 (Clearfield and Batalova 2007).

In the midst of global concern over the LTC workforce shortage, developing countries are being gradually integrated into the global market for LTC workers. Many are becoming major suppliers of LTC workers for the developed countries (Browne and Braun 2008). Over the last two decades, the governments of many developing countries have encouraged their younger workers, women in particular, to provide LTC services for the elderly in developed countries. The Philippines is the world's leading LTC workforce exporter. Since the mid-1990s, the Philippine government has supported the education and exportation of many Filipinas as LTC workers, mainly as nurses and nurse aides. The reason is the financial benefits to the country from money remitted by these workers back to their families in the Philippines (Ball 2008).

Many developing countries currently benefit economically from their role as exporters of LTC workers (United Nations 2008). However, there are also potential long-term costs to these same countries do to labor shortages in their own countries (Hussein and Manthorpe 2006). By some projections, the need for elderly healthcare in developing countries will increase by as much as 400% over the next 20 years (WHO 2006). According to the World Health Organization (2006), health worker density (the ratio of health workers to the total population) needs to be at least 2.5 workers per 1,000 people. Among 186 countries worldwide, 75 countries do not meet this condition. About 45 of these 75 countries are in sub-Saharan Africa area (WHO 2008). While countries in Sub-Saharan Africa today have about 11% of the world's population and 24% of the global burden of disease, these countries have only 3% of the world's healthcare workers (WHO 2006). As developing countries are further integrated into the global labor market for LTC providers, more of their younger workers will be immigrating to developed countries in search of economic opportunities in the LTC area. This trend is likely to make it more difficult from many of these countries to adequately meet their own needs for long-term elder care (Browne and Braun 2008).

Directions for Future Research

We have presented evidence suggesting that, in the decade ahead, population aging, economic globalization, and the intersection of these two global trends are likely to be powerful determinants of the quality of life for the older population around the world. As mentioned in the introduction of this chapter, global aging is partly a result of improved healthcare and development of age-related social welfare programs around the world. It can be viewed as an indicator of a society's ability and commitment to providing well for its older population. Many of these older people continue to make important contributions to society, some as paid workers, some as family caregivers, and some through their unpaid service to the local community (Harper 2006; National Research Council 2001).

However, the global aging and economic globalization are also creating major challenges in both the developed and the developing countries around the world. Elders living in the developing countries will generally be at greater risk than those in the developed countries. Today's developing countries are relative newcomers to the challenges of population aging. Many developing countries are confronting the burden of adequately providing for the well-being of their elderly while at the same time contending with both the fiscal problems associated with rapid population aging and the economic challenges with respect to their integration into the ever more competitive global economy.

The burdens of providing for their elders are likely to be particularly difficult in the areas of living arrangements, healthcare policies, financial security in later life, and LTC for the elderly. These burdens will be very challenging when dealing with the needs of some high-risk groups such as the disabled and various categories of economically vulnerable and socially marginalized elderly women, such as widows, the never married, those without adult children, and, in some regions, women responsible for the care of their grandchildren due to the death of their adult children often linked to diseases such as AIDS. In many developing countries around the world, during the decades ahead, population aging in combination with economic globalization is going to pose a number of major risks for the older population (Brooks 2004; Estes and Phillipson 2002).

While there has already been a substantial amount of research and much has been said about the potential global impact of population aging on the well-being of the older population around the world, there has been very little research that has attempted to deal with this set of issue using life course analysis. Further research is needed to better understand and help policy makers prepare for the impact of population aging and the risks associated with population aging in the context of economic globalization at different life course stages. This is particularly true for the developing countries. For those interested in conducting research designed to help meet this need, we suggest the following three directions for future research on global aging.

First, it would be very useful to have data, particularly for developing countries, on both objective and subjective quality of life measures suitable for life course analysis, including data from both men and women. The relative lack of such data makes it difficult to compare various forms of inequality across the life course in developing countries and between those in developed and developing countries at comparable life course stages (Phillipson 2005). More high quality data would also enable researchers who deal with the issue of global aging to come up with more useful and well-informed policy suggestions.

Second, research on global aging would benefit from paying greater attention to the roles of transnational financial organizations in shaping the future of old-age policy and the related experience of being old, particularly in developing countries. The International Monetary Fund, World Bank, and World Trade Organization, to name a few, have played key roles in facilitating economic globalization and in promoting market-oriented old-age social policies (Estes and Phillipson 2002). Since World War II, these transnational organizations have actively lowered barriers to international trade between countries and have been attempting to limit spending on social security programs by introducing market-oriented alternatives (Deacon et al. 1997). In the area of public pension reform, for instance, these organizations have argued for reducing state PAYG-DB schemes to the minimal or residual role of providing a very modest old-age pension and promoting an expanded role for individualized and capitalized private pensions (Brooks 2004; Estes and Phillipson 2002). The World Trade Organization has also placed enormous pressure on its member countries to further open-up health and social welfare programs to competition from global corporate providers (Campbell and Pedersen 2001).

As global social forces, population aging and economic globalization are best analyzed in tandem, rather than independently. Transnational financial organizations have taken active roles linked to both these social forces (Phillipson 2005). In order to gain a better understanding of the unequal distribution of the risks associated with aging and old age, particularly the likely differences between old-old and new-old parts of the world for the decade ahead, research on global aging would benefit from a close observation and detailed critical examinations of the roles played by these organizations. The impacts of these organizations are not limited to the elderly; it would also be useful to apply life course analysis to the assessment of these impacts, particularly for those living in the developing world.

Finally, theoretical work is needed to more adequately theorize the links between global aging, economic globalization, and social policies designed to deal with the well-being of workers across the life course up to and including old age. The social forces associated with population aging and economic globalization have implications for the forms that inequality takes, the consequences of

those inequalities, and the risks that workers and their families are subjected to at all stages of the life course.

What is needed is more effort to modify or extend existing theories to better account for the trends that are emerging. To dates the links are under theorized. Hitherto, research on global aging has largely failed to theoretically address the ways in which inequalities between developed and developing parts of the world and vulnerable populations in developing countries are being produced (Estes and Phillipson 2002; Phillipson 2005). In their theorizing about globalization, Bauman (1998) and Beck (2001), characterize our contemporary societies as operating in an age of individualization, privatization, and of each worker being responsible for his or her own risks. In this era of rapid global aging, there has been a ideological shift to the right in thinking about social welfare issues, a shift from less focus on looking to the government programs for answers and more focus on individuals being responsible for coping with risk during old age and over the life course (Beattie and McGillivray 1995). At the same time that demographic pressures associated with social welfare programs are increasing, transnational financial organizations have been fostering a shift to greater individual responsibility for securing resources for healthcare, financial security, and LTC in later life, particularly for those living in developing countries (Deacon et al. 1997; Walker 2006). From Bauman's (1998) and Beck's (2001) theoretical view, these transnational financial organizations can be understood as one of the main agents that have been promoting an ideology of individual or local solutions for globally generated problems.

In light of a twenty-first century characterized by unprecedented global population aging and an ever intensifying global economy, research on global aging may need to reclaim the sociological imagination that Mills (1959) called for. Future research on global aging is needed to construct theoretical accounts that trace the links between individual risks in later life and the broader social structural forces including global population aging and economic globalization. Despite the growing ideology of individual solutions for global problems, future research on global aging framed by critical sociological imagination is needed to better inform social policies calling for greater attention to social, collective, solidaristic, and communitarian solutions for the globally generated problems associated with aging and old age around the world.

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