

## International Patterns of Pension Provision II

A Worldwide Overview of Facts and Figures

Montserrat Pallares-Miralles, Carolina Romero,  
and Edward Whitehouse



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**Abstract:** This paper presents and explains cross country data for mandatory publicly and privately managed pension systems around the world. Relevant World Bank demographic projections and other indicators previously reported in “International Patterns of Pension Provision” (2000) are updated, and relationships between key indicators are highlighted.

Selected data are available as retrievable spreadsheets in the World Bank Pensions website at <http://www.worldbank.org/pensions>.

**JEL Classification:** O15, O17, and E61

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## INTRODUCTION

For more than a decade, the World Bank has compiled and maintained a database on pension systems around the world. The process of collecting data began in the early 1990s when the Bank's first major research volume on the subject was published.<sup>1</sup> Subsequently, expanding World Bank lending and technical assistance on pensions resulted in the collection of additional information, particularly in Eastern Europe and Latin America. These data, along with related demographic projections, were published in the form of a working paper by Palacios and Pallares (2000). In addition to providing more recent data, this update includes new and standardized information on system parameters. The aim of this document is to capture much of the relevant cross-country information and indicators. This is intended to provide decision makers with a general view of the current patterns of pension provision worldwide to support their efforts to develop well-informed frameworks for implementing and/or reforming pension systems. Important relationships between key pension indicators and country characteristics are highlighted. In some cases, statistical relationships presented in earlier work are updated using more recent data and expanded samples.

Several important observations emerge when looking back at the last decade:

- First, the anticipated rapid aging of several regions such as Eastern Europe has accelerated.
- Second, the strong relationship between income level and coverage rates continues to prevail; countries have not been able to increase contributory scheme coverage to levels significantly above those predicted by their income level.
- Third, perhaps related to the lack of progress in this area, many countries have added or expanded programs that provide cash transfers to the elderly, regardless of past contributions.
- Fourth, the pace of pension reform has increased in the last two decades, in particular, the spread of mandated, individual account schemes.

The rest of this section explains how the paper is organized.

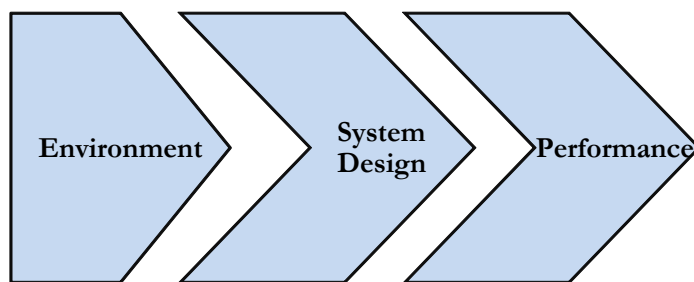
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<sup>1</sup> World Bank (1994).

## ORGANIZATION

This report is organized into three parts corresponding to three broad types of indicators. These indicators relate to (i) the relevant contextual factors referred to here as *environment* (ii) *pension system design* parameters and (iii) indicators of *performance*. Figure 1 summarizes the three sets of interrelated indicators.

**Figure 1: Organizational framework<sup>2</sup>**



**Part I** of the report provides some information on the *environment* in which the system operates, focusing on demographic and labor market conditions. Understanding the current and future path of demographic patterns, especially aging, will place the later section on performance into a clearer perspective.

**Part II** on *pension system design* uses a standardized taxonomy to describe differences across countries. The data on system design are presented in two groups of indicators: (i) overall architecture of the system: pillars, schemes including civil servants and other special schemes, and (ii) operating parameters of the system, which includes two sub-groups: a) qualifying conditions: pension eligibility ages, and contribution history, and b) contribution rates, defined benefit (DB), and defined contribution (DC) schemes, and indexation. It should be noted that while many countries have more than one program providing retirement income benefits, unless otherwise indicated, most of the data refer only to the national scheme.

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<sup>2</sup> For a full discussion of the indicators, see Primer Indicators Notes at [www.worldbank.org/pensions](http://www.worldbank.org/pensions).

**Part III** presents a set of *performance* indicators. The indicators included are core pension indicators that illustrate six key criteria of any pension scheme, namely, (i) coverage (ii) adequacy (iii) financial sustainability (iv) economic efficiency (i.e., minimizing the distortions of the retirement-income system on individuals' behavior, such as labor supply and savings outside of pension plans), (v) administrative efficiency and (vi) security of benefits in the face of different risks and uncertainties.

For several indicators, data is not available for most non-OECD countries. An ongoing effort is being made to fill this gap in the database.

The report includes five annexes. Annex I provides the country classification. Annex II presents population aging projections by country. Annex III presents regional tables with specific country information. Annex IV presents a list of references. Annex V provides a glossary of pension terminology.

## **PART I. ENVIRONMENT - DEMOGRAPHIC AND LABOR MARKET**

The demographic and labor market environment in which a pension system is established and operates will determine many of its salient characteristics. The environment will also exert a strong influence on the objectives of the program and to a significant degree, the outcomes that the system is able to achieve. It is important to note that causation also runs from the design and performance of the system to the labor market environment in which it operates. For example, labor force participation rates among the elderly (in part I of this section) are critically determined by the pension system (part II, and III), and demographics (part I) are, to some extent, endogenous to such policies as well.

This section provides descriptive information on demographics and labor markets for indicators shown in Table 1. Although not included here, standard indicators of public spending, deficits and debt provide important contextual information for pension policy. Table 1 below summarizes the indicators that are presented in this section.<sup>3</sup> Box 1 discusses some of these key indicators.

**Table 1: Environment indicators**

<b>DEMOGRAPHIC INDICATORS</b>
Fertility rates
Life expectancies (at birth, at ages 60 and 65)
Old-age dependency ratios
Co-residence rates of the elderly
<b>LABOR MARKET INDICATORS</b>
Labor force participation rates of working age population
Labor force participating rates among those older than 65
Share of labor force in agriculture
<b>FISCAL INDICATORS</b>
Public debt as share of GDP
Government expenditure as share of GDP
Public deficit as share of GDP

<sup>3</sup> Primary and secondary sources for most of the information and data are provided, and documented throughout the report. Primary (direct) sources include: 1) administrative data from national social security and statistical institutions, which includes a) annual, and other published reports, and b) periodic reports, and 2) household and labor force surveys at the national level. Secondary sources (compiled), refer to those from international institutions: ADB (Asian Development Bank), ILO (International Labour Organization), IMF (International Monetary Fund), ISSA /SSA (International Social Security Administration / Social Security Administration US), OECD (Organization for Economic Co-operation and Development), and WHO (World Health Organization).

### **Box 1 - Main Trends - DEMOGRAPHIC and LABOR MARKET INDICATORS**

**The population of older people worldwide is increasing dramatically.** Fertility rates have decreased and life expectancies keep increasing in almost every country. There were only 200 million people over 60 in 1950. There are currently around 600 million in this age group, which is projected to reach 2 billion by 2050, of which 1.5 billion will be over 65 years of age. The proportion of elderly in the developed world is higher than in low and middle-income countries, however, the overall number of elderly is much greater in the developing world. Almost 70 percent of all population aged 65 or older is living today in low and middle-income economies and this percentage is expected to increase to more than 88 percent by 2040.

**Labor-force participation rates are an important determinant of the potential base of contributors to mandatory pension systems.** Countries that have highly informal labor markets also have low contributory pension coverage, and economic activities that are less amenable to formalization are harder to cover. Self-employment and agriculture usually exhibit low coverage in developing countries. On the other hand, the participation of the public sector in the economy positively correlates to mandatory social security coverage across countries.

**Pensions and social security programs have greatly affected the labor force participation of the elderly over the years.** Elderly in developed and high-income-OECD have the lowest participation rates. In countries where coverage is high, the labor force participation rate of the elderly is lower.

### **Demographic indicators**

The world will substantially age in the decades to come. While aging is already well advanced in the rich and developed economies, the most dramatic aging is projected to take place in low and middle-income countries. Furthermore, the rate of population aging is accelerating and can be anticipated to proceed at an increasing rate given the continuing rapid increases in life expectancy in virtually all countries. The rate of increase in life expectancy has consistently exceeded previous projections in most settings.

Demographic distributions are a function of the patterns of fertility, mortality, and migration in each country. Most countries with the exception of those severely affected by HIV-AIDS, and-or conflict, have experienced continuous increases in average life expectancy. Most middle and high-income countries have experienced considerable declines in their fertility rates in recent decades. Trends in these factors will determine the future age distribution of populations that are central to the long term dynamics and financial viability of a pension system. Information on rates of fertility, life expectancy at birth, and life expectancy at older attained ages (age 60 and 65 which are typically the normal age of eligibility for benefit



receipt), are the most relevant indicators for the analysis of pension systems and are presented in the following tables and graphs. To provide an overall perspective on demographic changes, some historical information as well as the latest population forecasts to 2050 is provided as well (see Annex II).

Demographics have a direct impact on pension systems via the potential number of contributors and pensioners. *Fertility* has a direct impact on the number of workers which determines both the potential contributors to the systems at any point in time as well as the number of people eligible in the future to receive benefits. Increasing *life expectancy* implies that pensions are paid for longer periods. This is central to determining the ratio of contributors to beneficiaries which is a primary determinant of the financial balances within a system. *Migration also has an impact, although normally smaller depending* on the magnitude and age structure of the migrants. In some cases, migration patterns can also have a major impact.

According to the latest UN projections the share of elderly (65+) in the developed countries is projected to increase from 15.3 percent (2005) to 26.1 percent (2050), representing an increase of more than two-thirds. In the less developed countries, the proportional increase is even greater with nearly a three-fold increase in the share of the elderly population, from 5.5 percent (2005) to 14.7 percent (2050).

These figures indicate that low-income countries will reach the current demographic aging level of high-income countries within the next 45 years. The projected changes for very elderly (80+) are even more dramatic: for the more developed regions this figure increases from 3.7 percent (2005) to 9.4 percent (2050) while the figure for the less developed regions increases from 0.8 percent (2005) to 3.6 percent (2050). Underlying these proportional increases are more dramatic changes in the absolute number of elderly in low-income countries. By 2050, of the 1.5 billion projected elderly in the World's, nearly 80% or 1.2 billion will live in what are now the less developed regions.

## Organization of the demographic data

For cross-country comparison purposes, country data are organized and presented on the basis of income levels using gross national income (GNI) per capita. Using GNI per capita, each economy is classified as low-income, middle-income (subdivided into lower middle and upper middle), or high-income.<sup>4</sup> Historical and projected population data are presented for all World Bank member countries, plus all other economies with populations of more than 30,000. Overall data is shown for 210 countries.

Although data are also reported for geographic regions, only low-income and middle-income economies are included in the regions unless otherwise indicated. High-income OECD countries are also classified as a group. Low-income and middle-income economies are also referred to as developing economies. Population projection tables provide demographic projections, and other related information for most countries.

Population numbers are taken from World Bank estimates for mid-year population using a definition that counts all residents regardless of legal status or citizenship.<sup>5</sup> Population numbers are either current census data or historical census data extrapolated through demographic projection models. The average annual growth rate is computed from end-point data using an exponential growth model.<sup>6</sup>

Other important considerations on sources and definitions are as follows: although in some circumstances the broader population dependency ratio is defined as the ratio of persons younger than 15 combined with those older than 64 to the working-age population (persons age 15-64), the dependency ratios presented in this paper refer to the ratio more relevant to

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<sup>4</sup> See Annex I for groups of economies. Notes: Income classifications are in effect until 1 July 2010. These official analytical classifications are fixed during the World Bank's fiscal year (ending on 30 June), thus countries remain in the categories in which they are classified irrespective of any revisions to their per capita income data. Taiwan, China is also included in high-income.

<sup>5</sup> Refugees not permanently settled in the country of asylum are generally considered to be part of the population of their country of origin.

<sup>6</sup> The equation is  $r = \ln(p_n/p_1)/n$  where  $p_n$  and  $p_1$  are the last and first observations in the period,  $n$  is the number of years in the period, and  $\ln$  is the natural logarithm operator.

pension systems, which is the proportion of old age dependents (those older than 64) –to the working –age population (aged 15-64) presented as a percentage. Birth and death rates indicate the number of live births and the number of deaths occurring per year per 1,000 of midyear population. The difference between birth and death rates is the rate of natural change in population (expressed as the number per 100 of overall population). Total fertility rate indicates the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with prevailing age-specific fertility rates. Net reproduction rate (which measures the number of daughters a woman will bear during her lifetime, assuming fixed age-specific fertility and mortality rates) reflects the extent to which a cohort of girls will reproduce themselves.

Life expectancy at birth<sup>7</sup> indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of birth were to remain constant. Life expectancy at old age (ages 60, and 65) indicates the number of years a 60 or 65 year-old is expected to live on reaching these ages.

### **Geographic distribution of the elderly**

Using these definitions, Tables 2 and 3 below show the total population of elderly and percentage of those over 65 years of age, by region (using the World Bank definition of regions) as well the same age range for high-income OECD countries. Almost 70 percent of all persons currently age 65 or older live in developing countries (low and middle-income economies). This percentage has been increasing and this trend will continue. By the year 2040, more than 88 percent of the elderly are projected to live in developing countries.

Only around 31 percent of all people in the world that are 65 years old or older live in high-income OECD countries. Almost 45 percent of all those 65 or older in the world live in Asia,

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<sup>7</sup> For pension analysis purposes, careful consideration should be given between life expectancy at birth, and life expectancy at each other age, particularly at retirement age. See part II for data on life expectancy at retirement ages in various countries. For instance in the US average life expectancy at birth is about 78 years (75 for men and 81 for women), according to the National Center for Health Statistics, however, conditional on reaching age 65, the average life expectancy rises to 82 for men and 85 for women.

approximately 30 percent are in East Asia and the Pacific, and 14 percent in the South Asia region.

**Table 2: Distribution of the old by region**

Region	Number of countries	Total Population	Population over 65 years old	Pop. over 65, share of total population within the region	Pop. over 65 years old, share of total elderly population
High Income: OECD	24	896,778,478	145,697,438	16 %	29 %
East Asia & Pacific	33	2,016,289,866	146,511,681	7 %	30 %
Europe & Central Asia	38	476,415,468	54,946,776	12 %	11 %
Latin America & Caribbean	39	571,789,102	37,926,414	7 %	8 %
Middle East & North Africa	20	339,099,485	15,005,281	4 %	3 %
South Asia	8	1,515,737,108	69,892,902	5 %	14 %
Sub-Saharan Africa	48	818,616,194	25,423,113	3 %	5 %
Total	210	6,634,725,701	495,403,605	9 %	100 %

*Source: World Development Indicators (WDI), World Bank, author's calculations*

The population over 65 years old represents less than 5 percent of the population in the Middle East and North Africa, South Asia and Sub-Saharan Africa and 7 per cent in East Asia and Latin America. At the same time, more than 50 percent of the elderly live in low and lower middle-income countries and less than a third of all elderly in the world live in high-income OECD countries. Around 9 percent of the total population in the world is currently above the age of 65. As indicated in population projections, this percentage is increasing rapidly.

**Table 3: Distribution of the elderly by income group**

Income group	Number of countries	Total Population	Population over 65 years old	Pop. over 65 as percentage of total population within the group	Pop. over 65 years old as percentage of total elderly population
Low-income	43	945,626,882	35,675,525	4 %	7 %
Lower middle-income	54	3,672,119,024	222,426,227	6 %	45 %
Upper middle-income	46	948,454,298	77,470,705	8 %	16 %
High-income	67	1,068,525,497	159,831,148	15 %	32 %
<b>Total</b>	<b>210</b>	<b>6,634,725,701</b>	<b>495,403,605</b>	<b>9 %</b>	<b>100 %</b>

*Source: World Development Indicators (WDI), World Bank, author's calculations*

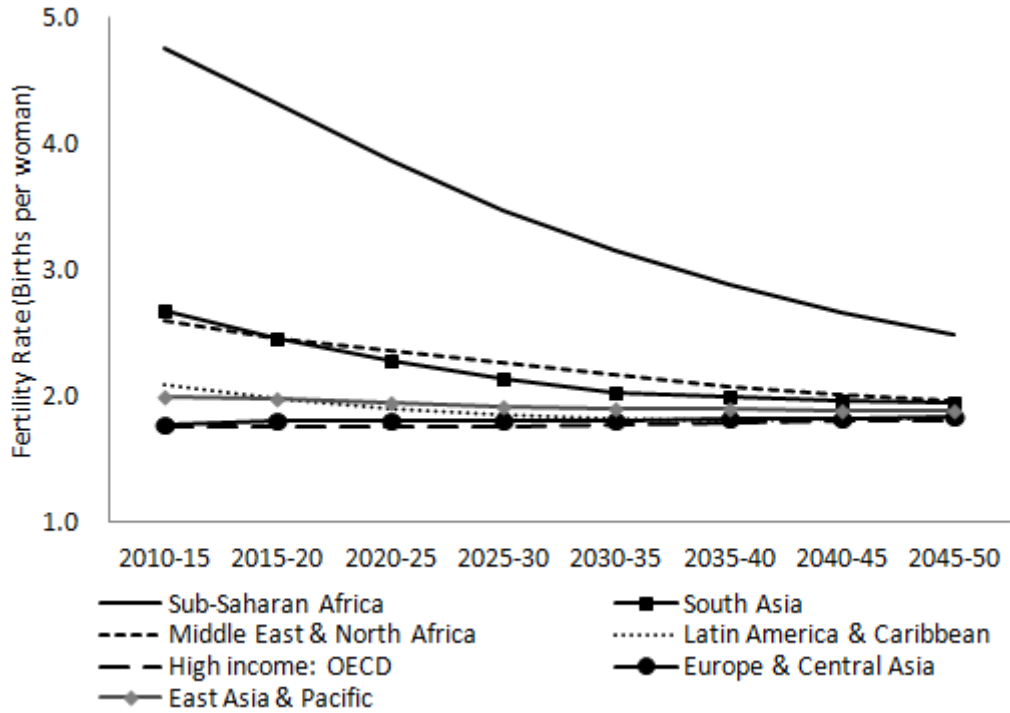
### Projected fertility rates

Figures 2a and 2b below indicate the weighted average projected fertility rates by region, and by country income group. Sub-Saharan Africa has the highest fertility rate in the world, although this is projected to gradually decrease in the future. When looking at specific countries, most of those with the highest fertility rates are located in Sub-Saharan Africa. However there are countries in South and East Asia, as well as in Middle East and North Africa, and a few in Latin America that have among the highest fertility rates in the world. In 2010, the countries with the highest fertility rates were Niger and Timor-Leste, where women had on average 8 children.

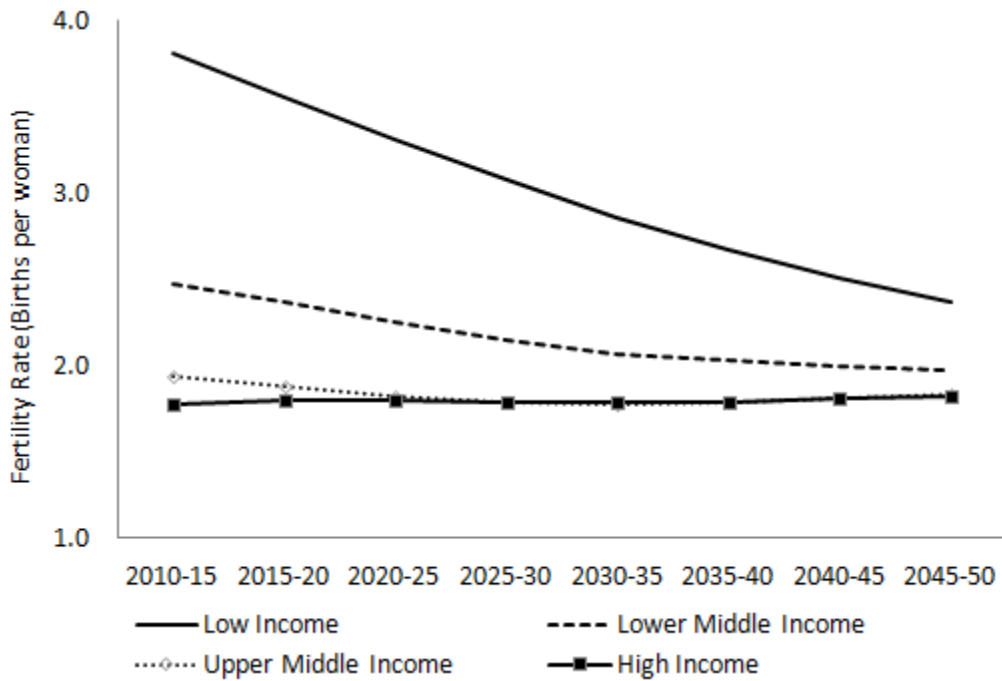
In contrast, Eastern Europe and Central Asia have the lowest fertility rates, below even the historically low and falling rates of the high-income OECD countries.

Japan is ageing faster than any other country and has already begun to experience an absolute decline in its workforce. This will accelerate to the point that the working-age population will shrink so quickly that by 2050 it will be smaller than it was in 1950, at which time four out of ten Japanese people will be over the age of 65.

**Figure 2: Projected fertility rates, 2010-2050 (by region and income group)**



Source: World Bank Statistics



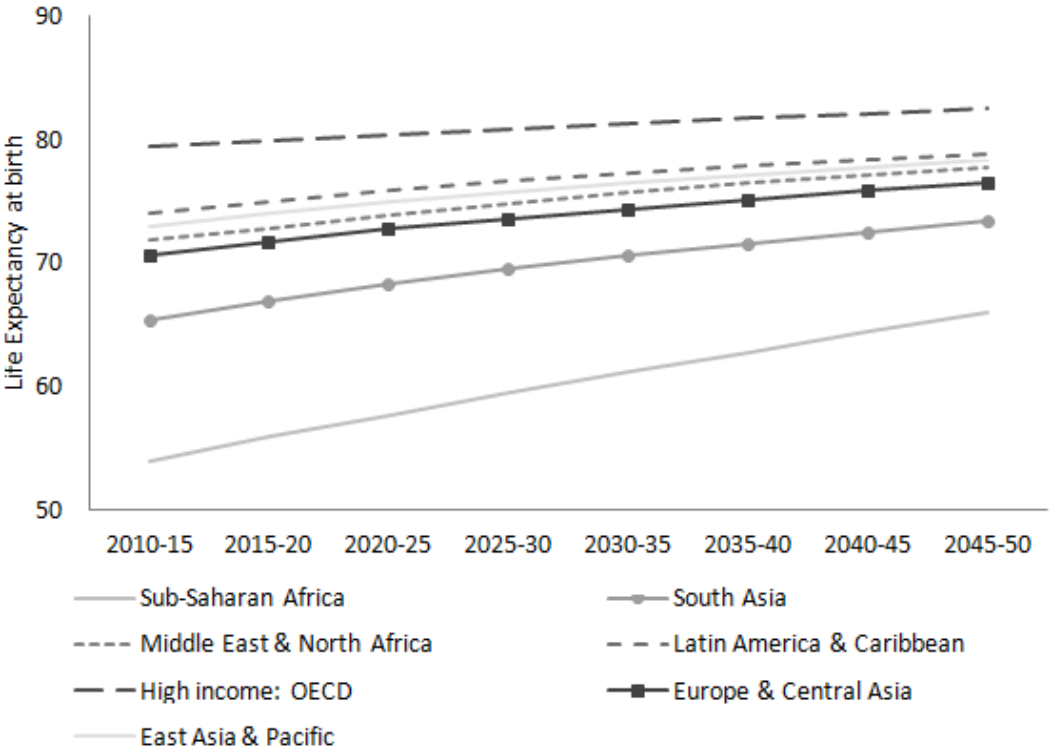
Source: World Bank Statistics

**Projected life expectancy**

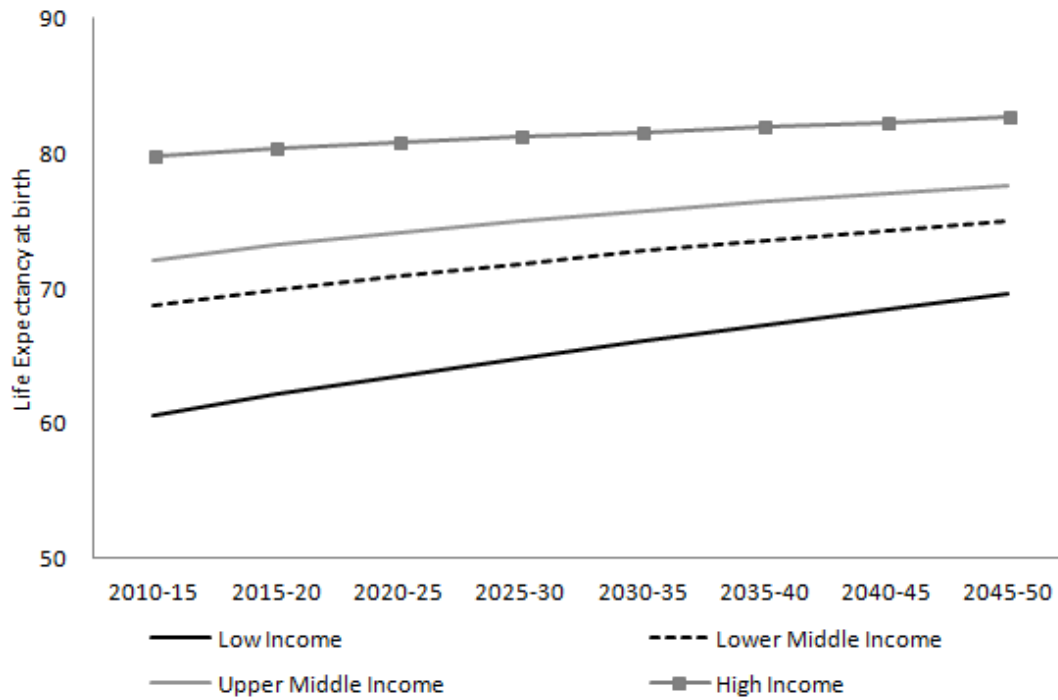
As shown in Figure 3, Sub-Saharan Africa has the lowest current life expectancy among regions. The highest life expectancy is found in high-income OECD countries, followed by Latin America and the Caribbean and East Asia and Pacific. From the perspective of a pension system, however, life expectancy at birth is not the most relevant indicator since it is strongly influenced by rates of infant mortality in low-income countries. A more meaningful measure for the sustainability and financial balance of pension systems is life expectancy of adults and especially at retirement age.

Figure 4 shows the increase in the average life expectancy at age 60 since the mid-1990s. High-income OECD countries have the highest life expectancies among those who have reached old age. The East Asia and the Pacific and Latin America and the Caribbean regions show the greatest increases.

**Figure 3: Projected life expectancy at birth, 2010-2050 (by region and income group)**

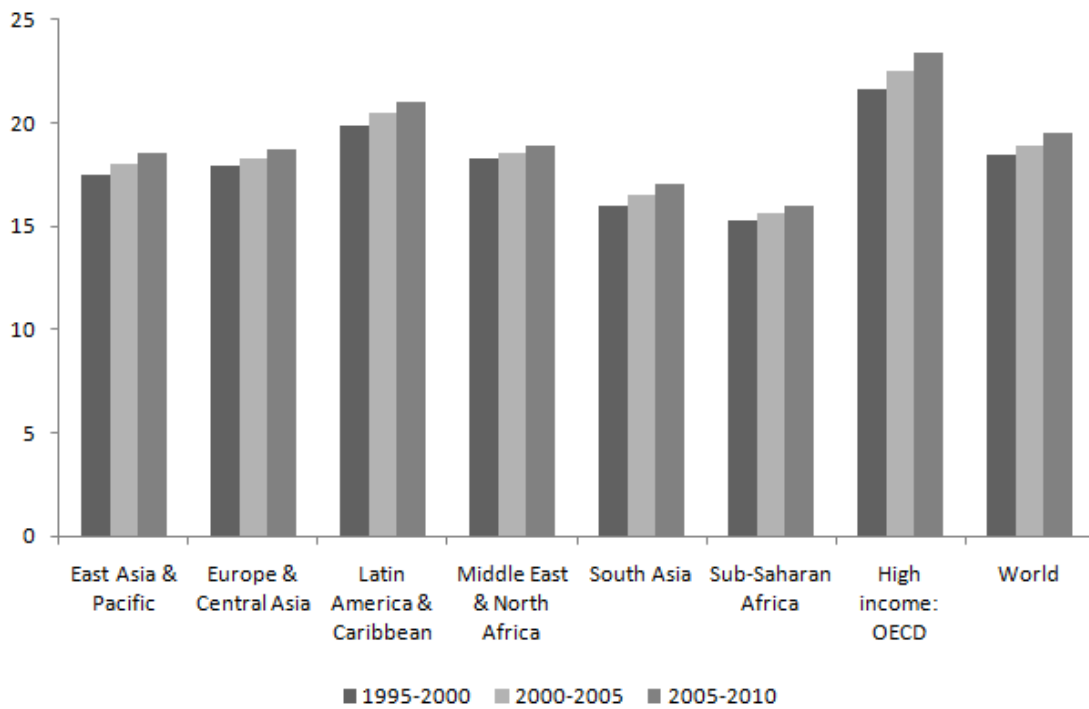


Source: World Bank-UN population department Statistics



Source: World Bank-UN population department Statistics

**Figure 4: Life expectancy at 60, 1995-2010 (by region)**



Source: United Nations, Population Division

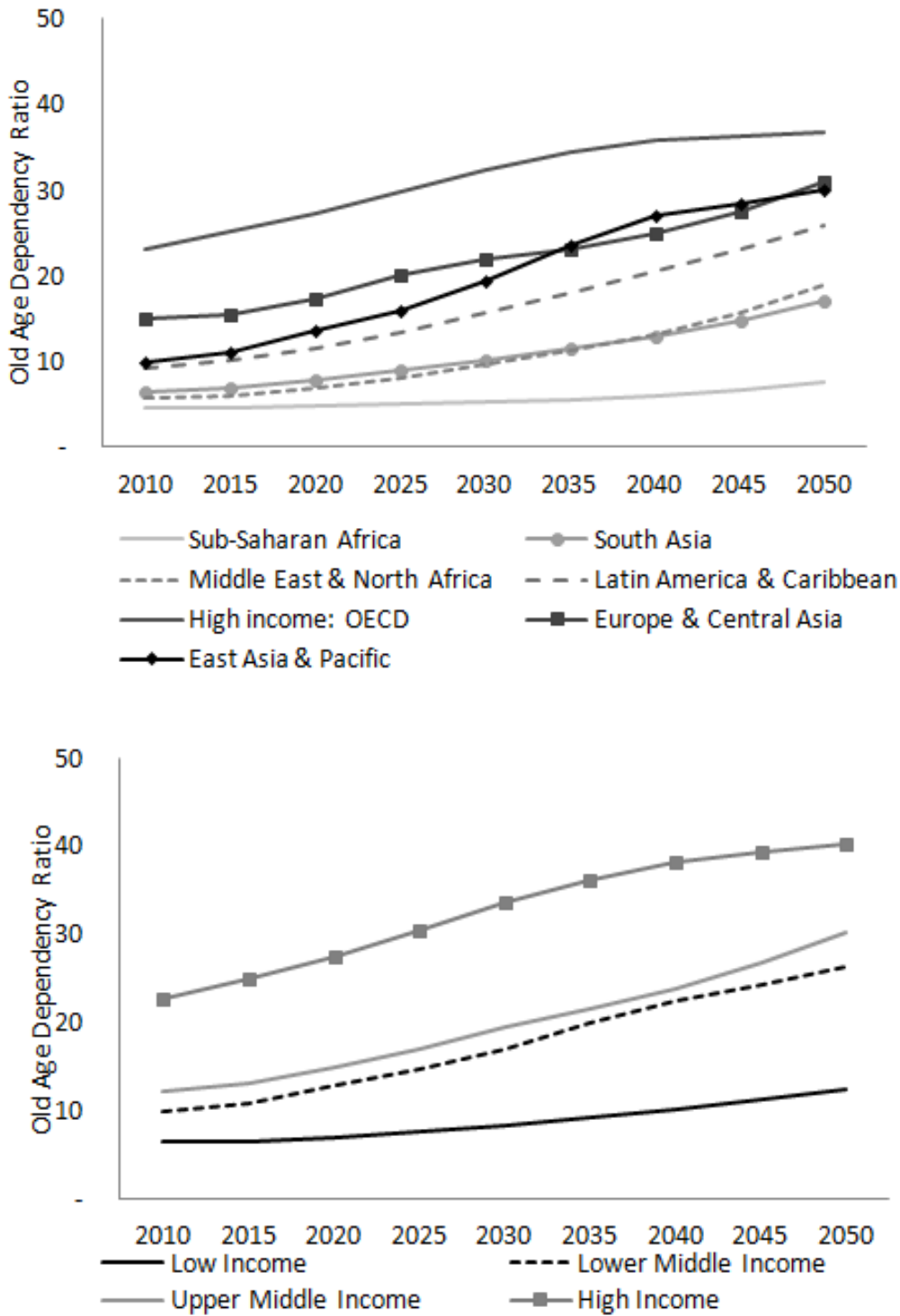


## **Projected old age dependency rates**

The net impact of the changes in fertility and life expectancy trends on the proportion of the population that is elderly provides the most meaningful measure of the influence of demographic changes on social insurance and other types of pension systems. Figure 5 below illustrates, for the period 2010 through 2050, the projected old age dependency ratio by region, and income group as well as the percentage of people aged 65 years or older.

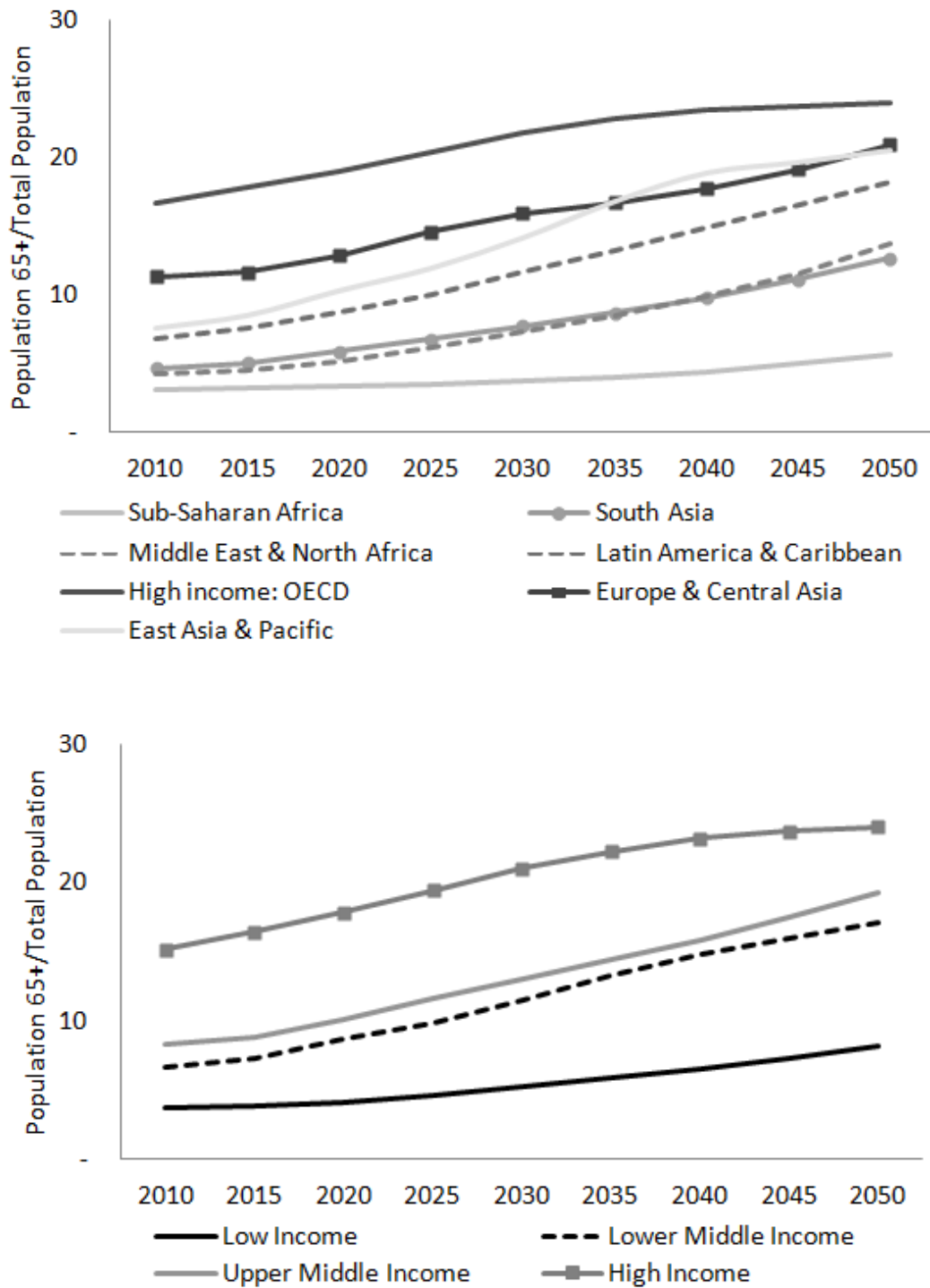
As suggested by the high and increasing life expectancy rates in recent years that are shown above, the Middle East and North Africa and Eastern Europe and Central Asia regions will experience the most rapid increases in the proportion of their population that is elderly. Asia, beginning at a currently very low dependency ratio, will also increase at a rapid pace, heavily influenced by China, which has already begun the transition to aging in large part as a result of the one child family policies implemented beginning in the 1970's. Despite these variations, as shown in the trends by country income level, there remains a strong relationship of old age dependency rates and per capita income levels. Old age dependency rates in higher income countries are projected to remain at levels more than double those of lower income countries.

**Figure 5: Old age dependency ratio (ages 65+/ 15-64), 2010-2050  
(by region and income group)**



Source: World Bank Statistics

**Figure 6: Population over 65 as percentage of total population, 2010-2050 (by region and income group)**



Source: World Bank Statistics

## **Labor market indicators<sup>8</sup>**

The size of the labor-force determines the potential base of contributors to the pension system and establishes future cohorts of beneficiaries. On the other hand, the size of the active labor-force is also influenced by the pension system (see Box 1 in previous section).

The most basic measure is the labor force participation rate that indicates the proportion of a country's working-age population actively engaged in the labor market (either by working or looking for work). This provides an indication of the supply of labor available to engage in the production of goods and services. The breakdown of the labor force by sex and age group gives a profile of the distribution of the economically active population within a country.

Contributory pension systems link pensions to the labor markets through payroll tax financing. Countries that have high proportions of informality also tend to have low rates of pension coverage because it is more difficult to enforce participation mandates or provides meaningful incentives to induce coverage in these settings. The self-employed, farmers and other informal sector workers usually exhibit low coverage rates in developing countries and therefore social security coverage tends to be low in countries in which these sectors represent an important part of the economy. Conversely, coverage is high in the public sector and therefore the relative proportion of the public sector in the economy positively correlates with social security coverage across countries (see Part III – Performance Indicators).

### **Organization of labor market data**

When making cross-country comparisons of labor force data, careful consideration should be given to definitions and methodological differences across countries. Country-reported labor force participation rates are derived from several types of survey data including

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<sup>8</sup> Source: ILO unless otherwise indicated

labor force surveys, population censuses, establishment surveys, insurance records or official government estimates. Data taken from different survey types are often not comparable.

Some other relevant sources of non-comparability include: a) geographic coverage, and the exclusion or inclusion of rural areas in labor force definitions, b) the different ways in which ‘family workers’ are considered to be a part of labor force, c) different treatment of the unemployed who are not looking for work, d) differences in age categories that are used in measuring the economically active population; e) different treatment of emigrants, and f) different ways of defining “informal labor force”.

Some countries include in their definition of labor force only specific geographical areas. An important example of this is that some include the rural sector in the labor force while others do not.<sup>9</sup>

Non-comparability of labor force statistics also arises from differences in age group categories. The standard age-groupings used in the ILO Database are 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64 and 65+. Some countries however report the data using other age groupings.

The source of the labor force participation rates included in this report (unless otherwise indicated) are the data maintained by the ILO (2010). Taking the non-comparability issues into account, the ILO uses some criteria to select nationally-reported labor force participation rates. These selection criteria include the following:

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<sup>9</sup> There is an additional challenge to comparability of data among different countries when using the term rural vs. urban. The term “urban agglomeration” refers to the population contained within the contours of a contiguous territory in-habited at urban density levels without regard to administrative boundaries. It usually incorporates the population in a city or town plus that in the suburban areas lying outside of but being adjacent to the city boundaries. Whenever possible, the UN data on this are classified according to the concept of urban agglomeration. However, some countries do not produce data according to the concept of urban agglomeration but use instead that of metropolitan area or city proper.

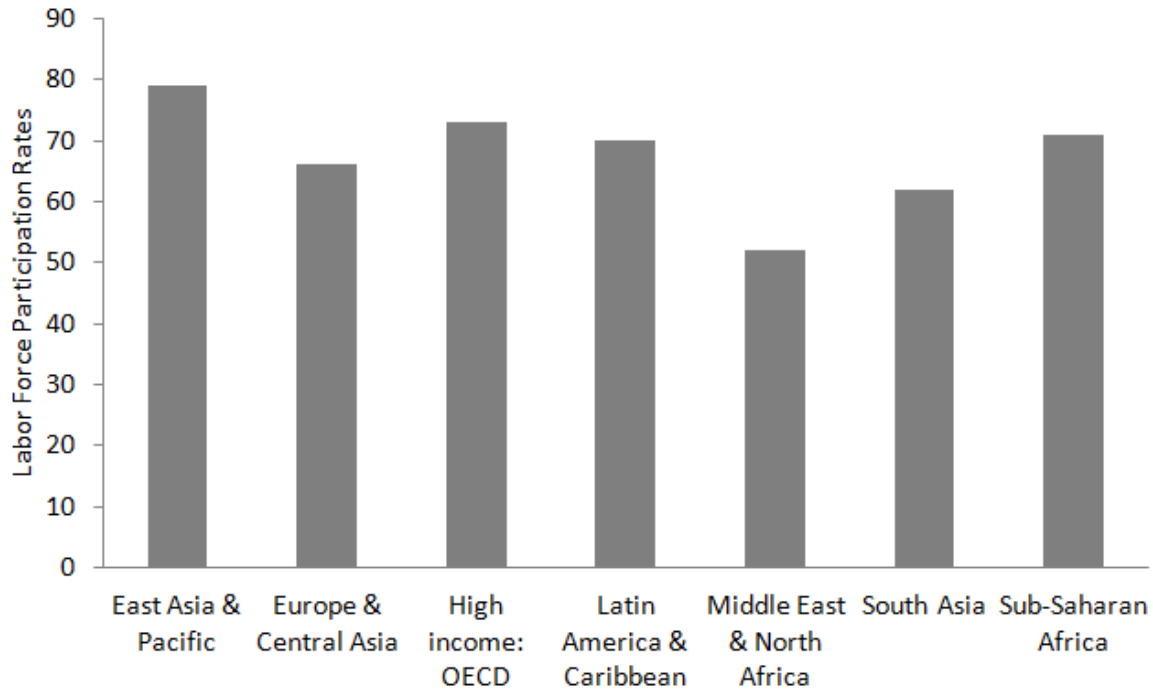
- i) Data must be derived from either a labor force survey or population census, and population census data are included only if no labor force survey data exist for a given country. Labor force surveys are the most comprehensive source for internationally comparable labor force data. National labor force surveys are typically very similar across countries, and the data derived from these surveys are generally much more comparable than data obtained from other sources.
- ii) Only data corresponding to the 11 standardized age-groups (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64 and 65+) are considered. The inclusion of data corresponding to age-groups other than those listed above could result in a less comparable dataset. Therefore only data from these 11 standard age groupings were included.
- iii) Only fully national (i.e. not geographically limited) labor force participation rates are included. Labor force participation rates corresponding to only urban or only rural areas are not included. This criterion is necessary due to the large differences that often exist between rural and urban labor markets.

### **Regional and income group comparisons**

East Asia and the Pacific has the highest Labor Force Participation (LFP) rate with more than 80 percent of the population aged 15-64 in the labor force. On the other hand, the Middle East and North Africa region has the lowest rate, with less than 60 percent of the population aged 15-64 is in the labor force.

Since 1980, Latin America has experienced a considerable increase relative to other regions, rising from 60 percent to almost 70 percent of the population aged 15-64 in 2010. Indeed, overall participation rates during the past ten years increased by 2.1 percentage points.

**Figure 7: Labor force participation rates (percent total population 15-64), 2006 by region**

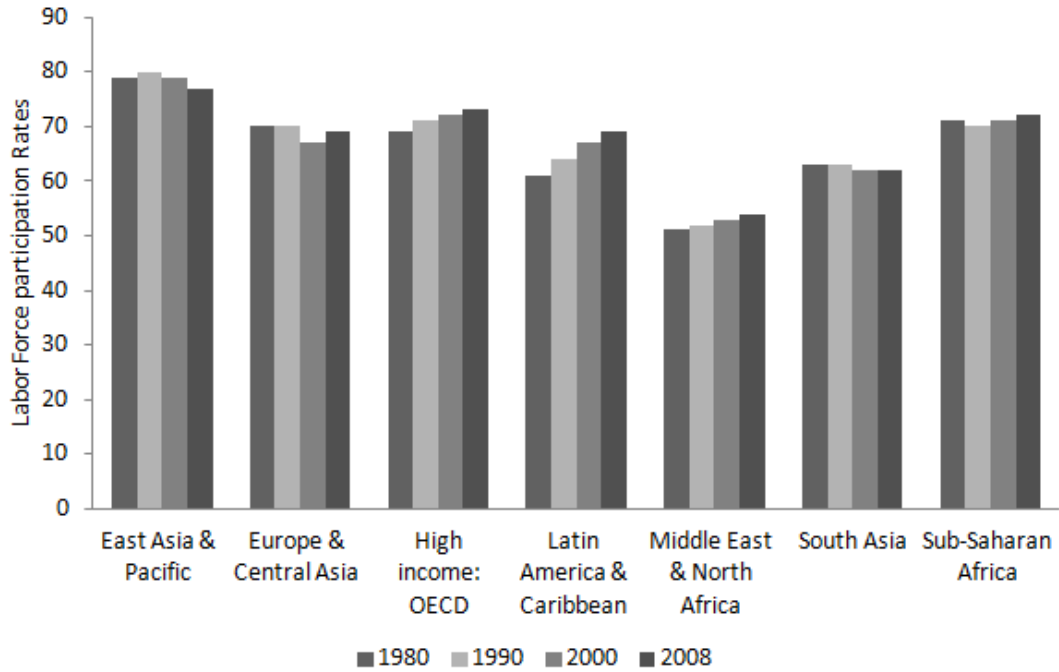


*Source: ILO*

Another region that has experienced a considerable increase in its labor force during the last few years is the Middle East and North Africa. The labor force in the high-income OECD countries has also been gradually increasing, mostly because of the rising rates of participation by women. On the other hand, rates in East Asia have been slightly decreasing in recent decades from 78 percent in 1980 to 75 percent in 2008, while the rate in South Asia have also been decreasing, from about 65 percent to 60 percent.

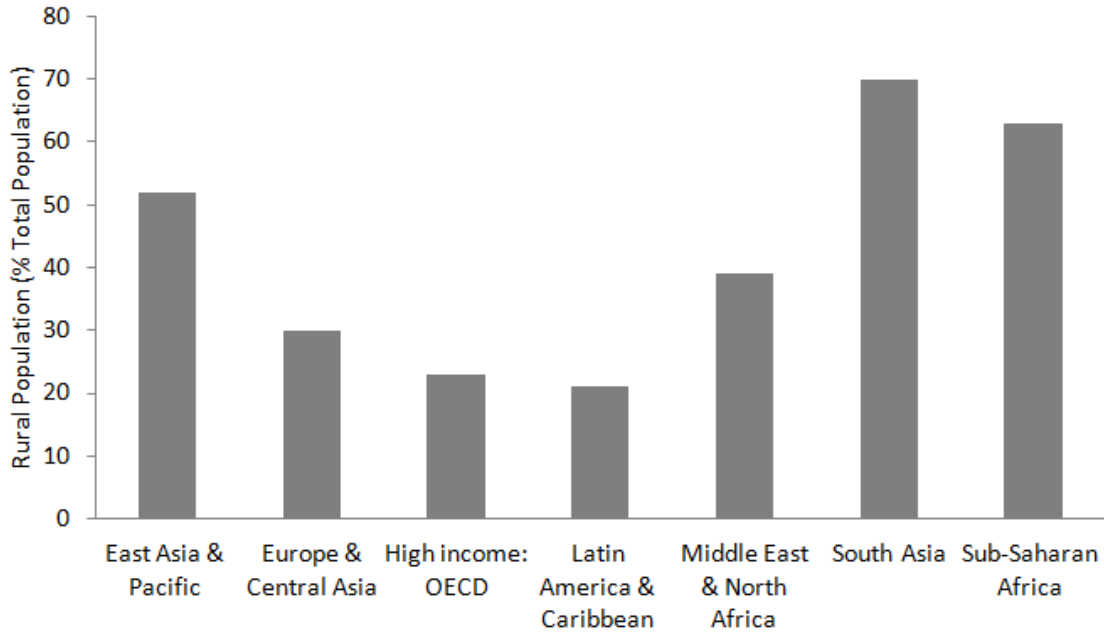
Not surprisingly, pension system coverage is correlated with the percentage of urban population. Those countries with a high percentage of rural population tend to have low coverage. As illustrated in Figure 9, South Asia and Sub-Saharan Africa have the highest percentage of rural population at more than 50 percent (these are the regions with the lowest coverage). On the other hand, the regions with the lowest rates of rural population are Latin America and the Caribbean, and the high-income OECD countries where the rural population represents less than 30 percent of the total population.

**Figure 8: Evolution of labor force participation rates by region**



Source: ILO

**Figure 9: Rural population (percentage of total), 2009 (by region)**



Source: World Bank statistics

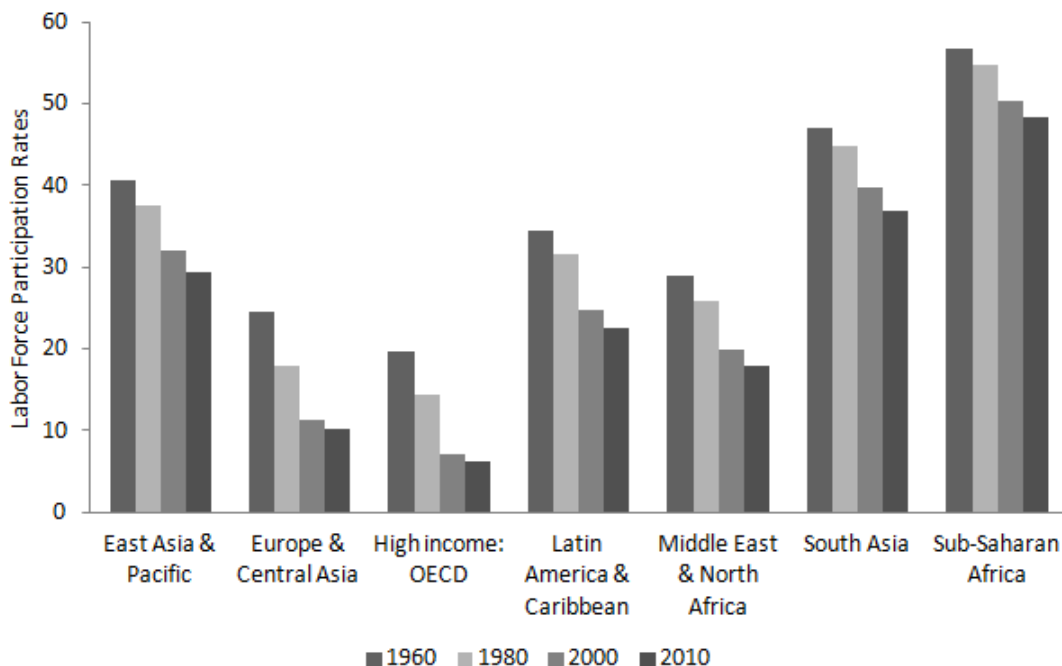


In addition to the overall rates, pensions and social security programs have influenced the labor force participation of the elderly. As shown in Figure 10, the elderly in the higher income OECD countries have the lowest labor force participation rates. Additionally, various country-analyses show that the labor force participation rate of the elderly is significantly sensitive to social security reforms (which usually would represent a decrease of benefits), reforms that have often caused the elderly to remain longer in the labor force which is often an objective of the reform both to diminish costs but also sustain economic growth in the face of projected declines in the traditional working age population.

When looking at the evolution of the labor force in old age since 1960, a considerable decrease of the labor force participation rate of those aged 65+ is observed in all regions, with Sub-Saharan Africa still exhibiting the highest rates, followed by South Asia, and East Asia. The lowest rates are found in the high-OECD countries. However, the patterns, and reasons are quite different. In most advanced countries the labor force rates among the elderly have decreased because of the prevalence of pension and social security programs that are now covering the majority of the elderly. In developing countries, older individuals with low levels of coverage generally continue to work.

Given the fact that life expectancies and legal retirement ages are increasing in most settings the downward trend in labor force participation among those over the age of 60 may be reversed. In fact, it is expected that labor force participation rates in old-age will be increasing in most countries (ILO, 2009). As illustrated in Figure 10, the difference of these rates in high-income OECD countries during the last few years (2000-2010) hardly decreased in comparison to 1980-2000.

**Figure 10: Evolution of labor force participation of aged 65+, 1960-2010 (by region)**



Source: ILO

It is important to highlight that the greatest impact of these changes for pension systems is that gains in life expectancy in conjunction with declining labor force participation have increased the number of years that elderly spend out of the labor force in developed countries. In addition, declining fertility rates throughout the industrialized world have made it difficult to replace older workers with young native-born workers. Hence, the rates of retirement and/or labor force rates in old-age are linked to issues of state spending.

Another important indicator to look at when analyzing pension systems is the gender differences in labor and employment. Women traditionally have less continuous employment than men due to the division of labor within the family. In low and middle-income countries, they typically work 40-60 percent as many years as men (James, 2009). In industrialized countries this ratio has been rising in the last two decades, but is still only 80-90 percent. In OECD countries, the gender gap is only 12 percent for women without children, but jumps to 32 percent for women with two or more children. In the transition economies of Eastern and

Central Europe female work propensities are actually declining and the gender gap is increasing. Even when women work, their work is often part-time, temporary, and is more likely to be in the informal sector, where contributions are not made to formal social security schemes. Women's coverage by these systems is therefore likely to be highly sensitive to eligibility conditions, which specify whether contributions are needed to collect benefits and, if so, how many years of contributions.

## **PART II. PENSION SYSTEM DESIGN**

The second set of measures addresses the design and operating characteristics of the pension system. These define the basic organization and structure and establish the framework of rules within which the system will collect contributions and pay benefits. These are presented and evaluated in this report in two parts:

- i) The overall *architecture of the system*, which defines its basic design and characteristics. These address issues such as the elements (or pillars) and the degree to which they are integrated with each other and other components of a country's social insurance system;
- ii) The *operating parameters of the system* which are divided into two parts:
  - a. The *qualifying criteria* that are imposed for entitlement to and receipt of benefits
  - b. The *operating characteristics* that define the systems periodic interactions with its members. These include the contribution rates, the formulas used for benefit calculation indexation and related factors.

The worldwide distributions and trends for these are presented in the first three parts of this section. This is followed by a fourth part that considers regional patterns of pension system design. The overall organization of this section is shown in Table 4 below.

### **Part I: Overall architecture of mandatory pension system**

Box 2 below summarizes the main characteristics of the overall architecture of mandatory pension systems.

**Table 4: Pension system design**

<b>OVERALL ARCHITECTURE OF THE SYSTEMS</b>
Classifications of pension systems
Modalities of pension systems (multi-pillar systems)
Civil servants and other special schemes
<b>OPERATING PARAMETERS OF THE SYSTEM</b>
Pension eligibility ages
Contribution history
Contribution rates
Benefit formulas
Indexation
<b>KEY DESIGN INDICATORS</b>
Target replacement rate (net, gross, male, female)
Target pension wealth (net gross, male, female)
Change in net pension wealth for early/late retirement
Investment risk
Life expectancy at retirement
Public versus private pension income
Financing mechanism
Benefit from non-contributory or minimum pension as share of income per capita
<b>Progressivity of pension benefit formulae</b>

*Source: Authors*

**A) General classification of pension system architecture<sup>10</sup>:**

This section provides an overview that classifies pension systems using three categories:

a) The basic architecture of the system, which is determined by the nature of the benefits it promises, its financial structure and implementing institutions, b) How the system fits within the multi-pillar typology developed by the World Bank discussed in Section B below, and c) The degree to which the system is integrated with other types of retirement income provision in the country.

<sup>10</sup> See Annex V for Pensions Glossary

## Box 2 – Main Trends - OVERALL ARCHITECTURE OF MANDATORY PENSION SYSTEMS

**There is a wide variety of mandatory pension systems in the world.** We can classify the systems by different criteria (how benefits are calculated, how benefits are financed, or who manages the system), and we can also classify the countries by pension modalities (by how many pensions pillars they have), or by whether they have integrated pension systems. When looking at these classifications, it is observed that around 65 percent of all mandatory national pension systems worldwide are DB systems (defined benefit), mostly still financed on a PAYG basis. More than 70 percent of all mandatory national pension systems are publicly-managed. Among all mandatory national pension systems, around 30 percent are fully-funded DC (defined contribution), another 30 percent are partially-funded, and more than 30 percent are unfunded. There are currently 32 countries in the world with second pillars (mandatory privately managed individual accounts) pension system. Most countries in the high-income OECD have some type of zero pillar (social pensions), and the number of these programs is also growing in all regions.

**Countries worldwide have been moving towards multipillar pension systems.** During the 1980s and 1990s the number of countries with mandatory privately managed DC schemes (second pillar) increased from one to more than 30 (two countries in LAC, however, Argentina and Bolivia closed the second pillar in 2008 and 2010 respectively, and one, Hungary in the ECA region also closed the second pillar). A few publicly-managed defined contribution pensions (DC-PF or provident funds), have also been reforming towards DB PAYG systems. During the 2000s the greatest focus on new developments has been shifting to zero (social pensions) and third pillars (DC-voluntary pensions).

**There are separate pension schemes for civil servants (and other special groups) in about half of the world's countries.** There has also been an increasing tendency towards integrating pension systems (special schemes with national schemes). There are currently more than 20 countries worldwide that have partially integrated. However, many countries are increasingly integrating their separate systems. There appears to be strong arguments for integration, particularly in smaller and/or low-income countries. The long-term goal seems to be a single national scheme for reasons of equity, administrative efficiency, and labor-market flexibility.

### A typology of pension systems

The underlying architecture of pension systems may be considered in relation to several fundamental issues. These include:

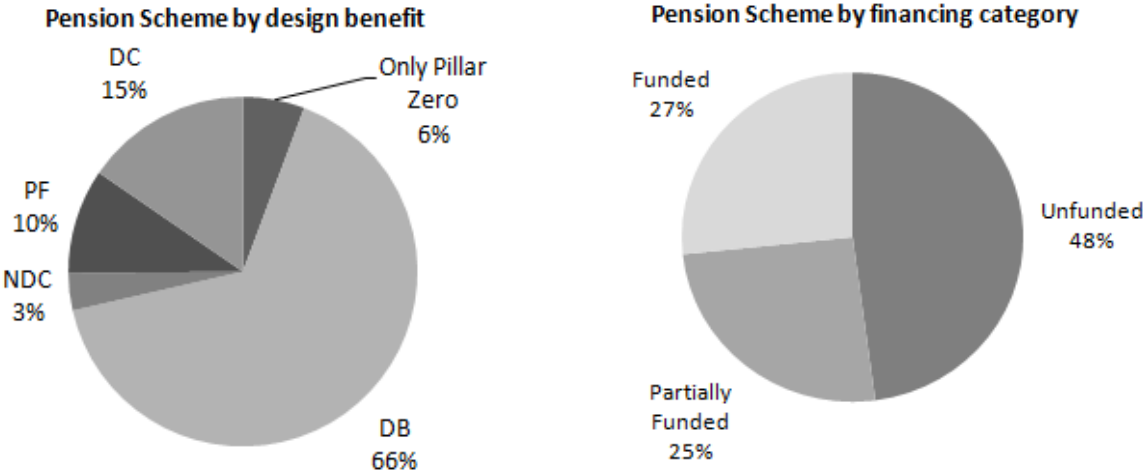
- (i) **The basic form of the benefit promise** - whether the systems is Defined Benefit (DB), Defined Contribution (DC) or a hybrid arrangement such as Notional Defined Contribution (NDC) systems
- (ii) **How the benefits are financed** – whether this is done on a full or partial Pay–As–You–Go (PAYG) basis or if they are Fully Funded (or capitalized) in advance
- (iii) **Whether the system is managed by Public or Private Institutions**

There are very strong linkages among the three characteristics that define the basic architecture. For example, the majority of defined benefit systems are financed on a PAYG or

partially funded basis and are publicly administered. Defined contribution (DC) systems are fully funded, and most are now privately managed, although there are a number of national provident funds (mostly in Asia and Africa) that can be most accurately characterized as publicly managed, defined contribution schemes.

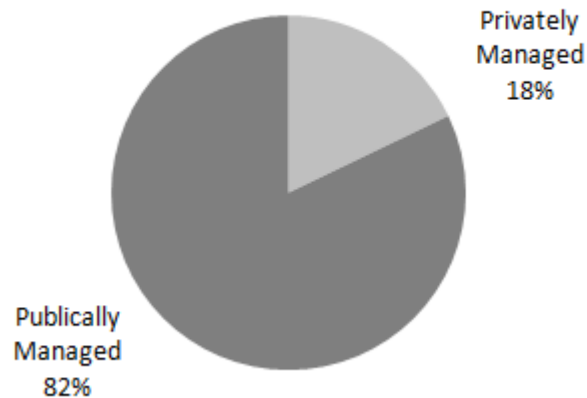
Based on 176 observations of national mandatory pension schemes worldwide, Figure 11a, b, and c shows the distribution in terms of these three primary classification criteria. About two thirds of pension schemes worldwide may be considered to be primarily defined benefit in their structure. About half of all the systems operate on an unfunded (or PAYG) basis with the other half about equally divided between partially and fully funded. The vast majority of systems are publically managed with less than one in four classified as primarily privately managed.<sup>11</sup>

**Figure 11, a, b, and c: Pensions schemes by benefit design, financing category, and management type**



<sup>11</sup> Note that this actually understates the dominance of publicly managed, unfunded, defined benefit schemes in that most special schemes for public sector workers and civil servants fall into this category. See Palacios and Whitehouse (2006).

**Pension Scheme by management type**



*Source: Hinz and Holzmann (2005)*

### ***B) Classification in relation to the multi-pillar pension framework***

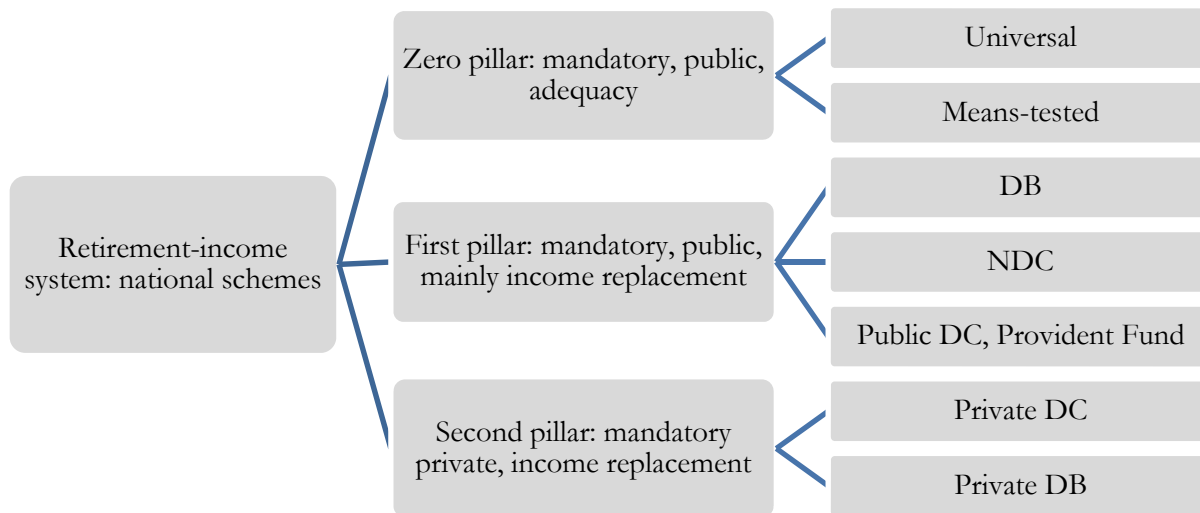
The World Bank classification system proposed in 2005 differentiates pension system components into 5 pillars<sup>12</sup>: 1) a non-contributory “zero pillar”, 2) a mandatory earnings based “first pillar”, 3) a mandatory saving based “second pillar”, 4) a complementary voluntary “third pillar”, and 5) a non-financial “fourth pillar” which includes access to informal support, other formal social programs (such as health, and housing), as well as other individual financial and non-financial assets (such as home ownership and reverse mortgages where available). The fourth and fifth components of this framework are voluntary arrangements that are not formally integrated into most mandatory social security systems and are therefore not addressed in this report. The three pillars are shown schematically below.

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<sup>12</sup> See Hinz and Holzmann (2005)



**Figure 12: World Bank multi-pillar framework: simplified version<sup>13</sup>**



Source: Authors

**Zero pillar:** these schemes are non-contributory and provide benefits regardless of contribution history. They are cash transfers targeted to the elderly and are sometimes called “social pensions” in recognition of their social-policy goal of offering a safety-net of a minimum poverty alleviating income in old age. They are publicly provided and usually (although not always) financed out of general government revenues. There are two main types: targeted programs that pay benefits only to the poor elderly and universal schemes that pay a flat-rate benefit to all older people meeting certain age and citizenship eligibility criteria. It should be noted that most countries that do not have such programs do provide for the elderly through broad social assistance programs.

**First pillar:** These are mandatory systems with the objective of replacing the earnings of covered members and therefore are usually characterized as earnings based schemes. There are generally four main types of first-pillar schemes. (i) Most of these are *pure defined benefit*

<sup>13</sup> The third and fourth pillar are not included in this framework, since only information regarding to mandatory pensions are covered in this report

schemes that use a formula that directly translates the individual earnings and contribution records into a pension benefit on reaching a specified age. (ii) A few countries have adopted a variation of this type of pension scheme that is based on a *system of points* in which individuals earn a specified number of points for a period or level of contributions. These points are then assigned a value and the number of points and their value at the time of retirement becomes the basis for the pension.

Since the mid-1990s a third version of the first pillar has emerged in a number of countries, (iii) *Notional Defined-Contribution schemes (NDC)*. NDC schemes mimic defined contribution schemes. They maintain a record of individual account contributions that are indexed to a 'notional interest rate', typically average wage growth or wage bill growth. Upon retirement, the balance accrued in this "notional" account is converted to an annuity using a predetermined actuarial formula. (iv) Provident funds – centrally managed, defined contribution schemes, are also included in this category due to their public management, and their tendency to use non-market, centrally determined interest rates.

Most first pillars are financed on a pure pay-as-you-go basis, where contributions from today's workers pay the benefits for today's retirees. However, in some cases benefits are partially funded: the scheme accumulates assets, which will later be used to pay for some portion of the benefits, usually during a period of anticipated demographic transition.

Minimum pensions are often provided as part of first-pillar retirement-income provision. Minimum pensions differ from the zero pillars in two main ways. First, there is typically a contribution requirement that includes a minimum number of years of participation to qualify for first-pillar pensions. Second, first pillar schemes are nearly always available to all citizens at a specified age (hence sometimes referred to as a "citizens pension") or are means-tested for purposes of establishing eligibility. First pillar schemes do not have either of these attributes and are linked to earnings measures to establish benefits and periods of participation for eligibility.

**Second pillar:** These mandated individual account schemes are managed privately. These are distinguished from other complementary voluntary savings systems by their mandatory nature and by being explicitly organized as specialized pension savings schemes rather than general contractual savings vehicles (bank accounts, mutual funds, life insurance policies) that may also be used by individuals for retirement related savings. A defining characteristic of these systems is that they use pension specific institutions that are specifically regulated and supervised under a distinct body of law. Second-pillar schemes are nearly exclusively fully-funded privately provided defined contribution (DC) arrangements, but they can also, in a few circumstances, be privately provided defined benefit (DB). The most prevalent of these, defined contribution individual account schemes, are, by definition, fully funded. With private, defined benefit schemes, most countries have regulation and supervision in place to ensure minimum funding rules although there is considerable variation in how these are administered.

Among the 192 countries for which data could be collected about 80 percent have first pillars. Some of them have also zero and/or second pillars.<sup>14</sup> Some countries have only zero pillars and a few others only second pillars.

As shown in Table 5 below there are more than 80 countries that currently have a zero pillar. Most developed countries provide some type of basic pension and schemes are beginning to be established in more developing countries. Only a few countries provide universal benefits at a specified age and there is considerable variation in the benefit structure. In some a flat benefit is paid to all while in others there is a differentiation typically based on some measure of income or needs. Bolivia, Botswana, Brunei, Kiribati, Kosovo, Maldives, Mauritius, Namibia, Mexico City, New Zealand, Nepal, Samoa, and Timor-Leste provide a basic pension to the elderly with no test other than citizenship, residence and age.

Currently 32 countries have second pillars although there have been several partial or complete reversals in response the 2008-2009 financial crisis. Most are found in Latin America

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<sup>14</sup> See Annex III for more details.

and Eastern Europe and Central Asia. Provident Funds (included here as part of pillar 1) are common in South Asia, and in Sub-Saharan Africa.

**Table 5: Basic system architecture by region**

Region	Number of countries	Modality of Pillars			National scheme and civil servants scheme		
		Pillar Zero	Pillar 1	Pillar 2	Separated	Integrated	Partially-Integrated
East Asia & the Pacific	28	11	17	1	9	7	2
Eastern Europe & Central Asia	30	17	30	14	1	29	0
Latin America & Caribbean	37	19	29	10	3	22	5
Middle East & North Africa	20	2	18	1	7	8	3
South Asia	8	4	4	1	6	1	0
Sub-Saharan Africa	46	8	33	2	24	11	1
High-income OECD	24	20	20	3	10	11	2
World	193	81	151	32	60	89	13

*Source: Authors calculation*

### **C) Civil servants and other special schemes**

Roughly one half of countries for which data exists have separate pension schemes for civil servants. However, many of the countries are integrating their fragmented schemes. Civil servants and other public sector employees – in the military, the education sector, and publicly owned enterprises – were typically among the first groups of workers to be covered by government-sponsored pension schemes.<sup>15</sup> When mandatory pension coverage began to be expanded to the private sector, civil servants were often not included in new national pension schemes. The reasons for this include: (i) they already had their own arrangements, (ii) the structure of these new schemes did not always accommodate a government’s human resource

<sup>15</sup> The objectives of providing pensions for these employees included (i) securing the independence of public sector employees, (ii) making a career in the public service attractive, (iii) shifting some of the cost of public sector remuneration into the future, and (iv) enabling the retirement of older civil servants in a way that was politically and socially acceptable. See Palacios and Whitehouse (2006).

management objectives, and (iii) civil servants resisted their inclusion into less generous schemes.

There are a few countries where civil servants schemes (and/or other special schemes) are the only or the main scheme. These include Cambodia, Lebanon, West Bank and Gaza, Ethiopia, and Bhutan. There are currently around twenty countries worldwide in the process of integrating their different pension schemes. These partially-integrated pension schemes are observed in all regions and in countries as diverse as Bahrain, Brazil, Cape Verde, Djibouti, Iraq, Jordan, and Mexico. In most of them, only new employees (new civil servants) have been affected by the new integrated system, however, in a few others all employees have been affected, and still in others employees have been able to chose between the old special scheme, and the new integrated one.

## **Part 2: Operating parameters of pension systems**

### *A) Qualifying conditions*

The statutory retirement age may be quite different from the actual retirement age in most cases. For example, in Chile, the vast majority of workers start their pension prior to the “normal” age of 60 for women, 65 for men. Men meet the early retirement conditions (based on years of contributions) more readily than women, because their work patterns are more regular, so the actual retirement age gap is less than the statutory gap. In the U.S., the majority of workers start their pensions before the “normal” age of 65, while some start after 65 because the annual pension amount increases by 6-8 percent for each year. However, even if retirement is not mandatory, once individuals are permitted to receive benefits most elect to do so.

Work often stops when pension starts, but this is not necessarily the case. In many countries, continued employment is permitted after initial pension receipt. However, in many countries with DB plans once workers are allowed to start their pensions they stop working. In some cases, if they continue working, they lose part of their current benefit and must

contribute to the social security system without getting a commensurate increment in future benefits, so their net remuneration from work is reduced. In others the pension is taxed as ordinary income. Some countries pay a full pension before the regular retirement age for working in an especially arduous, unhealthy, or hazardous occupation (eg: mining); involuntary unemployment for a period near retirement age; or, in some instances because of long period of service.

### **Box 3 - QUALIFYING CONDITIONS**

**Qualifying to receive a pension is usually conditional on two requirements: attainment of a specified age, and completion of a specified period of contributions or service (minimum vesting periods).** In some countries additional conditions apply such as the withdrawal from the labor force. Old-age benefits generally become payable between ages 60 and 65, but in some countries there is no age requirement and pensions can be paid at any age after a certain period of service, most commonly between 30 and 40 years.

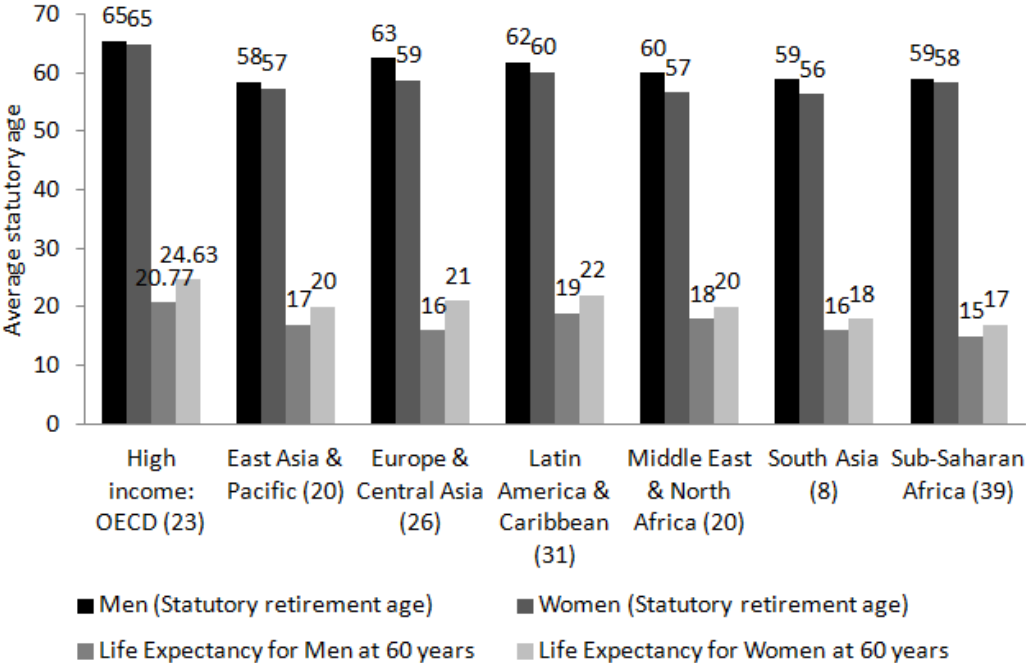
**There are large regional differences in patterns of statutory retirement ages, and required contribution histories for pension entitlement (minimum vesting periods).** Pension age (statutory or legal retirement age) is highest and rising in the high-income OECD countries. Retirement ages are also rising worldwide. There is also an international trend toward equalizing the statutory retirement age for men, and women. In almost all countries in high-income OECD countries the statutory retirement age is actually already the same for men and women, although historically they differed.

**There is heterogeneity between and within regions for the minimum vesting period (minimum length of service/contribution) for accessing a pension, but the worldwide average is 16 years.** Also, some old-age schemes credit periods during which persons, for reasons beyond their control, were not in covered employment. Credits can be awarded for reasons such as disability, involuntary unemployment, military service, education, child rearing, or training. Other systems disregard these periods. Many countries/schemes, when employees do not have the minimum required number of years of service, pay a refund of contributions, or a settlement in which a proportion of the full benefit or earnings is paid for each year of contribution.

Given these differences and the absence of reliable information on a comparable basis of actual retirement behavior, comparisons are only undertaken in this report of the reported statutory retirement ages. A summary of the reported data is shown in Figure 13 below which provides a comparison by region. The high-income OECD countries have the highest legal retirement age, followed by Europe and Central Asia, and Latin America and the Caribbean.

The legal retirement ages are highly correlated with the average life expectancy at the age of 60 as the second set of bars in the graph indicates. In almost all OECD countries, statutory retirement age is now the same for men and women although historically this was not always the case. In a few cases (e.g. Australia, Austria and the UK) equality is now being phased in. In contrast, the legal retirement age is lowest in Asia, Africa and parts of Latin America, where longevity is lowest, and the retirement age is 3-5 years lower for women in about a third of these cases. These regions include some of the most populated countries in the world. In Eastern Europe and Central Asia the retirement age is 3-5 years lower for women than for men. The same is true in most Middle Eastern countries. In recent years, several countries have increased the age limit for pension entitlement.

**Figure 13: Average statutory retirement age and life expectancy by region**



Source: SSA (social security programs throughout the world) and WHO

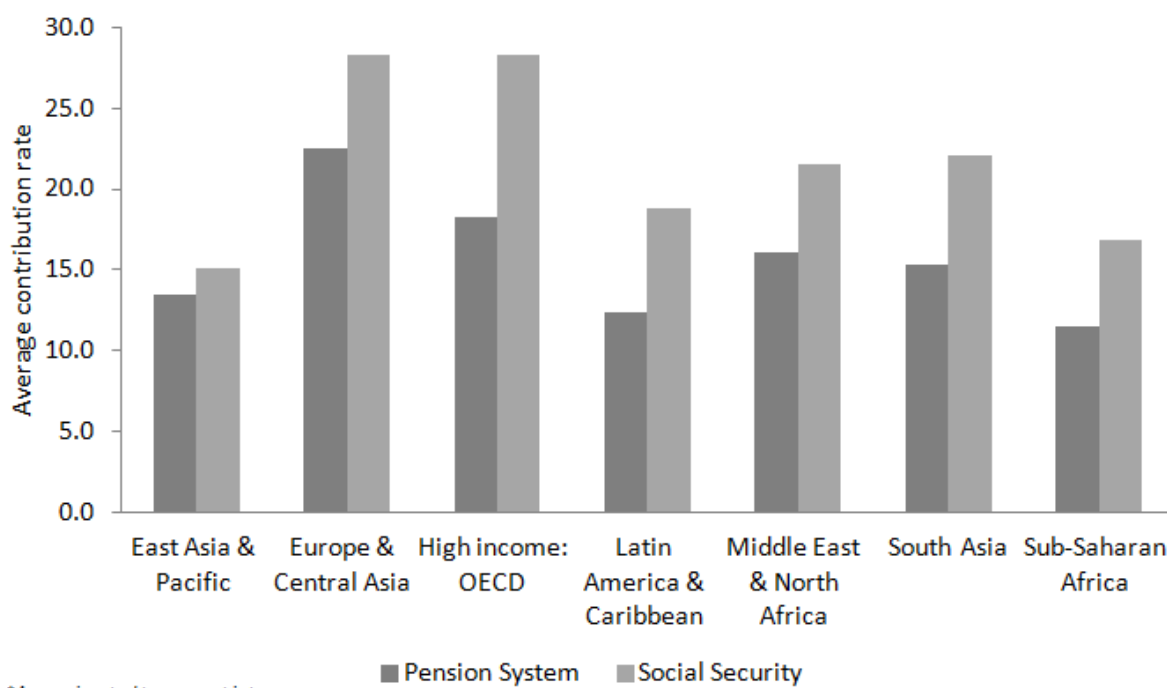
**B) Pension system operating characteristics**

The box below summarizes the main characteristics and operational parameters of pension systems.

## Contribution rates

There are normally four potential sources of revenue for pension programs: a percentage of covered wages or salaries paid by the worker, a percentage of covered payroll paid by the employer, investment earnings and transfers from the central budget.<sup>16</sup> Most public pension schemes are primarily financed by employer and employee contributions - a percentage of salaries or wages. In some cases a maximum (or taxable wage ceiling) is included in the system. In the tables below, the average statutory rate for the main scheme is shown to compare contribution rates across countries. In some cases these rates can vary by wage level, age and even geographic location. The highest rates are found in Eastern Europe & Former Soviet Union, followed by the OECD countries. The lowest are found in Sub-Saharan Africa countries. However, there is a considerable diversity of contribution rates within each region (see Annex III and the section below on regional patterns for more information).

**Figure 14: Average contribution rates by region**



Source: World Bank's Pensions database

<sup>16</sup> In a few countries, other taxes are earmarked to cover these programs.



#### Box 4 - OPERATIONAL PARAMETERS

**Most countries earmark wage contributions for different social insurance programs and payroll contributions for pensions usually represent a large portion of the total.** There are normally four potential sources of revenue for old-age, disability, and survivor programs: a percentage of covered wages or salaries paid by the worker, a percentage of covered payroll paid by the employer, investment earnings, and transfers from the central budget. Most public pension schemes are mostly financed by employer and employee contributions - a percentage of salaries or wages up to a certain maximum. On average the highest contribution rates for social security systems are found in the ECA region, where 34 percent of gross wages are contributed for all social security programs, and 25 percent for pensions only. In high-income OECD the average is 29 percent for all programs, and 20 percent for pensions. On average, the lowest contribution rates are found in LAC, Asia, and Sub-Saharan Africa where these rates are around 17 percent for all programs and 12 percent for pensions only. In the MENA region the average contribution rates are 23 percent for all programs and 16 percent for pensions only.

**Old-age, disability and survivors' benefits in most countries is a wage-related, periodic payment;** also, disability benefit under most programs is based on the same formula for old-age benefit; and survivorship benefits are usually a percentage of either the benefit paid to the deceased at death or the benefit to which the insured would have been entitled if he or she had attained pensionable age or become disabled at that time.

**Indexation practices are a function of the underlying scheme design and objectives in most high-income OECD countries, however many middle and low-income countries have no systematic policy of indexation, and increase benefits in an ad-hoc manner.** For minimum or basic pensions, indexing to prices seems to be the norm, followed by indexing to wages. Countries have recently started moving towards hybrid indexation (a combination of price, and wage index, and sometimes longevity as well), or only to price indexation.

#### Vesting periods

There is a similar variation in vesting periods (length of service or contributions before earning an irrevocable right to benefit) as indicated in Table 6 below, which summarizes operating parameters by region. The minimum vesting period for the right to a pension benefit is lowest in the East Asia and Pacific region. The average minimum vesting period in this region is 13 years although it varies considerably among the countries. The variation in minimum vesting periods is also very high within Eastern Europe and Central Asia, with Albania having the highest, at 35, while in other countries in the region only 5 years of service are required to access a pension benefit. The highest average minimum vesting period is found among the high-income OECD countries.

**Table 6: Average minimum vesting period, average accrual rates, and earnings measure by region**

Region	Number of countries*	Average minimum vesting period	Average accrual rate	Number of countries that use lifetime average earnings	Number of countries that use best/ final earnings
East Asia & the Pacific	6	13	1.8%	3	3
Eastern Europe & Central Asia	28	17	1.7%	10	2
Latin America & the Caribbean	24	18	1.2%	-	17
Middle East & North Africa	12	13	1.6%	1	10
South Asia	8	16	2.0%	-	2
Sub-Saharan Africa	18	15	1.6%	-	18
High-income OECD	19	21	1.6%	16	3
World	115	16	1.7%	24	54

\* Countries with available data

Source: World Bank's Pensions database

### Benefit accrual formulas

Among DB pension schemes, as shown in Table 7, the highest simple average accrual rate for pension accrual rates are found in South Asia, followed by East Asia and the Pacific, and Eastern Europe and Central Asia, however, once again, there is a wide diversity within the regions.<sup>17</sup>

Most of the high-income OECD, and Eastern Europe/Central Asia countries use lifetime average earnings for their pensions calculations. However, most of the developing countries are still using highest or final earnings in their benefit formulas.

Final salary for pension calculation used to be a very common basis for pension benefits, however countries have been gradually moving towards the use of lifetime average salary. The reasons for such switch include to reduce costs to achieve better fiscal sustainability, to better align benefits with lifetime consumption patterns, reducing unintended intra-generational redistribution in favor of individuals with differing age income profiles, reduce incentives for

<sup>17</sup> See next section and Annex III for further information on accrual rates and other parameters

manipulation of final years salaries and improvements in record-keeping, and computerization, which has made lifetime calculations easier.

### **Re-valorization of earnings**

Given the general tendency of gradually increasing the base wage incorporated in benefit formulas toward lifetime average salary, re-valorization of earnings records to adjust for inflation or general levels of wage increases has become increasingly important. Many countries now revalue earning histories based on an overall wage index. Some use a GDP growth index or combination of factors instead.

### **Benefit indexation**

Countries also use various indices to adjust pensions already in payment by changing the wage or price levels. Most common is price indexation although wage indexation is also quite prevalent. Most of the High Income OECD countries now index pensions to prices and some in the ECA region have moved to this method. There is great diversity in terms of indexation in the rest of the countries. Many countries still index pensions in payment in an ad-hoc, or discretionary manner.<sup>18</sup> Table 7 shows, among all the countries in each region with available data on indexation, how many index pensions to prices, wages, both, or alternatively provide adjustments at their discretion or in an ad-hoc manner.

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<sup>18</sup> The difference between ad-hoc and discretionary, is that in the first case pensions are not necessarily indexed regularly every year, in fact in some countries pensions have not been indexed at all for years. Discretionary indexation means that pensions are regularly increased, however not necessarily based on a specific factor (prices, wages, etc.).

**Table 7: Benefit indexation by region**

Region	Number of countries*	Prices	Wages	Mixed	Ad hoc/ discretionary
East Asia & the Pacific	6	2	2	-	2
Eastern Europe & Central Asia	28	10	5	8	5
Latin America & the Caribbean	24	6	2	1	15
Middle East & North Africa	12	2	1	-	9
South Asia	8	-	-	-	-
Sub-Saharan Africa	18	8	2	0	7
High-income OECD	19	11	2	4	2
World	115	39	10	15	37

\* Countries with available data

Source: World Bank's Pensions database

### Target replacement rates

The parameters described above imply certain objectives of the pension system which can usefully be represented through simulations of workers using standardized cross-country assumptions along with country specific mortality rates. This is the methodology applied in Pension Panorama. This methodology, developed originally at the OECD<sup>19</sup>, combines all of the parameters of the scheme in a way that captures all of their interactions, at least for the hypothetical worker modeled. Importantly, the simulations are performed for workers at different wage levels and by sex. The net figures adjust for taxes. Currently, the World Bank is working with the OECD to develop comparable indicators for additional relevant scenarios of contribution histories and other factors that are observed empirically.

It should be noted that these figures are not projections and that they refer to new entrants to the labor force covered by the pension scheme. The baseline assumes a full career of contributions and retirement at the normal retirement age. Clearly, in developing countries, the contribution density tends to be much lower and other assumptions would not necessarily reflect the realities of individual countries. The intention behind the standardized approach is to isolate the specific design issues that can be compared across countries. In this way, the

<sup>19</sup> For a detailed description of the methodology, see OECD, "Pensions at a Glance", various years.

idiosyncratic determinants of pension system outcomes can be separated from those inherent to the design of the pension system itself.

These figures have been calculated for a subset of countries as shown in Table 8 below. The intention is to produce these figures for all developing countries in the longer run.

**Table 8: Average gross and net replacement rates by region for selected countries**

	Gross replacement rates			Net replacement rates		
	Individual earnings (% of average)			Individual earnings (% of average)		
	50%	100%	150%	50%	100%	150%
<b>High-income OECD</b>						
Australia	68.7	42.4	33.7	81.7	54.5	42.6
Austria	80.1	80.1	77.9	90.4	90.3	87.9
Belgium	65.5	45.5	35.1	88.2	67.2	49.7
Canada	74.9	43.3	28.9	87.7	56.6	39.0
Denmark	129.2	85.5	74.8	142.1	96.2	88.4
Finland	68.0	59.7	59.7	74.4	65.7	67.2
France	58.2	50.5	45.8	72.1	62.4	57.4
Germany	43.0	43.0	43.0	59.1	61.3	60.9
Greece	95.7	95.7	95.7	113.6	110.6	107.3
Iceland	114.1	91.0	88.0	114.4	95.8	92.7
Ireland	67.6	33.8	22.5	67.6	39.7	30.1
Italy	67.9	67.9	67.9	74.8	74.8	76.6
Japan	47.2	34.1	29.7	51.6	38.9	34.2
Korea	66.6	44.6	36.0	71.4	49.2	41.4
Luxembourg	99.5	88.1	84.4	107.3	96.5	93.5
Netherlands	80.2	81.7	82.2	97.7	102.3	98.5
New Zealand	78.2	39.1	26.1	80.1	41.4	29.2
Norway	66.3	59.3	50.0	76.8	69.2	60.8
Portugal	56.2	54.1	53.4	64.6	68.6	71.2
Spain	81.2	81.2	81.2	82.1	84.7	85.3
Sweden	78.3	66.0	79.1	80.7	68.5	83.9
Switzerland	62.5	40.5	27.6	79.4	53.5	35.9
United Kingdom	52.0	31.0	21.8	64.8	41.3	29.7
United States	55.2	41.2	36.5	63.4	47.6	42.2
<b>East Asia/Pacific</b>						
China	87.6	67.6	61.0	95.2	73.5	68.6
Hong Kong	35.4	38.0	32.0	37.2	40.9	36.2
Indonesia	15.4	15.4	15.4	16.1	16.3	16.3
Malaysia	31.9	31.9	31.9	35.9	35.9	35.9
Philippines	95.0	67.5	58.3	111.4	82.7	73.8
Singapore	13.1	13.1	11.0	16.3	16.6	14.3
Taiwan	70.0	70.0	60.3	71.8	73.2	64.1
Thailand	50.0	50.0	50.0	52.6	52.6	52.6
Vietnam	67.8	67.8	67.8	75.4	75.2	76.1
<b>South Asia</b>						
India	67.1	40.4	31.3	76.3	46.4	38.8
Pakistan	80.0	75.4	50.3	80.8	76.2	50.8
Sri Lanka	48.3	48.3	48.3	52.5	52.5	52.5

*Source: Apex models*

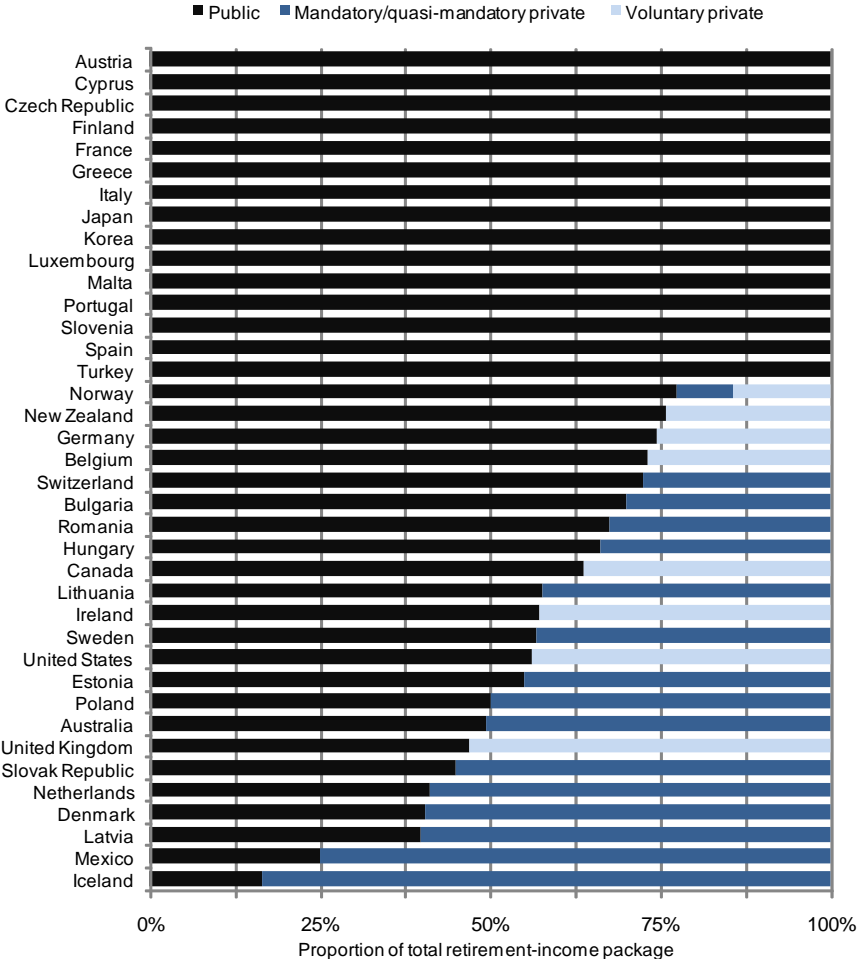
	Gross replacement rates			Net replacement rates		
	Individual earnings (% of average)			Individual earnings (% of average)		
	50%	100%	150%	50%	100%	150%
<b>Eastern Europe/Central Asia</b>						
Bulgaria	65.8	65.8	65.8	78.2	77.8	77.0
Croatia	48.4	39.3	36.3	66.5	61.4	59.9
Czech Republic	76.3	47.8	35.0	91.8	61.7	47.4
Estonia	57.2	47.3	44.0	67.7	59.3	53.4
Hungary	76.9	76.9	76.9	93.9	104.4	99.2
Latvia	59.9	59.9	59.9	80.2	76.6	72.7
Lithuania	60.4	45.8	41.0	73.6	59.7	54.6
Poland	66.5	66.5	66.5	80.5	81.1	81.4
Slovak Republic	56.4	56.4	56.4	66.3	72.7	74.9
Turkey	80.9	80.9	80.9	112.9	116.2	119.1
<b>Latin America/Caribbean</b>						
Argentina	104.6	62.6	48.6	119.2	73.7	57.8
Chile	44.9	43.8	43.8	53.3	53.5	54.5
Colombia	100.0	50.0	46.1	108.8	54.4	50.2
Costa Rica	89.0	89.0	89.0	102.9	103.1	103.1
Dominican Republic	105.3	52.6	35.1	111.8	55.9	37.3
El Salvador	64.1	38.7	38.7	65.1	39.3	41.2
Mexico	53.0	35.9	34.4	53.7	38.2	39.6
Peru	49.4	39.1	39.1	54.8	43.9	46.4
Uruguay	102.6	102.6	90.5	125.1	125.4	110.8
<b>Middle East/North Africa</b>						
Algeria	80.0	80.0	80.0	89.6	89.1	88.8
Bahrain	84.0	79.2	79.2	88.4	83.4	83.4
Djibouti	42.5	37.5	37.5	48.7	43.4	44.7
Egypt	90.5	85.3	79.6	117.5	119.8	111.0
Iran	132.0	115.5	115.5	141.9	124.2	126.5
Jordan	69.6	67.5	67.5	77.5	76.1	77.2
Libya	80.0	80.0	80.0	89.0	91.2	93.6
Morocco	70.0	70.0	70.0	72.6	74.1	75.2
Tunisia	64.0	64.0	64.0	73.1	72.7	73.5
Yemen	100.0	100.0	100.0	106.2	106.3	106.3

Source: Pension Panorama

**Diversification: Public versus private retirement income**

Another indicator developed by the OECD measures the share of retirement income coming from public versus private pensions. Again, these figures refer to the full career single workers described above. Figure 15 below illustrates this indicator for OECD countries. The World Bank is working with the Inter-American Development Bank and the OECD to produce similar figures for non-OECD LAC countries. The World Bank also intends to produce the same figures for other developing countries in the future.

**Figure 15: Public versus private retirement income sources**



Source: Pensions at a Glance (2011)

## Life expectancy at retirement

This important indicator of pension scheme design is also available currently only for OECD countries. Table 9 below shows this indicator over time.

**Table 9: Life expectancy at retirement in the OECD, men**

	1958	1971	1983	1989	1993	1999	2002	2010	2020	2030	2040	2050
Australia	12.5	12.5	14.2	14.7	15.7	16.6	17.5	18.6	19.5	19.3	19.0	19.7
Austria	12.0	12.0	13.1	14.3	14.7	15.7	16.0	17.5	18.7	19.5	20.3	21.1
Belgium	15.3	15.3	16.6	17.6	18.1	19.2	19.4	21.1	22.3	23.1	24.0	24.8
Canada		10.7	12.8	14.4	15.8	16.3	17.1	18.3	19.1	19.9	20.7	21.4
Czech Republic	15.4	14.2	14.3	14.8	15.7	16.9	16.5	17.0	16.9	17.8	17.2	18.1
Denmark	13.7	11.7	11.9	12.2	12.0	13.0	13.4	16.4	17.1	15.8	16.5	17.2
Finland	11.5	11.4	13.0	13.9	14.1	15.2	15.5	16.8	17.6	18.3	19.1	19.8
France	12.5	13.0	14.2	18.8	19.4	20.2	20.5	21.7	22.4	23.3	24.0	24.8
Germany	14.2	14.1	15.2	16.0	16.5	17.6	17.2	17.0	17.9	18.7	19.5	20.3
Greece	19.9	20.7	21.6	22.4	22.7	23.1	22.7	24.0	21.8	22.5	23.3	24.1
Hungary	15.6	15.1	14.5	14.8	14.5	14.9	15.6	16.5	14.4	14.5	15.4	16.3
Iceland			13.5	14.0	14.7	14.9	15.8	16.8	17.5	18.3	19.1	19.8
Ireland	7.6	7.7	7.9	13.1	13.4	14.1	15.2	16.9	17.7	18.5	19.2	20.0
Italy		16.7	17.1	23.6	24.2	25.4	23.8	22.8	21.7	19.4	20.1	20.9
Japan	14.8	13.1	15.2	16.2	16.4	17.0	17.8	18.8	19.6	20.3	21.0	21.6
Korea					16.2	17.5	18.7	20.2	21.1	19.9	19.6	19.3
Luxembourg	12.5	11.4	12.9	13.8	17.8	19.0	19.2	20.8	22.1	23.0	23.8	24.6
Mexico	14.2	15.3	15.5	16.2	16.1	16.4	16.4	17.2	17.9	18.3	18.6	18.9
Netherlands	13.9	13.3	13.7	14.3	14.4	15.1	15.7	17.3	18.1	19.0	19.8	20.6
New Zealand		15.7	16.8	17.9	18.8	19.0	17.9	18.1	19.0	19.7	20.5	21.2
Norway	9.5	8.9	9.5	12.7	12.8	13.7	14.3	15.7	16.6	17.3	18.1	18.9
Poland	15.9	15.0	15.7	14.3	14.2	15.0	13.9	14.4	14.9	15.6	16.4	17.2
Portugal	12.4	11.8	13.4	14.3	14.2	15.0	15.5	16.3	17.1	17.8	18.5	19.2
Slovak Republic	16.6	15.5	15.3	15.3	16.1	15.9	16.1	14.9	15.7	16.6	17.6	18.6
Spain	13.1	13.7	14.9	15.6	15.9	16.2	16.6	17.9	19.0	19.9	20.6	21.4
Sweden	11.7	12.0	12.7	15.4	15.5	16.4	16.8	17.9	18.8	19.5	20.3	21.1
Switzerland	12.9	13.3	14.6	15.5	15.9	16.9	17.5	18.9	20.0	20.8	21.6	22.4
Turkey		14.6	29.2	29.9	30.5	31.1	31.5	31.1	28.4	24.5	21.0	22.5
United Kingdom	11.9	12.3	13.2	13.8	14.2	15.4	16.0	16.9	17.7	17.5	17.2	16.9
United States	12.8	13.2	14.4	15.0	15.3	16.1	16.7	16.8	17.3	16.8	17.2	17.7
<b>Average</b>	<b>13.4</b>	<b>13.4</b>	<b>14.7</b>	<b>16.0</b>	<b>16.5</b>	<b>17.3</b>	<b>17.6</b>	<b>18.5</b>	<b>18.9</b>	<b>19.2</b>	<b>19.6</b>	<b>20.3</b>

Note: Life-expectancy is calculated using data from 1960 for the pensionable ages applicable in 1958.

Source: Data on pensionable ages over time from Table 1.1. Historical data on life expectancy are taken from the OECD Health Database 1960-95. Recent data and projections of life expectancy in the future based on the United Nations Population Division Database, World Population Prospects – The 2008 Revision.



### **Change in net pension wealth for early/late retirement**

An important design consideration is the incentive that the pension scheme provides for early and later retirement. These vary significantly across countries as shown below in Table 10 which measures the change in pension wealth accrued from an additional year of work. Pension wealth is the present value of the stream of pension benefits which is calculated using the last two indicators.

**Table 10: Change in gross pension wealth for ages 60-65, men at different earnings levels**

	Individual earnings (% of average)				Individual earnings (% of average)		
	Low (50%)	Average (100%)	High (150%)		Low (50%)	Average (100%)	High (150%)
<b>Better incentives for lower or middle earners to stay in work</b>				<b>Retirement incentives strictly constant with earnings</b>			
Czech Republic	30.30	22.90	18.30	Australia	-10.60	-10.60	-10.60
France	8.30	9.50	-0.10	Greece	-90.20	-90.20	-90.20
Korea	26.20	17.20	13.10	Hungary	9.50	9.50	9.50
Iceland	47.70	14.70	12.20	Italy	-10.80	-10.80	-10.80
Ireland	7.30	3.60	2.40	New Zealand	0.00	0.00	0.00
Israel	23.10	18.90	12.60	Poland	14.60	14.60	14.60
Slovak Republic	24.10	7.90	7.90	Spain	9.40	9.40	9.40
Switzerland	13.40	12.10	8.50				
<b>Worse incentives for lower or middle earners to stay in work</b>				<b>Retirement incentives broadly constant with earnings</b>			
Belgium	-25.20	-20.50	-16.50	Austria	14.90	15.30	14.20
Chile	12.20	12.20	17.30	Canada	-7.00	-7.50	-6.40
Finland	0.80	12.20	12.20	Denmark	8.70	7.90	7.60
Germany	-16.30	13.90	13.90	Estonia	2.30	2.40	2.40
Luxembourg	-88.10	-76.40	-72.50	Japan	5.20	5.80	6.00
Mexico	-56.50	-21.60	0.40	United Kingdom	3.50	2.90	1.90
Netherlands	14.10	24.00	27.30	United States	-1.20	-1.20	0.40
Norway	-26.90	19.10	14.50				
Portugal	-61.80	-29.00	-28.60				
Slovenia	-59.40	-19.70	-19.70				
Sweden	-10.50	4.20	4.30				
Turkey	-78.90	-34.10	-34.10				

Source: OECD pension models

## Progressivity of pension benefit formulae

The OECD has recently included an indicator which summarizes the degree of redistribution or progressivity inherent in the pension scheme design. This indicator basically compares the Gini coefficient of actual earnings in the economy with the Gini coefficient of simulated pensions for the same group of new entrants in the base year. As can be seen in the Table 11 below, there is wide variation in the degree of redistribution built into the design of pension systems. This indicator is available for the OECD and G-20 countries. The World Bank is working with the OECD to generate comparable figures for additional developing countries as part of an ongoing collaboration.

**Table 11: Progressivity of pension benefit formulae in OECD and G-20 countries**

	OECD average		National earnings			OECD average		National earnings			
	Pension Gini	Progressivity index	Pension Gini	Progressivity index	Gini wage	Pension Gini	Progressivity index	Pension Gini	Progressivity index	Gini wage	
<b>OECD members</b>						<b>OECD members (cont.)</b>					
Australia	10.9	62.2	10.8	61.8	28.3	Poland	27.9	3.0	30.1	3.7	31.3
Austria	21.5	25.4	21.0	25.5	28.2	Portugal	26.7	7.4	28.9	13.6	33.5
Belgium	11.4	60.5	10.9	55.9	24.8	Slovak Republic	28.6	0.8	28.6	0.8	28.8
Canada	3.5	88.0	3.5	87.9	29.0	Slovenia	21.7	24.7			
Chile	21.0	27.2				Spain	23.2	19.6	22.6	20.4	28.4
Czech Republic	9.1	68.4	9.1	68.4	28.8	Sweden	30.9	-7.2	27.5	-13.1	24.3
Denmark	12.6	56.1	10.8	55.1	24.0	Switzerland	13.5	53.0	11.6	54.4	25.5
Estonia	21.0	27.0				Turkey	25.6	11.1	30.4	16.7	36.5
Finland	26.5	7.9	22.6	4.6	23.7	United Kingdom	5.0	82.8	5.0	82.8	28.8
France	20.4	29.3	19.2	28.0	26.6	United States	17.1	40.6	17.1	40.6	28.8
Germany	21.8	24.3	21.5	25.1	28.7	<b>OECD34 average</b>	<b>16.4</b>	<b>43.3</b>			
Greece	27.8	3.4	29.7	3.1	30.6	<b>OECD29</b>	<b>17.0</b>	<b>40.9</b>	<b>16.8</b>	<b>40.5</b>	<b>28.4</b>
Hungary	28.8	0.0	33.0	0.0	33.0						
Iceland	15.8	45.1				<b>Other major economies</b>					
Ireland	0.0	100.0	0.0	100.0	29.6	Argentina		24.1		16.4	
Israel	7.3	74.5				Brazil		26.7		7.4	
Italy	28.5	1.1	25.6	1.2	25.9	China		21.3		26.1	
Japan	15.3	46.9	14.6	46.0	27.1	India		16.9		41.5	
Korea	8.9	69.3	9.9	69.1	32.1	Indonesia		28.8		0.0	
Luxembourg	23.5	18.6	23.9	18.6	29.3	Russian Federation		23.9		16.9	
Mexico	14.1	51.2	18.0	51.8	37.3	Saudi Arabia		28.8		0.0	
Netherlands	27.2	5.7	25.4	5.6	26.9	South Africa		0.0		100.0	
New Zealand	0.0	100.0	0.0	100.0	28.8	EU27		21.6		25.0	
Norway	15.5	46.3	13.0	44.5	23.5						

Note : OECD 29 refers to the countries for which national earnings-distribution data are available.

Source : OECD pension models; OECD Earnings Distribution database .

## Regional patterns of pension system design

This section looks more closely at some elements of pension system design by region. The focus is on indicators where data are available for a reasonably large proportion of the countries in each region.

### *East Asia & Pacific*

There is a considerable heterogeneity in East Asia and the Pacific when looking at the basic system architecture, integration of systems and system parameters. Some key observations on the pension systems in the region are:

- i) Among the 28 countries for which pension system data is available, almost half have zero pillars of some type;*

Universal tax-financed pension programs currently exist in Samoa, Kiribati, and Timor-Leste. In Samoa, and Timor-Leste the pension is paid at age 65, while in Kiribati the pensionable age is 70.

- ii) Almost all have a first pillar, some have DB, and PAYG, and others have PF (provident funds), Mongolia has an NDC system and only Hong Kong has a second pillar;*

A number of countries operate national provident funds. These are Brunei, Fiji, Indonesia, Kiribati, Malaysia, Papua New Guinea, Singapore, the Solomon Islands, Vanuatu, and Samoa. Cambodia, and Timor-Leste are the only two countries in the region without a first or second pillar for private sector workers. Cambodia has only a mandatory pension system for civil servants and the military, while Timor-Leste is one of the few countries in the world that does not presently operate any formal pension system with only ad hoc retirement arrangements for groups established in recent years. During the early years of independence a decision was taken that the priority for any social protection programs should first be the poor and those who were involved in the independence struggle. As a consequence, a few specific

social protection programs that aim to protect the elderly, disabled, and survivors have already been developed.<sup>20</sup>

*iii) Around half of the countries in the region have separate schemes for civil servants and other special schemes. In Micronesia, and Singapore the schemes are partially integrated, and in Cambodia private sector employees are not covered by any mandatory pension scheme;*

Around 50 percent of all countries in East Asia & Pacific have integrated mandatory pension schemes, 7 are still separated, and 10 have special schemes for professional groups other than civil servants. The average statutory retirement age in the region is 58, early retirement 55, and minimum length of service 14.

*iv) The average statutory retirement age in the region is 58, in less than half of the countries the statutory retirement age is 60 years of age, or above;*

Some countries in the region are planning to increase the legal retirement age. For instance in 2010, Shanghai's Human Resources and Social Security Bureau launched a trial program that allows older workers to defer retirement beyond the mandatory retirement age of 60 (men) and 50 (women). Under the program, employers must sign new employment contracts with workers who elect to defer retirement. The government expects this measure will ease the fiscal burden on the city's pension system from a rapidly aging population.

*v) Social security institutions cover also social insurance and assistance programs other than pensions in most countries in the region., Only a few provide just pensions, and some countries cover pensions and work injury only*

Across the region, social security benefit programs vary in their scope although nearly all countries provide benefits for old-age, disability and survivorship. Most countries provide

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<sup>20</sup> This includes: i) a *universal social pension for all Timorese citizens over the age of 60* was introduced in 2008 and set initially at USD20 per month. By 2009, an estimated 72,000 elderly people were receiving the pension,. For 2010, the amount of the transfer has been increased to USD30 per month;

coverage for work injury. Programs covering sickness, maternity benefits, family allowances, and unemployment benefits are not yet common. Access to health care varies considerably. Korea is notable in the region for providing insurance for long-term care. China, Indonesia, and Viet Nam are examples of countries that, relatively recently, have begun the task of integrating social security reform initiatives.

*vi) Accrual rates for pension calculation ranges from 1 to 3 percent, and there is considerable variation in of minimum vesting periods, contribution levels and indexation practices in the region*

Among the few countries in the region with DB pension schemes, the average accrual rate is 2 percent. Korea and Thailand index pensions to prices, Laos and Vietnam to wages, and in Philippines pensions are indexed in a discretionary manner. The average minimum vesting period is 13 years; however, it varies considerably among the countries with the highest levels in Korea, Mongolia, and Vietnam, and the lowest which is Laos.

#### *Europe & Central Asia*

Countries in the Europe and Central Asia region have been adjusting their pension systems over the past two decades as they make the transition to full market economies. This has required addressing pressures arising from a very pronounced demographic transition, a growing population of beneficiaries, and other consequences of the economic transition including increasing informalization of labor. The inherited PAYG mono-pillar systems have been changed to different degrees in the region. Nearly all countries have had to modify indexation rules to control costs, usually moving away from the practice of adjusting benefits in payment according to nominal wage growth toward some variant of price indexation (or, simply in an ad hoc manner adjusting benefits on the basis of available funds).

General characteristics of the design of pension systems in the region are the following:

- i) *Among the 30 countries in the region, more than half have zero pillars of some type; Kazakhstan and Kosovo have introduced a shift to a large funded pillar, and have moved the public pillar to a basic zero pillar using means-tested programs to cope with the risks of poverty in old age or disability.*
- ii) *Almost all countries have a first pillar, six of which are NDCs*
- iii) *Nearly half of the countries in the region have introduced a second pillar*

In 12 countries, reforms over the past 20 years have included the introduction of a second pillar. In Hungary, legislation reforming the pension system was passed in 1997 and implemented in 1998.<sup>21</sup> All the entrants to the labor market were required to join the reformed system, with others given the option to switch. In 1999, workers in Poland between the ages of 30 and 50 were given the choice of diverting one 7.2 percentage points of their payroll contribution to newly licensed privately managed pension funds. Workers under 30 years of age automatically joined the new scheme. In Latvia, a smaller funded pillar (2 percent of payroll) was introduced in July 2001 with a plan to eventually increase the contribution rate to 9 percent. In Bulgaria, a 2 percent mandatory second pillar started operating in January 2002 (with a plan to increase the contributions to 5 percent). Also in 2002, a mandatory funded pillar with a 5 percent contribution was established in Croatia, and another one with a 6 percent contribution was set up in Estonia. In January 2002 Russia began to accumulate funds for the second pillar. In 2003 Ukraine legislated a 2 percent second pillar (to grow to 7 percent). In 2004 Lithuania introduced a second pillar with a 2.5 percent contribution. Slovakia passed legislation to start a second pillar with a 9 percent contribution starting in 2005. Other countries in the region with second pillars are Macedonia, and Romania.

- i) *Except for Albania, Armenia, Belarus, Kazakhstan, and Kyrgyzstan, the rest of the countries in the region have integrated schemes for private sector workers and civil servants;*

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<sup>21</sup> In late 2010, it was announced that members of Hungary's private pension funds would face a choice to return to the public scheme or lose benefits, effectively shutting down the scheme.

Most countries in the region have an integrated pension system for private sector employees, and civil servants. However, most of them also have special schemes for other professional groups, particularly for military, and police. Other common special schemes are for judges, lawyers, teachers, and artists.

*ii) Statutory retirement ages are quite different for men, and women in most countries*

A key area of reforms in the region has been the retirement age, which initially was low and in some cases declined even further in the early 1990s. A few countries, such as the Czech Republic, and Lithuania, raised the effective retirement age gradually. In some other countries, like in Georgia, where the retirement age was raised to 65 for both men and women, the pace of reform was much faster. In the late 1990s and early 2000s, most of the countries managed to start increasing the retirement age and reducing early-retirement privileges.

*iii) Social security institutions also cover social insurance and assistance programs other than pensions in all countries in the region; and*

*iv) Accrual rates vary widely. Accrual rates ranging from 0.45 to 3 percent per annum. Indexation methods also vary across the region.*

The characteristics of the first pillar in the region also differ significantly. Some countries, such as Bulgaria, Croatia, Estonia, Hungary, and Slovakia, have sought to improve the microeconomic aspects of their pension systems by improving the traditional DB formulas (including point systems in some cases). Another, more fundamental, approach has been to re-characterize the ongoing PAYG promise in terms of what occurs in a funded, DC account by introducing a NDC scheme. Latvia, Poland and Russia followed the notional DC or NDC approach, including a funded, DC component.

Contribution rates in most of the countries in the region are high relative to those in other countries in the world, ranging from 20 to 45 percent of wages.

In the 1990s some countries in the region changed benefit formulas, including increasing the reference period on which benefits are based, in order both to reduce future benefit promises and to introduce more horizontal equity.

### *Latin America & the Caribbean*

The current designs of the pension systems in Latin America are also quite heterogeneous. Structural reform of the systems in the region began with the move to a funded plan of mandatory individual retirement accounts (second pillar) in Chile in 1981 and, to date, includes 10 countries.<sup>22</sup> Each of these “multipillar” systems is, however, unique since the balance between the pillars, the inclusion of current contributors within the reform, the degree of competition among providers, the arrangements for disability and survivor insurance, and institutional arrangements, among other features, are quite different.

General characteristics of the design of pension systems in Latin America and the Caribbean are the following:

- i) *Most countries have zero pillars as means-tested schemes;*

Most of the middle-income countries include some mechanism to provide income support for the elderly with either an insufficient history of contributions or no record of prior participation in the covered sector of the economy.

Financing and coverage of these “non-contributory” arrangements vary significantly. The most extensive coverage of pillar zero is found in Brazil, which has opted to provide all rural workers with a pension equivalent to 100 percent of the national minimum wage and Chile following the expansion of its means-tested pension to the bottom three quintiles in the income distribution after the reforms of 2008.

Also, in a few countries, such as Colombia, the Dominican Republic, and Nicaragua, the minimum pension guarantees are quite large relative to the expected average pension and are

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<sup>22</sup> See Annex III for country specific information. Argentina closed its second pillar in 2009, and Bolivia in 2010.



likely to involve significant government financing. These however, only apply to those covered by the mandatory contributory scheme.

*ii) In most countries in the region the system for private sector workers and civil servants is integrated. Indeed a critical feature of the reforms in Latin America, with a few exceptions, has been the creation of a single, unified national pension system from previously fragmented elements. Mexico is joining federal civil servants into the national system, and Colombia has integrated some, but not all, of its pension plans. Separate pension plans remain for provincial or state public sector workers. Argentina integrated about half of its provincial civil servant pension regimes and all of its federal civil servants into the national system, but some of the largest provincial plans remain separate from the national system. Brazil continues to have separate central, state and local government employees' pension schemes. Across the region (like in most of the world), the military is still not included in the national systems, and other select groups in each country receive pensions from special plans that have not been integrated. The self-employed are not required to participate.*

Contribution rates are higher in the demographically “older” countries and lower in the “younger” countries. For example, the Dominican Republic and Peru have a relatively low contribution rate for pensions, while Argentina and Uruguay have a relatively high contribution rate. Reforms in the region lowered contribution rates in some cases and raised them in others. Since social security reforms were frequently comprehensive, covering changes in health, unemployment insurance, housing, and other benefits, the increases affected all programs, not only pensions.

Many countries are still indexing pensions in payment in an ad-hoc or discretionary manner. In Ecuador pensions are indexed to prices, and wages, six other countries are indexing pensions to prices only, and Nicaragua and Uruguay to wages.

## *Middle East & North Africa*

Recently, Jordan and Egypt have reformed their pension systems, although implementation has been suspended in the case of Egypt. Jordan has made parametric changes and importantly has integrated private sector and civil servant schemes.

General characteristics of the design of pension systems in the region of Middle East and North Africa are the following:

- i) Only Malta, Egypt, Iran, and Libya seem to have zero pillars; however social assistance programs, although not targeted particularly to old-age people, in quite a few countries in the region.*
- ii) Almost all countries have a first pillar, Egypt has NDC and also DC (second pillar) although this has not been implemented. Mandatory pension schemes in Lebanon<sup>23</sup>, and West Bank and Gaza only cover civil servants and the military;*
- iii) Eight countries have integrated pension systems, while in seven countries pension schemes for private sector workers, and civil servants are still separated;*

In most countries in the region, there is more than one mandatory scheme, albeit sometimes managed by a single fund. In countries like Morocco, and Tunisia there is still a high fragmentation of the pension systems. Armed forces or military have special schemes in most countries in the region. Other special schemes are quite general in the region for self-employed, and farmers.

- iv) Statutory retirement ages are different for men, and women in most countries in the region, in most of the retirement age for women is 55, and for men 60;*

The statutory retirement age for men in most countries is 60 years, while it is 55 for women. In Egypt, Morocco, and Tunisia, the retirement age is 60, for both men and women, in Malta it is 65, and in Kuwait 50.

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<sup>23</sup> In Lebanon there is a scheme for private sector workers as well, however it does not pay a regular pension, but a lump-sum payment only (EOS –end-of –service indemnity).

- v) *Many countries provide programs other than pensions, particularly work injury, In the Gulf countries, however, where most of the labor force are expatriates, only the nationals are covered by all programs. In Bahrain, UAE, and other countries, expatriates are only covered by the work injury program.*
- vi) *Accrual rates vary from 1 to 2.5 percent, and most of the countries in the region index pensions in an ad-hoc or discretionary manner. There is also wide variation in contribution rates.*

Algeria and Egypt have the highest social security contributions. When looking only at the pensions program, Iran has the highest contribution rate.

### *South Asia*

The design of formal retirement income schemes in South Asia was influenced by the region's close historical ties to the United Kingdom, and with some recent exceptions, the systems have until recently changed little during the past half century. After independence, influenced by 'universal' pension coverage in the industrial world, India, Nepal, Pakistan, and Sri Lanka introduced laws requiring private employees of mostly large firms to participate in a retirement scheme of some kind. The resulting plans were generally structured as defined contribution schemes (provident funds). Pakistan's mandatory national scheme, created later, in 1976, relies on a defined benefit structure, while India introduced a defined benefit scheme in 1995 to complement the provident fund established in 1952.

General characteristics of the design of pension systems in the region of South Asia are the following:

- i) *Among the eight countries in the region, four of them have a zero pillar ;, Bangladesh, India, and Nepal have means-tested programs, while the Maldives pays basic pension benefits to all residents aged 65 and above;*

In 1995 Nepal introduced an Old Age Allowance (OAA) scheme, a universal tax-financed pension program paid to all citizens aged 70 or older. The eligibility age was recently reduced to

65. India has operated a means-tested cash transfer scheme for the elderly (and other groups such as widows) since 1995, as part of the National Social Assistance Program and some state governments had similar programs even earlier. In principle, this benefit is paid to destitute individuals older than 65 but in practice states implement the scheme using different eligibility criteria and benefit levels Bangladesh also has a means-tested program that provides an old-age benefit from age 57.

*ii) In all countries civil servants are covered by a special scheme. In Bhutan it is actually the main scheme, since private sector workers are not covered by any formal pension system;*

The mandated schemes that cover private sector workers are either provident funds (India, Nepal, Sri Lanka) or immature DB schemes with a high ratio of workers to pensioners (India, Pakistan). The pension schemes covering public sector workers have, until recently, been financed directly from the budget. Over the last decade, contributory schemes have been introduced for civil servants in Bhutan, India, Nepal and the Maldives.

In India, there is a formal pension scheme for private sector workers, a national provident fund, and a partially funded defined benefit scheme. Firms can be exempted from the national programs as long as they offer workers a program with a similar set of benefits (known as an exempt occupational fund). In addition, in India certain occupations covered by special statutes (such as coal mining) have separate exempt occupational schemes. Civil servants are covered by a PAYG defined benefit scheme which is phasing out in the long run. As of 2004, new civil servants are covered by a defined contribution pension scheme.<sup>24</sup>

*iii) In Afghanistan, and Pakistan, retirement ages are different for men and women, 55 and 60 respectively, in Sri Lanka such ages are 50, and 55. In Bangladesh, India, and Nepal retirement ages are the same for men and women, and those are, 60, 55, and 58 respectively;*

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<sup>24</sup> There are a few state governments that have not shifted to the new DC scheme.

- iv) *India has the highest contribution rates in the region, followed by Nepal and Sri Lanka*
- v) *In five countries social security systems cover old-age pensions, and work injury, three also cover sickness, and maternity, and India has also an unemployment program.*

Mandatory pension programs in South Asia are financed mostly through payroll charges. Payroll charges tend to be high by international standards, approaching rates prevalent in countries with more mature demographic profiles such as Eastern European countries and high-income OECD countries.

Pakistan is an exception where contributions rates are low. In Pakistan, the main pension system is financed with a contribution rate of 5 percent paid by employers, and around 1 percent by employees, depending on the level of earnings.

### *Sub-Saharan Africa*

In Sub-Saharan Africa, the colonial legacy left behind defined benefit schemes and provident funds and, in a few countries, a significant presence of private occupational pension funds. Civil service pension schemes were established in most Sub-Saharan African countries after independence. . Some provident funds were converted to defined benefit schemes, often also providing benefits for invalidity and survivorship.

Contributory pension coverage is low throughout Sub-Saharan African. With the exception of occupational schemes in Namibia, South Africa, and to a lesser extent Kenya, pensions are largely unfunded. This is clearly the case for the civil service schemes but is also true for the partially funded DB schemes that cover the relatively small proportion of the private sector labor force that participates in the formal sector. The provident funds mentioned above are also technically fully-funded.

General characteristics of the design of pension systems in Sub-Saharan Africa are the following:

*i) At least eight countries in the region have some type of zero pillar.*

In Botswana, Lesotho, Mauritius, Namibia, and the Seychelles, basic pensions are paid to all residents above a certain age, in Cape Verde, Liberia, South Africa, and Swaziland there are means-tested pensions for the elderly.

*ii) Most countries have separate schemes for civil servants, in a few cases such as Ethiopia, and Malawi, these are the main or only schemes.*

Most mandatory pension systems in Sub-Saharan Africa have separate schemes for different groups of professionals. A few countries have been contemplating or even already implementing new integration laws. Most of the region has civil service pension schemes for employees of national, state and municipal government workers, military, police, teachers and workers of Government authorities. Often such schemes originated prior to independence. These tend to be unfunded defined benefit schemes and either non-contributory or with worker contributions.

In several countries, the need to address fiscal issues has led policy makers to reconsider overall pension policy. In particular, the alternatives to the current arrangements for civil servants include a new system that replaces the dualism with one in which all formal sector workers participate (including Nigeria, Zambia, Cape Verde, Ghana, and Sierra Leone). Motivations include the desire to increase labor mobility, impose fiscal discipline, and address inequities that arise when there are parallel schemes operating. In smaller countries, there may also be advantages, as economies of scale might reduce administrative costs.

*iii) Retirement ages tend to be between 55 and 60, in many cases with early retirement available at age 50 and vesting periods varying considerably.*

*iv) Many social security systems in the region cover programs other than pensions.*

- v) *Contribution rates range between 8 percent of wages (in Rwanda, and Liberia) to 26 percent in Equatorial Guinea; when looking only at the pensions program, Ghana has one of the highest rates at 18 percent of wages. Accrual rates of national schemes range between 1 and 2 percent per annum, and aside from eight countries that index pensions in payment to prices, and two countries that index to wages, the rest index pensions in an ad-hoc or discretionary manner.*

### *High Income OECD Countries*

General characteristics of the design of pension systems in high-income OECD countries are the following:

- i) *Almost all countries have zero pillars of some type.*

Regarding zero pillars, 13 countries have only one type of zero pillar schemes, while 7 have more than one program. Targeted (or means-tested) schemes are found in various countries, basic (pensions for all residents above a certain age) in a few others. In fact, Canada, Denmark, Iceland, and the UK have both targeted, and basic zero pillars. New Zealand is the only country with only a basic pension system (it does not have pillars 1, and 2). There are 3 countries (Italy, Austria and Germany) that do not have zero pillars. They have social assistance programs, but do not have specific programs for the elderly.

- ii) *Almost all countries have first pillars as well, and most of the mandatory earnings-related pension schemes in this group of countries are DB and PAYG.*

Only Australia, Norway, and Sweden have second pillars (in the two last countries only as complementary schemes). Italy and Sweden have NDC systems, and Germany, and Norway have points systems.

- iii) *Around half of the countries have a separated scheme for civil servants, and other special schemes, although there is tendency to integrate such schemes.*

Indeed, around half of the high-income OECD countries still have separated mandatory pension schemes. Among them, 12 countries have mandatory special schemes for professional groups other than civil servants. Australia and the UK are gradually integrating their pension systems, towards a single national system.

- iv) The average statutory retirement age in high-income OECD countries is 65, while average early retirement age is 60, and the minimum required length of service 21 years.*
- v) Contribution rates are usually high, but social security institutions in all countries cover also social insurance and assistance programs other than pensions (old-age, disability, and survivors), which includes sickness and maternity, unemployment, work-injury, unemployment, and family allowances.*

When looking at the total social security contribution rates, Austria, France, Italy, and the Netherlands have the highest rates at more than 40 percent of gross wages. However, when looking only at pension contributions, Portugal and Spain are also among the highest while France is not. On the other hand, Canada, Ireland, Iceland, and United Kingdom have the lowest social security contributions. Switzerland, where there is no contribution ceiling, has one of the lowest pension contribution rates. Contribution rates in Ireland and United Kingdom, two of the countries with the lowest payroll taxes, vary depending on the level of earnings (the estimate presented is the average). Iceland, where the employer contribution rate to the universal pension was increased, has one of the lowest payroll taxes in this group of high-income OECD countries. Italy and the Netherlands have the highest social insurance taxes.

- vi) Accrual rates for pension calculation ranges from 0.9 to 3 percent; and most countries are currently indexing pensions in payment to prices.*

The average accrual rate in the benefit formulas of DB pension schemes in high-OECD countries is 1 percent. Some countries have been decreasing such rate in order to improve the pension system sustainability. As mentioned earlier, pensions of current beneficiaries in most



high-income OECD countries are currently indexed to prices; however there are still a few countries where pension indexation is done to wages or some combination.

### **PART III. PERFORMANCE INDICATORS**

The ultimate measure against which any pension system should be evaluated is the ability to effectively deliver the promised benefits in an efficient and secure manner over multiple generations. This is distinguished from the design (or aspirations of the pension system) presented in the previous section, by addressing the outcomes that are achieved rather than implied or intended by the manner in which the system is designed.

Evaluating this performance necessitates the formulation of a set of criteria that address the basic outcomes of a pension system, particularly the capacity to provide income replacement to its members and alleviate old age poverty, in conjunction with criteria that evaluate the systems' demonstrated capacity to sustain benefits and function in a reasonably efficient manner. Based on the experience on the design and reform of pension systems over the past 25 years the World Bank has developed the following six basic system performance measures that are used in its analytical and advisory work.<sup>25</sup> The broad criteria can be categorized as follows:

- **Coverage** of the pension system, by both mandatory and voluntary schemes
- **Adequacy** of retirement benefits
- **Financial sustainability** and **affordability** of pensions to taxpayers and contributors
- **Economic efficiency** by minimizing the distortions of the retirement-income system on individuals' economic behavior, such as labor supply and savings outside of pension plans
- **Administrative efficiency** by keeping the cost of collecting contributions, paying benefits and (where necessary) managing investments as low as possible
- **Security** of benefits in the face of different risks and uncertainties

The broad criteria point to the trade-offs inherent in the design of pension systems. For example, higher pensions from zero- or first-pillar schemes would improve the adequacy of retirement benefits but typically impose challenges in regard to maintaining fiscal sustainability

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<sup>25</sup> A more complete discussion of these may be found in "World Bank Pension Indicators", Pension Reform Primer Notes, 2010.

and economic efficiency if tax financed. In other cases, there are positive synergies. Limiting incentives for early retirement improves both economic efficiency as well as financial sustainability. Similarly, extending coverage of pensions for current workers should also improve the adequacy of future retirement benefits for today's workers.

The six criteria are useful towards diagnosing pension systems and informing the policy choices involved in designing a reform and monitoring the effectiveness of policy changes. As such, they are useful both to compare across countries and to assess the benefits of different policies within a country.

For many indicators, there are serious measurement challenges. For example, it is difficult to compare administrative costs of different public pension systems since they are often also run by institutions that manage other benefits, not to mention the type or quality of services provided. Costs may reflect economies of scale, giving larger countries an unfair advantage in such a comparison. Another example is performance of funded schemes. While the design may be exactly the same, the actual performance will depend on many factors exogenous to the pension system itself. Nevertheless, careful use of these indicators can help in the diagnosis of pension system reform needs, especially in extreme cases, and some indicators, if tracked over time, can help document progress or the impact of public policy changes.

Table 12 below distinguishes indicators of coverage and adequacy, financial sustainability, economic and administrative efficiency. Data are then presented where available. In many cases, there are serious gaps, especially for lower income countries. An ongoing effort to fill this evidence gap is under way. The section ends with a brief discussion of indicators specific to mandated defined contribution plans.

**Table 12: Pension system performance indicators**

<p><b>COVERAGE</b> Coverage of workers: Share of labor force and working age population contributing during last year Coverage of elderly: Ratio of number of pension beneficiaries to population aged 60 and above % of elderly HHs receiving pension transfers</p> <p><b>ADEQUACY</b> Empirical replacement rates by sex Ratio of pension income to expenditures/incomes of elderly households Relative poverty of elderly (50% of median expenditure per capita) Relative consumption/income of elderly (% of non elderly consumption) % of poverty gap reduced by pension transfers</p> <p><b>FINANCIAL SUSTAINABILITY</b> Pension spending to GDP ratio, most recent year Pension spending to general tax revenue ratio Unfunded pension liability (accrued to date minus reserves) as share of GDP and tax revenues Net pension liability (net of assets and projected revenues) as share of GDP and tax revenues</p> <p><b>ECONOMIC EFFICIENCY</b> Average effective retirement age Tax wedge (income tax, employee and employer social security contributions, % of gross labor costs)</p> <p><b>ADMINISTRATIVE EFFICIENCY</b> Administrative costs of public scheme (normalized to benchmark)</p>
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*Source: Authors*

## **Coverage**

### **Limitations of data sources**

It is important to highlight two main challenges encountered when measuring coverage of pension systems: i) The availability, and reliability of sources, and ii) Methodology, and definitions.

**i) Data sources:**

There are two main sources of information that can be used to measure coverage: (i) administrative data, and (ii) household and labor market surveys. Both have advantages as well as disadvantages. One of the main advantages of using administrative data to compute coverage is that it is derived from the records used to collect contributions and pay benefits. Unlike survey data, administrative data does not rely on respondents recall and is not subject to varying interpretations or understanding of their current status in relation to the pension system. Some administrative data, usually aggregate data, is easy to collect from annual reports or other institutional documents. For example, most pension agencies and social security institutions release annual data on membership, which can be used to monitor coverage trends over time.

However, administrative records usually do not provide detailed information about the socio-demographic characteristics of the population. In addition, records may have some problems of availability and quality. In countries with multiple pension systems, it is common that records are readily available for the largest national schemes, but less accessible for smaller schemes. In countries where pension systems are very fragmented, accessing all the data is even more complicated. Once data from several schemes has been collected, there may be problems of aggregation due to the overlap of beneficiaries. The quality of the information provided by social security administrations is often an issue. Many pension systems are affected by the existence of incorrect records or duplications.<sup>26</sup>

Household and labor surveys collect data that can be used to estimate coverage coupled with some socio-demographic and economic characteristics of the individuals. This complementary information is very important to determine the characteristics of covered populations and assess how they may differ from those outside of the system. However, a number of consistency and definitional problems limit the usefulness of survey data for longitudinal and cross-national comparisons. The problems also arise from differences in scope

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<sup>26</sup> Information provided in annual reports is often not consistent with the individual records provided by statistical or actuarial departments in the same institution.

(some surveys are national, others are urban only), phrasing of questions (some surveys ask about affiliation in pension schemes, others about actual contributions; in some cases individuals are asked if they are pensioners, in others they are asked about sources of income, including pensions). In some cases samples are not well constructed and therefore not representative of the overall population.

The estimates of coverage presented in the tables in this report are primarily based on administrative data sources. However, data for a few countries, particularly from Latin America, are also from household surveys. Most of the information was provided by national agencies and social security institutions.

**ii) Methodology and definitions:**

Measuring pension coverage imposes significant conceptual and methodological challenges as well. In some cases, published coverage numbers only include individuals who are receiving a pension or retirement benefit. But in earnings-related pension systems, it is also important to look at the phase in which individuals accrue pension rights.<sup>27</sup> This is especially important in systems that are not mature or facing demographic transitions, where it is important to determine the extent that people who have not yet reached the pensionable age will be entitled to a future pension. The most serious conceptual and methodological problems arise when considering coverage among active workers, since the definition of this status is not always clear. However, other problems also arise when trying to measure coverage of the elderly.

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<sup>27</sup> We refer to “earnings-related pension systems” rather than “contributory pension systems”, because there are non contributory schemes where workers accrue rights depending on earnings. This is relatively common among civil servants and some specific professions.

### Box 5 - COVERAGE

**Pension systems do not reach most of the vulnerable. Estimates suggest that** less than 30 percent of the global labor force is accruing pension benefits, and less than 20 percent of the elderly is receiving benefits. Level of per capita income is associated with rates of coverage, although other factors are also important, such as the presence of a mandatory scheme for private sector workers and the post-transition labor market situation in the former socialist countries. Almost all contributors are in the formal sector and coverage rates have been stagnant for decades in many countries and have fallen in the transition socialist economies.

#### *Coverage of the active population (coverage of active phase)*

The most common indicator of social security coverage before retirement is the percentage of the labor force contributing to the system. Several concepts have to be carefully considered to correctly measure coverage of the labor force, particularly when comparisons across countries and time are made. First, the labor force is not consistently defined in all countries. Some do not include rural areas; ‘family workers’ may or may not be included; the unemployed not looking for work are not computed as part of the labor force in most countries, there are also differences in age limits used in measuring the economically active population; differences in the treatment of emigrants<sup>28</sup>; and different ways of defining “informal labor force”.

Second, the numerator in a coverage ratio can be the number of affiliates, contributors or active members. Affiliates are those individuals enrolled in pension institutions, even if they are not currently contributing and/or accruing pension rights. Contributors are individuals who are actively contributing to the system. Active members are individuals who are accruing pension rights, even if they do not contribute. Measures of coverage can vary widely depending on which of these is used.

The main reason to use the number of affiliates to compute coverage of the labor force is that this information is usually readily available. However, this indicator poses problems, since many individuals enrolled in the systems are not actually eligible to receive benefits.

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<sup>28</sup> In countries with a high percentage of emigrant workers the coverage rate (defined as percentage of labor force) varies enormously depending on whether emigrants are included in the labor force.

Many, if not most, of the social security institutions in developing countries have a significant number of “dormant accounts” of workers who at some point contributed to the system but who are not currently doing so. The records of pension institutions also tend to exaggerate the number of actual affiliates, as erroneous or duplicate records are rarely corrected. One oft-observed phenomenon, particularly in developing countries, is the high mobility of the individuals among different status of labor market activity (unemployment, informal employment, and formal employment). Many of these individuals will receive either a partial pension or, due to vesting rules, no pension at all.

The coverage tables in this report are based on the number of active members (not affiliates) using the number of current contributors to avoid the potential overestimations of coverage. For instance in Indonesia there are currently about 30 million accounts in the pension institution, including a large number of dormant and duplicate accounts. However, the number of current active contributors is only about 8 million.<sup>29</sup>

Some pension schemes however do not require contributions to recognize pension rights. In these cases, a measure of coverage based on contributors might underestimate the total number of workers protected by the scheme. This problem can be overcome using the number of active members to compute coverage of the labor force. In the cases where rights are accrued without requiring a contribution the additional participation resulting from this is added to the coverage numbers.

Useful as they are, snapshot indicators like the rate of coverage of the labor force do not suffice to characterize incomplete coverage of the active population because they do not capture the dynamics of this phenomenon. Being covered is usually a temporary status among the active population. Individuals do not contribute all along their adult life either because they are not active all the time or because they are unemployed, working in uncovered jobs or evading contributions. Pension entitlements depend on the histories of contribution rather than on the contribution status in a specific moment.

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<sup>29</sup> The civil servant scheme has about 4.5 million contributors, and the military about 0.5 million.



Measuring coverage of the elderly poses fewer difficulties than measuring coverage for the economically active population, since instead of measuring the accrual of rights to a potential benefit, the indicators are based on the number of individuals actually receiving benefits. However, this measure also has some limitations. For instance, some elderly individuals may qualify for retirement benefits but prefer to continue working. Others may not want to apply for a retirement benefit for which they are entitled because they have enough alternative resources. Some authors might argue that spouses or dependent relatives of benefit recipients should be included as “covered”. Others might include only the primary recipients.

Therefore several main concepts have to be carefully considered when measuring coverage of the elderly. First, it is important to notice that there are different types of beneficiaries. Most of the mandatory pension programs in the world provide not only old-age pensions but also disability, survivorship, and even other type of pensions.<sup>30</sup>

Second, in some cases individuals have the right to receive several different types of pension payments from various institutions. Systems with multiple components administered by different institutions, especially, complicate measurement of coverage when using administrative records.

Third, some countries have non-contributory pension schemes. These benefits are assigned to all elderly (in universal models) or those who need assistance (in means-tested targeted models). Recipients of non-contributory pensions should be included as covered, but in various countries such information is not available or is unclear.

Finally, some pension systems only provide lump-sum payments. Some authors argue that beneficiaries of these payments are covered, while others argue that only recipients of regular payments should be considered as covered. Our preferred definition of coverage of the elderly includes those individuals that are regularly receiving a pension, although this

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<sup>30</sup> In many countries other pensions are provided by the same pension scheme to parents, siblings, unmarried daughters and others.

understates the proportion of the elderly that have received some benefit in countries that only pay lump sums.

Since pensions are primarily a source of old age income support, the greatest interest lies in determining the percentage of the population above a certain age who are receiving pensions. As noted above, this is usually best derived from household surveys. Administrative data is often less useful because the number of beneficiaries is not usually provided by age. It is always possible to measure coverage of the elderly by dividing the total number of beneficiaries by the number of people above a certain age, but this could be misleading because many beneficiaries are not really elderly. Indeed, the variation of ages among disabled and survivors is very wide and even in the case of old-age pensions there could be significant numbers of relatively young beneficiaries because of early retirement.

When using “administrative data” as the main source to measure coverage of the elderly, careful consideration should also be given to various factors that might lead to an overestimation of the coverage rates. In some cases, for instance, pensions are being paid to people who have emigrated from the country and are thus not included in the population base. Also, some social security administrations do not receive an automatic notification when a pensioner dies. Fraud, intentional or through error, may also contribute to the overestimation of elderly coverage.

#### *Coverage and level of income per capita*

The overall level of pension coverage typically is the result of the underlying design of the system, the manner it was implemented and how long the system has been in operation. Historically, coverage was often provided first to government employees and members of the Armed Forces. There are still a few countries that only have pension schemes for public employees. Schemes were eventually extended to workers in industry and commerce, and finally to all wage earners and salaried employees. In many countries, this evolution is still reflected in fragmentation into various special schemes, the most common being public employees, military personnel and civil servants, teachers, and employees of public utilities.

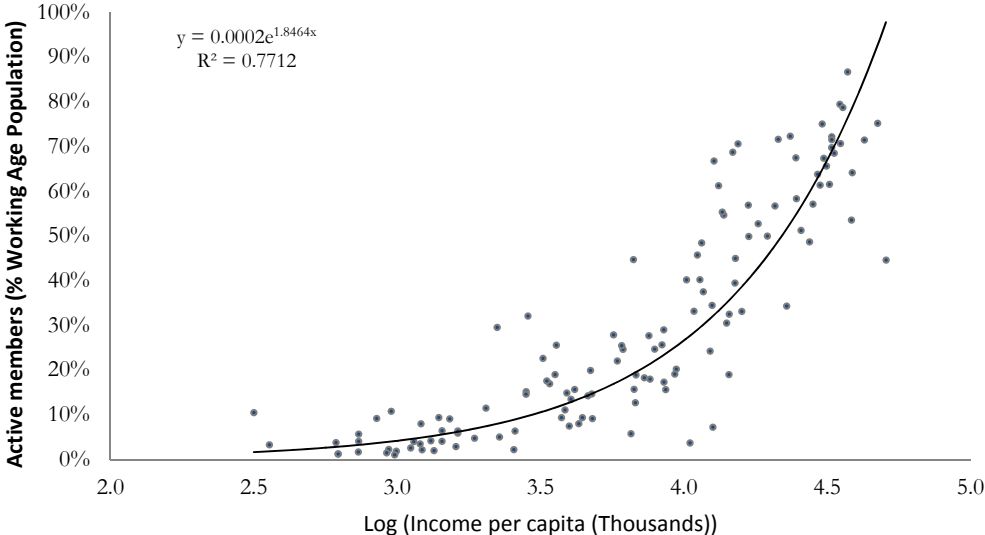
Due to the influence of this development path and because the demand for, and capacity to provide pension coverage is often a function of the level of overall economic development, coverage of pension systems continues to exhibit a strong relationship with the level of per capita income. Figure 16 below shows the relationship between the ratio of contributors to the labor force and income per capita derived from the 189 countries for which a reasonably reliable coverage ratio is available. This provides some estimate of how coverage patterns may be expected to change with growth in incomes.<sup>31</sup> Figure 17 shows the same relationship with a slightly different measure of coverage, the share of contributors to the working age population. The similarity in the relationship that is shown indicates that coverage is fairly strongly correlated with per capita income and that this relationship is not sensitive to the denominator used in the coverage measure. Coverage seems to grow with income levels rather than to be related to labor force participation patterns.

Not surprisingly, given the regional differences in income there is a considerable variation in pension coverage by region as shown in Figure 18. Coverage remains highest in the high-income OECD countries followed by Eastern Europe and Former Soviet Union region, which has experienced a considerable decline of coverage during this period of transition. South Asia and Sub-Saharan Africa have the lowest coverage that currently remains at less than 10 percent of the working age population.

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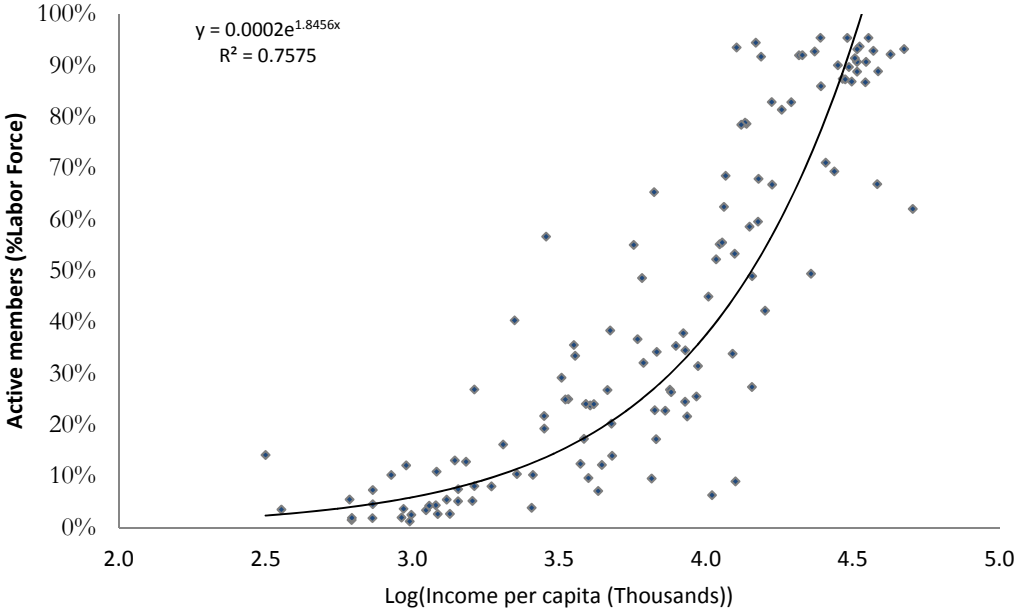
<sup>31</sup> During the last few years, coverage rates, for various reasons, have not been increasing with income per capita. The correlation of coverage and income per capita was stronger in the past.

**Figure 16: Relationship between coverage of working age population and income per capita**



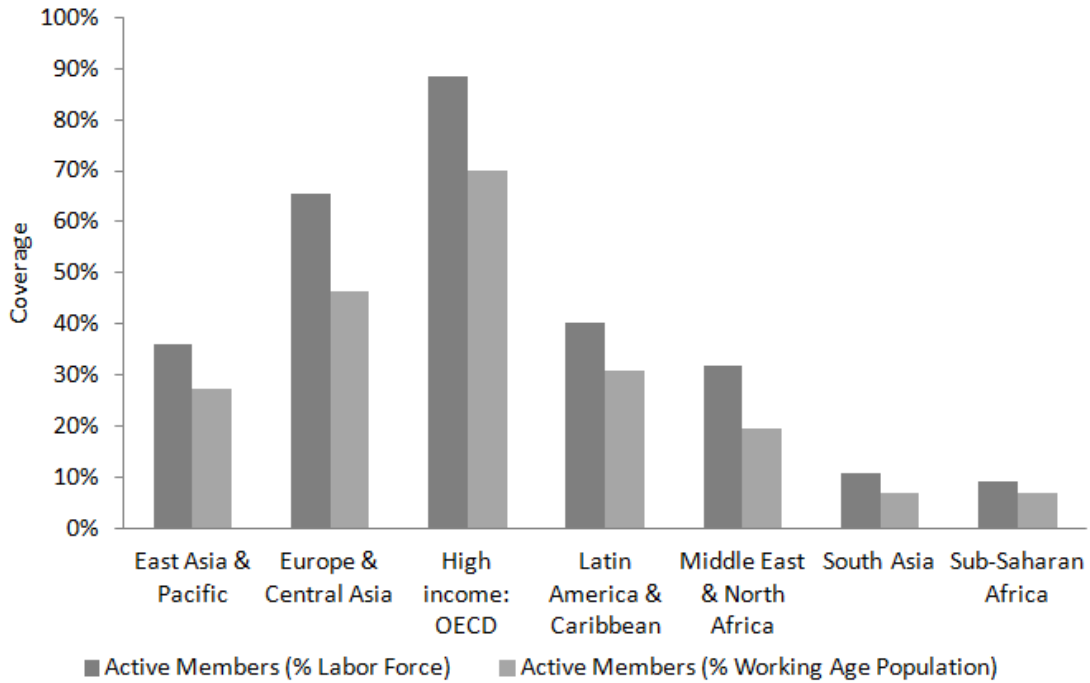
Source: World Bank Pension Database as of January 2012

**Figure 17: Relationship between coverage of labor force and income per capita**



Source: World Bank Pension Database as of January 2012

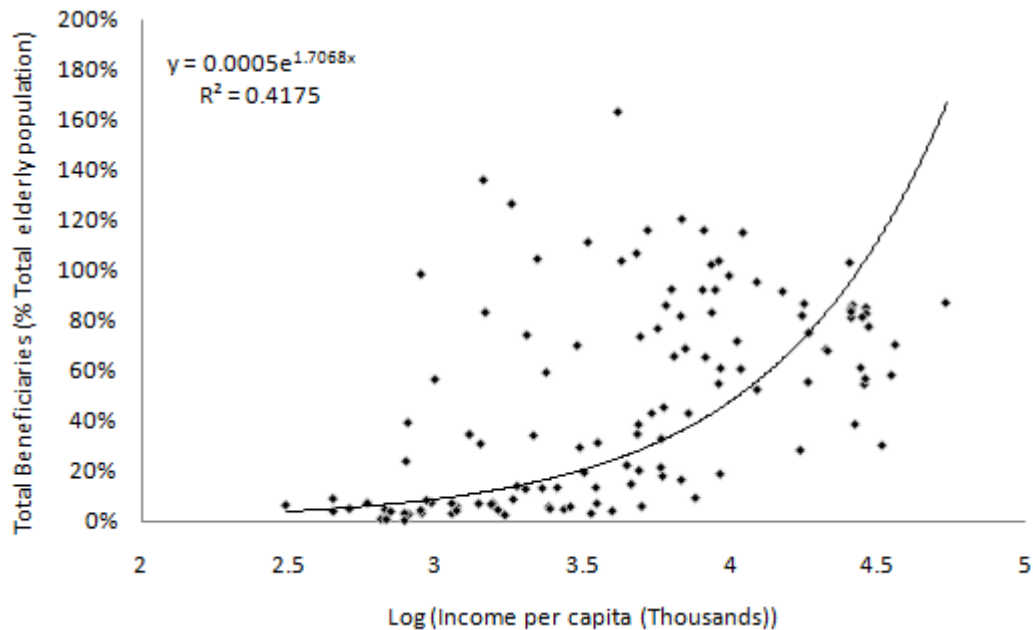
**Figure 18: Average coverage rates by region**



*Source: World Bank Pension Database*

In contrast, coverage defined as the ratio of beneficiaries of pension programs, including non-contributory or zero pillars, to the number of elderly exhibits a much lower correlation with income per capita. This is partly due to the fact that some pension schemes (e.g., Korea) were introduced later in the process of demographic transition and are therefore still at a relatively immature stage. It also reflects the problems with contribution density in some countries where some workers do not meet vesting minimum requirements for a pension and may instead receive a lump sum payment or even nothing at all. Most importantly however is the increasing role of social pensions which do not link benefit payments to prior contribution history. In some countries, these programs are universal or almost universal and are granted at relatively low ages (Figure 19 below defines the elderly as 65 and older) explaining the very high ratios for even some of the poorest countries.

**Figure 19: Beneficiaries as % of total elderly population and income per capita**



*Source: Authors calculation*

### **Relative poverty of the elderly**

A key objective of any pension system is to reduce elderly poverty. For purposes of simple cross-country comparison, the OECD publishes relative poverty figures where the poverty line is fifty percent of median per capita income in its bi-annual Pensions-at-a-Glance publication. Internationally comparable figures for non-OECD countries are not readily available and vary in terms of the definition of poverty, equivalence scales and other methodological details.<sup>32</sup> The World Bank Social Protection Department is using standardized household survey data to generate similar estimates for non-OECD countries and is gradually building this database. The Bank's estimates generally focus on expenditures rather than incomes due to the nature of the surveys used.

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<sup>32</sup> See Whitehouse (2000).

### **% of poverty gap reduced by pension transfers**

A more direct measure of the impact of pensions on poverty is the extent by which they reduce the poverty gap. The World Bank is in the process of using household expenditure surveys for countries that report this source of income to calculate this indicator.

### **% of elderly households receiving pension transfers (by quintile)**

The same household surveys can be used to assess the incidence of pension spending by calculating the percentage of these transfers received across the expenditure distribution. This indicator is being calculated for non-OECD countries.

### **Incomes/consumption of elderly households compared to non-elderly households**

The OECD's Pensions at a Glance compares the incomes of households with and without elderly members. These estimates are now being generated for non-OECD countries using household survey data. Again, expenditures rather than incomes are the focus of these estimates.

### **Pension spending as a share of GDP**

Pension systems involve very long-term financial commitments. The promise to pay a benefit during retirement to today's workers covers a period that can span many decades. The capacity to meet these promises is one of the most important issues in the design of retirement-income systems. All too often, policy makers mistakenly conclude that a pension system is financially healthy simply because it is generating short term cash surpluses (i.e., contributions to the scheme exceed benefits). A pension system is sustainable only when it has the capacity to pay current – and future – benefits over a long horizon under reasonable assumptions without shifting substantial burdens to future generations and without having to cut benefits, increase contributions, or change qualifying conditions.

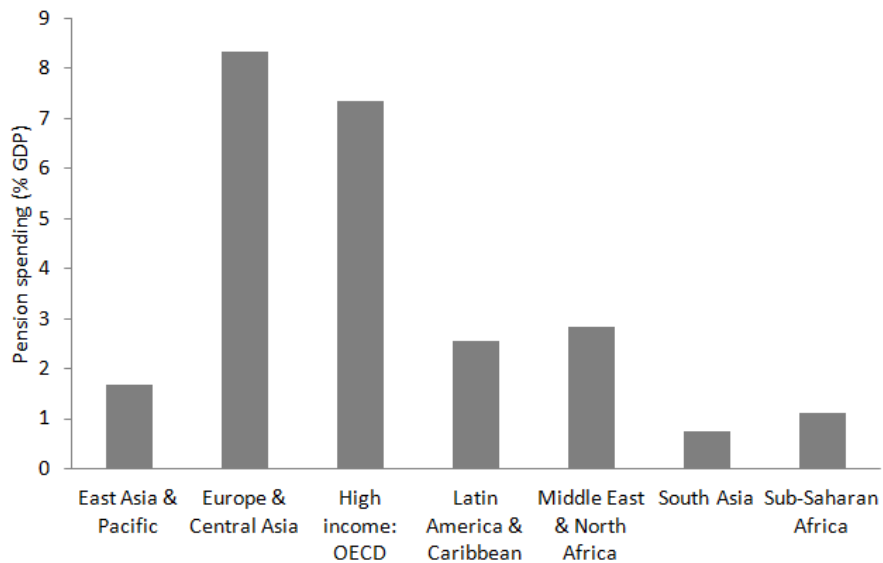
### Box 6 - PUBLIC PENSION SPENDING

**Public pension spending has been increasing in most countries over the last few decades (see, for example, IMF 2012).** High-income OECD countries have the highest pension spending, followed by ECA. There is a strong correlation of pension spending with the percentage of elderly population although the unexplained variance clearly suggests that other factors such as the design of the systems, coverage, income, and maturity of the system influence the outcome.

Issues of financial sustainability are mainly relevant to earnings-related schemes. The starting point for the analysis of the financial status is the level of expenditures of the system. Overall average expenditure levels as a share of GDP are summarized by region in Figure 20 below.

The pattern of spending is correlated to demographic structure as shown below in Figure 21. Italy, which has one of the oldest demographic structures in the OECD, also has the highest pension spending, followed by Austria, and France. Nevertheless, there is significant variation around the fitted line.

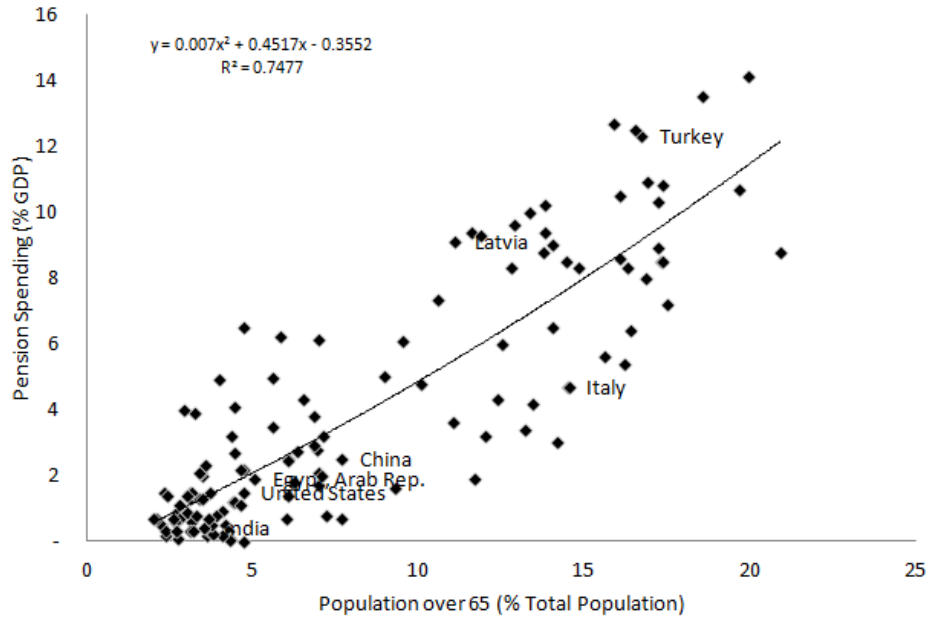
**Figure 20: Average pension expenditure by region**



*Source: World Bank Pension Database*



**Figure 21: Public pension spending versus the percentage of the population over age 65, selected countries**



Source: World Bank Pension Database

## Regional patterns of coverage and pension expenditures

### *East Asia and Pacific*

Hong Kong and Brunei have the highest coverage rates in the region. They covered respectively 78 and 66 percent of the labor force. On the other hand, Indonesia and Vietnam have the lowest coverage rates. However, careful consideration should be given to these numbers. As explained in the first section of Part III, we use the number of current contributors rather than affiliates to measure coverage, to avoid the overestimation that may arise when the number of affiliates is used. For instance, in the case of Indonesia there are currently about 30 million accounts in the pension institution, including a large number of dormant and duplicate accounts. However, the number of current active contributors is only about 8 million.<sup>33</sup>

<sup>33</sup> The civil servant scheme has about 4.5 million contributors, and the military about 0.5 million.

Some efforts to expand coverage are starting taking place in the region. In China, for instance, on October 1, 2010, new legislation went into effect that extends public pension coverage to part-time workers. (Part-time workers are those who work from 30 percent to 70 percent of the hours normally worked by full-time employees of the same company.) The new legislation also grants part-time workers certain benefits, including annual and sick leave, paid public holidays, and overtime. A more recent development, the mass extension of a rural pension scheme has already increased the number of contributors by tens of millions.

Regarding pension spending in the region, the highest as percentage of GDP is found in Marshall Islands, followed by Mongolia (both spend more than 6 percent of GDP) followed by Vietnam, and China at around 2 percent. Pension expenditures in the rest of the countries of the region represent less than 2 percent of GDP.

#### *Europe and Central Asia*

Most of the elderly in the region are receiving some type of pension, although in all countries there are pockets of elderly who are not. The concern with regard to coverage, however, is primarily for the future. Contributors as a percentage of labor force vary from a low of 32 percent in Albania to a high of 97 in Belarus. Countries that have not reduced the role of the state as employer significantly like Belarus, have maintained high coverage rates. A few countries, such as the Czech Republic and Slovenia, have maintained relatively high coverage rates during the transition to a market economy.

Ukraine is the country with the highest pension expenditure as percentage of GDP, followed by Serbia, and Slovenia. Ukraine in 2010 spent around 17 percent of GDP on pension payments. Together with Serbia, Slovenia, and Ukraine, the countries of Belarus, Bosnia (Republic Sprska), Croatia, Hungary, and Poland also spend more than 10 percent of their GDP on pensions. On the other hand, Kyrgyz Republic, Kosovo, and Georgia have the lowest pension spending.

### *Latin America and the Caribbean*

There is wide variation of coverage in the region. At the low end, participation in Bolivia, El Salvador, and Peru ranges from 10 to 15 percent of the workforce, while at the higher end, participation in Argentina, Chile, and Uruguay ranges between 50 and 80 percent. Although the share of the economically active population contributing to the formal pension system is positively correlated with per capita income, there is also significant difference between countries with similar income levels. The available empirical evidence on changes in worker participation brought by structural reforms is mixed, with some authors claiming expanded coverage and other finding little evidence of increased participation.

Brazil and Uruguay spend the most on pensions as a share of GDP, followed by Argentina. Except for Colombia and Venezuela, the rest of the countries in the region spend less than 3 percent of GDP.

### *Middle East and North Africa*

Pension system coverage varies between 10 and 75 percent of the labor force in the region. There is large variation in the institutional arrangements for pension provision, particularly the extent to which different labor market groups are covered by a mandate. For instance, Egypt has coverage rates of 70 percent of the labor force due to a heavily subsidized scheme for casual workers that covers about one quarter of the labor force. Other countries like Yemen have increased in coverage in recent years partly due to an expansion of the mandate to more employers. Active contributors to the private sector scheme more than doubled between 2000 and 2005.

Malta spends the highest share of GDP on pensions in the region at about 9 percent followed by Tunisia, Egypt, and West Bank and Gaza. Algeria and Iraq spend more than 3 percent of GDP, while the rest of the countries in the region spend less than 3 percent.

## *South Asia*

The low coverage of South Asian pension programs are consistent with patterns observed in other low-income countries with an extensive informal sector and a substantial rural population largely engaged in subsistence activities. Agriculture remains the primary source of employment in most countries. Sri Lanka has the highest coverage - around 30 percent of the working age population. Its higher coverage is explained largely by greater formalization of its economy, as well as a special scheme aimed at farmers and fishermen. The Maldives also has higher coverage rates, due partly to its large public sector. It recently introduced a defined contribution scheme that will be expanded mandatory coverage to the formal private sector in 2011. There is no mandatory scheme for private sector workers in Afghanistan, Bangladesh or Bhutan, although it is planned in Bhutan according to recent labor legislation. Coverage rates for the region are among the lowest in the world.

As explained in Part II, given the low coverage, the importance of pillar zero in the region is increasing. In India, means-tested schemes administered by states and supplemented with federal funds reach 15-20 percent of elderly Indians, following an expansion of eligibility in recent years. Bangladesh has a similar scheme with even higher coverage after expanding rapidly in the last five years. In Sri Lanka, the massive social assistance programs sponsored by the State reach more than a quarter of households with elderly members. In Nepal, a universal pension is supposed to be paid to all Nepali citizens age 65 and older. The largest cash transfer program for the elderly (in relative terms) is in the Maldives where a benefit worth close to half of income per capita is paid to every citizen aged 65 and above.

Pension spending now exceeds two percent of GDP in the Maldives and is around two percent in India and Sri Lanka who spend more than 2 percent of GDP where most of the spending is for civil service pensions. The ratio is less than 1 percent in the rest of the region.

### *Sub-Saharan Africa*

Generally coverage under mandatory civil service, social security and voluntary occupational schemes has been limited to less than one-fifth of the labor force, with the rest of the population relying on its own resources and informal old-age income support. Non-contributory schemes financed by general revenues are largely concentrated in Southern Africa (Lesotho, Botswana, Namibia, and South Africa) where there is also no mandated contributory scheme for private sector workers. There are also universal flat pensions in Mauritius and Cape Verde.

Regarding pension expenditures in the region, the growth in civil service retirees entitled to benefits is creating a growing fiscal strain and projections in some countries suggest that the growth in costs would continue for some time. In some countries, spending on the pensions of civil servants doubled during the 1990s. In addition to financial imbalances and low coverage in the region, other concerns include weak administrative systems which are not conducive to the efficient management of the pension plans.

### *High Income OECD Countries*

High-income OECD countries have the highest coverage, and highest pension expenditures in the world (see Annex III for details).

Under the three definitions of coverage, we observed that the high-income countries have by far the highest coverage. In most cases, the concept of coverage, defined as contributors over labor force, is estimated to be above 90 percent. The uncovered population may be special exempted groups (for example, certain self-employed individuals, part-time workers, etc.) and the unemployed, although the latter are often credited for time spent receiving unemployment benefits.

Switzerland has the highest coverage (according to the three definitions), followed by Japan. On the other hand, Spain, Portugal, and Greece are among those with the lowest coverage. As a group, the high-income OECD countries have also the highest public pension expenditures in the world. But as shown in Annex III, there is significant variation within the group. Australia spends only five percent of its national income compared to three times as much in Italy.

### **Pension spending as a share of government spending**

For middle and especially low-income countries, the ratio of pension spending to GDP does not provide much insight into the constraints faced by these countries as the ability to raise taxes is significantly lower and even with donor support, public spending as a share of the economy is much lower than in richer countries. A complementary indicator that provides a more direct measure of the fiscal burden is the share of government spending used for pensions.

### **Unfunded pension liabilities (accrued to date net of reserves)**

Pension promises represent a type of obligation to workers that can be quantified in several ways. In the last few years, the European Union has started to report a standardized measure of these liabilities in its supplementary fiscal accounts. Table 13 below presents some of these estimates which are based on the accrued or projected benefit obligation method whereby the liability reflects the value of unfunded pension wealth from public pension schemes accrued by workers at the time of the estimate. Various models have been used to generate the results.

**Table 13: Illustration of comparable cross country estimates of accrued pension liabilities**

Country	Year	Model	Wage growth	Pension entitlements	
				in billions national currency	as a percentage of GDP
Czech Republic	2006	Freiburg	ABO	5,231	162
			PBO	6,474	200
Germany	2004	National	ABO	4,168	186
			PBO	5,669	253
	2005	National	ABO	4,136	185
			PBO	5,268	235
	2006	Freiburg	ABO	5,386	232
			PBO	6,464	278
2005	World Bank	PBO	6,710	289	
Spain	2006	National	PBO	2,349	240
		Freiburg	ABO	1,969	201
			PBO	2,333	238
		2005	National	PBO	5,623
France	2006	Freiburg	ABO	4,225	247
			PBO	5,248	293
	World Bank	PBO	5,721	319	
Hungary	2006	Freiburg	ABO	54,272	228
			PBO	65,272	275
Netherlands	2006	Freiburg	ABO	690	129
			PBO	872	163
Poland	2006	Freiburg	ABO	2,695	255
			PBO	3,037	287
		World Bank	PBO*	2,579	243
			PBO**	464	44
Sweden	2002	National	ABO	5,729	242
	2003			5,984	243
	2004			6,244	243
	2005			6,461	242
	2006			6,703	236
	2006	Freiburg	ABO	4,760	168
			PBO	5,620	198

\*FUS: Social Insurance Fund

\*\*FER: Disability and pension Fund (farmers)

Source: Eurostat (2007)

### Net pension liability (present value of projected revenues minus projected spending)

In contrast to the accrued pension liability concept described above, the net pension liability concept assumes an ongoing pension scheme and compares projected revenues and expenditures in order to ascertain the financing gap. The present value of this stream of

deficits/surpluses represents the unfunded pension liability. Again, while many such projections have been done for dozens of individual countries, the absence of a standardized methodology precludes the generation of internationally comparable figures for the moment.

### **Average effective retirement age**

The average effective retirement age is often lower than the normal retirement age due to early retirement provisions and is an important indicator for the purposes of assessing the actual behavior of workers when faced with certain incentives embedded in the pension system rules.

### **Tax wedge**

The potential distortionary effects of the payroll taxes used to finance pensions and other social insurance programs are important to recognize when assessing both coverage and sustainability. High payroll taxes may encourage evasion or reduce labor supply. At the same time, the initial level of the payroll tax determines to some extent whether this source of financing can help balance the systems finances over the long run. It is defined as the sum of income tax, employee and employer social security contributions as a share of gross labor costs and is taken from the World Bank's Labor Market database.

### **Administrative costs of public scheme**

The cost of administering public pension schemes can significantly reduce resources available for paying pensions. However, making international comparisons is very difficult given the heterogeneous nature of the functions being performed and services being provided. The size and level of maturation of the schemes also leads to biases that may provide deceptive results. A study on administrative costs<sup>34</sup> is currently under way that will soon provide useful cross-country data that will be included in this database.

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<sup>34</sup> Sluchynskyy (forthcoming)



## **A note on indicators of performance of mandated defined contribution schemes**

In addition to the indicators listed above, the ascent of mandated defined contribution schemes, particularly in Latin America and Eastern Europe, along with several OECD countries, has led to research on the performance specific to this type of pension plan. The focus of this research is on financial performance and several key indicators tend to be analyzed in the cross-country comparisons.<sup>35</sup> These include net and gross investment returns and their volatility, charge ratios (the impact of fees on DC balances over the accumulation period, annuity rates or money's worth ratios and their volatility and the dispersion across individuals of each of these indicators). The compilation of a significant body of data on these indicators is under way at both the OECD and the World Bank's financial sector department but are limited both by problems with reporting standards<sup>36</sup> and the fact that most of these plans have been introduced only since the mid-1990s or later. As these issues are resolved and data become available, they will be included in the World Bank's pension database.

### **Conclusions and looking forward**

There have been significant advances in the development and collection of information and data on pension systems around the world during the last decade. The micro-simulation based comparative indicators developed at the OECD are now being produced for developing countries. In the next few years, these indicators will be updated and refined for an even larger group of countries.

There are still important gaps to be addressed, however. A major source of useful information is household surveys that contain information about the relative incomes and poverty rates of elderly individuals as well as information on household structures that are changing in many countries in ways that can influence the need for pension provision. Social pensions are being introduced or expanded in many countries, but cross-country data on their performance is scarce.

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<sup>35</sup> See Hinz et. al eds. (2010)

<sup>36</sup> See Hinz et. al eds. (Antolin and Tapia Chapter, 2010).

Indicators of adequacy could also be refined, for example, to take into account the out-of-pocket health burden that disproportionately affect the elderly.

With regard to long run sustainability of unfunded pension schemes, an international standard for fiscal accounting has remained elusive. As these liabilities become more prominent, even in poor countries with young populations, robust measures reported regularly are required for better planning and to inform policy.

Coverage measures focus on 'snapshots' of contributors that do not capture the fact that many workers move in and out of contributory pension systems. More information is needed to assess lifetime patterns of contributions or 'contribution densities' that provide a more accurate picture of the extent to which workers have amassed pension wealth and are in a position to finance their retirement.

In short, much work remains to be done to create an international information base for evidence-based pension policy.

**ANNEX I: CLASSIFICATION OF COUNTRIES BY REGION AND ECONOMIC GROUP**

**Annex I Table 1: Country classification by region (World Bank)**

High Income OECD	East Asia & Pacific	Eastern Europe & Central Asia	Latin America & the Caribbean
Australia	American Samoa	Albania	Antigua and Barbuda
Austria	Brunei Darussalam	Andorra	Argentina
Belgium	Cambodia	Armenia	Aruba
Canada	China	Azerbaijan	Bahamas, The
Denmark	Fiji	Belarus	Barbados
Finland	French Polynesia	Bosnia and Herzegovina	Belize
France	Guam	Bulgaria	Bermuda
Germany	Hong Kong, China	Channel Islands	Bolivia
Greece	Indonesia	Croatia	Brazil
Iceland	Kiribati	Cyprus	Cayman Islands
Ireland	Korea, Dem. Rep.	Czech Republic	Chile
Israel	Korea, Rep.	Estonia	Colombia
Italy	Lao PDR	Faeroe Islands	Costa Rica
Japan	Macao, China	Georgia	Cuba
Luxembourg	Malaysia	Greenland	Dominica
Netherlands	Marshall Islands	Hungary	Dominican Republic
New Zealand	Micronesia, Fed. Sts.	Isle of Man	Ecuador
Norway	Mongolia	Kazakhstan	El Salvador
Portugal	Myanmar	Kyrgyz Republic	Grenada
Spain	New Caledonia	Latvia	Guatemala
Sweden	Northern Mariana Islands	Liechtenstein	Guyana
Switzerland	Palau	Lithuania	Haiti
United Kingdom	Papua New Guinea	Macedonia, FYR	Honduras
United States	Philippines	Moldova	Jamaica
	Samoa	Monaco	Mexico
	Singapore	Montenegro	Netherlands Antilles
	Solomon Islands	Poland	Nicaragua
	Taiwan, China	Romania	Panama
	Thailand	Russian Federation	Paraguay
	Timor-Leste	San Marino	Peru
	Tonga	Serbia	Puerto Rico
	Vanuatu	Slovak Republic	St. Kitts and Nevis
	Vietnam	Slovenia	St. Lucia
		Tajikistan	St. Vincent and the Grenadines
		Turkey	Suriname
		Turkmenistan	Trinidad and Tobago
		Ukraine	Uruguay
		Uzbekistan	Venezuela, RB
			Virgin Islands (U.S.)

(Cont.)

Middle East & North Africa	South Asia	Sub-Saharan Africa	
Algeria	Afghanistan	Angola	Madagascar
Bahrain	Bangladesh	Benin	Malawi
Djibouti	Bhutan	Botswana	Mali
Egypt, Arab Rep.	India	Burkina Faso	Mauritania
Iran, Islamic Rep.	Maldives	Burundi	Mauritius
Iraq	Nepal	Cameroon	Mayotte
Israel	Pakistan	Cape Verde	Mozambique
Jordan	Sri Lanka	Central African Republic	Namibia
Kuwait		Chad	Niger
Lebanon		Comoros	Nigeria
Libya		Congo, Dem. Rep.	Rwanda
Malta		Congo, Rep.	Sao Tome and Principe
Morocco		Cote d'Ivoire	Senegal
Oman		Equatorial Guinea	Seychelles
Qatar		Eritrea	Sierra Leone
Saudi Arabia		Ethiopia	Somalia
Syrian Arab Republic		Gabon	South Africa
Tunisia		Gambia, The	Sudan
United Arab Emirates		Ghana	Swaziland
West Bank and Gaza		Guinea	Tanzania
Yemen, Rep.		Guinea-Bissau	Togo
		Kenya	Uganda
		Lesotho	Zambia
		Liberia	Zimbabwe

**Annex I Table 2: Country classification by economic group (World Bank)**

Low Income	Lower Middle Income	Upper Middle Income	High Income
Afghanistan	Albania	Algeria	Andorra
Bangladesh	Angola	American Samoa	Antigua and Barbuda
Benin	Armenia	Argentina	Aruba
Burkina Faso	Azerbaijan	Belarus	Australia
Burundi	Belize	Bosnia and Herzegovina	Austria
Cambodia	Bhutan	Botswana	Bahamas, The
Central African Republic	Bolivia	Brazil	Bahrain
Chad	Cameroon	Bulgaria	Barbados
Comoros	Cape Verde	Chile	Belgium
Congo, Dem. Rep.	China	Colombia	Bermuda
Eritrea	Congo, Rep.	Costa Rica	Brunei Darussalam
Ethiopia	Cote d'Ivoire	Cuba	Canada
Gambia, The	Djibouti	Dominica	Cayman Islands
Ghana	Ecuador	Dominican Republic	Channel Islands
Guinea	Egypt, Arab Rep.	Fiji	Croatia
Guinea-Bissau	El Salvador	Gabon	Cyprus
Haiti	Georgia	Grenada	Czech Republic
Kenya	Guatemala	Jamaica	Denmark
Korea, Dem. Rep.	Guyana	Kazakhstan	Equatorial Guinea
Kyrgyz Republic	Honduras	Latvia	Estonia
Lao PDR	India	Lebanon	Faeroe Islands
Liberia	Indonesia	Libya	Finland
Madagascar	Iran, Islamic Rep.	Lithuania	France
Malawi	Iraq	Macedonia, FYR	French Polynesia
Mali	Jordan	Malaysia	Germany
Mauritania	Kiribati	Mauritius	Greece
Mozambique	Lesotho	Mayotte	Greenland
Myanmar	Maldives	Mexico	Guam
Nepal	Marshall Islands	Montenegro	Hong Kong, China
Niger	Micronesia, Fed. Sts.	Namibia	Hungary
Rwanda	Moldova	Palau	Iceland
Senegal	Mongolia	Panama	Ireland
Sierra Leone	Morocco	Peru	Isle of Man
Somalia	Nicaragua	Poland	Israel
Tajikistan	Nigeria	Romania	Italy
Tanzania	Pakistan	Russian Federation	Japan
Togo	Papua New Guinea	Serbia	Korea, Rep.
Uganda	Paraguay	Seychelles	Kuwait
Uzbekistan	Philippines	South Africa	Liechtenstein
Vietnam	Samoa	St. Kitts and Nevis	Luxembourg

(Cont.)

Low Income	Lower Middle Income	Upper Middle Income	High Income
Yemen, Rep. Zambia Zimbabwe	Sao Tome and Principe Solomon Islands Sri Lanka Sudan Swaziland Syrian Arab Republic Thailand Timor-Leste Tonga Tunisia Turkmenistan Ukraine Vanuatu West Bank and Gaza	St. Lucia St. Vincent and the Grenadines Suriname Turkey Uruguay Venezuela, RB	Macao, China Malta Monaco Netherlands Netherlands Antilles New Caledonia New Zealand Northern Mariana Islands Norway Oman Portugal Puerto Rico Qatar San Marino Saudi Arabia Singapore Slovak Republic Slovenia Spain Sweden Switzerland Taiwan, China Trinidad and Tobago United Arab Emirates United Kingdom United States Virgin Islands (U.S.)

## ANNEX II: POPULATION AGEING PROJECTIONS

**Annex II Table 1: Population over sixty five years old/Total Population, East Asia & Pacific Region (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Brunei Darussalam	3.5	4.1	5.3	6.9	8.3	9.4	10.6	11.7	13.0
Cambodia	3.6	4.0	4.6	5.2	5.9	6.7	7.3	7.8	10.2
China	8.2	9.4	11.5	13.2	15.7	18.8	21.2	21.8	22.5
Fiji	4.9	6.0	6.9	8.4	9.5	10.2	10.6	12.1	14.2
Hong Kong, China	12.9	14.4	17.1	21.0	24.7	26.5	27.6	27.9	28.3
Indonesia	6.1	6.4	7.2	8.6	10.2	12.1	13.9	15.6	17.3
Kiribati	3.1	3.7	5.0	5.3	5.8	7.4	8.6	8.8	10.3
Korea, Rep.	11.0	12.7	15.0	18.7	22.6	26.1	29.1	30.9	32.7
Lao PDR	3.7	3.7	4.2	4.6	5.3	6.0	7.0	7.9	9.3
Malaysia	4.9	5.8	7.0	8.6	10.3	11.6	12.8	14.1	15.8
Marshall Islands	..	..	..	..	..	..	..	..	..
Micronesia, Fed. Sts.	4.5	4.3	6.7	6.6	6.4	7.2	7.1	8.7	10.2
Mongolia	4.1	4.2	4.8	6.3	8.3	10.1	12.2	14.3	16.6
Palau	..	..	..	..	..	..	..	..	..
Papua New Guinea	2.5	2.8	3.2	3.7	4.5	5.2	6.0	6.5	7.2
Philippines	4.3	4.7	5.5	6.4	7.4	8.4	9.4	10.6	11.9
Samoa	4.5	5.4	5.9	7.4	7.9	9.1	9.5	9.4	10.8
Singapore	10.2	12.9	16.5	20.7	24.3	26.7	27.5	27.1	26.8
Solomon Islands	3.0	3.0	3.6	4.1	4.4	5.4	6.6	7.7	9.0
Thailand	7.7	8.7	10.4	12.7	14.9	16.8	18.1	18.8	19.5
Timor-Leste	3.1	3.1	3.2	3.3	3.4	3.5	3.7	3.8	4.7
Tonga	5.8	5.6	6.5	7.1	7.1	7.9	10.2	10.0	10.9
Vanuatu	3.2	3.9	4.2	4.1	5.4	6.2	7.0	8.1	9.1
Vietnam	6.3	6.5	7.6	9.7	12.2	14.7	16.8	18.2	19.2

Source: World Bank HDNSP Pensions Database

**Annex II Table 2: Population over sixty five years old/Total Population,  
Europe & Central Asia (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Albania	9.7	10.6	11.8	14.0	15.9	17.5	18.2	18.9	20.8
Armenia	11.1	10.7	12.0	15.1	17.8	18.1	17.9	18.7	21.4
Azerbaijan	6.6	6.1	7.3	9.7	12.6	14.1	14.9	15.4	17.0
Belarus	13.4	13.2	14.3	16.6	18.6	19.4	20.4	21.7	23.9
Bosnia and Herzegovina	13.9	14.8	17.0	19.6	22.4	24.3	25.8	27.4	29.7
Bulgaria	17.6	18.9	20.3	21.6	22.7	24.0	25.9	28.2	30.0
Croatia	17.3	18.2	19.9	21.8	23.2	24.1	24.8	25.9	27.0
Czech Republic	15.3	17.3	19.2	20.0	20.6	21.3	23.3	25.6	26.5
Estonia	17.2	17.3	18.1	19.1	20.1	20.5	20.9	21.8	23.2
Georgia	14.3	14.6	15.9	18.3	21.0	21.9	22.6	23.3	24.7
Hungary	16.4	17.1	18.8	19.8	19.7	20.3	21.9	24.2	25.2
Kazakhstan	6.9	6.9	7.9	9.3	10.6	11.3	12.1	13.0	14.4
Kosovo	6.6	6.7	7.3	8.4	9.9	11.3	12.6	14.0	16.0
Kyrgyz Republic	5.0	4.9	5.7	7.2	8.7	9.6	10.7	11.9	13.6
Latvia	17.5	17.2	17.9	19.1	20.8	21.7	22.9	23.8	25.5
Lithuania	16.4	16.7	17.3	19.1	21.2	22.6	23.6	23.8	24.7
Macedonia, FYR	11.9	12.8	14.6	16.3	18.0	19.4	21.0	22.8	24.8
Moldova	11.1	11.6	13.6	15.9	17.8	18.0	18.1	18.9	21.4
Montenegro	12.8	13.4	14.6	16.4	17.7	18.3	19.0	20.3	21.6
Poland	13.5	15.1	17.7	20.4	21.4	21.7	22.8	25.0	28.0
Romania	14.9	15.4	16.9	18.6	18.8	21.2	23.3	26.3	27.8
Russian Federation	12.9	13.3	14.9	17.3	18.9	19.1	19.6	20.6	22.7
Serbia	14.3	14.8	16.6	17.9	18.8	19.7	21.1	22.9	24.8
Slovak Republic	12.2	13.5	15.9	18.0	19.5	20.4	22.2	24.9	27.3
Slovenia	16.4	17.5	19.7	21.8	23.7	24.9	25.8	27.2	27.9
Tajikistan	3.6	3.4	3.8	4.8	6.2	7.0	7.8	8.5	10.0
Turkey	6.0	6.5	7.4	8.7	10.3	12.0	14.1	16.1	17.9
Turkmenistan	4.1	4.2	5.0	6.5	8.2	9.5	10.8	12.1	13.9
Ukraine	15.6	15.5	16.4	18.2	19.7	20.2	21.0	22.1	24.1
Uzbekistan	4.4	4.4	5.1	6.6	8.2	9.4	10.5	11.7	13.4

*Source: World Bank HDNSP Pensions Database*



**Annex II Table 3: Population over sixty five years old/Total Population,  
Latin America & Caribbean (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Antigua and Barbuda	6.7	7.4	9.9	11.3	12.7	15.0	16.5	16.5	18.6
Argentina	10.7	11.0	11.7	12.4	13.2	13.9	15.0	16.8	18.2
Barbados	10.8	12.1	15.0	18.4	21.3	24.0	25.8	26.3	28.1
Belize	3.8	4.5	5.1	6.1	7.7	9.3	10.5	11.6	13.5
Bolivia	4.8	5.1	5.6	6.3	7.0	8.0	9.2	10.4	11.8
Brazil	6.9	7.8	9.2	10.9	13.0	14.8	16.6	18.7	21.2
Chile	9.2	10.3	11.7	13.8	16.1	17.8	19.1	19.6	20.6
Colombia	5.6	6.5	7.8	9.3	11.0	12.7	13.9	15.3	16.6
Costa Rica	6.5	7.3	8.7	10.6	12.7	14.5	15.6	17.1	18.9
Cuba	12.3	14.1	15.8	17.5	21.3	25.7	28.9	29.3	29.1
Dominica	9.7	9.2	11.4	13.6	16.0	19.2	21.1	20.8	23.2
Dominican Republic	6.1	6.6	7.4	8.6	10.0	11.5	12.8	14.0	15.4
Ecuador	6.7	7.2	8.3	9.5	10.8	12.2	13.5	14.9	16.3
El Salvador	7.3	7.8	8.3	9.0	9.8	10.8	11.9	12.9	13.8
Grenada	6.8	6.3	8.1	9.2	11.0	11.5	13.9	16.8	20.7
Guatemala	4.4	4.5	4.7	4.9	5.2	5.7	6.5	7.6	8.9
Guyana	6.2	7.2	8.9	11.7	14.0	16.6	19.1	20.3	22.6
Haiti	4.4	4.3	4.7	5.0	5.6	6.3	7.1	8.4	10.5
Honduras	4.3	4.5	5.0	5.6	6.5	7.4	8.6	10.1	11.9
Jamaica	7.8	8.1	8.8	10.3	12.6	14.8	16.4	17.0	18.2
Mexico	6.6	7.2	8.6	10.1	11.8	13.9	16.6	18.8	20.2
Nicaragua	4.6	4.6	5.4	6.5	7.6	8.7	10.1	11.7	13.8
Panama	6.7	7.3	8.3	9.5	10.9	12.6	14.2	15.4	16.4
Paraguay	5.2	5.6	6.4	7.2	8.1	9.0	9.8	11.0	12.8
Peru	6.0	6.6	7.4	8.5	9.9	11.4	12.9	14.6	16.2
St. Kitts and Nevis	7.7	9.1	10.3	13.3	16.1	17.5	18.8	18.8	20.0
St. Lucia	6.9	7.0	6.7	7.5	10.6	12.9	14.7	16.2	17.6
St. Vincent and the Grenadines	6.3	7.9	9.1	9.3	12.5	13.0	14.5	15.3	17.2
Suriname	6.3	6.6	7.4	8.7	10.8	12.4	13.7	14.6	15.4
Trinidad and Tobago	6.9	8.0	9.4	11.4	14.0	15.6	17.0	18.8	22.2
Uruguay	13.9	14.1	14.6	15.6	16.7	17.5	18.6	19.9	20.8
Venezuela, RB	5.6	6.5	7.6	8.8	10.2	11.5	12.7	14.1	15.5

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 4: Population over sixty five years old/Total Population,  
Middle East & North Africa (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Algeria	4.7	4.9	5.9	7.0	8.6	10.4	12.4	14.6	17.2
Bahrain	2.3	2.7	3.2	4.5	6.4	8.7	11.0	12.8	14.2
Djibouti	3.3	3.7	4.0	4.4	4.9	5.5	6.2	6.9	8.0
Egypt, Arab Rep.	4.6	5.2	5.8	6.7	7.6	8.5	9.3	10.7	12.6
Iran, Islamic Rep.	4.8	5.0	5.9	7.3	8.9	10.6	12.3	14.9	19.1
Iraq	3.2	3.2	3.8	4.1	4.6	5.4	6.5	7.6	8.6
Jordan	3.7	3.9	4.1	4.6	5.6	7.1	8.9	10.7	12.8
Kuwait	2.3	3.0	3.9	5.5	7.5	10.1	12.9	15.9	17.9
Lebanon	7.3	7.6	8.3	9.8	11.5	13.2	15.0	16.9	18.9
Libya	4.4	4.8	5.6	6.6	7.9	9.6	11.8	14.3	17.0
Malta	14.7	17.5	19.4	21.6	22.2	22.3	23.2	25.2	26.9
Morocco	5.4	5.8	6.8	8.4	9.7	11.0	12.4	14.0	16.2
Oman	3.1	3.6	4.4	5.6	7.1	8.8	10.4	12.6	15.3
Qatar	1.1	1.5	0.6	1.0	1.4	2.0	3.2	5.6	9.7
Saudi Arabia	3.0	3.3	3.9	5.0	6.7	8.7	10.7	12.8	14.0
Syrian Arab Republic	3.2	3.4	4.0	4.8	5.9	7.2	8.9	11.0	13.5
Tunisia	6.7	7.0	8.2	9.8	11.4	13.1	15.0	17.3	19.8
United Arab Emirates	1.0	1.4	2.4	3.7	4.7	6.9	10.3	13.0	13.2
West Bank and Gaza	2.9	2.9	3.2	3.7	4.3	5.0	5.7	6.4	7.2
Yemen, Rep.	2.4	2.5	2.7	3.1	3.4	3.8	4.3	5.2	6.4

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 5: Population over sixty five years old/Total Population,  
South Asia (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Afghanistan	2.2	2.3	2.3	2.3	2.4	2.6	2.9	3.2	3.6
Bangladesh	4.0	4.3	5.0	5.9	7.0	8.3	9.9	11.9	14.0
Bhutan	4.9	5.1	5.7	6.5	7.3	8.4	9.7	11.7	14.5
India	4.9	5.3	6.3	7.3	8.3	9.4	10.5	11.9	13.5
Maldives	4.4	4.1	4.1	5.4	6.7	8.7	10.7	13.2	16.2
Nepal	4.1	4.3	4.6	5.1	5.8	6.7	7.8	9.1	10.6
Pakistan	4.1	4.3	4.6	5.1	5.7	6.5	7.3	8.3	9.6
Sri Lanka	7.7	9.5	11.6	13.6	15.5	17.0	17.1	17.9	20.1

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 6: Population over sixty five years old/Total Population,  
Sub-Saharan Africa (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Angola	2.5	2.5	2.7	2.9	3.2	3.5	3.8	4.3	4.9
Benin	3.3	3.3	3.4	3.6	4.0	4.5	5.0	5.7	6.4
Botswana	3.9	4.1	4.6	5.0	4.9	4.6	4.8	5.8	7.4
Burkina Faso	2.0	1.9	2.0	2.2	2.5	2.9	3.3	3.9	4.5
Burundi	2.8	2.9	3.4	3.8	4.2	4.6	5.1	6.1	7.7
Cameroon	3.6	3.6	3.7	3.8	4.0	4.3	4.8	5.5	6.5
Cape Verde	4.3	4.0	3.9	5.2	6.6	8.5	9.1	10.3	12.2
Central African Republic	..	..	..	..	..	..	..	..	..
Chad	2.8	2.8	2.9	3.0	3.1	3.2	3.4	3.9	4.4
Comoros	3.3	3.1	3.6	4.4	5.1	6.0	6.9	8.2	9.8
Congo, Dem. Rep.	2.6	2.6	2.7	2.7	2.9	3.2	3.5	4.0	4.7
Congo, Rep.	3.8	3.6	3.6	3.8	4.0	4.4	5.2	6.1	7.3
Cote d'Ivoire	3.9	4.1	4.2	4.4	4.6	4.9	5.4	6.2	7.2
Equatorial Guinea	2.9	2.6	3.2	4.2	5.3	5.6	5.4	4.9	5.1
Eritrea	2.5	2.6	2.7	2.7	2.8	3.2	4.3	5.9	7.1
Ethiopia	3.2	3.3	3.5	3.6	3.9	4.3	4.8	5.3	6.1
Gabon	4.3	4.5	5.0	5.5	6.2	6.7	7.3	8.1	9.2
Gambia, The	2.9	2.9	3.0	3.1	3.5	3.9	4.4	5.0	5.6
Ghana	3.7	3.9	4.1	4.5	5.0	5.7	6.4	7.3	8.3
Guinea	3.3	3.4	3.6	3.9	4.2	4.5	5.0	5.6	6.4
Guinea-Bissau	3.5	3.5	4.0	3.9	3.9	3.7	4.5	4.9	5.3
Kenya	2.6	2.7	3.0	3.3	3.5	3.7	4.2	4.9	5.9
Lesotho	4.7	4.7	4.8	4.7	4.4	3.7	3.4	3.9	5.0
Liberia	3.1	3.1	3.2	3.5	4.0	4.3	4.5	4.9	5.5
Madagascar	3.0	3.1	3.4	3.8	4.3	4.8	5.4	6.1	6.7
Malawi	3.1	3.2	3.2	3.2	3.3	3.4	3.5	4.0	4.6
Mali	2.3	2.1	2.0	2.2	2.4	2.7	3.1	3.5	4.1
Mauritania	2.7	2.8	3.0	3.4	4.0	4.7	5.6	6.6	7.6
Mauritius	7.6	9.0	10.7	12.3	14.6	17.0	19.0	20.5	21.6
Mozambique	3.3	3.4	3.5	3.7	3.8	4.0	4.1	4.4	4.9
Namibia	3.7	3.9	4.3	4.7	5.0	5.3	5.6	6.4	7.5
Niger	2.0	2.0	2.0	2.1	2.3	2.4	2.5	2.7	2.9
Nigeria	3.1	3.1	3.2	3.4	3.6	3.8	4.2	4.9	5.6
Rwanda	2.5	2.4	2.6	3.1	3.4	3.6	3.9	4.5	5.8
Sao Tome and Principe	3.6	3.2	4.0	4.7	4.4	4.8	5.6	7.1	9.2
Senegal	2.4	2.3	2.3	2.5	2.8	3.3	4.0	4.9	5.9

(cont.)

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Seychelles	7.9	7.5	9.3	11.1	14.7	17.5	20.2	21.4	24.0
Sierra Leone	1.8	1.8	1.8	1.9	2.2	2.5	2.9	3.4	4.0
Somalia	2.7	2.7	2.9	3.1	3.3	3.6	3.9	4.4	4.6
South Africa	4.6	5.3	6.1	6.9	7.4	7.6	7.8	8.3	9.3
Sudan	3.7	3.9	4.2	4.6	5.1	5.7	6.5	7.4	8.5
Swaziland	3.4	3.5	3.7	3.8	3.7	3.3	3.1	3.1	4.2
Tanzania	3.1	3.2	3.2	3.3	3.4	3.6	3.9	4.4	5.0
Togo	3.6	3.8	4.0	4.4	4.8	5.4	6.1	7.2	8.4
Uganda	2.5	2.4	2.3	2.2	2.2	2.4	2.9	3.4	4.1
Zambia	3.0	3.1	3.0	2.9	2.8	2.8	2.9	3.3	3.8
Zimbabwe	4.1	3.8	3.7	3.6	3.3	3.1	3.4	4.7	7.0

Source: World Bank HDNSP Pensions Database

**Annex II Table 7: Population over sixty five years old/Total Population, High Income OECD region (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Australia	13.9	15.3	16.7	18.2	19.5	20.3	21.0	21.1	21.5
Austria	17.6	18.5	19.4	21.2	24.0	26.4	27.4	27.5	27.8
Belgium	17.4	18.4	19.6	21.3	23.0	24.2	24.6	24.6	24.5
Canada	14.1	15.6	17.4	19.5	21.2	21.7	21.7	21.7	21.9
Denmark	16.7	18.6	19.7	20.6	21.8	22.9	23.6	23.5	22.7
Finland	17.2	19.8	21.7	23.0	23.8	24.1	23.6	23.6	23.9
France	17.0	18.4	19.8	21.3	22.5	23.3	23.9	23.8	24.0
Germany	20.5	20.9	22.1	24.0	27.1	29.7	30.1	29.8	29.7
Greece	18.3	19.2	20.1	21.6	23.0	25.0	26.7	28.2	28.8
Iceland	11.9	12.4	14.2	16.4	18.3	19.8	21.0	21.9	23.4
Ireland	11.3	12.2	13.2	14.3	15.5	16.8	18.5	20.3	21.3
Israel	10.2	11.0	11.9	12.7	13.2	13.6	14.5	15.4	16.3
Italy	20.4	21.2	21.9	23.0	25.0	27.3	29.3	29.9	29.4
Japan	22.6	25.5	27.1	27.7	28.3	29.5	32.0	33.5	34.2
Luxembourg	14.0	14.4	15.6	17.0	18.9	20.9	21.4	21.4	20.9
Netherlands	15.4	17.6	19.3	21.1	23.0	24.6	25.2	24.9	24.4
New Zealand	13.0	14.1	15.4	17.1	18.9	20.1	20.5	20.4	20.5
Norway	15.0	16.5	17.7	18.8	19.9	21.2	22.0	22.0	21.8
Portugal	17.8	18.6	19.7	21.2	23.0	24.6	26.4	28.1	28.8
Spain	17.2	17.3	17.8	19.2	21.2	23.4	25.6	27.5	28.1
Sweden	18.3	19.8	20.5	20.9	21.6	22.4	22.9	22.9	22.7
Switzerland	17.2	17.9	18.5	19.5	21.0	22.1	22.4	22.2	22.2
United Kingdom	16.6	17.6	18.0	18.8	20.2	21.6	22.1	22.0	22.3
United States	13.0	14.0	15.5	17.3	18.6	19.1	19.3	19.4	19.8

Source: World Bank HDNSP Pensions Database

**Annex II Table 8: Population over sixty five years old/Population aged 15 to 64,**

### East Asia & Pacific Region (2010-2050)

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Brunei Darussalam	4.4	5.1	6.6	8.8	10.7	12.2	13.9	15.6	17.4
Cambodia	4.8	5.4	6.0	6.8	7.8	8.8	9.5	10.1	13.5
China	10.5	12.0	15.1	17.6	21.4	26.7	31.0	32.0	33.4
Fiji	6.6	8.0	9.1	11.2	12.8	13.7	14.2	16.3	19.4
Hong Kong, China	16.4	18.4	22.6	29.6	36.5	40.3	42.5	43.4	44.4
Indonesia	8.0	8.5	9.4	11.3	13.6	16.2	18.9	21.7	24.5
Kiribati	4.2	4.9	6.7	7.1	7.8	10.0	11.5	11.7	13.8
Korea, Rep.	14.2	16.3	19.6	25.7	32.6	39.6	46.1	50.3	54.7
Lao PDR	5.2	5.1	5.6	6.2	7.1	8.0	9.1	10.4	12.3
Malaysia	6.4	7.6	9.2	11.4	13.6	15.6	17.3	19.2	21.9
Marshall Islands	..	..	..	..	..	..	..	..	..
Micronesia, Fed. Sts.	6.4	5.8	9.1	8.8	8.5	9.5	9.2	11.2	13.3
Mongolia	5.2	5.3	6.1	8.1	10.6	13.2	16.2	19.3	23.1
Palau	..	..	..	..	..	..	..	..	..
Papua New Guinea	3.5	3.9	4.4	5.1	6.0	6.9	7.9	8.6	9.5
Philippines	5.9	6.4	7.5	8.7	9.9	11.2	12.6	14.3	16.2
Samoa	6.5	7.6	8.1	10.1	10.9	12.7	13.0	12.6	14.2
Singapore	12.8	16.5	21.9	29.2	36.5	41.6	43.3	42.1	41.4
Solomon Islands	4.2	4.1	4.9	5.5	5.9	7.1	8.7	10.2	11.9
Thailand	9.9	11.2	13.7	17.0	20.5	23.6	25.8	27.1	28.4
Timor-Leste	4.6	4.6	4.7	4.9	4.9	5.0	5.1	5.2	6.2
Tonga	8.3	7.9	9.1	9.8	9.6	10.7	14.0	13.5	14.8
Vanuatu	4.6	5.4	5.7	5.5	7.2	8.3	9.3	10.8	12.2
Vietnam	8.3	8.3	9.8	12.6	16.4	20.2	23.5	25.9	27.6

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 9: Population over sixty five years old/Population aged 15 to 64,  
Europe & Central Asia (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Albania	13.1	14.1	15.8	19.2	22.4	24.8	25.7	26.8	30.3
Armenia	14.7	14.1	16.2	21.0	25.2	25.5	25.0	26.5	31.4
Azerbaijan	8.5	7.9	9.5	13.0	17.1	19.3	20.4	21.2	23.8
Belarus	17.5	17.3	19.0	22.9	26.1	27.3	29.0	31.5	36.1
Bosnia and Herzegovina	18.4	19.5	22.9	27.4	32.3	35.9	39.0	42.4	47.6
Bulgaria	24.0	26.3	28.9	31.2	33.2	35.6	39.6	45.0	49.5
Croatia	23.8	25.3	28.2	31.8	34.5	36.2	37.7	40.1	42.8
Czech Republic	20.3	23.8	27.2	28.7	29.6	30.8	34.8	39.9	42.0
Estonia	23.7	24.3	25.8	27.7	29.2	29.7	30.5	32.3	35.3
Georgia	19.2	19.7	21.9	25.9	30.6	32.1	33.4	34.7	37.6
Hungary	22.2	23.4	26.5	28.2	28.0	29.0	32.0	36.8	38.9
Kazakhstan	9.0	9.1	10.6	12.6	14.4	15.2	16.4	17.8	19.9
Kosovo	8.8	8.9	9.6	10.9	13.0	15.0	16.8	18.9	22.2
Kyrgyz Republic	6.7	6.5	7.6	9.6	11.6	12.8	14.3	15.9	18.4
Latvia	23.9	23.6	25.1	27.2	30.0	31.6	33.8	35.8	39.6
Lithuania	22.3	22.6	23.8	27.0	30.8	33.5	35.2	35.5	37.7
Macedonia, FYR	15.7	16.8	19.6	22.3	25.1	27.5	30.2	33.7	37.8
Moldova	14.4	15.0	18.3	21.9	24.9	25.0	25.2	26.7	31.3
Montenegro	17.2	17.9	19.7	22.8	24.9	26.1	27.2	29.5	32.0
Poland	17.7	20.1	24.5	29.3	31.0	31.3	33.3	38.0	44.6
Romania	19.8	20.6	23.1	25.8	26.0	30.2	34.3	40.4	43.9
Russian Federation	16.7	17.5	20.1	24.0	26.6	26.9	27.9	29.9	34.2
Serbia	19.3	19.9	22.9	24.8	26.3	27.9	30.5	33.9	37.7
Slovak Republic	15.8	17.7	21.4	24.9	27.3	28.8	32.1	37.7	43.0
Slovenia	22.1	24.0	28.0	31.9	35.5	37.7	39.8	43.0	45.1
Tajikistan	5.0	4.6	5.1	6.4	8.2	9.2	10.2	11.1	13.1
Turkey	7.8	8.4	9.6	11.3	13.5	16.0	19.1	22.4	25.5
Turkmenistan	5.4	5.4	6.5	8.4	10.6	12.4	14.1	16.2	18.9
Ukraine	20.8	20.8	22.5	25.6	28.1	28.9	30.3	32.6	36.9
Uzbekistan	5.8	5.7	6.6	8.7	10.9	12.4	14.0	15.6	18.2

Source: World Bank HDNSP Pensions Database

**Annex II Table 10: Population over sixty five years old/Population aged 15 to 64, Latin America & Caribbean (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Antigua and Barbuda	9.0	9.7	13.3	15.2	17.5	21.0	23.5	22.9	26.5
Argentina	14.7	15.1	16.0	17.0	18.0	19.1	20.8	23.7	26.1
Barbados	13.9	15.7	20.2	25.7	30.9	36.1	40.3	41.3	45.5
Belize	5.2	6.0	6.8	8.0	10.1	12.3	13.9	15.5	18.2
Bolivia	6.7	7.1	7.6	8.4	9.3	10.6	12.2	13.8	15.8
Brazil	9.0	10.2	11.9	14.2	17.2	20.0	22.8	26.3	30.7
Chile	12.2	13.5	15.6	18.8	22.6	25.4	27.5	28.4	30.2
Colombia	7.5	8.6	10.4	12.4	14.9	17.4	19.1	21.2	23.3
Costa Rica	8.5	9.5	11.2	14.1	17.2	19.9	21.6	24.0	27.2
Cuba	16.2	18.7	21.2	24.1	30.7	39.4	46.3	47.2	46.8
Dominica	13.2	12.3	15.5	18.3	22.0	27.3	30.8	30.6	35.6
Dominican Republic	8.4	8.9	10.0	11.5	13.5	15.5	17.4	19.2	21.4
Ecuador	9.1	9.8	11.2	12.8	14.6	16.6	18.5	20.6	22.9
El Salvador	10.3	10.7	11.3	12.3	13.3	14.7	16.3	17.5	18.9
Grenada	9.2	8.2	11.0	12.2	14.6	15.4	18.7	23.6	29.7
Guatemala	6.5	6.5	6.7	6.8	7.1	7.7	8.6	10.0	11.7
Guyana	8.3	9.5	11.7	15.7	19.5	23.7	27.6	29.5	33.5
Haiti	6.1	5.9	6.3	6.7	7.5	8.3	9.3	11.0	14.0
Honduras	6.0	6.1	6.7	7.5	8.6	9.8	11.2	13.2	15.9
Jamaica	10.8	10.9	11.9	14.0	17.5	20.8	23.2	24.1	25.8
Mexico	8.7	9.6	11.3	13.3	15.8	19.0	23.4	27.0	29.4
Nicaragua	6.4	6.2	7.2	8.6	10.1	11.6	13.4	15.7	18.8
Panama	9.0	9.9	11.1	12.7	14.8	17.3	19.6	21.5	23.0
Paraguay	7.1	7.6	8.6	9.7	10.9	12.0	13.0	14.7	17.4
Peru	8.1	8.8	9.9	11.3	13.2	15.3	17.6	20.2	22.7
St. Kitts and Nevis	10.0	11.9	13.6	18.2	22.7	25.0	27.3	27.3	29.5
St. Lucia	9.2	9.0	8.6	9.6	13.9	17.3	20.1	22.4	24.8
St. Vincent and the Grenadines	8.2	10.3	11.9	12.3	17.1	17.9	20.0	20.7	24.1
Suriname	8.5	8.7	9.8	11.4	14.5	16.9	18.9	20.0	21.3
Trinidad and Tobago	8.8	10.2	12.2	15.0	19.0	21.3	23.6	26.8	33.1
Uruguay	19.6	19.6	20.3	21.9	23.5	24.8	26.8	29.0	30.5
Venezuela, RB	7.5	8.6	10.1	11.7	13.8	15.6	17.2	19.3	21.6

Source: World Bank HDNSP Pensions Database

**Annex II Table 11: Population over sixty five years old/Population aged 15 to 64, Middle East & North Africa (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Algeria	6.0	6.4	7.6	9.1	11.2	13.7	16.5	20.0	24.4
Bahrain	2.9	3.3	4.0	5.5	8.0	11.0	14.3	17.0	19.1
Djibouti	4.5	5.0	5.3	5.8	6.4	7.2	8.1	9.0	10.5
Egypt, Arab Rep.	6.3	7.1	7.8	8.9	10.1	11.2	12.3	14.2	17.0
Iran, Islamic Rep.	6.1	6.3	7.5	9.3	11.4	13.8	16.2	20.3	27.5
Iraq	4.6	4.4	5.3	5.5	6.1	7.2	8.6	10.1	11.4
Jordan	5.0	5.3	5.4	6.1	7.3	9.2	11.7	14.3	17.3
Kuwait	2.8	3.6	4.7	6.8	9.4	12.9	17.0	21.8	25.3
Lebanon	9.7	9.8	10.7	12.8	15.3	17.8	20.6	23.6	27.0
Libya	5.7	6.4	7.3	8.6	10.3	12.5	15.7	19.5	24.2
Malta	19.5	24.0	27.2	31.5	32.8	32.8	34.4	38.6	42.3
Morocco	7.1	7.6	8.9	11.1	12.9	14.6	16.6	19.0	22.7
Oman	4.1	4.7	5.8	7.3	9.4	11.7	13.8	17.1	21.4
Qatar	1.2	1.7	0.7	1.1	1.6	2.2	3.6	6.6	11.9
Saudi Arabia	3.9	4.3	5.1	6.4	8.6	11.4	14.3	17.3	19.1
Syrian Arab Republic	4.4	4.6	5.4	6.3	7.6	9.3	11.6	14.7	18.4
Tunisia	8.7	9.1	10.6	12.9	15.2	17.6	20.5	24.2	28.7
United Arab Emirates	1.2	1.7	2.8	4.3	5.5	8.3	13.0	16.8	17.2
West Bank and Gaza	4.3	4.3	4.5	5.1	6.0	6.8	7.7	8.6	9.6
Yemen, Rep.	3.5	3.6	3.9	4.2	4.7	5.1	5.7	6.8	8.3

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 12: Population over sixty five years old/Population aged 15 to 64, South Asia (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Afghanistan	3.3	3.4	3.3	3.4	3.5	3.7	4.0	4.3	4.8
Bangladesh	5.2	5.7	6.5	7.7	9.0	10.8	13.0	15.9	19.1
Bhutan	6.6	6.7	7.5	8.4	9.4	10.9	12.6	15.4	19.8
India	6.6	7.1	8.3	9.5	10.9	12.2	13.8	15.8	18.1
Maldives	5.8	5.2	5.2	6.9	8.5	11.1	13.9	17.7	22.4
Nepal	5.7	5.8	6.1	6.8	7.7	8.8	10.2	11.9	14.0
Pakistan	5.7	5.9	6.3	6.9	7.6	8.6	9.7	11.1	12.9
Sri Lanka	10.1	12.8	15.9	18.9	21.8	24.2	24.3	25.5	29.4

*Source: World Bank HDNSP Pensions Database*



**Annex II Table 13: Population over sixty five years old/Population aged 15 to 64, Sub-Saharan Africa (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Angola	3.6	3.7	3.8	4.1	4.4	4.8	5.2	5.8	6.6
Benin	4.8	4.8	4.9	5.1	5.6	6.2	6.8	7.6	8.5
Botswana	5.2	5.4	6.2	6.6	6.4	5.9	6.1	7.5	9.6
Burkina Faso	3.0	2.8	2.9	3.1	3.5	4.0	4.5	5.2	6.0
Burundi	3.9	4.0	4.6	5.2	5.6	6.0	6.7	8.0	10.1
Cameroon	5.2	5.1	5.2	5.3	5.5	5.8	6.4	7.3	8.6
Cape Verde	5.9	5.4	5.2	6.8	8.7	11.3	12.0	13.7	16.3
Central African Republic	..	..	..	..	..	..	..	..	..
Chad	4.2	4.1	4.2	4.3	4.4	4.5	4.7	5.2	5.9
Comoros	4.6	4.3	4.9	6.0	6.8	7.9	9.2	11.0	13.3
Congo, Dem. Rep.	4.0	3.9	3.9	3.9	4.1	4.3	4.8	5.3	6.1
Congo, Rep.	5.5	5.2	5.0	5.2	5.4	5.9	6.8	8.1	9.6
Cote d'Ivoire	5.6	5.8	5.9	6.1	6.3	6.6	7.2	8.2	9.6
Equatorial Guinea	4.1	3.7	4.6	6.0	7.5	7.9	7.5	6.6	6.8
Eritrea	3.6	3.7	3.7	3.7	3.7	4.2	5.7	7.9	9.4
Ethiopia	4.7	4.8	4.9	5.1	5.4	5.8	6.3	7.0	8.0
Gabon	6.0	6.1	6.8	7.4	8.2	8.8	9.6	10.7	12.2
Gambia, The	4.1	4.2	4.2	4.4	4.8	5.3	5.9	6.7	7.4
Ghana	5.2	5.4	5.7	6.0	6.7	7.6	8.6	9.7	11.1
Guinea	4.9	4.9	5.2	5.5	5.8	6.2	6.8	7.5	8.5
Guinea-Bissau	5.1	5.1	5.8	5.6	5.5	5.2	6.3	6.7	7.1
Kenya	3.8	3.9	4.3	4.6	4.8	5.1	5.6	6.6	7.9
Lesotho	6.8	6.6	6.6	6.5	6.0	4.9	4.4	5.0	6.4
Liberia	4.6	4.6	4.6	5.2	5.7	6.1	6.2	6.7	7.4
Madagascar	4.4	4.4	4.8	5.3	5.9	6.5	7.3	8.2	8.9
Malawi	4.7	4.7	4.6	4.6	4.7	4.6	4.7	5.3	6.1
Mali	3.3	3.2	3.0	3.2	3.4	3.8	4.2	4.8	5.5
Mauritania	3.8	3.9	4.1	4.6	5.3	6.2	7.3	8.6	10.0
Mauritius	9.8	11.5	13.8	16.1	19.6	23.5	26.9	29.5	31.6
Mozambique	4.9	4.9	5.0	5.2	5.3	5.4	5.6	5.9	6.5
Namibia	5.2	5.3	5.8	6.3	6.7	7.0	7.4	8.4	9.8
Niger	3.1	3.1	3.1	3.2	3.5	3.5	3.6	3.8	4.0
Nigeria	4.6	4.6	4.6	4.8	5.0	5.2	5.7	6.5	7.5
Rwanda	3.6	3.5	3.7	4.3	4.7	4.9	5.2	6.0	7.8
Sao Tome and Principe	5.3	4.5	5.5	6.4	5.8	6.3	7.3	9.3	12.2
Senegal	3.5	3.3	3.2	3.4	3.8	4.4	5.3	6.4	7.7
Seychelles	10.0	9.5	11.8	14.5	20.0	24.7	29.6	31.9	37.3

(Cont.)

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Sierra Leone	2.6	2.6	2.6	2.7	3.0	3.4	3.9	4.6	5.3
Somalia	4.0	4.0	4.2	4.5	4.8	5.1	5.5	6.1	6.2
South Africa	6.1	7.0	8.2	9.2	9.9	10.1	10.3	10.9	12.2
Sudan	5.2	5.5	5.8	6.2	6.8	7.5	8.6	9.8	11.2
Swaziland	4.8	4.9	5.1	5.2	4.9	4.3	4.0	4.0	5.4
Tanzania	4.7	4.8	4.8	4.8	4.8	5.0	5.4	6.0	6.7
Togo	5.1	5.3	5.6	6.0	6.5	7.2	8.2	9.6	11.2
Uganda	3.9	3.7	3.5	3.3	3.2	3.4	4.0	4.6	5.4
Zambia	4.6	4.6	4.4	4.2	3.9	3.8	3.9	4.4	5.1
Zimbabwe	6.0	5.3	5.2	4.9	4.4	4.0	4.3	6.1	9.1

Source: World Bank HDNSP Pensions Database

**Annex II Table 14: Population over sixty five years old/Population aged 15 to 64, High Income OECD region (2010-2050)**

Country	2010	2015	2020	2025	2030	2035	2040	2045	2050
Australia	18.9	21.2	23.5	26.2	28.5	29.9	31.2	31.4	32.0
Austria	24.2	25.6	27.2	30.6	35.9	41.1	43.3	43.5	44.4
Belgium	24.4	26.0	28.4	31.6	34.9	37.2	38.2	38.1	38.0
Canada	18.9	21.2	24.3	28.1	31.4	32.4	32.4	32.3	32.7
Denmark	23.4	26.6	28.5	30.2	32.5	34.8	36.2	35.9	34.2
Finland	23.9	28.6	32.3	34.9	36.6	37.1	36.1	36.1	36.7
France	23.9	26.4	28.9	31.5	33.8	35.5	36.7	36.5	36.9
Germany	29.0	29.7	31.9	35.7	42.2	48.1	49.1	48.6	48.6
Greece	25.4	26.9	28.6	31.3	34.0	38.0	41.7	45.4	47.1
Iceland	15.9	16.7	19.6	23.2	26.5	28.9	30.9	32.6	35.5
Ireland	15.2	16.6	18.2	19.8	21.6	23.6	26.6	29.9	32.0
Israel	14.2	15.5	16.9	18.2	18.7	19.2	20.5	22.0	23.2
Italy	29.1	30.6	31.8	33.8	37.8	42.8	47.6	49.4	48.3
Japan	32.9	38.7	41.9	43.2	44.4	47.2	53.5	57.6	59.7
Luxembourg	18.9	19.3	21.3	23.7	27.1	30.7	31.7	31.9	30.9
Netherlands	21.0	24.7	27.7	31.0	34.8	38.2	39.5	38.7	37.6
New Zealand	17.6	19.6	21.6	24.6	27.8	29.8	30.3	30.0	30.3
Norway	20.7	23.1	25.2	27.2	29.1	31.5	33.1	33.1	32.6
Portugal	24.7	26.1	27.9	30.5	33.8	37.0	41.0	44.9	46.8
Spain	23.5	23.9	25.0	27.3	30.8	34.9	39.7	44.4	46.0
Sweden	25.9	28.7	30.3	31.0	32.2	33.7	34.7	34.6	34.3
Switzerland	23.8	24.8	25.9	27.7	30.5	32.9	33.4	33.0	33.1
United Kingdom	23.2	24.9	25.8	27.2	29.7	32.1	33.2	33.0	33.5
United States	17.6	19.3	21.9	24.8	27.1	27.9	28.1	28.2	28.9

Source: World Bank HDNSP Pensions Database

**Annex II Table 15: Projected fertility rate 2010-2050 (By region)**

Region	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045-50
East Asia & Pacific	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.9
Europe & Central Asia	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Latin America & Caribbean	2.1	2.0	1.9	1.8	1.8	1.8	1.8	1.8
Middle East & North Africa	2.6	2.5	2.4	2.3	2.2	2.1	2.0	2.0
South Asia	2.7	2.5	2.3	2.1	2.0	2.0	2.0	1.9
Sub-Saharan Africa	4.8	4.3	3.9	3.5	3.1	2.9	2.7	2.5
High-income: OECD	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 16: Projected fertility rate 2010-2050 (By economic group)**

Economic group	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045-50
Low Income	3.8	3.6	3.3	3.1	2.9	2.7	2.5	2.4
Lower Middle Income	2.5	2.4	2.3	2.1	2.1	2.0	2.0	2.0
Upper Middle Income	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8
High Income	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 17: Projected life expectancy 2010-2050 (By region group)**

Region	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045-50
East Asia & Pacific	73.0	74.0	74.9	75.8	76.5	77.2	77.8	78.4
Europe & Central Asia	70.7	71.7	72.7	73.6	74.4	75.1	75.8	76.5
Latin America & Caribbean	74.0	75.0	75.8	76.6	77.3	77.9	78.4	78.9
Middle East & North Africa	71.8	72.8	73.9	74.8	75.7	76.4	77.1	77.8
South Asia	65.4	66.9	68.3	69.5	70.6	71.6	72.5	73.4
Sub-Saharan Africa	54.0	55.9	57.6	59.4	61.1	62.8	64.4	65.9
High-income: OECD	79.4	79.9	80.4	80.8	81.3	81.7	82.1	82.5

*Source: World Bank HDNSP Pensions Database*

**Annex II Table 18: Projected life expectancy 2010-2050 (By economic group)**

Economic group	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40	2040-45	2045-50
Low Income	60.6	62.1	63.5	64.9	66.1	67.3	68.5	69.6
Lower Middle Income	68.8	69.9	70.9	71.9	72.7	73.5	74.3	75.0
Upper Middle Income	72.1	73.2	74.1	75.0	75.7	76.4	77.0	77.6
High Income	79.8	80.3	80.8	81.2	81.6	82.0	82.4	82.7

Source: World Bank HDNSP Pensions Database

**Annex II Table 19: Projected old age dependency ratio (65+/15-64), 2010-2050 (By region)**

Region	2010	2015	2020	2025	2030	2035	2040	2045	2050
East Asia & Pacific	10.7	12.0	14.9	17.4	20.9	25.5	29.4	31.0	32.8
Europe & Central Asia	15.2	15.8	17.6	20.2	22.2	23.1	24.3	26.0	28.2
Latin America & Caribbean	10.2	11.2	12.7	14.7	17.0	19.2	21.6	24.0	26.7
Middle East & North Africa	13.4	14.3	16.5	19.3	22.0	24.7	28.1	33.2	40.2
South Asia	7.8	8.2	9.3	10.6	11.9	13.3	14.8	16.7	19.1
Sub-Saharan Africa	5.6	5.6	5.7	5.9	6.1	6.4	6.9	7.6	8.7
High-income: OECD	22.5	24.8	27.4	30.3	33.5	36.1	38.1	39.3	40.2

Source: World Bank HDNSP Pensions Database

**Annex II Table 20: Projected old age dependency ratio (65+/15-64), 2010-2050 (By economic group)**

Economic group	2010	2015	2020	2025	2030	2035	2040	2045	2050
Low Income	6.4	6.4	6.8	7.5	8.3	9.1	10.1	11.1	12.4
Lower Middle Income	9.7	10.7	12.7	14.6	17.0	19.8	22.4	24.2	26.3
Upper Middle Income	12.2	13.0	14.8	17.0	19.3	21.4	23.9	26.8	30.2
High Income	22.5	24.8	27.4	30.3	33.5	36.1	38.1	39.3	40.2

Source: World Bank HDNSP Pensions Database

**Annex II Table 21: Projected population 65+ over total population, 2010-2050 (By region)**

Region	2010	2015	2020	2025	2030	2035	2040	2045	2050
East Asia & Pacific	7.5	8.5	10.3	11.9	14.1	16.7	18.9	19.8	20.6
Europe & Central Asia	10.7	11.1	12.3	14.2	15.7	16.5	17.6	19.1	21.2
Latin America & Caribbean	6.6	7.4	8.5	9.8	11.3	12.8	14.2	15.7	17.2
Middle East & North Africa	4.4	4.7	5.5	6.5	7.5	8.5	9.7	11.3	13.5
South Asia	5.0	5.3	6.1	7.1	8.0	9.0	10.1	11.4	12.9
Sub-Saharan Africa	3.1	3.1	3.2	3.4	3.7	4.0	4.4	4.9	5.7
High-income: OECD	15.2	16.4	17.9	19.4	21.0	22.3	23.2	23.7	24.1

Source: World Bank HDNSP Pensions Database

**Annex II Table 22: Projected population 65+ over total population, 2010-2050 (By economic group)**

Economic group	2010	2015	2020	2025	2030	2035	2040	2045	2050
Low Income	3.8	3.8	4.1	4.6	5.2	5.8	6.5	7.3	8.2
Lower Middle Income	6.6	7.3	8.6	9.9	11.5	13.3	14.8	15.9	17.1
Upper Middle Income	8.3	8.9	10.1	11.6	13.1	14.4	15.8	17.5	19.2
High Income	15.2	16.4	17.9	19.4	21.0	22.3	23.2	23.7	24.1

Source: World Bank HDNSP Pensions Database

**Annex II Table 23: Evolution labor force participation rates, 1980-2007 (By region)**

	1980	1990	2000	2007
East Asia & Pacific	81	81	80	79
Europe & Central Asia	75	73	66	66
Latin America & Caribbean	60	62	68	70
Middle East & North Africa	49	51	51	52
South Asia	64	63	62	62
Sub-Saharan Africa	71	71	71	71
High-income: OECD	69	71	72	73

Source: World Bank HDNSP Pensions Database

**Annex II Table 24: Evolution of labor force participation rates of those aged 65+, 1960-2010  
(by region)**

Region	1960	1980	2000	2010
East Asia & Pacific	40.7	37.6	32.1	29.4
Europe & Central Asia	24.4	18.0	11.2	10.1
Latin America & Caribbean	34.6	31.7	24.9	22.7
Middle East & North Africa	29.0	25.8	20.0	18.0
South Asia	47.0	44.9	39.7	36.8
Sub-Saharan Africa	56.7	54.7	50.3	48.3
High-income: OECD	19.8	14.4	7.2	6.3

*Source: World Bank HDNSP Pensions Database*

## ANNEX III: COUNTRY SPECIFIC REGIONAL TABLES BY INDICATOR

**Annex III Table 1: Modality of pillars by country, East Asia & Pacific**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Brunei Darussalam	U	PF	-
Cambodia	..	..	..
China	T 1	DB	-
Fiji	T	PF	-
Hong Kong SAR, China	U	-	DC
Indonesia	-	PF	-
Kiribati	-	PF	-
Korea, Rep.	B	DB	-
Lao PDR	-	DB	-
Malaysia	T 2	PF	-
Marshall Islands	..	..	..
Micronesia, Fed. Sts.	-	DB	-
Mongolia	U	NDC 3	-
Palau	-	DB	-
Papua New Guinea	-	PF	-
Philippines	B	DB	-
Samoa	B	PF	-
Singapore	-	PF	-
Solomon Islands	-	PF	-
Thailand	-	DB	-
Timor-Leste	U	-	-
Tonga	..	..	..
Vanuatu	-	PF	-
Vietnam	T	DB	-

*Notes*

Not available: ..

Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

1. China: Social assistance in urban and rural areas. Supplemental benefits in some localities.

2. Malaysia: Old age assistance benefit for the very poor

3. Mongolia: For those born after 1/1/1960.

Source: World Bank HDNSP Pensions Database

**Annex III Table 2: Separated vs. integrated pension schemes by country, East Asia & Pacific**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Brunei Darussalam	S	Armed forces personnel, police force personnel, and prison wardens.
Cambodia	MS	Military
China	S	Employees of public sector institutions (e.g. cultural, educational)
Fiji	S	Military and police
Hong Kong SAR, China	I	-
Indonesia	S	Military
Kiribati	I	-
Korea, Rep.	S	Military, Private school e., Post office
Lao PDR	S	Police, Armed Forces
Malaysia	S	-
Marshall Islands	..	..
Micronesia, Fed. Sts.	PI	-
Mongolia	I	-
Palau	..	..
Papua New Guinea	I	-
Philippines	S	Military
Samoa	I	-
Singapore	PI	-
Solomon Islands	..	..
Thailand	S	Judges, state enterprises, and private schools
Timor-Leste	..	..
Tonga	..	..
Vanuatu	I	-
Vietnam	I	-

*Notes*

Not available: ..

Not applicable: -

MS: Main Scheme

I: Integrated,

PI: Partially Integrated,

S: Separated

*Source: World Bank HDNSP Pensions Database*



**Annex III Table 3: Statutory retirement ages, and qualifying conditions by country, East Asia & Pacific**

Country	Qualifying conditions*		
	Statutory retirement age (Current Law)	Early retirement age	Minimum Vesting Period
Brunei Darussalam	60	55	-
Cambodia	-	-	-
China	50/60 1	45/50	15
Fiji	55	-	10
Hong Kong SAR, China	65	60	-
Indonesia	55	-	-
Kiribati	50	45	-
Korea, Rep.	65	60	20
Lao PDR	60	55	5
Malaysia	55	50	-
Marshall Islands	..	..	..
Micronesia, Fed. Sts.	60	-	10
Mongolia	55/60	50/55	20
Palau	..	..	..
Papua New Guinea	55	-	-
Philippines	65	60	10
Samoa	55 2	-	-
Singapore	62	-	-
Solomon Islands	-	-	-
Thailand	55	-	15
Timor-Leste	-	-	-
Tonga	-	-	-
Vanuatu	55	-	-
Vietnam	55/60	50/55	20

*Notes:*

Not available: .., Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

1. China: 50 for women workers, 55 for women cadres, 60 for men.

2. Samoa: Old-age beneficiaries can opt for a lump sum equal to the full amount in their account at age of 55.

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 4: Pension and social insurance contribution rates by country, East Asia & Pacific**

Country	Contribution Rates												
	Pillar 1					Pillar 2			Social Security (all programs)				
	Employee	Employer	Total	Already Legislated Changes	Effective date	Employee	Employer	Total	Programs	Employee	Employer	Total	
Brunei Darussalam	5.0	5.0	10.0	-	-	-	-	-	o-d-s/sm/w	5.0	5.0	10.0	
Cambodia	-	-	-	-	-	-	-	-	-	-	-	-	
China	8 d/	20.0	20/8.	1	-	-	-	-	o-d-s/sm/w/u/f	..	..	..	
Fiji	8.0	8.0	16.0	-	-	-	-	-	o-d-s/w	8.0	8.0	16.0	
Hong Kong SAR, China	-	-	-	-	-	5.0	5.0	10.0	2	o-d-s/sm/w/u/f	5.0	5.0	10.0
Indonesia	2.0	3.7	5.7	-	-	-	-	-	o-d-s/sm/w	2.0	6.9	8.9	
Kiribati	7.5	7.5	15.0	-	-	-	-	-	o-d-s/w	7.5	7.5	15.0	
Korea, Rep.	4.5	4.5	9.0	-	-	-	-	-	o-d-s/w	7.1	7.1	14.3	
Lao PDR	4.5	5.0	9.5	-	-	-	-	-	o-d-s/sm/w	4.5	5.0	9.5	
Malaysia	11.5	11.0	22.5	-	-	-	-	-	o-d-s/sm/w	11.5	13.8	25.3	
Marshall Islands	..	..	..	-	-	-	-	-	..	..	..	..	
Micronesia, Fed. Sts.	6.0	6.0	12.0	3	-	-	-	-	o-d-s	6.0	6.0	12.0	
Mongolia	7.0	7.0	14.0	-	-	-	-	-	o-d-s	-	-	-	
Palau	..	..	..	-	-	-	-	-	..	..	..	..	
Papua New Guinea	8.4	14.4	-	-	-	-	-	-	o-d-s/sm/w	6.0	8.4	14.4	
Philippines	3.3	7.1	10.4	-	-	-	-	-	o-d-s/sm/w	4.6	8.5	13.1	
Samoa	5.0	5.0	10.0	-	-	-	-	-	o-d-s/sm/w	6.0	6.0	12.0	
Singapore	20.0	15.5	34.5	-	-	-	-	-	o-d-s/sm/w	20.0	15.5	34.5	
Solomon Islands	5.0	7.5	12.5	-	-	-	-	-	..	..	..	..	

**Annex III Table 4: Pension and social insurance contribution rates by country, East Asia & Pacific**

(Cont.)	Contribution Rates											
	Pillar 1					Pillar 2			Social Security (all programs)			
Country	Employee	Employer	Total	Already Legislated Changes	Effective date	Employee	Employer	Total	Programs	Employee	Employer	Total
Thailand	3.0	3.0	6.0	-	-	-	-	-	o-d-s/sm/w/u/f	5.0	5.0	10.0
Timor-Leste	-	-	-	-	-	-	-	-	..	-	-	-
Tonga	..	..	..	-	-	-	-	-	..	..	..	10.0
Vanuatu	4.0	6.0	10.0	-	-	-	-	-	o-d-s	4.0	6.0	10.0
Vietnam	6.0	12.0	18.0	20.0	2012	-	-	-	o-d-s/sm/w/u	9.0	18.0	27.0

*Notes:*

Not available: ..

Not applicable: -

o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

1. China: employer's contribution rate maximum contribution for the basic pension is 20% of payroll. In the case of the Provident Fund the contribution rates vary by province.

2. Hong Kong: Minimum contribution of 5% either for insured person and employer.

3. Micronesia: Employer's contribution corresponds to 6% of twice the salary of the highest-paid employee per quarter.

Source: World Bank HDNSP Pensions Database

**Annex III Table 5: DB Scheme parameters: Indexation and accrual rate, East Asia & Pacific**

Country	DB parameters				
	Base Accrual Rate	Incremental Rate	Wage Base	Valorization	Indexation
Brunei Darussalam	-	-	-	-	-
Cambodia	-	-	-	-	-
China	1.0%	..	..	w 1	..
Fiji	-	-	-	-	-
Hong Kong SAR, China	-	-	-	-	-
Indonesia	-	-	-	-	-
Kiribati	-	-	-	-	-
Korea, Rep.	1.0%	..	C	w	p
Lao PDR	1.5%	..	f1	..	w
Malaysia	-	-	-	-	-
Marshall Islands	0.0%	..	..	..	..
Micronesia, Fed. Sts.	..	..	..	..	..
Mongolia	2.3%	1.5%	..	..	dr
Palau	..	..	..	..	..
Papua New Guinea	-	-	-	-	-
Philippines	2.0%	..	max(f5,C)	p	dr
Samoa	-	-	-	-	-
Singapore	-	-	-	-	-
Solomon Islands	0.0%	..	..	..	..
Thailand	- 2	-	f5	p	p
Timor-Leste	..	..	..	..	..
Tonga	0.0%	..	..	..	..
Vanuatu	-	-	-	-	-
Vietnam	3.0%	..	C	w	w

*Notes:*

Not available: .. , Not applicable:

-

C: Carries average wage, w: wage, p: prices

f: number of final years, b: Best number of years

dr: Discretionary rate

1. China: 50% is based on regional average wage and 50% is based on individual final year's wage

2. Thailand: Pension is estimated based on points

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 6: Modality of pillars by country, Europe & Central Asia**

Country	Modality of Pillars			
	Pillar 0	Pillar 1	Pillar 2	
Albania	T	DB	-	
Armenia	T	DB	-	
Azerbaijan	T	DB, NDC	-	
Belarus	-	DB	-	
Bosnia and Herzegovina	-	DB	-	
Bosnia Republika Srpska	-	DB	-	
Bulgaria	T	DB	DC	Co
Croatia	-	DB	DC	Co
Czech Republic	B	DB	-	
Estonia	B	DB	DC	Co
Georgia	T	DB	-	
Hungary	-	DB	DC	Co
Kazakhstan	U	DB	DC	Co
Kosovo	U	-	DC	
Kyrgyz Republic	B	DB, NDC	DC	Co
Latvia	T	NDC	DC	Co
Lithuania	B	DB	DC	Co
Macedonia, FYR	-	DB	DC	Co
Moldova	-	DB	-	
Montenegro	-	DB	-	
Poland	-	DB, NDC	DC	Co
Romania	-	DB	DC	Co
Russian Federation	T	NDC	DC	Co
Serbia	-	DB	-	
Slovak Republic	-	DB	DC	Op
Slovenia	T	DB	-	
Tajikistan	-	DB	DC	Co
Turkey	-	DB	-	
Turkmenistan	T	DB	-	
Ukraine	T	DB	-	
Uzbekistan	T	DB	-	

*Notes*

Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

Co: Complementary Scheme

Op: Optional

Source: World Bank HDNSP Pensions Database

**Annex III Table 7: Separated vs. integrated pension schemes by country,  
Europe & Central Asia**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Albania	I	Military
Armenia	S	Military, police, judges, public prosecutors
Azerbaijan	I	-
Belarus	I	-
Bosnia and Herzegovina	I	..
Bosnia Republika Srpska	I	-
Bulgaria	I	Special DC scheme to provide bridge pension for workers allowed to retire early
Croatia	I	War(s) veterans, military, police, MPs, Government officials,
Czech Republic	I	-
Estonia	I	-
Georgia	I	Ministry of Security, the Ministry of Internal Affairs, and the Ministry of Defense
Hungary	I	-
Kazakhstan	I	Police, military
Kosovo	I	-
Kyrgyz Republic	I	Aviation, performing arts.
Latvia	I	-
Lithuania	I	Military, police, judges, public prosecutors
Macedonia, FYR	I	Ministry of Internal Affairs (only selected positions)
Moldova	I	Armed forces, Ministry of Internal Affairs, Civil servants, judges, Chernobyl victims
Montenegro	I	-
Poland	I	Farmers, military , public prosecutors, judges, and police
Romania	I	-
Russian Federation	I	Military, police, some central government employees, judges
Serbia	I 1	-
Slovak Republic	I	Slovak Intelligence Services, Bureau of National Security, Police, Railway, Fire Brigade, Prison Service, Customs Officers, and Armed Forces
Slovenia	I	-
Tajikistan	I	..
Turkey	I	-
Turkmenistan	I	-
Ukraine	I	Victims of the Chernobyl catastrophe
Uzbekistan	I	-

*Notes*

Not available, Not applicable:

I: Integrated, S: Separated

1.Serbia: Special scheme for military was separated until December 2010

Source: World Bank HDNSP Pensions Database

**Annex III Table 8: Statutory retirement ages, and qualifying conditions by country, Europe & Central Asia**

Country	Qualifying conditions						
	Statutory retirement age (Current Law)	Early retirement age	Already Legislated Changes	Effective date	Minimum Vesting Period	Already Legislated Changes	Date effective
Albania	59.5/64.5	57/62	-	-	35	-	-
Armenia	63	yc(35)	1	-	5	-	-
Azerbaijan	57/62	-	-	-	5	-	-
Belarus	55/60	..	-	-	20/25	-	-
Bosnia and Herzegovina	65/65	55/60	-	-	20	-	-
Bosnia Republika Srpska	60/65	yc(40)	-	-	20	-	-
Bulgaria	60/63	..	63/65	2026	34/37	-	-
Croatia	60/65	55/60	-	-	15	37/40	2020
Czech Republic	55-61/62.5	2	yc(25)	yc(30)	2018	26	-
Estonia	60.5/63	-	-	-	15 (min.)	-	-
Georgia	60/65	-	-	-	5	-	-
Hungary	62	-	-	-	20	-	-
Kazakhstan	58/63	..	-	-	20/25	-	-
Kosovo	65/65	-	-	-	0	-	-
Kyrgyz Republic	58/63	..	-	-	20/25	5	-
Latvia	62	-	-	-	0	-	-
Lithuania	60/62.5	58/60.5	-	-	15	-	-
Macedonia, FYR	62/64	-	-	-	15	-	-
Moldova	57/62	-	3	-	15	-	-
Montenegro	67/67	-	-	-	25	-	-
Poland	60/65	Yes	-	-	25	-	-
Romania	59/64	Yes	-	-	28/33	-	-

(Cont.)	Qualifying conditions							
	Country	Statutory retirement age (Current Law)	Early retirement age	Already Legislated Changes	Effective date	Minimum Vesting Period	Already Legislated Changes	Date effective
Russian Federation	55/60	Yes	-	-	-	5	-	-
Serbia	60/65	53	58	4	2023	15	-	-
Slovak Republic	59.5/62	-	62/62		2015	10	-	-
Slovenia	56.3/63	-	-		-	15	-	-
Tajikistan	..	..	-		-	..	-	-
Turkey	44/47	-	-		-	14	-	-
Turkmenistan	57/62	-	-		-	20/25	-	-
Ukraine	55/60	-	-		-	5	-	-
Uzbekistan	55/60	-	-		-	20/25	-	-

*Notes:*

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

yc: linked to a minimum number of years of contribution

r: Qualifying conditions require a certain number of year of residence

p: Qualifying condition are measured in terms of point which are gain accruing years of contribution.

w: Qualifying conditions related to amount of covered earnings.

v: Varies according to the type of work

1. Armenia: For some occupations early retirement age has been raised to reach 55/58 by 2015.

2. Czech Republic: pension ages for women vary with number of children.

3. Moldova: Early retirement varies depending on the worker's category.

4. Serbia: Early retirement age rising to 58.

5. Kazakhstan: Full pension and full minimum pension guarantee is granted to those with 20/25 years of service accumulated before 1998.

Source: World Bank HDNSP Pensions Database



**Annex III Table 9: Pension and social insurance contribution rates by country, Europe & Central Asia**

Country	Contribution Rates												
	Pillar 1			Pillar 2					Social Security (all programs)				
	Employee	Employer	Total	Employee	Employer	Total	Already Legislated Changes	Effective date	Programs	Employee	Employer	Total	
Albania	..	..	21.6	-	-	-	-	-	o-d-s/sm/w/u/f	9.5	15.0	24.5	1
Armenia	3.0	21.0	24.0	-	-	-	-	-	o-d-s/sm/w/u/f	3.0	25.0	28.0	
Azerbaijan	3.0	22.0	25.0	-	-	-	-	-	o-d-s/sm/w/u/f	3.0	22.0	25.0	
Belarus	1.0	28.0	29.0	-	-	-	-	-	o-d-s/sm/w/u/f	1.0	27.9	28.9	
Bosnia and Herzegovina	6.0	17.0	23.0	..	..	..	-	-	..	..	..	..	
Bosnia Republika Srpska	-	17.0	17.0	..	..	..	-	-	..	..	..	..	
Bulgaria	..	..	12.8	-	-	5	-	-	o-d-s/sm/w/u/f	..	..	22.3	
Croatia	15.0	-	15.0	5	-	5	-	-	o-d-s/sm/w/u/f	20.0	17.2	37.2	
Czech Republic	6.5	21.5	28.0	-	-	-	-	-	o-d-s/sm/w/u/f	11.4	25.0	36.4	
Estonia	0.0	16.0	16.0	2	4	6	2	-	o-d-s/sm/w/u/f	4.0	21.0	25.0	
Georgia	0.0	25.0	25.0	-	-	-	-	-	o-d-s/m/w/u/f	0.0	25.0	25.0	
Hungary	1.5	24.0	25.5	8	-	8	-	-	o-d-s/sm/w/u/f	9.5	24.0	33.5	
Kazakhstan	-	-	-	0	5	10	-	-	o-d-s/sm/w/u/f	10.0	5.0	15.0	
Kosovo	0.0	0.0	0.0	5	5	10	-	-	o-d-s	5.0	5.0	10.0	
Kyrgyz Republic	8.0	19.0	27.0	2	-	-	-	-	o-d-s/sm/w/u/f	8.0	19.0	27.0	
Latvia	..	..	21.7	-	-	2	6	2013	o-d-s/sm/w/u/f	9.0	24.1	33.1	
Lithuania	1.0	23.3	24.3	2	-	-	-	-	o-d-s/sm/w/u/f	2.5	28.3	30.8	
Macedonia, FYR	0.0	11.7	11.7	-	6.3	6.3	-	-	o-d-s/sm/w/u/f	0.0	18.0	18.0	
Moldova	5.0	21.0	26.0	-	-	-	-	-	o-d-s/sm/w/u/f	6.0	23.0	29.0	
Montenegro	15.0	5.5	20.5	-	-	-	-	-	o-d-s/sm/w/u/f	..	..	..	

**Annex III Table 9: Pension and social insurance contribution rates by country, Europe & Central Asia**

(Cont.)	Contribution Rates											
	Pillar 1			Pillar 2					Social Security (all programs)			
Country	Employee	Employer	Total	Employee	Employer	Total	Already Legislated Changes	Effective date	Programs	Employee	Employer	Total
Poland	2.5	9.8	12.2	7.3	-	7.3	-	-	o-d-s/sm/w/u/f	14.9	13.2	28.1
Romania	8.0	21.1	29.1	2.5	-	2.5	-	-	o-d-s/sm/w/u/f	11.0	21.6	32.6
Russian Federation	..	..	20.0	-	-	6	-	-	o-d-s/sm/w/u/f	-	0.0	0.0
Serbia	11.0	11.0	22.0	-	-	-	-	-	o-d-s/sm/w/u/f	17.9	17.9	35.8
Slovak Republic	7.0	12.8	19.8	-	9	9	-	-	o-d-s/sm/w/u/f	9.4	25.2	34.6
Slovenia	15.5	8.9	24.4	-	-	-	-	-	o-d-s/sm/w/u/f	15.7	9.6	38.0
Tajikistan	..	..	..	-	-	-	-	-	..	..	..	..
Turkey	9.0	11.0	20.0	-	-	-	-	-	o-d-s/sm/w/u	9.0	11.0	20.0
Turkmenistan	1.0	20.0	21.0	-	-	-	-	-	o-d-s/sm/w/u/f	1.0	22.0	23.0
Ukraine	2.0	32.3	34.3	-	-	-	-	-	o-d-s/sm/w/u/f	2.8	36.7	39.5
Uzbekistan	2.5	31.5	34.0	-	-	-	-	-	o-d-s/sm/w/u/f	2.5	34.5	37.0

Notes:  
 Not available: ..  
 Not applicable: -  
 o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance  
 1. Albania: Contribution for all social security programs excluding health  
 2. Estonia: Temporally suspended

Source: World Bank HDNSP Pensions Database

**Annex III Table 10: DB Scheme parameters, Europe & Central Asia**

Country	DB parameters						
	Base Accrual Rate	Incremental Rate	Wage Base	Valorization	Indexation	Already Legislated Changes	Effective date
Albania	..	-	C	w 2a	p 2b	-	-
Armenia	..	-	..	0	dr	-	-
Azerbaijan	..	-	..	0	p	-	-
Belarus	2.75%/2.2%	1.0%	C	w	w	-	-
Bosnia and Herzegovina	..	1.5%	b25	w	- 6	C	2015
Bosnia Republika Srpska	..	1.5%	C	w	w 6	-	-
Bulgaria	..	1.1%	C	w	0.5p/0.5w	-	-
Croatia	..	-	..	..	0.5p/0.5w	-	-
Czech Republic	0.5%	-	f30	w	33w/67p	-	-
Estonia	..	-	..	..	0.5p/0.5w	-	-
Georgia	..	-	..	..	dr up to	-	-
Hungary	1.0% 1	-	..	..	0.5p/0.5w	-	-
Kazakhstan	0.6%	-	b3	-	p + 2%	-	-
Kosovo	-	-	-	-	p	-	-
Kyrgyz Republic	..	-	..	..	dr	-	-
Latvia	-	-	-	-	-	-	-
Lithuania	..	-	C	..	dr	-	-
Macedonia, FYR	..	-	..	..	0.5p/0.5w	-	-
Moldova	..	-	..	..	0.5p/0.5w	-	-
Montenegro	..	-	..	..	dr	-	-

(Cont.)	DB parameters						
Country	Base Accrual Rate	Incremental Rate	Wage Base	Valorization	Indexation	Already Legislated Changes	Effective date
Poland	..	-	..	..	p	-	-
Romania	..	1.4%	C	..	- 3	50w/50p	2012
Russian Federation	-	-	-	-	w 4	-	-
Serbia	..	-	C	p	p	p + 0.5(gdp) 5	-
Slovak Republic	1.2%	-	C	w	0.5p/0.5w	-	-
Slovenia	2.53%/2.33%	1.5%	b18	w	w	-	-
Tajikistan	..	-	..	..	..	-	-
Turkey	2.0%	-	C	gdp	p	-	-
Turkmenistan	..	-	..	..	w	-	-
Ukraine	..	-	..	..	p	-	-
Uzbekistan	..	-	..	..	p	-	-

Notes:

Not available: ..

Not applicable: -

C: Carries average wage, w: wage, p: prices

f: number of final years / b: Best number of years

dr: Discretionary rate

1. Hungary: Higher accrual rate for longer contributions and higher accrual rate on early years.

2a. Albania: Growth in average contributions 2b: Prices according to legislation but ad-hoc in practice

3. Romania: Pensions are on freeze for two year

4. Russia Federation: w for flat portion; wage bill growth per contributor for earnings related portion

5. Serbia: Exception on indexation through 1st half of 2012.

6. Bosnia and Herzegovina and Bosnia Republika Srpska: Revenue constrained

Source: World Bank HDNSP Pensions Database

**Annex III Table 11: Modality of pillars by country, Latin America & the Caribbean**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Antigua and Barbuda	T	DB	-
Argentina	T,B	DB	-
Barbados	T	DB	-
Belize	T	DB	-
Bolivia	U	DB	-
Brazil	T	DB	-
Chile	T	-	DC
Colombia	T	DB	DC Op
Costa Rica	T	DB	DC Co
Cuba	T	DB	-
Dominica	-	DB	-
Dominican Republic	T	-	DC -
Ecuador	T	DB	-
El Salvador	-	DB PO	DC Op
Grenada	-	DB	-
Guatemala	-	DB	-
Guyana	-	DB	-
Haiti	-	DB	-
Honduras	-	DB	-
Jamaica	T	DB	-
Mexico	B	DB PO	DC Op
Nicaragua	T	DB	-
Panama	-	DB	DC Co
Paraguay	-	DB	-
Peru	-	DB	DC Op
St. Kitts and Nevis	T	DB	-
St. Lucia	-	DB	-
St. Vincent and the Grenadines	-	DB	-
Suriname	..	..	..
Trinidad and Tobago	T	DB	-
Uruguay	T	DB	DC Co
Venezuela, RB	-	DB	-

*Notes*

Not available: .., Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

PO: Phased out, Co: Complementary Scheme, Op: Optional

Source: World Bank HDNSP Pensions Database

**Annex III Table 12: Separated vs. integrated pension schemes by country, Latin America & the Caribbean**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Antigua and Barbuda	I	-
Argentina	PI	Civil Servants of some provinces/municipalities, Armed and Security Force, Police, Teachers, Foreign Ministry, Judicial authorities
Barbados	I	-
Belize	I	Military
Bolivia	-	-
Brazil	S	Military
Chile	I	Armed Forces and Police
Colombia	I	Employees state oil company (Ecopetrol) who joined before January 30, 2003, Teachers, Armed Forces and Police.
Costa Rica	I	Teachers and Justice Department employees.
Cuba	PI	Armed Forces, Interior Ministry Staff, Musicians, and Agricultural Cooperatives.
Dominica	I	-
Dominican Republic	I	-
Ecuador	I	Military and Police
El Salvador	I	-
Grenada	I	-
Guatemala	PI	Some public employees
Guyana	I	-
Haiti	PI	-
Honduras	..	..
Jamaica	I	Civil servants, Justice employees, Police, Teachers, Health services employees, Port employees.
Mexico	I	Petroleum workers and Military.
Nicaragua	I	-
Panama	I	-
Paraguay	S	Police, Military, Justice employees, Public teacher, Railroad, Elected parliamentary representatives, Itaipu (electricity generating company) employees, others.
Peru	I	Military, Police , Fishermen
St. Kitts and Nevis	S	-
St. Lucia	PI	Some Public employees

**Annex III Table 12: Separated vs. integrated pension schemes by country,  
Latin America & the Caribbean**

<i>(cont.)</i>	Separated vs Integrated	
Country	Civil Servants	Special Schemes
St. Vincent and the Grenadines	I	-
Suriname	..	..
Trinidad and Tobago	I	-
Uruguay	I	Armed Forces, Police; Bank and Notaries employees, others
Venezuela, RB	I	Armed Forces

*Notes*

Not available: .. , Not applicable: -

MS: Main Scheme, I: Integrated, PI: Partially Integrated, S: Separated

Source: *World Bank HDNSP Pensions Database*

**Annex III Table 13: Statutory retirement ages, and qualifying conditions by country, Latin America & the Caribbean**

Country	Qualifying conditions						
	Statutory retirement age (Current Law)	Early retirement age	Already Legislated Changes	Effective date	Minimum Vesting Period	Already Legislated Changes	Date effective
Antigua and Barbuda	60	-	-	-	10	-	-
Argentina	60/65	55/60	-	-	30	-	-
Barbados	65	60	-	-	10	-	-
Belize	65	60	-	-	10	-	-
Bolivia	65	-	-	-	-	-	-
Brazil	60/65	-	-	-	30/35	-	-
Chile	60/65	-	-	-	-	-	-
Colombia	55/60	1	57/62	2014	23.5	26	2015
Costa Rica	60/62	-	-	-	37.5/38.5	-	-
Cuba	55/60	-	-	-	25	-	-
Dominica	60	-	-	-	10	-	-
Dominican Republic	60	2	55	-	30	-	-
Ecuador	60	3	-	-	30	-	-
El Salvador	55/60	-	-	-	25	-	-
Grenada	60	-	-	-	10	-	-
Guatemala	60	-	-	-	15	-	-
Guyana	60	-	-	-	15	-	-
Haiti	..	..	-	-	0	-	-
Honduras	60/65	-	-	-	15	-	-
Jamaica	60/65	-	-	-	28.86	-	-
Mexico	65	-	-	-	25	-	-
Nicaragua	60	-	-	-	15	-	-
Panama	57/62	-	-	-	18	-	-
Paraguay	60	55	-	-	25	-	-



**Annex III Table 13: Statutory retirement ages, and qualifying conditions by country, Latin America & the Caribbean**

<i>(cont.)</i> Country	Qualifying conditions						
	Statutory retirement age (Current Law)	Early retirement age	Already Legislated Changes	Effective date	Minimum Vesting Period	Already Legislated Changes	Date effective
Peru	60	55	-	-	20	-	-
St. Kitts and Nevis	62	-	-	-	10	-	-
St. Lucia	63	60	-	-	13	-	-
St. Vincent and the Grenadines	60	-	-	-	10	-	-
Suriname	..	..	-	-	0	-	-
Trinidad and Tobago	60	-	-	-	15	-	-
Uruguay	60	-	-	-	30	-	-
Venezuela, RB	55/60	-	-	-	15	-	-

*Notes:*

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

1. Colombia: Qualifying conditions reported apply to the DB scheme. Qualifying conditions for retirement in the DC schemes is either reaching ages of 57/62 or having an accumulated balance that allows a monthly pension equal to 110% of the minimum wage at the moment of retirement.

2. Dominican Republic: Age 55 if the individual account balance is sufficient to finance a pension equal to the minimum pension.

3. Ecuador: Pensions is paid at age 60 with minimum 360 months of contributions; age 65 with at least 180 months; age 70 with at least 120 months or at any age with at least 480 months.

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 14: Pension and social insurance contribution rates by country, Latin America & the Caribbean**

Country	Contribution Rates											
	Pillar 1			Pillar 2			Social Security (all programs)					
	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer	Total		
Antigua and Barbuda	3.0	5.0	8.0	1	-	-	-	o-d-s/sm	3.0	5.0	8.0	
Argentina	11.0	10.2	21.2	2a	-	-	-	o-d-s/sm/w/u/f	17.0	22.7	39.7	2b
Barbados	6.8	6.8	13.5	3	-	-	-	o-d-s/sm/w/u	7.5	7.5	15.0	
Belize	-	-	-	4	-	-	-	o-d-s/sm/w/u	-	-	-	
Bolivia	12.2	-	12.2		-	-	-	o-d-s/sm/w/f	12.2	10.0	22.2	
Brazil	7.7	20.0	27.7	5	-	-	-	o-d-s/sm/w/u/f	7.7	21.0	28.7	
Chile	18.8	-	18.8		10.0	1.0	11.0	o-d-s/sm/w/u/f	17.0	5.3	22.3	
Colombia	4.0	12.0	16.0		4.0	12.0	16.0	o-d-s/sm/w/u/f	8.0	33.4	41.4	
Costa Rica	2.7	4.9	7.6		1.2	3.3	4.4	o-d-s/sm/w/f	9.4	17.4	26.8	
Cuba	-	14.0	14.0		-	-	-	o-d-s/sm/w/f	-	14.0	14.0	
Dominica	4.0	6.8	10.8		-	-	-	o-d-s/sm/w	4.0	7.8	11.8	
Dominican Republic	-	-	-		2.9	7.1	10.0	o-d-s/sm/w/f	5.7	13.8	19.5	
Ecuador	6.6	3.1	9.7		-	-	-	o-d-s/sm/w/u/f	8.6	9.8	18.5	
El Salvador	7.0	7.0	14.0		6.3	6.8	13.0	o-d-s/sm/w	6.3	16.3	21.3	
Grenada	4.0	5.0	9.0		-	-	-	o-d-s/sm/w	4.0	5.0	9.0	
Guatemala	1.8	3.7	5.5		-	-	-	o-d-s/sm/w	3.8	10.7	14.5	
Guyana	5.2	7.8	13.0		-	-	-	o-d-s/sm/w	5.2	7.8	13.0	
Haiti	..	..	..		-	-	0	..	..	..	..	
Honduras	1.0	2.0	3.0		-	-	-	o-d-s/sm/w	3.5	7.0	10.5	
Jamaica	2.5	2.5	5.0		-	-	-	o-d-s/sm/w/f	2.5	2.5	5.0	
Mexico	-	-	-		1.7	6.9	8.6	o-d-s/sm/w/u/f	2.4	28.5	30.9	
Nicaragua	4.0	6.0	10.0		-	-	-	o-d-s/sm/w/f	6.3	13.5	19.8	
Panama	7.5	3.5	11.0		7.5	3.5	11.0	8	o-d-s/sm/w	8.0	11.8	19.8
Paraguay	9.0	14.0	23.0		-	-	-	o-d-s/sm/w	9.0	14.0	23.0	

**Annex III Table 14: Pension and social insurance contribution rates by country, Latin America & the Caribbean**

<i>(cont.)</i>	Contribution Rates									
	Pillar 1			Pillar 2			Social Security (all programs)			
Country	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer	Total
Peru	13.0	-	13.0	11.9	-	11.9	o-d-s/sm/w	11.9	9.6	21.5
St. Kitts and Nevis	5.0	5.0	10.0	-	-	-	o-d-s/sm/w	5.0	6.0	11.0
St. Lucia	5.0	5.0	10.0	-	-	-	o-d-s/sm/w	5.0	5.0	10.0
St. Vincent and the Grenadines	3.5	4.5	8.0	-	-	-	o-d-s/sm/w	3.5	5.0	8.5
Suriname	..	..	..	..	..	..	..	..	..	..
Trinidad and Tobago	3.2	6.4	9.6	-	-	-	o-d-s/sm/w/f	3.6	7.2	10.8
Uruguay	15.0	7.5	22.5	17.8	-	17.8	7 o-d-s/sm/w/u/f	18.0	12.5	30.5
Venezuela, RB	4.0	11.0	15.0	-	-	-	o-d-s/sm/w/u/f	4.5	13.8	18.3

Notes:

Not available: ..

Not applicable: -

o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

1. Antigua & Barbuda: Contribution rate for insured person in public sector corresponds to 2% of covered monthly earnings.

2. a) Argentina: Employer's contribution varies according to the type of enterprise

3. Barbados: Different contribution rates for government permanent employees.

4. Belize: Weekly contributions vary according to eight wage classes.

5. Brazil: Insured person contribution rate varies with the covered earnings amount: 8% with monthly earnings up to 965.67 reais; 9% from 965.68 reais to 1,609.45 reais; or 11% with earnings from 1,609.46 reais to 3,218.90 reais.

6. Panama: DC scheme only available for workers with earnings greater than monthly earnings of 500 balboas.

7. Uruguay: Complementary DC scheme for workers with gross monthly earnings greater than 19,805 pesos.

Source: World Bank HDNSP Pensions Database

**Annex III Table 15: DB Scheme parameters: Indexation and accrual rate,  
Latin America & the Caribbean**

Country	DB parameters			
	Base Accrual Rate	Incremental Rate	Wage Base	Indexation
Antigua and Barbuda	2.0%	1.0%	f5	dr
Argentina	1.5%	-	f10	..
Barbados	2.0%	1.3%	b5	p
Belize	3.0%	2%/1%	b3	..
Bolivia	..	..	..	..
Brazil	1.0%	..	..	p
Chile	-	-	-	-
Colombia	1.5%	..	f10	p
Costa Rica	-	-	-	p
Cuba	2.0%	2.0%	b5	dr
Dominica	3.0%	1.0%	b10	..
Dominican Republic	-	-	-	-
Ecuador	1.3%	..	b5	0.5p/0.5w
El Salvador	-	-	-	-
Grenada	3.0%	1.0%	b5	dr
Guatemala	3.3%	1.0%	..	dr
Guyana	2.7%	1.0%	b3	..
Haiti	..	..	..	..
Honduras	2.7%	1.0%	f	..
Jamaica	..	..	..	..
Mexico	-	-	-	-
Nicaragua	2.7%	1.4%	f3	w
Panama	..	..	..	dr
Paraguay	-	-	f3	p
Peru	1.5%-2%	2.0%	f5	cl
St. Kitts and Nevis	2.0%	1.0%	b3	..
St. Lucia	3.1%	0.1%	b5	..
St. Vincent and the Grenadines	3.0%	0.5%	b5	p
Suriname	..	..	..	..
Trinidad and Tobago	2.5%-3%	0.56%-0.71%	C	..
Uruguay	1.3%	1.0%	f10	w
Venezuela, RB	2.0%	1.0%	f10	dr

Notes:

Not available: .. , Not applicable: -

C: Carries average wage w: wage, p: Prices

cl. Indexation conditional on scheme finances

f: number of final years / b: Best number of years

dr: Discretionary rate

Source: World Bank HDNSP Pensions

**Annex III Table 16: Modality of pillars by country, Middle East & North Africa**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Algeria	-	DB	-
Bahrain	-	DB	-
Djibouti	-	DB	-
Egypt, Arab Rep.	U	DB	1
Iran, Islamic Rep.	-	DB	-
Iraq	-	DB	-
Jordan	-	DB	-
Kuwait	-	DB	-
Lebanon	..	..	2
Libya	-	DB	-
Malta	T	DB	-
Morocco	-	DB	-
Oman	-	DB	-
Qatar	..	..	..
Saudi Arabia	-	DB	-
Syrian Arab Republic	-	DB	-
Tunisia	-	DB	-
United Arab Emirates	-	DB	-
West Bank and Gaza	..	..	..
Yemen, Rep.	-	DB	-

*Notes*

Not available: .., Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

1. Egypt: New legislation will introduce a NDC scheme and a complementary DC scheme by 2012.

2. Lebanon: Private sector workers covered by lump sum payments

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 17: Separated vs. integrated pension schemes by country,  
Middle East & North Africa**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Algeria	I	Armed forces and Self-employed
Bahrain	PI	-
Djibouti	PI	Armed Forces
Egypt, Arab Rep.	I	Self-employed, Migrant workers, Temporary workers in agriculture, Artisans, others.
Iran, Islamic Rep.	S	Armed Forces
Iraq	PI	-
Jordan	I	-
Kuwait	I	-
Lebanon	S	Armed Forces
Libya	I	Armed Forces
Malta	I	-
Morocco	S	Contractual Civil Servants
Oman	S	Armed Forces (and seven other special schemes)
Qatar	-	-
Saudi Arabia	S	Armed Forces
Syrian Arab Republic	I	-
Tunisia	S	Parliament, Armed forces personnel, Agriculture and Farmers, others.
United Arab Emirates	I	Armed Forces
West Bank and Gaza	MS	-
Yemen, Rep.	S	Armed Forces and Police

*Notes*

Not available: .. , Not applicable: -

MS: Main Scheme, I: Integrated, PI: Partially Integrated, S: Separated

Source: World Bank HDNSP Pensions Database

**Annex III Table 18: Statutory retirement ages, and qualifying conditions by country, Middle East & North Africa**

Country	Qualifying conditions		
	Statutory retirement age (Current Law)	Early retirement age	Minimum Vesting Period
Algeria	55/60	45/50	15
Bahrain	55/60	-	1
Djibouti	55/60	-	-
Egypt, Arab Rep.	60	-	2
Iran, Islamic Rep.	55/60	45/50	3
Iraq	55/60	-	20
Jordan	55/60	45	15
Kuwait	50	-	4
Lebanon	-	-	-
Libya	60/65	-	20
Malta	65	61	5
Morocco	60	55	9
Oman	55/60	45	10/12.
Qatar	-	-	-
Saudi Arabia	55/60	-	6
Syrian Arab Republic	55/60	-	15
Tunisia	60	50	10
United Arab Emirates	-	-	-
West Bank and Gaza	-	-	-
Yemen, Rep.	55/60	46-54/50-59	10/15.

*Notes:*

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

1. Bahrain: Early retirement is possible and is linked to the contributed number of years

2. Egypt: Early retirement is possible with 240 months of contribution.

3. Iran: Early retirement is possible with 30 years of contribution

4. Kuwait: Early retirement is possible with certain years of contribution.

5. Malta: Early retirement is paid from age 61 with 2080 weeks of contribution.

6. Saudi Arabia: Early retirement is possible with 240 months of contribution.

Source: World Bank HDNSP Pensions Database

**Annex III Table 19: Pension and social insurance contribution rates by country, Middle East & North Africa**

Country	Contribution Rates										
	Pillar 1			Pillar 2		Social Security (all programs)					
	Employee	Employer	Total	Already Legislated Changes	Effective date	Programs	Employee	Employer	Total		
Algeria	7.0	10.0	17.0	-	-	o-d-s/sm/w/u/f	9.0	25.0	34.0		
Bahrain	6.0	9.0	15.0	-	-	o-d-s/sm/u	7.0	13.0	20.0		
Djibouti	-	-	4.0	-	-	o-s	-	-	15.0		
Egypt, Arab Rep.	10.0	15.0	25.0	1a	19.5	2012	1b	o-d-s/sm/w/u	10.0	20.0	30.0
Iran, Islamic Rep.	7.0	20.0	27.0	-	-	o-d-s/sm/w/u/f	7.0	23.0	30.0		
Iraq	2.0	12.0	14.0	-	-	o-d-s/sm/w/u	5.0	12.0	17.0		
Jordan	5.5	9.0	14.5	-	-	o-d-s/w	5.5	11.0	16.5		
Kuwait	5.0	10.0	15.0	2	-	-	o-d-s/w	5.0	10.0	15.0	
Lebanon	-	-	-	3	-	-	sm/w/u	2.0	21.5	23.5	
Libya	3.8	10.5	14.3	-	-	o-d-s/sm/w	5.3	13.0	18.2		
Malta	10.0	10.0	20.0	-	-	o-d-s/sm/w/u/f	10.0	10.0	20.0		
Morocco	4.0	7.9	11.9	-	-	o-d-s/sm/w/f	6.2	18.0	24.2		
Oman	6.5	9.5	16.0	-	-	o-d-s/w	6.5	10.5	17.0		
Qatar	-	-	-	-	-	-	-	-	-		
Saudi Arabia	9.0	9.0	18.0	-	-	o-d-s/w	9.0	11.0	20.0		
Syrian Arab Republic	7.0	14.0	21.0	-	-	o-d-s/w	7.0	17.0	24.0		
Tunisia	4.7	7.8	12.5	-	-	o-d-s/sm/w/u/f	8.8	16.3	25.1		
United Arab Emirates	-	-	-	-	-	-	-	-	-		
West Bank and Gaza	-	-	-	-	-	-	-	-	-		
Yemen, Rep.	6.0	6.0	12.0	-	-	o-d-s/w	6.0	10.0	16.0		

Notes: Not available, Not applicable: -

o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

1a. Egypt: Employee and employer contribute 3% and 2% more for lump sum benefits. 1b. Egypt: New legislation introduces a NDC and a DC scheme. The contribution rate is based on a 19.5%, 15% for the NDC scheme and 4.5% to the DC scheme.

2. Kuwait: Supplementary scheme (for workers with earnings exceeding 1,250 dinars) has the same contributions rates for insured persons and employers as the basic DB scheme.

3. Lebanon: Employers contribute 8.5% to a scheme that provides only lump sums as an old-age type of benefit.

Source: World Bank HDNSP Pensions Database



**Annex III Table 20: DB Scheme parameters: Indexation and accrual rate by country, Middle East & North Africa**

Country	DB parameters			
	Base Accrual Rate	Wage Base	Valorization	Indexation
Algeria	2.5%	b5	..	dr
Bahrain	2.0%	f2	..	dr
Djibouti	1.5%-2%	f10	..	dr
Egypt, Arab Rep.	2.2%	f2 1	..	p
Iran, Islamic Rep.	3.3%	f2	..	dr
Iraq	2.5%	f3	p	dr
Jordan	2.5%	f8	..	dr
Kuwait	2.0%	..	..	dr
Lebanon	-	-	-	-
Libya	2.5%	f3	..	dr
Malta	..	..	..	p
Morocco	1.8%	f8	..	dr
Oman	..	..	..	-
Qatar	..	..	..	-
Saudi Arabia	..	..	..	-
Syrian Arab Republic	2.5%	f10	..	dr
Tunisia	2.5%	f10	..	p
United Arab Emirates	..	..	..	-
West Bank and Gaza	-	-	-	mw
Yemen, Rep.	2.5%	f2	..	w

Notes:

Not available: .. , Not applicable: -

C: Carries average wage w: wage, p: Prices

f: number of final years

dr: Discretionary rate

mw: Minimum wage

1. Egypt: Minimum between the average monthly base earnings in the last 2 years or in the 5 years before the last 2 years multiplied by 1.4

Source: World Bank HDNSP Pensions Database

**Annex III Table 21: Modality of pillars by country, South Asia**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Afghanistan	..	..	..
Bangladesh	T	-	-
Bhutan	..	..	..
India	T	DB, PF	-
Maldives	U	-	DC
Nepal	T	PF	-
Pakistan	-	DB	-
Sri Lanka	-	PF	-

*Notes*

Not available: ..

Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

Source: World Bank HDNSP Pensions Database

**Annex III Table 22: Separated vs. integrated pension schemes by country, South Asia**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Afghanistan	S	Military, Police, Banking sector
Bangladesh	S	-
Bhutan	MS	Military
India	S	Coal miners, Railway employees
Maldives	I	-
Nepal	S	-
Pakistan	S	Armed Forces, Police, Railways employees and others
Sri Lanka	S	Farmers and Fishermen.

*Notes*

Not available: .. , Not applicable: -

MS: Main Scheme, I: Integrated, PI: Partially Integrated, S: Separated

Source: World Bank HDNSP Pensions Database

**Annex III Table 23: Statutory retirement ages, and qualifying conditions by country, South Asia**

Country	Qualifying conditions		
	Statutory retirement age (Current Law)	Early retirement age	Minimum Vesting Period
Afghanistan	55/60	-	20/25
Bangladesh	-	-	-
Bhutan	-	-	-
India	55 1	54	10
Maldives	65	-	r
Nepal	58	-	-
Pakistan	55/60	50/55	15
Sri Lanka	50/55	-	-

Notes:

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

r: Qualifying conditions require a certain number of year of residence

1. India: Statutory pension age for earnings related pension scheme is 58 and for earnings related provident fund schemes it is 55 years.

Source: World Bank HDNSP Pensions Database

**Annex III Table 24: Pension and social insurance contribution rates by country, South Asia**

Country	Contribution Rates						
	Pillar 1			Social Security (all programs)			
	Employee	Employer	Total	Programs	Employee	Employer	Total
Afghanistan	-	-	-	-	-	-	-
Bangladesh	-	-	-	o/sm/w	-	-	-
Bhutan	-	-	-	-	-	-	-
India	0/12.	12/5.	12/17.	o-d-s/sm/w/u	13.8	22.4	36.1
Maldives	-	-	-	..	-	-	-
Nepal	10.0	10.0	20.0	o-d-s/w	10.0	10.0	20.0
Pakistan	1.0	5.0	6.0	o-d-s/sm/w	1.0	11.0	12.0 1
Sri Lanka	8.0	12.0	20.0	o-d-s/w/f	8.0	12.0	20.0 2

Notes:

Not available: .. , Not applicable: -

o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

1. Pakistan: Insured person contributes 20 rupees a month for sickness and maternity insurance

2. Sri Lanka: Insured person pays 25 rupees per month per family member for family allowances benefits

Source: World Bank HDNSP Pensions Database

**Annex III Table 25: DB parameters, South Asia**

Country	DB parameters		
	Base Accrual Rate	Wage Base	Indexation
Afghanistan	-	-	-
Bangladesh	-	-	-
Bhutan	-	-	-
India	..	..	dr
Maldives	-	-	-
Nepal	-	-	-
Pakistan	2.0%	f1	p
Sri Lanka	-	-	-

*Notes:*

Not available: .. , Not applicable: -

C: Carries average wage, p: Prices

f: number of final years

dr: Discretionary rate

*Source: World Bank*

*HDNSP Pensions*

*Database*

**Annex III Table 26: Modality of pillars by country, Sub-Saharan Africa**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Angola	..	..	..
Benin	-	DB	-
Botswana	U	-	-
Burkina Faso	-	DB	-
Burundi	-	DB	-
Cameroon	-	DB	-
Cape Verde	-	DB	-
Central African Republic	-	DB	-
Chad	-	DB	-
Comoros	..	..	..
Congo, Dem. Rep.	-	DB	-
Congo, Rep.	-	DB	-
Cote d'Ivoire	-	DB	-
Equatorial Guinea	-	DB	-
Eritrea	..	..	..
Ethiopia	..	..	..
Gabon	-	DB	-
Gambia, The	-	PF	-
Ghana	-	DB	DC Op
Guinea	-	DB	-
Guinea-Bissau	..	..	..
Kenya	-	PF	-
Lesotho	B	-	-
Liberia	T	DB	-
Madagascar	-	DB	-
Malawi	..	..	..
Mali	-	DB	-
Mauritania	-	DB	-
Mauritius	U	DB	-
Mozambique	..	..	..
Namibia	U	-	-
Niger	-	DB	-
Nigeria	-	-	DC
Rwanda	-	DB	-
Sao Tome and Principe	-	DB	-

**Annex III Table 26: Modality of pillars by country, Sub-Saharan Africa**

<i>(Cont.)</i> Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Senegal	-	DB	-
Seychelles	B	DB	-
Sierra Leone	-	DB	-
Somalia	..	..	..
South Africa	T	-	-
Sudan	-	DB	-
Swaziland	T	PF	-
Tanzania	-	DB	-
Togo	-	DB	-
Uganda	-	PF	-
Zambia	-	DB	-
Zimbabwe	-	DB	-

*Notes*

Not available: ..

Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

Source: *World Bank HDNSP Pensions Database*

**Annex III Table 27: Separated vs. integrated pension schemes by country, Sub-Saharan Africa**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Angola	S	-
Benin	S	-
Botswana	S	-
Burkina Faso	S	-
Burundi	S	-
Cameroon	PI	-
Cape Verde	I	-
Central African Republic	S	-
Chad	..	..
Comoros	S	-
Congo, Dem. Rep.	S	-
Congo, Rep.	S	-
Cote d'Ivoire	I	-
Equatorial Guinea	..	..
Eritrea	MS	-
Ethiopia	S	Parliament, Hospital, Military, Judges, Justice and Penitentiary workers, some state contract workers.
Gabon	S	Armed Forces, National Assembly members, and Local Government Authority employees and District Chiefs
Gambia, The	I	Armed Forces
Ghana	S	Armed Forces
Guinea	..	..
Guinea-Bissau	S	-
Kenya	..	..
Lesotho	I	-
Liberia	S	-
Madagascar	..	..
Malawi	S	Magistrates and Armed Forces
Mali	S	Armed Force
Mauritania	S	-
Mauritius	..	..
Mozambique	..	..
Namibia	S	..
Niger	I	-
Nigeria	I	-
Rwanda	I	-
Sao Tome and Principe	S	-

**Annex III Table 27: Separated vs. integrated pension schemes by country, Sub-Saharan Africa**

<i>(cont.)</i>	Separated vs Integrated	
Country	Civil Servants	Special Schemes
Senegal	I	-
Seychelles	I	-
Sierra Leone	..	..
Somalia	S	-
South Africa	S	Armed Forces and Police
Sudan	S	-
Swaziland	I	Military, Political leaders, Others
Tanzania	S	Armed Forces Military, Prison personnel, and Government teaching service employees
Togo	S	
Uganda	I	-
Zambia	I	-
Zimbabwe	..	..

*Notes*

Not available: .. , Not applicable: -

MS: Main Scheme, I: Integrated, PI: Partially Integrated, S: Separated

Source: *World Bank HDNSP Pensions Database*



**Annex III Table 28: Statutory retirement ages, and qualifying conditions by country, Sub-Saharan Africa**

Country	Qualifying conditions		
	Statutory retirement age (Current Law)	Early retirement age	Minimum Vesting Period
Angola	..	..	..
Benin	60	-	15
Botswana	-	- 1	-
Burkina Faso	v	-	15
Burundi	60	50	15
Cameroon	60	50	20
Cape Verde	60/65	-	15
Central African Republic	60	55	15
Chad	60	55	15
Comoros	..	..	..
Congo, Dem. Rep.	60/65	55	10
Congo, Rep.	60	50	25
Cote d'Ivoire	55	50	15
Equatorial Guinea	60	-	10
Eritrea	..	..	..
Ethiopia	-	-	-
Gabon	55	50	20
Gambia, The	60	45	10
Ghana	60	55	20
Guinea	55	50	15
Guinea-Bissau	..	..	..
Kenya	60	-	-
Lesotho	..	..	..
Liberia	60	-	8.3
Madagascar	55/60	-	15
Malawi	..	..	..
Mali	58	53	13
Mauritania	55/60	-	20
Mauritius	60	-	-
Mozambique	..	..	..
Namibia	-	-	-
Niger	60	-	20
Nigeria	50	-	-
Rwanda	55	-	15
Sao Tome and Principe	57/62	-	10

**Annex III Table 28: Statutory retirement ages, and qualifying conditions by country, Sub-Saharan Africa**

<i>(Cont.)</i> Country	Qualifying conditions		
	Statutory retirement age (Current Law)	Early retirement age	Minimum Vesting Period
Senegal	55	53	p
Seychelles	63	60	10
Sierra Leone	60	55	15
Somalia	..	..	..
South Africa	-	-	-
Sudan	60	50	20
Swaziland	60	45	-
Tanzania	60	55	15
Togo	60	-	10
Uganda	55	50	-
Zambia	55	50	15
Zimbabwe	0	0	0

*Notes:*

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

p: Qualifying condition are measured in terms of point which are gain accruing years of contribution.

v: Varies according to the type of work

1. Burkina Faso: Retirement age varies according to the type of work.

Source: World Bank HDNSP Pensions Database

**Annex III Table 29: Pension and social insurance contribution rates by country, Sub-Saharan Africa**

Country	Contribution Rates									
	Pillar 1			Pillar 2			Social Security (all programs)			
	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer	Total
Angola	-	-	-	-	-	-	..	..	..	..
Benin	3.6	6.4	10.0	-	-	-	o-d-s/sm/w/f	3.6	16.4	20.0
Botswana	-	-	-	-	-	-	o-d-s/w/f	-	-	-
Burkina Faso	5.5	5.5	11.0	-	-	-	o-d-s/sm/w/f	5.5	19.5	25.0
Burundi	2.6	3.9	6.5	-	-	-	o-d-s/w-f	2.6	6.9	9.5
Cameroon	2.8	4.2	7.0	-	-	-	o-d-s/sm/w/f	2.8	13.0	15.8
Cape Verde	3.0	7.0	10.0	-	-	-	o-d-s/sm/w/f	7.0	16.0	23.0
Central African Republic	4.0	3.0	7.0	-	-	-	o-d-s/sm/w/f	4.0	18.0	22.0
Chad	2.0	4.0	6.0	-	-	-	o-d-s/sm/w/f	2.0	12.5	14.5
Comoros	..	..	..	-	-	-	..	..	..	..
Congo, Dem. Rep.	3.5	3.5	7.0	-	-	-	o-d-s/w/f	3.5	9.0	12.5
Congo, Rep.	4.0	8.0	12.0	-	-	-	o-d-s/sm/w/f	4.0	20.3	24.3
Cote d'Ivoire	3.2	4.8	8.0	-	-	-	o-d-s/sm/w/f	3.2	12.6	15.8
Equatorial Guinea	4.5	21.5	26.0	-	-	-	o-d-s/sm/w/f	4.5	21.5	26.0
Eritrea	..	..	..	-	-	-	..	..	..	..
Ethiopia	-	-	-	-	-	-	-	-	-	-
Gabon	2.5	5.0	7.5	-	-	-	o-d-s/sm/w/f	2.5	18.0	20.5
Gambia, The	5.0	1..	15.0	-	-	-	o-d-s/w	5.0	11.0	16.0
Ghana	5.0	12.5	17.5	-	-	-	o-d-s/sm/w	5.0	12.5	17.5
Guinea	2.5	4.0	6.5	-	-	-	o-d-s/sm/w/f	5.0	18.0	23.0
Guinea-Bissau	..	..	..	-	-	-	..	..	..	..
Kenya	5.0	5.0	1..	-	-	-	o-d-s/sm/w	5.0	5.0	1..

(Cont.)	Contribution Rates									
	Pillar 1			Pillar 2			Social Security (all programs)			
Country	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer	Total
Lesotho	..	..	..	-	-	-	..	..	..	..
Liberia	3.0	3.0	6.0	-	-	-	o-d-s/w	3.0	4.8	7.8
Madagascar	1.0	9.5	10.5	-	-	-	o-d-s/sm/f	1.0	13.0	14.0
Malawi	..	..	..	-	-	-	..	..	..	..
Mali	3.6	5.4	9.0	-	-	-	o-d-s/sm/w/f	3.6	16.4	20.0
Mauritania	1.0	2.0	3.0	-	-	-	o-d-s/sm/w/f	1.0	15.0	16.0
Mauritius	3.0	6.0	9.0	-	-	-	o-d-s/w/u/f	4.0	6.0	10.0
Mozambique	..	..	..	-	-	-	..	..	..	..
Namibia	-	-	-	-	-	-	o-d/sm/f	..	..	..
Niger	1.6	2.4	4.0	-	-	-	o-d-s/sm/w/f	1.6	15.4	17.0
Nigeria	-	-	-	7.5	7.5	15.0	o-d-s/w	7.5	7.5	15.0
Rwanda	3.0	3.0	6.0	-	-	-	o-d-s/w	3.0	5.0	8.0
Sao Tome and Principe	4.0	6.0	10.0	-	-	-	o-d-s/sm/w	4.0	6.0	10.0
Senegal	5.6	8.4	14.0	-	-	-	o-d-s/sm/w/f	8.6	20.9	29.5
Seychelles	2.5	20.0	22.5	-	-	-	o-s/sm/w/u	2.5	20.0	22.5
Sierra Leone	5.0	10.0	15.0	-	-	-	o-d-s/w	5.0	10.0	15.0
Somalia	..	..	..	-	-	-	..	0.0	0.0	0.0
South Africa	-	-	-	-	-	-	o-d-s/sm/w/u/f	1.0	1.0	2.0
Sudan	8.0	17.0	25.0	-	-	-	o-d-s/w	8.0	19.0	27.0
Swaziland	5.0	5.0	10.0	-	-	-	o-d-s/w	5.0	5.0	10.0
Tanzania	10.0	10.0	20.0	-	-	-	o-d-s/sm/w	10.0	10.0	20.0
Togo	4.0	8.0	12.0	-	-	-	o-d-s/sm/w/f	4.0	16.5	20.5
Uganda	5.0	10.0	15.0	-	-	-	o-d-s/w	5.0	10.0	15.0
Zambia	5.0	5.0	10.0	-	-	-	o-d-s/sm/w	5.0	5.0	10.0
Zimbabwe	..	..	..	-	-	-	..	..	..	..

*Notes:*

Not available: ... Not applicable: -, o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

Source: World Bank HDNSP Pensions Database

**Annex III Table 30: DB Scheme parameters, Sub Sahara Africa**

Country	DB parameters			
	Base Accrual Rate	Incremental Rate	Wage Base	Indexation
Angola	..	..	..	..
Benin	2.0%	2.0%	f5	dr
Botswana	-	-	-	..
Burkina Faso	2.0%	2.0%	max(f3,f5)	p
Burundi	2.0%	2.0%	max(f3,f5)	p
Cameroon	2.0%	1.0%	max(f3,f5)	-
Cape Verde	2.0%	-	b10	dr
Central African Republic	2.7%	1.0%	max(f3,f5)	-
Chad	2.3%	1.2%	max(f3,f5)	dr
Comoros	..	..	..	0
Congo, Dem. Rep.	2.0%	-	max(f3,f5)	dr
Congo, Rep.	1.7%	-	f3	p
Cote d'Ivoire	1.7%	1	b10	-
Equatorial Guinea	..	2.0%	f2	- 2
Eritrea	..	..	..	..
Ethiopia	3.0%	1.1%	f3	-
Gabon	1.8%	1.0%	-	dr
Gambia, The	-	-	-	-
Ghana	2.5%	1.5%	b3	w
Guinea	2.0%	-	max(f3,f5)	-
Guinea-Bissau	..	..	..	0
Kenya	-	-	-	-
Lesotho	..	..	..	0
Liberia	2.5%	1.0%	..	-
Madagascar	2.0%	1.0%	f10	dr
Malawi	-	-	-	..
Mali	2.6%	2.0%	f8	p
Mauritania	1.5%	1.3%	max(f3,f5)	p
Mauritius	-	3	-	p
Mozambique	..	..	..	0
Namibia	1.5%	..	..	-
Niger	1.3%	1.3%	max(f3,f5)	-
Nigeria	..	..	..	-

**Annex III Table 30: DB Scheme parameters, Sub Sahara Africa**

(Cont.) Country	DB parameters			
	Base Accrual Rate	Incremental Rate	Wage Base	Indexation
Rwanda	2.0%	-	max(f3,f5)	p
Sao Tome and Principe	3.0%	1.0%	b5	w
Senegal	..	..	..	-
Seychelles	- 3	-	-	..
Sierra Leone	2.0%	-	b5	-
Somalia	..	..	..	0
South Africa	-	-	-	-
Sudan	..	..	..	..
Swaziland	-	-	-	-
Tanzania	2.3%	1.5%	f5	dr
Togo	1.5%	1.3%	f5	p
Uganda	-	-	-	-
Zambia	..	..	..	..
Zimbabwe	1.3%	1.0%	..	..

*Notes:*

Not available: .. , Not applicable: -

C: Carries average wage w: wage, p: Prices

f: number of final years / b: Best number of years

dr: Discretionary rate

1. Cote d'Ivoire: 1.33% for each year paid and credited coverage before Jan 2000 plus 1.7% multiply by the number of year contributed after Jan. 2000

2. Equatorial Guinea: Benefits adjusted every 5 year

3. Mauritius and Seychelles: Pension is estimated based on a points system scheme.

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 31: Modality of pillars by country, High-OECD countries**

Country	Modality of Pillars		
	Pillar 0	Pillar 1	Pillar 2
Australia	T	-	DC
Austria	-	DB	-
Belgium	T m	DB	-
Canada	T, B	DB	-
Denmark	T, B	-	-
Finland	- m	DB	-
France	- m	DB	-
Germany	T	DB	-
Greece	- m	DB	-
Iceland	T, B	-	DB
Ireland	B	-	-
Israel	T	DB	-
Italy	-	NDC	-
Japan	B	DB	-
Luxembourg	T, B m	DB	-
Netherlands	B	-	DB
New Zealand	U	-	-
Norway	- m	DB	DC Op
Portugal	- m	DB	-
Spain	- m	DB	-
Sweden	- m	NDC	DC Op
Switzerland	T m	DB	DB
United Kingdom	T, B m	DB	-
United States	T	DB	-

*Notes*

Not applicable: -

Pillar 0: 1) Targeted programs (T), 2) Basic pensions (B) 3) Universal (U)

Pillar 1: Mandatory publicly managed schemes. 1) Defined benefit schemes (DB) 2) Notional defined contribution schemes (NDC), and 3) Provident Funds/Publicly managed defined contribution schemes (PF),

Pillar 2: Mandatory privately managed schemes either fully-funded (DC) or defined benefit (DB).

Op: Optional

m (Minimum Pensions): Value of entitlements is determinate only by pension income.

1. France: The first pillar has two tiers: a earnings related and a mandatory occupational scheme, based on a points scheme.

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 32: Separated vs. integrated pension schemes by country,  
High-OECD countries**

Country	Separated vs Integrated	
	Civil Servants	Special Schemes
Australia	PI	-
Austria	S	Miners, Notaries and self-employed persons, including those in trade and agriculture.
Belgium	S	Self-employed
Canada	I	-
Denmark	I	-
Finland	S	Seasonal, Farmers, Self-Employed
France	S	Agricultural, mining, railroad, public utility and self-employed persons
Germany	S	Self-Employed, Farmers, Miners
Greece	S	Agricultural workers, shipping agents, doctors and dentists, commercial motor vehicle operators, architects, notaries, tradesmen, and craftsmen.
Iceland	I	-
Ireland	I	-
Israel	..	..
Italy	S	Self-employed
Japan	I	-
Luxembourg	S	Railway employees who entered employment before January 1, 1999.
Netherlands	S	-
New Zealand	I	-
Norway	I	-
Portugal	S	Miners, longshoremen, fishermen, merchant, seamen, civil aviation workers, air traffic controllers, and dancers.
Spain	I	Armed forces personnel, self-employed persons, agricultural workers and small farmers, domestic servants, seamen, and coal miners.
Sweden	I	-
Switzerland	I	-
United Kingdom	PI	-
United States	I	Railroad employees, certain federal employees, and many employees of state and local governments.

*Notes*

Not available: ..

Not applicable: -

I: Integrated, PI: Partially Integrated, S: Separated

Source: World Bank HDNSP Pensions Database



**Annex III Table 33: Statutory retirement ages, and qualifying conditions by country, High-OECD countries**

Country	Qualifying conditions				
	Statutory retirement age (Current Law)	Early retirement age	Already Legislated Changes	Effective date	Minimum Vesting Period
Australia	67	60	-	-	-
Austria	65	60/62	-	-	15
Belgium	65	60	-	-	45
Canada	65	60	-	-	r
Denmark	67	-	-	-	r
Finland	65	62	-	-	r
France	65	-	-	-	40
Germany	67	63	-	-	15
Greece	65	55	-	-	15
Iceland	67	62	-	-	r
Ireland	66/65	-	-	-	5.2
Israel	67	62	-	-	..
Italy	60/65	60	-	-	v
Japan	65	60	-	-	25
Luxembourg	65	57	-	-	40
Netherlands	65	-	-	-	r
New Zealand	65	-	-	-	r
Norway	67	-	-	-	r
Portugal	65	55	-	-	15
Spain	65	60	-	-	15
Sweden	65	61	-	-	r
Switzerland	64/65	62/63	-	-	43/44
United Kingdom	68	-	-	-	39/44
United States	67	62	-	-	10

*Notes:*

Not available: ..

Not applicable: -

\*Where pension ages and/or minimum vesting period differ between men and women, they are shown as F/M

r: Qualifying conditions require a certain number of year of residence

p: Qualifying condition are measured in terms of point which are gain accruing years of contribution.

v: Varies according to the type of work

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 34: Pension and social insurance contribution rates by country,  
High-OECD countries**

Country	Contribution Rates										
	Pillar 1			Pillar 2			Social Security (all programs)				
	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer	Total	
Australia	-	-	-	-	9	9	o-d-s/sm/w/u/f	0.0	9.0	9.0	
Austria	10.3	12.6	22.8	-	-	-	o-d-s/sm/w/u/f	17.2	25.2	42.4	
Belgium	7.5	8.9	16.4	-	-	-	o-d-s/sm/w/u/f	13.0	24.8	37.8	
Canada	5.0	5.0	9.9	-	-	-	o-d-s/sm/w/u/f	6.7	7.4	14.1	1
Denmark	-	-	-	-	-	-	o-d-s/sm/w/u/f	-	-	-	
Finland	4.5	17.1	21.6	2a	-	-	o-d-s/sm/w/u/f	6.0	20.5	26.5	2b
France	6.8	9.9	16.7	-	-	-	o-d-s/sm/w/u/f	9.8	32.4	42.2	
Germany	10.0	10.0	19.9	-	-	-	o-d-s/sm/w/u/f	20.2	20.6	39.4	3
Greece	6.7	6.7	13.3	-	-	-	o-d-s/sm/w/u/f	11.6	16.4	28.0	
Iceland	4.0	13.3	17.3	4a	-	-	o-d-s/sm/w/u/f	4.0	13.3	17.3	4b
Ireland	4.0	10.8	14.8	5	-	-	o-d-s/sm/w/u/f	4.0	10.8	14.8	
Israel	4.1	3.5	7.6	-	-	-	o-d-s/sm/w/u/f	12.4	8.1	20.5	
Italy	8.9	23.8	32.7	-	-	-	o-d-s/sm/w/u/f	8.9	36.4	45.3	
Japan	7.7	7.7	15.4	-	-	-	o-d-s/sm/w/u/f	12.4	13.1	25.5	
Luxembourg	8.0	8.0	16.0	-	-	-	o-d-s/sm/w/u/f	13.1	13.6	26.6	
Netherlands	19.0	5.7	24.7	-	-	-	o-d-s/sm/u/f	22.5	18.8	41.3	
New Zealand	-	-	-	-	-	-	o-d-s/sm/w/u/f	-	-	-	
Norway	7.8	14.1	21.9	-	2	2	o-d-s/sm/w/u/f	7.8	16.1	23.9	
Portugal	11.0	23.8	34.8	-	-	-	o-d-s/sm/w/u/f	11.0	23.8	34.8	

**Annex III Table 34: Pension and social insurance contribution rates by country,  
High-OECD countries**

<i>(Cont.)</i>	Contribution Rates									
	Pillar 1			Pillar 2			Social Security (all programs)			
	Country	Employee	Employer	Total	Employee	Employer	Total	Programs	Employee	Employer
Spain	4.7	23.6	28.3	-	-	-	o-d-s/sm/w/u/f	6.3	31.1	37.3
Sweden	7.0	11.9	18.9	-	2.5	2.5	o-d-s/sm/w/u/f	7.0	21.2	28.2
Switzerland	11.9	11.9	23.8	-	-	-	o-d-s/sm/w/u/f	13.1	13.0	26.1
United Kingdom	11.0	12.8	23.8	-	-	-	o-d-s/sm/w/u/f	11.0	12.8	23.8
United States	6.2	6.2	12.4	-	-	-	o-d-s/sm/w/u/f	7.7	9.2	16.9

*Notes:*

Not available: ..

Not applicable: -

o: Old Age; d: Disability; s: Survivorship; sm: Sickness and Maternity; w: Work Injury; u: Unemployment; f: Family Allowance

1. Canada: Unemployment contribution rate for either employer or insured person are different in Quebec.

2. Finland: a) 4.1% for employees under 53 and 5.2% for employees aged 53 or older, b) Unemployment contribution rate for employers are 0.7% of payroll when the total amount of all salaries is €1,681,500 or less or 2.9% of payroll when the total amount of all salaries is greater than €1,681,500.

3. Germany: Social security contribution rates are estimated.

4. Iceland: a) Employer contribution includes 5.34% for the universal pension, b) Family allowance benefits are financed by government.

5. Ireland: Insured person contribution rate reported refers to covered weekly earnings from €128 to €75,036. Employer contribution rate reported applies to employees with weekly earnings greater than €356.

Source: World Bank HDNSP Pensions Database

**Annex III Table 35: DB Scheme parameters: Indexation and accrual rate, High-OECD countries**

Country	DB parameters			
	Base Accrual Rate	Wage Base	Valorization	Indexation
Australia	-	-	-	-
Austria	1.8%	C	w	dr
Belgium	1.3%	C	p	p
Canada	0.6%	b34	w	p(cl)
Denmark	-	-	-	-
Finland	1.5% 1	C	80w/20p	20w/80p
France	1.8% 2	C	p	p
Germany	1.0%	C	w	w
Greece	2.6% 3a	f5	w 3b	dr
Iceland	1.4%	C	fr	p
Ireland	-	-	-	-
Israel	..	..	..	p
Italy	1.8%	C	gdp	p
Japan	0.5%	C	w	p
Luxembourg	1.9% 4	C	w	w
Netherlands	1.8% 5	-	-	p
New Zealand	-	-	-	-
Norway	1.4%	C	w	p
Portugal	2.3% 6	C	25w/75p	p
Spain	3.0% 7	f15	p	p
Sweden	1.2%	C	w	w (cl)
Switzerland	a	C	fr	0.5p/0.5w
United Kingdom	0.9% 8	C	w	p
United States	0.9% 10	B35	w	p

*Notes:*

Not available: .. , Not applicable: -

C: Carries average wage w: wage, p: Prices

cl. Indexation conditional on scheme finances

f: number of final years / b: Best number of years

dr: Discretionary rate

1. Finland: Higher accrual rate at older ages

2. France: Accrual rate and earnings are directly proportional and data shown combine two different programmers

3a. Greece: valorization linked to increases in pensions for public-sector workers. 3b. Greece: Data shown combine two different programs

4. Luxemburg: Higher accrual rate for longer contributions

5. Netherlands: Accrual rate varies between occupational schemes.

6. Portugal: Accrual rate and earnings are inversely proportional

7. Spain: Higher accrual rate on early years

8. United Kingdom: Accrual rate highest for low earnings.

10. United States: Accrual rate and earnings are inversely proportional

Source: World Bank HDNSP Pensions Database

**Annex III Table 36: Coverage rates of actives, by country, East Asia & Pacific**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Brunei Darussalam	2005	118	178	251	66%	47%	ns, cs, ss
Cambodia	..	..	..	..	..	..	
China	2010	268,000	816,300 *	968,336	27%	28%	ns, ss
Fiji	..	..	..	..	..	..	
Hong Kong SAR, China	2009	2,922	3,701	5,275	78%	55%	ns
Indonesia	2010	12,979	116,500 *	161,699	7%	9%	ns
Kiribati	..	..	..	..	..	..	
Korea, Rep.	2005	11,833	23,924	34,482	49%	34%	ns, cs, ss
Lao PDR	2004	-	..	-	..	6%	
Malaysia	2008	5,746	11,732	17,676	49%	33%	ns
Marshall Islands	..	..	..	..	..	..	
Micronesia, Fed. Sts.	2007	22	..	65	..	33%	ns,cs
Mongolia	2008	470	1,403	1,836	33%	26%	ns
Palau	..	..	..	..	..	..	
Papua New Guinea	2009	129	..	3,888	..	3%	
Philippines	2007	9,219	36,843	54,359	25%	17%	ns,cs
Samoa	..	..	..	..	..	..	
Singapore	2009	1,645	2,667	3,687	62%	45%	ns
Solomon Islands	2008	136	..	294	..	46%	ns

**Annex III Table 36: Coverage rates of actives, by country, East Asia & Pacific**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Thailand	2006	8,537	37,484	46,687	23%	18%	ns
Timor-Leste	..	..	..	..	..	..	
Tonga	..	..	..	..	..	..	
Vanuatu	2006	28	112	127	25%	22%	ns
Vietnam	2008	8,800	45,607	57,913	19%	15%	ns

Notes:

Not available: .. , Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

Source: World Bank HDNSP

Pensions Database

**Annex III Table 37: Beneficiaries Coverage rates by country, East Asia & Pacific**

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Brunei Darussalam	..	..	..	..	..	..	..	..	..
Cambodia	2005	24	125	o-d-s	437	13,866	5%	1%	ns
China	2010	91,700	91,700	o	109,596	1,338,300	84%	7%	ns, cs
Fiji	2006	9	9	* o-d-s	36	833	24%	1%	ns
Hong Kong SAR, China	2005	461	461	o	833	6,813	55%	7%	ns
Indonesia	2010	1,097	1,793	o-d-s	13,318	618,044	8%	0%	Cs
Kiribati	..	..	..	..	..	..	..	..	..
Korea, Rep.	2005	1,985	2,071	o-s	4,482	53,800	44%	4%	ns, cs, ss
Lao PDR	2005	19	22	o-d-s	214	5,880	9%	0%	ns
Malaysia	2007	1,076	1,235	o-d-s	1,203	26,556	89%	5%	ns,cs
Marshall Islands	2005	3	-	o-d-s	..	-	..	6%	ns
Micronesia, Fed. Sts.	2007	6	6	* o-d-s	4	110	154%	6%	ns
Mongolia	2008	196	259	o	104	2,641	188%	10%	ns
Palau	..	..	..	..	..	..	..	..	..
Papua New Guinea	2005	2	3	o-d	146	6,118	1%	0%	ns
Philippines	2007	749	1,464	o-d-s	3,571	99,033	21%	1%	ns, cs, ss
Samoa	..	..	..	..	..	..	..	..	..
Singapore	2009	200	220	o	487	4,988	41%	4%	ns
Solomon Islands	..	..	..	..	..	..	..	..	..

**Annex III Table 37: Beneficiaries Coverage rates by country, East Asia & Pacific**

(Cont.)

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Thailand	2010	5408	5430	o-d-s	6,219	70,264	87%	8%	nc, ns, cs
Timor-Leste	2010	64	64	0	..	..	193%	6%	..
Tonga	..	..	..	0	..	..	..	..	..
Vanuatu	2006	0	1	o-d-s	7	222	7%	0%	ns
Vietnam	2008	2,200	4,146	o-d-s	5,430	162,486	41%	3%	ns

*Notes:*

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

os: other scheme

es: employee scheme

Source: World Bank

HDNSP Pensions

Database



**Annex III Table 38: Pension spending, selected countries East Asia & Pacific region**

Country	Public pension spending	
	Recent Year	(% GDP)
Brunei Darussalam	..	..
Cambodia	2005	0.6
China	2006	2.5
Fiji	2005	0.5
Hong Kong SAR, China	2006	1.6
Indonesia	2010	1.0
Kiribati	..	..
Korea, Rep.	2005	1.6
Lao PDR	2005	0.2
Malaysia	2004	0.3
Marshall Islands	2005	7.4
Micronesia, Fed. Sts.	..	..
Mongolia	2009	4.9
Palau	..	..
Papua New Guinea	2005	0.2
Philippines	2003	1.5
Samoa	..	..
Singapore	..	..
Solomon Islands	..	..
Thailand	2006	0.8
Timor-Leste	..	..
Tonga	2005	0.9
Vanuatu	2005	0.3
Vietnam	2004	2.5

*Notes*

Not available: ..

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 39: Coverage rates of actives, by country, Europe & Central Asia region**

Country	Recent year	Coverage (Active Phase)					Programs
		Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Albania	2008	536	1,415	2,089	38%	26%	ns
Armenia	2008	515	1,604	2,089	32%	25%	ns
Azerbaijan	2007	1,441	4,072	5,836	35%	25%	ns
Belarus	2008	4,611	4,930	6,907	94%	67%	ns
Bosnia and Herzegovina	2009	479	674	1,651	71%	29%	ns
Bosnia Republika Srpska	2009	296	439	1,018	67%	29%	
Bulgaria	2008	2,887	3,670	5,280	79%	55%	ns
Croatia	2010	1,499	1,809	2,848	83%	53%	ns, ss
Czech Republic	2007	4,968	5,208	7,363	95%	67%	ns
Estonia	2004	630	667	917	94%	69%	ns
Georgia	2004	683	2,337	3,017	29%	23%	
Hungary	2008	3,927	4,268	6,924	92%	57%	ns
Kazakhstan	2009	5,322	8,458	10,988	63%	48%	ns
Kosovo	2010	233	..	..	..	..	
Kyrgyz Republic	2008	1,012	2,507	3,424	40%	30%	ns
Latvia	2009	1,097	1,173	1,554	93%	71%	ns
Lithuania	2009	1,309	1,319	2,301	99%	57%	ns
Macedonia, FYR	2009	476	904	1,435	53%	33%	ns
Moldova	2009	833	1,420	2,596	59%	32%	ns
Montenegro	2007	156	..	418	..	37%	es

**Annex III Table 39: Coverage rates of actives, by country, Europe & Central Asia region**

Country	Coverage (Active Phase)						
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	Programs
Poland	2008	14,366	17,650	27,246	81%	53%	ns
Romania	2008	6,764	9,956	15,038	68%	45%	ns
Russian Federation	2007	50,855	76,117	101,935	67%	50%	ns
Serbia	2007	1,998	4,440	4,971	45%	40%	ns, os
Slovak Republic	2003	2,101	2,664	3,797	79%	55%	ns
Slovenia	2008	904	1,034	1,417	87%	64%	ns
Tajikistan	..	..	..	..	..	..	..
Turkey	2008	15,100	25,763	49,480	59%	31%	ns, cs
Turkmenistan	..	..	..	..	..	..	..
Ukraine	2010	14,428	22,083	27,602	65%	52%	ns
Uzbekistan	2005	14,100	..	16,340	..	86%	ns, os

*Notes:*

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

os: other scheme

es: employee scheme

Source: World Bank HDNSP

Pensions Database

**Annex III Table 40: Beneficiary Coverage rates by country, Europe & Central Asia region**

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Albania	2009	428	540	o-d-s	301	3,155	142%	17%	ns
Armenia	2008	326	524	o-d-s	356	3,077	92%	17%	ns
Azerbaijan	2007	791	1,072	o-d-s	586	8,581	135%	12%	ns
Belarus	2008	2,026	2,446	o-d-s	1,338	9,681	151%	25%	ns
Bosnia and Herzegovina	2009	154	346	o-d-s	521	3,767	30%	9%	ns
Bosnia Republika Srpska	2009	103	224	o-d-s	200	1,435	52%	16%	ns
Bulgaria	2008	1,671	2,145	o-d-s	1,321	7,623	126%	28%	ns,ss
Croatia	2010	608	1,196	o-d-s	800	4,368	76%	27%	ns
Czech Republic	2007	2,011	2,719	o-d-s	1,494	10,334	135%	26%	ns
Estonia	2009	292	386	o-d-s	228	1,340	128%	29%	ns
Georgia	..	-	-	..	-	-	..	..	..
Hungary	2008	2,090	2,776	o-d-s	1,612	10,038	130%	28%	ns
Kazakhstan	2009	1,670	2,340	o-d-s	1,132	15,888	148%	15%	ns
Kosovo	..	-	-	..	-	-	0%	0%	..
Kyrgyz Republic	2008	403	526	o-d-s	284	5,278	142%	10%	ns
Latvia	2009	467	563	o-d-s	391	2,255	119%	25%	ns
Lithuania	2009	606	1,110	o-d-s	541	3,340	112%	33%	ns
Macedonia, FYR	2009	150	274	o-d-s	240	2,042	63%	13%	ns
Moldova	2009	465	625	o-d-s	400	3,604	116%	17%	ns
Montenegro	2007	93	93	0	80	621	116%	15%	..

**Annex III Table 40: Beneficiary Coverage rates by country, Europe & Central Asia region**

(Cont.)

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Poland	2009	5,005	7,531	o-d-s	5,102	38,150	98%	20%	ns
Romania	2009	3,239	4,719	o-d-s	3,188	21,482	102%	22%	ns
Russian Federation	2007	29,791	35,959	o-d-s	19,270	142,100	155%	25%	ns
Serbia	2007	620	1,243	0	1,081	7,382	57%	17%	..
Slovak Republic	2008	1,050	1,586	o-d-s	647	5,407	162%	29%	ns
Slovenia	2009	355	630	o-d-s	331	2,043	107%	31%	ns
Tajikistan	2004	337	514	o-d-s	248	6,453	136%	8%	..
Turkey	2008	5,900	8,200	o-d-s	4,305	73,914	137%	11%	ns
Turkmenistan	0	-	-	0	-	-	0%	0%	..
Ukraine	2010	10,569	12,620	o-d-s	7,456	54,666	142%	23%	ns
Uzbekistan	2005	2,288	3,651	o-d-s	1,242	26,167	184%	14%	ns

Notes:

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

Source: World Bank HDNSP

Pensions Database

**Annex III Table 41: Pension spending, Europe & Central Asia region**

Country	Public pension spending	
	Recent Year	(% GDP)
Albania	2009	6.1
Armenia	2006	3.2
Azerbaijan	2007	3.8
Belarus	2008	10.2
Bosnia and Herzegovina	2009	9.4
Bosnia Republika Srpska	2009	10.3
Bulgaria	2008	8.5
Croatia	2009	10.3
Czech Republic	2007	8.5
Estonia	2007	10.9
Georgia	2004	3
Hungary	2008	10.5
Kazakhstan	2009	3.2
Kosovo	2009	2.7
Kyrgyz Republic	2010	2.7
Latvia	2009	8.5
Lithuania	2009	8.9
Macedonia, FYR	2008	9.4
Moldova	2009	9.1
Montenegro	2007	9.6
Poland	2009	10
Romania	2009	8.3
Russian Federation	2007	4.7
Serbia	2010	14
Slovak Republic	2007	9.3
Slovenia	2007	12.7
Tajikistan	..	..
Turkey	2008	6.2
Turkmenistan	..	..
Ukraine	2010	17.8
Uzbekistan	2005	6.5

*Notes*

Not available: ..

Not applicable: -

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 42: Coverage rates of actives, by country, Latin America & the Caribbean region**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Antigua and Barbuda	..	..	..	..	..	..	
Argentina	2010	8,641	20,445	26,086	42%	33%	ns
Barbados	2007	125	150	183	84%	68%	ns
Belize	2010	88	144	210	61%	42%	ns
Bolivia	2009	546	4,461	5,822	12%	9%	ns
Brazil	2010	60,228	109,129	131,679	55%	46%	ns, cs
Chile	2010	4,635	7,777	11,745	60%	39%	ns
Colombia	2010	6,144	19,519	30,389	31%	20%	ns
Costa Rica	2010	1,285	2,313	3,195	56%	40%	ns
Cuba	..	..	..	..	..	..	
Dominica	2010	23	..	..	..	..	ns
Dominican Republic	2010	1,190	4,656	6,224	26%	19%	ns
Ecuador	2007	1,486	5,627	8,263	26%	18%	ns
El Salvador	2010	594	2,594	3,780	23%	16%	ns
Grenada	2010	42	..	68	..	62%	ns
Guatemala	2008	1,073	5,296	7,308	20%	15%	ns
Guyana	2002	131	329	486	40%	27%	ns
Haiti	..	..	..	..	..	..	
Honduras	2009	484	2,796	4,356	17%	11%	ns
Jamaica	2004	203	1,178	1,597	17%	13%	ns
Mexico	2009	13,286	48,491	69,958	27%	19%	ns
Nicaragua	2008	496	2,279	3,389	22%	15%	ns
Panama	..	..	..	..	..	..	
Paraguay	2004	321	2,580	3,419	12%	9%	ns

**Annex III Table 42: Coverage rates of actives, by country, Latin America & the Caribbean region**

(cont.)

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Peru	2009	2,912	13,438	18,615	22%	16%	ns
St. Kitts and Nevis	..	..	..	..	..	..	ns
St. Lucia	2004	36	70	103	52%	35%	ns
St. Vincent and the Grenadines	2005	41	52	70	79%	59%	ns
Suriname	..	..	..	..	..	..	ns
Trinidad and Tobago	2009	498	700	971	71%	51%	ns
Uruguay	2009	1,299	1,656	2,122	78%	61%	ns
Venezuela, RB	2009	4,455	13,152	18,370	34%	24%	ns

*Notes:*

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

os: other scheme

Source: World Bank HDNSP

Pensions Database



**Annex III Table 43: Beneficiaries Coverage rates by country, Latin America & the Caribbean region**

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Antigua and Barbuda	..	..	..	0	..	..	..	..	..
Argentina	2007	3,129	4,446	o-d-s	4,126	35,293	76%	13%	ns
Barbados	2007	20	26	o-d-s	26	182	79%	14%	ns
Belize	..	..	..	0	..	..	..	..	..
Bolivia	2007	144	185	o-d-s	440	2,656	33%	7%	ns
Brazil	2008	11,581	17,874	o-d-s	12,626	191,972	92%	9%	ns
Chile	2009	838	1,499	o-d-s	1,526	16,970	55%	9%	ns
Colombia	2009	647	925	o-d-s	2,499	45,660	26%	2%	ns
Costa Rica	2009	60	142	o-d-s	289	4,579	21%	3%	ns
Cuba	..	..	..	0	..	..	..	..	..
Dominica	2009	5	-	0	-	74	0%	7%	ns
Dominican Republic	2000	60	60	* o-d-s	442	6,567	14%	1%	ns
Ecuador	2004	158	281	o-d-s	741	12,919	21%	2%	ns
El Salvador	2009	89	140	o-d-s	443	6,163	20%	2%	ns
Grenada	2009	-	7	0	-	104	70%	6%	..
Guatemala	2008	59	68	o-d-s	597	13,686	10%	0%	ns
Guyana	2002	23	23	* o-d-s	40	524	58%	4%	ns
Haiti	..	..	..	0	..	..	..	..	..
Honduras	2009	12	20	o-d-s	319	7,466	4%	0%	ns
Jamaica	2008	60	81	o-d-s	207	3,612	29%	2%	ns
Mexico	2008	1,130	1,153	o-d-s	6,384	5,325,522	18%	0%	ns
Nicaragua	2008	48	78	o-d-s	251	5,667	19%	1%	ns
Panama	..	..	..	0	..	..	..	..	..
Paraguay	2004	13	22	o-d-s	272	5,793	5%	0%	ns

**Annex III Table 43: Beneficiaries Coverage rates by country, Latin America & the Caribbean region**

(cont.)

Country	Beneficiaries Coverage								
	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Peru	2008	482	520	o-d-s	1,653	30,312	29%	2%	ns
St. Kitts and Nevis	..	..	..	0	..	..	..	..	..
St. Lucia	2000	2	2	* o-d-s	12	113	20%	2%	ns
St. Vincent and the Grenadines	2004	2	2	o-d-s	8	63	22%	3%	ns, cs
Suriname	..	..	..	0	..	..	..	..	..
Trinidad and Tobago	2009	70	109	o-d-s	91	1,339	77%	8%	ns
Uruguay	2008	76	76	*o-d-s	458	3,334	17%	2%	ns
Venezuela, RB	..	..	..	0	..	..	..	..	..

Notes:

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

os: other scheme

Source: World Bank HDNSP

Pensions Database

**Annex III Table 44: Pension expenditure and pension debt,  
Latin America & the Caribbean region**

Country	Public pension spending	
	Recent Year	(% GDP)
Antigua and Barbuda	..	..
Argentina	2010	7.4
Barbados	..	..
Belize	2009	0.9
Bolivia	2009	1.5
Brazil	2010	6.2
Chile	2009	5.0
Colombia	2010	3.5
Costa Rica	2009	2.8
Cuba	..	..
Dominica	..	..
Dominican Republic	2009	0.7
Ecuador	2010	1.8
El Salvador	2010	1.7
Grenada	..	..
Guatemala	2009	1.2
Guyana	2010	0.1
Haiti	..	..
Honduras	2010	0.1
Jamaica	2004	0.7
Mexico	2007	1.4
Nicaragua	..	..
Panama	..	..
Paraguay	2001	1.2
Peru	2010	2.5
St. Kitts and Nevis	2005	1.3
St. Lucia	2004	1.2
St. Vincent and the Grenadines	2003	1.1
Suriname	..	..
Trinidad and Tobago	2010	2.8
Uruguay	2010	8.8
Venezuela, RB	2010	5.0

*Notes*

Not available: ..

Not applicable: -

*Source: World Bank HDNSP Pensions  
Database*

**Annex III Table 45: Coverage rates of actives, by country, Middle East & North Africa region**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Algeria	2002	4,400	11,987	19,958	37%	22%	ns, ss
Bahrain	2007	72	355	536	20%	13%	ns, cs, ss
Djibouti	2002	26	96	435	27%	6%	ns, cs, ss
Egypt, Arab Rep.	2009	14,614	26,535	52,400	55%	28%	ns, cs, ss
Iran, Islamic Rep.	2000	7,668	22,398	40,516	34%	19%	ns, ss
Iraq	2009	3,245	9,122	17,069	36%	19%	ns, cs
Jordan	2006	662	1,723	3,321	38%	20%	ns, cs, ss
Kuwait	..	..	..	..	..	..	
Lebanon	2003	441	1,276	2,546	35%	17%	ns, cs, ss
Libya	2003	1,401	2,044	3,734	69%	38%	ns
Malta	2004	164	..	277	..	59%	ns
Morocco	2007	2,756	11,578	20,437	24%	13%	ns, cs
Oman	..	..	..	..	..	..	
Qatar	2008	39	899	1,060	4.4%	3.7%	cs, ss
Saudi Arabia	..	..	..	..	..	..	
Syrian Arab Republic	2008	1,805	6,733	12,651	27%	14%	ns
Tunisia	2004	1,694	3,485	6,647	49%	25%	ns, ss
United Arab Emirates	..	..	..	..	..	..	
West Bank and Gaza	2009	138	984	2,111	14%	5%	ns, ss
Yemen, Rep.	2006	572	5,480	11,353	10%	5%	ns, cs

Notes:

Not available: .., Not applicable: -

ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme, os: other scheme

Source: World Bank HDNSP Pensions Database

**Annex III Table 46: Beneficiaries Coverage rates by country, Middle East & North Africa region**

Country	Recent year	Beneficiaries Coverage							
		Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Algeria	2002	981	981	* o-s	1,371	18,796	72%	5%	ns
Bahrain	2005	9	10	o-d	19	728	47%	1%	ns
Djibouti	2002	3	3	* o-s	21	503	14%	1%	ns
Egypt, Arab Rep.	2004	1,809	3,846	o-d-s	3,368	75,718	54%	5%	ns
Iran, Islamic Rep.	2001	838	838	* o-d-s	3,089	40,963	27%	2%	ns
Iraq	2009	56	104	* o-d-s	1029	31,494	5%	8%	cs, ns
Jordan	2006	65	176	o-d-s	196	5,542	33%	3%	ns
Kuwait	2003	11	11	* o-d-s	38	1,091	29%	1%	ns
Lebanon	2003	39	39	* o-s	278	3,171	14%	1%	cs, ss
Libya	..	..	..	..	..	..	..	..	..
Malta	2006	46	71	o-d-s	55	406	84%	18%	ns
Morocco	2007	325	854	o-d-s	1,659	31,224	20%	3%	ns, cs
Oman	..	..	..	0	..	..	..	..	..
Qatar	2007	2	2	o-d-s	13	4,594	13%	0%	cs, ss
Saudi Arabia	..	..	..	0	..	..	..	..	..
Syrian Arab Republic	..	..	..	0	..	..	..	..	..
Tunisia	2005	331	584	o-d-s	669	12,150	49%	5%	ns, cs
United Arab Emirates	..	..	..	0	..	..	..	..	..
West Bank and Gaza	2009	10	17	o-d-s	118	4,043	8%	0%	cs, ss
Yemen, Rep.	2006	74	75	o-d-s	509	525,738	15%	0%	ns, cs

Notes:

Not available: .. , Not applicable: -

ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme.

Source: World Bank HDNSP Pensions Database

**Annex III Table 47: Pension spending, Middle East & North Africa region**

Country	Public pension spending	
	Recent Year	(% GDP)
Algeria	2002	3.2
Bahrain	2004	0.9
Djibouti	2007	1.5
Egypt, Arab Rep.	2004	4.1
Iran, Islamic Rep.	2000	1.1
Iraq	2009	3.9
Jordan	2005	2.0
Kuwait	2007	2.7
Lebanon	2003	2.1
Libya	2001	2.1
Malta	2010	9.0
Morocco	2003	1.9
Oman	..	..
Qatar	..	..
Saudi Arabia	..	..
Syrian Arab Republic	2004	1.3
Tunisia	2003	4.3
United Arab Emirates	..	..
West Bank and Gaza	2009	4.0
Yemen, Rep.	2004	1.5

*Notes*

Not available: ..

Not applicable: -

Source: World Bank HDNSP Pensions Database

**Annex III Table 48: Coverage rates of actives, by country, South Asia region**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Afghanistan	2006	320	8,719	14,065	4%	2%	ss
Bangladesh	2004	1,757	70,073	93,460	3%	2%	cs
Bhutan	2008	40	287	439	14%	9%	cs
India	2006	44,404	432,048	695,835	10%	6%	ns,cs
Maldives	2004	28	116	179	24%	16%	cs
Nepal	2008	440	12,935	16,945	3%	3%	cs
Pakistan	2008	2,165	55,837	97,566	4%	2%	ns,cs
Sri Lanka	2006	2,032	8,430	13,649	24%	15%	ns,cs

*Notes:*

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 49: Beneficiaries Coverage rates by country, South Asia region**

Country	Recent year	Beneficiaries Coverage							
		Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Afghanistan	2006	88	98	o	612	49,738	14%	0%	ss
Bangladesh	2010	2,250	2,250	o	6,819	148,692	33%	2%	nc
Bhutan	2008	2	2	o	33	1,042	7%	0%	cs
India	2010	10,170	31,333	o-d-s	50,236	3,607,571	18%	1%	ns,cs
Maldives	2007	5	5	o-d-s	13	307	42%	2%	cs
Nepal	2006	686	695	o-d-s	1,023	2,030,737	67%	0%	ns,cs
Pakistan	2009	246	359	o-d-s	6,847	169,708	4%	0%	ns
Sri Lanka	2005	104	105	o-d-s	1,337	19,668	8%	1%	ns, os

*Notes:*

Not available: ..

Not applicable: -

ns: National Scheme

cs: Civil Servants scheme

ss: Special scheme

Source: World Bank Pension abase?



**Annex III Table 50: Pension spending, South Asia region**

Country	Public pension spending	
	Recent Year	(% GDP)
Afghanistan	2005	0.5
Bangladesh	2006	0.3
Bhutan	2008	0.0
India	2007	2.2
Maldives	2006	0.2
Nepal	2006	0.2
Pakistan	2004	0.5
Sri Lanka	2007	2.0

*Notes*

Not available: ..

Not applicable: -

*Source: World Bank*

*HDNSP Pensions*

*Database*

**Annex III Table 51: Coverage rates of actives, selected countries, Sub-Saharan Africa region**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Angola	..	..	..	..	..	..	
Benin	2005	176	3,214	4,180	5%	4%	ns
Botswana	2006	83	925	1,152	9%	7%	cs
Burkina Faso	2004	73	6,055	6,913	1%	1%	ns
Burundi	2006	142	4,043	4,309	4%	3%	ns
Cameroon	2006	1,153	7,118	10,024	16%	12%	ns
Cape Verde	2007	50	200	284	25%	18%	ns, cs
Central African Republic	2003	27	1,813	2,152	1%	1%	ns
Chad	2005	102	3,809	5,116	3%	2%	ns
Comoros	..	..	..	..	..	..	
Congo, Dem. Rep.	2008	3,400	24,030	32,383	14%	11%	ns
Congo, Rep.	2008	151	1,555	2,007	10%	8%	ns
Cote d'Ivoire	2004	945	7,356	10,382	13%	9%	ns
Equatorial Guinea	..	..	..	..	..	..	
Eritrea	..	..	..	..	..	..	
Ethiopia	..	..	..	..	..	..	
Gabon	..	..	..	..	..	..	
Gambia, The	2006	19	701	855	3%	2%	cs, ss
Ghana	2010	900	11,122	14,050	8%	6%	ns, cs
Guinea	2005	533	4,395	4,935	12%	11%	ns
Guinea-Bissau	2004	12	592	779	2%	2%	ns
Kenya	2006	1,293	17,235	20,071	8%	6%	ns, cs
Lesotho	2005	38	883	1,099	4%	4%	ns

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Liberia	..	..	..	..	..	..	
Madagascar	2009	521	9,835	10,607	5.3%	4.9%	ns
Malawi	..	..	..	..	..	..	
Mali	2010	341	4,671	7,784	7%	4%	ns, cs
Mauritania	2000	135	1,031	1,434	13%	9%	ns
Mauritius	2008	305	572	885	53%	34%	ns
Mozambique	2006	191	10,265	11,251	2%	2%	ns
Namibia	2008	77	760	1,257	10%	6%	ns
Niger	2006	83	4,329	6,644	2%	1%	ns, cs
Nigeria	2006	3,712	46,089	77,873	8%	5%	ns,cs
Rwanda	2004	196	4,281	4,798	5%	4%	ns
Sao Tome and Principe	..	..	..	..	..	..	
Senegal	2003	231	4,487	5,641	5%	4%	ns, cs
Seychelles	..	..	..	..	..	..	
Sierra Leone	2004	104	1,891	2,733	5%	4%	ns
Somalia	..	..	..	..	..	..	
South Africa	2010	1,213	19,125	32,612	6%	4%	cs
Sudan	2005	627	12,000	21,615	5%	3%	ns
Swaziland	2009	70	453	679	15%	10%	ns
Tanzania	2006	842	19,669	21,005	4%	4%	ns
Togo	2003	178	2,428	3,119	7%	6%	ns
Uganda	2004	1,224	11,920	13,321	10%	9%	ns, cs
Zambia	2006	489	4,486	6,115	11%	8%	ns
Zimbabwe	2006	1,000	5,012	6,900	20%	15%	ns

Notes:

Not available: .. , Not applicable: -

ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme, os: other scheme. Source: World Bank HDNSP Pensions Database

**Annex III Table 52: Beneficiaries Coverage rates selected countries, Sub-Saharan Africa region**

Country	Recent year	Beneficiaries Coverage							Schemes Included
		Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	
Angola	..	..	..	0	..	..	..	..	..
Benin	2004	13	15	o-d-s	238	7,611	5%	0%	ns
Botswana	2009	91	91	o-s	74	1,954	122%	5%	nc, cs
Burkina Faso	2005	13	35	o-d-s	285	13,747	5%	0%	ns
Burundi	2004	22	32	o-d-s	203	7,162	11%	0%	ns
Cameroon	2002	45	45	* o-d-s	591	12,555	8%	0%	ns
Cape Verde	2007	3	6	o-d-s	22	492	16%	1%	ns, cs
Central African Republic	2003	11	11	* o-d-s	154	3,959	7%	0%	ns
Chad	2001	3	3	* o-d-s	266	1,227	1%	0%	ns
Comoros	..	..	..	0	..	..	..	..	..
Congo, Dem. Rep.	..	..	..	0	..	..	..	..	..
Congo, Rep.	2001	12	12	* o-d-s	120	2,678	10%	0%	ns
Cote d'Ivoire	2004	81	88	o-s	664	18,839	12%	0%	ns
Equatorial Guinea	..	..	..	0	..	..	..	..	..
Eritrea	..	..	..	0	..	..	..	..	..
Ethiopia	..	..	..	0	..	..	..	..	..
Gabon	..	..	..	0	..	..	..	..	..
Gambia, The	2006	6	6	o	44	1,571	13%	0%	cs, ss
Ghana	2010	107	107	* o-d	930	24,392	12%	0%	ns, cs
Guinea	2001	15	15	* o-d-s	262	7,631	6%	0%	ns
Guinea-Bissau	..	..	..	0	..	..	..	..	..
Kenya	2006	109	109	* o-d-s	998	79,941	11%	0%	ns, cs
Lesotho	2005	80	80	o	97	2,049	82%	4%	nc

<i>(Cont.)</i>	Beneficiaries Coverage								
Country	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Liberia	..	..	..	..	..	..	..	..	..
Madagascar	..	..	..	..	..	..	..	..	..
Malawi	..	..	..	..	..	..	..	..	..
Mali	2010	99	143	o-d-s	338	20,668	29%	1%	ns,cs
Mauritania	2002	10	10	* o-d-s	74	2,333	13%	0%	ns
Mauritius	2004	161	216	o-d-s	78	1,233	207%	18%	ns
Mozambique	2004	99	163	o-d-s	646	20,311	15%	1%	ns
Namibia	2009	229	229	* o-d-s	137	3,763	167%	6%	ns
Niger	2006	25	37	o-d-s	270	26,324	9%	0%	ns, cs
Nigeria	..	..	..	0	..	..	..	..	..
Rwanda	2004	26	41	o-d-s	233	8,820	11%	0%	ns
Sao Tome and Principe	..	..	..	0	..	..	..	..	..
Senegal	2010	169	230	o-d-s	300	16,901	56%	1%	ns, cs
Seychelles	..	..	..	0	..	..	..	..	..
Sierra Leone	..	..	..	0	..	..	..	..	..
Somalia	..	..	..	0	..	..	..	..	..
South Africa	2010	2,827	2,936	o-d	2,317	58,937	122%	5%	ns, cs
Sudan	2003	94	94	* o-d-s	1,247	27,838	8%	0%	ns
Swaziland	..	..	..	0	..	..	..	..	..
Tanzania	2005	1	2	o-d-s	1,177	39,007	0%	0%	ns
Togo	2003	13	13	*o-d-s	188	4,804	7%	0%	ns
Uganda	2003	6	9	o-d-s	723	25,997	1%	0%	ns, cs
Zambia	2003	25	25	*o-d-s	328	4,740	8%	1%	ns
Zimbabwe	2005	27	119	o-d-s	472	12,475	6%	1%	ns

Notes: Not available: .. , Not applicable: -, nc: Non-contributory, ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme, os: other scheme.

Source: World Bank HDNSP Pensions Database

**Annex III Table 53: Pension spending, selected countries Sub-Saharan Africa region**

Country	Public pension spending	
	Recent Year	(% GDP)
Angola	..	..
Benin	2006	1.5
Botswana	2009	1.3
Burkina Faso	2004	0.7
Burundi	2006	0.7
Cameroon	2005	0.4
Cape Verde	..	..
Central African Republic	2004	0.8
Chad	..	..
Comoros	..	..
Congo, Dem. Rep.	..	..
Congo, Rep.	..	..
Cote d'Ivoire	2006	0.7
Equatorial Guinea	..	..
Eritrea	2001	0.3
Ethiopia	2006	0.3
Gabon	..	..
Gambia, The	2003	0.1
Ghana	2002	1.3
Guinea	..	..
Guinea-Bissau	2005	2.1
Kenya	2003	1.1
Lesotho	..	..
Liberia	..	..
Madagascar	..	..
Malawi	..	..
Mali	2010	1.6
Mauritania	2003	0.6
Mauritius	2007	2.9
Mozambique	2006	0.3
Namibia	2004	1.3
Niger	2006	0.7
Nigeria	2004	0.9
Rwanda	2005	0.7
Sao Tome and Principe	..	..

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 53: Pension spending, selected countries Sub-Saharan Africa region**

<i>(Cont.)</i> Country	Public pension spending	
	Recent Year	(% GDP)
Senegal	2006	1.4
Seychelles	2006	2.9
Sierra Leone	..	..
Somalia	..	..
South Africa	2010	2.2
Sudan	..	..
Swaziland	..	..
Tanzania	2006	0.9
Togo	2003	0.8
Uganda	2003	0.3
Zambia	2008	1.4
Zimbabwe	2002	2.3

*Notes*

Not available: ..

Not applicable: -

1. South Africa: Zero Pillar costs

*Source: World Bank HDNSP Pensions Database*

**Annex III Table 54: Coverage rates of actives, by country, High-OECD countries**

Country	Coverage (Active Phase)						Programs
	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	
Australia	2005	9,578	10,559	13,732	91%	70%	ns
Austria	2005	3,824	4,081	5,583	94%	69%	ns
Belgium	2005	4,235	4,633	6,883	91%	62%	ns
Canada	2007	12,280	18,357	22,932	67%	54%	ns
Denmark	2007	3,116	3,355	3,595	93%	87%	ns
Finland	2005	2,356	2,626	3,497	90%	67%	ns
France	2005	24,319	27,857	39,634	87%	61%	ns
Germany	2005	36,156	41,618	55,103	87%	66%	ns
Greece	2005	4,382	5,097	7,512	86%	58%	ns
Iceland	2005	156	180	196	87%	79%	ns
Ireland	2005	1,829	2,058	2,852	89%	64%	ns
Israel	2008	4,047	..	4,542	..	89%	
Italy	2005	22,146	24,592	38,774	90%	57%	ns
Japan	2005	63,560	66,643	84,702	95%	75%	ns
Luxembourg	2005	294	..	313	..	94%	ns
Netherlands	2005	7,784	8,581	11,016	91%	71%	ns
New Zealand	-	-	-	-	-	-	
Norway	2005	2,289	2,456	3,044	93%	75%	ns
Portugal	2005	5,088	5,529	7,104	92%	72%	ns



**Annex III Table 54: Coverage rates of actives, by country, High-OECD countries**

<i>(Cont.)</i>	Coverage (Active Phase)							
	Country	Recent year	Total Number of Members (Thousands) (1)	Labor Force (Thousands) (2)	Working Age Population (Thousands) (3)	First Active Coverage Definition: (1)/(2)	Second Active Coverage Definition: (1)/(3)	Programs
	Spain	2005	14,515	20,920	29,821	69%	49%	ns
	Sweden	2005	4,263	4,800	5,906	89%	72%	ns
	Switzerland	2005	3,974	4,167	5,049	95%	79%	ns
	United Kingdom	2005	28,402	30,484	39,712	93%	72%	ns
	United States	2005	141,129	153,132	197,522	92%	71%	ns

Notes:

Not available: .. , Not applicable: -

ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme, os: other scheme

Source: World Bank HDNSP Pensions Database

**Annex III Table 55: Beneficiaries coverage rates, by country, High-OECD countries**

Country	Recent year	Beneficiaries Coverage							Schemes Included
		Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	
Australia	2006	..	..	0	..	..	..	..	..
Austria	2006	1,607	2,559	o-d-s	1,363	8,282	118%	31%	ns
Belgium	2006	1,471	2,285	o-d-s	1,821	10,548	81%	22%	ns
Canada	2007	3,453	4,759	o-d-s	4,426	32,976	78%	14%	ns
Denmark	2006	1,019	1,213	o-d-s	834	5,437	122%	22%	ns
Finland	2006	1,005	1,560	o-d-s	850	5,266	118%	30%	ns
France	2006	14,170	21,760	o-d-s	10,126	61,353	140%	35%	ns
Germany	2006	18,068	26,017	o-d-s	15,885	82,376	114%	32%	ns
Greece	2006	1,982	2,635	o-d-s	2,020	11,148	98%	24%	ns
Iceland	..	..	..	0	..	..	..	..	..
Ireland	2006	394	673	o-d-s	469	4,261	84%	16%	ns
Israel	..	-	-	0	-	-	0%	0%	..
Italy	2006	13,144	19,392	o-d-s	11,679	58,941	113%	33%	ns
Japan	2003	30,760	30,760	o	24,108	127,718	128%	24%	ns
Luxembourg	2006	79	137	o-d-s	67	473	118%	29%	ns
Netherlands	2007	2,664	2,788	o-s	2,375	16,382	112%	17%	ns
New Zealand	2007	506	892	o-d-s	523	4,228	97%	21%	ns
Norway	2006	685	1,063	o-d-s	677	4,661	101%	23%	ns
Portugal	2006	2,131	3,351	o-d-s	1,822	10,584	117%	32%	ns

**Annex III Table 55: Beneficiaries coverage rates, by country, High-OECD countries**

<i>(Cont.)</i>									
Beneficiaries Coverage									
Country	Recent year	Total Old-Age Beneficiaries (Thousands) (4)	Total Number of Beneficiaries (Thousands) (5)	Programs Included	Population over 65 years (Thousands) (6)	Total Population (Thousands) (7)	First Beneficiaries Coverage Definition: (4)/(6)	Second Beneficiaries Coverage Definition: (5)/(7)	Schemes Included
Spain	2006	6,654	8,367	o-d-s	7,404	44,116	90%	19%	ns
Sweden	2006	1,823	2,799	o-d-s	1,570	9,081	116%	31%	ns
Switzerland	..	..	..	0	..	..	..	..	..
United Kingdom	..	..	..	0	..	..	..	..	..
United States	2008	31,757	45,220	o-d-s	38,452	304,375	83%	15%	ns

*Notes:*

Not available: .. , Not applicable: -

ns: National Scheme, cs: Civil Servants scheme, ss: Special scheme, os: other scheme

Source: World Bank HDNSP Pensions Database

**Annex III Table 56: Pension spending, High-OECD countries**

Country	Public pension spending	
	Recent Year	(% GDP)
Australia	2007	3.4
Austria	2007	12.3
Belgium	2007	8.9
Canada	2007	4.2
Denmark	2007	5.6
Finland	2007	8.3
France	2007	12.5
Germany	2007	10.7
Greece	2010	13.5
Iceland	2007	1.9
Ireland	2007	3.6
Israel	2007	4.8
Italy	2007	14.1
Japan	2007	8.8
Luxembourg	2007	6.5
Netherlands	2007	4.7
New Zealand	2007	4.3
Norway	2007	4.7
Portugal	2007	10.8
Spain	2007	8.0
Sweden	2007	7.2
Switzerland	2007	6.4
United Kingdom	2007	5.4
United States	2007	6.0

*Notes*

Not available: ..

Not applicable: -

Source: World Bank HDNSP Pensions Database

## ANNEX IV: LIST OF SOURCES AND REFERENCES

AIOS - International Association of Latin American Pension Fund Supervisors  
 FIAP - International Federation of Pension Funds Manager  
 SSPTW - Social Security Programs Throughout the World  
 World Bank - Europe & Central Asia Region - Social Protection Unit  
 World Bank - Middle East & North Africa Region - Human Development Group  
 World Bank - South Asia Region - Social Protection Unit

High Income OECD	Eurostat OECD - Directorate of Employment, Labor and Social Affairs
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East Asia & Pacific	Bag-Kur - Social Insurance Organization for the Self-Employed of Turkey China Labor Statistics Yearbook Directly provided by ECSH3 - World Bank Emekli Sandigi - Government Employees Retirement Fund of Turkey Employee Provident Fund of Myanmar Employees Provident Fund - Malaysia ILO - International Labor Organization ISSH - Social Insurance Institute of Albania Jamsostek - Employees Social Security System of Indonesia - Annual Report 2008 Kyrgyz Social Fund Mandatory Provident Fund Scheme Authority - Hong Kong MPSV - Ministry of Labor and Social Affairs of Czech Republic National Social Security Institute of Croatia Pension Fund of Russian Federation Philippine Social Security System SGK - Social Insurance Organization Social Insurance Agency of Slovak Republic SSK - Social Security Authority of Turkey United Pension Fund of Georgia ZPIZ - The Institute of Pension and Invalidity Insurance of Slovenia
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Latin America & the Caribbean	ANSES - National Social Security Administration BPS - Social Security Bank of Uruguay CONSAR - National Commission for the Pension System IHSS – Social Security Institute of Honduras INSS - Social Security Institute of Nicaragua IVSS - The Institute of Social Security of Venezuela Minister of Labor and Social Affairs - Guatemala Ministry of Labor, Employment and Social Protection of Argentina
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Latin America & the Caribbean	<p>MPOG -Planning, Budget &amp; Management Ministry of Brazil</p> <p>National Insurance of Barbados</p> <p>National Insurance Scheme of Guyana</p> <p>National Survey of Employment, Unemployment and Urban Sub Employment of Ecuador</p> <p>NIBTT -The National Insurance Board of Trinidad and Tobago</p> <p>SBS - Superintendence of Banks, Insurance and Pension of Peru</p> <p>SIPEN - Superintendence of Pensions</p> <p>Social Insurance Bank of Aruba</p> <p>SUPEN - Superintendence of Pensions</p> <p>Superintendence of Finance - Colombia</p> <p>Superintendence of Pensions - Chile</p> <p>Superintendence of Pensions - El Salvador</p> <p>Superintendence of Pensions, Securities and Insurance - Bolivia</p>
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Middle East & North Africa	<p>CMR-Military Pension Fund</p> <p>CNR -National Pensions Fund of Djibouti</p> <p>CASNOS -National Social Security Fund for Nonwage Earners of Algeria</p> <p>CNR - Pension System The National Pension Fund of Algeria</p> <p>CNSS-The Tunisian National Social Security Fund</p> <p>GOSI-General Organization for Social Insurance &amp; Bahrain Monetary Agency</p> <p>GRPA - General Retirement and Pension Authority of Qatar</p> <p>Iran Statistical Yearbook 2000</p> <p>NBP - National Board of Pensions of Iraq</p> <p>NSSF-National Social Security Fund and Ministry of Finance of Lebanon</p> <p>OPS - Social Protection Organism of Djibouti</p> <p>Social Security Corporation &amp; Ministry of Finance of Jordan</p>
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South Asia	<p>NPPF - National Pension &amp; Provident Fund of Bhutan</p> <p>EOBI - Employee's Old-Age Benefit Institution of Pakistan</p> <p>EPF - Employees' Provident Fund of Nepal</p> <p>EPF - Employees' Provident Fund of Sri Lanka</p>
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Sub-Saharan Africa	<p>INPS -National Social Security Institute of Cape Verde</p> <p>SSNIT - Social Security and National Insurance Trust of Ghana</p> <p>IPRESS-Social Insurance Institute for Old-Age Pensions of Senegal</p> <p>FNR- National Retirement Fund of Senegal</p> <p>NASSIT-National Social Security and Insurance Trust of Sierra Leone</p>
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## ANNEX V: PENSIONS GLOSSARY

*Accrual rate.* The rate at which pension entitlement is built up relative to earnings per year of service in earnings-related schemes—for example, one-sixtieth of final salary.

*Accrued pension.* The value of the pension to a member at any point prior to retirement, which can be calculated on the basis of current earnings or also include projections of future increases in earnings.

*Actuarial fairness.* A method of setting insurance premiums according to the true risks involved.

*Annuity.* A stream of payments at a specified rate, which may have some provision for inflation proofing, payable until some contingency occurs, usually the death of the beneficiary or a surviving dependent.

*Annuity factor.* The net present value of a stream of pension or annuity benefits.

*Annuity rate.* The value of the annuity payment relative to its lump-sum cost.

*Average effective retirement age.* The actual average retirement age, taking into account early retirement and special regimes.

*Basic state pension.* The flat-rate state pension paid to all persons of pensionable age meeting the national insurance contribution test and their surviving dependents.

*Benefit rate.* The ratio of the average pension to the average wage, which could be expressed as relative to the economy wide average wage or to the individual's specific average or final wage.

*Ceiling.* A limit on the amount of earnings subject to contributions

*Commutation.* Exchange of part of the annuity component of a pension for an immediate lump sum.

*Comprehensive income tax.* A tax on all incomes, whether from earnings or investments and whether used for savings or consumption. A pure comprehensive income tax allows the component of investment returns compensating for inflation and so only taxes real returns.

*Contracting out.* The right of employers or employees to use private pension fund managers instead of participating in the publicly managed scheme.

*Contracting-out rebate.* The amount by which employers' and employees' national insurance contributions are reduced for contracting out of the state earnings-related pension scheme and the minimum contribution to a personal pension plan.

*Deferred annuity.* A stream of benefits commencing at some future date.

*Defined benefit.* A pension plan with a guarantee by the insurer or pension agency that a benefit based on a prescribed formula will be paid. Can be fully funded or unfunded and notional.

*Defined contribution.* A pension plan in which the periodic contribution is prescribed and the benefit depends on the contribution plus the investment return. Can be fully funded or notional and nonfinancial.

*Demogrant.* Same as a universal flat benefit, where individuals receive an amount of money based solely on age and residency.

*Demographic transition.* The historical process of changing demographic structure that takes place as fertility and mortality rates decline, resulting in an increasing ratio of older to younger persons.

*Disclosure.* Statutory regulations requiring the communication of information regarding pension schemes, funds, and benefits to pensioners and employees.

*Discretionary increase.* An increase in a pension payment not specified by the pension scheme rules.

*Early leaver.* A person who leaves an occupational pension scheme without receiving an immediate benefit.

*Early retirement.* Retirement before reaching an occupational scheme's normal retirement age or, in the state scheme, before reaching the state's pensionable age.

*Earnings cap (ceiling).* A limit on the amount of earnings subject to contributions.

*Full funding.* The accumulation of pension reserves that total 100 percent of the present value of all pension liabilities owed to current members.

*Funding.* Accumulation of assets in advance to meet future pension liabilities.

*Implicit pension debt (net).* The value of outstanding pension claims on the public sector minus accumulated pension reserves.

*Implicit rate of return.* Technically, the rate of return that equates the present value of contributions to the present value of future pension payments. Since individual pay contributions (an operation similar to depositing savings in a bank account) and, on retirement, receive pensions (an operation similar to withdrawing savings from a bank account), it is possible to compute the implicit rate of return on the contributions.

*Indexation (uprating).* Increases in benefits by reference to an index, usually of prices, although in some cases of average earnings.

*Intergenerational distribution.* Income transfers between different age cohorts of persons.

*Intragenerational distribution.* Income transfers within a certain age cohort of persons.

*Legal retirement age.* The normal retirement age written into pension statutes.

*Marginal pension.* The change in the accrued pension between two periods.

*Means-tested benefit.* A benefit that is paid only if the recipient's income falls below a certain level.

*Minimum pension guarantee.* A guarantee provided by the government to bring pensions to some minimum level, possibly by "topping up" the capital accumulation needed to fund the pensions.

*Moral hazard.* A situation in which insured people do not protect themselves from risk as much as they would have if they were not insured. For example, in the case of old-age risk, people might not save sufficiently for themselves if they expect the public system to come to their aid.

*Nonfinancial (or notional) defined benefit (plan).* A defined benefit pension plan that is unfunded (except for a potential reserve fund).

*Nonfinancial (or notional) defined contribution (plan).* A defined benefit pension plan that mimics the structure of (funded) defined contribution plans but remains unfunded (except for a potential reserve fund).

*Normal retirement age.* The usual age at which employees become eligible for occupational pension benefits, excluding early-retirement provisions.

*Notional (or nonfinancial) accounts.* Individual accounts where the notional contributions plus interest rates accrued are credited and determine the notional capital (that is, the liability to society).

*Notional (or nonfinancial) capital.* The value of an individual account at a given moment that determines the value of annuity at retirement or the transfer value in case of mobility to another scheme or country.

*Notional or nonfinancial interest rate.* The rate at which the notional accounts of notional defined contribution plans are annually credited. It should be consistent with the financial sustainability of the unfunded scheme (potentially the growth rate of the contribution base).

*Occupational pension scheme.* An arrangement by which an employer provides retirement benefits to employees.

*Old-age dependency ratio.* The ratio of older persons to working-age individuals. The old-age dependency ratio may refer to the number of persons over 60 divided by, for example, the number of persons ages 15–59, the number of persons over 60 divided by the number of persons ages 20–59, and so forth.

*Overannuitization.* A situation in which a compulsory pension forces an individual to save more in pension than he or she would in the absence of the compulsory provision.

*Pay-as-you-go.* In its strictest sense, a method of financing whereby current outlays on pension benefits are paid out of current revenues from an earmarked tax, often a payroll tax.

*Pension coverage rate.* The number of workers actively contributing to a publicly mandated contributory or retirement scheme, divided by the estimated labor force or by the working-age population.

*Pension lump sum.* A cash withdrawal from a pension plan, which in the case of some occupational pension schemes is provided in addition to an annuity. Also available from personal pension plans.

*Pension spending.* Usually defined as old-age retirement, survivor, death, and invalidity-disability payments based on past contribution records plus noncontributory, flat universal, or means-tested programs specifically targeting the old.

*Pensionable earnings.* The portion of remuneration on which pension benefits and contributions are calculated.

*Portability.* The ability to transfer accrued pension rights between plans.

*Provident fund.* A fully funded, defined contribution scheme in which funds are managed by the public sector.

*Replacement rate.* The value of a pension as a proportion of a worker's wage during a base period, such as the last year or two before retirement or more, or the entire lifetime average wage. Also denotes the average pension of a group of pensioners as a proportion of the average wage of the group.

*Supplementary pensions.* Pension provision beyond the basic state pension on a voluntary basis.

*Support ratio.* The opposite of the system dependency ratio: the number of workers required to support each pensioner.

*System dependency ratio.* The ratio of persons receiving pensions from a certain pension scheme divided by the number of workers contributing to the same scheme in the same period.

*System maturation.* The process by which a pension system moves from being immature, with young workers contributing to the system, but with few benefits being paid out since the initial elderly have not contributed and thus are not eligible for benefits, to being mature, with the proportion of elderly receiving pensions relatively equivalent to their proportion of the population.

*Universal flat pension.* Pensions paid solely on the basis of age and citizenship, without regard to work or contribution records.



*Valorization of earnings.* A method of revaluing earnings by predetermined factors such as total or average wage growth to adjust for changes in prices, wage levels, or economic growth. In pay-as-you-go systems, pensions are usually based on some percentage of average wage. This average wage is calculated over some period of time, ranging from full-career average to last salary. If the period for which earnings history enters into the benefit formula is longer than the last salary, the actual wages earned are usually revalued to adjust for these types of changes.

*Vesting period.* The minimum amount of time required to qualify for full and irrevocable ownership of pension benefits.

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## Abstract

This paper presents and explains cross country data for mandatory publicly and privately managed pension systems around the world. Relevant World Bank demographic projections and other indicators previously reported in "International Patterns of Pension Provision" (2000) are updated, and relationships between key indicators are highlighted.

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