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Fostering Inclusive Growth & Promoting Intergenerational Equity in an Ageing Asia-Pacific

Manuel Mejido Costoya

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ESCAP Subregions

East & North-East Asia (E&NE)	China (CHN), Democratic People's Republic of Korea (PRK), Hong Kong – China (HKG), Japan (JPN), Macao – China (MAC), Mongolia (MNG), Republic of Korea (KOR)
North & Central Asia (N&C)	Armenia (ARM), Azerbaijan (AZE), Georgia (GEO), Kazakhstan (KAZ), Kyrgyzstan (KGZ), Russian Federation (RUS), Tajikistan (TJK), Turkmenistan (TKM), Uzbekistan (UZB)
The Pacific (Pacific)	American Samoa (ASM), Australia (AUS), Cook Islands (COK), Fiji (FJI), French Polynesia (PYF), Guam (GUM), Kiribati (KIR), Marshall Islands (MHL), Federated States of Micronesia (FSM), Nauru (NRU), New Caledonia (CNL), New Zealand (NZL), Niue (NIU), Northern Mariana Islands (MNP), Palau (PLW), Papua New Guinea (PNG), Samoa (WSM), Solomon Islands (SLB), Tonga (TON), Tuvalu (TUV), Vanuatu (VUT)
South-East Asia (SE)	Brunei Darussalam (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA), Timor-Leste (TLS), Viet Nam (VNM)
South & South-West Asia (S&SW)	Afghanistan (AFG), Bangladesh (BGD), Bhutan (BTN), India (IND), Islamic Republic of Iran (IRN), Maldives (MDV), Nepal (NPL), Pakistan (PAK), Sri Lanka (LKA), Turkey (TUR)

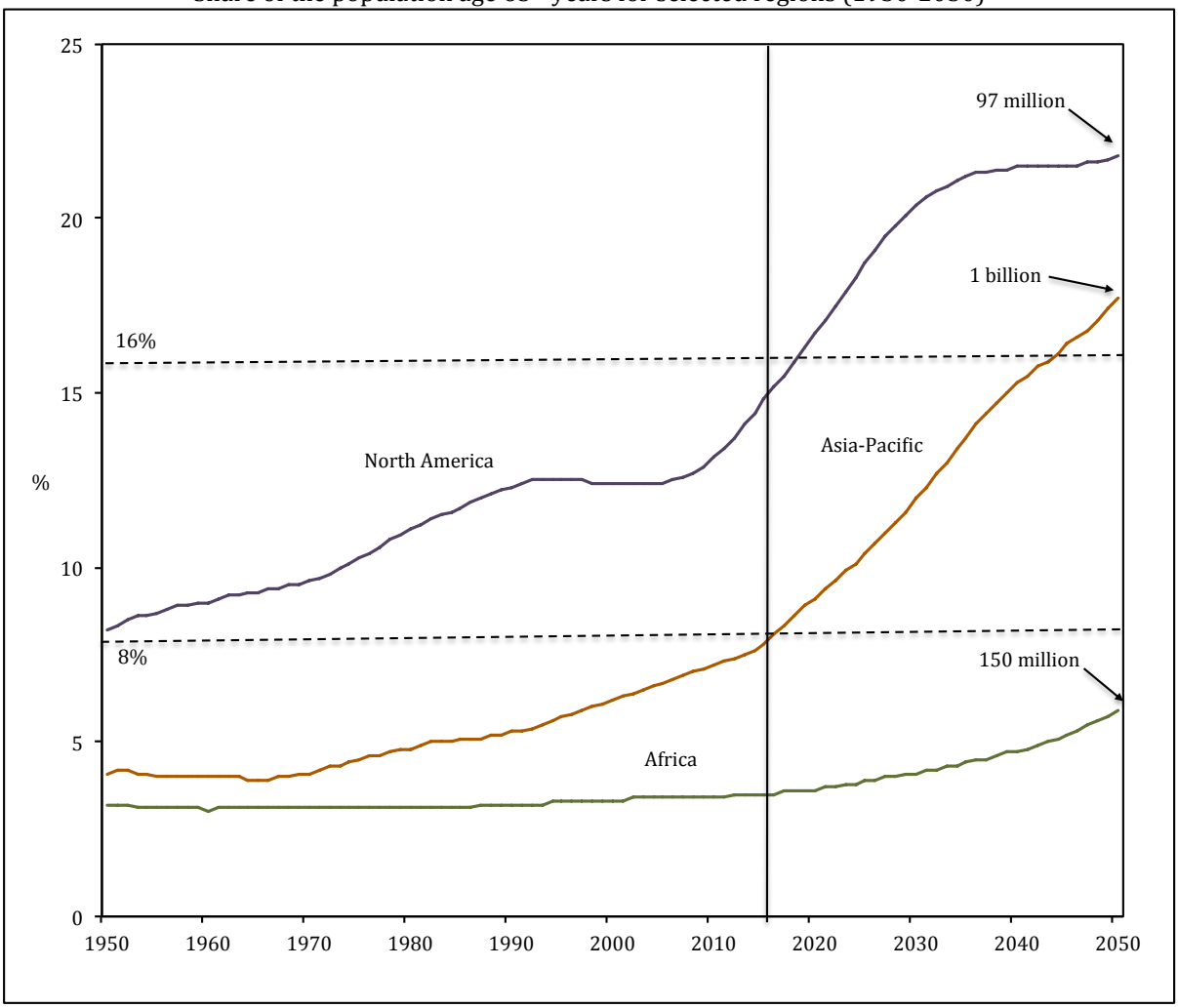
Chapter 1

The Greying of Asia-Pacific

Population ageing is rapidly transforming the region

Population ageing will be one of the defining trends in Asia and the Pacific in the decades to come. Because it comprehensively reflects changes across the entire age distribution, the most felicitous measure of population ageing is median age, the age at which exactly half the population is older and another half is younger. More intuitive for non-specialists and perhaps also more expedient for teasing out policy implications, the share of older persons is also used as an indicator (Gavrilov and Heuveline, 2003). Though the United Nations (UN) uses 60+ years to denote older persons, 65+ years is used to construct several statistical measures. In terms of sketching the regional demographic scenario, whether the mean age or the share of older persons, or whether 60+ or 65+ years are used is trivial.

Figure 1.1
Population ageing is transpiring in Asia and the Pacific at an unprecedented rate
Share of the population age 65+ years for selected regions (1950-2050)



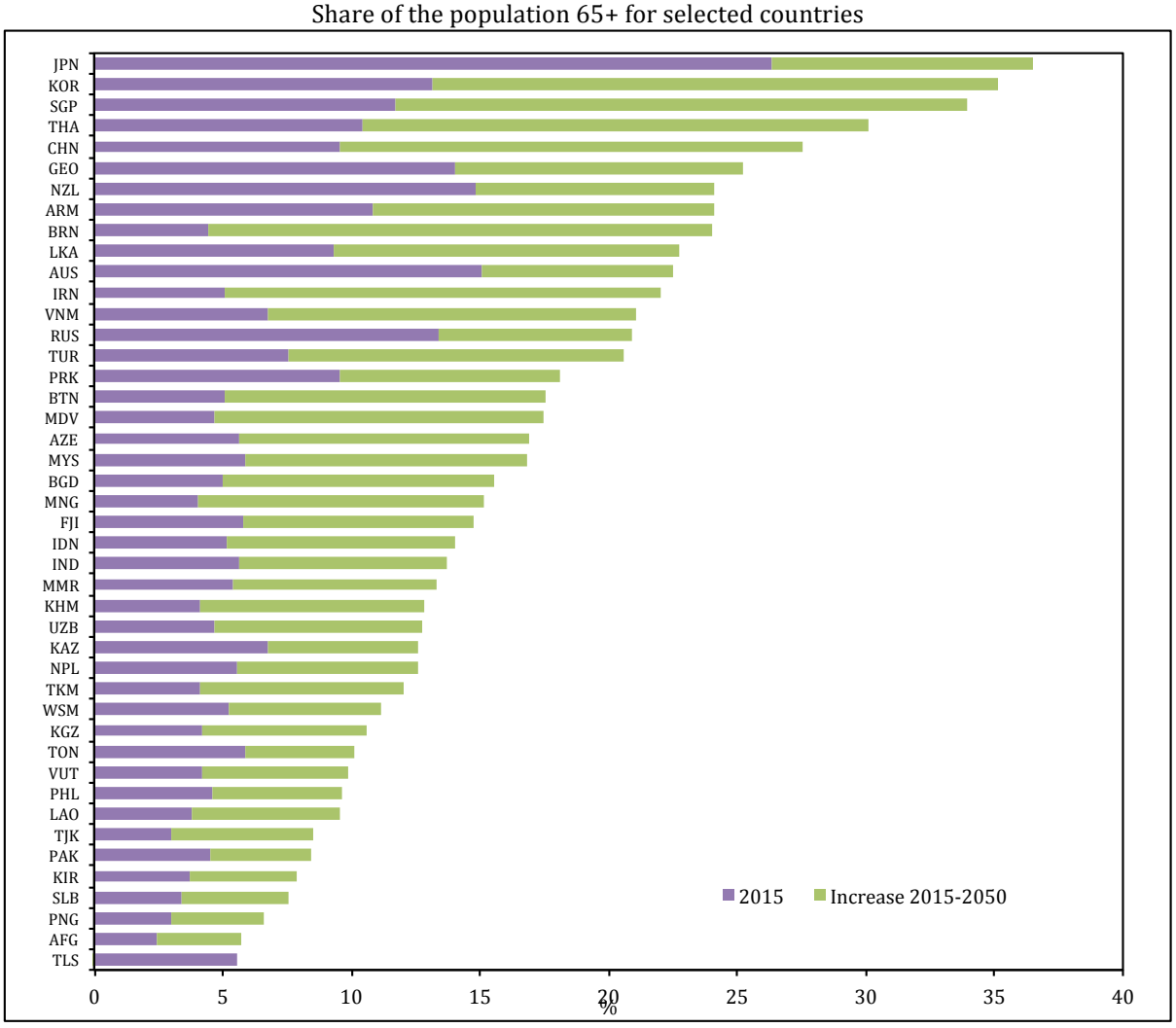
Source: ESCAP Online Statistical Database.
Note: The medium variant projection is used throughout the report unless otherwise indicated.

A comparison with another of the world's developing regions – namely, Africa – highlights Asia-Pacific's unique demographic predicament. Over the next 35 years, the

share of persons 65 years or older is expected to increase by more than double in the Asia-Pacific region, from seven to 18 per cent (figure 1.1). In Africa, by contrast, the share of this cohort will remain practically unchanged at around five per cent during the same period. While in Asia and the Pacific the number of older persons is expected to reach one billion by 2050, in Africa this population group is projected to reach about 150 million, or about 15 per cent of the Asia-Pacific total.

Indeed, the demographic scenario facing these two developing regions could not be more diametrically opposed: Africa will need to give pride of place to harnessing and protecting a youthful population. Taken as a whole, the Asia-Pacific region will need to prioritize the harnessing and protection of an ageing population.

Figure 1.2
Countries will experience a considerable increase in the number of older persons
Share of the population 65+ for selected countries

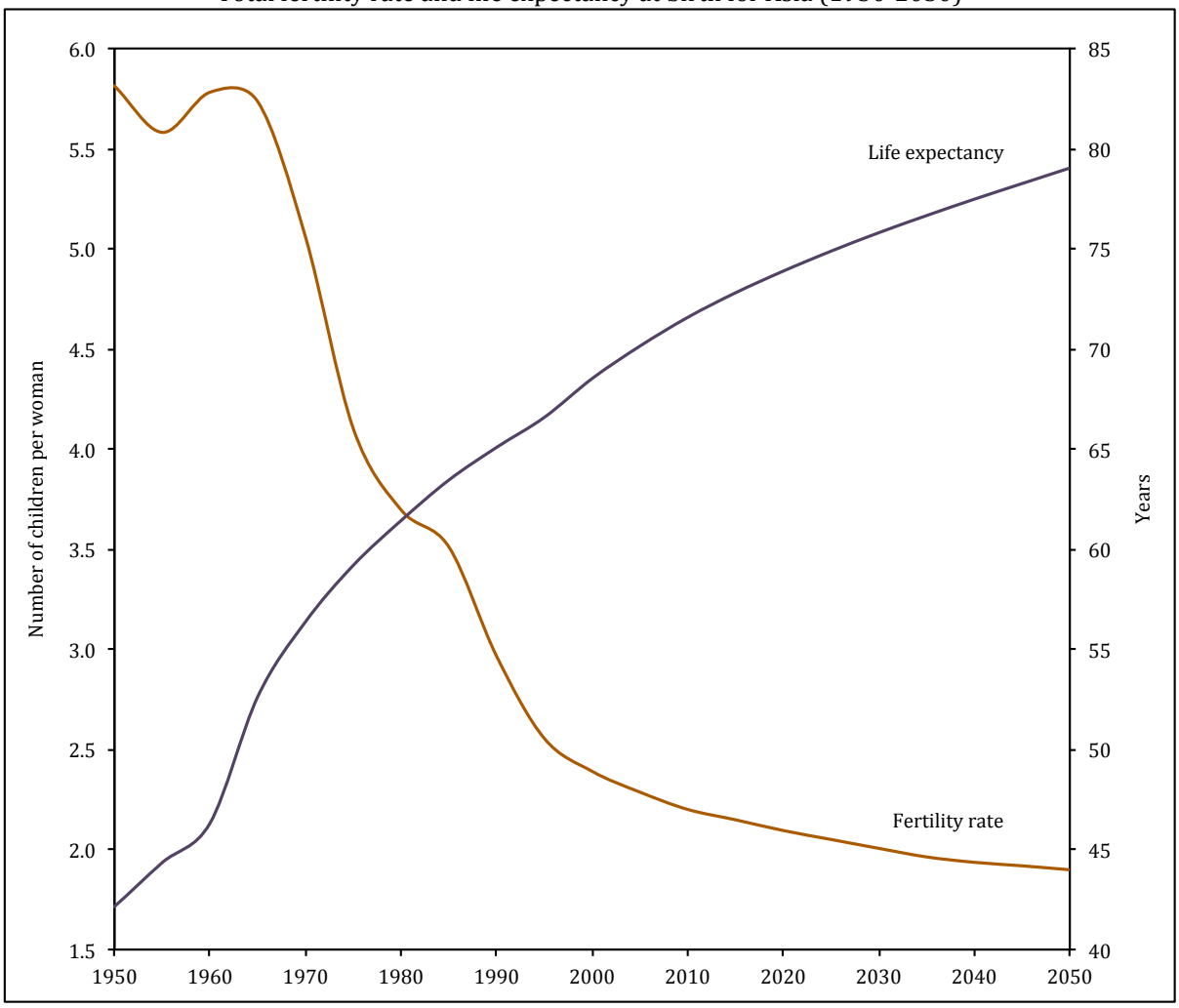


Source: DESA (2015).

Perhaps more than the absolute or relative increase in the number of older persons, it is the rate in which the population of Asia and the Pacific is ageing that will prove to be the most significant challenge to the countries of the region. By historical standards, the region is ageing at an unprecedented pace (Chinese Academy of Social Sciences et al., 2011). It is projected that in North America (that is, Canada and the United States) it

will take approximately 68 years (1950-2018) for the share of the population aged 65 and older to double from eight to 16 per cent (figure 1.1). Asia and the Pacific, by contrast, will experience an equivalent increase in only 27 years (2016-2043). This fast rate in which population ageing is transpiring in the region implies that countries will have less time to develop the necessary policy and behavioral responses. Indeed, the affluent region of North America had nearly three-quarters of a century to prepare for demographic ageing. The considerably poorer Asia-Pacific region will only have a quarter of a century.

Figure 1.3
Plummeting birth rates and a sharp rise in longevity has driven the demographic transition in the region
Total fertility rate and life expectancy at birth for Asia (1950-2050)



Source: DESA (2015).

Country-specific data illustrates the extent of population ageing in Asia and the Pacific (figure 1.2). With the exception of Timor-Leste, all countries in the region will experience a substantial increase in the share of the population aged 65 years or older. Japan, the Republic of Korea and Thailand, for example, are projected to have the largest proportion of older persons, at over 30 per cent. In other countries, such as Brunei Darussalam, the Islamic Republic of Iran, the Maldives and Viet Nam, the share of the ageing cohort is expected to triple, or even quadruple by 2050.

In all its heterogeneity, the demographic shift from a youthful to a more mature Asia-Pacific is Janus-faced. Population ageing, on the one hand, points to the triumph of development in the region. Due to decades of remarkable economic growth and investments in social infrastructure (e.g., food security, health care and education), living standards have drastically improved, allowing hundreds of millions to live longer and better lives. The notable improvements in life expectancy have combined with falling fertility rates to facilitate the demographic transformation (figure 1.3). In 1950, a woman in Asia would on average have six children during her lifetime and a newly born child would live until the age of 43. A century later, the fertility rate in the region has dropped precipitously to around two children per woman – right around the replacement level – and life expectancy is close to 80 years.

In addition to fertility and mortality rates, the conventional demographic framework tells us that migration is the third variable that needs to be considered when assessing the region's demographic transition. As migrants disproportionately come from young and prime-adult cohorts, substantial net immigration can attenuate population ageing, while conversely, substantial net emigration can accelerate this demographic dynamic. Though there are about 60 million migrants in Asia and the Pacific, accounting for a quarter of the world's international migration stock, international migration will continue to have a negligible role either in attenuating or accelerating the greying of the region. As substantial as regional migratory flows may be, they are small in comparison to the size of the overall population of Asia and the Pacific.

An indication of the small impact migration has on population change in the region is the fact that, along with Africa, Asia and the Pacific has the lowest net migration rate in the world. For example, between 2010 and 2015 the net migration rate for the region was -0.4, which means that, on average, every year during this five-year period, one individual emigrated from Asia and the Pacific for every 2,000 inhabitants. This is nine times smaller than the net migration rate of North America during the same period (3.5) and seven times smaller than Western Europe's rate (2.7). Moreover, in contrast to Asia and the Pacific, there was net immigration in both of these regions (DESA, 2015).

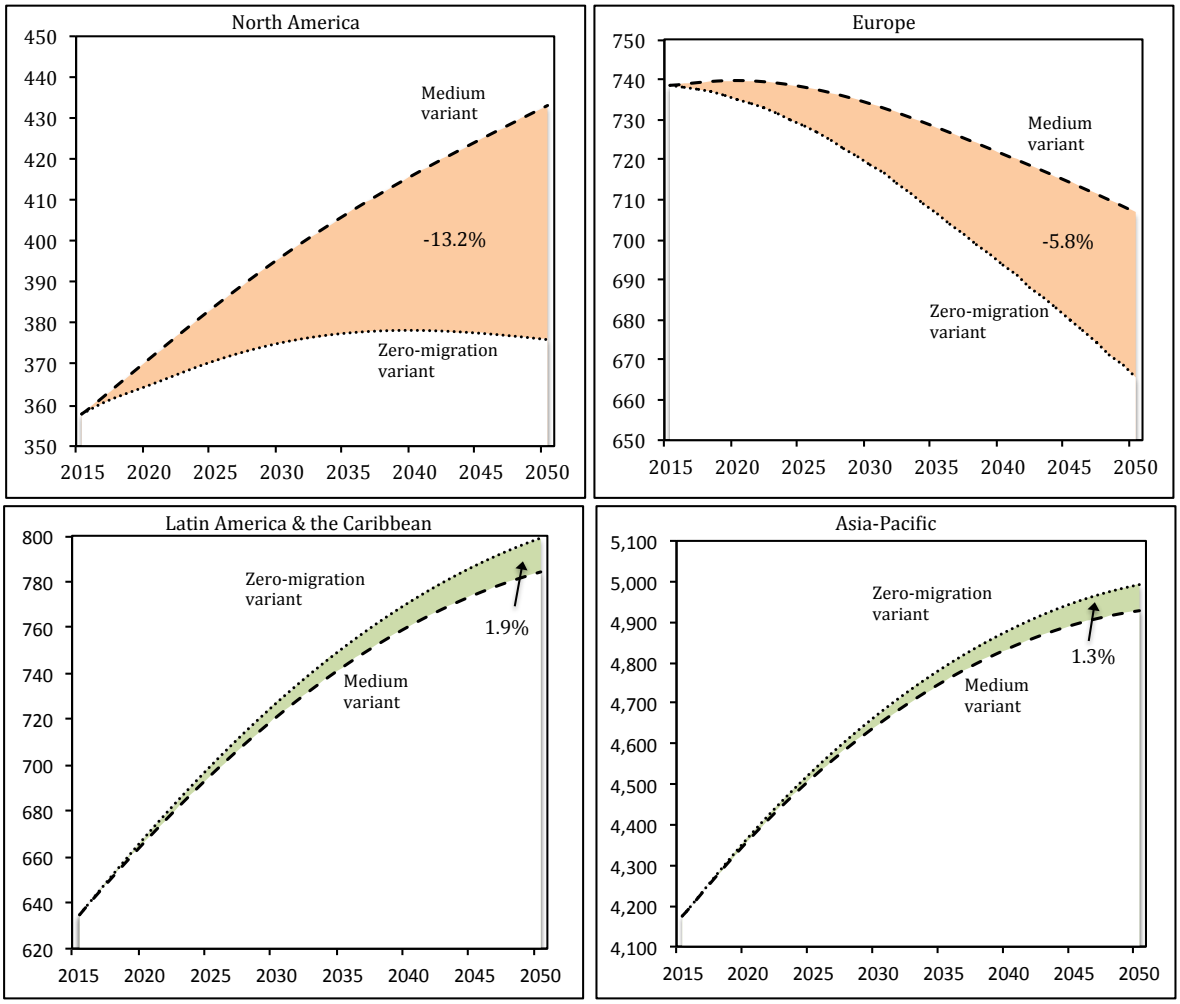
Perhaps a more forceful way of illustrating the negligible role of migration vis-à-vis the region's demographic transition is to compare the medium variant projections, which operate under the "normal migration assumption,"[1] with the zero-migration variant, which sets international migration to zero, across regions (DESA, 2000). Figure 1.4 provides these two projections for Asia and the Pacific, Latin America and the Caribbean, Europe and North America, for the period 2015-2050. The shaded areas between the two projections indicate the difference between the zero-migration and medium variants. This difference can either be positive, in the case of net emigration, or negative, in the case of net immigration. The percentage provided is the difference between these two projections, expressed in terms of the medium variant.

[1] Under the normal migration assumption, the future path of international migration is extrapolated from historical international migration estimates and consideration of the policy stance of each country with regard to future international migration flows (DESA, 2012).

[2] In a famous passage from Notebook VI of *The Grundrisse*, Marx refers to Thomas Malthus as a "baboon" for his naïve demographic determinism that failed to take into consideration the manner in which population dynamics are mediated by the specific historical conditions of production (1973).

By 2050, the zero-migration scenario would reduce the populations of North America and Europe by 13 per cent and six per cent respectively. In both of these regions, the rate of immigration is greater than the rate of emigration. In North America immigration would be the difference between the start of a decline in the size of the population by 2040, or a more or less linear rate of increase through 2050. While in Europe, immigration would cause the size of the population to decrease at a much smaller rate. By contrast, emigration is greater than immigration in the two developing regions: The zero-migration scenario would increase the populations of Asia and the Pacific and Latin America and the Caribbean by about one-and-a-half per cent and two per cent respectively. Reflecting the differences in net migration rates, migration will have a much smaller impact on the population dynamics of the developing regions.

Figure 1.4
Migration will continue to have a negligible impact on the demographic transition across the region
Difference between the zero-migration and medium variants for selected regions (in millions) (2015-2050)



Source: DESA (2015).

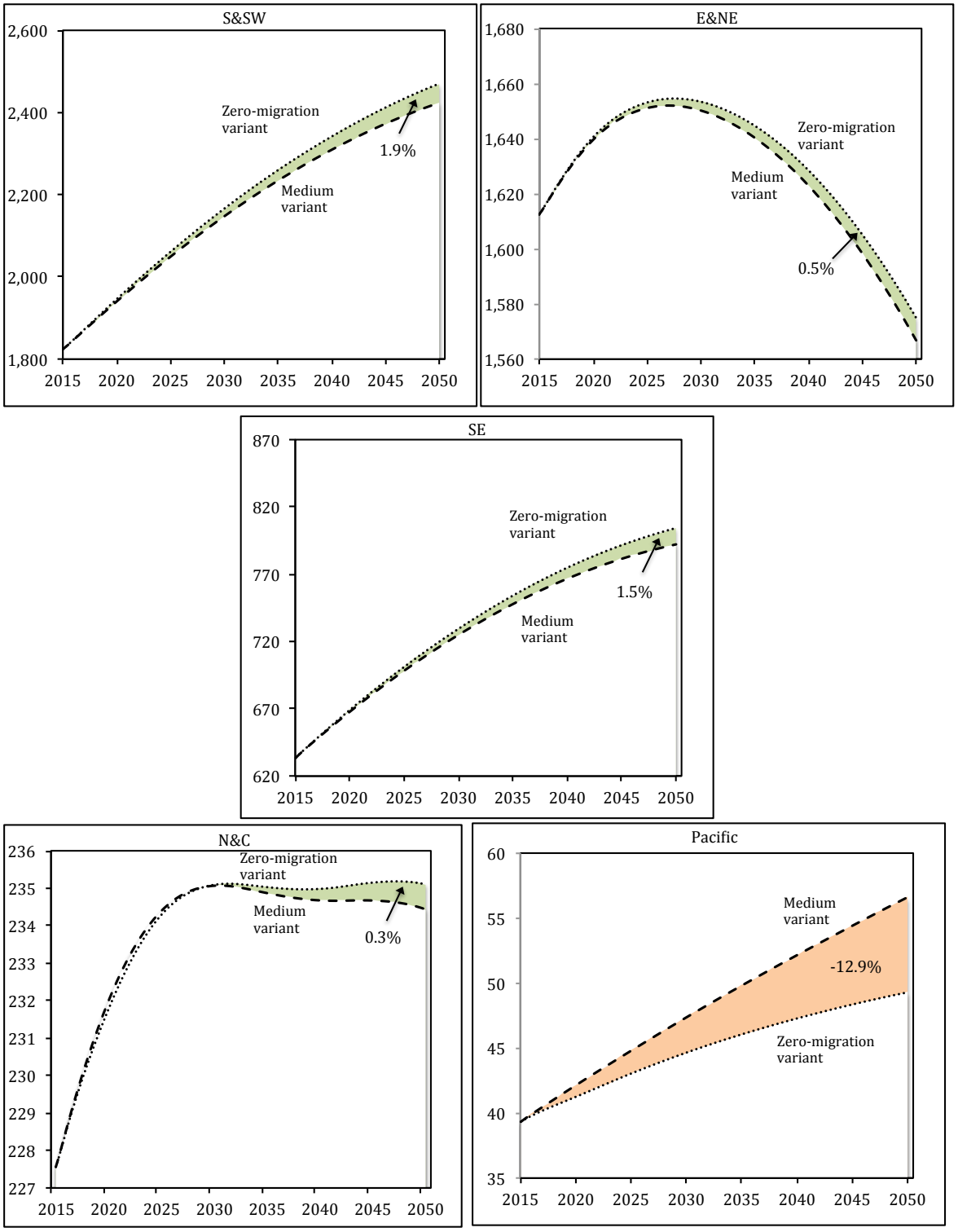
In the final analysis, what should be gleaned from figure 1.4 is that Asia and the Pacific has the smallest difference between variants of the four regions. This suggests that in Asia and the Pacific migration will continue to play a small role in the demographic

transition, population ageing in particular. The small difference that exists between the medium and zero-migration variants in Asia and the Pacific implies that even an important shift in the historical pattern of migratory flows and a substantial change in relevant policies – the assumptions that change under the two scenarios (see footnote 1) – would not alter the state of affairs. Even if the international migration stock were to double in the region, migration would continue to play a minor role in overall population dynamics. This does not bode well for the efficaciousness of migration policy in managing the economic and social consequences of population ageing, as will be teased out below. Furthermore, as will be made clear throughout this report, population ageing has to do more with relative shifts in age structure than with absolute changes in the size of a population. Given this, figure 1.4 should not be misinterpreted: Migration is said to have a negative impact, not so much because it will at best have an infinitesimal effect on the size of the population of Asia and the Pacific, but because it will not have a substantial effect on the structure of the region's population.

Given the vastness and diversity of Asia and the Pacific, there are, as expected, some subregional variations in terms of migratory flows. Yet, with the possible exception of the Pacific subregion, the observation that has just been made about migration and population dynamics holds at the subregional level. Figure 1.5 compares the medium and zero-migration variants for the five ESCAP subregions for the period 2015-2050. The difference between South and South-West Asia, East and North-East Asia, South-East Asia and North and Central Asia, on the one hand, and the Pacific, on the other, is stark.

The difference between the medium and zero-migration variants is over ten times larger in the Pacific than in the other four subregions. By 2050, the zero-migration scenario would reduce the population of the Pacific by around 13 per cent, while this scenario would increase the population of the other subregions by between less than half of a percentage point, in the case of North and Central Asia, to about two per cent, in the case of South and South-West Asia. Thus, not only is migration relatively more prevalent in the Pacific, in this subregion net immigration is greater than net emigration, while the inverse is the case in the other four subregions. This variation is obfuscated at the regional level by the relatively small size of the population of the Pacific. The populations of South and South-West Asia and East and North-East Asia are larger than the population of the Pacific by an order of magnitude of 100, for example.

Figure 1.5
Migration will have the greatest demographic impact in the Pacific
Difference between the zero-migration and medium variants for the Asia-Pacific subregions (in millions) (2015-2050)



Source: DESA (2015).

Population ageing will pose important challenges to inclusive growth and social equity

Driven by falling birth rates and increasing life expectancy, the growing proportion of older people poses major challenges to the three pillars of sustainable development. This report, however, will focus only on the economic and social pillars. The consequences of ageing on development have been studied mainly from the economic and social points of view, though environmental ramifications are increasingly being explored. Indeed, while some studies on ageing and environmental sustainability have begun to surface, especially in relation to inclusive disaster risk reduction, for the most part, research on the nascent field of environmental gerontology still remains inchoate in the region.

As the overview of regional demographic trends will make apparent, population ageing will pose important challenges to economic and social development – that is, to inclusive growth and social equity – in Asia and the Pacific in the decades to come. The shift to a more mature age structure will stifle productive capacities, strain already fragile social protection systems, and impinge the ability of societies to promote the well-being of an increasing number of older persons.

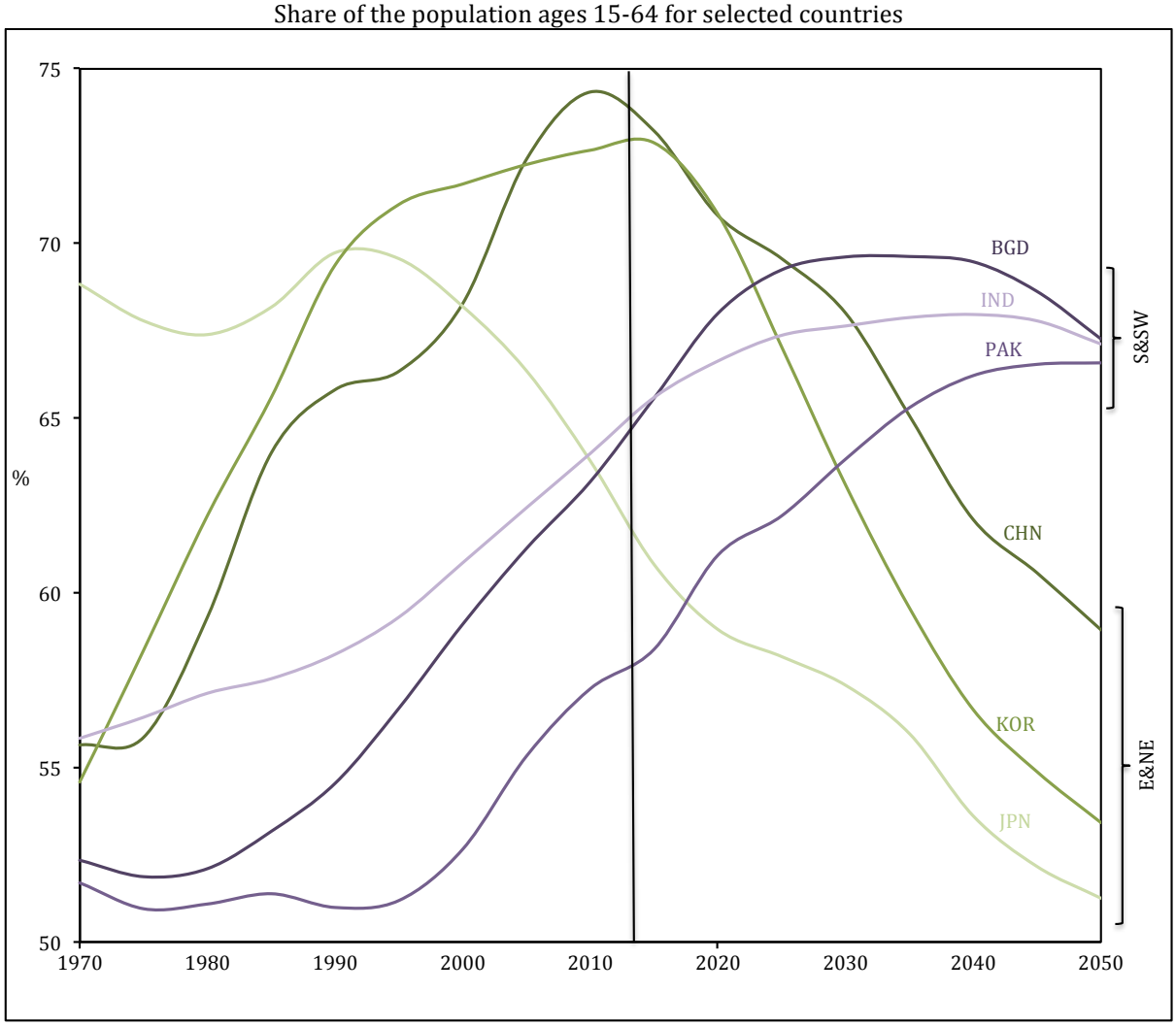
There is broad consensus that population ageing poses a significant challenge to economic growth. The reason for this is rather intuitive: A rise in the share of older persons causes a relative decrease in the working-age population (that is, the population age 15-64 years). This decrease in turn leads to a contraction of the supply of labour that stifles a country's productive capacities. Though population ageing will be ubiquitous in the region, not all Asia-Pacific countries face the same demographic scenarios or labour under the same resource constraints. Indeed, countries in the region face different demographic "windows of opportunity."

Typically, discussions of demographic windows of opportunity have gravitated around arguments in favour of the "youth dividend," that is, of an economic bonus generated by an increase in the prime-adult working age, and consequent growth in inputs of labour, that is associated with a youthful age structure. By this account the Asia-Pacific region would be in dire straights economically as a large number of countries are expected to experience a decrease in the share of the working-age population. Indeed, only those still youthful countries would still be in a position to gain from their demographic situation. This account, however, overlooks the possibility that rapidly ageing or already old countries could harness a "longevity dividend" that would – at least partially – counter the adverse consequences of a decrease in the relative size of their working-age population. This report will explore the challenges and opportunities countries in the region have for tapping a longevity dividend.

Figure 1.6 contrasts the trends in the working-age population of six countries from two subregions that exemplify the different demographic scenarios under which the region is ageing, namely South and South-West Asia and East and North-East Asia. The share of the working-age population in the three countries of South and South-West Asia will increase during the next three decades, thus confirming their young age structure. In Bangladesh the inflection point will be reached in around 2025 when just over 70 per cent of the population will be of working age; and it will remain at this level for 15 years

before it begins to decrease toward 2040. India and Pakistan will reach their inflection points approximately a decade later, in 2035, though they will have less of a percentage increase in the working-age population. These countries – Bangladesh and Pakistan in particular due to the rate and magnitude of increase – are, therefore, in an ideal position to reap a youth dividend and use this "first demographic dividend" to prepare for the transition to an ageing society and the subsequent "second demographic dividend" associated with increased longevity.

Figure 1.6
Changes in the working-age cohort point to different demographic windows of opportunity
Share of the population ages 15-64 for selected countries

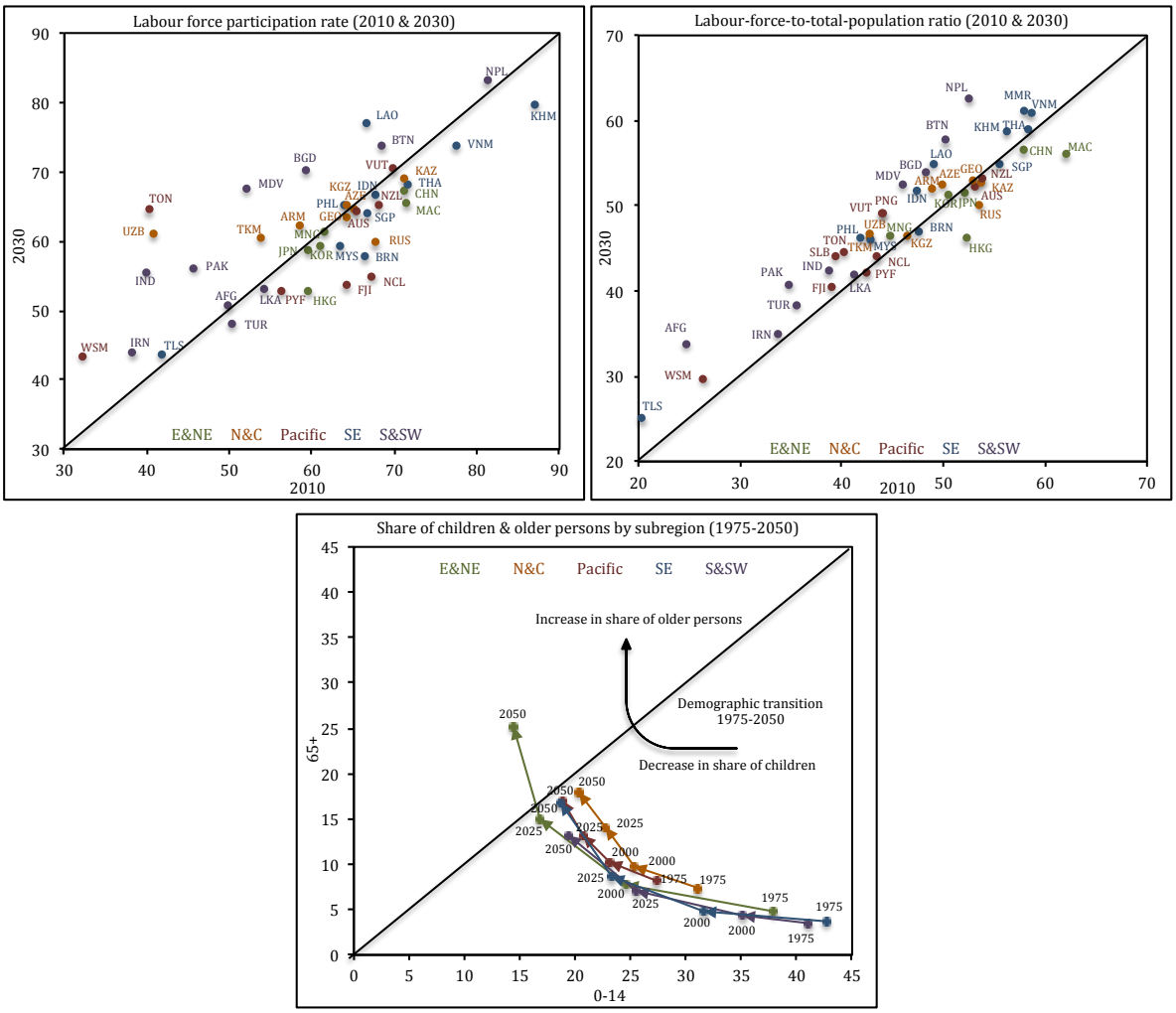


Source: DESA (2015).

In contrast, the share of the working-age population for the three countries of East and North-East Asia will decrease in the decades to come. The size of Japan's working-age population reached its zenith in about 1990 around the time China and the Republic of Korea were facing the final phase of a first demographic dividend. Having the oldest population in the region, Japan was thus the first country to enter the window of opportunity for the second demographic dividend – an opportunity it will continue to have at hand in the decades to come. China and the Republic of Korea experienced their inflection point a couple of years back. In the next decades the proportion of the

working-age population for these two countries is expected to drop precipitously, and hence joining Japan in attempting to tap a second demographic dividend.

Figure 1.7
Labour force projections becomes less dismal when considering relative changes across the entire population
Various demographic indicators (%) for Asia and the Pacific



Source: ILOSTAT Database; ESCAP Online Statistical Database; and DESA (2015).

As working-age individuals represent a disproportionate amount of the labour force, the shift toward more mature societies tends to put downward pressure on labour force participation rates (LFPRs). The upper-left panel of figure 1.7 plots the projected change in this indicator between 2010 and 2030 for 42 Asia-Pacific countries. Consistent with the ageing of the region, the LFPR is projected to decrease in 22 – or more than half – of the countries (that is, those situated below the diagonal line). In 13 countries the rate will increase; and the change will be negligible in seven countries.

As is expected, all of the countries of the rapidly ageing East and North-East Asia will experience a decrease in LFPR, while the young countries of South and South-West Asia will experience an increase. There is no clear trend in the Pacific, with Fiji and New Caledonia expected to undergo substantial decreases in LFPR, while Samoa and Tonga expected to undergo substantial increases. Lao People's Democratic Republic will

experience an increase in LFPR, breaking with the dominant trend in South-East Asia. The Russian Federation will experience a decrease, distinguishing itself from the other countries of the North and Central Asia, which are expected to experience either an increase or remain practically unchanged.

Focusing solely on the LFPR can be misleading, however. Not taking into consideration the falling fertility rates that are concomitant with population ageing, and, consequently, the decline in the share of the youngest cohort (ages 0-14), this indicator could potentially overstate the adverse affects of ageing on labour productivity. Indeed, as is the case across the globe – and particularly in developed regions – Asia-Pacific is undergoing a shift in the balance between the share of children and older persons. For the first time in history, in 2050, the proportion of the population 65 years and older is expected to surpass or achieve parity with the proportion of the population age 0-14 (DESA, 2013a).

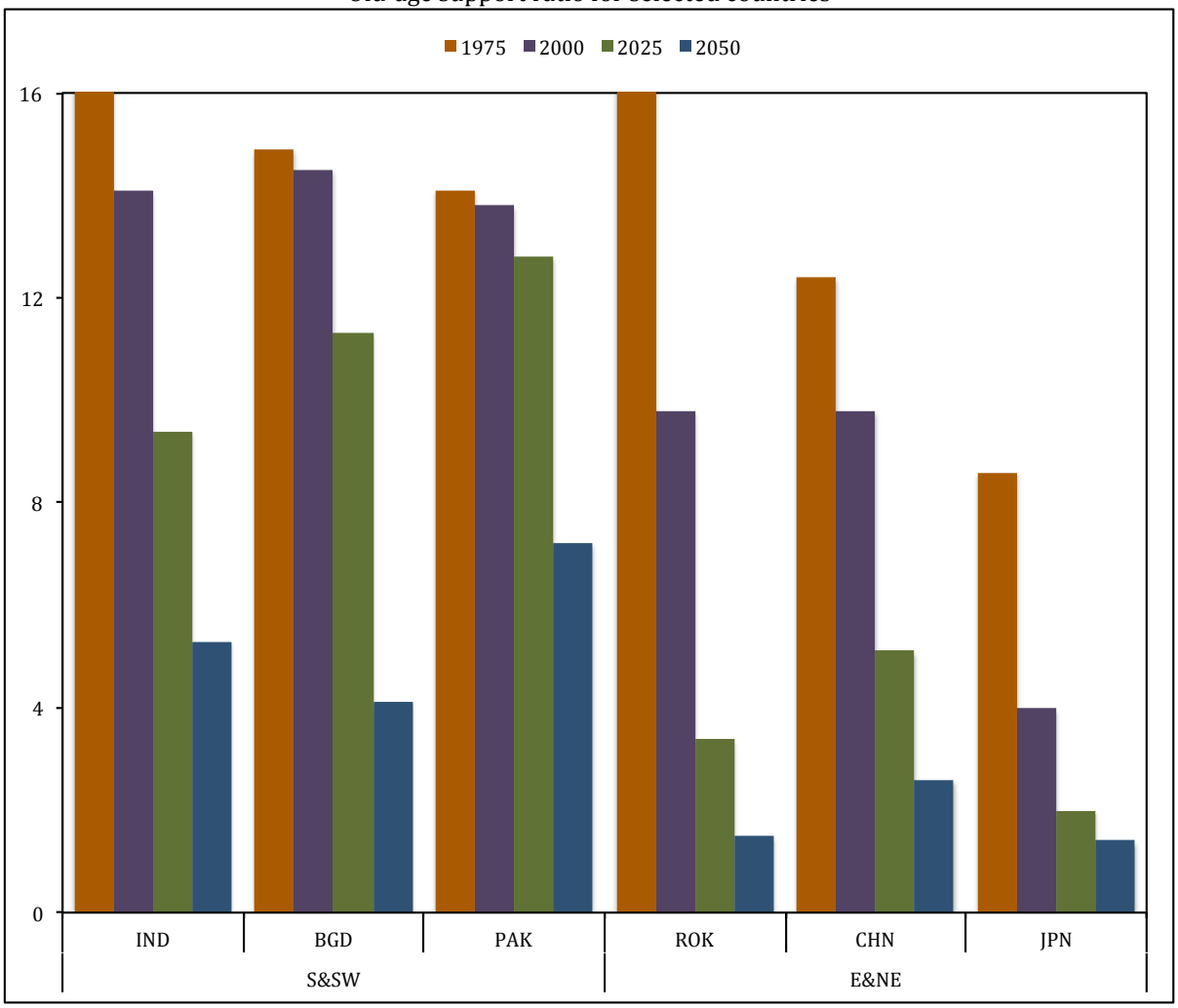
The bottom panel of figure 1.8 plots these two cohorts from 1975 to 2050 in 25-year intervals for the five Asia-Pacific subregions. In 1975, across the region, the share of children was four to nine times larger than the share of older persons. By 2050 it is projected that the share of older persons will substantially surpass the share of children in East and North-East Asia (25 per cent to 15 per cent). In North and Central Asia, the Pacific and South-East Asia, the shares of these two cohorts will be practically at parity (at around 18-20 per cent). Only the region with the youngest age structure, South and South-West Asia, with a ratio of 20 per cent children to 13 per cent older persons, will continue to have a larger share of the population age 0-14.

The ratio of the labour force to the overall population could prove useful to counter the bias specific to LFPR, bringing forth the potentially offsetting tendencies of an increase in the relative number of older persons and a decrease in the relative number of children (Bloom et al., 2011). The upper-right panel of figure 1.9 plots the projected change in labour force relative to the total population (LFTP) between 2010 and 2030 for 45 countries in the region. As a quick comparison of the change in position of the countries relative to the diagonal line makes apparent, the expected change in LFTPs does not correspond to the projected overwhelming decline in LFPRs. In a large majority of the countries – 28 in total – LFTP is expected to increase; while it is projected to decrease in ten countries; and, as with LFPRs, the change in LFTP will be negligible for seven – albeit different – countries.

All ten countries from South and South-West Asia are projected to experience a rise in LFTP, with Nepal experiencing the largest rise in the region. With the exception of Brunei-Darussalam, the nine countries of South-East Asia are projected to undergo an increase in LFTP. When compared to LFPRs, moreover, eight of these countries have higher LFTP, reflecting the effects of decreasing fertility rates. Timor-Leste is the notable exception. While its change remains positive, the LFTP is expected to be lower than LFPR. This is a consequence of its youth bulge. As was the case with LFPR, the majority of countries of East and North-East Asia will experience a decline in LFTP, though Mongolia and Republic of Korea will experience a slight increase. This reflects the small relative size of the youngest cohort in this subregion.

Closely linked to the decrease in the working-age cohort and the associated downward pressure on the supply of labor, as Asia and the Pacific ages, a smaller number of working individuals will be available to support an increasing share of older persons. As would be expected, the mean old-age support ratio for the region is projected to decrease by more than half from nine to four, over the next 35 years. This implies that, while today an older person can depend on nine individuals of working age for potential support, by mid-century the average older person will have the support of only four working-age individuals.

Figure 1.8
The number of working-age individuals potentially supporting older persons will decrease precipitously across the region
Old-age support ratio for selected countries



Source: DESA (2015).

Figure 1.8 compares old-age support ratios for the two most demographically divergent Asia-Pacific subregions. Not surprisingly, the three countries of East and North-East Asia will experience a precipitous decline in the support ratio. By 2050 the ratio will be below half of the regional average. The case of the Republic of Korea is particularly striking. In 1975, the country's support ratio ranked among the highest in the region, at around 17, considerably surpassing China and Japan's ratio. As was intimated earlier, this is consistent with the scenario of the demographic dividend that fostered this Asian

Tiger's miraculous growth during the period. Over the next two-and-a-half decades the Republic of Korea experienced a substantial decline in its support ratio, suggesting that the demographic transformation to a more mature society had begun to transpire. It is projected that by 2025 the Republic of Korea's support ratio would dip below China's ratio; and by 2050 it is expected to be at par with Japan, the Asia-Pacific country with the oldest population and smallest support ratio.

Yet, even the countries of South and South-West Asia that are currently undergoing a youth bulge are not exempt from this general trend of declining old-age support ratios, albeit at a significantly lower scale. The ratios for Bangladesh, India and Pakistan are expected to remain relatively high through 2025, suggesting that the window of opportunity to harness a demographic dividend linked with the youth bulge will still be open. The support ratios will then fall considerably, adumbrating that a transition to a more mature age structure and its corresponding window of opportunity is in the horizon after 2050.

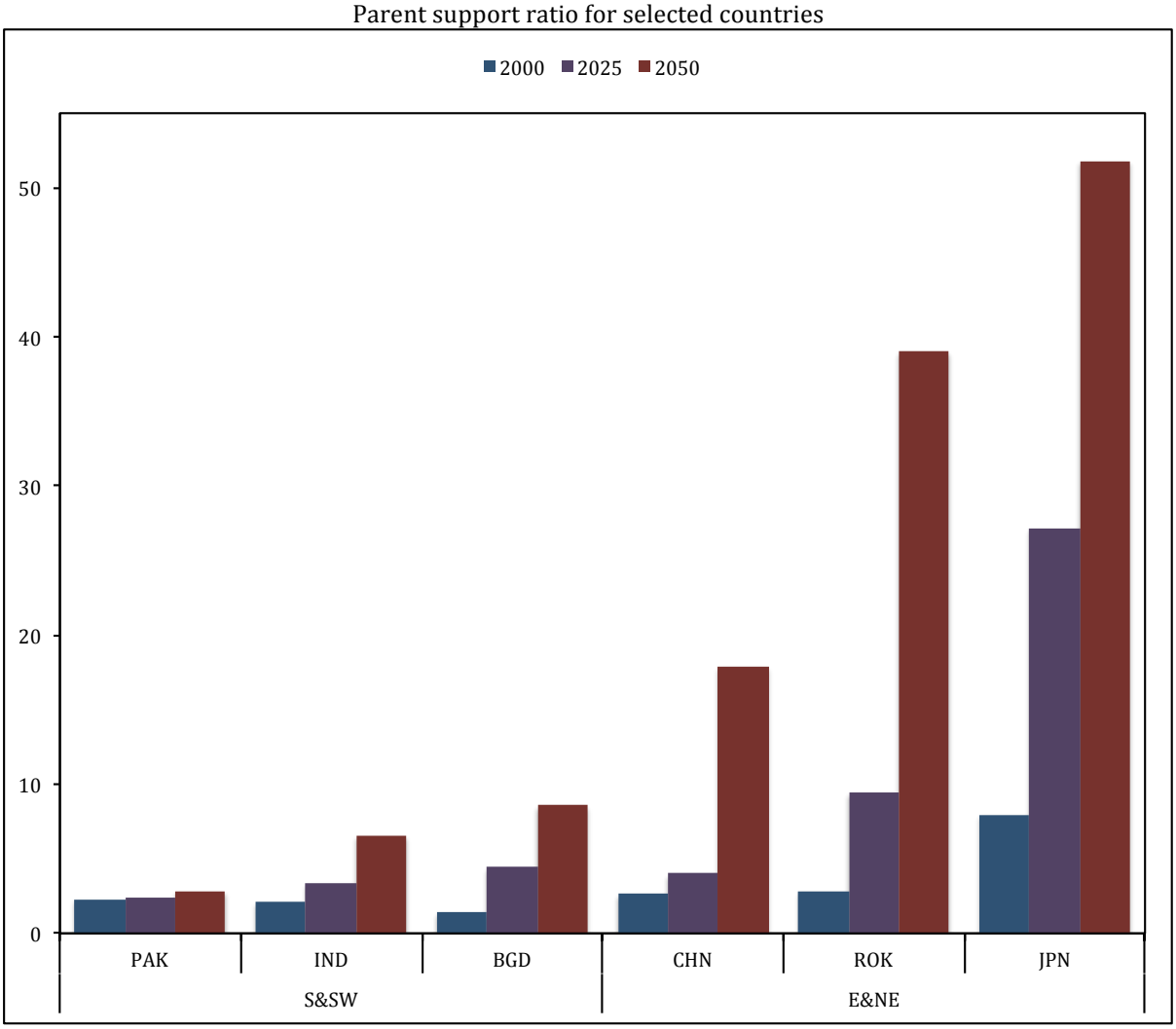
Another characteristic of the region's demographic transformation which will have important repercussions is the absolute and relative increase in the number of the so-called "oldest old" population, that is, the cohort aged 85 years or older. As could be expected, this increase will be highest in East and North-East Asia. In Japan, the share of the oldest old relative to the older population is projected to increase from 15 per cent in 2015, to 25 per cent in 2050. During the same period, in the Republic of Korea and China, this share will increase from eight per cent to 22 per cent and from six to 14 per cent, respectively. In countries with a young age structure too, the proportion of the oldest old is also expected to increase, but by a smaller amount. In Bangladesh, for example, the oldest old as a share of the older population will double from eight per cent to 16 per cent over the next 35 years. In India the share will increase from six to nine per cent, while in Pakistan it will remain at five per cent during this period (DESA, 2015).

An increase in the oldest old population implies that a growing share of middle-aged persons is likely to have surviving parents and/or other very old relatives. The parent support ratio – the number of persons 85 years old and over for every one hundred persons aged 50 to 64 years – assesses the demands on families to provide support for their oldest-old members, by relating the oldest-old to their presumed progeny. Thus, a parent support ratio of two indicates that that there are two persons aged 85 years or older that potentially depend on every 100 individuals aged 50 to 64 years.

Inversely analogous to the old-age support ratio, the parent support ratio will increase dramatically across the region (figure 1.9), with those countries with older age structures experiencing the greatest increase. By 2050, Japan is expected to have by far the highest ratio, 52, not only in the region, but also in the world. The Republic of Korea and China will also experience important increases, from three in 2000, to a projected 39 and 18 respectively by 2050. Reflecting their different demographic situation, as expected, the countries of South and South-West Asia, have, and will continue to have, relatively low parent support ratios. In Bangladesh, the ratio will increase from one at the turn of the millennium, to about nine by mid-century. Consistent with the small size of its oldest old cohort, the ratio in Pakistan will rise slightly from two to three in the next decades.

This regional trend of declining old-age support ratios and increasing parent support ratios could compromise already weak social protection systems as it implies that greater private and public investments will be required to cover the needs of an increasingly larger ageing population. In particular, contributory and non-contributory pension schemes and health and long-term care services will be strained. As a result, the inequalities of outcome and opportunity that exist between older persons and working-age individuals and between the youngest and oldest old could be perpetuated, if not exacerbated.

Figure 1.9
An increasing number of middle-aged individuals will potentially support their parents
Parent support ratio for selected countries



Source: DESA (2015).

Protecting older persons is especially important given that, often lacking access to adequate resources, services and participation, this cohort is particularly at risk of poverty and social exclusion. The incidence of poverty rises with age in all regions, including Asia and the Pacific (DESA, 2013a). Indeed, because material deprivation is closely linked to income-earning capacity, the risk of falling into poverty increases with age due to, for example, lack of adequate pensions or poor deteriorating health.

Demography is not destiny

This report will focus on the impact of ageing on the economic and social pillars of sustainable development. The consequences of ageing on development have been studied mainly from the economic and social points of view, though environmental questions are gradually being explored. Indeed, while some studies on ageing and environmental sustainability have begun to surface, for the most part, research on the nascent field of environmental gerontology still remains inchoate in the region.

The fundamental assumption grounding this report is that through the right mix of behavioral changes, modification of institutional arrangements and policy interventions, countries in the region can take advantage of specific demographic conditions in order to achieve sustained economic growth and greater social equity. The extent to which "policy matters" is part of the long and contested history of the relationship between demographics and development studies, economics, in particular.

The original concern regarding the developmental consequences of demographic change focused, in fact, on the dynamics of population explosion. Karl Marx's invective toward the Malthusian view set the polemical tone for a debate that would eventually crystallize around two main positions: namely, population increase restricts ("pessimists") or promotes ("optimists") economic growth (Bloom et al., 2002).[2]

Pessimists maintained that rapid population growth had a tendency to overwhelm the contributions of technical change and capital accumulation. While optimists argued that rapid population growth created economies of scale and promoted institutional and technological innovation (Williamson, 2013). These two camps, not surprisingly, held different views concerning the ability of countries to adjust to population growth in and through behavioral change, institutional adaption and policy initiatives – the first camp being pessimistic, while the second camp being optimistic about such a possibility. Yet, it was perhaps the pessimist position that received the greatest reception by the general public and media due largely to its popular rendition in the form of vulgar demographic determinism and provocative apocalyptic scenarios.[3] In any case, perhaps most importantly, the proponents of these two positions were able to marshal solid evidence to support their respective cases – a sine qua non of a genuine – scientific or policy – debate.

As the population of high-income countries, and eventually of the Asia-Pacific region, began to mature in the closing decades of the last century, the coordinates of the debate on the relationship between demography and development shifted from the socio-economic consequences of population explosion to the socio-economic consequences of population ageing and decline. Accompanying this shift in response to changing historical conditions was an epistemological turn from focusing on population size and population growth to focusing on the age structure of the population (Bloom et al., 2002). It is this new emphasis on the way in which a population is distributed across

[2] In a famous passage from Notebook VI of *The Grundrisse*, Marx refers to Thomas Malthus as a "baboon" for his naïve demographic determinism that failed to take into consideration the manner in which population dynamics are mediated by the specific historical conditions of production (1973).
[3] See, for example, the dystopian science fiction film Soylent Green (1973) – with Charlton Heston in the leading role – based on the 1966 novel by Harry Harrison, *Make Room! Make Room!*

different age groups that eventually led to a robust account of the "demographic dividend," which, as indicated in the introductory chapter, was initially linked specifically to the youth bulge.

As with the earlier debate concerning population explosion, the debate on the economic and social consequences of population ageing, which policy analysis and development scholars are tarrying with in this day and age, is organized mainly around a "pessimist" and an "optimist" camp. While both camps agree that a maturing age structure leads to downward pressure on economic growth, especially when compared to the expansive effects of a youthful age structure, analogous to the earlier debate, the pessimists maintain that solutions such as modifying incentive structures to increase household savings or to work more years, for example, would provide little or no relief to the imminent economic slowdown generated in and through population implosion. Indeed, once a critical juncture is reached, an "agequake" (Wallace, 1999), "workforce crisis" (Dychtwald et al., 2006) "grey dawn" (Peterson, 1999) or "demographic deficit" (McKinsey Global Institute, 2005) would be inevitable.

In contradistinction, the optimists maintain that behavioral change and institutional adaption can offset the negative impact of a shrinking working-age population and increasing older cohort. Stated from a different angle, the pessimists believe that once the first demographic window closes, economic hard-times are almost inevitable. While the optimists maintain that a second window of opportunity will ensue, and, consequently, a longevity dividend could be mustered once a society adapts to its more mature age structure (Bloom and Sousa-Poza, 2013). This report is situated in this optimist camp.

Between breadth and depth

With a geographical scope that stretches from Turkey in the West, to the Pacific island nation of Kiribati in the East, and from the Russian Federation in the North, to New Zealand in the South, Asia and the Pacific encompasses well over 50 countries and is home to 4.3 billion people, or two thirds of the world's population. This vast territory is one of tremendous diversity and disparity. For example, there are in the region OECD countries like the Republic of Korea and Australia, and Least Developing Countries (LDCs), like Myanmar and Bangladesh. There are also, transition economies, the majority of which are land-locked, like Kazakhstan and Kyrgyzstan; and Small Island Developing states of the Pacific like Fiji and Tonga. The region's remarkable diversity from the historical, religious and ethno-linguistic points of view, out which numerous socio-cultural systems have burgeoned, goes without saying. There is, finally, in the region, as has been suggested and is most germane for this report, tremendous heterogeneity in terms of population dynamics, with countries occupying different positions along the demographic transition: Some countries, most notably those in East and North-East Asia, have very mature age structures, while others, most notably the countries of South and South-West Asia, are still young.

Taking such a heterogeneous and broad region as an object of study is difficult to justify either from the point of view of the social sciences or from the more practical point of view of policy analysis. The "Asia-Pacific region" as defined above only really makes sense as an administrative division of a United Nations Regional Commission. This,

however, is to concede that the construction of the object of study in question has to do more with geopolitics than with theoretical cogency. Indeed, a more felicitous unit of economic, political, sociological or cultural analysis would seem to be what ESCAP refers to as a "subregion."

An analytical framework is thus needed in order to make some reasonable claims about the diversity of ageing trends and their respective consequences at the regional level, without being fatally vague or falling captive to naïve generalizations. At the same time, country-specific nuance is also indispensible in order to flesh out these claims, making them relevant for national policymakers and stakeholders. It is obvious that not all the 50-plus countries in the region can be studied in depth. This is not feasible, nor is it desirable. The depth and nuance gained in studying specific country experiences is inversely related to the number of countries being considered. A set of countries, then, should be selected for further study. A method should be identified that will ensure that the countries that are selected are representative of the diversity of the countries in the region vis-à-vis the ramifications of population ageing.

The conceptual strategy deployed in this report seeks to achieve this balance between regional breadth and country-specific depth.

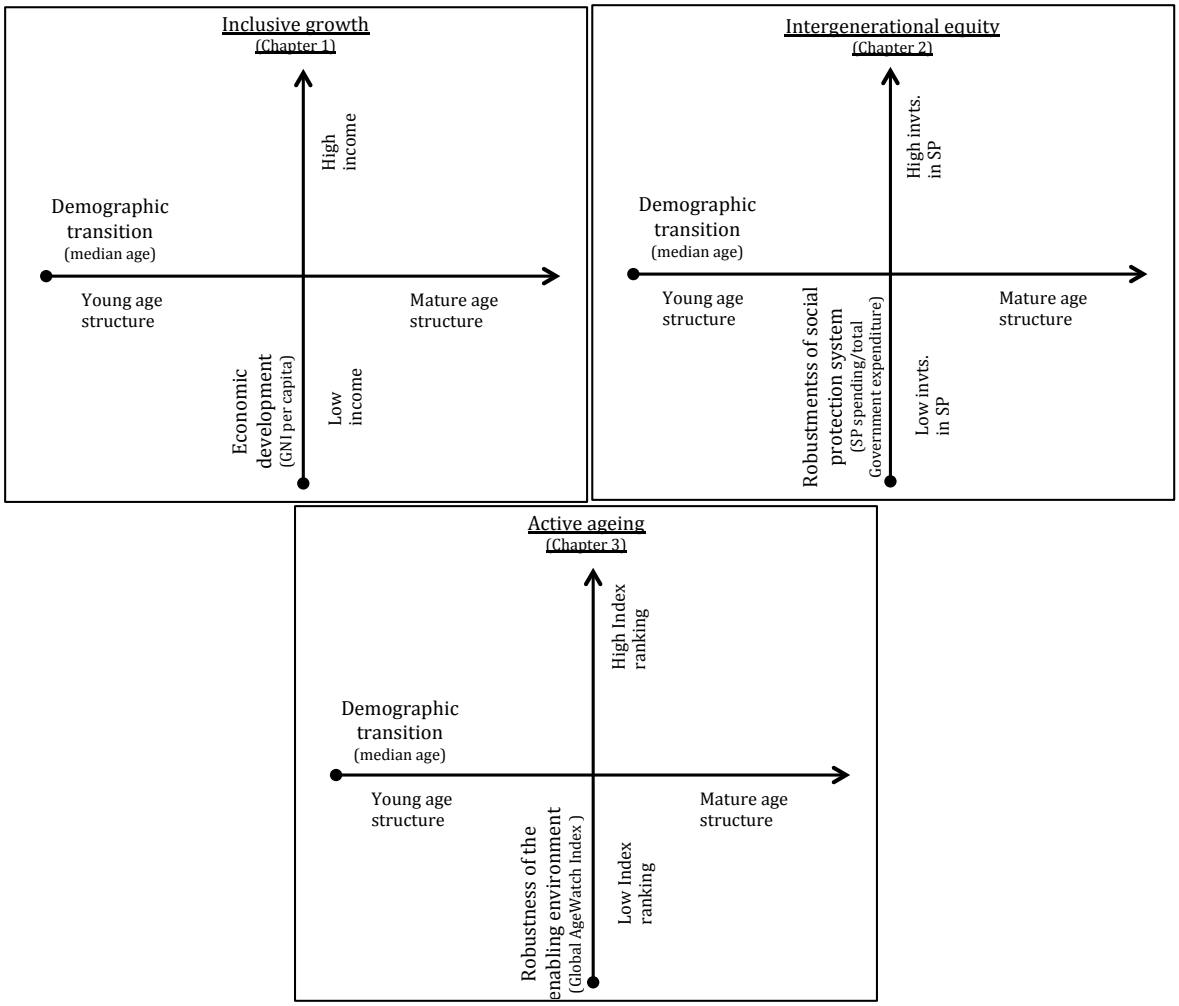
In order to frame the regional diversity, countries will be classified along two axes: On the one hand, countries will be situated along the demographic transition, using median age as a proxy. A handful of countries already have substantially mature age structures; some countries are rapidly ageing, in the sense of having age structures that are quickly becoming mature; while a third group of countries are still young. Countries in the first group are already within, or at the threshold of, the second demographic window of opportunity. The second and third groups still have access to the first demographic window of opportunity. Being further along the demographic transition, countries in the second group will begin to traverse the second window of opportunity in about a decade or two, depending on the exact composition of their age structure. The countries in the third group will not have access to the second window until mid-century.

On the other hand, countries will be situated in terms of socio-economic development. Three dimensions will be used: Countries will be classified in terms of economic development, using the World Bank typology of high-income, medium-income and low-income countries. The relative strength of the social protection systems of countries in the region will also be determined. The share of government spending invested in social protection will be used as the metric. And countries will be classified according to the access to the broader social, cultural and political resources needed for older persons to flourish and lead meaningful and active lives. This is by far the most difficult dimension to gage given the subjective and qualitative elements it encompasses. The HelpAge Global AgeWatch Index will serve as a proxy measure for the enabling environment.

Figure 1.10 provides stylized renditions of the three resulting typologies that serve as useful heuristic devices for classifying Asia-Pacific countries vis-à-vis the consequences of population ageing. What exact measures should be deployed to manage ageing will depend on where countries are situated along the demographic transition. Age

structure points to possible demographic windows of opportunity. Economic and social conditions linked to, for example, economic development, social protection investments, and the robustness of the enabling environment for ageing well, in turn constitute resource constraints within each window of opportunity.

Figure 1.10
A conceptual strategy is needed at the regional level to make sense of the diversity of ageing trends and their consequences



In order to gain country-specific depth, countries located at different positions along the three typologies, and thus representative of the diversity of predicaments in the region vis-à-vis population ageing, will be analyzed in more detail. This will ensure that regional heterogeneity – and specifically different age structures and levels of social and economic development – are taken into consideration.

Structure of the report

The report will examine the consequences of population ageing along three dimensions: economic growth (chapter 2), social protection (chapter 3) and broader social change (chapter 4). Chapter 5 will identify the policy pathways for managing population ageing corresponding to these three dimensions.

Chapter 2

Economic Repercussions

Countries in the region face different demographic and economic scenarios

One of the conclusions that was gleaned from the overview of the regional demographic trends presented in the introductory chapter is that population ageing will pose a significant challenge to the economies of Asia and the Pacific. As has been suggested, though population ageing is ubiquitous in the region, countries are in different stages of the demographic transition. The exact impact that a rapidly ageing population will have on the productive capacities of a country, and what exact measures can be deployed to foster inclusive growth, will depend on where the country is situated along the demographic transition. Age structure points to possible windows of opportunity. The level of social and economic development in turn constitutes resource constraints within each window.

In order to gain a broad regional overview of the relationship between age structure and economic development, figure 2.1 plots median age and GNI per capita for 47 countries in the region for which data are available.

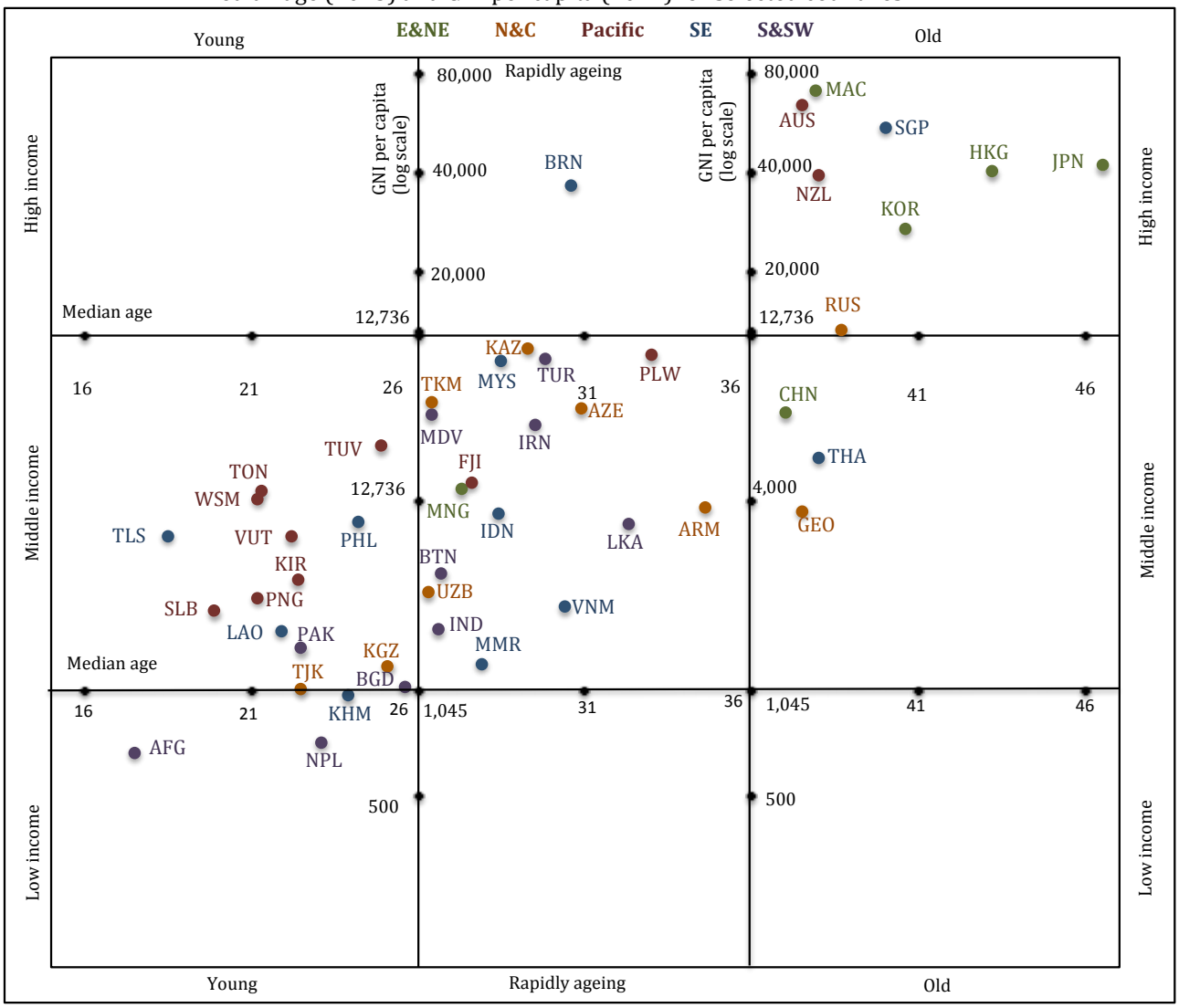
Countries with a median age greater than or equal to 36 years are considered to have a mature age structure and are classified as "old." Countries with a median age greater than or equal to 26 years and less than 36 years are considered to be in transition from a young to a mature age structure, and thus are classified as "rapidly ageing" (in the sense that they will soon be characterized by a mature age structure and not in the sense of increasing in years as obviously in all countries individuals "age" at the same rate). While countries that have a median age less than 26 years are considered to have a youthful age structure, and are classified as "young." For some historical perspective, in 1975, during their heyday, Hong Kong-China, the Republic of Korea and Singapore – the so-called "Asian Tigers" – had a median age of below 24 years.

In terms of economic development, as was suggested in the introductory chapter, the 2015-updated World Bank typology is used. Countries with a GNI per capita greater than or equal to $12,736 are classified as "high income."[4] Countries with a GNI per capita less than $12,736 and greater than or equal to $1,045 are classified as "middle income." While countries with a GNI per capita less than $1,045 are classified as "low income."

The result is a nine-quadrant typology. Forty-six countries are contained in four of these quadrants; and a single country – Brunei-Darussalam – occupies a fifth quadrant. Three quadrants, in other words, are empty, containing no country. Empty quadrants evoke the role of the demographic transition as a determinant of economic development: Only young countries are low-income countries. Inversely, no rapidly ageing or old country is a low-income country. Moreover, no young country is a high-income country; and only one country that is rapidly ageing – Brunei-Darussalam – is a high-income country. Put in other words, with one exception, all of the high-income Asia-Pacific countries have a mature age structure.

[4] All references to dollars ($) in this report are to United States dollars, unless otherwise indicated.

Figure 2.1
Asia-Pacific countries face a panoply of demographic and economic situations
Median age (2015) and GNI per capita (2014) for selected countries



Source: DESA (2015) and World Bank Indicators.
Note: The median age for WSM and TUV are for 2014 and taken from the *CIA World Factbook*. Through out this report GNI per capita is based on the World Bank Atlas method (current United States dollars).

There is a strong positive correlation (r=0.67) between median age and GNI per capita for the 47 countries plotted. This suggests that high standards of living are typically associated with mature age structures, while, in developing regions especially, young countries seem to be relatively poorer than older or old countries. For example, to cite a country-level comparison: With a median age of almost 47 years, Japan is the oldest country in Asia-Pacific; it is also among the wealthiest with a GNI per capita of $42,000. Conversely, with a median age of 18 years, Afghanistan is the youngest country in Asia and the Pacific; with a GNI per capita of $680, it is also the poorest country in the region.

Eight countries occupy the upper-right – "old-and-high-income" – quadrant, half of which are from East and North-East Asia. Not surprisingly, included among these countries are the region's four Organisation for Economic Co-operation and Development (OECD) members – namely, Australia, Japan, Republic of Korea and New

Zealand – as well as the Asian Tigers, Singapore and Hong Kong-China. With a GNI per capita of $13,200, and having obtained high-income status in July 2015, the Russian Federation is a borderline case, though, with a median age of 39 years, it is one of the youngest countries in this cluster.

Three countries occupy the middle-right – "old-and-medium-income" – quadrant: Thailand, from South and South-East Asia; the region's most populous country, China, from East and North-East Asia; and Georgia from North and Central Asia. These countries have grown old before getting rich. Given the downward pressure on economic growth caused by their mature age structures, these countries are particularly susceptible to the "middle-income trap," that is, the onerous situation of "secular" – or systemic and long-term – stagnation that could stall indefinitely a middle-income country's upward mobility to high-income status (Egawa, 2013). Indeed, it could be argued that, given how far advanced they are along the demographic transition these countries face one of the more tenuous predicament among the middle-income countries of Asia and the Pacific.

Eighteen countries occupy the middle-central – "rapidly-ageing-and-middle-income" – quadrant. This is an eclectic cluster of countries with considerable variance, ranging from Myanmar in the bottom-left, with a median age of 28 years and a GNI per capita of $1,270, to Palau in the top-right, with a median age of 33 years and a GNI per capita of $11, 110. Two subregions, moreover, dominate this cluster: namely, South and South-West Asia, with six countries, and North and Central Asia, with five countries. A certain degree of ambivalence cannot be avoided when describing this middle cluster: The countries that occupy this quadrant are not the youngest or oldest countries in the region; nor are they the richest or poorest countries either. It could be argued that these "rapidly-ageing-and-middle-income" countries are in a favorable position relative to the "old-and-middle-income" countries, given that they have more time to prepare for the impact of population ageing.

Fourteen countries occupy the middle-left – "young-and-middle-income" – quadrant. With a GNI per capita of $1,060 and $1,080 respectively, Tajikistan and Bangladesh are borderline cases, situated barely above the $1,045-income threshold. With six countries, including Papua New Guinea, Samoa and Tonga, this quadrant is dominated by the Pacific subregion. Timor-Leste is the youngest country in this quadrant, and the second youngest country in the region, with a median age of 19 years. The oldest country in this quadrant is Bangladesh, with a median age of 26 years. The large majority of these countries will have access to the first demographic window of opportunity through mid-century. This makes them relatively well poised to tap their youthful population to achieve sustainable economic growth, thus preparing for population ageing.

Three countries occupy the bottom-left – "young-and-low-income" – quadrant: Afghanistan and Nepal from South and South-West Asia, and Cambodia from South-East Asia. As has been suggested, Afghanistan has the youngest age structure, not only in the quadrant, in the region. It is also the poorest country, again, not only in the quadrant, in the region. Indeed, though it practically has the same median age as Timor-Leste (18 years vs. 19 years), Afghanistan is substantially poorer: It has a GNI-per capita of close to five-times smaller ($680 vs. $3,120). Moreover, with a GNI per capita of $730, Nepal

closely follows Afghanistan in terms of low economic development. The protracted domestic unrest which both of these countries have faced for decades has definitely not improved their lot. As for Cambodia, it has the highest standard of living of the three countries in this cluster. With a GNI per capita of $1,010, it is at the threshold of middle-income status. Though they are classified as low income, these three countries have to their advantage the fact that they are fairly early along the demographic transition. As was the case with the "young-and-middle-income" cluster of countries, this trio of young and poor countries will be able to tap their youthful age structures well into midcentury.

As was already indicated, being the only country situated in the upper-middle – "rapidly-ageing-and-high-income" – quadrant, Brunei-Darussalam is somewhat of an anomaly: It is among the richest countries in the region, and yet it has a relatively young age structure with a median age of 31 years. Though heavily reliant on hydrocarbons, and with a population a bit under half a million, it seems that Brunei-Darussalam has been able to escape the so-called "resource curse" or the "paradox of the plenty" which has inflicted many of the other small and resource-rich Asia-Pacific countries, including, Mongolia, Papua New Guinea and Timor-Leste. A key to Brunei-Darussalam's relatively strong economic performance has been the substantial investments the country has made in human capital development (OECD, 2014a).

Asia-Pacific countries thus face different demographic and economic scenarios. Given this regional heterogeneity, it seems intuitive that the economic consequences of population ageing could not be the same across the region. Indeed, it could be postulated that the economic ramifications of a greying population will depend on a country's position along the demographic transition as well as its level of economic development. The aim of this chapter is to gain greater nuance on the relationship.

In order to gain country-specific depth and meaningful cross-country comparisons, this chapter will focus on six countries: namely, Japan, Republic of Korea, Thailand, Indonesia, India and the Philippines. In addition to pragmatic considerations concerning availability of data, a more robust justification for having chosen these countries should now be evident: The countries are representative of principal demographic and economic scenarios, as has just been derived in Figure 2.1: Japan and the Republic of Korea are "old-and-high-income" countries; Thailand is an "old-and-medium-income" country; India and Indonesia are "rapidly-ageing-and-middle-income" countries; and the Philippines is a "young-and-middle-income" country. When appropriate, and, again, given data availability, these countries will be compared with other countries in the region so as to broaden the frame of reference.

The intergenerational economy provides crucial insight into the lifecycle needs of older persons

To explore the economic consequences of the greying of the Asia-Pacific region, this chapter draws on the approach and findings of the National Transfer Accounts (NTA) initiative, a global research program on the economic lifecycle spearheaded by Ronald Lee and Andrew Mason, with the support of the UN Department of Economic and Social Affairs (DESA).[5]

How successful societies are in meeting the material needs of the most vulnerable populations is a good indicator of inclusive growth. The NTA framework provides insights into redistributive mechanisms through its robust account of how families, governments and markets reallocate resources to older persons and children. In order to redistribute resources, however, societies must first produce wealth. The NTA framework provides insight into how societies need to organize themselves if they are to ensure that, over time, demographic change leads to economic gains and greater intergenerational equity. Bringing these synchronic and diachronic perspectives together, the NTA framework, in fine, contributes a rich account of the challenges and opportunities for achieving inclusive growth in the context of population ageing.

The NTA framework provides a robust account of how changes in age structure impact economic performance, and specifically the mechanisms in and through which the two demographic dividends evoked in the introductory chapter take form. It nuances over-simplistic accounts of population ageing, repudiating demographic determinism. The NTA framework posits that "[a]lthough age structure variables have predictive power and can 'explain' (in the statistical sense) a significant portion of economic growth, the relationship between demographic variables and the economy is not deterministic. Rather, the economic outcome from demographic change is policy dependent" (Mason, 2007: 82). As such, the NTA project offers useful analytical insights into an array of public policy issues related to demographic ageing, including the development of intergenerational transfer systems, the public financing of pensions, health care, and education, labour market dynamics, and the role of social institutions, such as kinship structures.

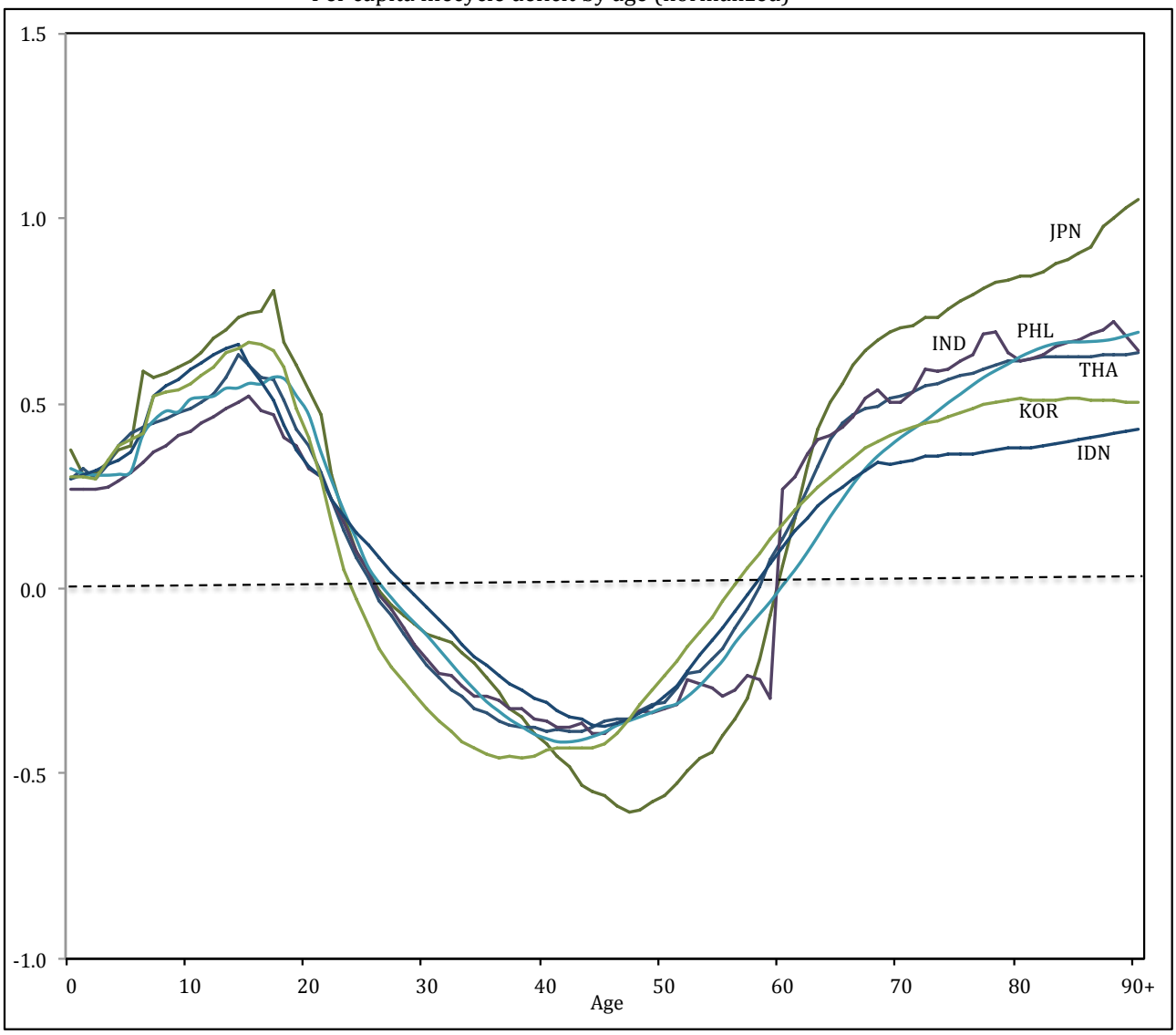
Data from NTA research conducted in over 40 countries from Africa, Asia and the Pacific,[6] the Americas, and Europe suggests that "changes in age structure can lead to a second demographic dividend – higher standards of living that persist long after the favorable effects of the first dividend have ended" (Mason et al., 2008: 2). And, specifically concerning the region being considered in this report, NTA findings indicate

[5] Ronald Lee is director of the Center on the Economics and Demography of Aging and professor of demography at the University of California in Berkeley. Andrew Mason is senior fellow at the East-West Center (Honolulu) and professor of economics at the University of Hawaii in Manoa. UN DESA has focused on enhancing the technical capacity of countries to effectively implement the NTA framework. See, for example, the Development Account project, implemented in collaboration with the UN Regional Commissions from Latin America and the Caribbean, the Middle East and Northern Africa and Asia and the Pacific, "Strengthening Capacity of National Policy Analysts in the Social and Economic Sectors of Developing Countries in the Production and Use of National Transfer Accounts" (2010-2013).

[6] To date, NTA profiles have been constructed for the following eight Asia-Pacific economies: China, India, Indonesia, Japan, the Philippines, the Republic of Korea, Taipei-China and Thailand.

that, "demographic change is likely to provide a positive impetus for economic growth in Asia [and the Pacific] during the first half of the 21st Century" (Mason et al., 2008: 2).

Figure 2.2
The lifecycle deficit and surplus is greatest in high-income countries
Per capita lifecycle deficit by age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011).
Note: All NTA estimates in this report have been normalized by dividing by the simple average of labor income for individuals 30-49 years old, or what could be referred to as a prime-age adult (DESA, 2013b; Lee and Mason, 2011). This simplifies the task of comparing age profiles across countries at different levels of economic development. It also eliminates having to account for different local currencies. Thus, for example, a normalized per capita lifecycle deficit value of 0.5 for a given age implies that the nominal lifecycle deficit value at that age is 50 per cent or half the nominal lifecycle deficit value of a prime-age adult.

The NTA framework takes as a point of departure a rather self-evident observation concerning modern societies: namely, that during childhood and old age, individuals consume more than they produce through their labour. That is, in other words, the "lifecycle deficit," or the difference between labour income and consumption, is positive during these early and later stages of life. By contrast, during the working-age years,

the lifecycle deficit tends to be negative as individuals produce more than they consume.

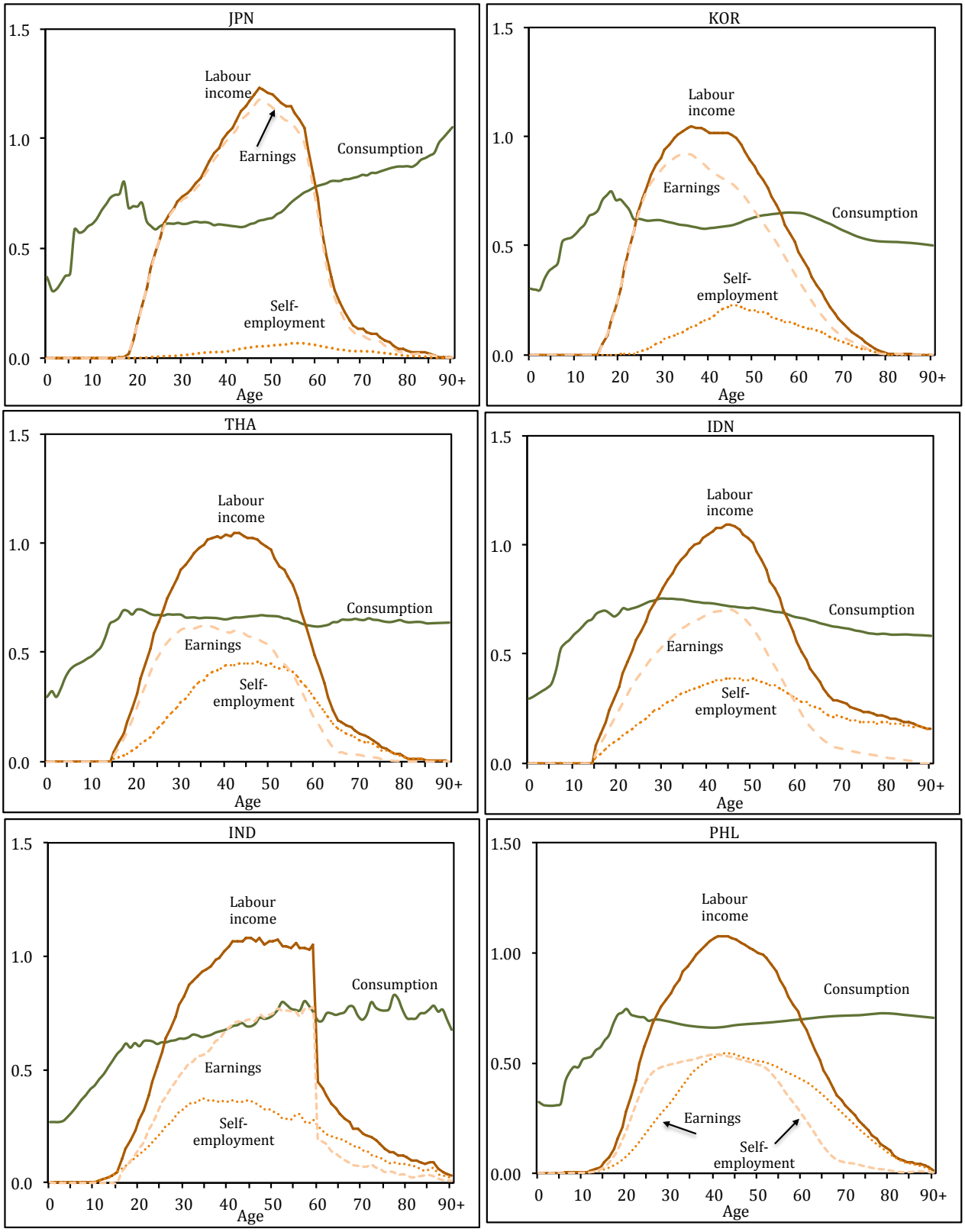
Figure 2.2 confirms that this pattern holds for Japan, the Republic of Korea, Thailand, Indonesia, India and the Philippines.[7] In addition, it is observed that the lifecycle deficits during childhood and old age and lifecycle surpluses during the prime working age are significantly larger in Japan than in the other five countries. This is related to the fact that, as a high-income country, Japan is able to cover its higher deficits with its more robust redistributive and support mechanisms as well as generate more wealth during the working life. Given its level of economic development, it is surprising that the Republic of Korea has one of the lowest lifecycle surpluses and deficits.

Another observation is that, in Japan, the lifecycle deficit is higher in old age than in childhood. Again, this is a lifecycle characteristic of high-income countries. Here too the Republic of Korea has an uncharacteristic lifecycle trend, given its standard of living: Its lifecycle deficit is considerably higher in childhood than in old age. This is also the case for Indonesia, but by a greater degree. In Thailand and the Philippines, by contrast, the deficits are more or less the same in earlier and later stages of life. While in India the deficit is slightly larger in old age, an interesting fact given that India has a lower standard of living than Thailand. Lastly, it is also observed that the Philippines has a significantly smaller lifecycle deficit during the earlier years of old age. This country experiences the sharpest increase in lifecycle deficit from 60 years to 80 years of age.

Figure 2.3 provides a breakdown of the lifecycle deficit into its two components – namely, consumption and labour income – for the six countries being considered. On the consumption side, the higher Japanese lifecycle deficit during old age is reflected in the steady increase in per capita consumption throughout the life course. In fact, there is a hump in consumption that peaks at around 17 years of age – reflecting relatively higher investments in secondary and tertiary education – which then slightly decreases until around 21 years of age, and then starts to rise gradually throughout the prime-age adult years, and increasing at a higher rate from around 65 years of age. As will be developed below, this steep increase in consumption in old age is a reflection of higher investments in health care that, in high-income countries, tend to rise significantly during old age (Lee and Mason, 2011). For the Republic of Korea too there is a hump in consumption peaking at about 18 years, which also reflects investments in tertiary education. Yet, unlike Japan, and as was already evident in figure 2.2, consumption gradually decreases throughout old age. In Indonesia as well consumption decreases in old age.

[7] The report uses the latest available NTA estimates for the six countries. These profiles were compiled in 2011 and 2012, based on 2005 data for Indonesia, 2004 data for Japan, Thailand and India, 2000 data for the Republic of Korea, and 1999 data for the Philippines. Though important changes may have transpired in these countries in recent years, the key features of the NTA profiles are quite persistent, as analyses of time-series estimates have confirmed (Mason and Lee 2011). Furthermore, the rich profiles produced by the first round of NTA research are still being analyzed. See, for example, the April 2015 issue of the *Journal of the Economics of Ageing*, "Exploring the Generational Economy."

Figure 2.3
In lower-income countries consumption is flat throughout adult life
Per capita consumption and labour income by age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011).

In Thailand and the Philippines, consumption remains more or less constant throughout the life course, after reaching its maximum level at about 17 years of age. And in India, consumption too peaks early in life, at around 17 years; but then increases slightly throughout the working years and old age, dropping sharply at around 80 years. Prima facie, the fact that consumption rises during old age in India and remains constant in Thailand is not intuitive, given Thailand's higher level of economic development. The reasons for this will be explored below.

On the labour income side, there are two apparent differences between Japan and the Republic of Korean, on the one hand, and Thailand, Indonesia, India and the Philippines, on the other, that could be attributed to their different stages of economic development. The first difference is that in Japan and the Republic of Korea per capita income labour begins to increase at around 18 years, which coincides more or less with the completion of secondary education. In Thailand, Indonesia, India and the Philippines, by contrast, per capita income labour starts to increase at around 15 in the case of the first two, and 12 years in the case of the latter two. This suggests that, as lower-income countries, in Thailand, Indonesia, India and the Philippines a percentage of youth are working, a fact that contributes to lowering the lifecycle deficits in these three countries.

The second difference has to do with labour income in old age. Though in all four countries labour income begins to fall precipitously at around 60 years of age, in Japan and the Republic of Korea the decline is much more significant, while in Thailand, Indonesia India and the Philippines income labour remains relatively elevated through old age. In fact, it remains the most elevated in Indonesia. This implies that in these four countries, a larger portion of older persons work. This is consistent with the different levels of economic and social development of each of these countries. As it will be seen below, in Japan the incentive to work is lower, given the country's robust pension system and health-care services in old age. This is also the case in the Republic of Korea, albeit to a lesser degree. While in Thailand, Indonesia, India and the Philippines, due to relatively weak redistributive mechanisms, there is a greater need to work in old age. This same logic also holds when comparing Thailand, India and the Philippines, where in the lower-income country – the Philippines – labour income is higher from about 65 to 90 years of age. Given its level of economic development, again, Indonesia is the exception among the four middle-income countries as labour income is higher from 70 to 90 years than in India and the Philippines.

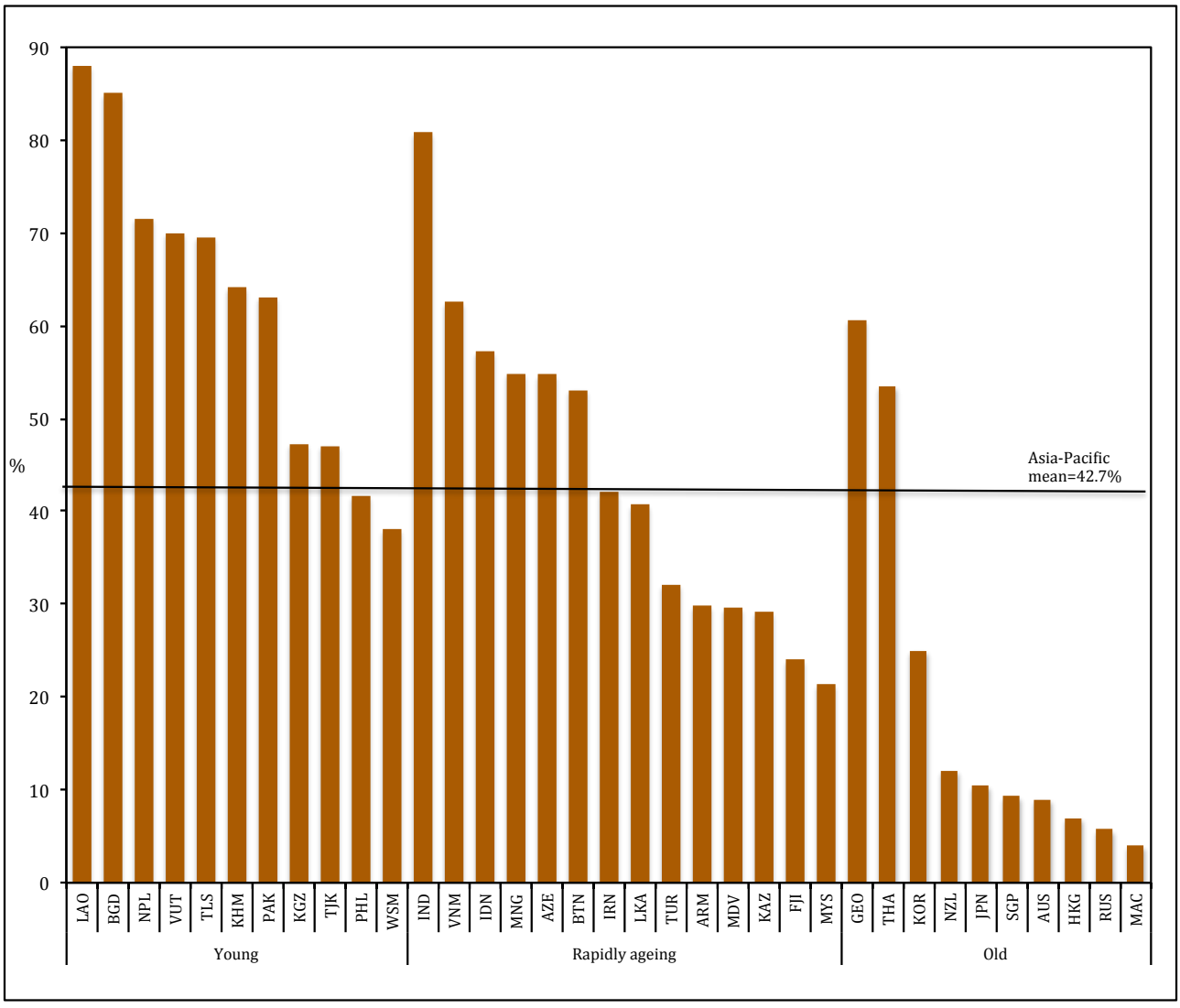
Figure 2.3 also decomposes labour income into its two components, namely, earnings and self-employment labour income. Earnings include all wages and salaries of individuals who work in the formal sector as well as employee benefits. While self-employment labour income comprises all own-account and unpaid family workers, including employment in the agricultural sector. Self-employment labour income, then, serves as a proxy for vulnerable employment.

As was intimated in the introductory chapter, economic development in the majority of Asia and the Pacific has not generated sufficient decent and productive employment opportunities. High levels of vulnerable or informal employment stymie the ability of countries in the region to tackle the economic challenges of population ageing. Pervasive vulnerable or informal employment hampers growth and development. Low

levels of productivity and labour standards, and the underutilization of a country's labour force imply that its full growth-potential is not being realized.

Moreover, vulnerable or informal employment is characterized by lack of income security in the event of unemployment, sickness, disability or work-related injury. Often excluded from more secure work opportunities, youth and older persons have little choice but to accept informal low-quality jobs. Furthermore, the inability of large proportions of the labour force to earn a safe and decent living limits the capacity to accumulate savings, leading to a lower level of capital available for investment, thereby further hindering development (ESCAP, 2013).

Figure 2.4
Vulnerable employment is pervasive throughout the region
Percentage of total employment for selected countries (latest available year)



Source: Millennium Development Goals Indicators and World Bank Indicators.
Note: Vulnerable employment is defined as the sum of the employment status groups of own-account workers and contributing family workers. Own-account workers are those workers who, working on their own account or with one or more partners, hold the type of jobs defined as self-employment jobs (that is, remuneration is directly dependent upon the profits derived from the goods and services produced), and have not engaged on a continuous basis any employees to work for them during the

reference period. Contributing family workers, also known as unpaid family workers, are those workers who are self-employed, as own-account workers in a market-oriented establishment operated by a related person living in the same household (Millennium Development Goals Indicators, Goal 1, Target 1.B, Indicator 1.7).

Figure 2.4 provides estimates of vulnerable work as a percentage of total employment for 35 Asia-Pacific countries for which data is available, including Japan, the Republic of Korea, Thailand, Indonesia, India and the Philippines. The countries are grouped according the demographic categories used in figure 2.1. Young countries have the highest share of vulnerable employment. At close to 42 per cent, the Philippines has one of the lowest shares of vulnerable employment in this cluster of countries, just slightly below the ESCAP mean of around 43 per cent. On the other end of the demographic transition, the old countries for the most part have a relatively small share of workers are in vulnerable employment, the exception being Thailand and Georgia, two of the oldest middle-income countries in the region. These two countries face a rather difficult predicament given its relatively mature age structure.

The Republic of Korea has one of the highest shares of vulnerable employment among the high-income countries, at just over 25 per cent. Japan has a relatively low share at 10 per cent. With a share of vulnerable employment of approximately 81 per cent – close to twice the ECAP average –, India has the highest percentage of vulnerable employment among the cluster of rapidly-ageing-and-still-not-affluent countries. In Indonesia, close to three-fifths of all working individuals are in vulnerable employment.

Consistent with this regional sketch, figure 2.3 reveals two important observations concerning vulnerable employment in the context of the economic lifecycle for the six countries being considered more closely in this chapter. The first is that the self-employment labour income is negligible for Japan, it is relatively important in the Republic of Korea, while it constitutes a significant portion of total labour income in Thailand, Indonesia, India and the Philippines. This reflects the respective levels of economic development of these four countries and is also consistent with indicators of vulnerable employment that were just presented. The second observation is that in Thailand, Indonesia, India and the Philippines, at around 60 years, the share of self-employment labour income becomes greater than the share of earnings, and the gap between these increases with age. This suggests that in these four countries, a large proportion of working older persons are in vulnerable employment.

How countries reallocate resources to meet the lifecycle needs of older persons varies along the demographic transition

The economic lifecycle can be sustained only because institutions like the family, civil society, the marketplace and government mediate the reallocation of resources across age groups. "Important economic flows occur within families as family members support children and to varying degrees the elderly. Financial markets allow individuals to borrow at one age and lend at another; or to accumulate assets during the working years, which support consumption later in life. Governments tax those in the working ages most heavily and provide the greatest support to children and the elderly" (DESA, 2013b: 1).

Societies cover the gap between consumption and labour income – the lifecycle deficit – by relying on two principal mechanisms: namely, asset-based reallocations and transfers. Each of these can be further divided into private and public components. Transfers involve no quid pro quo. Resources flow between parties either voluntarily, as is the case with the majority of private transfers, or out of obligation, as is the case with public transfers. Asset-based reallocations function through inter-temporal exchange as is the case with the stream of income generated through the selling of property or the accumulation of financial assets and natural resources (DESAb, 2013).

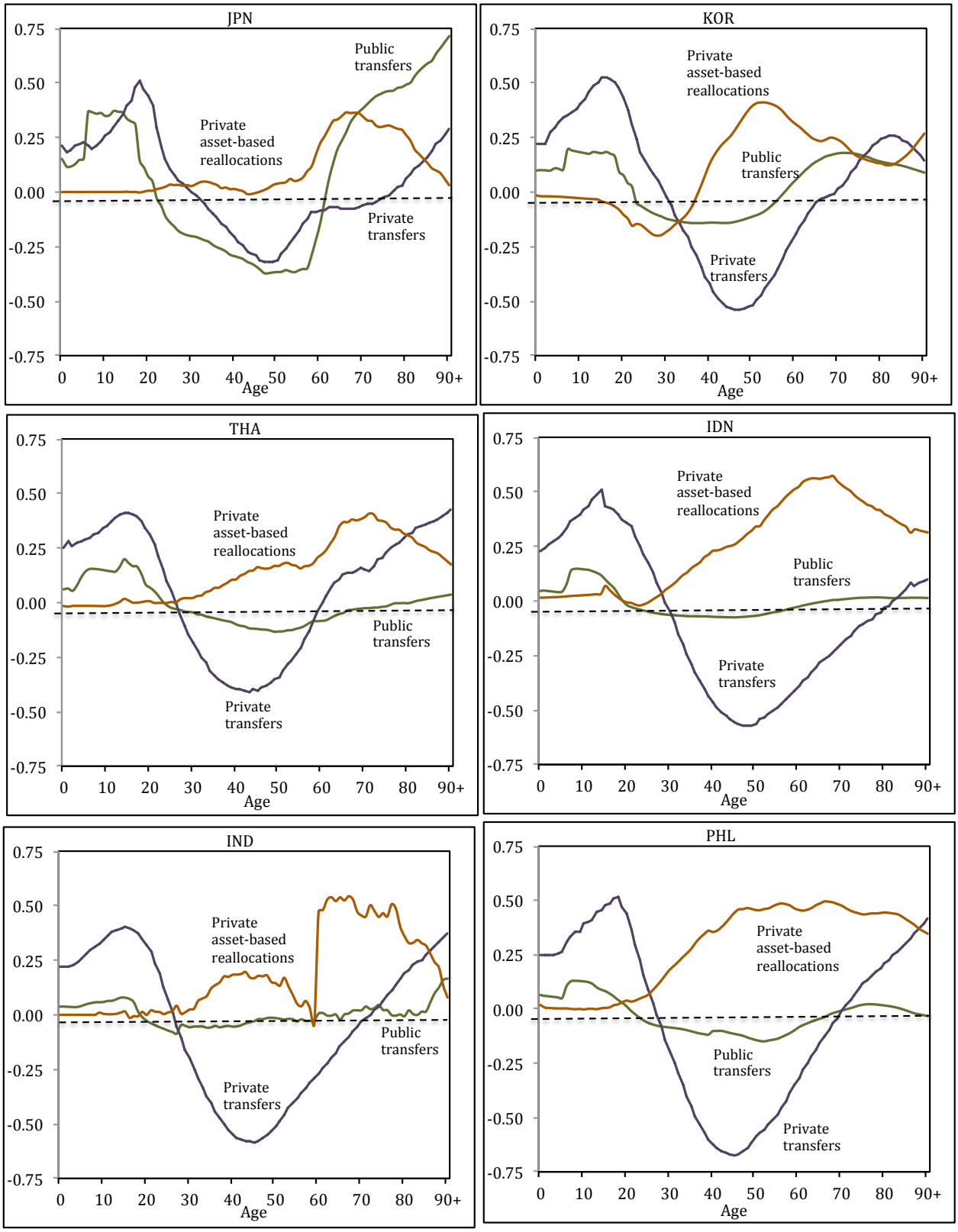
Only private asset-based flows will be considered here, as public asset-based flows are negligible in most countries (DESA, 2013b).[8] When retired individuals rely on the asset income and/or dissaving from the pension funds or personal wealth they have accumulated during their working years, they are relying on asset-based reallocations. Public transfers are cash or in-kind flows between individuals or households that are mediated by the government, including non-contributory pensions, public education and publicly funded health care. While private transfers refer to all flows between co-resident household members or between households like, for example, the meals and clothing provided to children and elderly parents by family caregivers. For high- and low-income, old and young countries alike, private transfers are overwhelmingly intra-household (DESA, 2013b). For this reason, inter-household flows will not be considered here.

Indeed, private asset-based reallocations and public and private transfers are an essential dimension of the intergenerational economy. The structure and function of these mechanisms, however, vary depending on where a country is situated along the demographic transition as well as on its level of social and economic development. For example, in developing countries with youthful age structures, the dominant direction of transfers is downward, from adults to children. While in the more affluent countries with an aging population, these transfers increasingly begin to flow upward, from working-age adults to older persons (DESA, 2013b; Lee and Mason, 2011). As countries make their way along the demographic transition, then, an important trade-off between downward and upward flows – between the redistribution of resources to children and older persons – begins to crystallize. How countries negotiate this trade-off will have important consequences both for economic growth as well as for social equity.

Figure 2.5 depicts net per capita transfers and assets by age for Japan, Thailand, India and the Philippines. As was the case with per capita consumption and labour income, the basic flow of per capita reallocations follow a similar pattern for all countries, regardless of their age structure and level of socio-economic development: During childhood and old age, net reallocations are positive, that is, reallocation inflows are greater than outflows. While during the prime adult years, reallocations are negative, that is, outflows are greater than inflows.

[8] Notable exceptions are those countries that have significant sovereign wealth funds, a fortiori, if they use these funds to invest in soft and hard infrastructure. This is not the case for the countries being considered here.

Figure 2.5
The relative importance of transfers and assets differ across the region
Net per capita reallocations by age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011).
Note: Per capita asset-based reallocations – that is, the sum of per capita public and private asset-based reallocations – is used for Thailand.

Net reallocations, then, as is expected given their consumption smoothing function, are analogous to the lifecycle deficit (see figure 2.1): As children and older persons are consuming more than they are producing by their labour, net reallocations have to be positive during these years; and, in like fashion, as prime-age adults are producing more through their labour than they are consuming, net reallocations need to be negative during these years.

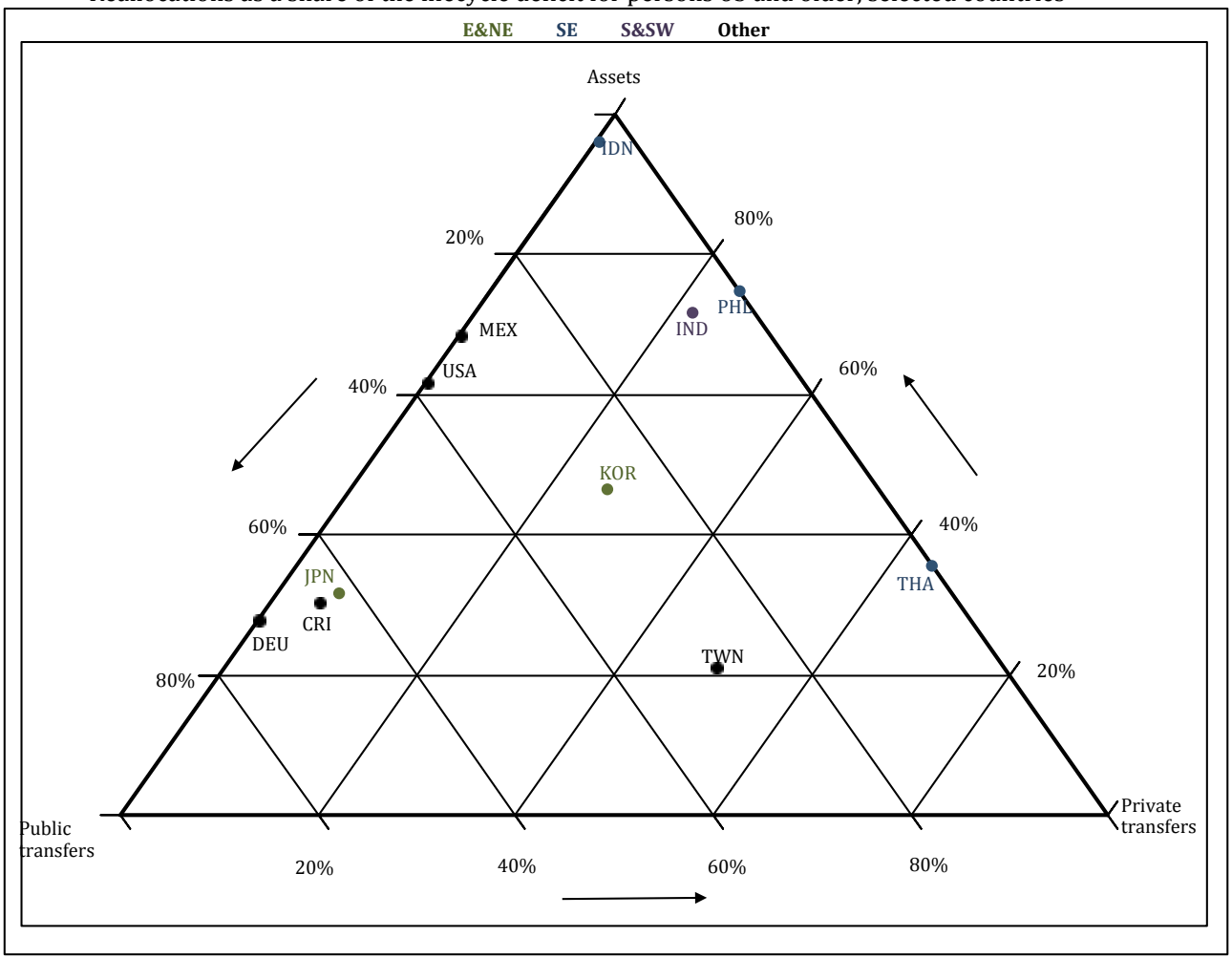
Following the same line of reasoning, an important difference between Japan, on the one hand, and Thailand India and the Philippines, on the other, can be observed: As Japan runs larger lifecycle deficits than Thailand, India and the Philippines, Japan must have larger reallocation inflows. Figure 2.5 corroborates this difference. In Japan, reallocations are as high as 50 per cent of the per capita labour income of prime-age adults during childhood and 75 per cent in old age. While in Thailand, they go as high as 40 per cent of the labour income for prime-age adults during both childhood and old age; and, in India and the Philippines, they reach 40 per cent in childhood and about 60 per cent in old age.

The relative size (and therefore importance) of the three types of reallocation mechanisms – private asset-based reallocations and public and private transfers – vary in the three countries. This is a result of different age structures and levels of socio-economic development, but also of specific policy choices, distinct historical trajectories and cultural differences. In Japan, public transfers are fundamental in meeting the lifecycle deficits of both children and older persons, though public transfers play a relatively larger role during old age. In Thailand, India and the Philippines, by contrast, the role of public transfers is for the most part negligible in old age, and less so during childhood. From another angle, the size of the institutions mediating public transfers can be gaged by considering the respective outflows during the prime adult years. Here again, the difference is stark. In the case of Japan, outflows are substantial, reflecting the robustness of the country's tax system. In Thailand and the Philippines, there is a small outflow of public transfers, but they are directed mostly downward, towards education no doubt. While in India, the outflows during the working-age years are negligible.

Figure 2.6 provides a ternary plot of the shares of private asset-based reallocations and public and private transfers used by persons 65 years and older to cover lifecycle needs for Japan, Thailand, India and the Philippines, and a handful of other countries, both from within and outside the region, for which data is available. The figure, then, illustrates how old-age support systems – that is, the composition of reallocation mechanisms – vary across societies. Each vertex of the triangle represents exclusive reliance on one of the three mechanisms. Movement away from a vertex implies reliance on a combination of funding sources. Movement along one of the sides of the triangle suggests that the funding source associated with the vertex opposite to that side is practically nil. Thus, for example, Indonesia relies almost exclusively on private based-assets, while Mexico and the United States rely over 60 per cent on assets, over 30 per cent on public transfers, while net private transfers are close to zero, because, for example, older persons are supporting their families – grandchildren – as much as they are receiving support from their children.

As is the case in Germany and Costa Rica, in Japan, 60 per cent of the funding of lifecycle needs is derived from public transfers; and assets are a more important source of funding than private transfers. By contrast, in Thailand and the Philippines, public transfers are essentially naught, as the country relies around 65 per cent on private transfers and about 35 per cent on asset-based reallocations. In India, like in the Philippines, older persons rely chiefly on private asset-based reallocations. While, as was suggested earlier (figure 2.5), the share of public transfers to older persons is small in India, it plays a more important role in funding lifecycle needs in old age than in Thailand and India.

Figure 2.6
Countries depend on different reallocation configurations to fund the lifecycle needs of older persons
Reallocations as a share of the lifecycle deficit for persons 65 and older, selected countries



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011), Maliki (2011), Racelis and Salas (2011); An et al. (2011); Tung and Lai (2011); Rosero-Bixby et al. (2011); Kluge (2012); Mejía- Guevara (2012); and Lee et al. (2011).
Note: Costa Rica (CRI, 2004), Germany (DEU, 2003), Mexico (MEX, 2004), Taiwan (TWN, 1998) United States (USA, 2003); IDN (2005) and KOR (2000).

Figure 2.7 provides the aggregate consumption and labour income profiles for the six countries, thus bringing more explicitly into the picture the effects of population age structure. In Japan, the lifecycle deficit in old age is larger than the deficit during

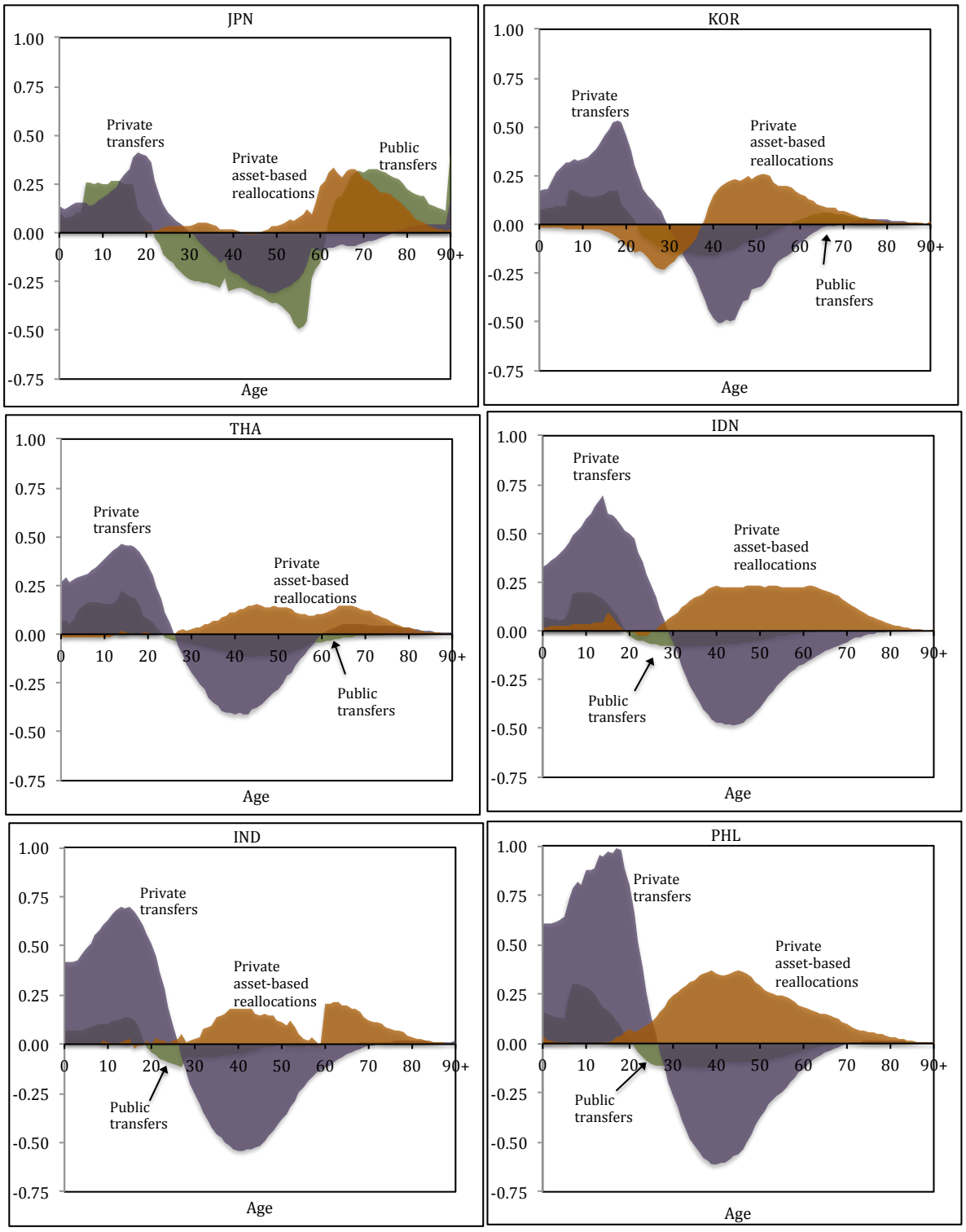
childhood. This is not surprising given how advanced the country is along the demographic transition, and specifically, the size of its older cohorts. At the same time, the two deficits are relatively symmetrical, especially when compared with Thailand, India and the Philippines. A comparatively large old-age deficit and relatively symmetrical deficits in the earlier and later stages of life are characteristic of high-income countries, where consumption increases with age, the share of labour income is relatively small, and redistributive mechanisms and social investments cover these two age groups.

A second difference between lifecycle support structures in Japan, Thailand, India and the Philippines brought forth by figure 2.7 has to with the relative importance of public and private transfers. In Japan public transfers are a fundamental source of old-age support, especially for those individuals 70 years and older. The large outflow of public transfers in the form of taxes during the prime-age working years in Japan mentioned earlier is now confirmed at the aggregate level. Figure 2.7 also confirms the negligible role public transfers play in meeting lifecycle needs in Thailand, India and the Philippines. In these three countries, government transfers are eclipsed in old age, by asset-based sources in particular. Compensating the attenuated function of public transfers, in these three countries family transfers play a fundamental role. This is consistent with NTA research findings on two counts: On the one hand, there exists an inverse relationship between the share of public and private transfers – that is, a larger share of public transfers implies a smaller share of private transfers, and visa-versa. Second, intuitively, government transfers play a more important role in high-income countries than they do in lower-income countries (DESA, 2013b; Lee and Mason, 2011).

While private transfers play a larger role in meeting lifecycle needs in Thailand, India and the Philippines than they do in Japan, in all four countries these private transfers flow mostly downward to children and young people. In all four countries, as expected, working-age individuals provide more support to their families than they receive. In Japan, individuals start to support their families in their early 30s; while in India, Thailand and the Philippines they begin in their early- to mid-20s. In Thailand, individuals continue to support their families until around 60 years of age. While, in Japan, India and the Philippines, older persons continue to provide support to their families into old age – until around 75 years in the former and 70 years in the latter the two. Private transfer inflows and outflows will be further teased out below.

A final general observation that can be made about support systems is that, as was the case for the individual on average, at the aggregate level, the role of private asset-based reallocations is important in all four countries. That in Japan, Thailand, India and the Philippines older persons are relying significantly on the asset income and/or dissaving from the wealth they have accumulated during their working years, might appear counterintuitive given the different levels of economic development of the three countries. In any case, considering the high levels of vulnerable employment that exist in Thailand, India and the Philippines, it could be postulated that – in a context where government transfers are negligible and family transfers flow downward – individuals that depend on wealth earned through precarious work to meet lifecycle needs later in life adumbrates vulnerability and income insecurity in old age.

Figure 2.7
Age structure accentuates asymmetries in lifecycle flows
Net aggregate assets and transfers by age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011).

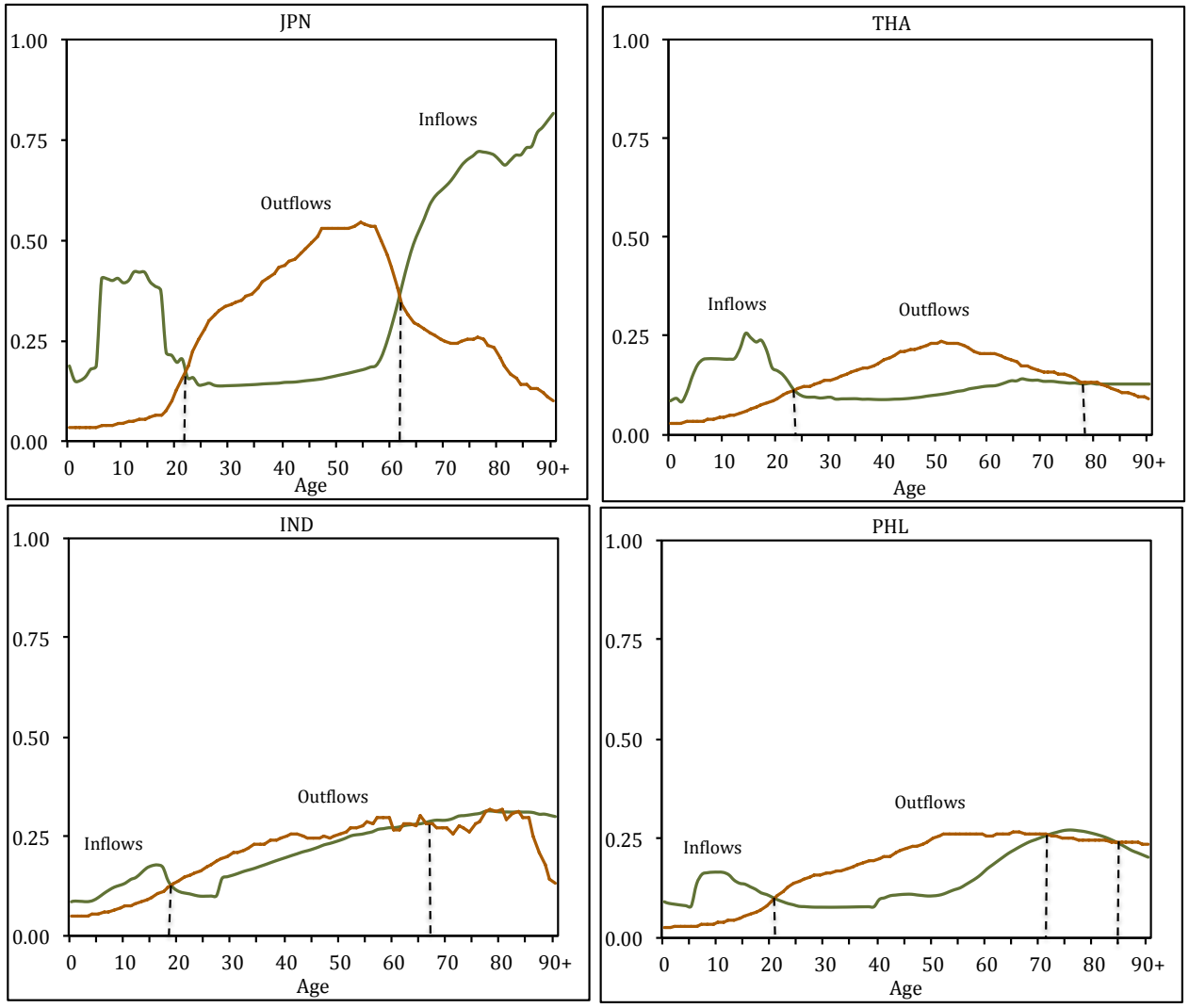
At the same time, as it will be further elucidated below, asset-based reallocations are essential to economic development because, unlike transfers that only redistribute consumption, assets can be channeled to increase productivity growth through, for

example, an increased savings rate. Furthermore, asset-based reallocations have been associated with the incentive structures that encourage greater labour force participation (Lee and Mason, 2011). The downside, again, is that over-dependence on assets could perpetuate intergenerational inequalities, especially in contexts of jobless growth and vulnerable employment. One important pathway to meeting lifecycle needs in old age, then, is to provide decent work opportunities for older persons. This trade off between transfers and assets, redistribution and productivity is fundamental to the notion of the second demographic dividend, a fortiori when the dividend aims to foster inclusive growth. This fundamental issue will be further explored in the subsequent sections of this chapter as well as in chapter 3.

Figure 2.8

In high-income countries government transfers are central to funding the needs of older persons

Per capita public transfer inflows and outflows by age (normalized)

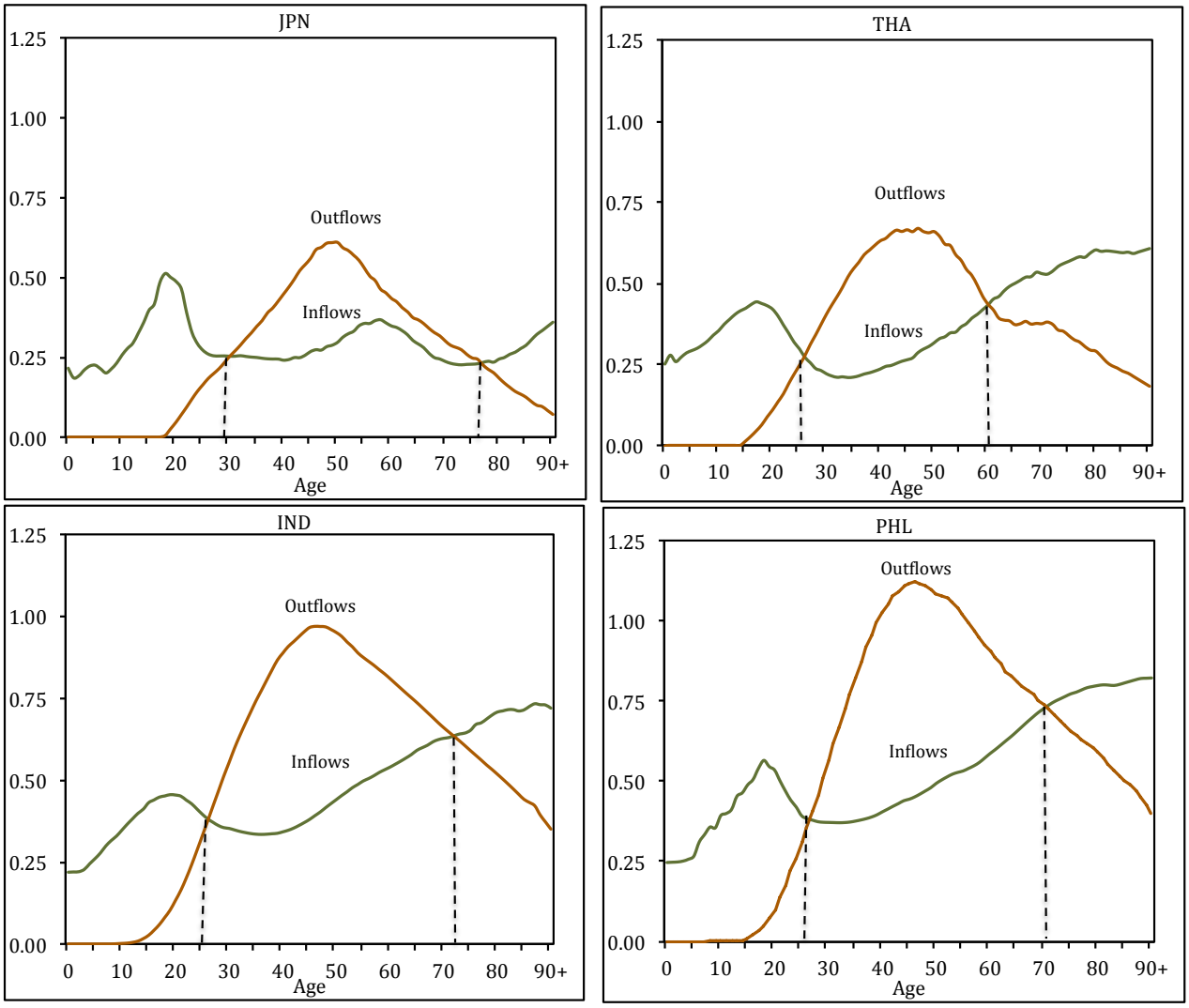


Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); and Racelis and Salas (2011).

In order to gain some more insight into the three main mechanisms for funding lifecycle needs – namely, public and private transfers and private asset-based reallocations – it would be helpful to decompose each of these mechanisms into their constitutive parts.

As public transfers provide the fiscal and institutional underpinnings of social protection, the more specific types of government transfers directed at older persons such as public health care and public pensions will be further treated in chapter 3. As a propaedeutic to chapter 3, and also for the sake of symmetry (vis-à-vis the other main reallocation mechanisms), figure 2.8 breaks down per capita public transfers into inflows and outflows for three of the six countries that are being analyzed in chapter 2 – namely, Japan, Thailand, India and Indonesia.

Figure 2.9
In developing countries family support is central to funding the lifecycle deficit in old age
Per capita inflow and outflow of private transfers by age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); and Racelis and Salas (2011).

The aforementioned difference regarding public transfers between high- and lower-income countries is confirmed. Public transfer inflows rise to over 75 per cent and

outflows peak at about 50 per cent of labour income for ages 30-49. In Thailand, India and the Philippines, by contrast, public transfer inflows and outflows are at 25 per cent of labour income for prime age adults. Furthermore, in the lower-income countries the downward bias of public transfers is confirmed. In Thailand, India and the Philippines, positive net transfers are greatest during the childhood and adolescent years, while negligible in old age. In contradistinction, in Japan, positive net transfers, though significant during childhood and adolescence, are greatest in old age. Again, the report will return to the role of public transfers in chapter 3.

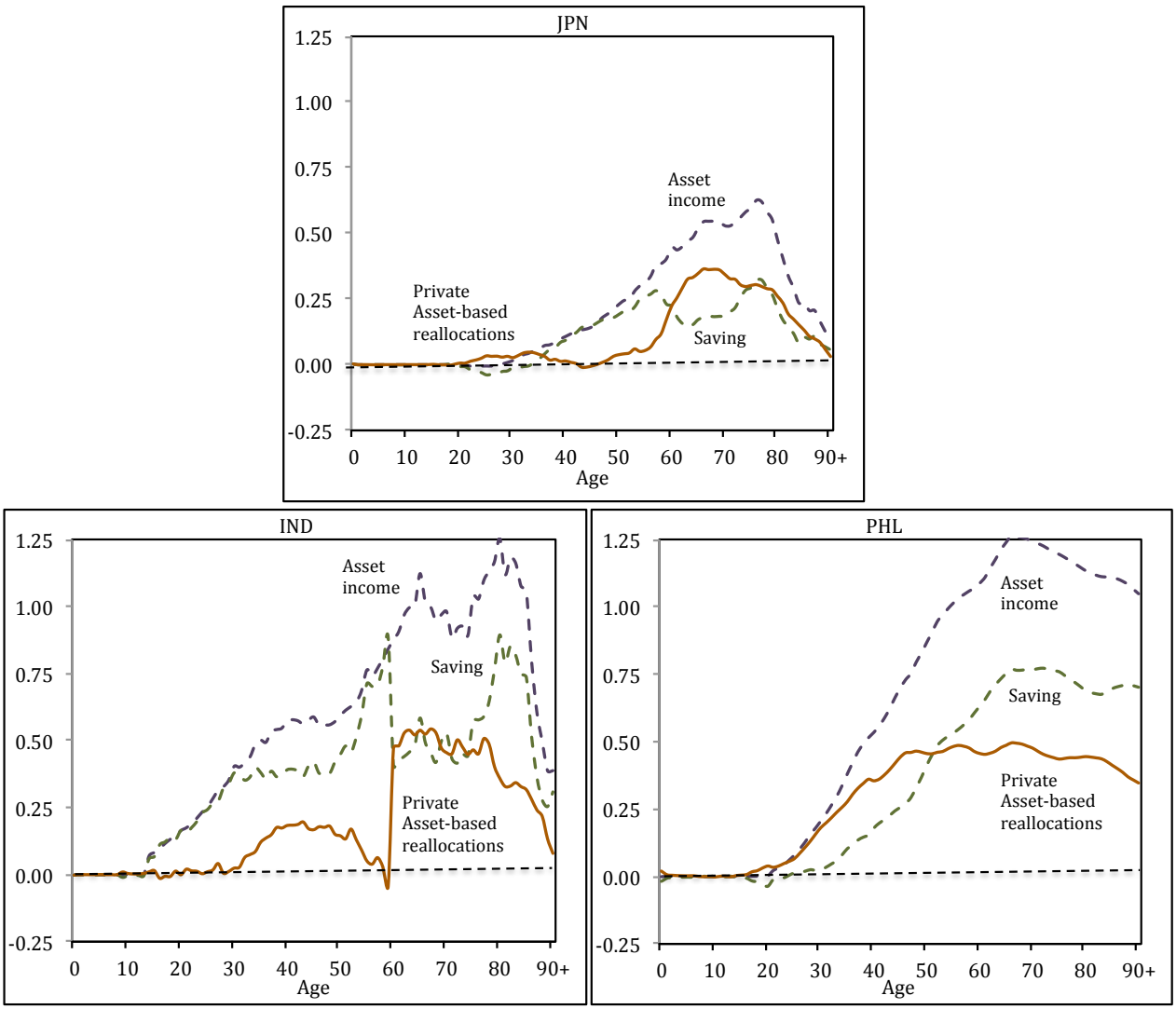
Turning now to a more detailed examination of the second main mechanism for meeting lifecycle needs, figure 2.9 breaks down private transfers per capita into outflows and inflows for Japan, Thailand, India and the Philippines. Overall, this figure confirms the trend that was expected: namely, given the inverse relationship between public and private transfers, the latter are larger in Thailand, India and the Philippines. In fact, the magnitude of private transfer flows is directly proportional to the level of economic development and inversely proportional to how far the country is along the demographic transition. Thus, in Japan and Thailand, outflows represent about 60 per cent of the labour income of ages 30-49 years. In India private outflows come to about 100 per cent of the wealth this reference cohort produces through work. While outflows are highest in the Philippines, reaching over 110 per cent of the labour income of prime age adults.

Lastly, in order to have a closer look at the third principal mechanism for funding lifecycle needs, figure 2.10 breaks down private asset-based reallocations into its two constituent parts – namely, income assets minus savings – for Japan, India and the Philippines (data is not available for Thailand). As was suggested earlier, to fund their needs in old age, individuals depend on lifecycle savings, that is, they accumulate assets during their prime-age years and spend down these assets later in life. As was the case with private transfers, asset flows are directly proportional to a country's standard of living and inversely related to the country's median age. The magnitude of asset flows in old age is thus greater in India than in Japan, and greater in the Philippines than in India. This is consistent with NTA research findings, which have found that older persons in lower-income countries rely more on private asset-based reallocations than on transfers (Lee and Mason, 2011). This is intuitive given that, as was demonstrated above, in developing countries public transfers are inchoate and downward flowing. Furthermore, it can be added that, not based on any formal obligation or entitlement, private transfers are precarious.

A striking difference between the three countries is that the flow of assets is more volatile in India than in Japan and the Philippines. In India, individuals on average accumulate and spend a substantial amount of lifecycle savings during ages 30 to 60 years. At 60 years, with lifecycle savings slightly negative (that is, in debt), individuals most likely sell-off the assets they used to make a living – such as property, machinery and livestock – which they then use to fund lifecycle deficits in old age. By contrast, in Japan and the Philippines, the flow of assets is smoother. Given robust public transfers, individuals on average have less of an incentive to save during the working years in Japan. At about 45 years, Japanese go slightly into debt, most likely investing in property. In Japan, then, the little lifecycle savings that are accumulated are not spent down at the end of the working life, as is the case in India, but rather they are carried

into retirement. At 60 years, moreover, these accumulated assets are augmented by employment-based pension funds and the selling-off of personal wealth. In the Philippines, individuals begin to accumulate assets from their early 20s. Unlike the average Japanese, then, the average Filipino has an incentive to accumulate assets, and does so smoothly through his/her working life.

Figure 2.10
In developing countries assets are crucial for meeting the lifecycle needs of older persons
Per capita private asset-based reallocations by age (normalized)



Source: Ogawa et al. (2012); Ladusingh and Narayana (2011); and Racelis and Salas (2011).

The two demographic dividends provide opportunities to achieve sustained growth and greater intergenerational equity

The NTA approach offers a robust account of how changes in age structure over time impact consumption and production patterns as well as the reallocation mechanisms that have just been analyzed for Japan, Thailand, India and the Philippines. The basic idea was developed in broad strokes at the outset of the introductory chapter (see figure 1.4): There exist demographic windows of opportunity associated with youthful and mature age structures, which, under the right institutional arrangements and policy contexts, can lead to favorable economic conditions. An increase in the prime-adult working age, and consequent growth in inputs of labour, that is associated with youthful age structures, favor economic growth and can result in a "youth dividend." While rapidly ageing or already old countries could harness a "longevity dividend" that can counter the adverse consequences of a decrease in the relative size of their working-age population.

The NTA approach provides a more nuanced perspective into this two-dividend framework. Essential to the NTA approach is the insight that, though they are linked in and through the demographic transition, there exists a fundamental qualitative difference between the first and second dividend: The first dividend tends to last for decades, but it is fundamentally transitory in nature as it is a function of the change in the share of the working-age population. The second dividend, by contrast, is not transitory in nature, as population ageing may generate behavioral and structural changes in the economy that may in turn lead to permanent benefits (Mason, 2005). Put succinctly, "[t]he first dividend arises because of the rapid growth of the productive population relative to the consuming population"; while [t]he second dividend arises because the anticipation of population aging provides a powerful incentive for saving and capital accumulation" (Mason and Lee, 2004: 1).

As it has already been intimated and as it will become clearer below, in the name of sustainable economic growth, the NTA approach posits an important trade-off between private asset-based reallocations, on the one hand, and public and private transfers, on the other, in elucidating the conditions of possibility for harnessing a second demographic dividend. While, in the final analysis, it could be argued that the NTA approach gives pride of place to the former over the latter two, and thus essentially biasing economic performance over generational equity, the idea that the second dividend is qualitatively different to the first dividend paves the way to linking the harnessing of this dividend to inclusive growth. In this sense, the trade off that is brought forth should be formulated as a gut check to the notion of inclusive growth, and not as its annihilation.

As was suggested in the introductory chapter, the first demographic dividend can be gaged directly through changes in the share of the working-age cohort as well as changes in the support ratio. In populations with youthful age structures, an increasing number of working-age individuals are available to support older persons. As a result, the support ratio increases in these societies. The discussion in the introductory chapter, however, deployed a demographic interpretation of the support ratio: namely, the number of persons aged 15 to 64 for every person aged 65 or older. Though

analogous with this definition, the NTA approach marshals a more technical interpretation that is grounded in the economic lifecycle. The NTA definition of the support ratio is the number of effective producers per effective consumer determined by the population age distribution and the age profiles of per capita consumption and labor income (DESA, 2013b; Lee and Mason, 2011). An intuitive interpretation of this "economic support ratio" is thus that "it measures the effect on consumption of changes in population age structure while holding constant other factors – work effort, interest rates, assets, saving, and net transfers from the rest of the world. Each percentage-point increase in the support ratio allows a percentage-point increase in consumption at every age, all other things being equal" (Lee and Mason, 2011:13).

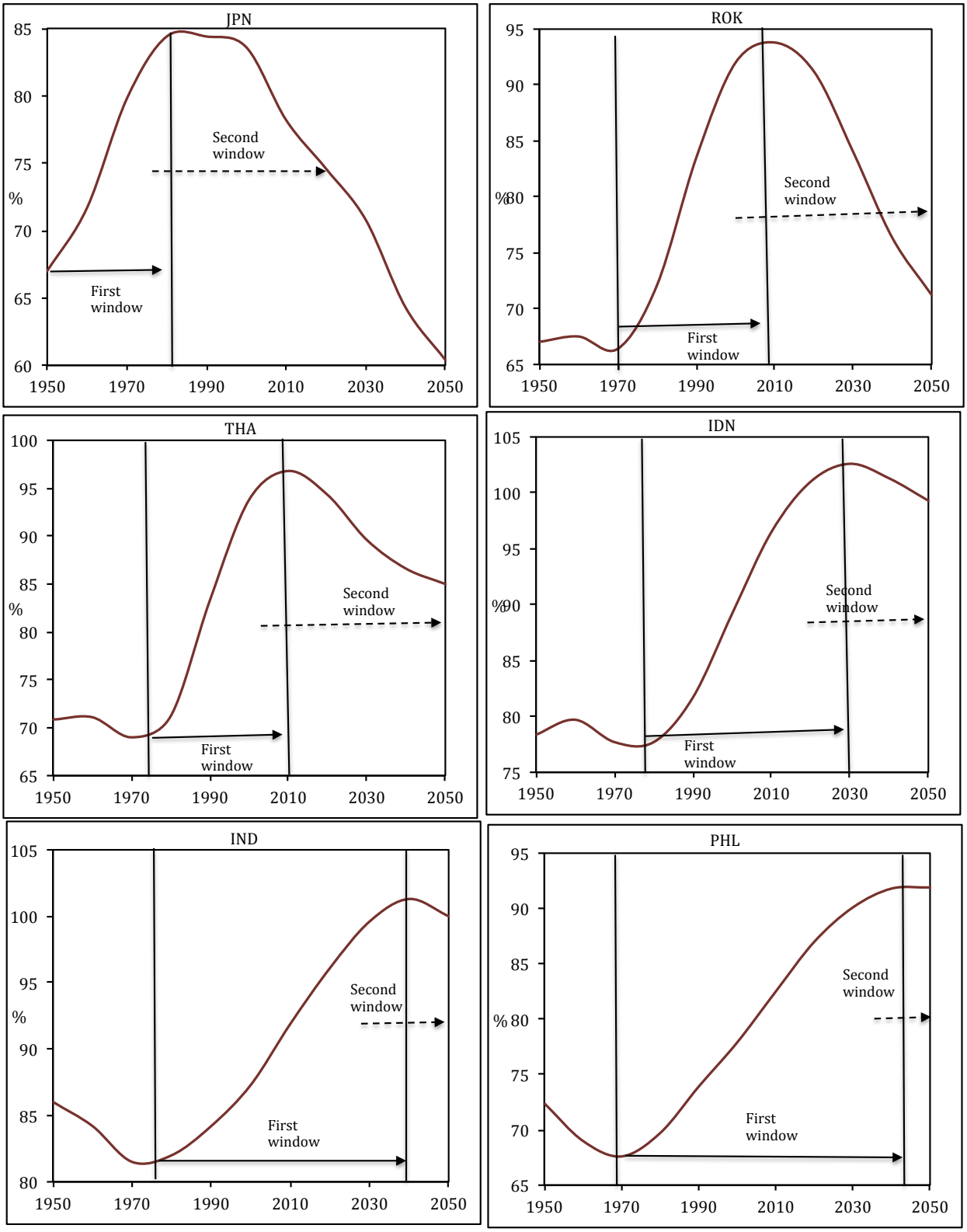
From here, to the extent that it is a first-order effect of population change on income or consumption, the first demographic dividend can be expressed quantitatively as the increase in the economic support ratio. By contrast, the second demographic dividend cannot be expressed quantitatively through the economic support ratio. While the decreasing support ratio that is associated with population ageing points to a reduction in consumption, the falling ratio only elucidates the window of opportunity for a second demographic dividend. As was suggested earlier, and as will be further teased out below, the actual longevity dividend takes form in and through second-order effects linked to behavioral modification, structural economic change, adjustment of institutional arrangements, and the like. Indeed, "[t]he second demographic dividend does not have a clear demarcation. It depends on how resources generated by the first demographic dividend are used – invested to enhance development prospects or exclusively to raise current consumption" (DESA, 2013b: 12).

Figure 2.11 tracks the economic support ratio for Japan, Thailand, India and the Philippines from 1950 to 2050 and also delineates for each of these countries the phases during which the first and second demographic dividends are, in principle, accessible. Following the definition of the economic support ratio just elucidated and consonant with the exercise of delineating dividend phases by tracking changes in the share of the working-age population that was carried out in the introductory chapter, the first dividend is accessible during those years in which the economic support ratio increases.

Given the nature of the first dividend, the demarcation of its window opportunity can be more explicitly determined. By contrast, given the nature of the second dividend, its corresponding window of opportunity can be less explicitly delineated, though it begins to crystallize once the economic support ratio starts to increase at a decreasing rate, or begins to decrease all together.

Oriented by the economic support ratio, the demographic predicaments faced by the four countries being examined here face can now be more precisely formulated. The first window of opportunity closed for Japan in the early 1980s. By the 1990s, after about a decade in which the support ratio remained practically constant, the country had clearly entered the second window of opportunity. As has already been suggested, Japan is relatively well poised to harness the second demographic dividend on account of its level of economic development and robust reallocation mechanisms.

Figure 2.11
In the next decades the second demographic dividend will become accessible to developing countries
Economic support ratios (1950-2050)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011)

Thailand's first dividend phase began in the early 1970s and came to an end during the first decade of this century. The country is currently entering the second dividend phase, which it will have access to through 2050. As has been suggested, Thailand faces a rather challenging situation due to the fact that it will grow old before having achieved a high enough standard of living or before having put in place a sufficiently robust public transfer system to meet the needs of a rapidly ageing population. For Thailand, tapping the second demographic dividend might be a way of avoiding the "middle-income trap."

Table 2.1
The first demographic dividend has generated significant economic gains
Increase in consumption per effective consumer associated with rising support ratios, selected countries

	Minimum		Maximum				
	Support ratio	Year	Support ratio	Year	Span (years)	Total gain (%)	Annual gain (%)
BGD	0.69	1982	0.98	2033	51	42.1	0.69
CHN	0.75	1972	1.00	2015	43	33.0	0.66
IND	0.75	1973	0.97	2042	69	29.3	0.37
IDN	0.74	1976	0.96	2026	50	30.3	0.53
JPN	0.69	1950	0.86	1978	28	24.5	0.78
KOR	0.64	1966	0.93	2010	44	46.1	0.86
PAK	0.71	1986	0.92	2050	64	30.7	0.42
PHL	0.68	1969	0.92	2046	77	36.2	0.40
THA	0.71	1971	0.99	2011	40	39.9	0.84
VNM	0.67	1980	0.97	2021	41	44.8	0.90

Source: Mason and Lee (2011: 14).

The sequence of the two windows of opportunity is very similar in India and the Philippines, with a time lag of about half a decade for the younger of the two countries. Both India and the Philippines have had access to the first demographic dividend since the early 1970s, and will continue to do so until 2035. By 2040 both countries will start to enter the second dividend phase. India and the Philippines need to negotiate two sets of priorities. The first has to do with tapping the youth dividend through investments in secondary and tertiary education, enhancement of the scientific and technological base, initiatives to smoothen the school-to-work transition, and the creation of productive and decent work for hundreds of millions of youth and prime-age individuals. At the same time, both countries have to lay the foundations for sustaining high standards of living and meeting the lifecycle needs of an increasing number of older persons before a more mature age structure sets in. Essential to this transition from the first to the second dividend, as will be seen below, is facilitating capital deepening through increase in lifecycle savings. Indeed, as was suggested above, "[a] common misunderstanding is that young countries can postpone addressing aging issues, but nothing could be further from the truth" (Lee and Mason, 2011: 26-27).

Initially motivated by an attempt to gain greater insight into the demographic determinants of the Asian Miracle, there has emerged a rather extensive body of literature consecrated to the analysis of the first demographic dividend in the region. Whether utilizing regression analyses or simulation models, the evidence suggests that the demographic dividend associated with population growth has been significant across Asia and the Pacific (Mason and Lee, 2011). Table 2.1 summarizes NTA

estimates of the economic gains associated with the first dividend for selected countries in the region, including Japan, Thailand and India.

During the 28 years (1950-1978) that lasted the first dividend phase in Japan, the rise in the economic support ratio led to a total increase in consumption per effective consumer of around 25 per cent in the country, or about three-quarters of a percentage point per year. In Thailand, consumption per effective consumer increased a total of 40 per cent during the four decades that lasted its first dividend phase (1971-2011). This comes to close to one-percentage point per year. As for India, the country is projected to experience a total gain in consumption per effective consumer of about 29 per cent throughout the 69 years that the first dividend phase is expected to last. This is about less than half of a percentage point per year. Finally, according to NTA estimates, the Philippines, during the seven decades that is expected to last its first dividend, the country is projected to gain a total increase in consumption per effective consumer of 36.2 per cent. Like with India, this comes to about half a percentage point per year.

Table 2.2
The end of the first demographic dividend will bring with it economic losses
Fall in consumption per effective consumer associated with declining support ratios, Selected countries (up to 2050)

	Maximum		2050			
	Support ratio	Year	Support ratio	Span (years)	Total gain (%)	Annual gain (%)
BGD	0.98	2033	0.94	17	-3.7	-0.22
CHN	1.00	2015	0.87	35	-12.7	-0.39
IND	0.97	2042	0.96	8	-1.0	-0.12
IDN	0.96	2026	0.91	24	-6.1	-0.26
JPN	0.86	1978	0.64	72	-26.3	-0.42
KOR	0.93	2010	0.68	40	-27.2	-0.79
PAK	0.92	2050	0.92	0	0.0	n/a
PHL	0.92	2046	0.92	4	-0.1	-0.03
THA	0.99	2011	0.89	39	-10.1	-0.27
VNM	0.97	2021	0.89	29	-8.2	-0.30

Source: Mason and Lee (2011: 14).
Note: n/a=not available.

Table 2.2 provides the fall in the support ratio and corresponding loss (or negative gain) in consumption per effective consumer for selected countries in the region, including Japan, Thailand, India and the Philippines, from the end of the first dividend phase through 2050. These numbers reflect the downward pressure that movement along the demographic transition – the shift from a young to a more mature age structure – will have on economic growth.

In Japan, seven decades (1978-2050) of population ageing is projected to result in a decrease in consumption per effective consumer of 26 per cent, or about half a percentage point per year. In Thailand, 39 years (2011-2050) of an increasing share of older persons is expected to result in a 10 per cent decrease in consumption per effective consumer. As for India, eight years (2042-2050) of declining economic support ratios is projected to generate a one-percentage point decrease in consumption per effective consumer. While in the Philippines, four years of downward pressure on economic growth (2042-2050) is expected to have a negligible effect on consumption

per effective consumer. This points to this country's youthful age structure. Indeed, extrapolating from NTA estimates, it will not be until the second half of this century that the Philippines will begin to experience the brunt of falling economic support ratios.

As has already been suggested, these negative trends do not encapsulate or express, but rather point to the second demographic dividend, and specifically give a sense of the size of the dividend that is needed to offset the contracting effects of a decrease in the number of effective producers relative to effective consumers.

That the first demographic dividend can be expressed as the direct effect of the support ratio on per capita consumption while the second demographic dividend cannot, points to the qualitative difference between both dividends that was alluded to above: To the extent that it is a function of the change in the share of the working-age population, the first dividend is transitory in nature. While the second dividend, to the extent that it results from more fundamental behavioral and structural changes, is permanent in nature. This important distinction can be gleaned through an interpretation of one of the identities that grounds the NTA framework, namely: $C/N = (1-s)Y/L\ (L/N)$.

This equation expresses consumption per capita (C/N) – which is a measure of the standard of living – in relation to two terms. The first term is the amount of income each worker produces and consumes, which is equal to one minus the savings rate (s) multiplied by income per effective worker (Y/L). The second term is the support ratio (L/N), or the number of producers relative to the number of consumers. The first demographic dividend is expressed through the second term, that is, through the effects of changes in population age structure on the support ratio. These effects are relatively clear and explicit. The second demographic dividend is expressed through the first term, that is, through the effects of changes in population age structure on the savings rate and the productivity of workers. These effects are relatively more complex (DESA, 2013b).

The difference between the two dividends can also be approached by transforming the aforementioned identity into growth terms – $gr\ [C/N] = gr\ [(1- s)Y/L] + gr\ [L/N]$ – where "gr [z]" represents the growth rate of "z." While the first dividend operates through growth in the support ratio, the second dividend operates through the growth rate of net productivity per worker (DESA, 2013b). In other words, the transformed equation identifies two pathways through which population change impacts income per capita. First, the support ratio varies with changes in age structure. This is the pathway that generates the first demographic dividend: Given the rate of growth in "Y/L" and savings rate "s," a one-percentage point increase in the support ratio results in a one-percentage point increase in per capita income. Second, changes in age structure and other behavioral and institutional factors influence the growth of "Y/L," that is productivity growth, as well as the savings rate "s." This is the pathway in and through which the second demographic dividend takes form (Mason and Lee, 2008).

In a provocative article that stoked considerable debate around growth accounting and the economic sources of the Asian Miracle (Bhagwati, 2000), Paul Krugman puts forth a thesis that intended to demystify the nature of the high levels of economic growth attained by the East Asian economies during their heyday (1994). This thesis nicely illustrates the difference between the first and second demographic dividends, or

perhaps more specifically, it nicely illustrates the nature and limits of the first dividend. In this article, Krugman argues that "Asian growth, like that of the Soviet Union in its high-growth era, seems to be driven by extraordinary growth in inputs like labor and capital rather than by gains in efficiency" (1994: 70). In other words, growth in East Asia was due to an impressive mobilization of inputs. It was due, for example, to an increase in the number of effective producers (that is, labour) facilitated by the first demographic window of opportunity. This growth was not due to an increase in the productivity of labour.

Indeed, according to Krugman, East-Asian growth was the result of deferred gratification, the willingness to sacrifice current satisfaction for future gain; it was due to perspiration and not inspiration. This type of growth was not sustainable; it could not last forever: "[S]ustained growth in a nation's per capita income can only occur if there is a rise in output per unit of input…Mere increases in inputs, without an increase in the efficiency with which those inputs are used…must run into diminishing returns; input-driven growth is inevitably limited" (Krugman, 1994: 67). The transitory nature of the first demographic dividend, then, stems from the fact that economic gains are achieved largely through increasing the quantity of labour, which is reflected in rising support ratios and increasing consumption per capita. While the second demographic dividend, as it will now be explained, is anchored in productivity growth that stem, in part, from improvements in the quality of labour and capital deepening.

Stocktaking

The second demographic dividend refers to a broad set of behavioral, institutional and policy adjustments to population ageing that counter the downward pressure associated with falling support ratios and declining consumption per capita that ensue once the first window of opportunity begins to close (table 2.2). These adjustments involve all social institutions including the family, private sector, markets, and government. Moreover, if the second demographic dividend is to be aligned with inclusive growth, the adjustments need to balance fostering sustainable economic growth and achieving greater intergenerational equity. These two dimensions of inclusive growth, as suggested earlier, synergistically interlock: While economic growth is needed if redistribution is to be more than a zero-sum game (that is, a distribution of a fixed amount of consumption), redistribution, to the extent that it reduces inequalities, promotes economic growth, and makes it sustainable. Indeed, to the extent that it is a permanent and qualitative change in production and reallocation, this second dividend must take the form of inclusive growth. Framed by the parameters identified through the earlier exposition of the NTA grounding identities, the set of adjustments that are at play in the second dividend can be organized under five policy measures. The report will return to these measures in chapter 5.

Chapter 3

Implications for Social Protection

Social protection is essential for inclusive growth and intergenerational equity

Social protection does not only mitigate poverty in old age as well as age-based income inequalities, but, to the extent that it contributes to inclusive growth, it is also fundamental to harnessing the demographic window of opportunity associated with the greying of the Asia-Pacific region (Ostry et al., 2014; Berg and Ostry, 2011). Recognizing its central role in economic and social development, countries in the region have increased their investments in social protection. Yet, fiscal strain caused by a declining workforce and an increase in the demand of public transfers in old age will test the commitment of countries to the social sector.

Though the failure to secure adequate fiscal space for social protection is no doubt important, and especially when it is cast as lack of political will and a fragmented and weak social dialogue, the social protection gaps that exist in the region should not be reduced to this issue of fiscal space. In addition to underspending, there are also shortcomings in the region in terms of the design and implementation of social protection systems. Shortcomings in terms of design and delivery mechanisms will undoubtedly have a devastating impact in the context of population ageing.

Stated from another angle, though high social investments are not a sufficient condition for the development of robust social protection systems, they are a necessary condition. This holds a fortiori in the context of Asia-Pacific developing countries where, given the rudimentary nature of social protection systems, government policymakers and stakeholders, willy-nilly, must negotiate the trade off between the broadening of basic coverage to all and the enhancement of benefits. While never abolishing it, broader fiscal space for social protection would widen the terms or scale of this trade off between breadth and depth. Indeed, in the final analysis, public spending on social protection remains one of the best proxies of social protection coverage in the region.

Countries with high social investments tend to also have effective social protection systems with relatively small coverage gaps. Indeed, there exists a positive strong correlation ($r=0.76$) between the Social Protection Index (SPI), the ADB indicator that gauges how successful countries are in expanding social protection coverage to intended beneficiaries and social protection investments as a share of total government expenditure. Intuitively, with the highest share of social investments relative to government expenditures in the region (68 per cent), Japan also has the highest SPI, at about 42 per cent. This means essentially that total social protection expenditures per intended beneficiary represent 42 per cent of poverty-line expenditures, or a quarter of Japan's GDP per capita (ADB, 2013). By contrast, Thailand, for example, dedicates a bit over 18 per cent of government spending to social protection and has an SPI of approximately 12 per cent.

Regardless of the position they occupy along the demographic transition, the majority of countries in the region need to increase their investments in social protection. In order to gain a broad regional overview of the relationship between age structure and social investments, figure 3.1 plots median age and social protection spending as a percentage of total government expenditure for 43 countries in the region for which data are available.

As was done with the scatter plot presented at the outset of last chapter (see figure 2.1), the demographic axis has been categorized thus: Countries with a median age greater than or equal to 36 years are considered to have a mature age structure and are classified as "old." Countries with a median age greater than or equal to 26 years and less than 36 years are considered to be in transition from a young to a mature age structure, and thus are classified as "rapidly ageing." While countries that have a median age of less than 26 years are considered to have a youthful age structure, and are classified as "young."

In terms of the social protection axis, the following categories have been used: Countries with social protection spending as a percentage of total government expenditure that is greater than or equal to 40 per cent have been classified as having "high social protection investments." This seems like a reasonable threshold. It is just below the OECD mean of approximately 47 per cent (in 2013), which is considerably elevated given the very high social investments of the Nordic countries. Countries with social protection spending as a share of government expenditure that is greater than or equal to 20 per cent and less than 40 per cent are classified as having "moderate social protection investments." While countries with social spending as a share of government expenditure that is less than 20 per cent are classified as having "low social protection investments."

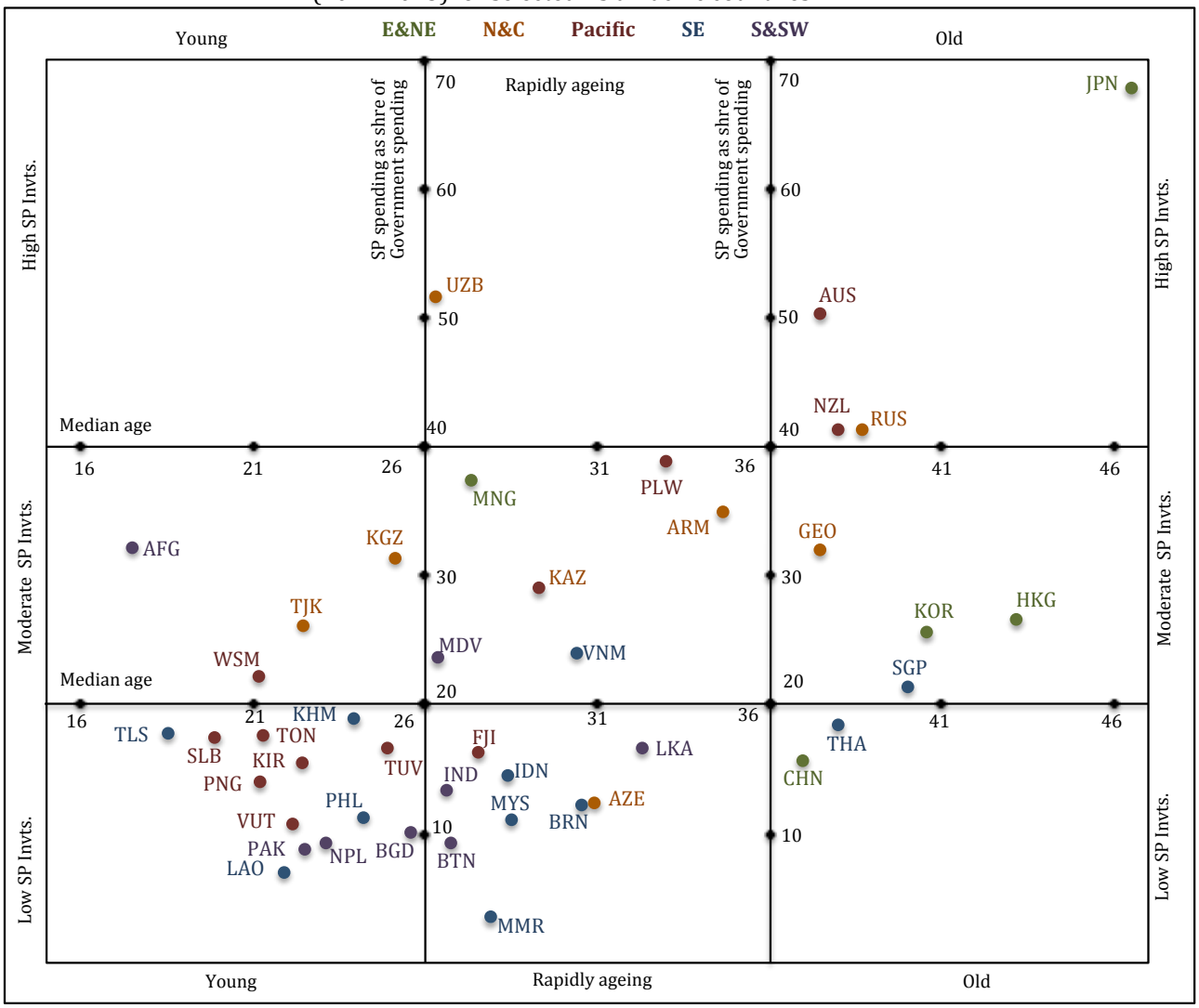
As was the case last chapter (figure 2.1), the result is a nine-quadrant typology. Forty-two countries are contained in seven of these quadrants; and one country – Uzbekistan – occupies an eighth quadrant. Unlike the previous scatter plot where three quadrants remained empty, in this scatter plot only one quadrant remains empty: No young country has high investments in social protection. At the same time, analogous to the previous scatter plot, only old countries have high investments in social protection; and yet, at the same time, the number of countries located in the upper-right quadrant has been reduced by half.

Like with the aforementioned relationship between age structure and GNI per capita, the correlation between median age and spending on social protection is positive. This is intuitive: Countries that are further along the demographic transition tend to have higher levels of economic growth, and, being relatively affluent, also tend to have more robust social protection systems. Again, as was the case with the previous scatter plot, this positive relationship between age structure and social protection is corroborated by the fact that no country occupies the upper-left quadrant; which is to say that no young country has been able to sustainably achieve high investments in social protection. And, furthermore, with the exception of Uzbekistan, no rapidly ageing country has been able to achieve high social investments.

While positive, though, median age and social protection are not as tightly correlated, as are median age and GNI per capita ($r=0.51$ compared to $r=0.68$). Prima facie, this is evident from the fact that the spread of countries in the former is greater than in the latter. (As has just been indicated, only one of the quadrants remains empty in the case of the former, while three quadrants remain empty in the case of the latter.) To return to a country-level comparison that was made earlier that brings forth the difference between the two scatter plots: Japan has the oldest population structure in the region with a mean age of 47 years; is among Asia-Pacific's wealthiest countries with a GNI per

capita of $42,000; and also has the highest level of investments in social protection, at 68 per cent of total government spending. Yet, though Afghanistan has the youngest population structure with a median age of 18 years, and is the poorest country in the region with a GNI per capita of $680, it has relatively high social spending and is situated in the "young-and-moderate-social-protection-investments" quadrant. It is in fact Lao PDR, with seven per cent of government spending committed to social protection, which ranks last in the region in terms of social investments. Yet Lao PDR, as was seen last chapter, has achieved middle-income status with a GNI per capita of $1,600.

Figure 3.1
The large majority of countries in the region have low or moderate investments in social protection
Median age (2015) and social protection spending as a percentage of total government expenditure (2011-2013) for selected Asia-Pacific countries



Source: DESA (2015); ADB (2014); World Bank Indicators; and ILO (2014).
Note: Consistent with the Social Protection Floor framework, government spending on social protection is calculated as the sum of government expenditures on health and social security and welfare, where social security and welfare includes public pensions. It therefore does not include spending on education. For the following countries spending on social protection as a share of total government expenditures was derived using ADB, World Bank and ILO data: AFG, IDN, KAZ, LAO, MDV, MMR, PAK, PLW, PNG, RUS, SLB, TON, TUV, UZB and VNM.

One explanation for this weaker correlation and larger spread in the case of median age and social investments is that social protection is more responsive to the policy context than it is to demographic conditions vis-à-vis economic growth. To put it in slightly different terms, economic growth is much more dependent on, for instance, the relative size of the working-age cohort, than is social protection, though obviously demographic conditions do play a role in constraining fiscal space, as will be seen below. This weaker correlation and broader distribution is another way at getting at the fact that the impressive economic growth in the region has not always been shared with all segments of society. Indeed, important inequalities could lurk behind GNI per capita; though, at the same time, it is obvious that countries need to create wealth before they can redistribute it.

Three shifts in the position of countries between figure 2.1 and figure 3.1 support this interpretation: One shift has to do with the cluster of Pacific countries – which include Tonga, Kiribati, Papua New Guinea, Tuvalu, Fiji and Solomon Islands. This cluster of Pacific Island countries experience a deterioration in their relative position from the middle-left quadrant to the bottom-left quadrant, when measured against investments in social protection, as opposed to GNI per capita. A second shift involves China and Thailand, which move from the middle-right quadrant under the first scatter plot to the bottom-right quadrant under the second scatter plot.

A third shift has to do with the three Asian Tigers – Hong Kong-China, Republic of Korea and Singapore. These three countries also experience a deterioration of their relative position from the upper-right to the middle-right quadrant as a result of relatively low spending on social protection. To the extent that the narrative of "equitable" or "shared growth" that defined the "miracle" that was orchestrated by the Asian Tigers ever held sway, it could be argued that the redistribution of wealth in these countries was mediated more through the labor market and private asset-based reallocations than through public transfers. As figure 3.1 shows, the Asian Tigers invest much less on social protection than a significant number of countries in the region, not to mention the Nordic and Continental European countries.

Four countries occupy the upper-right – "old-and-high-social-protection-investments" – quadrant, the OECD trio – Australia, Japan and New Zealand – and the Russian Federation, which have built strong social protection systems before growing old. New Zealand and the Russian Federation, for example, have a median age of about 38 years and commit about 41 per cent of government spending to social protection. This cluster of four countries, then, is the most prepared to protect older persons. Understood as the pacesetters in terms of prioritizing social investments, these countries are ideally positioned to provide good practices regarding social protections schemes for an ageing society.

Four countries occupy the middle-right – "old-and-moderate-social-protection-investments" – quadrant, including the champions of the Asian Miracle – namely, Hong Kong-China, Singapore and the Republic of Korea. These countries have relatively low social protection spending due to the development path they took decades ago, which gave pride of place to the market over the welfare state (vis-à-vis other Asia-Pacific countries). These countries enjoy a relatively high standard of living and low levels of

vulnerable employment. Consequently, they do not face the coverage gaps and low levels of benefits that are found in the majority of developing Asia-Pacific countries. Rather, these countries face the challenge of providing higher levels of benefits, making these sustainable, and improving the quality of social services. Whether it is to consolidate a minimum level of coverage for all or to fine-tune and enhance more developed social protection systems, all the countries in the middle-right quadrant face a similar challenge: namely, increase investments in social protection having already entered the second demographic window of opportunity.

The former Soviet Republic, Georgia, is the fourth country that is situated in this middle-right quadrant. As a transition economy that has focused on market-oriented reforms, it is not surprising that social protection spending has increased relatively little in this country since the mid-1990s (ADB, 2014). Furthermore, at close to 60 per cent, Georgia has the highest share of vulnerable employment among the countries of North and Central Europe (see figure 2.4), which suggests that substantial social protection gaps exist.

Two countries occupy the lower-right – "old-and-low-social-protection-investments" – quadrant: namely, China and Thailand. Despite recent efforts to strengthen social protection, both of these countries have substantial coverage gaps that stem largely from the large share of the working population that is vulnerable or low-productive rural employment. In Thailand, for example, 55 per cent of working individuals are in vulnerable employment (see figure 2.4). It was suggested last chapter that given how far advanced they are along the demographic transition, these countries were particularly susceptible to secular stagnation and thus face one of the more tenuous predicaments among the middle-income countries of the region. Given, moreover, as was mentioned earlier, that the position of these two countries deteriorates when going from GNI per capita to social protection investments, this tenuous predicament is now confirmed, and it can even be argued that the predicament looks bleaker. It is not only that China and Thailand need to muster economic growth in the face of a mature age structure, they also will need to ensure that social protection coverage – pensions and health care in particular – is provided to an increasing number of older persons.

Six countries occupy the middle-central – "rapidly-ageing-and-moderate-social-protection-investments" – quadrant, ranging from the Maldives, with a median age of 23 years and with 15 per cent of government spending dedicated to social protection, to Palau, with a median age of 33 years and 39 per cent of government expenditures commit to the social sector. Four countries occupy the middle-left – "young-and-moderate-social-protection-investments" – quadrant, including Afghanistan, which, as has been suggested, improves its position considerably when compared to economic growth. For the majority of countries in these two quadrants the principal challenge will be to negotiate the trade off between broadening basic coverage and increasing benefit levels. Toward this end, these countries will need to improve the quality of social protection delivery mechanisms. This is the case with, for instance, Samoa and Armenia, albeit to different degrees. Though the terms of this trade off may differ considerably, all the countries in these two quadrants benefit from the fact that they still have not arrived at the threshold of the second window of opportunity; still this threshold is about a decade away for some.

It is quite concerning that 22 countries, over half of the total number of countries being considered in figure 3.1, commit less than 20 per cent of total government expenditures to social protection. Nine countries occupy the lower-middle "rapidly-ageing-and-low-social-protection-investments" – quadrant, including Myanmar, Indi and Sri Lanka. Thirteen countries occupy the bottom-left – "young-and-low-social-protection-investments" – quadrant, including Lao PDR, the Philippines and Cambodia. The analogous quadrants for the scatter plot provided at the outset of chapter 2, for example, contain only three countries. Indeed, though quite a number of Asia-Pacific countries have, since the turn of the century, graduated from low- to middle-income status, they have failed to invest this new wealth in narrowing exiting social protection coverage gaps. The main challenge facing these two clusters of countries is increasing social investments in order to extend basic social protection coverage to all, in particular to those in vulnerable employment. Having age, and therefore time, on their side, the youthful countries in this bottom-left quadrant must ensure that the first demographic dividend is invested in the construction of robust pension systems and age-sensitive health care services for the demographic transformation that is to come.

In addition to these seven clusters of countries, analogous with the case of Brunei-Darussalam in figure 2.1, Uzbekistan stands out as an anomaly, solely occupying the quadrant for countries that are rapidly ageing and have high investments in social protection. The mean age in Uzbekistan is only 27 years; yet the country invests over 50 per cent of total government expenditures in social protection, which points to a rather robust social protection system.

On the one hand, the robust nature of Uzbekistan's social protection system should not come as a surprise given the country's legacy as a former Soviet Republic. These high social investments suggest that, in contradistinction with the other transition economies, Uzbekistan managed to implement market-oriented reforms without dismantling the welfare state, a feat that, though perhaps was looked upon askance during the heyday of the Washington Consensus (World Bank, 1994), today, in the aftermath of the Great Recession and in the context of the aforementioned new consensus around redistribution and sustainable economic growth, seems to bode well for the country as it faces the challenges of population ageing (Shagazatova, 2012). On the other hand, to have managed to develop such a robust social protection system seems to be quite an exploit given Uzbekistan's relatively young age structure and modest level of economic development. Uzbekistan, for example, is much earlier along the demographic transition and has a much lower standard of living than the countries of the Asian Miracle, yet its social investments are higher (see figure 2.1). While Uzbekistan, as is the case for the large majority of Asia-Pacific countries, needs to improve the effectiveness of its social protection system (Shagazatova, 2012), all and all, from a regional perspective, the country remains an anomaly, and, for this reason, it warrants further investigation.

Social investments must better target the lifecycle needs of older persons

Chapter 2 established that societies meet lifecycle deficits through the accumulation of assets and savings by individuals and households, on the one hand, and through familial and government transfers, on the other. Public transfers in this report consist of government investments in social protection and education, where social protection, is

defined in terms of the Social Protection Floor as public investments in health, social security and welfare all along the life course (ILO, 2014). In order to acquire a more comprehensive grasp of the challenges that face Asia-Pacific countries in providing social protection coverage to older persons in the context of population ageing, it is paramount to understand the scale and structure of public transfers from a lifecycle perspective.

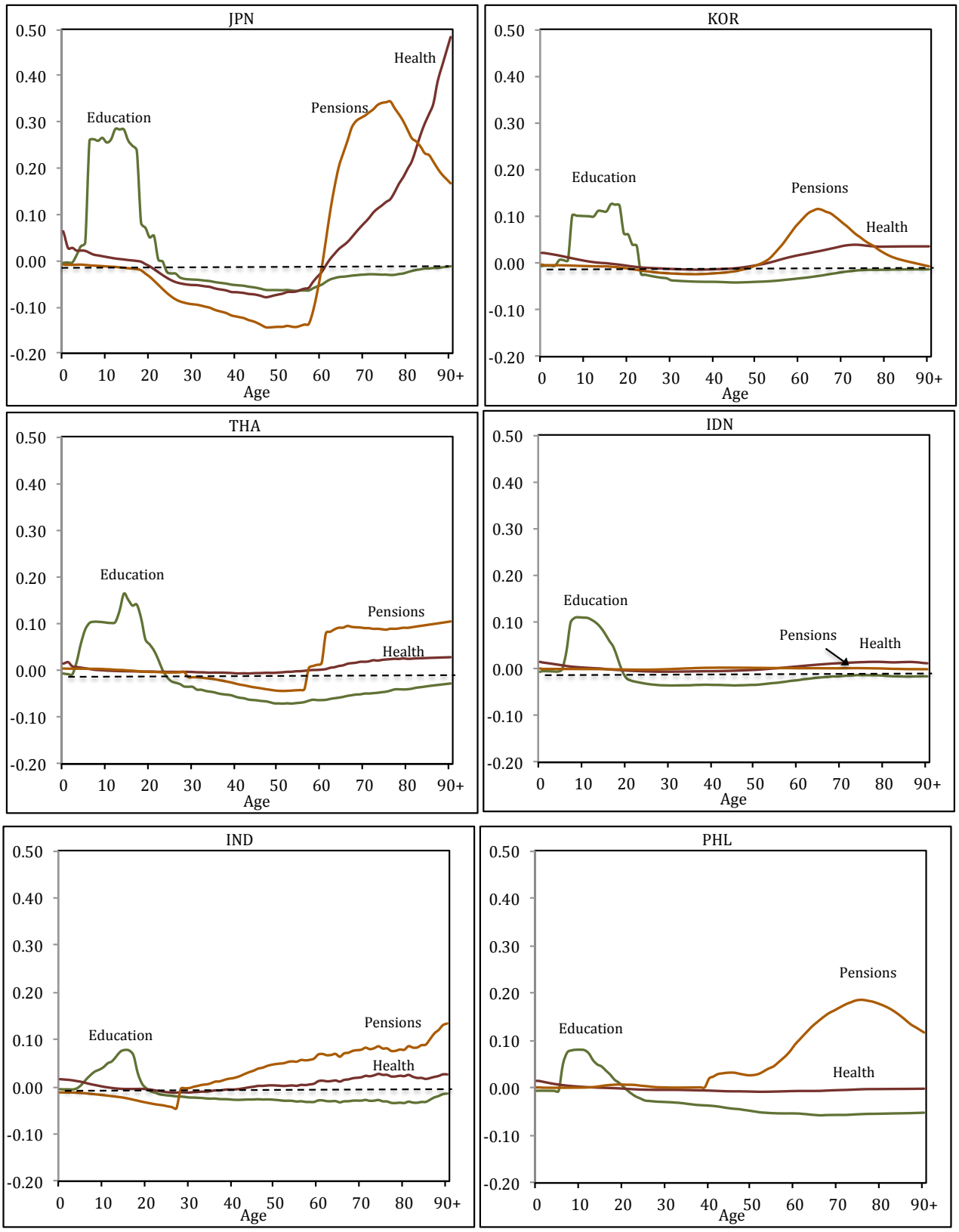
Figure 3.2 provides the per capita flow of public transfers by funding type for the six countries of the region that were examined last chapter. It is quite evident that the larger role public transfers play in the two high-income countries is due mainly to significantly higher government funding for health care and pensions. In Japan, public health funding begins to increase exponentially at around 60 years and becomes almost asymptotic to the vertical axis at 90 years and older. Prior to 60 years, throughout the prime-working age, there is a significant outflow of health transfers in the form of taxes. In Thailand Indonesia and India, by contrast, public health transfers remain rather flat throughout old age. In the Philippines and Indonesia, public health transfers remain practically at zero throughout the later stages of the lifecycle.

Figure 3.2 illustrates the trade off between a society's choice to reallocate resources to children or to older persons. While on average, in Japan the public sector invests about five times more on a nonagenarian than it does on a newly born, in the Republic of Korea, Thailand, India and the Philippines the public sector spends about the same for both. Or, framed in terms of a cross-country comparison, after accounting for the different levels of economic development (this is one the interpretations of the normalization of the NTA estimates), the average nonagenarian receives ten times more public health transfers in Japan than s/he receives in Thailand, India, Indonesia and the Philippines.

The difference in pension transfers is also substantial between Japan, on the one hand, and the five developing countries, on the other. Indeed, in Japan, public pension transfers are about three-times larger than they are in Thailand and India. It is also interesting that, though it has the youngest age structure and has the lowest standard of living among the countries being compared, in the Philippines public pension flows are higher than they are in the Republic of Korea.[9]

[9] This report draws a clear distinction between employment-based pensions – including those of retired civil servants – and public pensions. Only fully (non-contributory) or partially funded (contributory) pensions, to the extent that they are financed through general taxes and are entitlements (in the sense of universal eligibility), are considered public transfers. Pensions received as part of a worker's compensation – like, for example, a pension for retired public school teachers or military personnel – are not transfers; they are a component of labour income, and thus take the form of private-based reallocations that individuals accumulate throughout their work life (Mason and Lee, 2011).

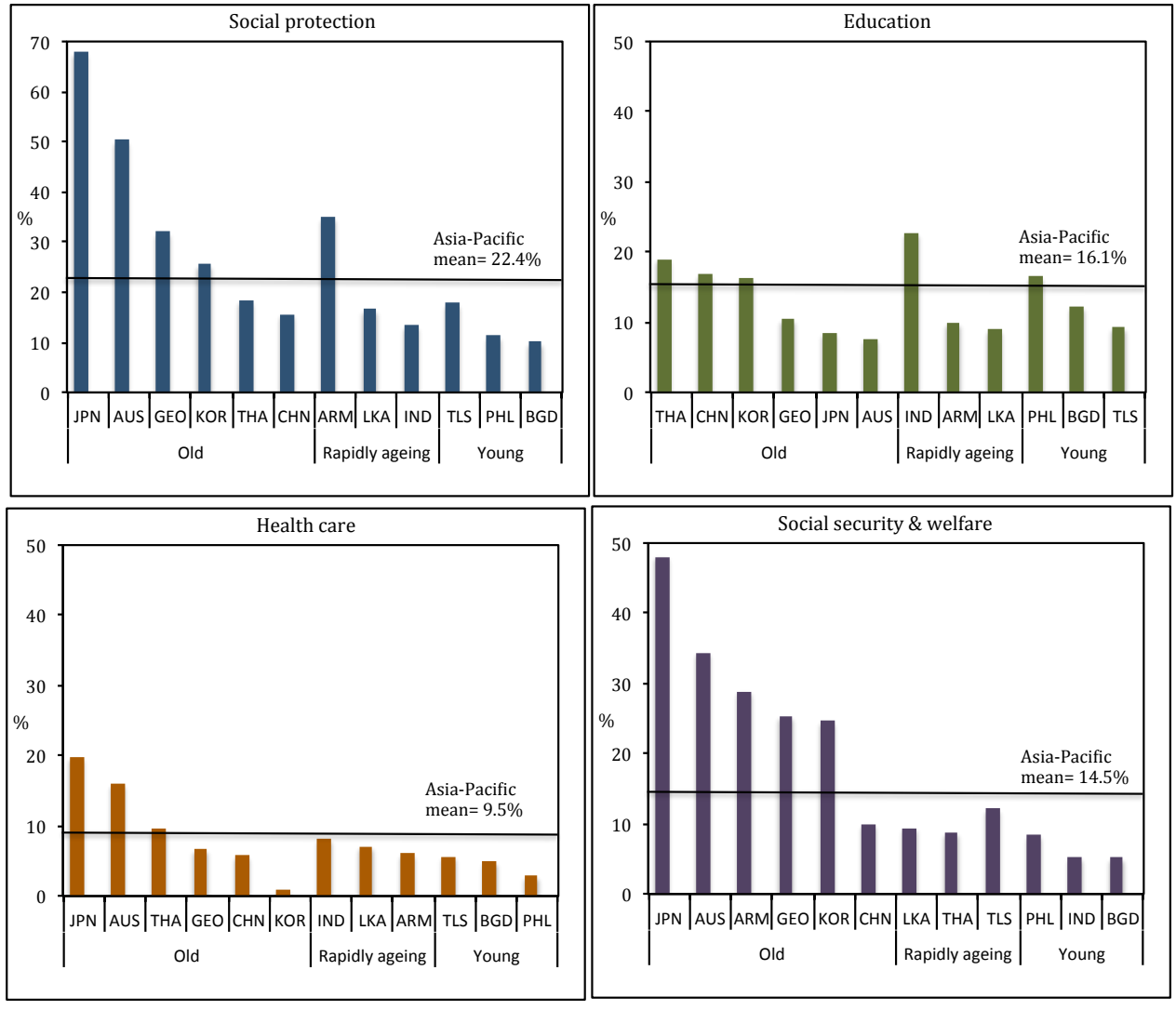
Figure 3.2
Pension and health-care flows are much more significant in high-income countries than they are in developing countries
Per capita net public transfers by funding type and age (normalized)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); Racelis and Salas (2011); An et al. (2011); and Maliki (2011).

The magnitude and structure of the per capita flows of public transfers along the lifecycle for the six countries cogently reflects the general picture of social protection in Asia and the Pacific that was sketched at the outset of this chapter (see figure 3.1). Accounting for about 68 per cent of total government expenditures, Japan is the country in the region that invests the most in social protection. The prominent role public transfers play in meeting the lifecycle needs of older persons should thus not come as a surprise, when viewed from this regional perspective. With approximately a quarter of government spending dedicated to social protection, the Republic of Korea invests about the regional average on social protection.

Figure 3.3
The majority of countries invest more in education than in health care
Share of spending on social protection and education as a share of total government expenditure for selected Asia-Pacific countries (latest available year)



Source: ADB (2014).

In contrast, social protection investments in Thailand, India and the Philippines are well below the regional mean, which in 2013 came to about one-fifth of government

expenditures.[10] Thailand dedicates 18 per cent of total government spending on social protection, while India and the Philippines dedicate 13 and 11, respectively. The negligible role public transfers play in meeting the lifecycle needs of older persons in these three countries is thus now confirmed by these relatively low levels of spending on social protection. There is one minor nuance that should be brought forth concerning the three developing countries: Prima facie, it appears that with a slightly lower level of social protection investments, India provides a larger levels of per capita public transfers in old age than does Thailand, and, in like fashion, the Philippines vis-à-vis India.

Concerning spending on education, it is telling that, of the four countries, Japan dedicates the least amount of public resources to education. In 2012, Japan committed only about nine per cent of government expenditures to education, which is only a small fraction of what it dedicated to social protection (68 per cent). Thailand, by contrast, committed twice as much in 2013 – 19 per cent of total government expenditures –, which is about the same share it dedicated to social protection (18 per cent).

As for the Philippines, it too invested twice as much on education than did Japan. In 2013, the country dedicated about 17 per cent of government spending to this social service. This is approximately five-percentage points higher than what it invested in social protection during the same year (11 per cent). Yet, out of the four countries, India is the one that commits the most to education. In 2012, the country invested 22 per cent of total government expenditures in education, almost twice as much as what it invested in social protection (13 per cent). Indeed, that these three Asia-Pacific developing countries are prioritizing investments in education over investments in social protection is consistent with the structure of aggregate and per capita public transfer flows examined earlier (see figure 3.2): Social investments in Thailand, India and the Philippines prioritize children over older persons. Though this is most concerning for the case of Thailand given the country's position along the demographic transition, as was intimated last chapter, even with countries with relatively young age structures that are in the midst of the first window of opportunity cannot afford to wait in order to lay the groundwork for the social protection of older persons. This groundwork requires an increase in social protection investments – that is, an increase in investments in health care and pensions.

As stated earlier, social protection consists of two components – health care, on the one hand, and social security and welfare, on the other. A significant share of social security and welfare expenditures are devoted to public pensions (ADB, 2013). The lower two panels of figure 3.2 provide spending estimates for these two components of social protection. The most recent estimates for public health care are consistent with the picture that was presented in the per capita flows examined above: Japan invests about 20 per cent of total government spending on health care. This is twice as much as Thailand and India and about six times as much as the Philippines. At around 10 per cent and eight per cent of total government spending respectively, public health care investments in Thailand and India are equivalent to the Asia-Pacific mean (9.5 per cent). By contrast, committing only three percent of total government expenditures to health care, the Philippines are substantially below the regional mean. Moreover, the case of

[10] Data is not available for Indonesia (ADB, 2014).

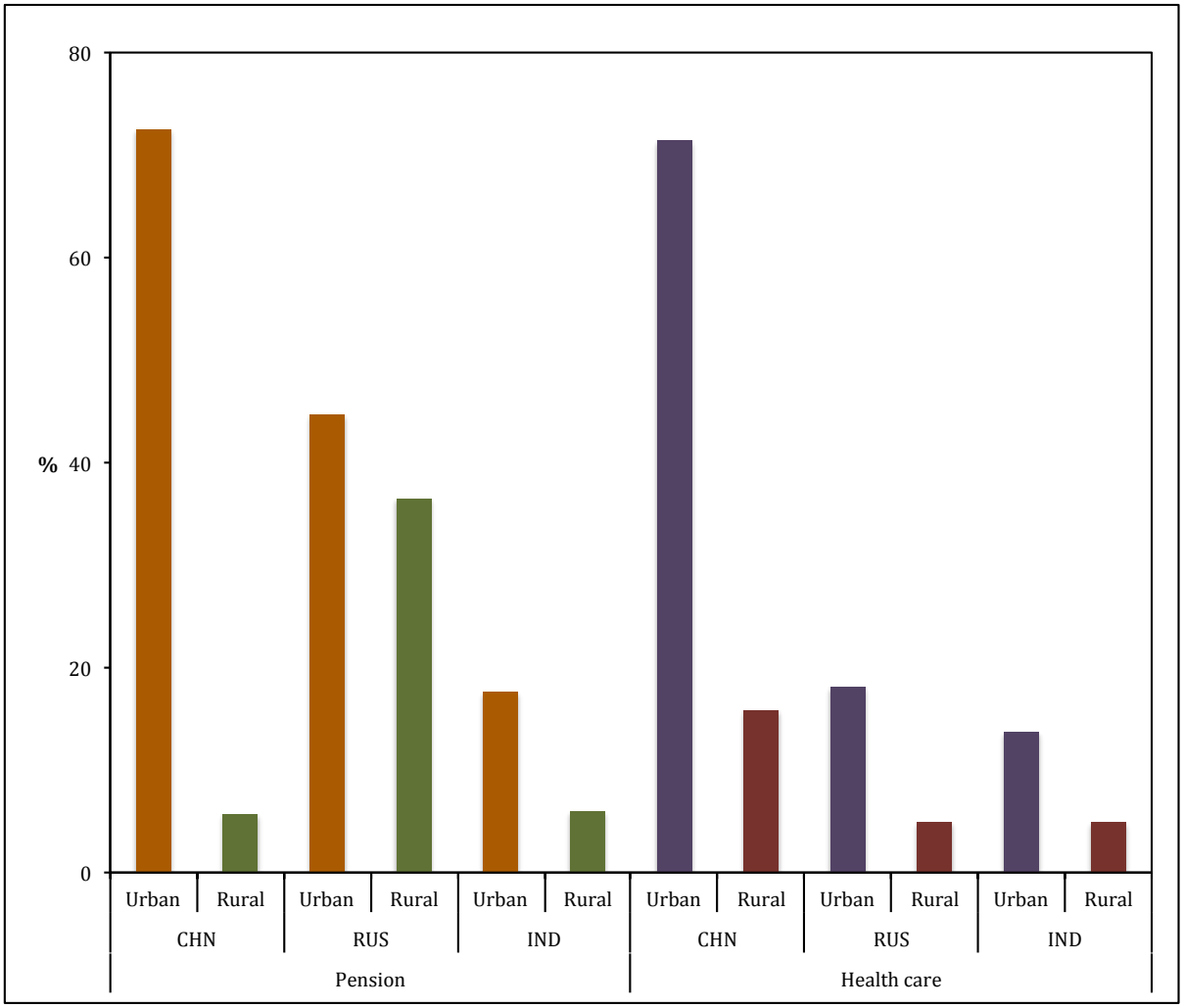
the Republic of Korea is an interesting one, given that it committed only about one per cent of government expenditures to health care in 2012, yet the country has universal health coverage. This very public spending in this sector is a reflection of the dominant role of private providers in health care delivery, with approximately 90 per cent of all medical institutions being private facilities (Chun et al., 2009).

As a proxy for investments in public pensions, spending on social security and welfare also supports the overall pattern of per capita flows that were examined above: Accounting for 48 per cent of total government expenditures and 70 percent of social protection spending, in 2012, Japan invested over three times the Asia-Pacific mean on social security and welfare (14.5 per cent). This is six times greater than what Thailand, India and the Philippines committed to this component of social protection. Given its very low public spending in health care, it follows that almost the entire share of the social protection investments in the Republic of Korea – 25 per cent – is committed to social security and welfare. Thailand and the Philippines dedicated eight per cent and nine per cent of total government spending on social security and welfare in 2013, respectively. Out of the six countries, India invests the least in social security and welfare, committing five per cent of total government expenditures to this component of social protection in 2012. Given the dynamics of population ageing, it is imperative that Thailand, India and the Philippines – but the former in particular, again, given its mature age structure – need to increase investments in social security and welfare.

As they aim to close social protection coverage gaps, countries in the region need to take into account spatial inequalities. Population ageing is more pronounced in rural areas, due, in part, to migratory flows. Younger cohorts tend to move from rural to urban areas in search of educational and employment opportunities; while a significant number of older persons prefer to return to rural areas upon completing their urban work life. Moreover, consistent with the rural and urban disparities that have undergirded the region's development, older persons in rural areas are more vulnerable than their urban counterparts, a situation that is exacerbated by declining family support resulting from the out-migration of young rural cohorts (Mujahid, 2006).

The first wave (2007-2010) of the World Health Organization (WHO)'s longitudinal Study on Global Ageing and Adult Health (SAGE) for India, China and the Russian Federation – the three Asia-Pacific countries included in this research initiative – found, not only that important social protection coverage gaps exist in old age, but that these gaps are larger for older persons living in rural areas (figure 3.4). The gap is largest in China where, out of the survey respondents aged 50 years and older, 70 per cent from urban areas received a pension and had access to health care, whereas only five per cent of older persons living in rural areas received a pension and only 15 per cent had access to health care.

Figure 3.4
Older persons in rural areas are less likely to be covered by social protection
Share of the population 50 years and older receiving a pension and having access to health care by place of residence for selected countries



Source: WHO, SAGE (2007-2010).

That rural-urban coverage gaps are largest in China is consistent with Theil values, which reveal that in this country disparities between rural and urban areas are to a large extent driving inequality.[11] In many of the other countries in the region it is intra-urban inequality that predominates; and still, in other countries, it is intra-rural inequality that accounts for the major portion of total inequality. Though the spatial inequalities that have legitimately received the most attention in the region are disparities between rural and urban areas, disparities within rural and urban areas as well as between subnational regions are not inconsequential for population ageing. Countries need to take the variety of spatial inequalities into consideration when expanding social protection coverage in the context of population ageing

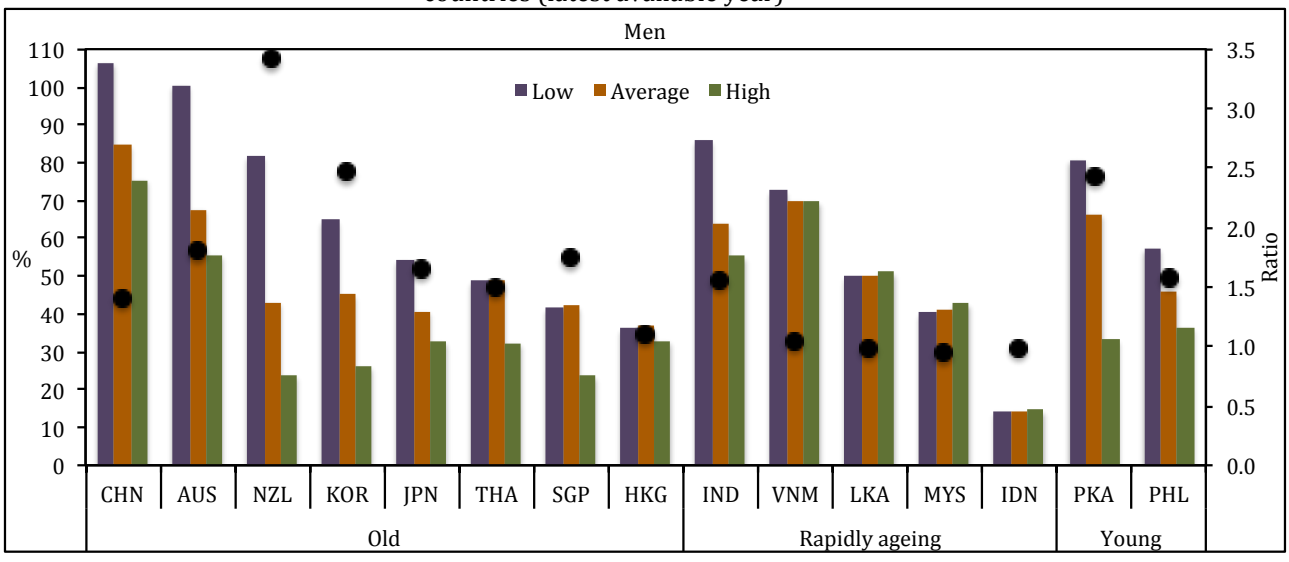
[11] The Theil index captures the spatial dimensions of inequality, allowing for the decomposition of inequality into the part that is a result of the inequality within areas (e.g. intra-urban and intra-rural) and the part that is the result of the differences between areas (e.g. rural-urban). In China, for example, rural-urban inequality constitutes approximately 40 per cent of inequality; while intra-urban and intra-rural represent approximately 30 per cent each (World Bank, 2011: 47).

Disparities between breadth and depth of coverage will continue to stymie pension systems

While almost all countries in the region have some sort of pension scheme, these typically cover only the public sector, with some extension to workers in formal employment in the private sector. Pension systems have tended to provide relatively high benefits to a few, rather than a certain level of coverage to all, which is to say, in other words, that Asia-Pacific countries have tended to give pride of place to depth over breadth in the design and roll out of pension systems. A proxy for depth of pension coverage is the net replacement rate, or the ratio of retirement income to the income made during the working years. A higher replacement rate implies greater benefit levels.

Figure 3.5 compares the replacement rates of statutory pensions for 15 Asia-Pacific countries for which data are available. Estimates are provided for men and women as well as for average, low and high earners, where low earners are those workers earning only half the mean and high earners are those workers earning twice the mean. Well-designed pension systems should have the same replacement rates for men and women. Furthermore, replacement rates should be higher for low earners and lower for high earners as countries in general aim to protect low-income workers from old-age poverty and vulnerabilities as well as redistribute wealth across generations. In order to gage the progressivity of the pension systems, the ratio of low earners to high earners is provided. A higher ratio implies greater progressivity.

Figure 3.5
There is substantial variation in the depth of pension coverage across the region
Replacement rates for men and women, across low, average and high earners, for selected Asia-Pacific countries (latest available year)



Source: OECD (2013).

There is considerable variation in terms of depth of coverage across the region. In China, net pension entitlements are more than four-fifths of net preretirement earnings for workers of average earnings, while in Indonesia entitlements are less than one-fifth of the income during the active years. With the exception of Indonesia, all of the young

and rapidly ageing developing countries have replacement rates that are at least equal to the replacement rates of high-income countries with mature age structures. In the Philippines, for example, the replacement rate for a male worker of average earnings is 46 per cent, while in Japan it is 41 per cent. With a pension entitlement well above three-fifths of preretirement income, the replacement rate in India is considerably higher than in the Philippines and Japan. Moreover, Thailand and China, the two middle-income Asia-Pacific countries that are farthest along the demographic transition, have higher replacement rates than the high-income – OECD – countries in the region, which as has been suggested, have similar age structures. In light of what was learned earlier this chapter about social protection coverage in the region, all developing countries – regardless of where they sit along the demographic transition or their level of economic development – with replacement rates that are greater than the replacement rates of high-income countries should be flagged as potentially prioritizing benefit levels over extent of coverage in the design and implementation of pension systems. This conjecture will be confirmed below.

Consistent with global trends, in the best-case scenarios there is gender parity in terms of net replacement rates, though generally, the value of pension entitlements for women tend to be lower than for men. In the Philippines, Thailand and Japan, replacement rates are equal for women and men for low, average and high earners, as is also the case in the Republic of Korea and Singapore. By contrast, in India, the replacement rate for a female worker of average earnings is about 60 per cent, while, as has already been intimated, the replacement rate for a male worker of average earnings is 64 per cent. Among the 15 countries in figure 3.5 China and Sri Lanka exhibit the greatest gender disparity in terms of pension benefits. In China, the replacement rate for a female worker taking home an average income is 66 per cent, while it is 85 per cent for men. In Sri Lanka, the replacement rate for women is 34 per cent and 50 per cent for men. Generally speaking, this gender disparity can be attributed to different actuarial assumptions such as a higher retirement age for men or a longer life expectancy for women (OECD, 2013). These assumptions, though, need to be vetted from a gender-lens to ensure that inequalities between men and women are not being perpetuated in the name of actuarial soundness.

Given the generally agreed upon principle that pension systems should incorporate redistributive elements, one would expect to find that across the region replacement rates decline as earnings increase. This holds for only two-thirds of the countries provided in figure 3.4, however, suggesting a discrepancy between design principles and implementation: In 10 out of the 15 countries, replacement rates are higher for workers earning only half the mean and lower for workers earning twice the mean. New Zealand, for example, has the most progressive pension system. In this Pacific country the pension entitlements relative to preretirement earnings of low earners is about three-and-half times greater than it is for high earners. In the Republic of Korea and Pakistan the replacement rate for low earners is about two-and-half times the replacement rate of high earners. In the Philippines, India, Thailand and Japan as well as in China, the pension entitlements as a share of preretirement earnings for low earners is about 50 per cent greater than what it is for high earners. At the same time, in five countries, replacement rates are the same across low, average and high earners. This is the case in Viet Nam, Sri Lanka, Malaysia, Hong Kong-China and Indonesia. In fact, Malaysia's pension system appears to be slightly regressive, with average earners

having slightly higher replacement rates than low earners, and high earners having marginally higher replacement rates than average earners. As was the case, then, with replacement rates in general, there is considerable variation in terms of the redistributive design of pension systems.

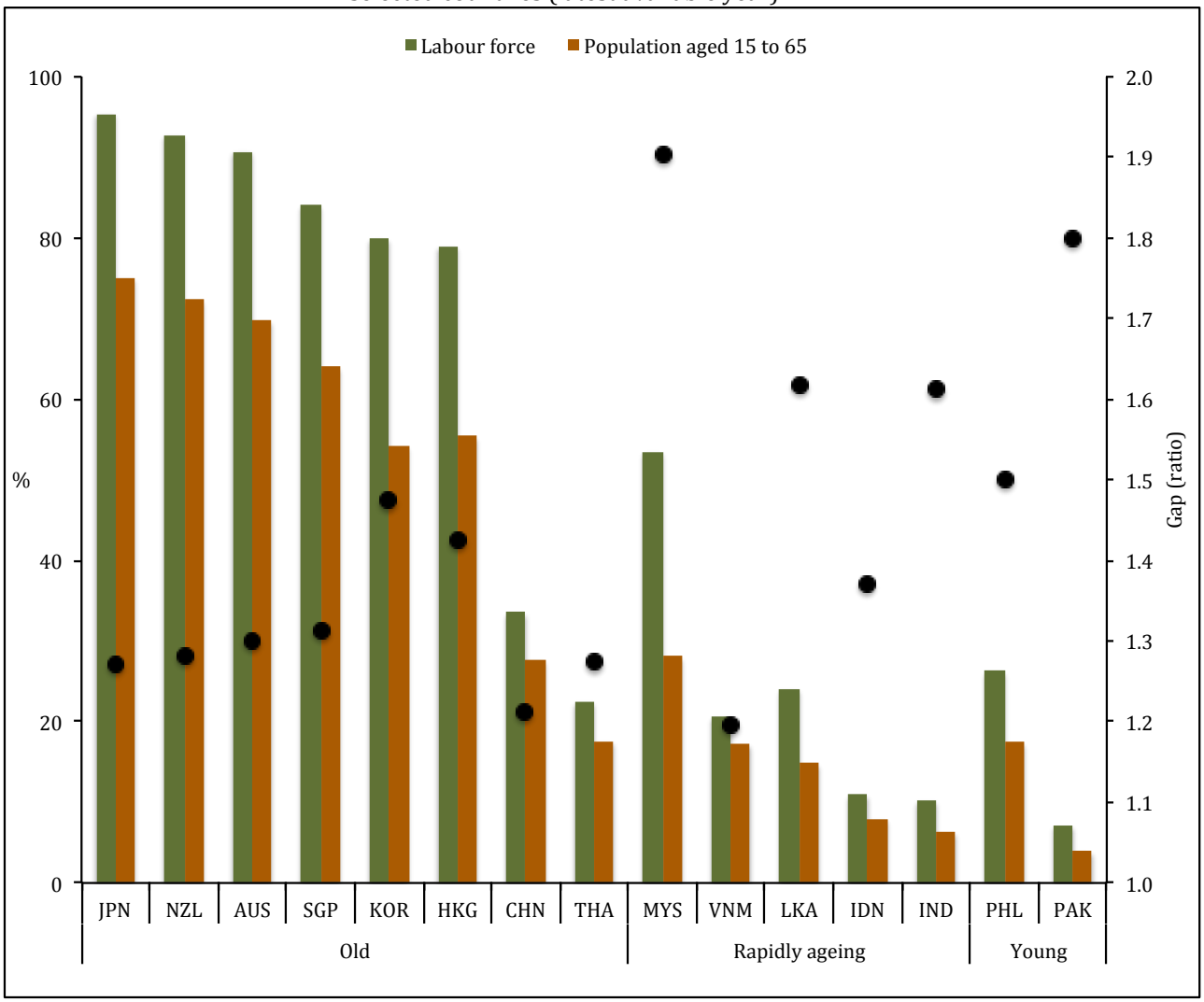
As was intimated earlier, given limited financial resources, countries inevitably face a trade off between deepening and broadening pension coverage. Replacement rates, then, only get to one dimension of the issue – the one having to do with benefit levels. The other dimension has to do with the extent of coverage, that is, with the share of the working-age population and labour force that are covered by pensions. The breadth of coverage, then, provides a good indication of the share of the preretirement population actually covered by pension entitlements.

Pension systems in the region tend to be skewed toward the formal – public – sector and to urban areas. Indeed, the limited coverage of rural and informal-sector workers is symptomatic of the limited institutional capacity of pension systems across Asia and the Pacific. These disparities result in low breadth of coverage. Figure 3.6 confirms this trend. This figure provides the share of the labour force and working-age population that has either contributed or accrued pension entitlements in any of the major mandatory pension schemes during a given year for the same 15 countries examined above. These estimates are an indicator of how effectively a pension system is being utilized by the preretirement population (OECD, 2013).

While the coverage levels for the labour force suggest pension entitlements linked to employment-based contributions, coverage levels for the population aged 15-65 indicate that pension benefits are being accrued through some kind of non-contributory mechanism. Furthermore, the ratio of the share of the labour force receiving benefits to the share of the population aged 15-65 receiving benefits is provided as an indication of the coverage gap between both cohorts. The higher the ratio, the greater the coverage gap between the labour force and the working-age population. Or stated in another way, the higher the ratio the more effectively is the labour force being covered vis-à-vis the working-age population.

The trends depicted in figure 3.6 are intuitive, and confirm what has been said about breadth of coverage in the region. In all six of the high-income countries – Japan, New Zealand, Australia, Singapore, Republic of Korea and Hong Kong-China – four-fifths of the labour force is covered by a pension. By contrast, in the other nine middle-income countries, less than two-fifths of the labour force accrues pension rights. Age structure, moreover, does not appear to be a factor in determining breadth of coverage. Despite the fact that it is much further along the demographic transition, Thailand has the same coverage rates as the Philippines and Sri Lanka. In these three countries a bit over one-fifth of the labour force is covered by pensions. With its younger age structure, the coverage rate for the labour force in the Philippines is two-times greater than in India, where only about 10 per cent of the labour force accrues pension benefits. It should be noted, in addition, that Malaysia has by far the highest coverage levels among the middle-income countries, with close to 50 per cent of the labour force accruing benefits.

Figure 3.6
The breadth of pension coverage among developing countries is generally low
Share of the working-age population and labour force covered by pensions and corresponding gap, for selected countries (latest available year)



Source: OECD (2013).

Across all 15 countries – without exception – coverage levels for the population aged 15-65 are lower than coverage levels for the labour force. This reflects, on the one hand, the challenges of extending pension coverage to individuals that are not economically active, and, on the other hand, the centrality of contributory mechanisms in the funding of pension systems. In all five of the high-income countries, at least half of all working-age individuals are covered by pensions. In Japan, New Zealand, Australia and Singapore, three-fifths of the population aged 15-65 accrues benefits. In the Republic of Korea and Hong Kong-China, the share is slightly less: 50 per cent of working-age individuals are covered. Coverage rates fall by at least half for the middle-income countries. In China and Malaysia, about 25 per cent of the population aged 15-65 accrue benefits. While in Thailand and the Philippines coverage levels fall to 17 per cent. In India, Indonesia and Pakistan, less than a tenth of the working-age population is covered by a pension.

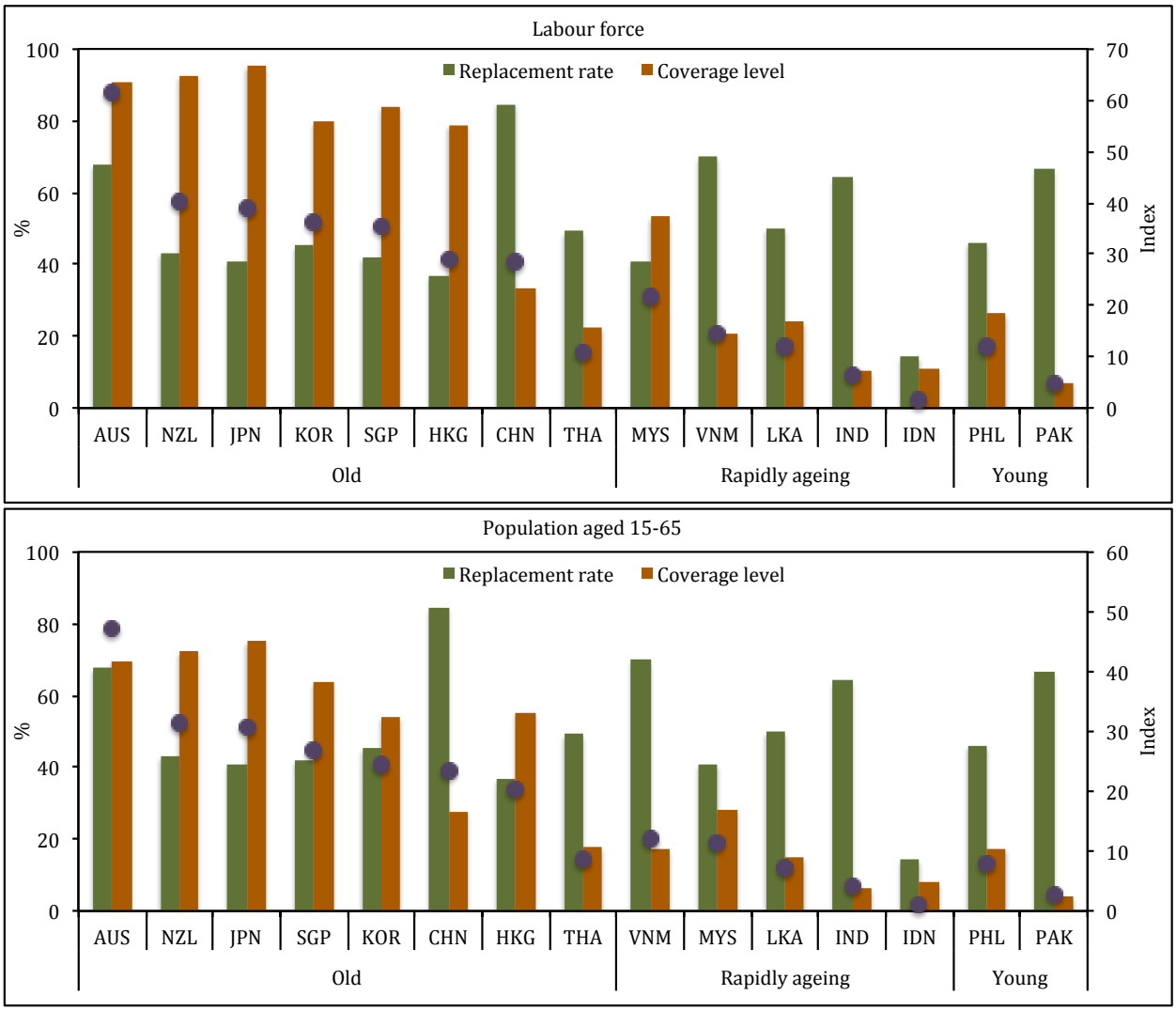
As has been suggested, estimates of the share of the population covered by pensions, like replacement rates, only reveal one aspect of a pensions system. Hypothetically, a country could have 100 per cent of the working-age population accruing pensions, but at a replacement rate that is well below the poverty line, and thus inadequate to mitigate income insecurity. In like fashion, a country could have replacement rates that are well above 100 per cent, but only cover a small fragment of the population. What is needed, then, is a measure that combines coverage levels and replacement rates in order to get a sense of how successful pension systems across the region are in negotiating the trade off between breadth and depth. Toward this end, following Park, a simple yet effective metric can be devised by multiplying replacement rates and coverage levels and expressing the results in percentage terms (Park and Estrada, 2013; Park, 2009). This Pension Robustness Index is provided in figure 3.7 for the 15 countries that have been analyzed in figures 3.5 and 3.6.[12]

As would be expected, the Index for the labour force is higher than the working-age population for all 15 countries. Focusing the analysis on the former, ranging from 30 per cent to 50 per cent, not surprisingly, the six high-income Asia-Pacific countries have the highest index score. Consistently investing in their pension systems as they have moved along the demographic transition, these countries have managed to marshal a relatively high combination of benefit and coverage levels. The index is consistently lower for all middle-income countries; and substantial variation exists. At 30 per cent, at parity with Hong Kong-China, China has the highest index score of the nine developing Asia-Pacific countries. Indonesia, by contrast, has the lowest score, at two per cent. Age structure, moreover, does not appear to be a determining factor in the robustness of the pension systems of middle-income countries. Despite its young age structure, the Philippines, for example, has a 12 per cent index, placing it above Thailand, which has a slightly lower index of 11 per cent, as well as above India, which has an index of about seven per cent.

Countries that are further along the demographic transition – whether they are high or middle income – tend to have smaller disparities between the coverage levels of the labour force and working-age population than do countries with relatively younger age structures. In Japan, New Zealand, Australia, Singapore and Thailand, coverage levels for the labour force are only about 30 per cent higher than the coverage levels for the working-age population. By contrast, in Malaysia, Sri Lanka, India and the Philippines, labour force coverage levels are from 50 per cent to 90 per cent higher. China and Viet Nam are notable exceptions. In both of these countries coverage levels for the population aged 15-65 is only about 20 per cent lower than the labour force coverage levels.

[12] Replacement rates for the average male earner have been used in calculating the Index. Index values by sex have not been provided because sex-disaggregated data for coverage levels are not available. Based on the above discussion – but also given what is known about the dynamics of gender-based discrimination across the region – it can be assumed that a sex-disaggregated index would reveal lower values for women across the board. Even in those countries that have achieved gender-parity for replacement rates, a lower index for women would be the result of disparities that exist in terms of coverage levels.

Figure 3.7
Developing countries have prioritized depth over breadth of pension coverage
Pension Robustness Index for selected Asia-Pacific countries (latest available year)



Source: OECD (2013).

It seems reasonable to infer that small gaps between coverage levels are a characteristic of pension systems that have effectively integrated contributory and non-contributory mechanisms. Though this does not say anything about the scope of coverage, for in high-income countries the small gap is the result of a small difference between relatively high coverage levels, while in developing countries, by contrast, the small gap is the result of a small difference between relatively low coverage rates.

Figure 3.7 also confirms what has been suggested throughout this chapter about the trade off between depth and breadth at the general level of social protection, but also at the specific level of pension systems. In all six high-income countries coverage levels are higher than benefit levels, while in eight of the nine developing countries (Malaysia being the exception), the inverse is the case: Benefit levels are higher than coverage levels. Though these two parameters are incommensurable and thus prudence needs to

be exercised in analyzing this issue, it is difficult to deny that this trend does not point to different priorities: High-income countries have tended to prioritize coverage; while middle-income countries have tended to prioritize depth.[13]

Population coupled with the change in disease patterns will thwart health-care systems

As a result of the increase in the standard of living across the region, a growing number of individuals are demanding better health-care services. With the rise in longevity linked to the demographic transition, individuals are requiring these services for longer periods of time. Moreover, given the age-dependent nature of health care, the costs of these services increase geometrically with age, which, in a context of a rising share of older persons, translates into significantly higher costs of health care at the aggregate level.

The challenges these economic and demographic changes pose for the health care systems of Asia and the Pacific are in many ways exemplified by the epidemiological transition from infectious diseases to non-communicable diseases (NCDs) that is rapidly crystallizing in the region. As is the case with population ageing, this shift in the pattern of disease is a manifestation of the Janus-face of development. With rising living standards and a shift to more mature age structures come rising levels of NCDs, including cardiovascular disease, cancer, chronic respiratory disease and diabetes. As a consequence of increasing life expectancy, unhealthy diets, pollution and sedentary lifestyles often associated with urbanization, NCDs are becoming increasingly prevalent in the region.

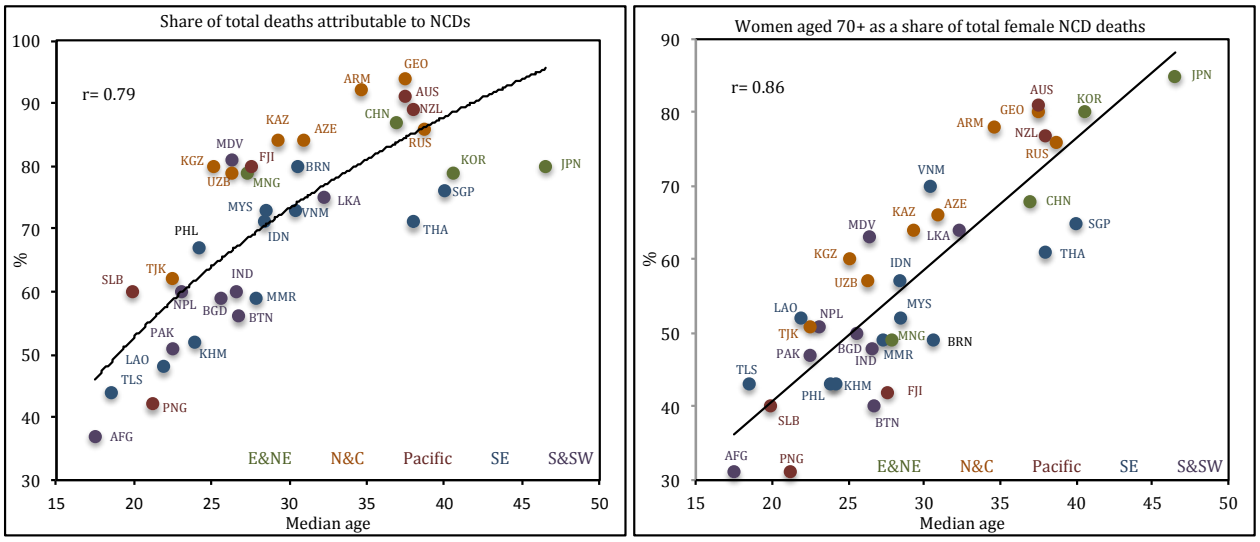
While the annual number of deaths due to infectious disease has been steadily falling for decades, the total annual number of NCD deaths is projected to increase by 2030. Indeed, in 2012, South-East Asia and the Pacific recorded the fastest increase in NCD deaths in the world (WHO, 2014). NCDs can have a potentially more pernicious impact than infectious diseases at both the national and household levels. Numerous studies have concluded that substantial national income would be lost if NCDs go untreated (Stanciole, 2006). At the household level, the risk of catastrophic health spending is significantly higher for NCDs than for communicable diseases, as, for example, studies in India and Sri Lanka have revealed (WHO, 2011).

Though relatively more prevalent among high-income and old countries, NCDs can no longer be considered diseases of affluence. In absolute terms, NCDs are increasingly affecting low- and middle-income countries. This fact is substantiated by the left-hand panel of figure 3.8, which provides the share of total deaths that are attributable to NCDs for 36 countries across the region in 2012. While ageing and economic development is associated with an exponential increase in the prevalence of NCDs, even in low- and middle-income countries there is a significant prevalence of NCDs. Thus, for example, in Japan, Republic of Korea, New Zealand and Australia nearly four-fifths of all

[13] This is corroborated by ADB research on social protection, which found that, though there is no statistically significant relationship between depth of benefits and a country's standard of living (measured in terms of GDP per capita), there does appear to be a statistically significant relationship between breadth of coverage and standard of living. In other words, "the distinctive characteristic of richer countries appears to be their broader coverage of social protection programs" (ADB, 2013: 45).

deaths in 2012 were attributable to NCDs; yet even in the relatively younger and less developed countries of South and South-West Asia, like Nepal, Bangladesh and India, NCDs accounted for three-fifths of total deaths.

Figure 3.8
The incidence of chronic diseases increase as countries move along the demographic transition
NCD prevalence (2012) and median age (2015) for selected Asia-Pacific countries



Source: DESA (2015), World Bank Indicators and WHO Data Repository.

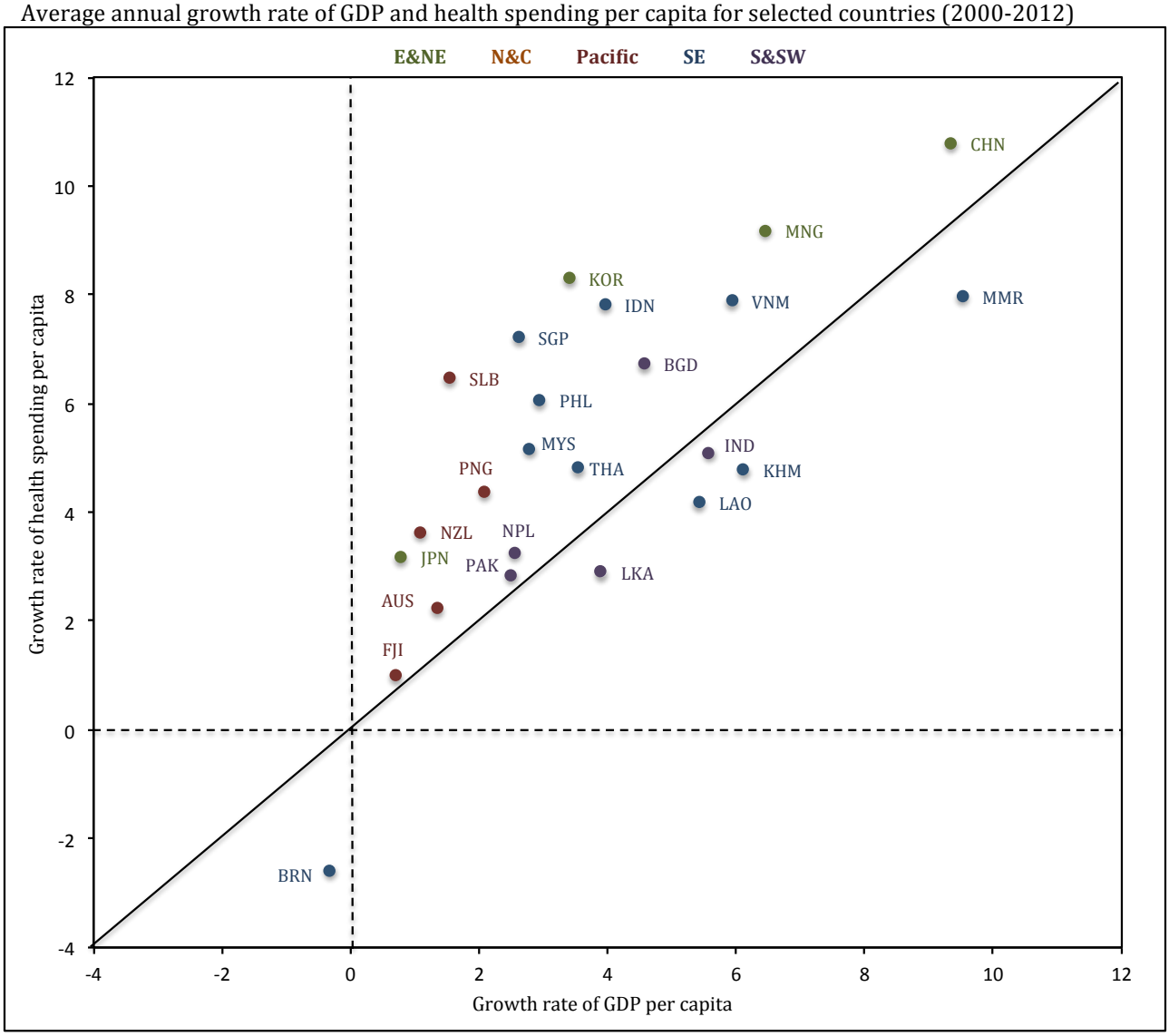
Not only will NCDs increase geometrically as countries achieve higher levels of economic development and their corresponding age structures mature, adding to the challenge is that the number of NCDs will be increasingly concentrated among the older population. Indeed, the incidence of NCD mortalities among older persons increases proportionally as countries move along the demographic transition. This is evidenced in the right-hand panel of figure 3.8, which provides the percentage of total female NCD deaths attributable to women aged 70 years or older. Thus, in a cluster of countries that include the Republic of Korea, the Russian Federation and Australia, women aged 70 years or older accounted for three-fourths of all female NCD mortalities in 2012. In younger countries too the share of NCD mortalities concentrated in old age is significant. For example, in Viet Nam older women accounted for 70 per cent of all female NCD deaths, while in the Maldives the share was close to 65 per cent.

The prevention and control of NCDs will pose a significant challenge to the health care systems of most countries in the region. NCDs require methods of early detection and preventive interventions that seek to modify behavioral risk factors. A comprehensive and primary health-care approach to strengthen early detection and timely treatment is thus essential. Older persons, especially, who have already developed NCDs need to have equitable and affordable access to medicines and treatment. Yet many Asia-Pacific developing countries currently lack this capacity. In many low and middle-income countries NCD services are not covered by public health care systems (WHO, 2014).

The demographic and epidemiological transition is generating an increase in the need for long-term care (LTC) across the region. LTC refers to the provision of services for persons who have long-term functional dependency measured in terms of difficulties

related to mobility, activities of daily living (ADL), instrumental activities of daily living (IADL) and cognition.[14] Dependency generates the need for an array of services designed to compensate for these limitations. Dependency, moreover, creates difficulties in accessing health care services; impinges on the ability to maintain an active and healthy lifestyle; and creates additional psychological and social needs and strains. LTC spending includes palliative care, long-term nursing care and personal care services related to ADL support as well as broader social services related to IADL support which fall outside traditional health care needs (World Bank, 2010).

Figure 3.9
In most countries growth in health spending has outpaced growth in income
Average annual growth rate of GDP and health spending per capita for selected countries (2000-2012)



Source: OECD (2014).
Note: 2011 data is used for LKA.

[14] ADL refer to daily self-care activities within an individual's place of residence, like dressing and feeding oneself. IADL include more complex activities, such as shopping for daily necessities and managing money. Cognitive disabilities have to do with deficiencies related to concentration, attention and memory that impede daily functioning (WHO, SAGE, 2007-2010).

The demand for LTC is driven, on the one hand, by the size of the older population, especially the size of the population 85 years and older (the so-called "oldest old)," and, on the other hand, the share of older people that are dependent (World Bank, 2010). LTC spending in recent years has skyrocketed, especially among the region's old and affluent countries. For example, in the Republic of Korea, public expenditure on LTC grew at an average annual rate of 44 per cent between 2005 and 2011. This is about 10 times greater than the OECD average of 4.8 per cent. During the same period, public investments in LTC grew by 12.5 per cent a year in Japan; while they grew by 5.1 per cent in New Zealand (OECD, 2013).

Growth in LTC spending is rapidly increasing among the region's OECD countries not only because they are far along the demographic and epidemiological transition, but also because they have the health-care resources and capacities upon which to build LTC services. Already at the turn of the century, for instance, Japan had introduced a national LTC insurance system, while the Republic of Korea introduced a similar scheme in 2008. In order to reduce costs, the trend among Asia-Pacific OECD countries is to prioritize home- or community-based care over institutional support. For instance, between 2005 and 2011, in New Zealand, Japan and the Republic of Korea, annual growth in public spending on home- or community-based LTC outpaced annual growth in public spending on institutional LTC by almost two-fold (OECD, 2013). One of the fundamental challenge facing Asia-Pacific developing countries – a fortiori those middle-income countries with mature age structures like China, Thailand and Georgia – is to negotiate the trade off between broadening and deepening traditional health-care schemes and investing in national LTC systems.

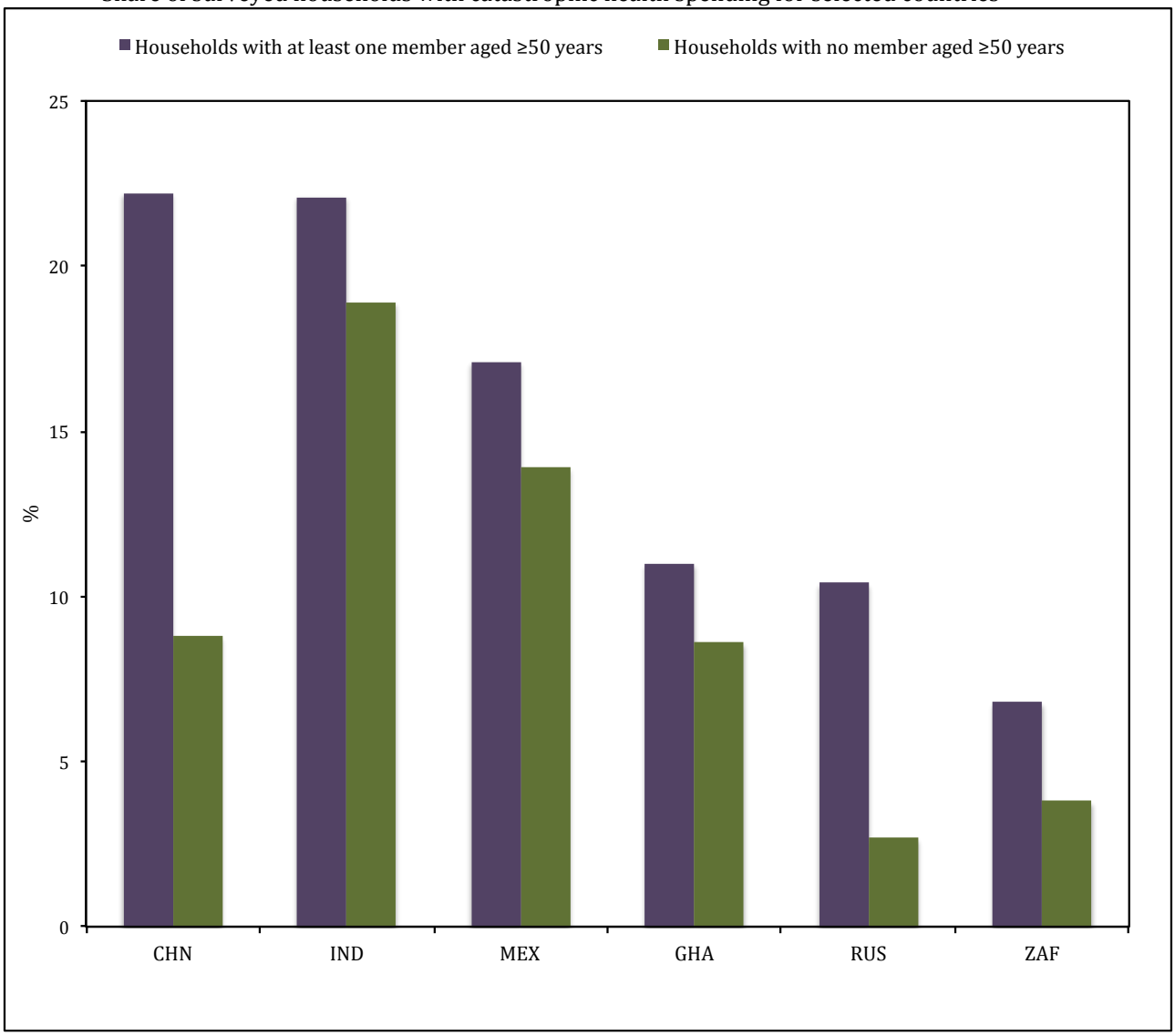
There has been a steady rise in health-related spending across the region as countries reorient their health-care systems to be more responsive to the needs of older persons. In fact, in most Asia-Pacific countries, the rise in health spending has outpaced economic growth. This implies that an increasingly larger share of the economy is being devoted to health, a structural dynamic that will have implications for household finances and consumption patterns, public budgets, and socio-economic development in general. Figure 3.9 compares the average annual growth in per capita health spending and GDP between 2000 and 2012 for 24 Asia-Pacific countries. In the 18 countries situated above the diagonal line health spending has grown faster than income. For instance, in the Republic of Korea, Singapore and Indonesia, the Philippines and Malaysia health spending per capita has increased twice as much as income per capita since the turn of the century. While in the Solomon Islands, health spending has increased three times as fast as income. In China, health spending has slightly outpaced income, both increasing at impressive rate of over about 10 per cent annually.

By contrast, in six countries – including India, Myanmar and Brunei-Darussalam – growth in GDP per capita outpaced growth in health spending per capita. Like China, Myanmar registered an impressive ten per cent average growth in GDP per capita over the last decade, yet its health spending per capita only grew at about seven per cent annually. In Brunei-Darussalam income remained practically constant, whereas health-related spending actually decreased close to three per cent a year.

The rise in health spending across the region, then, is being increasingly driven by the attempt to meet the complex and long-term health-care needs of a growing number of

older persons. In the absence of public health-care coverage, it is households that must absorb this rise in health-related spending. Often, poorer households can access health services only after detrimental reductions have been made to other expenditures such as nutrition. Due to high out-of-pocket spending people may forgo care altogether. Indeed, one of the reasons why the incidence of poverty tends to be higher among older persons than among the general population is because older persons are more susceptible to catastrophic health spending, defined as out-of-pocket health payments of at least 40 per cent of non-subsistence spending. This has been amply substantiated by household data.

Figure 3.10
Households face an increased risk of financial catastrophe in attempting to meet the health care needs of older persons
Share of surveyed households with catastrophic health spending for selected countries

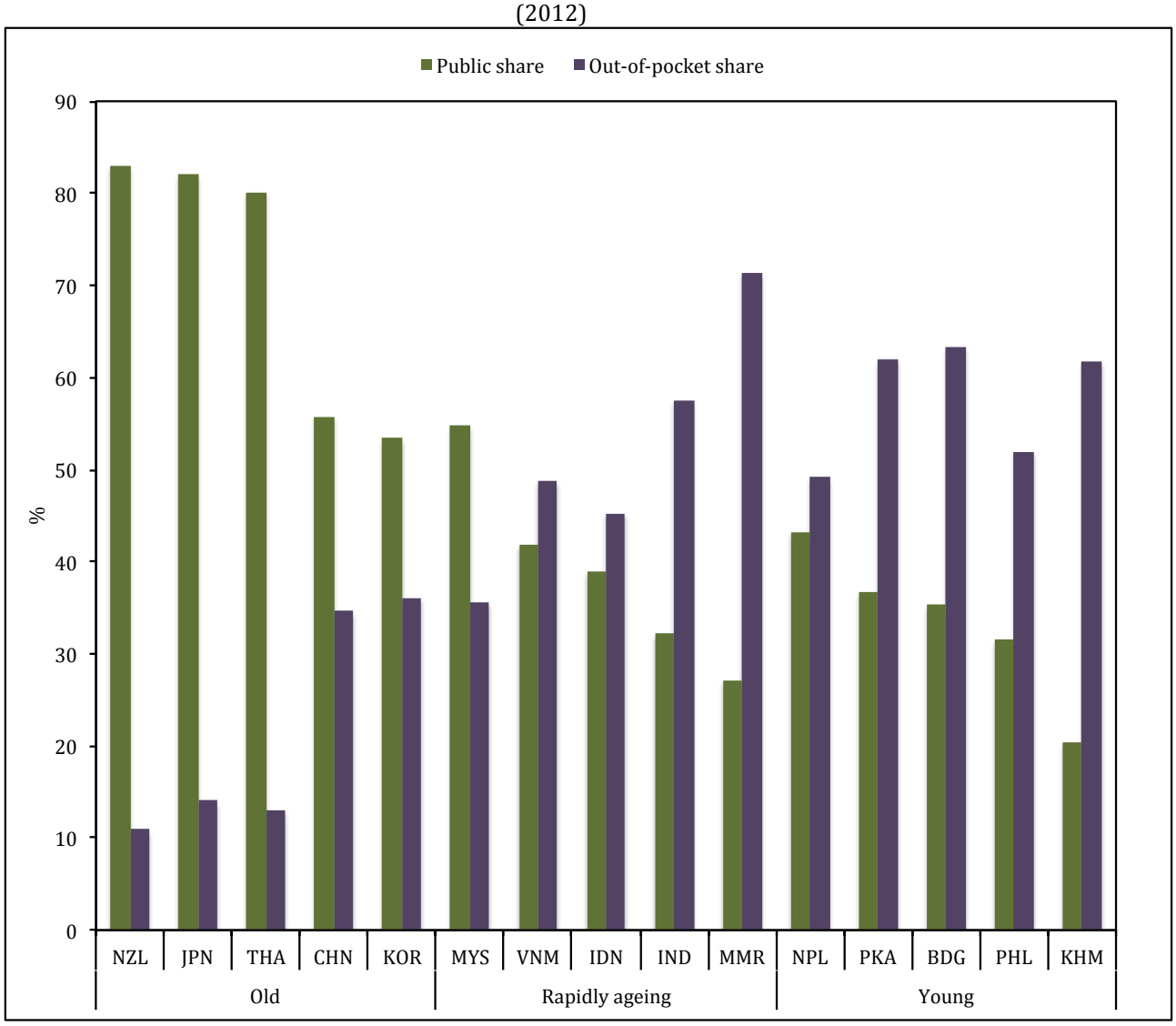


Source: Bloom et al. (2015) and WHO, SAGE, 2007-2010 (2012).
Note: Ghana (GHA) and South Africa (ZAF).

In all six countries – three of which were from the Asia-Pacific region – included in the aforementioned WHO longitudinal study on ageing and health (SAGE), households with older persons were more prone to catastrophic spending than households with no older

persons (figure 3.10). China registered the greatest disparity among the six countries, with 23 per cent of households with at least one member aged 50 years or older reporting catastrophic spending, compared to nine percent of households with no older person reporting catastrophic spending. In India, about the same share of households with older persons reported catastrophic spending, yet the gap with households with no older person was considerably smaller – 23 per cent compared to 18 per cent.

Figure 3.11
Out-of-pocket spending eclipses public health investments in countries that are early along the demographic transition
Public health and out-of-pocket spending as a share of total health expenditure for selected countries (2012)



Source: OECD (2014).

As for the Russian Federation, though households reported lower overall levels of catastrophic spending, when compared to China and India, the disparity between the two types of households was the largest, with households with older persons around four times as likely to require catastrophic spending than households without older persons. More prone to catastrophic spending, then, households with older persons are more likely to be in poverty or more vulnerable to falling into poverty, and

consequently, more likely to borrow money from relatives. This too was corroborated by the WHO study (WHO, 2012).

Health-care costs, either unexpected or recurring, can cause financial catastrophe for households, in particular poor or vulnerable households with older persons. In several countries in the region, more than half of overall health expenditures originate from households. In a number of countries, households bear more than two thirds of total health expenditure, making health care especially difficult to afford for lower income groups. High out-of-pocket spending tends to be correlated with low public investments in health care.

Figure 3.11 compares these two principal sources of health-care spending for 15 countries in the region. In countries that are further along the demographic transition, public spending constitutes the larger share of overall health expenditure. This relationship is inverted as one moves up the demographic transition. In countries with younger age structures and lower levels of economic development out-of-pocket spending constitutes the larger share of total health expenditure. Thus, for example, in Japan and New Zealand, public investments in health care account for over 80 per cent of total health outlays, while out-of-pocket spending accounts for only about 10 per cent. By contrast, in Myanmar out-of-pocket spending accounts for about 70 per cent of all health expenditures, while public spending accounts for about 25 per cent. In like fashion, in Cambodia three-fifths of health outlays come from out-of-pocket spending, whereas one-fifth of all outlays come from public investments.

Population ageing will strain public investments in the social sector

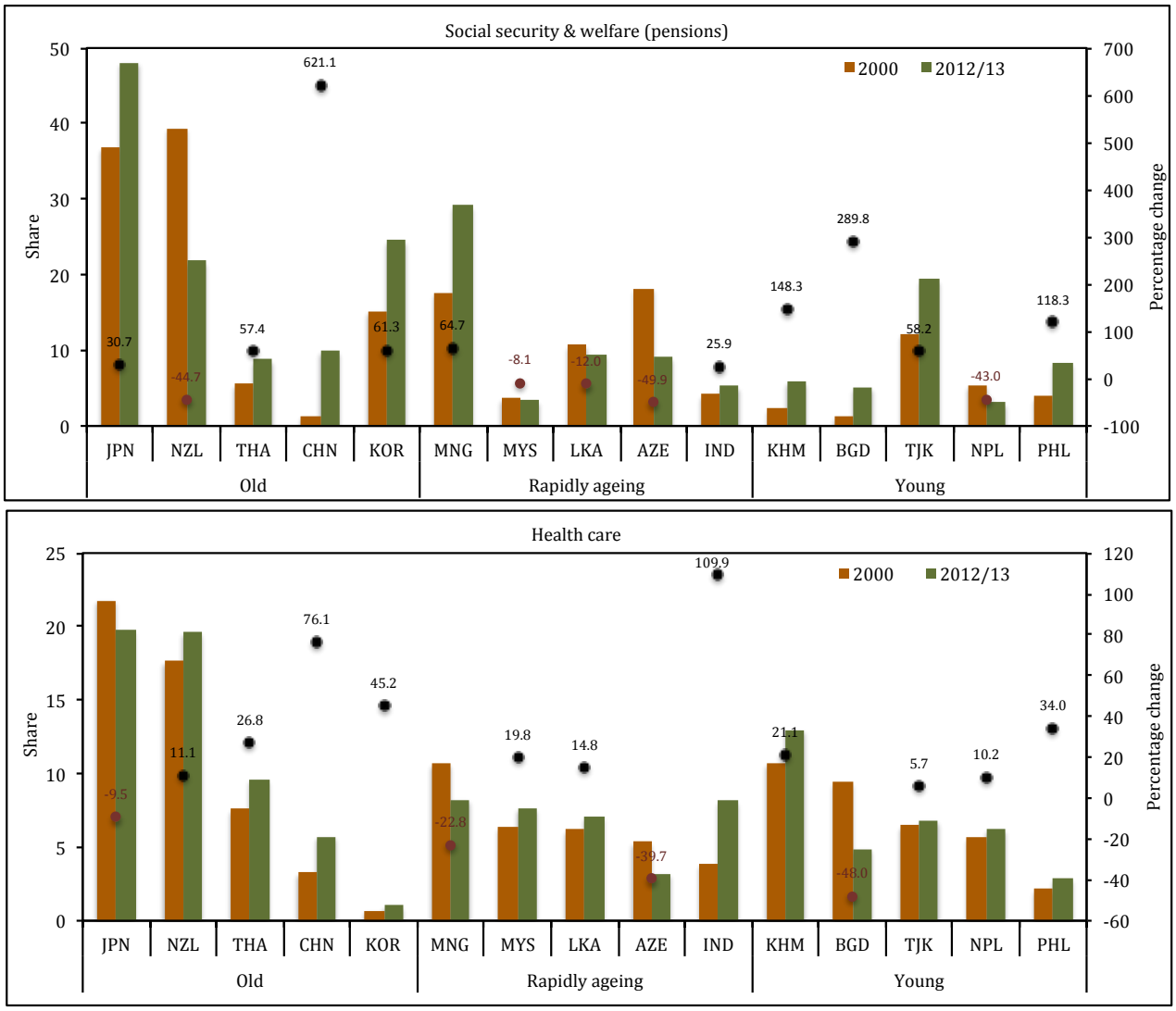
In an attempt to adapt the flow of public transfers to the conditions of population ageing, a large majority of countries in the region have, since the end of the last century, increased investments in pensions and health care. This is evident form figure 3.12 provides the share of government spending dedicated to social security and welfare and health care for 15 Asia-Pacific countries, representing different positions along the demographic transition, for 2000 and 2012/13.[15]

Yet, despite the fact that governments are dedicating a greater amount of resources to the social protection of older persons, and despite, in particular, the fact that this increase in investments has been significantly greater in lower-income countries than in high-income countries, a substantial social investment gap continues to exist across the region, and especially between high-income and developing countries. Thus, for example, though China increased its investments in pensions and other social security schemes six-fold between 2000 and 2013, it still dedicates only about one-tenth of government spending to this area of social protection. In like fashion, during the same period, Thailand increased its investments in pensions and social security by over 50 per cent, yet it too only dedicates one-tenth of public spending for this area of social protection. Moreover, spending patterns for health care are similar for these two countries: Both countries have in the last decade increased their investments in health care, yet they dedicate about half the public resources that Japan and New Zealand

[15] As stated earlier, public pensions constitute a substantial share of investments in social security and welfare (ADB 2013).

allocate to this area of social protection. Indeed, despite their sustained efforts, China and Thailand still face substantial social protection investment gaps – gaps that are especially pernicious given the mature age structures of these two countries.

Figure 3.12
While increasing in recent years, investments in social protection remain low in most developing countries
Share of government spending allocated to social security and welfare and health care for selected countries (2000-2012/13)



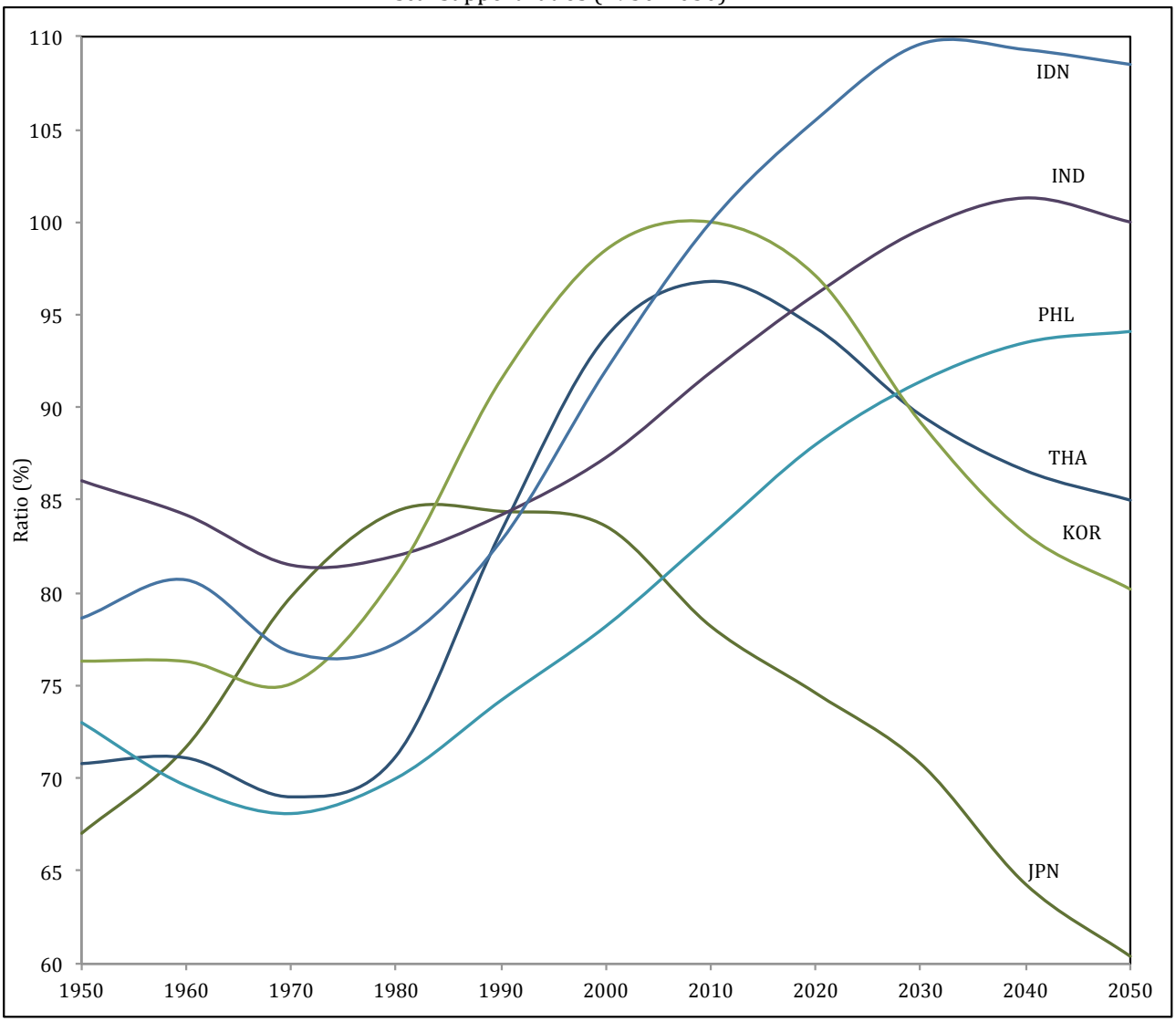
Source: ADB (2014).

The increase in the amount of public transfers needed to meet the needs of older persons will lead to budgetary pressures across the region as governments attempt to finance public pensions, health care other intergenerational schemes in the context of a declining workforce and an increasing population of older persons. Upward or downward change in the economic support ratio, then, carries with it fiscal ramifications. When countries have a young age structure and economic support ratios are on the rise, there is a corresponding increase in the number of taxpayers relative the number of beneficiaries. This implies that governments could raise benefit levels of public pensions, for example, without running a deficit or without having to increase the

tax rate. By contrast, when countries have a maturing age structure and economic support ratios are falling, there is a corresponding decline in the number of taxpayers relative to the number of beneficiaries. This implies that governments would have to run deficits and/or collect more taxes in order to sustain benefits of a public pension system (DESA, 2013b).

In Thailand and India, fiscal support ratios are not projected to decline as much as in Japan due to the fact that public schemes for older persons in these two countries are so limited. In Thailand, the fiscal support ratio began to fall in 2010, when the country entered the second dividend phase. In this year there will be roughly an equal number of taxpayers and beneficiaries, while by 2050 there will be nine taxpayers for every ten recipients of public transfers. This comes to about a 12 per cent fall in the fiscal support ratio.

Figure 3.13
Population ageing will strain public budgets
Fiscal support ratios (1950-2050)



Source: Ogawa et al. (2012); Phananiramai (2011); Ladusingh and Narayana (2011); and Racelis and Salas (2011).

As is the case with many low-income countries that are still relatively early along the demographic transition, the fiscal support ratio in India and the Philippines will rise as the population becomes increasingly concentrated in the prime taxpaying ages (Lee and Mason, 2011). Indeed, reflecting its younger age structure and the fact that it will be traversing the first dividend phase for the decades to come, in India and the Philippines, the fiscal support ratio will begin to decline by about 2040. Until then the ratio will increase steadily, reaching parity between the number of taxpayers and the number of beneficiaries. The decrease in India's ratio between 2040 and 2050 will be negligible. In the case of the Philippines, demographic change in the next decades is expected to have the least unfavorable impact on the public budget among the four countries. The fiscal support ratio is not expected to start declining in the Philippines before mid-century.

Prima facie, the fiscal impact of population ageing through 2050 is projected to be the most severe in Japan, moderate in Thailand, and favorable in India and the Philippines. As a formal tool of economic analysis, the fiscal support ratio, however, abstracts away from institutional impediments to effective domestic resource mobilization linked to the specific economic and social conditions of the developing countries of the region. In order for India and the Philippines to take advantage of the favorable budgetary conditions its age structure will bring about, and even in order for Thailand to take advantage of what it is a reasonable fiscal situation given its demographic conditions, these countries will need to enhance their public financing mechanisms. Having one of the more robust public financing systems in the region, and given its severe fiscal outlook, Japan will need to continue its efforts to develop innovative financing mechanisms through market-oriented initiatives in collaboration with stakeholders.

Stocktaking

Population ageing will create increasing fiscal strain across the region due to the combined effects of, on the one hand, a decrease in public revenues caused by the falling share of the working-age cohort, and, on the other, a rise in the demand for social protection stemming from an increase in the number of older persons. Population ageing, then, will exert considerable financial strain on already fragile social protection systems. For this reason, as will be discussed in chapter 5, it is paramount that the public transfers aimed at covering lifecycle deficits in old age be augmented by financing streams from stakeholders, the private sector in particular. At the same time, it is the public sector – the state – that needs to take the lead, not only in investing in social protection, but also in prioritizing social infrastructure projects and building a national consensus around the importance of redistributive measures.

Chapter 4

Broader social ramifications

Enabling environments are essential for mitigating vulnerabilities associated with social change

Chapter 2 examined the economic consequences of population ageing. Chapter 3 looked at the implications ageing will have for social protection. Chapter 4 will focus on the broader social ramifications of the greying of the region. In addition to downward pressure on economic growth and strained social protection systems, broad social changes that have been transpiring across Asia and the Pacific in the last decades, could make older persons increasingly susceptible to poverty and social exclusion. One of the fundamental challenges countries in the region must grapple with is to ensure that, in addition to income security and basic social services, older persons have access to the broader social, cultural and political resources needed to flourish and lead meaningful and active lives.

As was the case with economic growth and social protection, the position a country occupies along the demographic transition provides different scenarios under which countries seek to enhance enabling and supportive environment for older persons. To get a sense of the regional diversity in terms of this dimension of population ageing, figure 1.17 plots median age and the HelpAge International's Global AgeWatch Index for 24 countries in the region for which data is available.

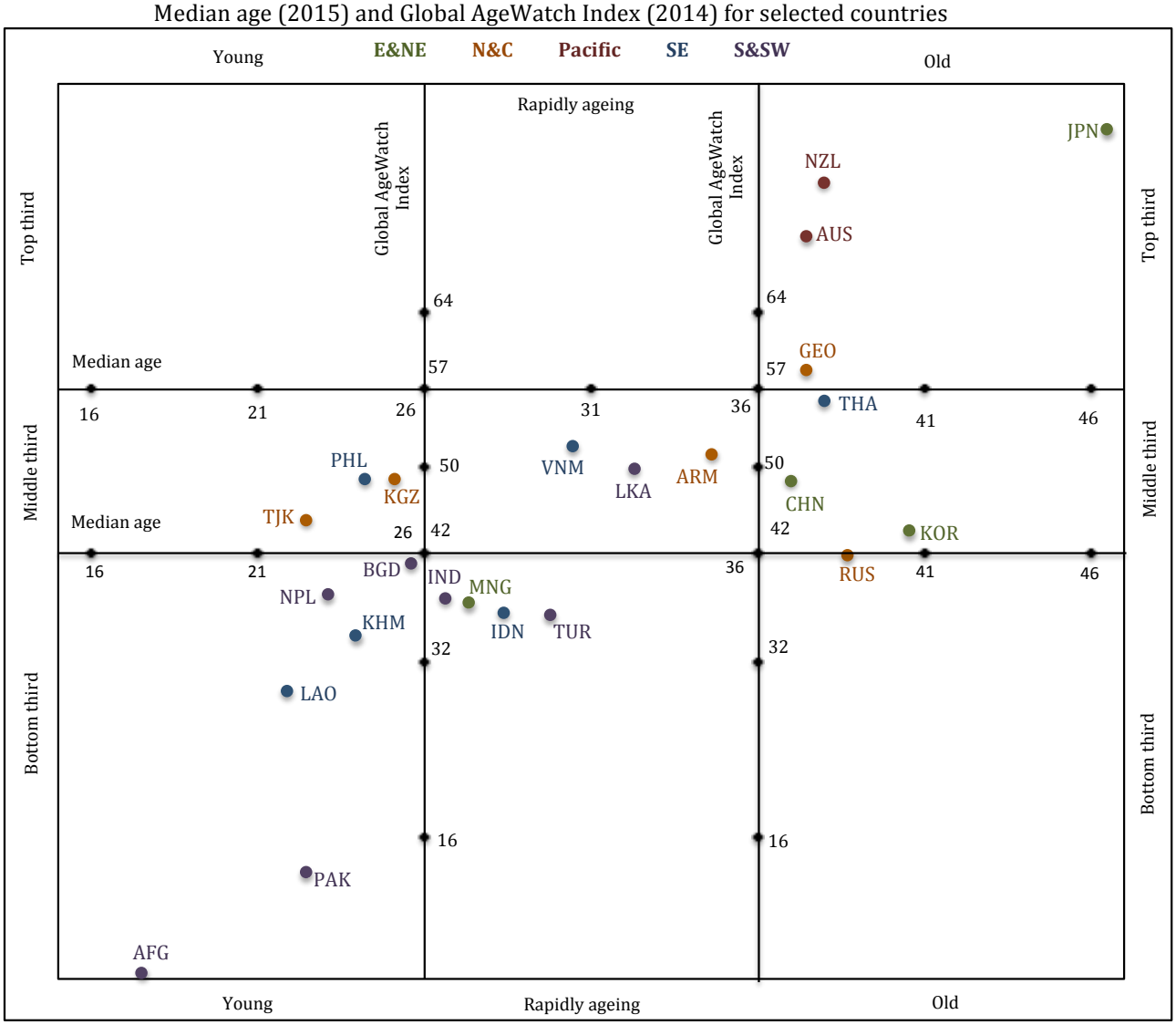
The Global AgeWatch Index measures the well-being of older persons along several domains including, health status, labour market participation, educational attainment, support networks, civic engagement, and access to public transportation. To the extent that it goes beyond traditional measures of social protection and includes an evaluation of the institutional arrangements and social structures that facilitate the pursuit of meaningful life projects in old age, the Global AgeWatch Index serves as a proxy metric for the robustness of the enabling and supportive environment for active ageing (HelpAge International, 2015). Countries are scored from 0 to 100 – 100 being the most favorable. Ninety-six countries were included in the 2015 Index, with Switzerland ranking first and Afghanistan ranking last.

As was done with the scatter plots presented at the outset of chapters 2 and 3 (see figures 2.1 and 3.1), the axis that situates countries along the demographic transition has been categorized thus: Countries with a median age greater than or equal to 36 years are considered to have a mature age structure and are classified as "old." Countries with a median age greater or equal to 26 years and less than 36 years are considered to be in transition from a young to a mature age structure, and thus are classified as "rapidly ageing." While countries that have a median age less than 26 years are considered to have a youthful age structure, and are classified as "young."

In terms of the axis for the enabling environment, three categories have been defined: Those countries that rank among the top 32 positions in the GlobalAge Watch Index, having a score of 57 or greater, are categorized as "top third." Like Continental and Northern Europe, North America, but also Israel and a couple of Latin American nations, including Panama, Chile and Uruguay, these countries have built robust enabling environments for active aging. Those countries that fall between the 33rd and 64th

position, having an Index score greater than or equal to 42 and less than 57, are categorized as "middle third." With a performance that is comparable to a handful of Mediterranean and Latin American nations, these countries have room for improvement and need to further develop their support structures for older persons. Lastly, those countries that rank at or below the 64th position, having a score of less than 42, are categorized as "bottom third." With a score similar to nations from Africa and the Middle East, but also Greece, Venezuela and Honduras, these countries have weak enabling environments for active ageing.

Figure 4.1
Ageing well remains a challenge in most countries regardless of age structure
Median age (2015) and Global AgeWatch Index (2014) for selected countries



Source: DESA (2015) and HelpAge International (2015).

The result is a nine-quadrant typology. As was the case with the earlier two scatter plots, the upper-left quadrant remains empty. No country that is early along the demographic transition has been able to build a robust enabling environment for active ageing. Furthermore, the upper-middle quadrant too remains empty. No rapidly ageing country either has been able to construct a strong enabling environment. Only Asia-

Pacific countries with mature age structures then join Western Europe, in the top ranks of the Index.

Interestingly, the correlation between mean age and the Global AgeWatch Index is stronger than the correlation between median age and GNI per capita and social protection investments, respectively (r=0.77 compared to r=0.68 and r=0.51 respectively). One interpretation of this is that as countries age, and the relative size of the older population increases, greater priority – not only by governments, but also by society at large (that is, stakeholders) – is given to promoting active ageing. Another factor is that, perhaps even more so than social protection, enabling environments are built through accretion, whether its enhancing the legal framework or fostering social capital.

Four countries occupy the upper-right – "old-and-top-third" – quadrant: Australia, Japan, New Zealand and Georgia. It is not surprising that the OECD trio is considered to have the most robust enabling environment for active ageing in Asia and the Pacific. These countries enjoy high standards of living, universal pension and health-care systems, well-developed legal frameworks to protect older person against multiple forms of discrimination, and thick networks of civil society organizations that support the civic integration of older persons. Less intuitive is the presence of Georgia among this cluster of countries. Yet, Georgia does have a relatively strong system of social protection, and for sometime now the country has demonstrated a strong commitment active ageing, participating, for example, in numerous initiatives under the aegis of the United Nations Regional Commission in Europe (ECE, 2015).

Three countries – China, Thailand and the Republic of Korea – are situated in the central-right – "old-and-middle-third" – quadrant. Among the oldest of the middle-income countries, and currently in transition from the first to the second window of opportunity, China and Thailand have made good progress in developing policies and a legal framework to support older persons. Yet, as is the case with social protection, these two countries need to continue to strengthen their enabling environments, especially for older persons living in rural areas. Given its level of economic development, the Republic of Korea has a relatively low position in the typology. This, however, is consistent with some of the challenges the country has been facing regarding depression and social isolation among older persons. For example, suicide rates for persons aged 65 years and older are more than five times higher than suicide rates of persons age 15 to 34 (OECD, 2011) and 10 times higher than the OECD average (Ro et al., 2015; OECD, 2011)

The Russian Federation is a borderline case as it is situated between the lower-right and central-middle quadrants. Recently achieving high-income status, and given its relatively high levels of social protection investments, the Russian Federation has the resources to strengthen its enabling environment for active ageing.

Three countries occupy the central – "rapidly-ageing-and-middle-third" – quadrant: Viet Nam, Sri Lanka and Armenia. While three countries occupy the central-left – "young-and-middle-third" – quadrant: the Philippines, Kyrgyzstan and Tajikistan. Not possessing the most robust or more attenuated enabling environments, these six countries provide moderate support for active ageing. Given their relatively young age

structures, these countries are well poised to invest and strengthen their enabling environments.

Ten – a bit less than half – of the 24 countries included in the scatter plot have weak enabling environments for active ageing. Four of these countries – which are rapidly ageing – are situated in the bottom-central quadrant: India, Indonesia, Mongolia and Turkey. The remaining six countries are situated in the bottom-left quadrant, including the region's three low-income countries (see figure 2.1): namely, Afghanistan, Nepal and Lao PDR.

All in all, figure 4.1 suggests that even with modest economic growth and social protection investments, countries can prioritize and effectively promote active ageing. This is the case with, for example, Georgia, which, though relatively poorer and spending less resources on social protection, is situated along with the OECD trio – Australia, Japan, and New Zealand – in the upper-right quadrant. Thailand too has performed well, situated close to the upper-right quadrant. Likewise, the Philippines, Sri Lanka and Viet Nam demonstrate promise in terms of promoting active ageing, given their levels of economic growth and investments in social protection. By contrast, the Republic of Korea and the Russian Federation underperform relative to their levels of economic development; and Mongolia too underperforms relative to its level of social protection investments.

This chapter will focus on three social issues concomitant to population ageing which pose challenges to Asia-Pacific countries as they aim to strengthen their enabling environments. First, the dynamics of oppression and discrimination associated with the overlapping of old age and marginalized identities will be considered. Second, the transformation of living arrangements and familial support structures that are taking form in and through the demographic transition and socio-economic development will be examined. And third, the inroads ageism has made into the public, economic and political spheres across the region will be analysed. The final chapter of the report will consider how Asia-Pacific countries can enhance their enabling environments to better address these three social issues.

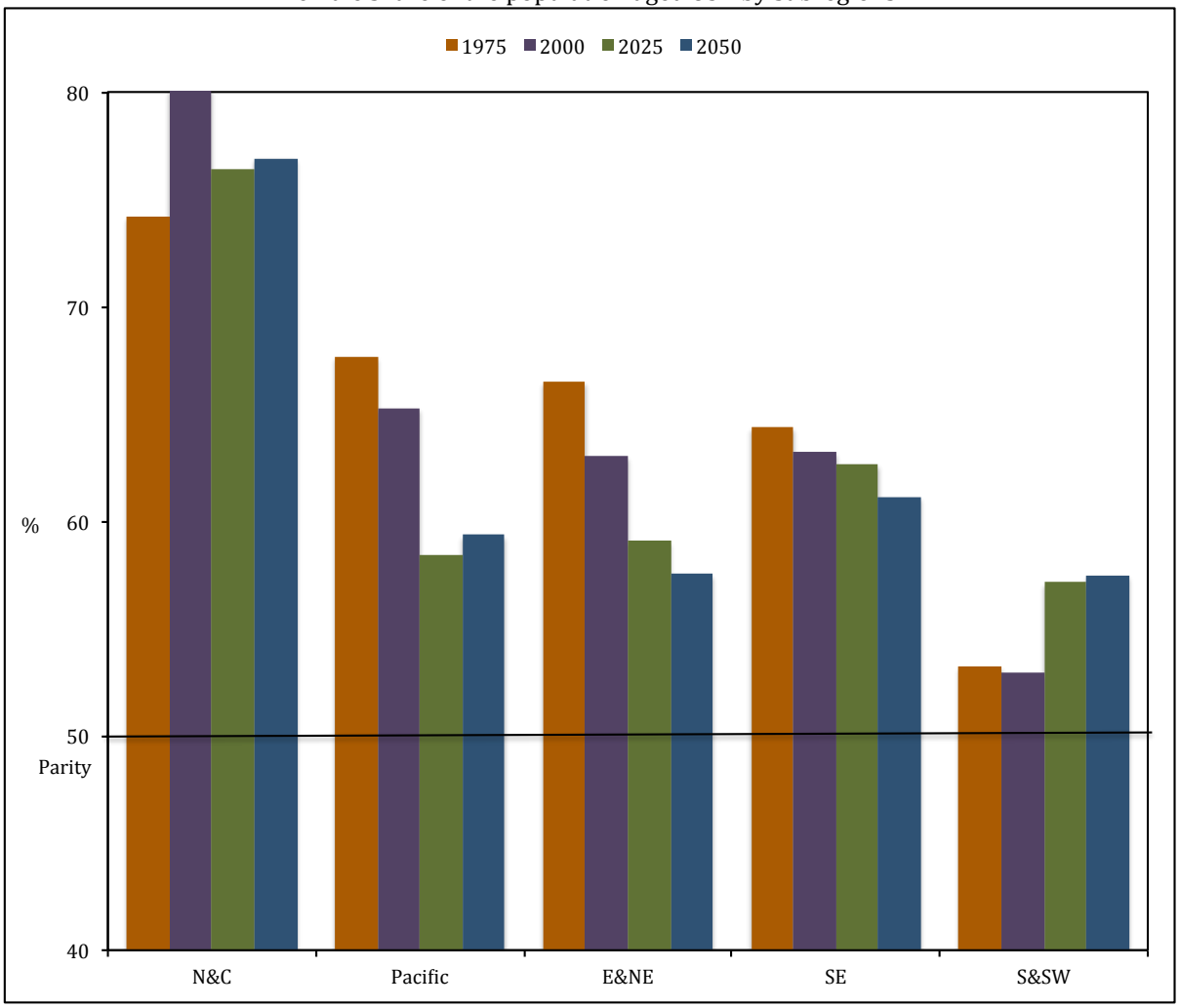
Social markers of difference accentuate the vulnerabilities associated with old age

When they intersect with age, ascriptive markers of difference such as gender, caste, ethnicity, religion disability and migrant status, which link older persons to discriminated identities and marginalized social groups, can create inequality traps, compounding and further intensifying the vulnerabilities associated with age. If they are to duly promote the well-being and social integration of an ageing population, then, in addition to tackling the inequality of income and barriers to accessing social services faced by older persons, Asia-Pacific countries must also confront the reinforcing dynamics of horizontal or historical inequalities.

Owing to their longer life expectancy, women constitute a disproportionate amount of the older population. In fact, the share of women increases with age such that the number of women relative to men is largest among the oldest old. Throughout the five Asia-Pacific subregions, the share of women among the population aged 85 and older

steadily increased during the closing decades of last century, reaching an apogee at the turn of the new millennium, when, for example, in North and Central Asia, women constituted as much as 80 per cent of the oldest old (figure 4.2). In the next decades, the share of women among the oldest old is projected to decrease slightly across the region, constituting, nevertheless, over 75 per cent of this cohort in North and North-East Asia, around 60 per cent in the Pacific, East and North East Asia and South-East Asia, and 55 per cent in South and South-West Asia.

Figure 4.2
Women constitute the majority of the oldest old
Female share of the population aged 85+ by subregions



Source: ESCAP Online Statistical Database.

This demographic phenomenon dubbed the "feminization of ageing" brings with it the compounding effects of lifelong gender-based inequalities in access, treatment and outcomes and the specific vulnerabilities and forms of discrimination associated with old age. Consequently, older women are more susceptible to falling into inequality traps than are older men (Devasahayam, 214). Older women have a higher prevalence of morbidity and disability and are often more financially dependent than men because of their lower participation in the workforce, vulnerable employment, and lower education levels. Not having been remunerated for their work or having received lower wages than men, women tend to have lower or no savings and relatively low access to

contributory pension schemes. A higher share of older women, moreover, are "single," that is, unmarried, divorced or widowed. Indeed, of particular concern is the substantial number of widowed women in the region without adequate income, access to social services or community support.

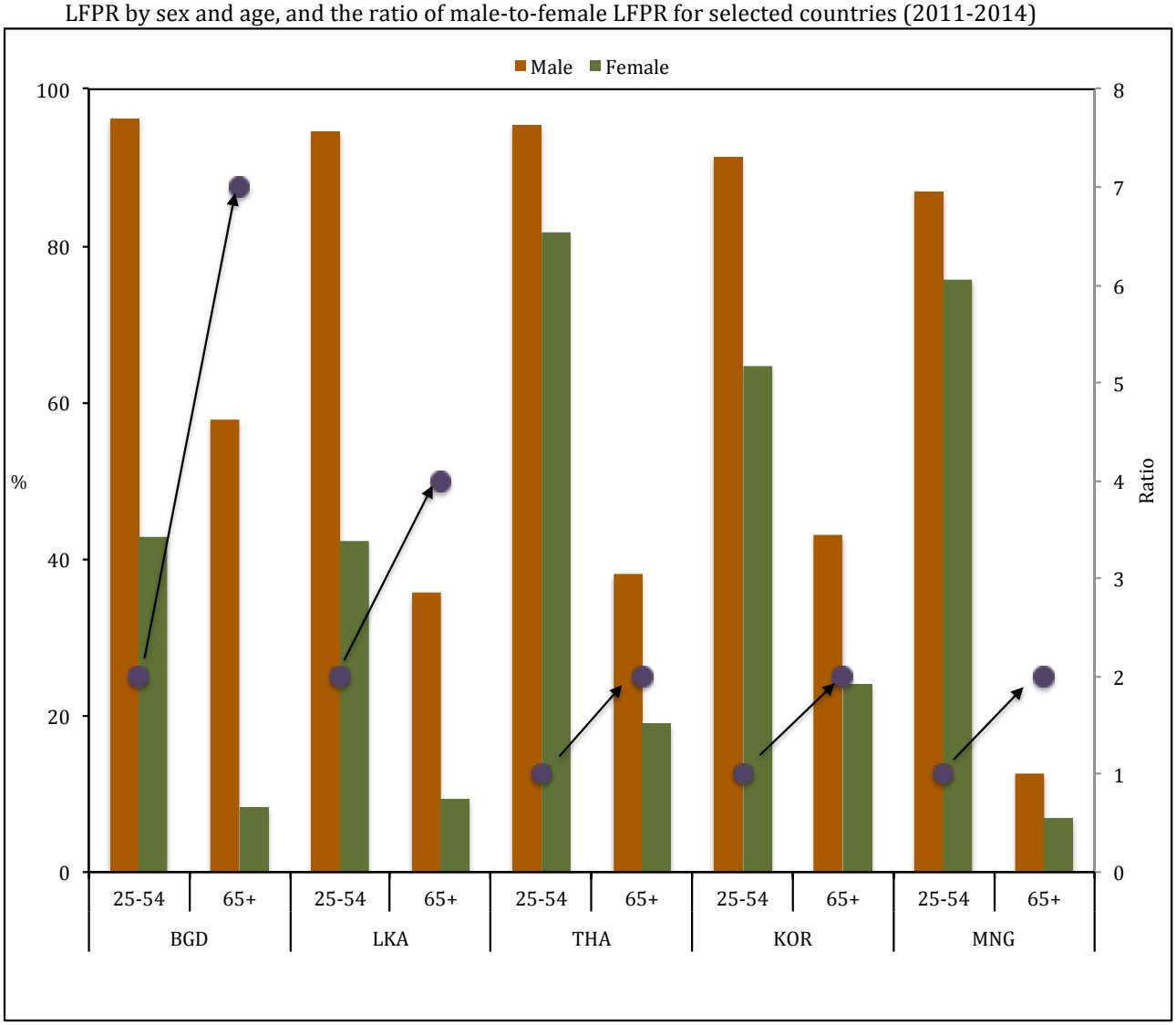
Though, as will be further developed below, access to the labour market is essential to secure economic security and ensure active ageing, across the region, labour force participation is disproportionately low. As it is well known, one important determinant of the gender inequalities that abound in the region is the disparities in accessing the labour market and obtaining decent jobs. In most countries in the region, women are less likely than men to be integrated into the labour market, that is, less likely to be employed or actively looking for a job (ILO, 2012). The gender gap vis-à-vis labour force participation that persists during the prime working age increases in old age.

Figure 4.3 illustrates this compounding effect of the intersectionality of gender and age in six countries in the region. It is not only that, as could be expected, there is a gender gap in all countries among population ages 25-54 and 65 years and older, it is that the ratio of these gaps increases in old age. In Bangladesh, women are two times less likely than men to participate in the labour force at ages 25-54; whereas they are four times less likely at ages 65 years and older. In Sri Lanka the ratio of male-to-female LFPR increases from two to four; and in Mongolia, the Republic of Korea and Thailand the ratio increases from one to two.

In addition to the intersection of gender and age, the noxious effects of the intersection of caste and age have also been well documented in South Asia. SAGE India Wave 1, which was administered to over 11,000 individuals in six states, found evidence that belonging to one of the constitutionally recognized disadvantaged – "scheduled" – tribes or castes (also referred to as "Untouchables," "Harijans" or "Dalits") increases the likelihood of poor health outcomes in old age. The survey found that for respondents between the ages of 18 to 49 years health and well-being measures – including self-reported health status, everyday mobility indicators, and presence of chronic conditions – were similar across scheduled tribes and castes and non-scheduled tribes and castes as well as all those not belonging to either a caste or tribe. However, respondents ages 50 years and older from scheduled tribes and castes reported inferior health outcomes vis-à-vis respondents from the non-disadvantaged groups (Kowal and Afshar, 2015).

As a case in point, figure 4.4 provides the share of respondents for ages 18-49 and 50 years or older that reported poor overall health status across scheduled tribes and castes and non-disadvantaged groups. As is expected, overall, the percentage of respondents that reported poor health is considerably larger for respondents 50 years or older than for respondents aged 18-59 (over 20 per cent compared to less than 10 per cent). More interestingly, however, for the younger cohort the share of respondents reporting poor health is practically identical across scheduled tribes and castes and non-disadvantaged groups, while for the older cohort there is considerable disparity across groups. Thus, among the respondents 50 years or older, 35 per cent from the scheduled tribes and 25 per cent from the scheduled caste, compared to about 20 per cent from other – non-disadvantaged – groups, reported poor health status.

Figure 4.3
Workforce participation among older women is disproportionately low in some countries
LFPR by sex and age, and the ratio of male-to-female LFPR for selected countries (2011-2014)

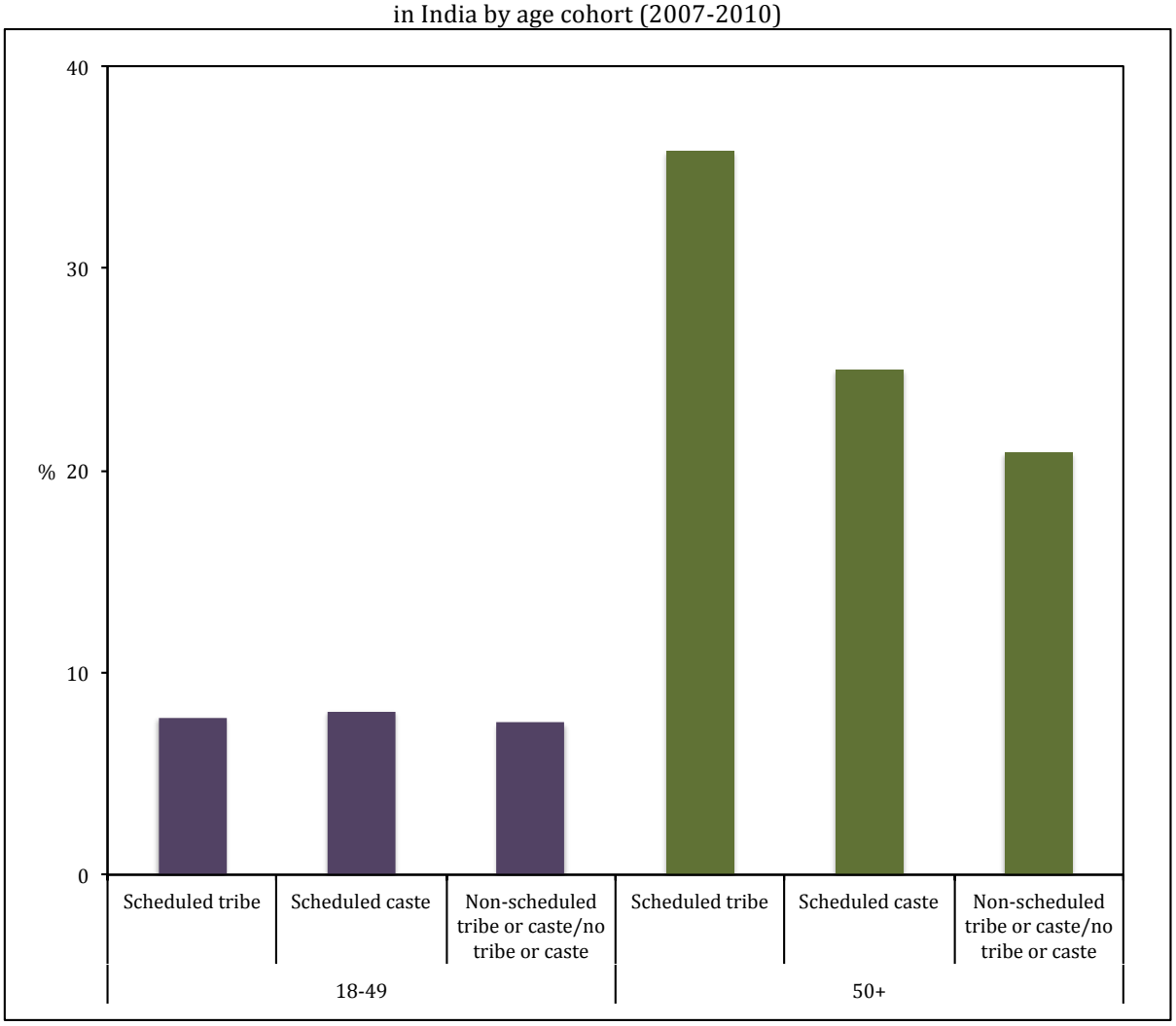


Source: ILOSTAT Database.

The compounding effects of the intersection of ethnicity and age have also been thoroughly investigated in the Pacific, where the focus has been on the precarious conditions of older indigenous populations. For instance, recent studies have revealed that Aboriginal and Torres Strait Islander people experience dementia at a rate of three to five times higher than the general Australian population (Flicker and Holdsworth, 2014). In New Zealand, one of the national surveys conducted under the Enhancing Wellbeing in an Ageing Society (EWAS) research initiative (2004-2009) found that older Māori ages 65-84 had lower income levels, lower levels of savings and assets, and were less likely to own their own home compared to the older Pākehā ("of European descent") of the general population (Koopman-Boyden and Waldegrave, 2009). For example, while 15 per cent of older Māori experienced some financial difficulty and a further 20 per cent experienced severe difficulties, only 10 per cent of the older Pākehā

experienced some financial difficulty, and only a further six per cent experienced severe difficulties. These differences were more pronounced for single older Māori.

Figure 4.4
Lifelong poverty and exclusion intensifies vulnerabilities in old age
Self-reported poor health status among scheduled tribes, scheduled castes and non-disadvantaged groups in India by age cohort (2007-2010)



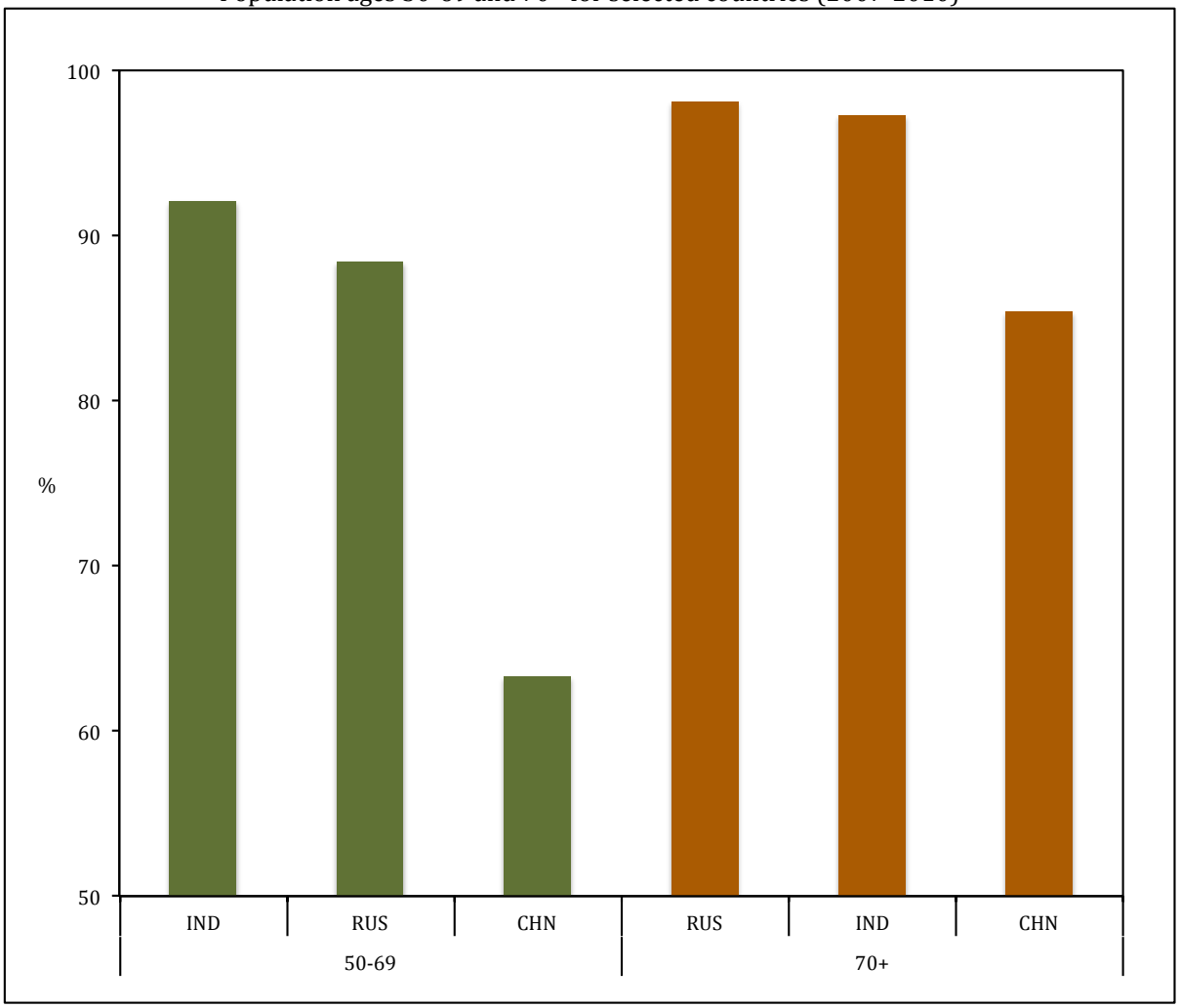
Source: WHO, SAGE (2007-2010).

Because it directly impinges upon the ability to age actively and it has important repercussions for the funding of health and long-term care, the intersection of disability and old age is particularly important. While longevity has increased throughout the region, many individuals are living longer, but with disabilities. In particular when conceptualized beyond the reductionistic medical model to include impairments, activity limitations, and participation restrictions caused in interaction with the social environment, disabilities undermine the ability of older persons to lead meaningful lives and contribute to society (WHO and World Bank, 2011).

Intuitively, the incidence of disability increases with age. In China, for example, the share of persons age 60 years and older was five times greater among persons with disabilities than among the total population in 2006. In Australia (2009), India (2001), LAO PDR (2005), Myanmar (2010) and the Republic of Korea (2010) the share was

about three times greater (ESCAP, 2012). SAGE Wave 1 data for India, China and the Russian Federation corroborates the greater prevalence of disability at older ages.

Figure 4.5
The prevalence of disability increases with age
Population ages 50-69 and 70+ for selected countries (2007-2010)



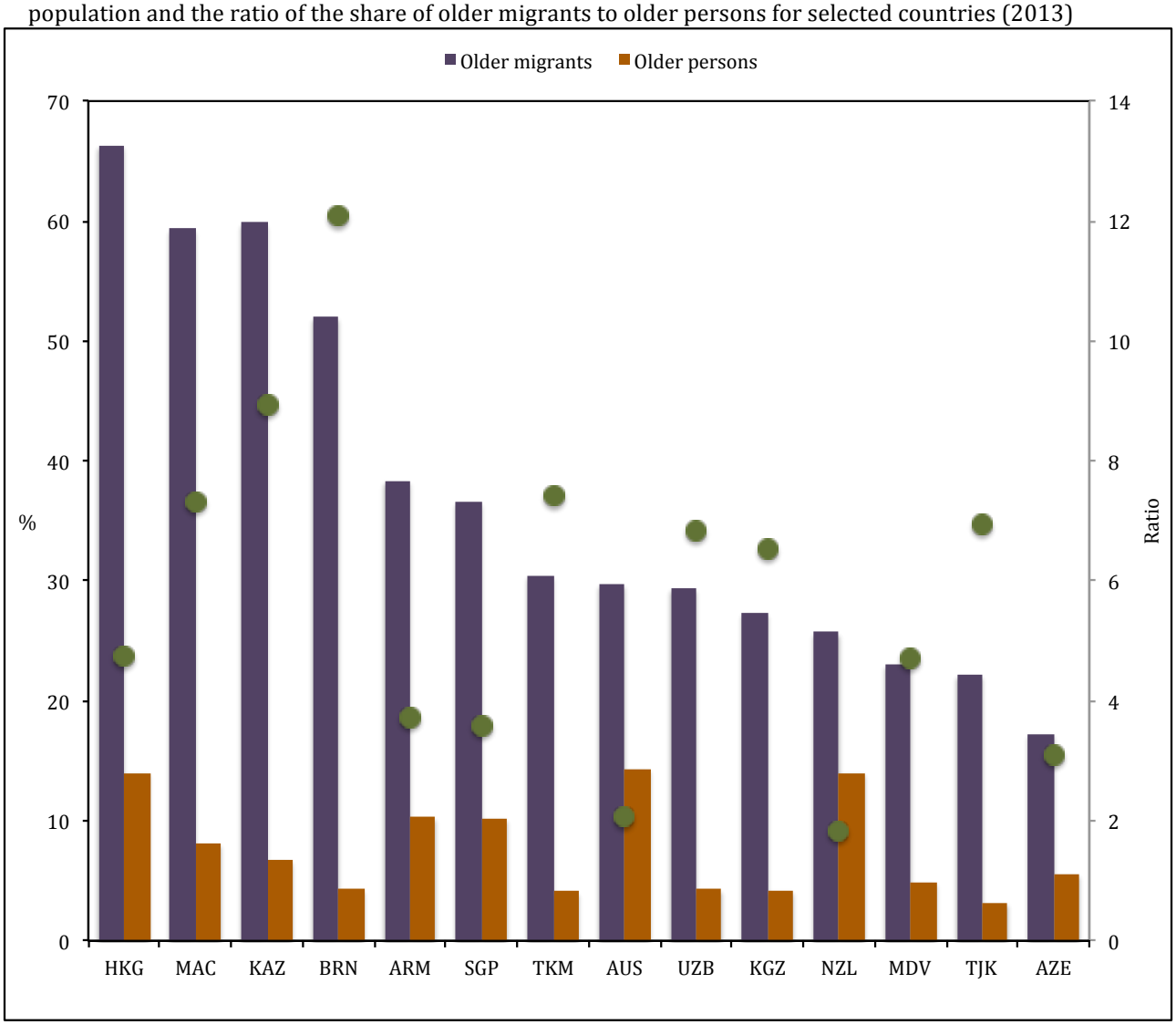
Source: WHO, SAGE (2007-2010).

As figure 4.5 illustrates, for respondents aged 50-69, 65 per cent in China and close to 90 per cent in India and the Russian Federation had a disability, defined in terms of difficulties related to mobility, ADL, IADL and cognition. The incidence of disability increased substantially across the three countries for respondents aged 70 years and older, to almost 100 per cent in India and the Russian Federation and close to 85 per cent in China. It is also worth mentioning that, with an increase of 35 per cent, China experienced the greatest rise in disability prevalence between the two age cohorts.

The social dynamics in and through which the intersection of age with gender, caste, ethnicity and disability compound and further intensify the vulnerabilities associated with the later stages of the lifecycle have been relatively well documented, and governments and stakeholders across the region have begun to take action to address relevant inequality traps. Less well known is the intersection of age and migration. Though migration will have little impact in the region's demographic transition, and

though migration policies may not be efficacious in countering the downward pressure on the supply of labour caused by population ageing, the disenfranchisement of large numbers of migrants in the region should be a concern. Especially, concerning should be the situation of older migrants.

Figure 4.6
In some countries there is a relatively large numbers of older migrants
Older migrants (65+) as a share of total migrants and older persons (65+) as a share of the total population and the ratio of the share of older migrants to older persons for selected countries (2013)



Source: DESA (2013).

If relatively little attention has been given to the predicament of older migrants, it is undoubtedly due to the fact that, as suggested earlier, migrants are disproportionately from younger cohorts. Given this rule of thumb, it is perhaps somewhat surprising that in 14 out of the 44 Asia-Pacific countries for which data are available, the share of the migrant population that is 65 years and older is greater than the share of the general population of the same age cohort (figure 4.6). For example, in Hong Kong-China, the population of older migrants is 13-times larger than the population of older persons. In Macau-China and Brunei-Darussalam, the ratio of older migrants to older persons is about 12 and 10 respectively. In Australia and New Zealand, about 30 per cent and 25

per cent of all migrants are 65 years and older, while the share of this age cohort in the general population is about 15 per cent. This pattern is particularly pervasive in North and Central Asia. In Armenia, Azerbaijan, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan and Uzbekistan the share of older migrants relative to total migrants is greater than the share of older persons relative to the total population.

As a result of multiple vulnerabilities related to their status, migrants often work under precarious conditions. Though migrants contribute to the economic prosperity and cultural diversity of their destination countries, they often face inequalities in remuneration, social protection and access to social services, including health care. Analogous to the case of older persons from scheduled tribes or castes, individuals who migrated young and have grown old in the receiving country most deal with the cumulative effects of years of poverty and exclusion. For example, a migrant who has faced decades of inequalities in access to basic social services is more likely than the general population to have poor health outcomes. These poor health outcomes will tend to deteriorate with age, which, in turn, will increasingly require the health-care services the migrant has unequal access to. Thus a vicious spiral sets in.

Individuals that migrate in old age may face somewhat different challenges. Cultural and linguistic barriers could compound the difficulties of individuals that migrate in old age in pursuit of more auspicious economic conditions. Individuals that migrate in old age to join their children may perhaps be less economically precarious, but they still are susceptible to the social exclusion linked to being a stranger in a foreign land. In some cases this exclusion could prove anomic, and consequently impede the pursuit of active ageing.

Familial systems of support are being renegotiated as living arrangements are transformed

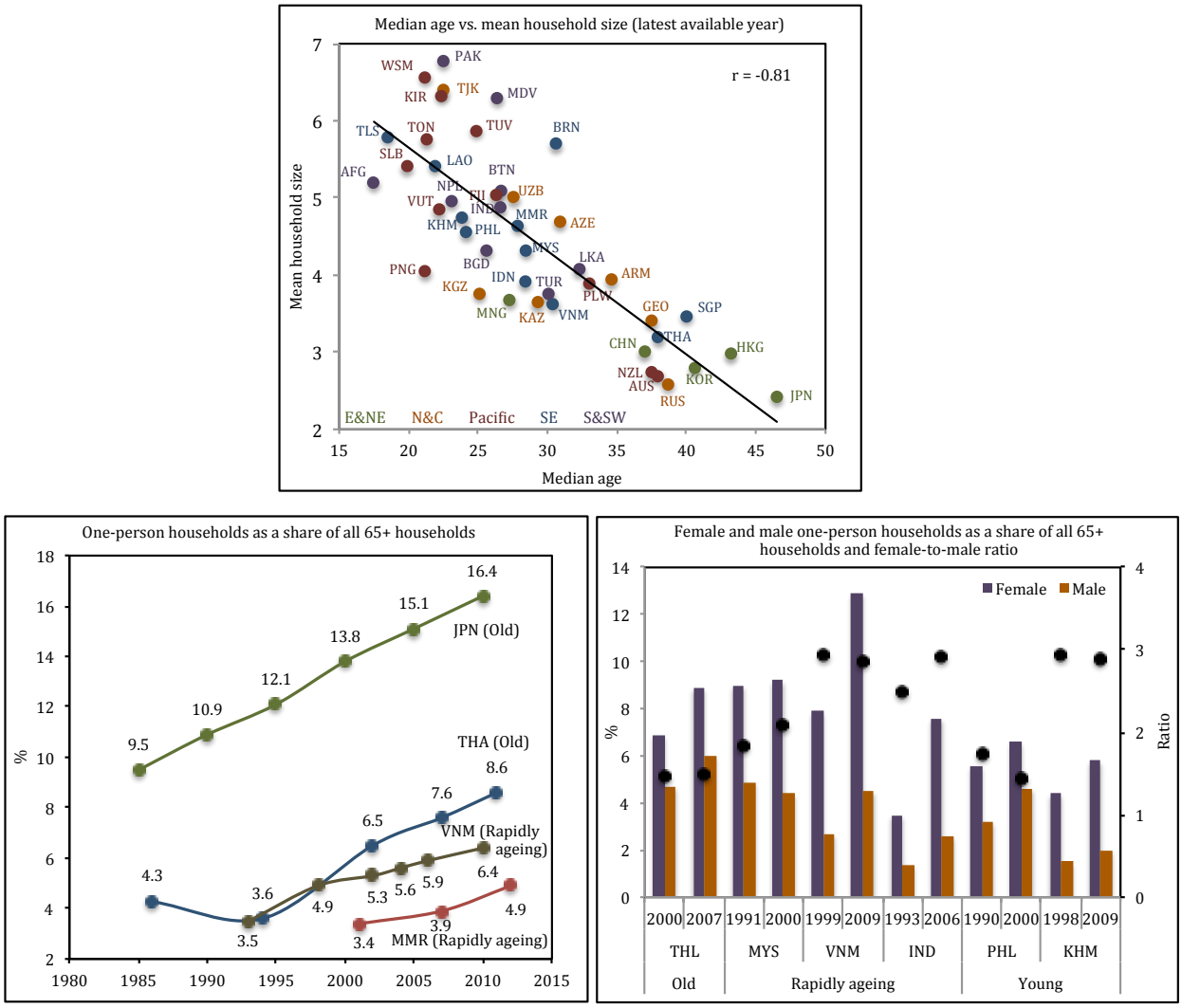
Given the strong cultural norm of filial piety or obligation – in the more general sense of a moral duty to care for one's kinfolk – and weak formal social protection systems, the role of the family has long been central in meeting the lifecycle needs of older persons in Asia and the Pacific.[16] How the dynamics of development are bringing about changes in living arrangements and familial support has for decades been a subject of analysis throughout the region (UNESCO, 1992). There is concern that demographic, economic and ideational changes are eroding familial support for older persons, which in turn is resulting in greater material precarity and social exclusion in old age.

While the share of older persons that co-reside with children or grandchildren has steadily decreased, this trend needs a more nuanced treatment from both an inter-regional and intra-regional perspective. Social theorists have long maintained that the

[16] Senso stricto, filial piety is one of the paramount Confucian values. As such it applies only to those countries historically influenced by Chinese culture and statecraft, like the nations of North-East Asia or those situated in the Indochinese Peninsula (Ikels, 2004). However, the nomenclature can be used in a broader sense to refer to all non-Western or traditional cultural forms from across the Asia-Pacific region that give pride of place to the collective good of the kinfolk over the pursuit of individual interests. Under this more equivocal definition of a moral obligation to care for one's family, would be included, for example, the Hindu – Indo-Aryan – cultures of South Asia, the Pacific island – Polynesian, Melanesian and Micronesian – cultures, and the Islamic cultures of the Malay Peninsula and Borneo.

process of modernization would result in a shift from extended kinship relations toward the priority of the conjugal bond and the nuclear family across the globe regardless of cultural specificities (Goode, 1963).[17] To date no Asia-Pacific country serves as counterfactual evidence to this general hypothesis. The demographic transition and socio-economic development that has been transpiring in the region has led to a decrease in the share of multi-generational households and an increase in the share of older persons living alone.

Figure 4.7
Families are becoming smaller and the number of solo-dwelling older persons is on the rise
Family and household composition, various indicators for selected Asia-Pacific countries



Source: DESA (2015); Euromonitor International (2013); Teerawichitchainan et al. (2015); Statistics Bureau of Japan (2012); Sathyanarayana et al. (2012); Abalos et al. (2013); and Adioetomo and Mujahid (2014).

The upper panel in figure 4.7 plots median age and the mean household size for 44 Asia-Pacific countries. These two variables have a very strong negative correlation (r=-0.81)

[17] In general terms, the process of modernization can be described as the uncoupling and differentiation of the political and economic systems from the everyday sphere of the family in and through the socio-historical dynamics of industrialization and urbanization (Habermas, 1987).

– that is, countries with mature age structures have a smaller household size. The region's high-income countries in particular have the smallest average number of members per household: Japan, the Republic of Korea, the Russian Federation, New Zealand and Australia have a mean household size of less than three persons. The old middle-income countries – China, Thailand and Georgia – have a mean household size of around three. By contrast, in young countries like Timor-Leste, Samoa and Pakistan, households are constituted by between six and seven members on average.

The two bottom panels of figure 4.7 provide data on single-person households as a share of all households among older persons for a selection of Asia-Pacific countries. These two panels corroborate, first, that across the region an increasing number of older persons are living alone, and, second, that the share of older persons that are living alone tends to be greater for countries that are further along the demographic transition. The bottom-left panel provides available time-series data for Japan, Thailand, Viet Nam and Myanmar. Between 1985 and 2010 the proportion of single-person households among older persons increased from 9.5 to 16.4 per cent in Japan, while doubling in Thailand in more or less the same period, increasing from 4.3 per cent to 8.6 per cent. In Viet Nam the proportion of older persons living alone increased from 3.5 per cent to 6.4 per cent between 1993 and 2010 and in Myanmar the share increased from 3.4 per cent to about five per cent from about the turn of the century to 2012.

The bottom-right panel provides sex disaggregated data at two different years for six countries from the region. It also provides the ratio of the share of older women that are living alone to older men that are living alone. Across the region, a greater number of older women than older men live alone. This is consistent with the aforementioned feminization of ageing: As they live longer, the likelihood that an older woman will end up constituting a single-person household is greater than the likelihood for an older man. In fact, in some countries there are three-times more older women than older men that dwell alone. This is the case in Viet Nam, India and Cambodia. In India the ratio of older women to older men that reside alone increased from about 2.5 to three between 1993 and 2006. In the other two countries, the ratio has remained constant during the last ten years or so. In Thailand, Malaysia and the Philippines there are almost twice as many older women than older men that live alone. For all six countries, moreover, the share of both older men and older women that are in single-person households has increased during the given period.

The regional evidence on living arrangements is consistent with what modernization theories had predicted: There has been a steady decline in intergenerational households across the region. This tendency can be expected to continue as countries make there way along the demographic transition. Moreover, the one-person household is the fastest growing type of household in the region, not only among older persons, but among all adult cohorts (Yeung and Cheung, 2015). However, these transformations do not imply that living arrangements and kinship structures in Asia and the Pacific are teleologically approaching some western family paradigm. Nor do these transformations imply the homogenization of the diversity of forms of familial relations that have emerged from the different cultures of the region, whether, for example, it is the patrilocal co-residence of South and North-East Asia or the bilateral systems of

South-East Asia where both sons and daughters provide care for their older parents (Esteve and Lieu, 2014).

In a word, socio-historical conditions and values specific to the region will continue to shape the form and direction that the transformation of living arrangements and kinship structures will take, in much the same way that they have shaped and will continue to shape development pathways, markets exchanges, political institutions, legal systems, and the like. This – as opposed to a vulgar defense of authoritarianism – seems to be the more felicitous reading of the "Asian values" thesis (Dalton and Ong, 2005). Indeed, Asia-Pacific norms of filial duty are being structured and are structuring the transformation in household and family configurations. The particularity of Asia-Pacific living arrangements can be gleaned from a statistical point of view by the fact that living in an extended household remains the most predominant type of living arrangement in the region, and, that though the share of one-person households has been steadily increasing, in most Asia-Pacific countries this share is only a fraction of what it is in Europe and North America.[18] Furthermore, and perhaps more significantly, behind the decrease in household size, Asia-Pacific societies are renegotiating the forms of intergenerational exchanges, as will be discussed shortly.

It has largely been assumed that a negative correlation exists between living in a single-person household and well-being among older persons. In other words, it has largely been assumed that older persons that live in multi-generational households are better off than those that live alone. This perspective has been perpetuated by popular and media accounts, which tend to portray solo-dwelling older adults as disadvantaged, lonely, depressed, in financially dire straights, and even disserted by their children (Yeung and Cheung, 2015). The lack of systematic studies on single-person households among older persons in the region has not helped dispel these stereotypes. The little evidence that does exist, however, suggests that this is not necessarily the case. Indeed, the few studies that have been conducted on this issue provide a more a nuanced and mixed view regarding the reality of solo-dwelling older persons.

One recent study that compares the well-being of solo-dwelling older adults in Myanmar, Viet Nam and Thailand paints a more nuanced reality (Teerawichitchainan et al., 2015). First, in terms of self-assessed economic well-being, the study found that while in Myanmar and Viet Nam older persons living alone were worst off than those in other living arrangements. This, however, was not the case in Thailand, the country that is farthest along the demographic transition and where, for this reason, one would expect the adverse consequences of living alone to be most endemic. Second, in terms of social participation, the study found no evidence to support the idea that older persons that live alone are socially excluded. In fact, in all three countries, solo-dwelling older adults tended to be as – if not slightly more – socially integrated than older adults residing in multi-generational households. One possible explanation for this is that fewer family obligations may allow older persons to be more involved in community-based activities.

[18] For instance, at the turn of the century, over two-fifths of all older women in Great Britain, the Netherlands, Sweden, the United States, Germany and Austria were living alone, according to census and household-survey data (Tomassini et al., 2004).

A third finding concerning psychological distress was more consistent with generally held views: In all three countries, solo dwellers reported more psychological distress than those living with others. In Viet Nam and Thailand, childless and solo-dwelling older persons were the most psychologically distressed when compared to older persons co-residing with their children or older persons living alone who had children, whether their children lived close by or not. A fourth finding is intuitive: In all three countries, solo-dwelling older adults that needed assistance with ADL were at a disadvantage vis-à-vis their counterparts living in multi-generational or conjugal households. This was particularly the case in rural areas.

In addition to providing a more nuanced sketch of the relationship between well-being and single-person households among older persons, one of the more resounding findings of the study was that older adults that live alone and are childless are the most vulnerable group of older persons. At the same time, as the authors themselves recognize, given the cross-sectional nature of existing studies, it cannot be determined which of the two variables is the cause and which one is the effect. To explore the causal relationship between living alone and well-being in old age, comparative longitudinal research is needed (Teerawichitchainan et al., 2015).

Though the increasing nuclearisation of the household and the concomitant increase in the number of solo-dwelling older persons across the region is undeniable, it is not clear that these trends are resulting in an erosion of familial support for older persons. Studies have found that in some countries a ubiquitous and robust system of familial support has endured broad social change. This suggests that, if anything, what is transpiring is a renegotiation of the social contract between generations (Knodel, 2014). An illustration of this renegotiation is the fact that a substantial number of solo-dwelling older persons live in what can be referred to as "quasi-coresidence" with a child residing next door or very nearby (Teerawichitchainan et al., 2015). This new social reality which is being facilitated by improvements in the standard of living and the development of transportation infrastructure and information technology, is subverting the binary logic of living alone versus living with the family, of individualism versus filial obligation. The new familial relations that are taking form place greater emphasis on less hierarchical forms of interaction such as mutual care, reciprocal exchanges, and interdependence (Croll, 2006).

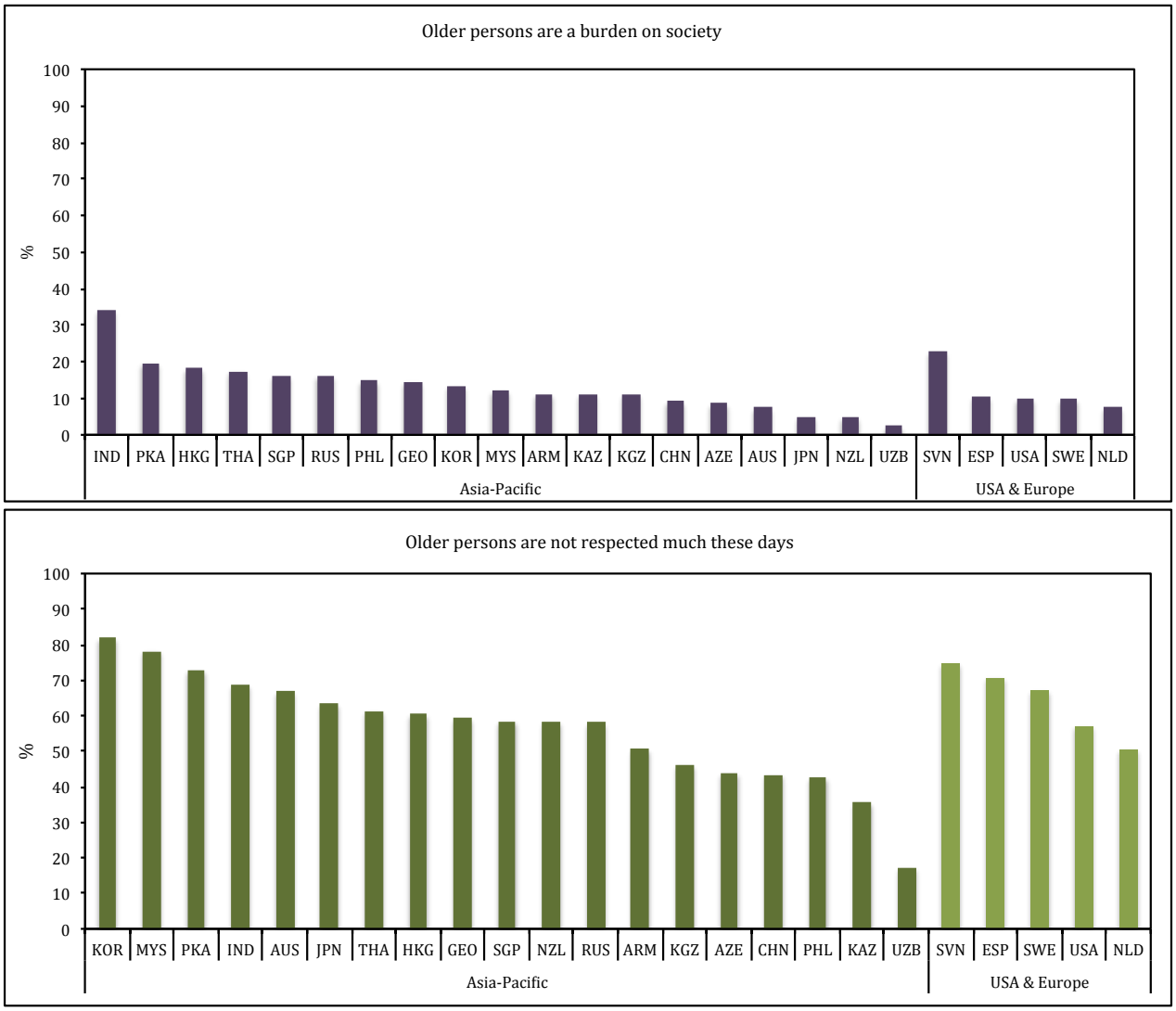
Ageism is making inroads into the public, economic and political spheres

There is evidence, then, that, in terms of familial relations, the ethos of responsibility to one's kinfolk is not eroding, but rather it is being altered and renegotiated across the region. Filial piety does not just apply to the realm of the family though. It is a cultural norm that orients all spheres of social life. What is the status of this ethos in the public, economic and political spheres?

There is a growing concern that the demographic transition and socio-economic development have attenuated the general cultural norm of filial piety that suffused Asia-Pacific societies, consequently allowing ageism to make inroads into modern social life. There is a danger, moreover, that this ageism will intensify in a context of rapid population ageing where, growing in number and visibility, older persons can be more easily scapegoated for economic and fiscal hard times. There seems to be a growing

ambivalence toward the value of filial duty across the region: While this norm continues to anchor household and familial interactions, it seems that, increasingly, negative stereotypes of older persons are permeating popular culture and mass media, the realm of work, and political life. Indeed, as the process of modernization continues across the region, countries, households and individuals will increasingly be confronted by a tension between the veneration of ancestors that grounds traditional social life, on the one hand, and the veneration of youth that orients modern social life, on the other.

Figure 4.8
There is a growing chasm between the norm of filial obligation and the perceived treatment of older persons by society
Share of respondents of the World Values Survey (wave six) that strongly agree or agree with the following propositions, selected countries



Source: World Values Survey (2015).

Supported by nineteenth and early-20th century ethnographic evidence (Whyte, 2004), it was long assumed that stereotypes of older persons were more positive in Asia-Pacific cultures than in Western cultures. Recent cross-cultural studies of age-related stereotypes have proven defunct this assumption of an absence of ageism in the cultures of the region (Boduroglu et al., 2006). There is growing consensus that age-

related beliefs concerning older persons are similar across Asia-Pacific and Western cultures and that there exists no general positive bias for old age in Asia and the Pacific. One series of studies, for example, found that in the United States, Australia, the Philippines Thailand and China, "vitality" was perceived as decreasing and "benevolence" was perceived as increasing with old age (Harwood et al., 2001; Harwood et al., 1996). As is the case in the West, in Asia and the Pacific there is a co-existence of both positive and negative traits associated with old age. While the positive traits linked to old age include wisdom and generosity, the negative traits include illness, uselessness, unattractiveness, cognitive deterioration, poverty and depression.

The decentering of the cultural norm of filial responsibility and the growing prevalence of age-based discrimination across the region was captured in the latest wave of the World Values Survey (WVS) (2010-2014), a nationally representative survey which was conducted in over 60 countries from around the globe, about a third of which were from Asia and the Pacific. Figure 4.8 juxtaposes the individual's sense obligation towards older persons and his/her perception of how older persons are being treated in society at large, for 19 Asia-Pacific countries and five countries from North America and Europe. More specifically, the lower panel provides the share of respondents that strongly agree or agree that older persons are a burden on society; while the upper panel provides the share of respondents that strongly agree or agree that older persons are not respected much these days.

A first observation is that the results for these two survey questions are relatively similar for Asia and the Pacific, the United States and Europe. With the exception of India and Slovenia, between 20 per cent and 10 per cent of all respondents agreed with the proposition that older persons are a burden on society; and with the exception of Uzbekistan and Kazakhstan, between two-fifths and four-fifths of all respondents agreed with the claim that older persons were not being treated with respect. This similarity that exist across regions corroborates the aforementioned studies that have dispelled the notion that their exists an Asia-Pacific exceptionalism vis-à-vis the cultural norms toward older persons.

A second observation has to do with the stark contrast that exits between the moral imperative towards older persons– the normative "ought" – gauged in the upper panel, and the perceived treatment of this cohort by society – the factual "is" – gauged by the lower panel. By denying that older persons are a burden, the large majority of respondents repudiate the reduction of this cohort to social usefulness; that is, in other words, a large majority of respondents disavow the instrumentalization of older persons, which is, essentially, an assertion of the norm of filial obligation. At the same time, respondents acknowledge that in society older persons are not being given the respect they deserve, this is, that members of this cohort are being treated as if they were a "burden." But this is analogous to claiming that social interaction involving older persons is bereft of the norm of filial obligation. The paradox is apparent: If the majority of individuals recognize the norm of filial pity, how then is it possible for society to treat older people without respect? One obvious interpretation is that society is not the sum of individuals, and that ageism – or at least negative stereotypes toward older persons – is endemic to modern social systems. This is a way at getting at the aforementioned tension between traditional values of the sphere of the family and the modern spheres of mass culture and media, market exchanges and political activity.

A third observation, which is not reflected in figure 4.8, has to do with what could be described as a moral ambivalence toward older persons that seems to be taking root in Asia and the Pacific as individuals, households and countries are increasingly confronted with the socio-ethical dilemmas brought forth by rapid population ageing. Sixteen per cent of Japanese respondents and seven per cent of Chinese respondents declared not to know whether or not older persons were a burden. Similarly, 21 per cent of Japanese respondents did not know whether or not old persons were treated with the respect they merited and 12 per cent of Chinese respondents opted not to answer this question (World Values Survey, 2015). With the exception of one or two cases, the other 60 or so countries from the region and across the globe that participated in the latest iteration of the WVS had rates of "don't know" and "no answer" below four per cent. It is significant that it is in Japan and China – two countries that have deeply rooted cultural norms of filial piety and also far along the demographic transition – where survey respondents have demonstrated the greatest amount of what can be characterized as vacillation in terms of the values orienting the treatment of older persons. This vacillation could be the result of a growing inability to reconcile how one ought to treat older persons and how society is treating them.

Stoking the ageism linked to modern social life, and concomitantly contributing to the growing socio-ethical ambivalence towards older persons, are the negative stereotypes of old age perpetuated by mass media and mass culture. It has been well established that, as countries make their way along the demographic transition and achieve greater levels of economic development, mass media and mass culture come to exert increasing sway on public opinion and will-formation (Habermas, 1991). Across the region, the commercialization and consumerization of the public sphere is becoming a powerful vehicle for the alienation of old age. Advertising, news, film and television tend to feature stereotypes that depict older persons through a lens of diminished value, thus emphasizing the burden of growing old. These stereotypes reflect and reinforce attitudes and responses to growing older to population ageing (Milner et al., 2012). Willy-nilly, the messages and images of material affluence and a "better" life are associated with the vivacity of youth. The aesthetics of anti-ageing products and techniques and the speed of information technology are just two examples of the veneration of youth implicit in mass culture.

One of the most egregious manifestations of the age-based discrimination that permeates modern social life throughout Asia and the Pacific is elder abuse. Though the majority of cases occur within the confines of the household and though often the perpetrators are kinfolk, it would be erroneous to consider elder abuse as a problem limited to the sphere of the family. Familial interactions are embedded in and mediated by broader social relations. The values of modern social life increasingly penetrate the household. The growing influence of the aforementioned media and cultural stereotypes, for example, contribute to destabilizing the sanctity of older persons inherent to the norm of filial obligation, which consequently attenuates the taboo to engage in elder abuse. This dynamic is likely to be exacerbated in a context of population ageing.

Elder abuse is a public health and human rights issue in Asia and the Pacific, as it is across the globe. Taking the form of physical and psychological harm as well as

financial exploitation, elder abuse is the most inchoate field of violence studies, especially in comparison to domestic violence and child abuse. The pervasiveness of elder abuse has been found to vary depending on research methods, demographic conditions and cultural setting (Dong, 2015). Among the key Asia-Pacific studies on elder abuse that are summarized in Table 4.1, the highest 1-year prevalence was found in China (36.2 per cent), while the lowest was found in India (14 per cent). To put these figures in some kind of global perspective, in North and South America, the prevalence of elder abuse has been found to range from about a tenth of all cognitively intact older persons to half of all older adults suffering from dementia. While in Europe, the prevalence of abuse has been found to vary from about three per cent in Ireland to approximately 60 per cent in Croatia (Dong, 2015).

Table 4.1
Elder abuse is endemic in the region
Prevalence estimates, selected Asia-Pacific studies

Country	Population	Measure/method	Prevalence	Study
CHN	2,039 older adults from rural communities from Hubei (≥60; 59.9% female)	Hwalek-Sengstok Elder Abuse Screening Test (H-S/EAST); Vulnerability to Abuse Screening Scale (VASS)	1 year, 36.2%; ≥2 types, 0.4%	Wu et al. (2012)
THA	233 cognitively functioning older adults (ages 60-90; 73.4% female)	Interview protocol for elder abuse screening	1 year, 14.6%; 1 time, 9.9%; ≥2 times, 4.7%	Chompunud et al. (2010)
KOR	15,230 older adults in Seoul (≥65; 65.2% female)	Household interviews	1 month, 6.3%; emotional abuse > physical abuse	Oh et al. (2006)
KOR	1,000 primary care givers of family members with disabilities in Seoul (65-102; 69.5% female)	Regression analysis to identify indicators of elder abuse in the Comprehensive Study for the Elderly Welfare Policy (2003)	10.9% yelled; 18% confined; 9.7% hit; 13.6% neglected	Lee (2008)
CHN	412 older persons from community dwellings in medical clinics (≥60; 34% female)	H-S/EAST; VASS	35.2% since age 60; 1 type, 64%; 2 types, 16%; ≥3 types, 20%	Dong et al. (2007)
JPN	412 pairs of disabled older adults and family caregivers (mean age 80.5; 60.1% female)	Checklist developed through a literature review	6 months, 34.9%	Sasaki et al. (2007)
IND	400 cognitively intact community-living older adults (≥65; 49.5% female)	Conflict Tactics Scale (CTS)	1 year, 14%	Chokkanathan & Lee (2008)
HKG	355 community-living older adults (≥60; 62% female)	Revised CTS	1 year, 21.4%; multiple types, 17.1%	Yan & Tang (2001)

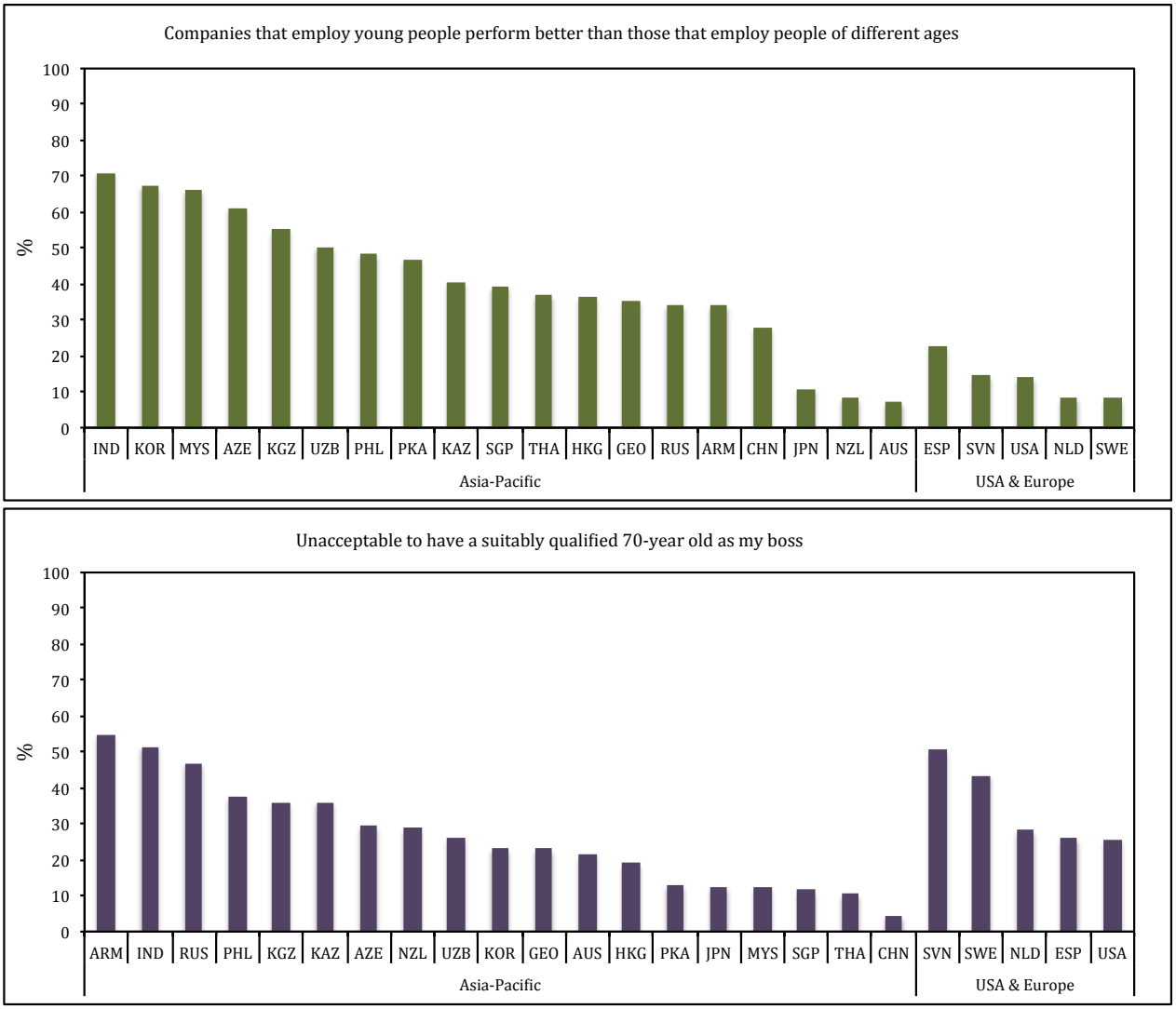
Source: Dong (2015).

In terms of risk factors, physical function impairment, psychological distress and social isolation have been associated with elder abuse in both private households and community dwellings. Yet, of the variety of risk factors, cognitive impairment seems to be most robustly associated with a likelihood of elder abuse. Furthermore, elder abuse has been linked to adverse health outcomes, including psychosocial distress, morbidity, and mortality (Dong, 2015).

Figure 4.9 illustrates the paradoxical forms filial piety takes in the workplace across the region. The upper panel suggests that the values undergirding age-based discrimination in employment are much more entrenched in Asia-Pacific countries than

they are in the USA and Europe. A larger share of respondents in Asia and the Pacific agree with the proposition that businesses with younger employees are more successful. At the same time, comparing response rates across the region reveals that ageistic values in the workplace are weakest in the more affluent countries, Japan, Australia and New Zealand, in particular.

Figure 4.9
Ageism pervades the labour market, while gerontocratic principles orient managerial systems
Share of respondents of the World Values Survey (wave six) that strongly agree or agree with the following propositions, selected countries

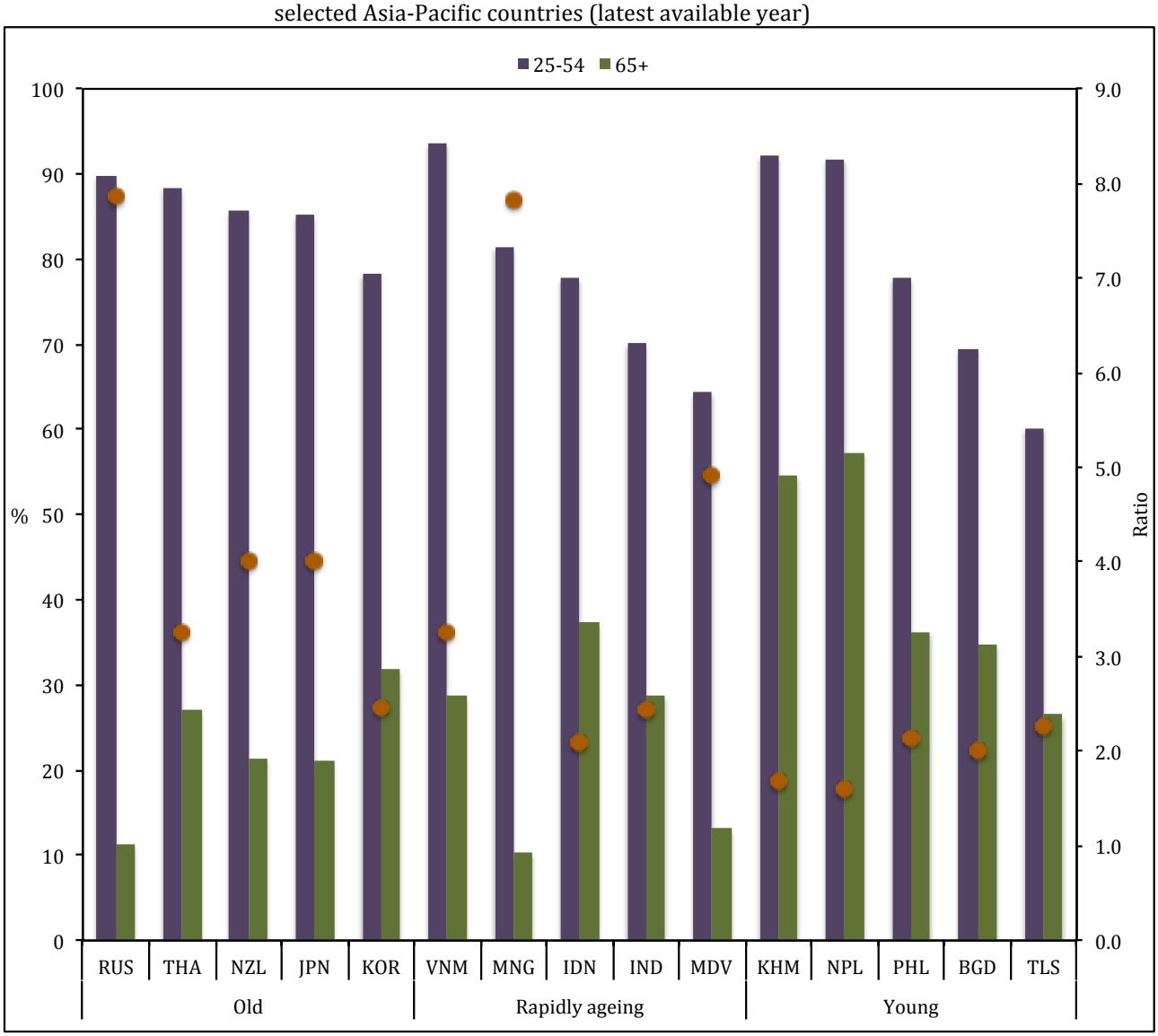


Source: World Values Survey (2015).

In contrast, consistent with the Asian values hypothesis, the bottom panel suggests that filial respect has been more solidly transplanted in systems of management across Asia and the Pacific than it has in the USA and Europe. As indicated in the bottom panel of figure 4.9, a smaller share of respondents in Asia and the Pacific than in the USA and Europe agreed that it was unacceptable to have a septuagenarian as supervisor.

Ageism in the workplace is an important demand-side barrier for the integration of older persons in the workforce, though low LFPRs in old age also has to do with a disincentive to work. Indeed, modifying the behavior of older persons to work longer requires will require countries to consider incentive structures. This brings forth the importance of reallocation mechanisms, and specifically the need to find the sweet spot between fostering economic growth through labour income and ensuring intergenerational equity through public and private transfers.

Figure 4.10
Older persons are more likely to be part of the workforce in countries with young age structures
Labour force participation rates for ages 25-54 and 65+ and ratio of the younger to the older cohort, for selected Asia-Pacific countries (latest available year)



Source: ILOSTAT Database.

Labor income among older persons is, generally speaking, low in developing countries and very low in the affluent countries (DESA, 2013b). This pattern holds for Asia and the Pacific. Figure 5.5, which provides LFPRs for working age individuals and older persons as well as the ratio of the younger age group to the older age group for selected Asia-Pacific countries, shows that a greater share of older persons participate in the

workforce in those countries that are early along the demographic transition, compared to countries that already have mature age structures. Not only is the LFPR for older persons higher in young countries than they are in rapidly ageing and old countries, but also in young countries the LFPR of working age individuals is only about one-and-half to two-and-a-half times higher than the LFPR of older persons; while in rapidly ageing and old countries the LFPR of working age individuals is two to nine times higher than the LFPR of older persons.

It is more than likely that these different trends are a result of the disincentives linked to transfers – public transfers in the former and private transfers in the latter. Indonesia, India and the Philippines, as has been shown in chapter 2, rely considerably on private asset-based reallocations to meet lifecycle needs in old age, which is another way of getting at the relative importance of labour income for older persons in these two countries. There are a considerable amount of studies suggesting that large-scale public transfer programs tend to undermine work incentives, thereby reducing the LFPR of older persons (Mason et al., 2011).

Stocktaking

In addition to strained social protection systems, broad cultural and social change, which has been transpiring in the region over the course of the last century, could make older persons increasingly vulnerable to poverty and social exclusion in the years to come. The erosion of traditional values like filial piety, attenuation of kinship support structures through the redefinition of familial coresidence, and buttressing of ageistic cultural norms through media channels and popular culture, could compound the difficulties of promoting the social integration and well-being of older persons. One of the fundamental challenges Asia-Pacific countries must grapple with in the decades to come, then, is to ensure that, in addition to income security and basic social services, older persons have access to the broader social, cultural and political resources needed to flourish and lead meaningful and active lives.

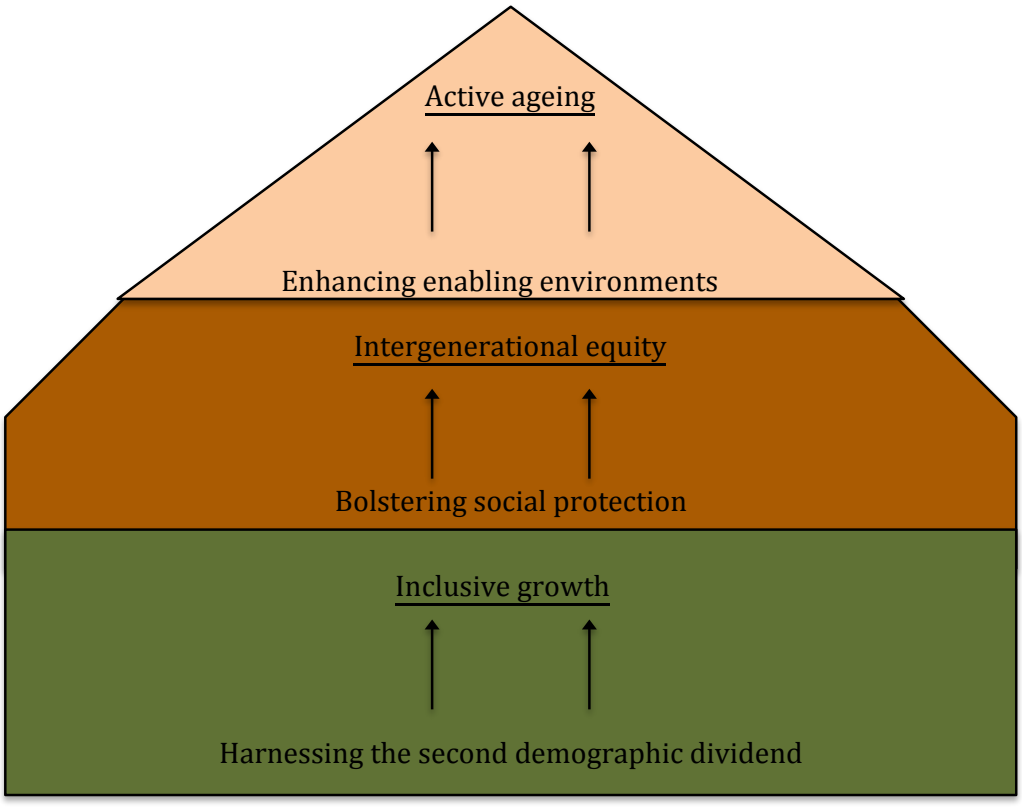
Chapter 5

Managing population ageing

Managing population ageing is essential for achieving sustained economic growth and intergenerational equity

There are three general pathways in and through which Asia-Pacific countries can manage ageing to ensure sustained economic growth and greater social equity: The first has to do with harnessing the second demographic dividend in order to achieve inclusive growth. The second has to do with bolstering social protection in order to obtain greater intergenerational equality. And the third pathway has to do with enhancing enabling environments in order to effectively promote active ageing (figure 5.1). These pathways are a response to the challenges teased out in chapters 2, 3 and 4, respectively.

Figure 5.1
There are three principal pathways for managing population ageing



First pathway: Harnessing the second demographic dividend for inclusive growth

As was suggested in chapter 2, the second demographic dividend has to do with a broad set of behavioral, institutional and policy adjustments to population ageing that counter the downward pressure associated with falling support ratios and declining consumption per capita that ensue once the first window of opportunity begins to close. Oriented by the parameters identified through the exposition of the NTA grounding identities, the set of adjustments that are at play in the second dividend can be organized under five responses.

The first two responses have to do with increasing productivity growth. The demographic conditions of population ageing (that is, falling fertility rates and increased longevity) favor, on the one hand, an increase in investments in human capital that can result in improved labour productivity, and, on the other hand, capital deepening through increases in the savings rate and a rise in capital per worker and per capita income.

A third response has to do with labour market and employment initiatives, such as promoting longer work lives and tapping the productivity of women and older persons. This response contributes to both productivity growth and redistributive efforts to the extent that labour is both a factor of production and a means to enhancing income security. The fourth and fifth responses have to do with ensuring that the lifecycle needs of an increasing number of older persons are met by facilitating the redistribution of income and consumption upwards through the enhancement of public transfers, in particular pensions and health care.

This section will tease out the first two of these responses as they deal first and foremost with the economic growth dimensions of the second demographic dividend. As the other three responses deal with redistribution, they will be teased out in the next section when the pathway of bolstering social protection for older persons is considered.

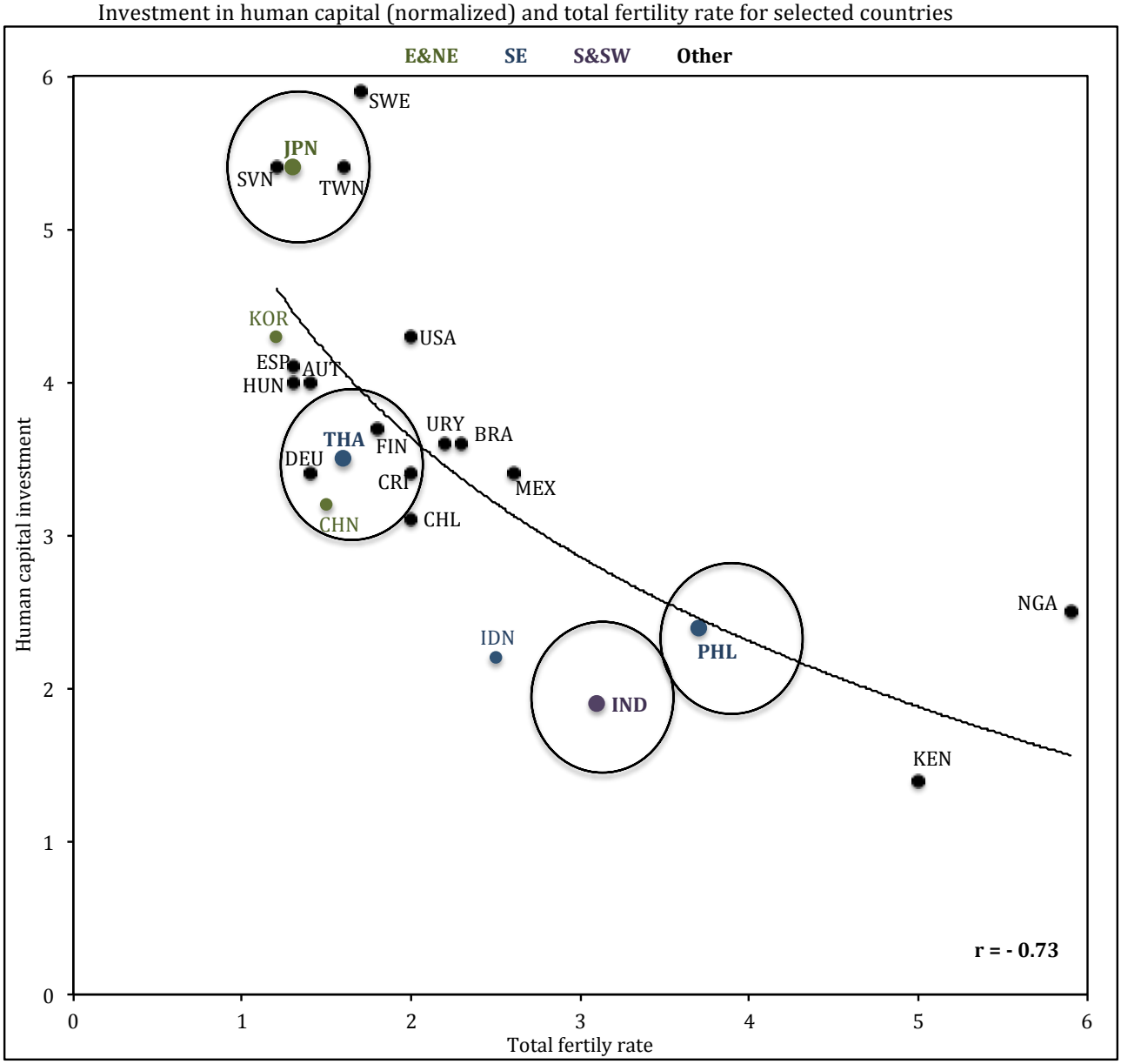
First measure: Fostering human capital investments

As was suggested in the introductory chapter, the primacy of falling fertility rates in dynamics of population ageing is evidenced by the fact that the increase in the share of older persons is accompanied by a decrease in the share of children. Lower fertility rates and the smaller size of the 0-14 age group imply an increase in spending per child. Greater investments in human capital can raise the net productivity of the work force. Indeed, NTA findings suggest that the resulting increase in education-related productivity will more than offset the adverse economic effects associated with the decline in the ratio of effective producers to consumers. This is to say, in other words, that the human capital effects linked to falling fertility rates are substantial enough to generate a second demographic dividend (DESA, 2013b).

An essential quantity-quality trade off thus undergirds the demographic transition. Though they will be less in number, the young individuals that enter the workforce in the context of population ageing will be more educated and healthier, and therefore,

more productive. A decline in the number of children implies less pressure on budget constraints such that spending per child on health and education increases. This trade off has, for the most part, been excluded from the analysis of the demographic transition. This is because analyses of the economic consequences of population ageing have tended to simplistically focus on quantity, or the relative number of people in age groups. The quality or productivity of individuals also matters (Lee et al., 2010).

Figure 5.2
Population ageing creates favorable conditions for increasing human capital investments
Investment in human capital (normalized) and total fertility rate for selected countries



Source: Lee and Mason (2011), DESA (2015) and DESA (2013).
Note: In order to account for differences in economic development, as was done with the other NTA measures, the human capital calculations have been normalized by dividing the results by the simple average of labor income for individuals age 30-49 years. The year of the total fertility rate for each country corresponds with the year of the given NTA estimate. Austria (AUT, 2000), Brazil (BRA, 1996), Chile (CHL, 1997), Costa Rica (CRI, 2004), Finland (FIN, 2004), Germany (DEU, 2003), Hungary (HUN, 2005), Kenya (KEN, 1994), Mexico (MEX, 2004), Nigeria (NGA, 2004), Slovenia (SVN, 2004), Spain (ESP, 2000), Sweden (SWE, 2003), Taiwan (TWN, 1998), United States (USA, 2003) and Uruguay (URY, 2006).

Figure 5.2 illustrates this trade off between fertility and human capital for a selection of countries from within and outside the region, for which data are available.[19]

With a bit over one child per woman, Japan has one of the lowest fertility rates of the selected countries; and with spending on education and health per child totaling over 500 per cent of prime-age labour income, it has one of the highest levels of human capital investments. Japan, then, is situated in one end of the trade off. The Philippines and India are situated at the other end, as far as Asia and the Pacific is concerned: They both have relatively high fertility rates, at around four and three births per woman, respectively; and, with health and education spending per child at about 200 per cent of prime age labour income, they have relatively low levels of human capital investment. Furthermore, with a fertility rate of close to two, and human capital investments totaling over 300 per cent of prime age labour income, Thailand is situated between Japan, on the one hand, and India and the Philippines, in the other hand, in terms of the fertility and human capital investment trade off.

Population ageing, then, creates favorable conditions for increasing human capital investments per capita. But it is the role of government in partnership with firms and civil society to ensure that these human capital investments actually lead to an improvement in the quality of labor, and consequently, to rising productivity. In a word, societies need to have the right institutional arrangements and policy measures in place to ensure the return on investment in human capital. Indeed, only if human capital investments actually lead to higher productivity during the working life will an increase in spending per child be an efficacious measure to tapping the second demographic dividend. In order to ensure the return on human capital investment, countries need to enhance their intangible infrastructure, defined as those factors that develop human capability and create a supportive environment for innovation and competitiveness, on the one side, and social integration and cohesion, on the other. The claim is that, while Asia-Pacific countries can achieve a record of high growth through physical or hard investment (i.e., physical infrastructure), they need to foster intangible infrastructure if they are to achieve a high and sustained level of growth and human development (Natella and O'Sullivan, 2014).

Efforts in particular need to be directed at increasing participation in, and completion of, higher education; building a solid information and communication technology infrastructure that is accessible to all; and enhancing the scientific and technological base.

As countries integrate into the regional and global economy, demands for a sophisticated labour force rise, making secondary and tertiary education increasingly important to compete for medium-skill jobs. Enrolment rates in secondary and tertiary education, however, remain relatively low in many countries in the region (World Bank Indicators and ESCAP Online Statistical Database).

Essential for improving the quality of education in both countries that are rapidly ageing and those that are still young is to achieve greater access to, and completion of,

[19] Human capital investment is a synthetic cohort measure derived from NTA estimates by adding annual per capita public and private spending on health, for ages 0-17, and on education, for ages 3-26 (DESA, 2013). Intuitively, the level of investments in human capital varies with economic development.

high school and university studies. Despite a trend toward convergence, a "digital divide" continues to exist between people and between countries in the region (ESCAP, 2014a). Unequal access to information and communication technology (ICT) provides a barrier to fostering human capital. On the one hand, in the late-modern age of the Information Society, ICT is an essential pedagogical tool, facilitating interactive and long-distance learning, broadening access to the knowledge base, and enabling research-related activities. On the other hand, ICT is an object of knowledge, especially at the secondary and tertiary levels. ICT literacy is fundamental to secure work and to increase the productivity of workers. Across the region, however, important inequalities continue to exist in terms of, for instance, the share of households that have access to a computer and to the Internet from home (International Telecommunication Union Indicators).

Along with facilitating access to higher education and the development of ICT infrastructure, another pathway for ensuring the return on investments on human capital is for countries to support the enhancement of the scientific and technological base. Strategic investments in research and development ensure quality of education and drive the demand for ICT infrastructure. Yet, across the region, asymmetries in terms of investments in research and development, the number of scientific journal articles published, the number of researchers per capita and the number of patent applications continue to exist (World Bank Indicators and ESCAP Statistical Database).

Second measure: Fostering capital deepening

According to the standard neoclassical growth model, population growth will have a "capital dilution effect" as an increase in the labour force implies that a larger share of saving must be dedicated to sustaining capital per worker (Solow, 1956). Under this scenario the capital-output ratio and output per worker inevitably declines. It follows from this assumption that low population growth associated with the greying of the region would lead to a "capital deepening effect" through which the capital-output ratio and output per worker would increase, resulting in higher income and higher consumption per worker (DESA, 2013a). The capital deepening effect can lead to an increase in labour productivity.[20]

That population ageing will provide favorable conditions for capital deepening, and consequently, an increase in labour productivity, is based on the assumption that savings will rise in response to the increase in the demand for pension assets. That is, in other words, it is based on the assumption that population ageing will lead to behavioral modification whereby working individuals, in the face of increasing longevity, will have the incentive to increase their savings in order to fund a longer

[20] Paul Samuelson provided an important nuance to the Solow growth model, postulating the existence of an optimum population growth rate that results from a "lifecycle reallocation effect" (1975). Linked to changes in age structure (for example, the maturing of a population), this reallocation effect could potentially counter the capital dilution effects postulated by the Solow model. The basic insight is that with the right mix of assets and transfers – for example, when intergenerational transfers are on average upward to older persons – lifetime consumption could actually increase in a context where per capita consumption was actually falling. Though it is beyond the scope of this report, suffice it to say that this insight points to the importance of reallocation mechanisms, age structure changes, and consumption and production patterns for economic growth. The NTA frame of reference has been used to advance this line of inquiry (Lee and Mason, 2011).

period of retirement. This they may do through personal or household savings, through employer funded pension systems, or through public retirement programs. It has been suggested that, while such a response initially leads to higher savings and lower consumption, the additional capital that is generated enhances growth such that, eventually, income per worker will rise, thus offsetting to a certain degree the decline in the support ratio (Mason and Lee, 2011).

It bodes well that the region has a large pool of savings that is yet to be effectively put to the service of inclusive growth and social equity (ESCAP, 2015). In 2012, Asia-Pacific high net worth individuals had $12.7 trillion in assets and the mass affluent had $20.5 trillion in assets.[21] It is estimated, moreover, that these values will increase to $43.3 trillion and $22.6 trillion respectively by 2020 (PricewaterhouseCoopers, 2014). While the assets and savings of the regional elites are essential to finance the region's development objectives in the face of population ageing, it is perhaps more important to ensure that the hundreds of millions of workers – in particular those that are in vulnerable employment – are, first, generating assets and second, saving these assets. This is the financial analog to job-rich growth. In the same way that sustainable development cannot be achieved through jobless growth, sustainable financing cannot be achieved by depending on only a few institutional investors.

It is important to note that this issue concerning the savings rate and behavioral change is highly contested. As such, it harks back to the discussion at the beginning of the report concerning the "pessimists" versus the "optimists." Pessimists argue that savings will fall with population ageing because they are skeptical about the possibility that individuals will adjust behavior to compensate for living longer. This view was notably formulated in an influential report by the renowned consultancy firm, McKinsey & Company. The key finding of the report provocatively entitled, *The Coming Demographic Deficit: How Aging Populations Will Reduce Global Savings*, was that population ageing will result in a decline in the global growth of net financial wealth (NFW) from the historical rate of 4.5 per cent to 1.3 per cent. Moreover, by 2024, "this slowing growth will cause NFW to fall some 36 per cent, or by $31 trillion, below what it would have been had the had the higher historical growth rates persisted" (2005: 19).

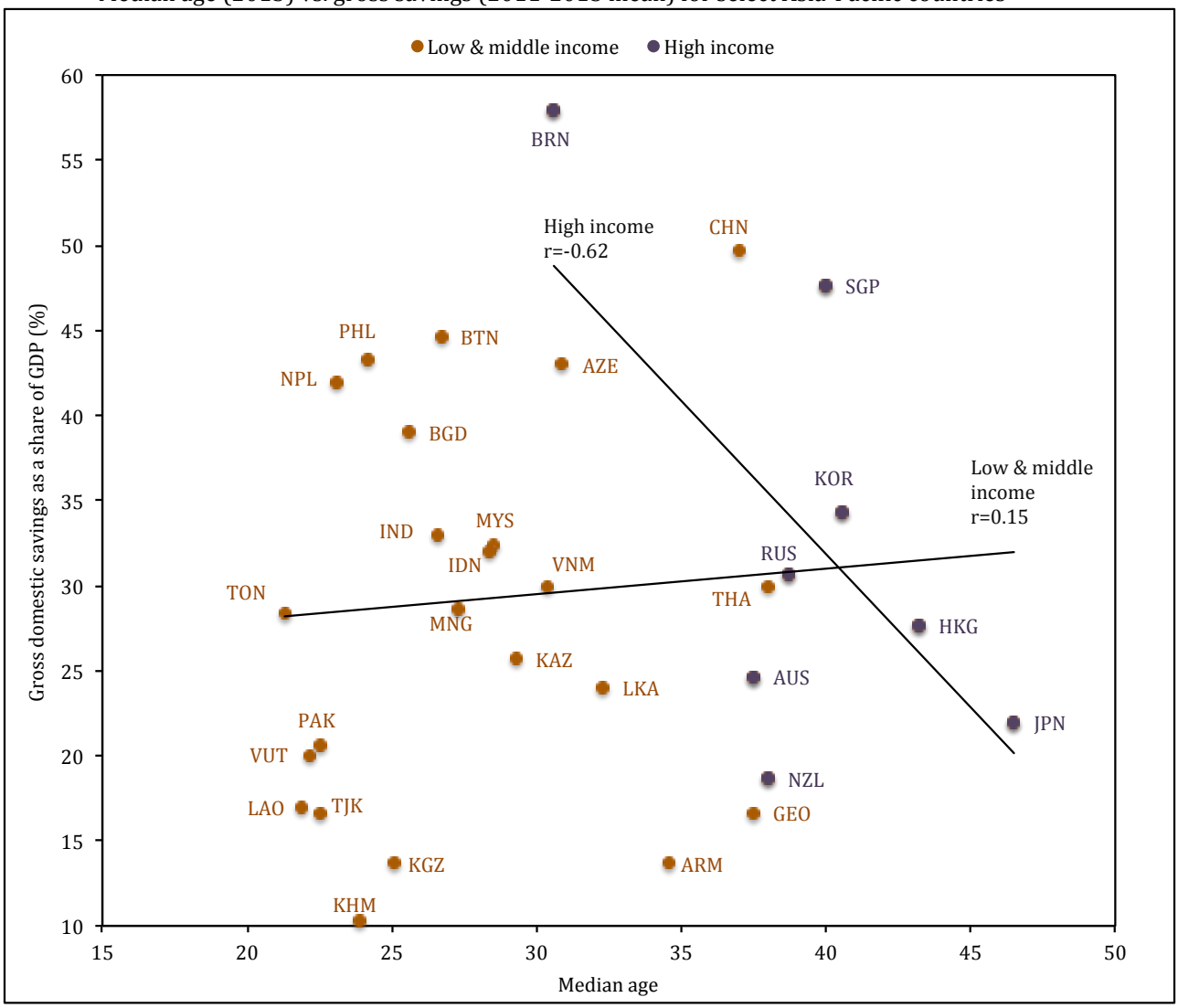
A more recent World Bank study seems to echo this pessimism, maintaining that "[c]ompared with the start of the 21st century, saving rates will have fallen by 2030, a reflection of increased demographic pressures from aging populations in much of the world and slowing growth rates" (2013: 77). Later in the same study, however, a much more nuanced outlook is presented using micro analysis to project changes in savings profiles at the country level, as will be developed below.

The view that population ageing will lead to lower savings rate is not consistent with the NTA framework. Under the aforementioned circumstances, aging should not depress savings rates in Asia and the Pacific. According to the NTA framework, at the regional level, the gross savings rates required to meet the demand for pension assets would increase through 2050. The developed countries in the region are expected to have the highest savings rates due to the fact that the demand for pension assets are

[21] A "high net worth individual" is a person that owns $1 million or more in assets, while a "mass affluent individual" owns between $100,000 and $1 million in assets.

highest for this cluster of countries. In the developing countries of the region, savings rates are also expected to increase (Mason and Lee, 2011).

Figure 5.3
The relationship between population ageing and the savings rate is ambivalent
Median age (2015) vs. gross savings (2011-2013 mean) for select Asia-Pacific countries



Source: DESA (2015); World Bank Indicators.

Bloom and colleagues have recently argued that the negative relation between population aging and the savings rate is not as categorical as has some have assumed. Echoing the NTA perspective, these researchers suggest that population ageing could foster higher than-expected savings rates given uncertainties about longevity, the need to pay for long-term care, and the desire to leave bequests (Bloom et al., 2015). As illustrated by figure 5.4, empirical evidence for Asia and the Pacific seems to support this view, undercutting the idea that the greying of the region will necessarily bring with it a major reduction in savings rates. While a negative correlation between ageing and older persons does exist for affluent countries in the region, developing Asia-Pacific countries actually show a weak positive association between age and savings rates.

This report does not purport to resolve the debate on the relationship between demography and the savings rate. The need to nuance the NTA position in this regard should be acknowledged. Indeed, solidly grounded in a lifecycle approach that is optimistic about the efficaciousness of behavioral modification in the face of rising longevity, the NTA framework may fail to give adequate credence to structural conditions affecting the savings rate. The aforementioned World Bank study, in effect, provides evidence of such structural constraints on the savings rate (2013).

The evidence marshaled by the World Bank could be cast in terms of three forms of inequality: First, concerning inequalities between countries, there is the claim that the evolution of household saving and economic development are strongly interrelated, such that, synchronically, the more developed economies have a higher propensity to save than do lower-income countries, and, diachronically, as a country will achieve higher aggregate savings over time as younger cohorts experience higher standards of living. This is precisely why in Thailand, for example, the saving rate is forecasted to rise between 2010 and 2050 despite population ageing (World Bank, 2013: 86).

Second, concerning inequalities within countries, there is the claim that in most countries, saving tends to be concentrated in households that are relatively high-income compared with the country average. Thus in Thailand, the poorest quarter of households seems to have a lower savings rate compared to households beyond the 75th percentile of the income distribution (World Bank, 2013: 89).

And thirdly, concerning inequalities of opportunity, there is the claim that households where the head has relatively low educational attainment tend to also have a low rate of savings. This likely is a response to a long-term incapacity to save due to much flatter age-earning profiles. Thus, according to 2009 household survey data, in Thailand, the least-education population accounted for 34 per cent of savings, while the most-educated population accounted for 47 per cent.

This having been said, it is the contention of this report that, as was the case with human capital investments, population ageing will create favorable demographic conditions for capital deepening by increasing the demand for assets and creating a greater incentive to save in the face of rising longevity. These favorable demographic conditions need to be harnessed in and through specific institutional arrangements and policy initiatives. There are two main channels through which Asia-Pacific governments – in collaboration with the private sector and civil society – can support capital deepening: namely, promoting financial inclusion and expanding capital markets.

Research has demonstrated that integration of vulnerable and/or excluded populations into the financial system unleashes entrepreneurial and innovative potential, stimulates investments in human and physical capital, induces risk management, and builds resilience to economic shocks (Demirguc-Kunt et al., 2014). Indeed, inclusive financial mechanisms provide individuals, households and firms with greater access to resources to meet their financial needs, such as, saving for retirement, seizing business opportunities, and grappling with economic shocks and natural disasters. Universal access to financial services plays a critical role in achieving shared prosperity and social integration. Lack of formal financial services contributes to the economic and social

exclusion of historically vulnerable groups, women, and individuals living in remote rural areas. In many Asia-Pacific countries, a large share of the population – especially the poor and vulnerable – is excluded from core financial services including, savings, credit, insurance and remittances.

Despite progress, the majority of households and small- and medium-sized enterprises (SMEs) in the region still lack access to reliable financial services and are characterized by low financial literacy and capacity. A recent World Bank study found that Asia and the Pacific accounts for more than half the world's unbanked adults. South Asia constitutes 31 per cent of the world total, while East Asia and the Pacific constitute 24 per cent. The three most populous countries in the region – that is, China, India and Indonesia – together account for 38 percent of the world's unbanked adults. India is home to 21 per cent of the world's unbanked adults and around two-thirds of South Asia's unbanked adults (Demirguc-Kunt et al., 2014: 59). It is encouraging that an increasing number of Asia-Pacific governments are introducing comprehensive measures to improve access to and use of financial services in order to more effectively harness domestic savings for investment. It will be essential to continue these efforts as population ageing sets in.

In addition to fostering financial inclusion, developing capital markets is another channel to ensure that the favorable demographic conditions for capital deepening are being effectively tapped by the countries in the reigon. Well functioning capital markets are fundamental mediating institutions between households and investors, facilitating the flow of savings to infrastructure development. On the one hand, the region's large savings pool needs a productive investment vehicle. On the other hand, vast infrastructure needs requires active capital markets to bridge the gap and coordinate between asset managers and borrowers (APEC, 2015). The development of Asia-Pacific capital markets has not kept up with the pace of the region's impressive growth (ESCAP, 2015). While financial markets in the region are generally more developed than in Eastern Europe and Latin America, they remain less developed than in advanced countries. This suggests that there is scope for further broadening and deepening Asia-Pacific capital markets. Though banks have been the pillars of capital markets in the region, equity and bond markets – national stock exchanges and local currency (LCY) bond markets in particular – are playing an important complementary role (Genberg, 2015).

Second pathway: Bolstering social protection for greater intergenerational equity

At one level, public transfers – social protection measures in particular – seem to give pride of place to social equity over economic growth. This seems to be the case when considering one of the trade offs brought forth in chapter 2: Meeting lifecycle needs through an increase in pension assets has a productive impetus; while meeting lifecycle needs through an enhancement of transfers has a redistributive impetus. At another level, however, there is growing consensus that redistribution has a positive impact on the economy. Therefore, public transfers need to be understood as a fundamental component for achieving sustainable economic growth. To forgo opportunities to strengthen upward reallocations through public transfers in the name of the inefficiency of the welfare state (or the efficiency of the market, if one prefers) is

anachronistic. This will result in greater inequalities between age groups that will certainly be devastating for inclusive growth.

This having been said, it is crucial that the discussion on public transfers in the context of population ageing take into consideration the evidence in terms of incentive structures. Public transfer schemes – pensions in particular – should be designed to support the increase in private assets and to foster greater labour force participation among older persons. Again, as they aim to harness the second demographic dividend, it is essential for Asia-Pacific countries to find the sweet spot – the synergy – between growth and redistribution. This sweet spot – this synergy – will be different for each country.

As it has been intimated, to effectively harness the second demographic dividend, Asia-Pacific countries need to find the right balance between fostering economic growth and achieving greater intergenerational equity. Five measures were identified in the previous section to achieve this synergy between growth and redistribution. The first two responses, it may be recalled, have to do strictly with increasing productivity growth. The favorable conditions for greater investments in human capital and the capital deepening effect brought about by the conditions of population ageing provide an opportunity to improve the quality and sustainability of economic growth.

This section will tease out the other three measures. Tapping the productivity of older persons has the potential of contributing to both economic growth and intergenerational equity to the extent that labour market schemes aim to correct labour market inefficiencies as well as to provide income security through decent work. The two other measures have to do with meeting the lifecycle needs of an increasing number of older persons by enhancing, on the one hand, pension systems, and, on the other, health and long-term care. These three measures for bolstering social protection for older persons will require that countries muster additional resources to finance the social sector.

Third measure: Mobilizing additional financial resources for the social sector

To address the challenge of raising new and additional resources, reallocating existing ones and creating a supportive environment for investing in the social sector, and in particular, health care, pensions and labour market programmes for older persons, countries in the region will need to strengthen domestic resource mobilization as well as catalyse additional financial resources through innovative partnerships. Given the ever-increasing dynamics of globalization and regionalism, international sources of financing will also be essential to complement domestic resource mobilization (Table 5.1).

Table 5.1
Countries need to draw on multiple channels for mobilizing domestic and international resources

	Domestic	**International**
Public	• Tax reform • Reallocation of public expenditures	• Official development assistance • International funds
Private	• Sovereign wealth funds • Microfinancing	• Foreign direct investment • Remittances

Domestic public finance

Investments in social protection need to be solidly grounded in domestic public financing streams. This is because it is incumbent on the state to set a clear direction, not only in terms of ensuring the right to development and generating solidarity, but also in terms of establishing the long-term sustainable development horizon against which the social and economic benefits of a solidly funded social sector become evident.

Tax reform

The lynchpin of more effective domestic resource mobilization in the context of population ageing is tax reform based on a redistributive impetus. The social sector in the region has been largely financed through general government taxes. Some countries like China, the Maldives, Nepal and Viet Nam, are providing tax-financed non-contributory pensions that aim to cover all older persons. Tax revenues have also been esssential to finance non-contributory health-care services, with the aim of achieving universal health coverage. Examples of such initiatives include, China's Urban Residents Basic Medical Insurance, Bhutan's Primary Health-Care system, and Thailand's lauded Universal Health Coverage scheme.

Despite this progress, tax revenues in the region remain low, which is reflected in the aforementioned low government expenditures dedicated to social protection, and, consequentially, enduring coverage gaps. Tax revenues in Asia-Pacific developing countries averaged only 14.8 per cent of GDP in 2011, compared with 34.1 per cent for OECD countries, 17.1 per cent in Latin America and the Caribbean, and 16.3 per cent in sub-Saharan Africa (ESCAP, 2014b). There is thus plenty of scope for improving tax collection in the region by expanding the tax base and strengthening compliance frameworks. Increasing tax revenues would be an effective way of broadening fiscal space for financing public pensions and health care for an increasing number of older persons, while fostering intergenerational solidarity.

Earmarked (dedicated or hypothecated) taxes, especially for tobacco, have been an effective means to finance health care in the region. Earmarking tobacco taxes aims to correct the negative externality of tobacco use for the non-smoking members of society (i.e., the effects of "second-hand smoke") and reduce consumption of these products, while generating additional revenue for health, especially for health promotion, including prevention of non-communicable diseases (NDCs) (WHO, 2012).

Another option in this domain that is being explored across the region is taxing carbonated beverages with a high content of sugar or foods with a high content of salt – the so-called "fat tax." Several Pacific Island Countries have introduced a tax on carbonated sugar beverages and on sugar in general, as part of efforts to address high rates of obesity and diet-related chronic diseases. For instance, Fiji, French Polynesia and Samoa have introduced a tax on carbonated sugar beverages; while Nauru introduced a "sugar levy" of 30 per cent on imported sugar, confectionery, carbonated soft drinks and drink mixes in 2006. In French Polynesia, the tax was earmarked for a health prevention fund. In Nauru, French Polynesia and Samoa, the tax has been associated with an increase in government revenue (Thow et al., 2011).

Reallocation of public expenditures

Mobilizing public revenues from extractive industries is another way governments in the region can finance the increasing social protection needs of older persons. A government may raise revenues by extracting directly the natural resources through a state-owned enterprise or a joint venture, for example, or by selling the exploitation rights to national or foreign companies and taxing the profits (Ortiz et al., 2015). Another way to utilize the wealth from natural resources is to set up a sovereign wealth fund, as will be discussed further below.

A number of the smaller resource-rich Asia-Pacific countries, including, Mongolia, Myanmar, Papua New Guinea and Timor-Leste, are afflicted by the so-called "resource curse" or the "paradox of the plenty" (Barma, 2014). Though they have an abundance of natural resources, these countries tend to experience lower economic growth and poor social development outcomes.[22] Research has demonstrated that the public sector has played a central role in those mineral-rich countries that have performed more successfully, both in terms of achieving inclusive growth and fostering intergenerational equity (Hujo, 2012). In order to transform the "curse" into a "blessing," especially given the dynamics of population ageing, resource-rich countries in the region need to invest revenues from mineral extraction towards in social sector, and especially in pensions and health care.

The case of Botswana, the 18th largest diamond exporter in the world, is in this regard promising. This small and land-locked, mineral rich southern African country was able to escape the resource curse, by channelling a portion of its resource revenues to recurrent health and education spending (Merchant-Vega, 2011). Indeed, Botswana is

[22] Small resource-rich countries must confront a set of challenges unique to mineral-led development such as, managing the effects of Dutch disease (that is, inflationary pressures and a propensity toward the overvaluation of the exchange rate); price volatility in the commodity sector; a lack of productive diversification; weak social protection; and rent-seeking behaviour.

one of the few countries in Africa that fully funds its social protection programs from its own domestic resources (World Bank, 2013).

Another landlocked developing country, this time in the Andean region – Bolivia – has mobilized public revenues obtained through a direct tax on hydrocarbons to fund a universal, non-contributory pension scheme, Dignity Pension (Renta dignidad). This social pension was established in 2008 to provide income security to the large majority of older persons – over four-fifths of the cohort – who were not receiving benefits under the national contributory pension system. This initiative made a number of important modifications to the more rudimentary cash transfer programme it replaced (Bonosol), including lowering eligibility from 65 to 60 years, moving from an annual to monthly disbursements, and incorporating a progressive benefit formula (Ticona Gonzales, 2011).

In addition to implementing tax reform and mobilizing rents from natural resources, an area of public expenditure with great potential in creating fiscal space for social protection is subsidies (ILO, 2014). Indeed, one way that Asia-Pacific countries can demonstrate their commitment to fostering social protection and pave the way to population ageing is by financing social investments through the removal or reduction of subsidies. Countries in the region spend considerable resources on subsidies. In South-East Asia alone, energy subsidies amounted to $51 billion in 2012 (ESCAP, 2015). In Bangladesh, Kyrgyzstan and Pakistan, energy subsidies represented between a quarter and half of total government revenues. These energy subsidies are often regressive and incentivize fuel-intensive production. Furthermore, they have had little impact on reducing poverty or enhancing inclusive growth. Estimates suggest that savings from these subsidies would be sufficient to finance income security for all older persons as well as provide universal access to health and education in Indonesia, Malaysia, the Philippines and Thailand (ESCAP, 2015).

Domestic Private Finance

Public resources alone will thus not suffice. Domestic private actors will need to play a role in the financing of social protection for older persons. Complementing the traditional investments of the public sector (that is, the State), private actors – business actors in particular – are carriers of resources and incentives. In certain cases, the profit-seeking impetus of private financing can bring with it greater effectiveness and efficacy in the use of resources.

Sovereign wealth funds

Seeking greater financial sustainability for natural resource revenues, Governments in the region have increasingly turned to sovereign wealth funds (SWFs) – investment funds owned by sovereign states and generally funded by revenues accrued from the export of non-renewable natural resources. SWFs are innovative in the sense that they handle public money, but are managed like private investors.

There are two principal types of SWFs: namely, saving funds and stabilization funds. While stabilization SWFs are established to reduce the volatility of government revenues in the face of general economic slowdown or, in the case of resource-rich

countries, to hedge against price instability and overdependence on resource revenues, savings SWFs accumulate wealth for future generations. Most SWF tend to include elements of each of these functions. The second function is particularly germane in the context of population ageing.

Established in 1990, the Government Pension Fund, which invests Norway's oil wealth, is in many ways the global benchmark. This SWF serves two primary purposes: The first purpose of the SWF is to provide a long-term source of wealth for the benefit of future generations, and particularly financing social security expenditures which are projected to steadily rise as a consequence of population ageing. Indeed, when it was established in 1990 the prospect of escalating pension and health payments to an increasing number of older persons was cited to justify the fund (Gelb and Grasmann, 2010). Though the spending of the returns is not earmarked there is a public consensus that the Government Pension Fund should serve to alleviate the pressures on state coffers population ageing is projected to place on future pensions commitments. The second purpose of the fund is to counter fluctuations in government receipts caused by changes in oil prices and production.

Due to the long-term and relatively stable returns this type of asset can provide, SWFs in the region have generally been established in order to build on and improve existing infrastructure, including energy, transportation and telecommunications (Goodall et al., 2013). However, given, on the one hand, the concerns with the fiscal consequences of population ageing, and, on the other, the growing recognition of the link between sustainable development and social protection, this financial mechanism is increasingly being used to finance the social sector, and in particular the supply-side of social services like schools and hospitals. For example, Mongolia established in 2009 the Human Development Fund (HDF), a SWF specifically developed to invest mining revenues in the social sector, including old-age pensions (Campi, 2012). Timor-Leste used its Petroleum Fund to support the implementation of a series of cash transfer programs, the first of which were targeted to older persons and persons with disabilities. These initiatives were followed by a conditional cash transfer scheme, Bolsa da Mãe, which was modeled after Brazil's iconic Bolsa Família, and rolled out in 2008 (Dale et al., 2014).

Australia has established three SWFs linked to the social sector in an attempt to mitigate the adverse consequences of population ageing: Established in 2006 the Future Fund, aims to strengthen the long-term financial position of the public sector by making provision for unfunded, compulsory pension contributions ("superannuation") liabilities; the Health and Hospitals Fund, established in 2008 supports the development of health infrastructure; and, recently established in 2015, the Medical Research Future Fund aims to improve the health and wellbeing of Australians by providing grants of financial assistance to support medical research and medical innovation (Future Fund Board of Guardians, 2014).

The New Zealand Superannuation Fund is a SWF established in 2001 to partially pre-fund the future cost of the New Zealand Superannuation pension, which is projected to increase due to population ageing. All citizens or residents of New Zealand aged 65 and older receive New Zealand Superannuation payments. These payments are currently being financed through tax revenues. Over the next few decades, however, the New

Zealand population will age significantly, resulting in fiscal strain. Between 2003 and 2009, the Government contributed NZD14.88 billion to the Fund. Contributions are scheduled to resume in 2020. From around 2030, the Government will begin to withdraw money from the Fund to help pay for New Zealand Superannuation. The Fund will continue to grow until it peaks in size in the 2080s. In 2015, J.P. Morgan ranked New Zealand's $30 billion SWF as the best performing sovereign wealth fund over the past five years, generating returns of more than 17 per cent a year (Grene and Johnson, 2015).

Given their natural resource reserves, including oil and gas, the countries of North and Central Asia are particularly well positioned to benefit from SWFs, especially to achieve intergenerational equity in light of the fiscal pressures associated with population ageing. Two important SWFs from this subregion are the National Fund of the Republic of Kazakhstan (NRFK), which was established in 2001, and the State Oil Fund of Azerbaijan (SOFAZ), which was established in 1999 to accumulate income from hydrocarbon exports. While both SWFs were established to preserve macroeconomic stability as well as to preserve revenues for future generations, the latter objective has been largely neglected thus far (Aslanli, 2015).

Microfinancing

Another potential mechanism for augmenting investments in the social sector and remedying the limited capacity of governments to protect older persons is microfinance, which can be defined as any financial service that targets poor and vulnerable households, entrepreneurs and small business owners who have no collateral and would not otherwise qualify for a standard bank loan or insurance. Rather than collateral or credit history, then, microinsurance and microcredit initiatives are based on mutual trust. For this reason, not surprisingly, these initiatives have long been lauded for fostering social capital (Feigenberg et al., 2014).

The large majority of individuals in the region, especially those in vulnerable employment, are excluded from core financial services including, savings, credit, and insurance. This lack of financial inclusion stymies the ability of individuals to build assets, stabilize consumption, and protect against risks during their work life. The cumulative effects of these forms of exclusion intensify precarity in old age. Furthermore, the low financial literacy and capacity that is endemic among poor and vulnerable populations can increase the difficulties of managing lifecycle deficits in the later stages of life.

Since the turn of the millennium, the number of microfinance initiatives has burgeoned across the region, particularly in South and South-West Asia. One initiative especially germane in the context of population ageing is micropensions. Micropensions allow for informal sector workers that are excluded from contributory pension schemes to accumulate wealth in roder to ensure old-age income security. Micropensions are typically set up as a defined contribution schemes that function on the principle of voluntary savings accumulated over a long period. These savings are usually mediated through non-governmental organizations (NGOs) and microfinance institutions (FMIs). At the established withdrawal age, the accumulated balances can be withdrawn as a

lump sum, a phased withdrawal, annuity or some combination of these methods (Asher and Shankar, 2007).

In 2000, for example, in Bangladesh, the emblematic Grameen Bank was one of the first MFIs to offer a micropension. Under the Grameen Pension Savings Scheme all borrowers in the Grameen Bank are required to deposit a minimum month amount in a personal pension savings account (Hu and Stewart, 2009). In the Philippines, the Center for Agriculture and Rural Development Mutual Benefit Association (CARD MBA) offers an obligatory provident fund to CARD Bank and CARD Inc. (an NGO) as well as products related to health-care financing. To complement its flagship New Pension Scheme (NPS), the Government of India started a micropension plan – "NPS-Lite" – for the informal and low-income workforce dubbed along with the co-contributory Swabalamban scheme which provides a contribution top-up in NPS-Lite.

Impact investing

In addition to SWFs and microfinance initiatives, impact investing is also growing in importance as a source of private domestic financing in the region. Impact investments are investments made, in both emerging and developed markets, into funds, companies and organizations with the aim of generating social and environmental impact alongside a financial return. Impact investments thus aim to address the region's most pressing challenges through, for example, the channeling of venture philanthropy or the support for social enterprises. While they have tended to focus on sustainable agriculture, clean technology and microfinance, increasingly, impact investors are exploring ways to address the challenges of population ageing. For example, projects to develop telemedicine and aids to daily living are promising (Petrick et al., 2014).

Three core characteristics of impact investing can be identified: First and foremost, impact investing is oriented by the investor's intention to have a positive social or environmental impact through investments. Impact investing therefore needs to be distinguished from traditional venture capitalism or simple profit-seeking activity. In other words, impact investing is thus not about simply tapping the "silver market" – capitalizing on the new business opportunities associated with population ageing, and specifically the increase in the target group, older persons (Kohlbacher and Herstatt, 2011). Second, impact investments are expected to generate a financial return on capital or, at a minimum, a return of capital. And third, impact investments target financial returns that range from below market (sometimes called concessionary) to risk-adjusted market rate, and can be made across asset classes, including but not limited to cash equivalents, fixed income, venture capital, and private equity (Global Impact Investing Network and Cambridge Associates, 2015).

It has been estimated that the impact investment market across the globe has the potential to absorb between $400 billion to $1 trillion through 2020 (ADB, 2011). In Asia and the Pacific, the potential invested capital for impact investing is appraised at between $44 billion and $74 billion across several key sectors including health care for older persons (Chua et al., 2011). With over $1.6 billion invested in over 220 enterprises, India has one of the most robust and vibrant impact investing spaces in the region (Intellecap, 2014). In Japan, the social investment industry has been valued at around $248 million (Japan National Advisory Board, 2014). Countries in the region

need to ensure that these abundant resources and entrepreneurial energy are directed toward the challenges of meeting the lifecycle needs of an increasing number of older persons.

International public finance

Given the forces of globalization and increasing regional integration, international stakeholders will continue to play an important role in the financing of development in the region. International public finance should complement and facilitate national efforts to prepare the way for a greying society.

Official Development Assistance

Bilateral and multilateral Official Development Assistance (ODA) in particular will remain essential and should be focused in those areas where social sector needs are greatest and the capacity to raise resources is weakest. In the majority of Asia-Pacific countries these priority areas include health care, pensions, and employability-enhancing initiatives for older persons.

ODA flows to the Asia-Pacific region reached $30 billion in 2012, representing a significant source of development finance (ESCAP, 2015: 47). Most of this ODA is directed to the economic and social sectors. While in 1996, 41 per cent of ODA was committed to the economic sector and 25 per cent to the social sector, a decade and a half later these priorities had been inverted: In 2011, 43 per cent of ODA was allocated to the social sector and 25 per cent to the economic sector (OECD, 2014b). Today the social sector receives the greatest share of ODA, and more specifically, education and health care. This reprioritization reflects the growing recognition of the importance of investments in social protection. While this development is encouraging, Asia-Pacific countries need to specifically channel these resources to bolstering social protection for older persons. This will entail among other things grappling with the trade off between investing ODA in children and investing in older persons.

ODA, moreover, is fundamental in providing technical assistance and developing pilot programmes that could later be taken to scale. Asia-Pacific countries need to ensure that they use these resources and opportunities to explore ways to, for example, more effectively meet the health care and communitarian needs of older persons. The Japan International Cooperation Agency (JICA) has been a pacesetter in regards to age-related assistance. For over a decade now, JICA has been promoting Japan's "community-based welfare" model of old-age support across the region. Initiatives have been started in Thailand, the Philippines and Indonesia (Oizumi et al., 2006).

International funds

In addition to the more traditional ODA, innovative international funds and delivery channels have come to play an increasing important role in funding the social sector, health care in particular. The Global Fund to Fight AIDS, Tuberculosis and Malaria and the Global Alliance for Vaccines and Immunisation (GAVI) are examples of these initiatives organized around multi-stakeholder partnerships between Governments, private sector, civil society, and traditional and emerging donors. The lessons learned

and the funding and monitoring mechanisms that have been put in place for the financing for AIDS in Asia and the Pacific can be tapped by countries of the region as part of their efforts to meet the health and long-term care needs of a growing number of older persons (UNAIDS, 2015).

International private finance

With globalization and the intensification of regional integration, on the one hand, and the proliferation of private actors, on the other, international private financing streams will play a significant role in the region. As is the case with international public finance, Asia-Pacific countries must ensure that these international private financing steams, foreign direct investments (FDI) and remittances in particular, are directed toward meeting the challenges of population ageing.

Foreign Direct Investment

FDI is an important source of financing in Asia and the Pacific surpassing ODA by a factor of ten. Though ODA flows declined during the global financial crisis, dropping from $469 billion to $330 billion between 2008 and 2009, they subsequently recovered to $506 billion in 2012. In 2013, developing Asia-Pacific economies accounted for more than one third of global FDI of $1.46 trillion (ESCAP, 2015). FDI flows, however, have tended to favor the larger emerging countries and the resource and energy sectors, and thus not reaching the countries or sectors that need them the most – namely, least developed countries and the social sector. Health care in particular can benefit from FDI.

As was suggested in chapter 3, as a result of the increase in the standard of living across the region, a growing number of individuals are demanding better health care services. With the rise in longevity linked to the demographic transition, individuals are requiring these services for longer periods of time, while the costs of these services increase arithmetically – if not geometrically – with age. Furthermore, as will be further discussed below but can already be gleaned from the earlier discussion around the SPI, in pursuit of the principal of universal health coverage, Asia-Pacific countries have given pride of place to the breadth of coverage over depth. Indeed, in most developing countries in the region the public provision of health care is restricted to basic services.

In this context, FDI can play an important role in bridging investment gaps. In particular, FDI-related technology transfers can support the development of diagnostic tools and medical equipment as well as the training of health professionals. Technology-driven initiatives such as telemedicine would also likely attract foreign investors. FDI, furthermore, can be used to finance larger scale infrastructure projects aimed at developing the supply-side of health services, including the construction of hospitals and diagnostic centers.

The role of FDI in the health sector has been increasing for decades. Globally, FDI linked to the health industry was estimated at $1 billion in 1990, the large majority of which was concentrated in developed countries. Almost two decades later, in 2009, this amount had grown to $13.5 billion, over half of which was located in developing countries. In Asia and the Pacific, since the turn of the century, there has been a

substantial increase in FDI flows to the health sector in India, China, Indonesia and Singapore, for example (Zimny, 2011).

In harnessing the potential of FDI for health care in particular, Asia-Pacific countries need to ensure that any private provision of social protection is made affordable and available to all segments of society. For this to be the case, the State must develop a robust regulatory framework for FDI. Another possibility is to exploit the public-private partnership modality. Indeed, Asia-Pacific countries need to approach these financing initiatives, keeping in mind the neo-colonial and geopolitical aspects of FDI. Though beneficial in certain instances, FDI can have detrimental effects; such as the crowding out of domestic investment as well as possible market failures linked to health and safety risks. Nevertheless, when judiciously approached, with an aim of reducing dependence in the long term, FDI can serve as a valuable source of financing to meet the challenges facing a greying region (OECD, 2002).

Remittances

The role of remittances as a source of financing for the social sector has for a long time been part of the discussion. Asia and the Pacific remains the highest remittance-receiving region in the world, both in absolute and relative terms. By 2013 remittances to developing countries in Asia and the Pacific had increased from $49 billion in 2000 to $265 billion (ESCAP, 2014b). Remittances, then, are a crucial source of income for both families and the State, comprising as much as 45 per cent of GDP in some countries of the region.

At the macro level, as an important source of foreign currency, remittances have kept current account deficits stable. This financing stream could thus come to play a relatively important stabilizing role in contexts where rapid population ageing generates downward pressure on economic growth. At the household level, remittances are used to meet lifecycle needs and bolster familial transfers to children and older persons. Remittance flows are also positively linked to asset creation: they increase household savings (International Organization for Migration, 2014).

It can be assumed that as societies move further along the demographic transition, a greater share of remittances will go to remedying increasingly larger lifecycle deficits in old age. At the same time, as ethnographic studies in Sri Lanka have revealed, the changing demographic conditions poses an interesting dilemma: Potential women migrants in particular will have to chose whether to work abroad to remit money to their families or stay in their home country to take care of their older parents and relatives (Gamburd, 2015). From this angle, population ageing could depress the flow of remittances. In the final analysis, however, remittances have contributed to reducing vulnerabilities and building community resilience in many countries of the region.

Thus, while being a private source of income, this financial stream serves as an informal social protection mechanism that can take on an important role in the context of population ageing. The principal challenge for Asia-Pacific countries remains harness remittances into sustainable social investment projects and community development initiatives. One of the more vibrant countries in this regard has been the Philippines. For example, in 2011, the United Nations Development Programme (UNDP), in

collaboration with Western Union, launched the Overseas Filipinos Remittances for Development: Building a Future Back Home (OFs-RED) project with the Philippine government to tap the potential of overseas remittances for local economic development. Also launched in 2011 by the Commission on Filipinos Overseas (CFO), in partnership with the Transnational Institute for Grassroots Research & Action (TIGRA), the Remit4change project establishes a financing mechanisms through which the used of specific US-based money transfer companies generates $1.00 contribution to a community development project of the remitter's choice (ADB, 2015).

The challenge with remittance mobilization projects in general is devising strategies for scaling them up. One possibility is for Governments – national or local – to link these projects with impact investors. Yet another challenge is to develop projects that address issues specifically related to population ageing. Channeling remittances to fund pension programmes or subsidizing health care services are two ways of bolstering social protection for older persons. Another possibility could be to support community-based training initiatives that could serve to enhance employability in old age.

Fourth measure: Tapping the productivity of older persons

Though it is an efficacious measure for strengthening income security in old age, increasing the productivity, employability and labour force participation of older persons tends to be cast first and foremost as part of a more general strategy that aims to directly counter the decline in the economic support ratio by addressing the contraction in the supply of labour associated with the demographic transition. Countries in the region have attempted to counter the contraction of the supply of labour through policy initiatives. Promoting childbearing and greater openness to immigration are two measures that have received considerable attention by policymakers, pundits and the general public.

The region – and in particular, the rapidly ageing and affluent countries – have experimented with pronatalist measures. In Japan, for example, the government provides subsidies for childcare and has aimed to create a more supportive environment for marriage, childbearing, and childrearing. There has also been experimentation with measures requiring the private sector to offer rather expensive childcare leave benefits. Furthermore, in Singapore and the Republic of Korea, the government offers financial and housing incentives to couples with more than two children. These initiatives, though, have not been entirely satisfactory. Changes in fertility rates have been negligible; and incentives, while costly, appear to be insufficient to modify reproductive behavior. Moreover, some fear that these pronatalist measures could in the long run have unintended consequences, such as the hiring of fewer women of childbearing age or the undermining of the global competitiveness of the private sector (Mason et al., 2008). From another angle, it has been argued that, ceteris paribus, those pronatalist interventions which would in principal have the highest impact upon total fertility rates would in fact be politically and culturally unfeasible (Yip et al, 2013).

As was intimated in the introductory chapter, immigration has the potential to slowdown the rate of population ageing in those countries that are further along in the demographic transition, while increasing the rate of population ageing in those countries that are earlier along in the transition. For this reason, prima facie,

immigration policy may seem like a promising option to counter the contraction in the supply of labour in those rapidly aging countries of Asia and the Pacific. On the one hand, the region's demographic diversity generates mutual benefits from intra-regional migration where the young countries of South and South-West Asia, such as India, Pakistan and Bangladesh, have a large enough population to be able to supply labour to the more mature countries of East and North-East Asia, China, Japan, and the Republic of Korea, in particular. On the other hand, the enhancement of regional integration through mechanisms such as the Association of Southeast Asian Nations (ASEAN) and the South Asian Association for Regional Cooperation (SAARC) is facilitating the institutional framework for the intraregional movement of labour.

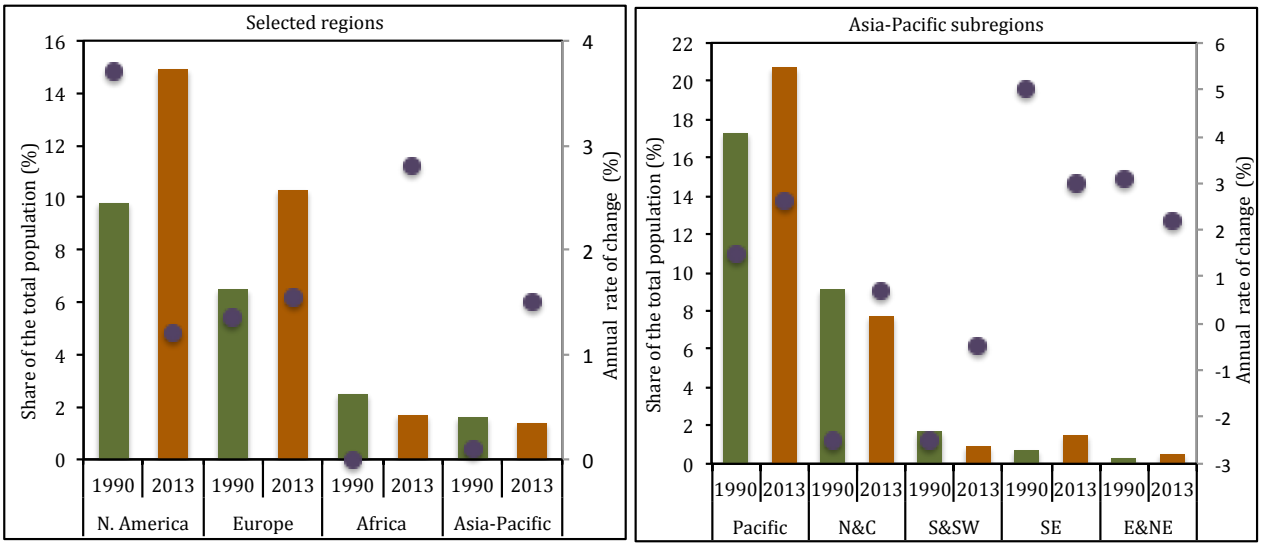
Yet, as it was intimated at the outset of this report, compared to fertility rates and life expectancy, immigration plays a rather minor role in determining population growth and age structure in the Asia-Pacific region. Indeed, with some exceptions – most notably in the Pacific subregion as well as in a couple of countries like Hong Kong-China and Singapore – the rate of net migration is negligible in most countries, and thus, is of little consequence vis-à-vis the size and composition of national populations (figure 5.4). Furthermore, immigrant flows have been heavily regulated in the region. Even when confronted with important decreases in the supply of labour, Japan and the Republic of Korea have admitted only a relatively small number of foreign workers relative to their national populations. In addition to increasing the work life and tapping the productivity of the national population, these two countries have also attempted to turn to offshoring and automation as strategies for attenuating labour shortages (Nohara, 2015).

At the turn of this century, a much-referenced report by the United Nations Population Division explored the extent to which greater openness to migration was an effective measure to counter the effects of lower fertility rates (DESA, 2000). Toward this end, the report calculated the "replacement migration" – that is, the international migration that a country would need to offset population decline and population ageing – between 1995 and 2050 for eight rapidly greying countries, including three from Asia-Pacific: namely, Japan, the Republic of Korea, and the Russian Federation. The report's findings only cast greater doubt on the feasibility of migratory policies as a countermeasure to population ageing. For example, in order to maintain the size of Japan's working-age population constant at the maximum level it reached in 1995, it was estimated that by 2050 immigrants and their descendants would need to comprise 30 per cent of the total population of the country. In like fashion, to keep the Republic of Korea's working-age population at its 2020 zenith, by mid-century, post-1995 immigrants and their descendants would need to constitute 13.9 per cent of the country's total population. And, to maintain the size of its population aged 15-64 constant at the maximum level reached in 2000, 28 per cent of the population in the Russian Federation would need to consist of post-1995 immigrants or their descendants by 2050 (DESA, 2000).

These estimates, as large as they may be, are for one of the less stringent scenarios simulated in the report in question. A more felicitous scenario, to the extent that it focuses on age structure as opposed to population size, keeps fixed the ratio of the working-age population to the population age 65 years and older – that is, it keeps fixed the potential support ratio. The number of migrants needed under this scenario is so astronomical that the report seems to take the form of a *reductio ad absurdum*: For

example, to maintain the ratio of the working age population to the older population to its 1995 level in Japan, the Republic of Korea and the Russian Federation, post-1995 immigrants and their descendants would need to comprise 87 per cent, 99 per cent and 73 per cent of the total population in these three countries, respectively, by 2050 (DESA, 2000). Such an increase in the level of migration is clearly not feasible; and even if it were, it probably would not be desirable. In the final analysis, then, by extrapolation, it can be concluded that the levels of replacement migration required to offset the adverse effects of population ageing, are substantially larger than the historical trends and future projections of the level and rate of change of the region's international migrant stock (again, with the exception of the Pacific) (figure 5.4).

Figure 5.4
Migrants comprise a small share of national populations across the region with the exception of the Pacific countries
International migrant stock as a percentage of the total population and corresponding annual rate of change



Source: DESA (2013) and ESCAP Online Statistical Database.

Given the dubious prospects of pronatalist and immigration policies alike, countries have increasingly turned to labour market and employment initiatives such as promoting longer work lives and tapping the productivity of national populations in order to counter the contraction in the supply of labour.[23] Indeed, perhaps the most popular and often discussed remedy to the economic downturn linked to population ageing is that older persons should work for more years as they are living longer. Increasing the retirement age is undoubtedly a fundamental measure that all Asia-Pacific countries need to take into account. Yet, such formal and legal measures do not really apply to the hundreds of millions of individuals in the region that are in vulnerable employment. In a context of large informality, the focus should be on modifying the behavior of individuals – in particular older persons – so that they increase the duration of their work life. At the same time, in these developing contexts

[23] It should be kept in mind that the labour supply is only one of the parameters countries can adjust to manage population ageing. Attempting to adjust the supply of labour, moreover, focuses solely on the quantitative dimension of economic growth. As was suggested in chapter 2, of the fundamental aspects distinguishing the second demographic dividend from the first is, an attempt to qualitatively enhance economic development through, for example, increasing productivity gains.

where vulnerable employment looms large, countries need to promote productive and decent work.

While social insurance and social assistance schemes provide income support, they do not draw on one of the root causes of vulnerability: namely, the inability to earn a decent and reliable income, one of the key correctives to precarity and exclusion. For this very reason labour market schemes are an indispensable aspect of social protection. These schemes increase the probability that the unemployed find work or that the underemployed increase their productivity and earnings. They also generate social benefits in the mode of the inclusion and participation that comes from productive employment.

Yet, despite their potential advantages, there are very few labour market schemes in the region. It is only in South and South-West Asia that employment guarantee programmes have made some inroads (ADB, 2013). Skills development and training programmes remain inchoate, existing for the most part in the more developed countries or as pilot initiatives. In a context of population ageing where challenges to economic growth will only intensify, and where longevity will continue to increase and the number of older persons will rise rapidly, it is indispensible that countries in the region, not only develop labour market schemes, but that they specifically target these schemes to older persons.

The main objective of labour market schemes, then, is to retain individuals or integrate them into the labour market. These initiatives take two forms: On the one hand, they can take the form of *employment guarantee programmes* which provide a legal entitlement to employment in public works and cash transfers to poor workers in vulnerable or rural settings. On the other hand, labour market schemes can take the form of *skills development and training programmes* which aim at increasing the employability of precarious, underemployed or unemployed workers. Labour market schemes for older persons come largely in the form of the latter.

It is imperative, moreover, that labour market initiatives for older persons address both supply side and demand side barriers. In this regard, an important multi-country OECD initiative on employment policies to address ageing has highlighted three broad areas where policy action is seen as necessary to encourage work at an older age. Two of the policy areas are supply-side initiatives, while the third is a demand-side initiative: namely, 1) strengthening financial incentives to carry on working; 2) improving the employability of older workers; and 3) tackling employment barriers on the side of employers (2006).

Following the OECD approach, then, on the supply side, the aim should be to modify existing cultural norms that favor leisure over work in old age; increase incentives to expand working life; and develop life-long training opportunities to increase employability. On the demand side, efforts need to be made to tackle ageism, in particular in regards to employment discrimination, and, to provide the private sector incentives to employ older persons. Another essential demand-side initiative, particularly germane to developing Asia-Pacific countries, needs to be added to the OECD approach: namely, promoting productive and decent work for older persons.

To support labour market programmes that encourage individual labour mobility and strengthen employability of older persons, it is essential for developing countries in the region to formulate forward-looking macroeconomic policies that facilitate job-rich growth; encourage industrial upgrading and productivity growth; take concrete steps to harmonize national labour laws with international labour standards; and implement and monitor compliance with national labour laws. These measures would ensure that economic development generates more and better jobs for the more than one billion people in the region who are working in vulnerable conditions, while avoiding a "race to the bottom" triggered by unfettered competition.

In developing Asia-Pacific countries, failure to foster job-rich growth strategies to support labour market initiatives for older persons can lead to an increase in poverty and precarity in old age as it would imply that older persons are being employed in informal and vulnerable conditions. It is arguably this decent work dimension that distinguishes labour market strategies in developing countries from those in affluent countries of the region. Given their relatively large informal sector, labour market initiatives in the developing countries need to be accompanied by broader job-rich macroeconomic and industrial policies. By contrast, in the more affluent countries, labour market initiatives can focus on supply-side and demand-side incentive structures and legal reforms.

As could be expected, given its level of economic development and demographic situation, Japan is the country in the Asia-Pacific region – and perhaps in the world – that has the most robust set of labour market programmes for older persons. For about half a century now, since at least the passage of the Employment Promotion Measures Act in 1966, the Japanese government has deployed a number of measures to enhance the labour force participation of older persons. The majority of government efforts, which the countries in the region can learn from, have aimed at providing the private sector with incentives to help individuals find alternative employment after retirement.

In 1971, Japan enacted what is arguably the most important government measure to support the continued employment of older workers, namely, the Law Concerning Stabilization of Employment of Older Persons. The 2002 Amendment to this Law required the private sector to take steps to ensure that those individuals that so desired could continue to work up to at least the age of 65 years. The amendment also included several measures to provide unemployed older workers with training and counseling services to increase their employability and prospects of labour market insertion (Williamson and Higo, 2007a). The 2004 Amendment to the 1971 Law put in place a system of financial incentives to promote employment among older workers. These incentives take the form of subsidy programs designed to promote greater efforts by employers to retain their older workers and to promote more outreach to older workers when hiring.

The following are the most important subsidies that have been implemented under the 2005 Amendment: 1) Subsidy to Promote Continuous Employment of Older Persons; 2) Subsidy for Short-term, Pilot Employment of Older Persons; 3) Subsidy to Promote Employment of Older Persons in a Particular Age Group; 4) Subsidy to Promote Re-Employment of Older Employees Approaching Mandatory Retirement Age; and 5)

Partial Subsidy to Promote the Business and Self-Employment Opportunities of Older Persons (Williamson and Higo, 2007b).

Another labour market initiative in Japan that has received worldwide recognition is the Silver Human Resource Center (SHRC). Completely subsidized by the national and municipal governments, SHRCs serve as community-based employment agencies, providing temporary and/or part-time, paid work to older men and women. Rather than putting older persons in competition with younger job seekers, SHRCs arrange temporary/part-time employment for them in certain areas related to community development. Assignments might include janitorial services at a local school, gardening at a municipal park, or household chores for working parents. Assignments could also include working on handicrafts, completing administrative tasks in an office or teaching at a community center (Vogt, 2010). In partnership with business actors, civil society and relevant public employment agencies, since 2003, the association of SHRC chapters has been organizing employability-enhancing workshops where SHRC members receive skills training and job-interview coaching (Williamson and Higo, 2007a). Research has shown that older persons that participate in SHRCs activities have increased their well-being (Weiss et al., 2005). Studies have also provided evidence that SHRC initiatives can help foster social capital (Vogt, 2010).

As developing countries that do not have the standard of living of Japan, Thailand and India, for example, have given pride of place to providing social assistance and/or social insurance to older persons over initiatives to increase the labour participation in old age. For both countries the principal challenge has been to provide pensions to the tens of millions of older persons that have spent their work life in informal and vulnerable employment (Fujioka and Thangphet, 2009; Rajan, 2010).

This having been said, as a rapidly ageing country, Thailand has acknowledged the need to increase the productivity, employability and labour force participation of older persons. For instance, at the turn of the millennium, the government of Thailand established the Brain Bank, which aims to encourage older persons with specific technical skills to remain active after retirement, and contribute their knowledge to the social development of the country (Fujioka and Thangphet, 2009).

Toward this end, the Bank maintains a database of older persons by type of expertise. This database is disseminated to organizations that would like to receive specific technical assistance from an older person (Ministry of Social Development and Human Security, 2007). As part of the Brain Bank initiative, in 2004, Thailand's Bureau of Empowerment for Older Persons, put in place the Elderly Brain Bank Project. This project aims to promote the sharing of knowledge and skills between older persons and younger cohorts in order to increase the employability of the latter as well as to promote community development. Although the scope of the Brain Bank initiative is rather limited, it does nevertheless demonstrate Thailand's commitment to increasing the labour participation of older persons.

As a country enjoying a significant youth bulge, employment policies in India have been directed principally at the younger population. The overwhelming focus has been on improving the quality of education and on the school-to-work transition. Labour market schemes, moreover, have mainly taken the form of employment guarantee

programmes – like the emblematic the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) – as opposed to skills development and training programmes and subsidies for the private sector. Employment guarantee programmes, unfortunately, have still not prioritized older persons.

As has been suggested in this report, the countries in the region which, like India, still have relatively young population age structures cannot afford to wait until they are further down the demographic transition to begin to put in place the policy framework for promoting economic growth and intergenerational equity for a context of falling support ratios. Labour market initiatives that aim to increase the employability, productivity and labour force participation of older persons constitute an essential pillar of this framework.

Fifth measure: Enhancing pension systems

Population ageing will stymie the ability of countries to expand pension coverage and/or increase pension benefits. As has been suggested, on the one hand, population ageing will exert downward pressure on fiscal revenues; on the other, the demand for pensions will rise as the share of older persons increases. The situation is exacerbated by the fact that pension systems across the region tend to be expensive, especially given the number of beneficiaries they reach. For example, in 2009 while pensions accounted for 38 per cent of total social protection investments, they only covered about 17 per cent of all social protection beneficiaries. In Azerbaijan, Fiji, Georgia, Malaysia, the Marshall Islands, Mongolia, Nepal, Pakistan, Solomon Islands, Sri Lanka, and Viet Nam public or private spending on pensions in recent years has represented more than half of all social protection spending (ADB, 2013).

As a rule of thumb, the financial strain will be greater for those countries that are further along the demographic transition. Yet, at the same time, an analysis of the challenges facing the efforts to broaden and deepen pension systems of Asia-Pacific countries in the context of population ageing must also take into consideration the general state of social protection systems, which, closely correlated with levels of economic development, are an indication of existing coverage gaps.

The pension systems in the region are as diverse as their demographic and socio-economic conditions. The heterogeneity of these pension systems stem from the diversity of national constraints and preferences. While high-income countries such as Japan effectively cover 100 per cent of their population and transition economies from North and Central Asia have relatively high coverage rates, in most other countries only one-fifth to two-fifths of the population are covered (ADB, 2013).

Here the scatter plot presented at the outset of chapter 3 is illuminating: The challenges facing those countries in the upper-right hand quadrant, such as Japan, Australia and the Russian Federation, which have established robust social protection systems before growing old, are different from the challenges facing those countries in the bottom-left and bottom-central quadrants – such as the Philippines, India and Lao PDR, which have attenuated social protection systems, yet still have relatively young age structures. In like fashion, the challenges facing the countries in the middle-right quadrant, such as the Republic of Korea, Georgia and Singapore, which, though old, have achieved fairly

broad social protection coverage, are different from the challenges facing those two countries in the bottom-right quadrant – namely, Thailand and China – which must overcome substantial coverage gaps being already in the thrall of population ageing.

"Today, as the world's population ages, old age security systems are in trouble worldwide." Though it could have been written in 2015, this claim is made at the outset of the World Bank's seminal work on pensions – *Averting the Old Age Crisis* – published in 1994. Indeed, for decades now pension development and reform in the context of population ageing has been on the agenda of policymakers, internationally as well as regionally.

Though they vary due to different country-specific conditions, it is generally accepted that all publicly managed and government-backed pension systems need to fulfill two basic functions, namely, *redistribution* and *savings*. On the one hand, pension systems should mitigate the risk of poverty in old age and reduce intergenerational income inequalities. On the other hand, pension systems should smoothen consumption, both at the micro- or household level, allowing individuals to meet lifecycle needs in old age, as well as at the macro- or national level, stabilizing aggregate demand.

More specifically, all pension systems should meet five conditions: First, they need to be *adequate*, covering all individuals at benefit levels that satisfy the redistributive and saving functions. Second, they need to be *affordable* and *sustainable*, that is, within the financing capacities of society as well as financially sound over time. Third, pension systems need to be *equitable*, transferring income from high earners to low earners as well as providing consistent services and benefits across groups, redistributive strictures considered. Fourth, they need to be *predictable* in the sense of being anchored in a legal framework and containing provisions to protect from inflation and longevity risks. And fifth, pension systems need to be *resilient*, or able to withstand shocks emerging from political or economic volatility or natural disasters (World Bank, 2008).

It has generally been recognized that a multi-pillar system provides the flexibility required to meet a variety of country-specific conditions and is also better suited to address the various risks associated with population ageing than a mono-pillar system. The multi-pillar framework that was first presented by the World Bank in the aforementioned study, but has evolved since, has become a point of reference across the region (Park and Estrada, 2013).

Indeed, it is interesting to note that this framework has evolved since its original formulation. The early version was considerably under the spell of the structural adjustment programmes and market fundamentalism that loomed large during the 1990s. The more nuanced version of the framework that was presented in the first decade of the new millennium gives more importance to the redistributive function of pensions as well as to the broader institutional arrangements and social context that embed them. The latest iteration of the multi-pillar framework incorporates, for example, a "zero pillar" for social pensions and a non-financial "fourth pillar" which includes access to family transfers (Holzmann and Hinz, 2005).

Two pillars are seen as fundamental for well-functioning pension systems: On the one hand, there is the *non-contributory pillar* that targets poverty alleviation and aims to provide all older persons with a minimum level of protection. These social pensions (or demogrants) can be considered a type of social assistance, and can either be universal or targeted (that is, means-tested). On the other hand, there is the mandatory *contributory pillar* linked to earnings that aims to replace a certain share of lifetime pre-retirement income. Contributory pensions are typically financed on a pay-as-you-go.

Sixth measure: Strengthening health and long-term care

In the context of the demographic and epidemiological transition that is transpiring across the region it is imperative for Asia-Pacific countries to increase investments in health services and adapt health and social systems in response to the needs of older persons through an integrated continuum of care, including preventive care, acute care, chronic disease management, long-term care and end-of-life care.

It is also essential to strengthen family and community networks for the provision of health and social care for older persons. Key areas for development are the improvement of training for caregivers among both family or specialized personnel, integration of home-based health care and rehabilitation care with social support, promoting age-friendly homes and environments to facilitate mobility for older persons, encourage volunteerism and promote association among older persons as they could serve as self-help groups, undertake outreach and advocacy or income generating activities. In this regard, countries need to encourage community-based and non-profit organizations as well as the private sector to play a major role in the provision of elderly care services and training, in cooperation with government agencies.

Achieving universal health coverage is not only an imperative from a rights-based point of view; it also generates economic and social benefits. Investments in health foster economic and social cohesion. A healthier population is more productive as workers, less absent, take less time to recover from sickness, and spend less time looking after ill dependents. In addition, healthier individuals spend less on health-related goods and services and can instead consume other necessary commodities, which further stimulate domestic demand. Ensuring that all have access to affordable health care is therefore a fundamental component to foster inclusive and sustainable development.

Third pathway: Enhancing enabling environments for active ageing

Ensuring inclusive growth and prioritizing investments in social protection are necessary but not sufficient conditions to foster the well-being and social integration of older persons, a fortiori when taking into consideration horizontal inequalities and the dynamics of intersectionality, the transformation of living arrangements and the inroads ageism is making in modern social life.

Efforts to promote "active ageing," – measures that promote the well-being of older persons, allowing them to take charge of their own lives – also require the transformation of legal frameworks and institutional arrangements, the development of enabling and supportive environments, and the mobilization of social partners. Active ageing policies need to be grounded in rights-based foundations. As a supporting and enabling environment, the rights of older persons are an essential component of active ageing. As universal principles, these rights regulate social structures and markets, ensuring that ageing cohorts are treated as the ends and not the means of development.

"Active ageing" refers to the meaningful participation of older persons in social, economic and political life. To pose the issue of demographic change in terms of active ageing is to recognize that, in addition to economic foundations, individuals need broader social, cultural and political resources to flourish and lead meaningful lives. Indeed, active ageing brings forth a broad human capability approach to the issue of population ageing. This framework is oriented by a positive view towards ageing. Repudiating the ageist assumption that older persons are a burden to society, the principle of active ageing acknowledges the potential of older persons to contribute to economic growth and social integration.

Essential for promoting active ageing is a rights-based approach to population ageing. At the global level, the fundamental issue orienting the rights-based approach is how best to integrate the rights of older persons into human rights instruments. Concerning binding instruments, the question is whether a specific convention (and a special rapporteur) is needed to protect the rights of older persons, or, rather, should the task be to mainstream these rights into already existing instruments? Concerning soft law instruments, the global agenda has gravitated around implementation of the Madrid Plan of Action. At the regional and national levels efforts have focused on bolstering relevant national policy and legal frameworks to protect the civil, political, economic and social rights of older persons.

Conclusion

While an outcome of development gains, the shift to an older age structure will in the decades to come pose important challenges to inclusive growth and social equity in the region. Downward pressure on economic growth seems likely. Social protection systems will come under increasing strain. Ensuring that the ever growing number of older persons age well and actively contribute to development will progressively test the resolve of policymakers and stakeholders, governments and families, public and private resources alike.

Though population ageing is ubiquitous in the region, countries are at different stages of the demographic transition. A three-prong heuristic device, derived from a series of scatter plots, was deployed throughout the report in an attempt to frame this regional diversity. In broad strokes, this conceptual framework paints the following regional picture: Some countries have become affluent before growing old. These countries have built robust social protection systems and strong enabling environments for active ageing. Other countries have gotten old or are quickly getting old before becoming affluent. While some of these countries have managed to build relatively strong social protection systems and enabling environments for active ageing, a majority of these countries face important social protection coverage gaps and attenuated enabling environments. While other countries, still, are young and not affluent, or young and poor. These countries need to expand and enhance social protection coverage for older persons and strengthen their enabling environments for active ageing.

Through the right mix of behavioral change, institutional arrangements and policy initiatives, population ageing can be managed, and even converted into economic and social gains. What exact measures should be deployed to manage ageing will depend on where countries are situated along the demographic transition. Age structure points to possible demographic windows of opportunity. Economic and social conditions linked to, for example, economic development, social protection investments, and the robustness of the enabling environment for ageing well, in turn constitute resource constraints within each window of opportunity.

References

Abalos, Jeofrey and Maria Fonseca, Camille T. Baroña (2013). "Living Arrangements of Older Persons in Southeast Asia: Trends, Patterns and Determinants." Paper presented at the 27th International Union for the Scientific Study of Population (IUSSP) International Population Conference, 26-29 August, Busan.

Achmad, Maliki (2011). "Indonesia: NTA Country Report." Available at: www.ntaccounts.org.

Adioetomo, Sri Moertiningsih and Ghazy Mujahid (2011). *Indonesia on the Threshold of Population Ageing*. UNFPA Indonesia Monograph Series no. 1 (July), Jakarta.

An, Cong-Bum, Young- Jun Chun, Eul- Sik Gim, Namhui Hwang and Sang- Hyop Lee (2011). "Republic of Korea: NTA Country Report." Available at: www.ntaccounts.org.

Arokiasamy, Perianayagam, Sulabha Parasuraman, T. V. Sekher, Hemkhothang Lhungdim (2013). *India National Report: Study on Global AGEing and Adult Health (SAGE) Wave 1*. Geneva: World Health Organization.

Asher, Mukul and Savita Shankar (2007). "Time to Mainstream Micro-Pensions in India." eSocial Sciences Working Paper (May), Mumbia.

Asian Development Bank (2015). "Useful Links and Resources." Forum on Promoting Remittances for Development Finance, 18-19 March, Manila.

_____ (2014). *Key Indicators for Asia and the Pacific 2014*, Country Profiles. Available at: www.adb.org.

_____ (2013). *The Social Protection Index: Assessing Results for Asia and the Pacific*. Manila: ADB.

_____ (2011). "Impact Investors in Asia: Characteristics and Preferences for Investing in Social Enterprises in Asia and the Pacific." Manila: ADB.

_____ (2009). "Reforming the Rural Pension System in the People's Republic of China." Social Protection Project Briefs, Manila.

Asia-Pacific Economic Cooperation (2015). "Joint Ministerial Statement." APEC Finance Ministerial Meeting, 11 September, Cebu, Philippines.

Aslanli, Kenan (2015). "Fiscal Sustainability and the State Oil Fund in Azerbaijan." *Journal of Eurasian Studies* 6, 2 (July): 114-121.

Barma, Naazneen (2014). "The Rentier State at Work: Comparative Experiences of the Resource Curse in East Asia and the Pacific." *Asia & the Pacific Policy Studies* 1, 2: 257–272.

Berg, Anthony G. and Jonathan D. Ostry (2011). "Inequality and Unsustainable Growth: Two Sides of the Same Coin?" IMF Staff Discussion Note (SDN/11/08), Washington, D.C.

Bhagwati, Jagdish (2000). "East Asia: Miracle or Debacle? Lessons Learnt and Future Prospects." Edited transcript of a public lecture delivered at the Institute of Policy Studies, National University of Singapore, 19 May.

Bloom, David and Alfonso Sousa-Poza (2013). "Ageing and Productivity: Introduction." Program on the Global Demography of Aging (PGDA) Working Paper Series No. 98, Harvard University, Cambridge, Massachusetts.

Bloom, David, David Canning and Günther Fink (2011). "Implications of Population Ageing for Economic Growth." Unpublished manuscript, School of Public Health, Harvard University, Cambridge, Massachusetts.

Bloom, David E., David Canning, and Günther Fink (2009). "The Graying of Global Population and Its Macroeconomic Consequences." Unpublished manuscript, Department of Global Health and Population and School of Public Health, Harvard University, Cambridge, October.

Bloom, David, Somnath Chatterji, Paul Kowal, Peter Lloyd-Sherlock, Martin McKee, Bernd Rechel, Larry Rosenberg and James P Smith (2015). "Macroeconomic Implications of Population Ageing and Selected Policy Responses." *Lancet* 385 (14 February): 649-657.

Boduroglu, Aysecan, Carolyn Yoon, Ting Luo and Denise C. Park (2006). "Age-Related Stereotypes: A Comparison of American and Chinese Cultures." *Gerontology* 52: 324–333.

Campi, Alicia (2012). "Mongolia's Quest to Balance Human Development in its Booming Mineral-Based Economy." *Brookings East Asia Commentary* 56 of 78 (January). Available at: www.brookings.edu.

Chang Bae Chun, Chang Bae, Soon Yang Kim, Jun Young Lee and Sang Yi Lee (2009). *Republic of Korea: Health System Review*. Geneva: World Health Organization.

Chinese Academy of Social Sciences; Indian National Science Academy, Indonesian Academy of Sciences, National Research Council and Science Council of Japan (2011). *Preparing for the Challenges of Population Aging in Asia: Strengthening the Scientific Basis of Policy Development*. Washington, D.C.: National Academy of Sciences.

Chokkanathan, Srinivasan and Alex Lee (2008). "Elder Mistreatment in Urban India: A Community Based Study." *Journal of Elder Abuse and Neglect* 17, 2: 45-61.

Chompunud, Somjinda, Chounchom Charoenyooth, Mary H. Palmer, Kanuengnit Pongthavornkamol, Thavatchai Vorapongsathorn and Sutthichai Jitapunkul (2010). "Prevalence, Associated Factors and Predictors of Elder Abuse in Thailand." *Pacific Rim International Journal of Nursing Research* 14, 4: 283-296.

Chow, Nelson (2006). "The Practice of Filial Piety and its Impact on Long-Term Care Policies for Elderly People in Asian Chinese Communities." *Asian Journal of Gerontology & Geriatrics* 1, no. 1 (April), pp. 31-35.

Chua, Cynthia, Abhinav Gupta, Vivian Hsu, Justin Jimenez and Yyvonne Li (2011). *Beyond the Margin: Redirecting Asia's Capitalism*. Hong Kong: Advantage Ventures.

Central Intelligence Agency. *The World Factbook*. Langley: CIA. Available at: www.cia.gov.

Croll, Elisabeth (2006). "The Intergenerational Contract in the Changing Asian Family." *Oxford Development Studies* 34 (4): 473-491.

Dale, Pamela, Lena Lepuschuetz and Nithin Umapathi (2014). "Peace, Prosperity and Safety Nets in Timor-Leste: Competing Priorities or Complementary Investments?" *Asia & the Pacific Policy Studies* 1, 2 (May): 287–296.

Dalton, Russell and Nhu-Ngoc Ong (2005). "Authority Orientations and Democratic Attitudes: A Test of the 'Asian Values' Hypothesis." *Japanese Journal of Political Science* 6, 2: 1-21.

Deaton, Angus (2013). *The Great Escape: Health, Wealth, and the Origins of Inequality*. Princeton: Princeton University Press.

Demirguc-Kunt, Asli, Leora Klapper, Dorothe Singer and Peter Van Oudheusden (2014). "The Global Findex Database 2014: Measuring Financial Inclusion around the World." World Bank Policy Research Working Paper 7255, Washington, D.C.

Devasahayam, Theresa W. (ed.) (2014). *Gender and Ageing: Southeast Asian Perspectives*. Singapore: Institute of Southeast Asian Studies.

Dong, Xin Qi (2015). "Elder Abuse: Systematic Review and Implications for Practice." *Journal of the American Geriatrics Society* 63: 1214–1238.

Dong Xin, M.A. Simon and M. Gorbien (2007). "Elder Abuse and Neglect in an Urban Chinese Population." *Journal of Elder Abuse and Neglect* 19, 3-4 (January):79-96.

Dychtwald, Ken, Tamara Erickson and Robert Morison (2006). *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent*. Cambridge: Harvard Business Review.

Egawa, Akio (2013). "Will Income Inequality Cause a Middle-Income Trap in Asia?" Working Paper, Bruegel, Brussels.

Esteve, Albert and Chia Liu (2014). "Families in Asia: A Cross-National Comparison of Intergenerational Co-residence." Paper presented at the European Population Conference, 25-28 June, Budapest.

Euromonitor International (2013). *The World Economic Factbook 2014*. London: Euromonitor International .

Farrell, Diana, Tim Shavers, Sacha Ghai, Ezra Greenberg, Piotr Kulczakowicz, Carlos Ocampo, Yoav Zeif (2005). *The Coming Demographic Deficit: How Aging Populations Will Reduce Global Savings*. Washington, D.C.: McKinsey Global Institute.

Feigenberg, Ben, Rohini Pande, Natalia Rigol and Shayak Sarkar (2014). "Do Group Dynamics Influence Social Capital and Female Empowerment? Experimental Evidence from Microfinance." *Journal of Policy Analysis and Management* 33, 4 (August): 932-949.

Flicker, Leon and Kristen Holdsworth (2014). *Aboriginal and Torres Straight Islander People and Dementia*. Sydney: Alzheimer's Australia.

Fujioka, Rika and Sopon Thangphet (2009). *Decent work for older persons in Thailand.* Bangkok: ILO Regional Office for Asia and Pacific.

Future Fund Board of Guardians (2014). *Annual Report 2013/2014: Future Fund, Australia's Sovereign Wealth Fund*. Future Fund Board of Guardians: Melbourne.

Gamburd, Michele Ruth (2015). "Migrant Remittances, Population Ageing and Intergenerational Family Obligations in Sri Lanka." In Lan Anh Hoang and Brenda S.A. Yeoh (eds.), *Transnational Labour Migration, Remittances and the Changing Family in Asia*. London: Palgrave Macmillan.

Gavrilov, Leonid and Patrick Heuveline (2003). "Aging of Population." In Paul Demeny and Geoffrey McNicoll (eds.) *The Encyclopedia of Population*. New York: Macmillan.

Gelb, Alan and Sina Grasmann (2010). "How Should Oil Exporters Spend Their Rents?" Center for Global Development Working Paper no. 221 (August), London.

Genberg, Hans (2015). "Capital Market Development and Emergence of Institutional Investors in the Asia-Pacific Region." Paper prepared for ESCAP Asia-Pacific High-Level Consultation on Financing for Development meeting, 29-30 April, Jakarta.

Global Impact Investing Network and Cambridge Associates (2015). *Introducing the Impact Investing Benchmark*. Global Impact Investing Network and Cambridge Associates: New York.

Goodall, Julia, Amy Bensted and Graeme Terry (2013). "Sovereign Wealth Funds Investing in Infrastructure." 2014 Preqin Sovereign Wealth Fund Review (November), Preqin Alternative Assets, New York.

Goode, William (1963). *World Revolution and Family Patterns*. New York: Free Press.

Grene, Sophia and Steve Johnson (2015). Guardians of New Zealand's Sovereign Wealth Lead it to the Top." *Financial Times* (21 June).

Habermas, Jurgen (1991). *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge: MIT Press.

_____ (1987). *The Theory of Communicative Action*. Volume 2, Lifeworld and System: A Critique of Functionalist Reason. Boston: Beacon Press.

Harrison, Harry (1966). *Make Room! Make Room. New York: Doubleday.*

HelpAge International (2015). *Global AgeWatch Index 2015: Insight Report*. London: HelpAge International.

Hemalin, A,bert I. (ed.) (2002). *The Well-Being of the Elderly in Asia: A Four-Country Comparative Study*. Ann Arbor: University of Michigan Press.

He, Wan, Mark N. Muenchrath and Paul Kowal (2012). *Shades of Gray: A Cross-Country Study of Health and Well-Being of the Older Populations in SAGE Countries, 2007–2010*. Washington, D.C.: U.S. Census Bureau.

Holzmann, Robert and Richard Hinz (2005). *Old-Age Income Support in the 21st Century An International Perspective on Pension Systems and Reform*. World Bank: Washington, D.C.

Hu, Jianhui (2012). *Old-Age Disability in China: Implications for Long-Term Care Policies in the Coming Decades*. Santa Monica: RAND.

Hujo, Katja (2012). "Mineral Rents and the Financing of Social Policy: Options and Constraints," *UNRISD Research and Policy Brief* 16 (December), Geneva.

Intellecap (2014). *Invest, Capitalize, Mainstream: The Indian Impact Investing Story*. Deutsche Gesellschaft für Internationale Zusammenarbeit: Hyderabad and Mumbai.

International Labour Organization (ILO) (2014). *World Social Protection Report 2014/15: Building Economic Recovery, Inclusive Development and Social Justice*. Geneva: ILO.

_____ (2012). *Global Employment Trends for Women 2012*. Geneva: ILO.

_____ ILOSTAT Database. Available at: www.ilo.org.

International Organization for Migration (2014). *Handbook to Develop Projects on Remittances*. Brussels: International Organization for Migration.

International Telecommunication Union. ICT Indicators Database. Available at: www.itu.int.

Japan National Advisory Board (2014). "The Social Impact Investment Landscape in Japan." Paper submitted to the G8 Impact Investment Taskforce, July.

Knodel, John (2014). "Is Intergenerational Solidarity Really on the Decline? Cautionary Evidence from Thailand." *Asian Population Studies* 10 (2): 176-194.

Knodel, John and Napaporn Chayovan (2011). "Intergenerational Family Care for and by Older People in Thailand." Population Studies Center Research Report 11-732, University of Michigan, Ann Arbor, March.

Knodel, John, Napaporn Chayovan and Vipan Prachuabmoh (2011). "Impact of Population Change on Well-Being of Elderly in Thailand." In Gavin Jones and Wassana Im-em (eds.) *Impact of Demographic Change in Thailand*. Bangkok: UNFPA, pp. 35-63.

Knodel, John, Vipan Prachuabmoh, Napaporn Chayovan (2013). "The Changing Well-being of Thai Elderly: An Update from the 2011 Survey of Older Persons in Thailand." Population Studies Center Research Report 13-793, University of Michigan, Ann Arbor, June.

Knodel, John and Zachary Zimmer (2009). "Gender and Well-Being of Older Persons in Cambodia." Population Studies Center Research Report 09-665, University of Michigan, Ann Arbor, January.

Knodel, John, Sovan Kiry Kim, Zachary Zimmer and Sina Puch (2005). Older Persons in Cambodia: A Profile from the 2004 Survey of the Elderly in Cambodia." Phnom Penh: Royal University of Phnom Penh and UNFPA.

Knodel, John and Truong Si Anh (2002). "Vietnam's Older Population: The View from the Census." Population Studies Center Research Report 02-523, University of Michigan, Ann Arbor, August.

Kohlbacher, Florian and Cornelius Herstatt (eds.) (2011). *The Silver Market Phenomenon: Marketing and Innovation in the Aging Society*. London: Springer.

Koopman-Boyden, Peggy and Charles Waldegrave (2009). *Enhancing Wellbeing in an Ageing Society*. Wellington: Population Studies Centre and Family Centre Social Policy Research Unit.

Kowal, Paul and Sara Afshar (2015). "Health and the Indian Caste System." *Lancet* 385 (31 January): 415-416.

Krugman, Paul (1994). "The Myth of Asia's Miracle." *Foreign Affairs* 73, 6 November/December, pp. 62-78.

Ladusingh Laishram and M.R. Narayana (2011). "India: NTA Country Report." Available at: www.ntaccounts.org.

Lee Minhong (2008). "Caregiver Stress and Elder Abuse Among Korean Family Caregivers of Older Adults with Disabilities." *Journal of Family Violence* 23, 8 (November):707-712.

Lee, Ronald and Andrew Mason (eds.) (2011). *Population Aging and the Generational Economy: A Global Perspective*. Cheltenham: Edward Elgar.

Lee, Ronald, Andrew Mason and Daniel Cotlear (2010). "Some Economic Consequences of Global Aging." A Discussion Note for the World Bank (December). Human Development Network, World Bank, Washington, D.C.

Macpherson, Cluny (1999). "Changing Contours of Kinship: The Impacts of Social and Economic Development on Kinship Organization in the South Pacific." *Pacific Studies* 22, no. 2 (June), pp. 71-95.

Marx, Karl (1973). *Grundrisse: Foundations of the Critique of Political Economy*. New York: Vintage Books.

Mason, Andrew (2007). "Demographic Transition and Demographic Dividends in Developed and Developing Countries." In DESA, *Proceedings of the United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures* (Mexico City, 31 August-2 September 2005), United Nations, New York.

Mason, Andrew and Ronald Lee (2007). "Transfers, Capital, and Consumption over the Demographic Transition." In Robert Clark, Naohiro Ogawa, and Andrew Mason (eds.) *Population Aging, Intergenerational Transfers and the Macroeconomy*. Cheltenham: Edward Elgar.

Mason, Andrew and Ronald Lee (2004). "Reform and Support Systems for the Elderly in Developing Countries: Capturing the Second Demographic Dividend." Paper prepared for the International Union for Scientific Study of Population (IUSSP)/Asian Meta Centre International Seminar on the Demographic Window and Health Aging: Socioeconomic Challenges and Opportunities," Center for Health Aging and Family Studies and the China Centre for Economic Research, Peking University, Beijing, 10-11 May 2004.

Mason, Andrew and Sang-Hyop Lee (2011). "Population, Wealth, and Economic Growth in the Asia and Pacific Region." ADB Economic Working Paper Series No. 280, October, Manila.

Mason, Andrew, Sang-Hyop Lee and Ronald Lee (2008). "Will Demographic Change Undermine Asia's Growth Prospects?" Paper prepared as a background document for the ADB project, Emerging Asian Regionalism: Ten Years after the Crisis," Manila.

Merchant-Vega, Nina (2011). "Struggling with the Resource Curse." In the News (6 April), Asia Foundation, San Francisco. Available at: www.asiafoundation.org.

Millennium Development Goals Indicators. Development Indicators Unit, Statistics Division, United Nations, New York. Available at: mdgs.un.org/unsd/mdg.

Milner, Colin, Kay Van Norman and Jenifer Milner (2012). "The Media's Portrayal of Ageing." In John Beard, Simon Biggs, David Bloom, Linda Fried, Paul Hogan, Alexandre Kalache and Jay Olshansky (eds.), *Global Population Ageing: Peril or Promise*? Davos: World Economic Forum.

Ministry of Social Development and Human Security (2007). *Thailand's Implementation of the Shanghai Implementation Strategy (SIS) and the Madrid International Plan of Action on Ageing (MIPAA)*. Bangkok: Ministry of Social Development and Human Security.

Natella, Stefano and Michael O'Sullivan (2014). *The Success of Small Countries*. Zurich: Credit Suisse Research Institute.

Nohara, Yoshiaki (2015). "In Japan, the Rise of the Machines Solves a Labor Problem." *The Japan Times*, 15 September.

Nussbaum, Martha (2011). *Creating Capabilities: The Human Development Approach*. Cambridge: Harvard University Press.

Ogawa, Naohiro, Rikiya Matsukura and Amonthep Chawla (2012). "Japan: NTA Country Report." Available at: www.ntaccounts.org.

Oh J., H.S. Kim, D. Martins and H. Kim (2006). A Study of Elder Abuse in Korea." *International Journal of Nursing Studies* 43, 2 (February): 203-214.

Oizumi, Keiichiro, Hirokazu Kajiwara and Natsumi Aratame (2006). *Facing Up to the Problem of Population Aging in Developing Countries: New Perspectives for Assistance and Cooperation*. Tokyo: Institute for International Cooperation and Japan International Cooperation Agency.

Olshansky, S. Jay, Daniel Perry, Richard A. Miller and Robert N. Butler (2007). "Pursuing the Longevity Dividend Scientific Goals for an Aging World." *Annals of the New York Academy of Scienc*e 1114: 11–13

Organisation for Economic Co-operation and Development (OECD) (2014a). *Structural Policy Country Notes – Brunei Darussalam*. OECD: Paris.

_____ (2014b). Development Aid at a Glance: Asia. OECD: Paris.

_____ (2013). *Pensions at a Glance Asia/Pacific 2013*. Paris: OECD.

_____ (2012). *Pensions at a Glance Asia/Pacific 2011*. Paris: OECD.

_____ (2011). *Health at a Glance 2011*. Paris: OECD.

_____ (2002). *Foreign Direct Investment for Development: Maximising Benefits, Minimising Costs*. Paris: OECD.

Ortiz, Isabel, Matthew Cummins and Kalaivani Karunanethy (2015). "Fiscal Space for Social Protection Options to Expand Social Investments in 187 Countries." Extension of Social Security Working Paper no. 48, ILO, Geneva.

Ostry, Jonathan D., Andrew Berg and Charalambos G. Tsangarides (2014). "Redistribution, Inequality, and Growth." IMF Staff Discussion Note (SDN/14/02), Washington, D.C.

Park, Donghyun (2009). Ageing Asia's Looming Pension Crisis. ADB Economic Working Paper Series, No. 165 (July).

Park, Donghyun and Gemma Estrada (2013). "Emerging Asia's Public Pension Systems: Challenges and Reform Efforts." Paper presented at Designing Fiscally Sustainable and Equitable Pension Systems in Asia in the Post-crisis World, International Monetary Fund, Washington, D.C., 9-10 January.

Patxot, Concepció, Ronald Lee and Andrew Mason (eds.) (2015). "Exploring the Generational Economy." *Journal of the Economics of Ageing,* 5 (April).

Peterson, Peter (1999). *Grey Dawn: The Global Aging Crisis*. New York: Crown.

Petrick, Stephanie, Arne Kroeger and Carola Knott (2014). "Impact Investing in Ageing." Impact in Motion, Munich.

Phananiramai, Mathana. (2011). "Thailand: NTA Country Report." Available at: www.ntaccounts.org.

PricewaterhouseCoopers (2014). Asset Management 2020: A Brave New World. New York: PricewaterhouseCoopers.

Racelis, Rachel and J.M. Ian Salas (2011). Philippines: NTA Country Report. Available at: www.ntaccounts.org.

Rajan, S, Irudaya (2010). *Demographic Ageing and Employment in India*. Bangkok: ILO Regional Office for Asia and Pacific.

Ro, Junsoo, Jongheon Park, Jinsuk Lee and Hyemin Jung (2015). "Factors That Affect Suicidal Attempt Risk Among Korean Elderly Adults: A Path Analysis." *Journal of Preventive Medicine and Public Health* 48 (January): 28–37.

Sachs, Jeffrey (2014). *The Age of Sustainable Development*. New York: Columbia University Press.

Samuelson, Paul (1975). "The Optimum Growth Rate for Population." *International Economic Review* 16, 3: 531-538.

Sasaki M, Arai Y, Kumamoto K, Abe K, Arai A and Y. Mizuno (2007). "Factors Related to Potentially Harmful Behaviors Towards Disabled Older People by Family Caregivers in Japan." *International Journal of Geriatric Psychiatry* 22, 3: 250-257.

Sathyanarayana, K.M., Sanjay Kumar and K.S. James (2012). *Living Arrangements of Elderly in India: Policy and Programmatic Implications*. New Delhi: United Nations Population Fund.

Seltzer, Walter and Russell Tacher (Producers) and Richard Fleischer (Director) (1973). *Soylent Green*. United States: Metro-Goldwyn-Mayer.

Shagazatova, Malika (2012). "Republic of Uzbekistan: Updating and Improving the Social Protection Index." Paper prepared for the Asia Development Bank (August).

Solow, Robert (1956). "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics* 70, 1: 65-94.

Sen, Amartya (2015). "Universal Healthcare: The Affordable Dream." *The Guardian*, 6 January.

_____ (1999). *Development as Freedom*. New York: Oxford University Press.

_____ (1997). "Editorial: Human Capital and Human Capability." *World Development* 25, no. 12, pp. 1959-1961.

Statistics Bureau of Japan (2012). *Japan Statistical Yearbook*. Available at: www.stat.go.jp/english.

Teerawichitchainan, Bussarawan, John Knodel and Wiraporn Pothisiri (2015). "What Does Living Alone Really Mean for Older Persons? A Comparative Study of Myanmar, Vietnam, and Thailand." *Demographic Research* 32 (June): 1329-1360.

Thow, Anne-Marie, Christine Quested, Lisa Juventin, Russ Kun, A. Nisha Khan and Boyd Swinburn (2011). "Taxing Soft Drinks in the Pacific: Implementation Lessons for Improving Health." *Health Promotion International* 26, 1: 55-64.

Ticona Gonzales, Marcelo (2011). "The Dignity Pension (Renta Dignidad): A Universal Old-Age Pension Scheme." In UNDP, *Sharing Innovative Experiences, Successful Social Protection Floor Experiences* 18, New York.

Tomassini, Cecilia, Karen Glaser, Douglas A. Wolf, Marjolein I. Broese van Groenou Vrije, Emily Grundy (2004). "Living Arrangements Among Older People: An Overview of Trends in Europe and the USA." *Population Trends* 115 (Spring). Office for National Statistics, London, United Kingdom.

UNAIDS. (2015). "Investing for Results: How Asia Pacific Countries Can Invest For Ending AIDS." UNAIDS, Bangalore.

United Nations Department of Economic and Social Affairs (DESA) (2015). *World Population Prospects: The 2015 Revision*. New York: United Nations.

_____ (2013a). *World Population Ageing 2013*. New York: United Nations.

_____ (2013b). *National Transfer Accounts Manual: Measuring and Analysing the Generational Economy*. New York: United Nations.

_____ (2012). *World Population Prospects: The 2012 Revision*. New York: United Nations.

_____ (2000). *Replacement Migration: Is It a Solution to Declining and Ageing Populations?* New York: United Nations.

United Nations Economic Commission for Europe (2015). *Road Map for Mainstreaming Ageing in Georgia*. Geneva: ECE.

United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (2015). "Sustainable Development Financing: Perspectives from Asia and the Pacific." Bangkok: ESCAP.

_____ (2014a). *Bridging Transport, ICT and Energy Infrastructure Gaps for Seamless Regional Connectivity*. Bangkok: ESCAP.

_____ (2014b). "Sustainable Development Financing: Perspectives from Asia and the Pacific," Background paper prepared for the Asia-Pacific Outreach Meeting on Sustainable Development Financing,, 10-11 June, Jakarta.

ESCAP (2012). *Disability at a Glance*. Bangkok: ESCAP.

_____ Online Statistical Database. Available at: www.unescap.org

United Nations Educational, Scientific and Cultural Organization (1992). *The Changing Family in Asia*. Bangkok: UNESCO.

Vogt, Gabriele (2010). "Social Capital in Japan's Aging Society." *Weiterbildung älterer Menschen im demografischen Wandel – Internationale Perspektiven und Lernwege*. Bonn: Deutsches Institut für Erwachsenenbildung.

Wallace, Paul (1999). *Agequake: Riding the Demographic Rollercoaster Shaking Business, Finance and our World.* London: Nicholas Brealey.

Weiss, Robert, Scott A. Bass, Harley K. Heimovitz and Masato Oka (2005). "Japan's Silver Human Resource Centers and Participant Well-Being." *Journal of Cross-Cultural Gerontology* 20, 1 (March): 47-66.

Williamson, John and Masa Higo (2007b). "Older Workers: Lessons from Japan." Center for Retirement Research at Boston College (June).

Williamson, John and Masa Higo (2007a). "Why Do Japanese Workers Remain in the Labor Force so Long?" Center for Retirement Research at Boston College (May).

Whyte, Martin King (2004). "Filial Obligations in Chinese Families: Paradoxes of Modernization." In Charlotte Ikels (ed.), *Filial Piety: Practice and Discourse in Contemporary East Asia*. Stanford: Stanford University Press.

Wong, Edward (2015). "A Chinese Virtue is now the Law." *New York Times*, 2 July.

World Bank (2013). *Capital for the Future: Saving and Investment in an Interdependent World*. Washington, D.C.: World Bank.

_____ (2011). *Securing the Present, Shaping the Future: East Asia and Pacific Economic Update 2011*, Volume 1. Washington, D.C.: World Bank.

_____ (2010). *Long-Term Care Policies for Older Populations in new EU Member States and Croatia: Challenges and Opportunities*. Washington, D.C.: World Bank.

World Bank (2008). "The World Bank Pension Conceptual Framework." Pension Reform Primer, Washington, D.C.

World Bank (1994). *Averting the Old Age Crisis*. New York: Oxford University Press.

_____ (1993). *The East Asian Miracle: Economic Growth and Public Policy*. Washington, D.C.: World Bank/Oxford University Press.

_____ World Bank Indicators. Available at: data.worldbank.org/data-catalog/world-development-indicators.

World Health Organization (2014). *Global Status Report on Non-Communicable Diseases*. Geneva: WHO.

_____ (2012). *Tobacco Taxation and Innovative Health-care Financing*. New Delhi: WHO Regional Office for South-East Asia.

_____ (2009). *Health Financing Strategy for the Asia Pacific Region*: 2010-2015. Geneva: WHO.

_____ Global Health Observatory Data Repository. Available at: www.who.int.

_____ National Health Account Database. Available at: www.who.int.

World Health Organization and World Bank (2011). *World Report on Disability*. Geneva: WHO.

World Values Survey (2015). *Results of Wave 6, 2010-2014*. Aberdeen: World Values Survey Association. Available at: www.worldvaluessurvey.org.

Wu Li, Hui Chen, Yang Hu, Huiyun Xiang, Xiang Yu, Tao Zhang, Zhongqiang Cao and Youjie Wang (2012). "Prevalence and Associated Factors of Elder Mistreatment in a Rural Community in People's Republic of China: A Cross-Sectional Study." *PLoS ONE* 7, 3 (March): e33857.

Yan, Elsie and Catherine So-Kum Tang (2001). "Prevalence and Psychological Impact of Chinese Elder Abuse." *Journal Interpersonal Violence* 16, 11 (November): 1158-1174.

Yeung, Wei-Jun Jean and Adam Ka-Lok Cheung (2015). "Living Alone: One-Person Households in Asia." *Demographic Research* 32 (June): 1099-1112.

Yip, Paul, B.K. So, K.F. Lam and Stuart Basten (2013). "Modeling the Possible Impact of Pronatalist Policy Interventions in Hong Kong." Oxford Centre for Population Research Working Paper No. 66, University of Oxford.

Zimny, Zbigniew (2011). "Foreign Direct Investment in Health Services." Background paper prepared for the United Nations Committee on Trade and Development, 18 December 2011, Warsaw.