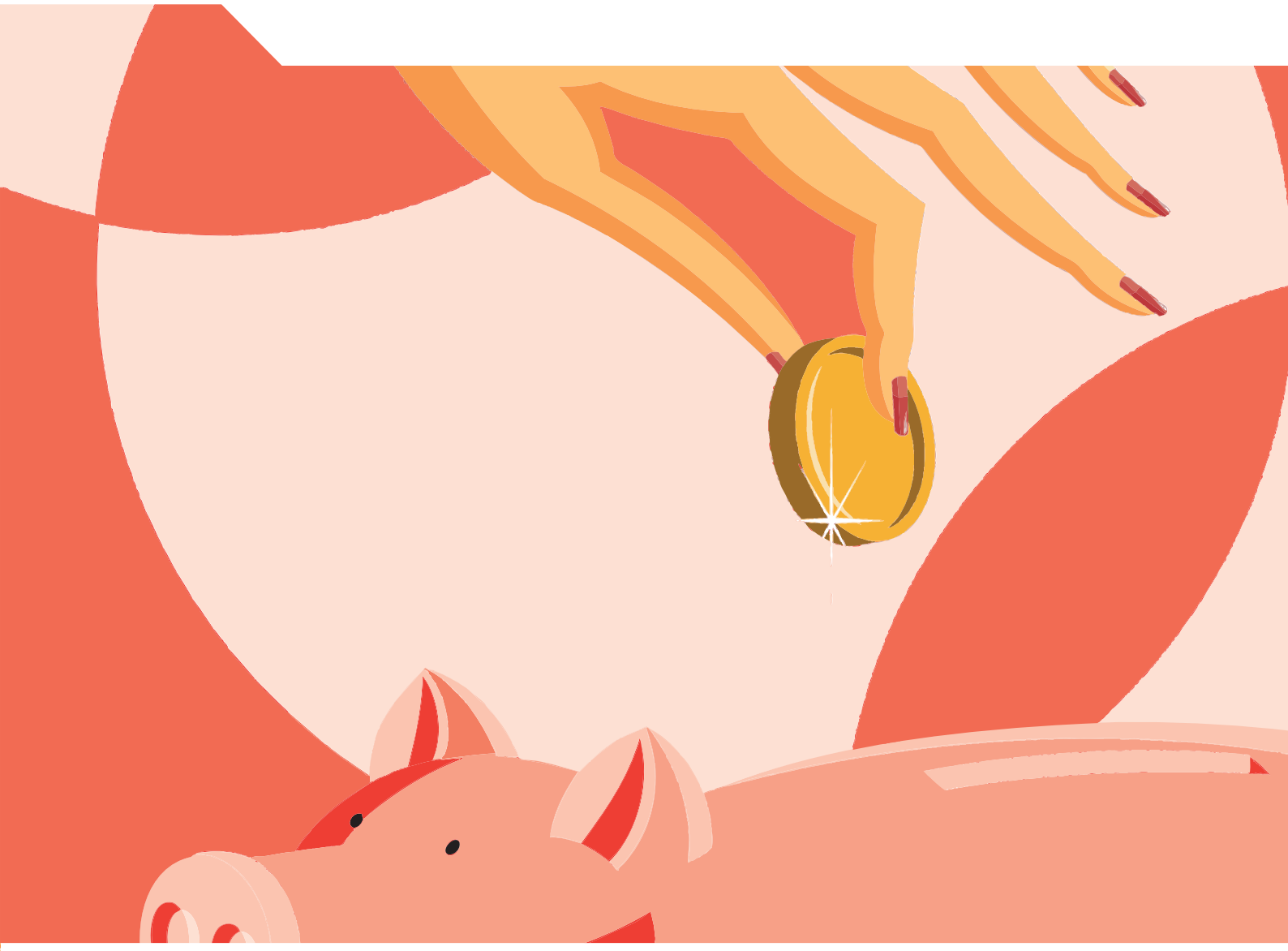
Pensions at a Glance Asia/Pacific 2013



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Pensions at a Glance Asia/Pacific 2013

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Foreword

Accurate presentation of pension systems of an economy and the comparison of systems across economies are crucial parts of policy analysis. Yet such presentations and comparisons are far from easy. They require a well thought-out methodology, access to detailed information on national systems, verification of information and results by a network of pension experts to provide feedback to improve the quality and applicability of the research over time.

This study presents a range of indicators to enable comparisons between the pension systems of economies in the Asia/Pacific region. It also includes data for key countries that are members of the Organisation for Economic Co-operation and Development (OECD). It builds on the first Pensions at a Glance: Asia/Pacific *which was also a joint project between the World Bank and the OECD, along with the OECD/Government of Korea Research Centre on Health and Social Policies (RCHSP) and updates the 2011 edition.*

The report was drafted by Andrew Reilly of the Social Policy Division of the OECD Secretariat.

For this third report we are again indebted to the national experts who have contributed to the updating of the models used, many of whom also assisted with the first two publications. They are too numerous to mention here but details of attendees to the annual pension meetings in Seoul can be found on the Korea Centre website www.oecdkorea.org/social/board/list_eng.asp?BoardCd=5011. *We are also indebted to the Korea Centre for all their assistance in organising the annual meetings and for coordinating contacts with national experts.*

The pension models use the APEX (Analysis of Pension Entitlements across Countries) infrastructure originally developed by Axia Economics, with the help of funding from the OECD and the World Bank.

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Executive summary

Pensions are a major policy issue in developed and developing economies alike. However, pension reform is challenging and controversial because it involves long-term planning by governments faced with numerous short-term pressures. It often provokes heated ideological debates and, sometimes, street protests.

Economies can learn valuable lessons from others' pension systems and their experiences of retirement-income reforms. However, national pension systems are very complicated, involving much institutional, technical, and legal detail. Consequently, international comparisons are very difficult to undertake, making it impossible to transfer policy lessons between economies.

This study combines rigorous analysis with clear, easy-to-understand presentation of empirical results. It does not advocate any particular kind of pension system or type of reform. The goal is to inform debates on retirement-income systems with data that people with different visions for the future of pensions can all use as a reference point.

International comparisons of retirement-income regimes to date have mainly focused on *financial* sustainability: whether the pension promises made to today's workers will be affordable in the future. Much less attention has been paid to the future adequacy of pension benefits, the impact of pension reforms on the distribution of income among older people and ways of combating old-age poverty. These issues, which may be termed *social* sustainability, are a core concern of this study.

This third edition of *Pensions at a Glance: Asia/Pacific* provides a reference for pension comparison throughout the region. The format of the report follows that of the previous reports which were based on the OECD's *Pensions at a Glance* series, which covers the 34 OECD member countries.

The values contained within reflect the pension parameters at 2012. As with the original publications the report is concerned with single pensioners rather than family units.

The report begins by showing the different schemes that make up each national retirement-income provision, including a summary of the rules that apply. This is then followed by a brief summary of several indicators that are the benchmarks of any pension system analysis, namely replacement rates and pension wealth. Both of these indicators are examined on both a gross and net basis. The subsequent sections then look further at both the characteristics of Asian pension systems as well as the population as a whole, through coverage, life expectancy and general demographics. Finally Chapter 2 of the report provides detailed background information for all of the non-OECD economies covered as well as economy specific tables and charts. Information on the OECD countries is available in the *Pensions at a Glance* series.

In order to enable comparison between the non-OECD economies and specific OECD countries the results have been grouped by region and OECD status. The largest such grouping is East Asia/Pacific which covers China, Hong Kong, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam. Within South Asia the remaining non-OECD economies are listed, i.e. India, Pakistan and Sri Lanka. Furthermore the OECD countries themselves have been divided into two distinct groups. Firstly, there are the Asia-Pacific economies of Australia, Canada, Japan, Korea, New Zealand and the United States to enable a more regional comparison. Secondly there are four additional OECD countries included, France, Germany, Italy and the United Kingdom, all of which have well established pension systems and are major economic powers. By including this latter group clear differences should be evident between them and the non-OECD economies in Asia.

The results within this report are specifically analysed at three distinct earnings levels so that a more comprehensive portrayal of the individual pension systems is given. Firstly results are given for workers at average earnings, where it is assumed that the worker earns this level throughout their entire career without any period of interruption. The remaining two earnings levels are 50% of average earnings, commonly called low earners and 200% of average earnings, known as high earners, again where this level of earnings applies to the entire working life of the individual. Entry to the pension system is assumed to be at age 20 and the models are based on a full career until the standard retirement age within that economy, so for China, for example, it is assumed that a man will have to work for 40 years until age 60 before being eligible for retirement pension.

Introduction

Many of Asia's retirement-income systems are ill prepared for the rapid population ageing that will occur over the next two decades. The demographic transition – to fewer babies and longer lives – took a century in Europe and North America. In Asia, this transition will often occur in a single generation. Asia's pension systems need modernising urgently to ensure that they are financially sustainable and provide adequate retirement incomes.

In some economies – China and Viet Nam – future pensions offered for full-career workers are high relative to earnings. Early retirement ages, especially for women, place financial pressure on the systems which are unlikely to be sustainable as populations' age and retirement-income provision matures.

Yet many Asia/Pacific economies also face a problem of adequacy of retirement incomes. There are four reasons why current pension systems are unlikely to deliver a secure income in old age.

- Coverage of formal pension systems is relatively low.
- Withdrawal of savings before retirement is very common.
- Pension savings are often taken as lump sums with the risk that people outlive their resources.
- Pensions in payment are not automatically adjusted to reflect changes in the cost of living.

Ageing Asia must face these pension problems to deliver secure, sustainable and adequate retirement incomes for today's workers.

Asia's ageing will be at its most rapid between 2010 and 2030. Given the long lag in pension policy planning, there is now a narrow window of opportunity for many Asian economies to avoid future pension problems and repeating many of the mistakes made in Europe and North America. But it will soon be too late.

Pensions in Asia/Pacific

National pension provision in Asia/Pacific is very diverse. Nine economies have public schemes that pay earnings-related pensions. They are called "defined-benefit" (DB) schemes because the value of the pension is defined relative to individual earnings (Table 1).

The next most common kind of scheme is again publicly managed, but benefits depend on the amount contributed and the investment returns earned. These are known as "defined-contribution" (DC) schemes. Two economies also have defined-contribution pensions, but managed by the private sector. Finally, New Zealand does not have compulsory pension contributions, but instead pays a flat-rate benefit to all retirees. This diversity makes it hard to compare pension systems internationally and evaluate their

Table 1. **Pensions in Asia/Pacific**

	Type of pension scheme				Type of pension scheme		
	Public		Private		Public		Private
	DB	DC	DC		DB	DC	DC
East Asia/Pacific				**South Asia**			
China		●		India	●	●	
Hong Kong, China			●	Pakistan	●		
Indonesia		●		Sri Lanka		●	
Malaysia		●					
Philippines	●			**OECD Asia/Pacific**			
Singapore		●		Australia			●
Thailand	●			Canada	●		
Viet Nam	●			Japan	●		
				Korea	●		
				New Zealand			
				United States	●		

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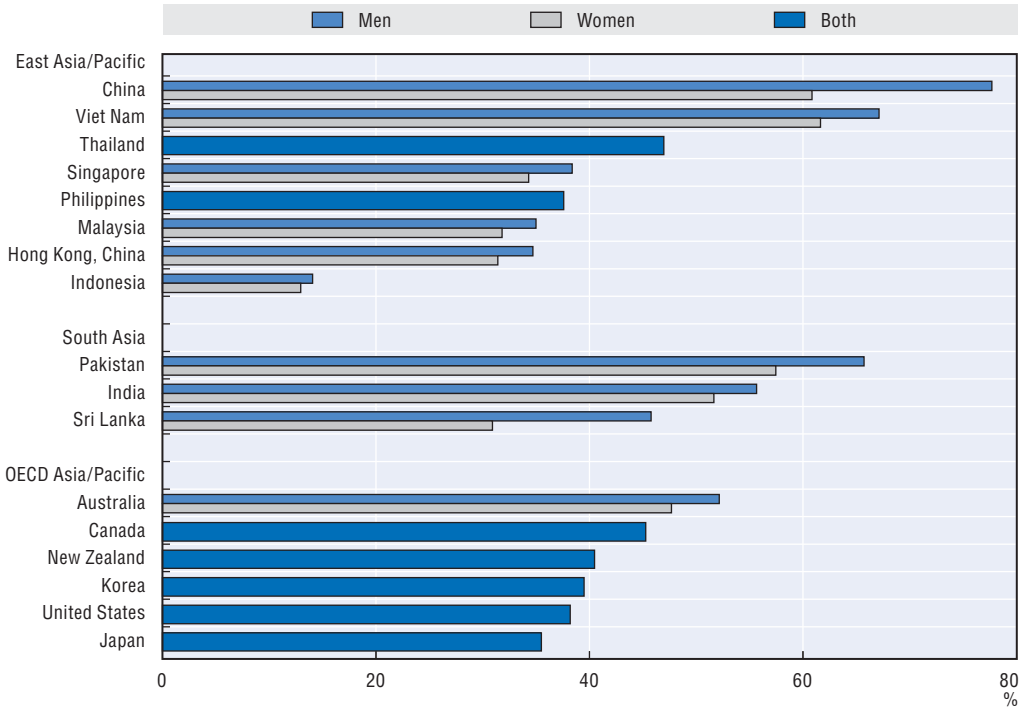
performance. Nevertheless, there are valuable lessons to be learned from different economies' pension system design and their experience with reforming retirement-income regimes. A key indicator of pension systems is the "replacement rate". This shows the value of the pension for specific individuals as a percentage of their earnings when working. The calculations are shown for a worker entering the labour market today and spending a full career under the set of pension parameters and rules that includes all legislated changes. Figure 1 shows the calculated replacement rates for average earners. The OECD Asia/Pacific economies generally have very similar replacement rates, bunched around 40%. However, this is well below the average for the 34 OECD countries as whole, which is 54% in 2012. For men, replacement rates in most other Asia/Pacific economies are substantially above the levels in the OECD. They are around 60% or more in China and Pakistan, for example.

On the other hand, there are also economies in Asia/Pacific with lower replacement rates. In Singapore, for example, only part of the contribution to the provident fund is ring-fenced to provide retirement income. In practice, people might not spend the maximum allowed on other things, such as housing and health care meaning that retirement incomes in practice may well be higher than those shown.

The low replacement rate for Indonesia reflects the small size of the mandatory contribution. The average replacement rate is 44% in East Asia/Pacific, 56% in South Asia and 42% in the OECD countries of the region. Replacement rates for women tend to be lower than men's in Asia/Pacific, which, as we shall see, is primarily a result of women having earlier pension ages than men. In OECD countries, in contrast, pension ages for men and women are (or will be) the same.

Figure 1. **Replacement rates**



Source: OECD pension models.

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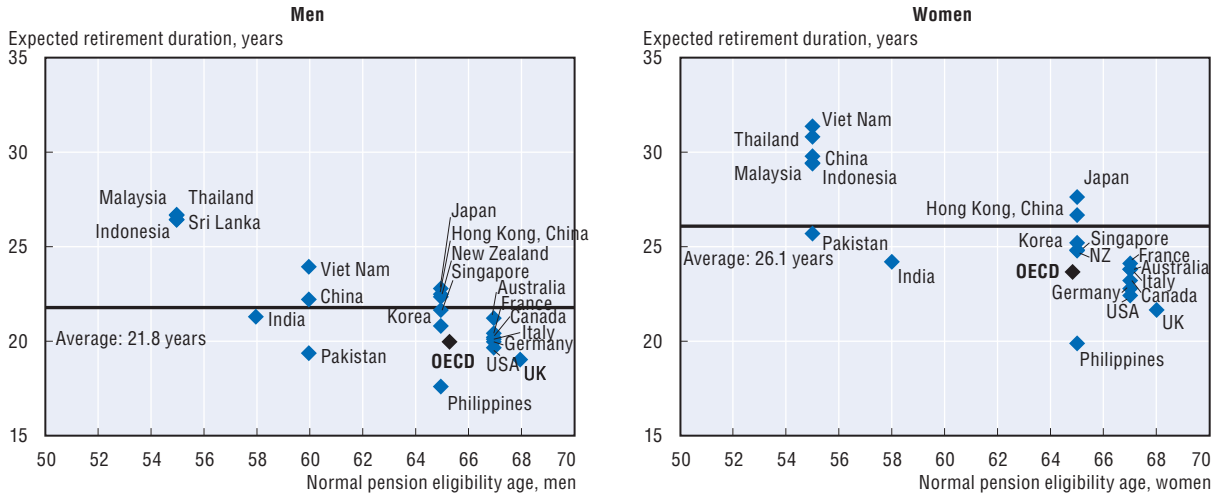
Pension ages and retirement

The most common pension age in OECD countries is still 65, although with recent increases announced in Canada and Italy the trend is moving towards age 67. With direct links being established between future pension ages and increases in life expectancy in a number of countries the upward trend will only continue. In contrast, the average pension age for men in Asia/Pacific economies outside the OECD is around 59 while for women it is just 57. However, economies outside of the OECD are projected to have somewhat shorter life expectancies and so it might be reasonable for them to have earlier pension ages. Combining information on national pension ages and life expectancy, it is possible to calculate the expected amount of time that people will spend in retirement. Figure 2 shows that this averages 21.8 years for men across the economies studied. However, in OECD countries the average is just 19.9 years, compared with 23.0 years in the Asia/Pacific economies outside the OECD. The average pension age for men is six years earlier in non-OECD economies than in OECD members shown. Shorter life expectancy cuts the difference in retirement duration between the two groups of economies, but does not eliminate it. For women, the differences are starker: pension age is seven years younger on average for women in economies outside the OECD. Expected retirement duration is 23.7 years for women in the OECD countries, compared with 19.9 years for men.

This mainly reflects sex-specific differences in life expectancy. But for the other Asia/Pacific economies, expected retirement duration for women is 28.0 years, a full four years longer than in the OECD countries shown. This reflects both women's longer life expectancy and earlier pension age in a number of economies. Figure 2 shows that pension eligibility ages are exceptionally low for both men and women in Malaysia and Sri Lanka.

Figure 2. **Expected time in retirement**



Source: OECD pension models.

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Indeed, women in Sri Lanka, who can retire at age 50, can expect over 35 years of retirement, most likely a longer period than they were working and contributing. In addition, women's pension ages are conspicuously low in China and Thailand.

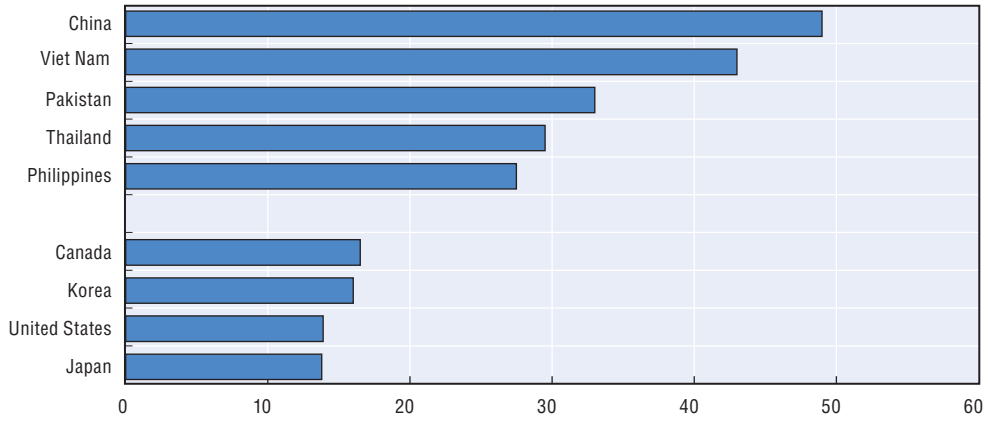
The results in Figure 2 are based on population mortality data. This is not a problem when analysing OECD countries that have near-universal coverage. However typically, the groups that are covered by the pension system outside the OECD are a minority, and a privileged one. They are able to afford to contribute towards a pension and their life expectancy is normally higher than that of the population as a whole. Figure 2 therefore understates the differences in expected retirement duration between OECD and non-OECD economies: in practice, they will be larger than the two years for men and three years for women calculated.

Financial sustainability

A simple indicator of long-term costs of providing retirement incomes is the steady-state rate of contributions that would be needed to pay for pensions. Figure 3 demonstrates that many of the Asia/Pacific pension systems are unlikely to prove sustainable in the long term. For example, China currently aims to pay a replacement rate of 78% for men and 61% for women from age 60 and 55 respectively. Allowing for the costs of mixed price/earnings indexation of pensions in payment, the cost of providing such a benefit is nearly 50% of earnings (assuming contributions from age 20 to the normal pension age of 55 or 60). This measure of the steady-state contribution rate is also high in other Asia/Pacific economies. In many cases – China, Viet Nam and Pakistan – this is due to high target replacement rates. However, early pension ages – especially for women – also have an important effect. Also, indexation of pensions in payment to a mix of wages and prices rather than prices alone in China and the Philippines adds to costs.

Furthermore, this simple measure of financial sustainability tends to understate the costs of retirement incomes. First, pension entitlements are calculated for a single person, and so the cost of paying couples' and survivors' benefits is not taken into account.

Figure 3. **Required contribution rates**



Source: OECD pension models.

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Secondly, the analysis does not allow for differences between economies in the evolution of the size of the working-age population.

Modernising pensions

There are a number of features of Asia/Pacific pension schemes that fall short of international standards and best practice. Three issues stand out. First, nearly all defined-benefit schemes are based on final salaries. Secondly, people can and do withdraw benefits early, leaving little money for retirement. This begs the question whether these are really pension plans at all. Similarly, many systems pay lump-sum benefits rather than a regular retirement income, exposing pensioners to the risk of outliving their retirement savings. Thirdly, the adjustment of pensions in payment to reflect changes in costs of living is discretionary or ad hoc, leading to the risk that inflation erodes retirement income over time, leaving the very old in poverty.

Earnings measures

Calculating retirement benefits in earnings-related pension plans on the basis of "final" salary is readily understandable and used to be common practice around the world. It is much more difficult to maintain lifetime salary records and to do the requisite pension calculations than to base benefits on the last salary. Moreover, basing pensions on final pay offers an easy way of dealing with the effect of inflation on pension entitlements earned earlier on in the career. Of the Asia/Pacific economies, only Viet Nam will in future base pensions on average lifetime salary. India, Pakistan, the Philippines and Thailand use final salaries. Most OECD countries have now shifted to calculating pension entitlements using lifetime average earnings. Some 21 of them use the full lifetime, and a further two – Canada and the United States – use 34-35 years of earnings. The motivation for this change was the undesirable effects of final-salary plans. The higher paid tend to have earnings that rise more rapidly with age, while age-earnings profiles for lower paid manual workers tend to be flat. There is thus redistribution from low to high earners with final salary plans. Having lifetime earnings as the contribution base and final earnings as the benefit base also discourages compliance in earlier years with large incentives to under-report earnings. It encourages strategic manipulation, with employees and employers artificially boosting pay

in the final years to secure higher pensions. These effects both reduce contribution revenues and lead to higher expenditures.

Furthermore, record-keeping has improved through the adoption of information technology, allowing files covering longer periods to be maintained rather than relying on final salary. Secondly, computerisation allows "valorisation or indexation of earlier years' earnings to be calculated easily to protect pensions from inflation during the time from when rights are earned to when benefits are received. This means that pension formulae based on final salary are no longer needed as a way of protecting against inflation.

Withdrawals

The word "pension" to most people means a regular payment. In this sense, many Asian economies do not provide pensions. In Malaysia and Sri Lanka, benefits are paid as a lump sum at the time of retirement. Workers in Indonesia receive a mix of a single lump sum or an annual payment over five years. Workers in Hong Kong also have a lump-sum option. Most pension systems around the world, however, pay out pensions in the form of "annuities": regular payments until the death of individual members or of their survivors. Annuities provide more reliable protection in old age as individual life expectancy is uncertain. So people would have to spend accumulated wealth slowly after retirement to ensure an adequate income should they live a long time. But this kind of self-insurance is costly because it increases the chances that people will consume less than they could have if they knew when they were going to die, or consume too much. This cost can be reduced with annuities, which pool risk across individuals.

An annuity is a kind of insurance against the risk of exhausting savings in old age. The benefit of this "longevity insurance" depends on how risk-averse people are. The more cautious would spend less of their savings in the early years of retirement if there were no annuities to avoid running out of money toward the end of their lives. The benefit of an annuity also depends on interest rates, life expectancy and how much people plan for the long term. There are some good reasons why people might not want to convert their retirement savings into an annuity. The first is bequests. Annuities are, by definition, exhausted when people die. Yet people often want to leave some of their wealth to their family. Bequests can also be used to encourage relatives to look after people in their old age in exchange for the promise of the inheritance. The desire for bequests, whether "strategic" or "altruistic", reduces the value of annuities to individuals. A second motive is precautionary savings. A sudden medical emergency requires liquidity and flexibility that is impossible if wealth is fully annuitised. Nonetheless, some degree of annuitisation of retirement savings is desirable, from both the individual's and the policy-makers perspective.

Saving for the short term is obviously of value to individuals, meeting important needs and risks that are not insured by a welfare system. They were particularly important in the past, when India lacked secure financial institutions able to guarantee individuals' savings and a positive real interest rate. If Indians did not make early withdrawals from their accounts, then the replacement rate for a full career worker would be virtually 100%. Some Asia/Pacific economies' rules for early withdrawals are therefore likely to lead to low retirement incomes. Improved protection or "ring-fencing" of savings for retirement might be appropriate. Also, greater transparency in the rules for early withdrawals – perhaps through the designation of earmarked accounts as in Singapore – is needed.

Inflation and indexation

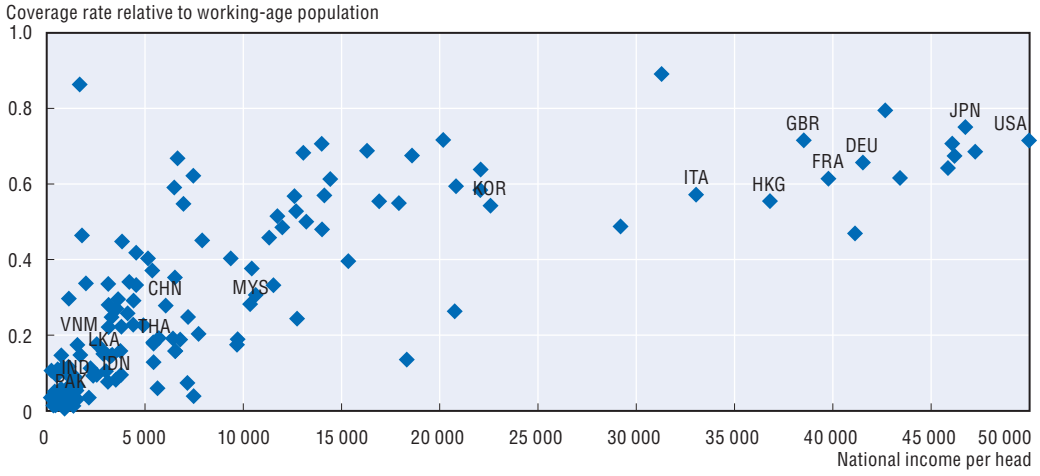
Indexation refers to the automatic adjustment of pensions in payment to reflect changes in costs of living or standards of living. Without adjustment, the purchasing power of the pension can decline quickly and, over a period of retirement of 20 years or more, by a large amount. Few economies around the world had automatic adjustments until the 1970s. High inflation following the oil-price shocks led virtually all industrialised economies to adopt automatic indexation. The effect of such a policy is to protect pension values and produce greater certainty in retirement incomes. In Asia/Pacific, only China and the Philippines have automatic indexation of pensions, in both cases to a mix of price inflation and wage growth. In Viet Nam, pensions increase in line with the minimum wage. In contrast, adjustments to pensions in India, Pakistan and Thailand are purely discretionary.

Asia's coverage gap

Coverage of formal pension systems in Asia/Pacific is much lower than in OECD countries. This is unsurprising given the different structure of their economies. Large rural populations predominantly engaged in small-scale agriculture and high degrees of absolute poverty more difficult to cover through formal social security systems. Moreover, networks of family support still fulfill at least partly the role of formal pension systems.

Figure 4 therefore compares coverage of formal pension systems – defined as the percentage of people of working age who are members – with the level of national income per head. The chart shows data for well over 100 economies, with the Asia/Pacific economies highlighted. There is clearly a strong relationship between coverage of formal pension schemes and national income.

Figure 4. **Pension coverage**



Source: World Bank Pension Database.

StatLink http://dx.doi.org/10.1787/888932904659

However, the chart shows that some economies – Sri Lanka, the Philippines and Viet Nam – have higher coverage than most economies with similar national income per head. Others – such as China, India, Pakistan and Thailand – have low coverage, given their level of economic development.

Furthermore, few economies in Asia/Pacific have social pensions to provide safety-net retirement incomes for people who were not members of formal schemes. As networks of family support weaken and coverage of formal pension systems remains low, stronger systems of social pensions will be an important way of avoiding high and growing levels of old-age poverty.

Ageing Asia

Around 16% of the total population is currently aged over 65 in the OECD Asia/Pacific and other major developed economies. This ranges from 13% in Australia, New Zealand and the United States to 21/23% in Germany and Japan. Outside the OECD, the Asia/Pacific economies are much younger, with an average of 7% of people aged over 65. This share is less than 4% in the Philippines to around 8/9% in China and Singapore and 13% in Hong Kong. Between now and mid-century, the population over age 65 will increase from 16% to 28% in the ten OECD countries under study. But the increase in other Asia/Pacific economies will be twice as fast: from 7% to 21% on average.

Meeting challenges, making changes

Ageing Asia needs to face up to its pension problems and needs to do so soon. Early retirement ages and relatively high pension levels threaten financial sustainability. Yet, at the same time, low coverage, early withdrawals and lump-sum payments mean that adequacy will also be a challenge.

Methodology, structure of the report and features of the pension systems

This report follows the approach adopted in the previous *Pensions at a Glance Asia/Pacific* publications, and is a "microeconomic" one looking at prospective individual entitlements under all 21 of the economies pension regimes.

The report is divided into two main chapters. Chapter 1 presents the information needed to compare pension policies in a clear, "at a glance" style. It starts by showing the different schemes that together make up national retirement-income provision. Next, there is a summary of the parameters and rules of pension systems.

This is followed by four main indicators that are calculated using the OECD pension models.

- The first two are the most familiar to pension analysts. Both are replacement rates, i.e. the ratio of pension benefits to individual earnings. These are given in gross and net terms, taking account of taxes and contributions paid on earnings and on retirement incomes.
- The next two indicators are pension wealth, again given in gross and net terms. Pension wealth is a more comprehensive measure of pension entitlements than replacement rates because it takes account of pension ages, indexation of pensions to changes in wages or prices and life expectancy.

The remainder of Chapter 1 consists of at a glance analyses of the pension earnings link, coverage, life expectancy and the old-age support ratio, each of which play a key role in pension modelling.

Chapter 2 provides detailed background information on each of the 11 non-OECD economies' retirement-income arrangements. These include pension eligibility ages and other qualifying conditions; the rules for calculating benefit entitlements; and the treatment of early and late retirees. The economy studies summarise the national results in standard charts and tables under both the economic assumptions used for OECD countries and for economy specific assumptions. Also within this section results are provided on set durations of employment rather than using the economy specific retirement ages. The country chapters for the OECD countries are contained within the *Pensions at a Glance* series.

The remainder of this section describes the methodology used to calculate pension entitlements. It outlines the details of the structure, coverage and basic economic and financial assumptions underlying the calculation of future pension entitlements on a comparative basis.

Future entitlements under today's parameters and rules

The pension entitlements which are compared are those that are currently legislated in the OECD countries and where possible for the non-OECD economies. Changes in rules that have already been legislated, but are being phased-in gradually, are assumed to be fully in place from the start.

The values of all pension system parameters reflect the situation in the year 2012 for both the OECD countries and the non-OECD economies. The calculations show the pension entitlements of a worker who enters the system today and retires after a full career. The results are shown for a single person only.

Career length

The standard OECD definition is used for both the OECD and non-OECD economies. Therefore a full career is defined here as entering the labour market at age 20 and working until standard pension eligibility age, which, of course, varies between economies. The implication is that length of career varies with the statutory retirement age: 35 years for retirement at 55, 40 years for retirement at 60, etc. As mentioned above Chapter 2 includes results for set career lengths, namely 30 and 40 years.

Coverage

The pension models presented here include all mandatory pension schemes for private-sector workers, regardless of whether they are public (i.e. they involve payments from government or from social security institutions, as defined in the System of National Accounts) or private. For each economy, the main national scheme for private sector employees is modelled.

Pension entitlements are compared for workers with earnings between 0.5 times and twice the average. This range permits an analysis of future retirement benefits of both the poorest and richer workers.

Economic variables

The comparisons are based on a single set of economic assumptions for all the economies covered. Although the levels of economic growth, wage growth and inflation vary across economies, using a single set of assumptions enables comparison without economic affects. Differences in pension levels therefore reflect differences in actual pension systems and government policies. This covers the results in the main section of the publication, but additional results with economy specific assumptions, where appropriate, are included in Chapter 2.

The baseline assumptions for the indicators are:

- Real earnings growth: 2% per year (given the assumption for price inflation, this implies nominal wage growth of 4.55%).
- Individual earnings: assumed to grow in line with the economy-wide average. This means that the individual is assumed to remain at the same point in the earnings distribution, earning the same percentage of average earnings in every year of the working life.
- Price inflation: 2.5% per year.

- Real rate of return after administrative charges on funded, defined-contribution pensions: 3.5% per year.
- Discount rate (for actuarial calculations): 2% per year.

The calculations assume the following for pay-out of pension benefits: when DC benefits are received upon retirement, they are paid in the form of a price-indexed life annuity at an actuarially fair price. This is calculated from mortality data. Similarly, the notional annuity rate in notional accounts schemes is (in most cases) calculated from mortality data using the indexation rules and discounting assumptions employed by the respective economy.

Taxes and social security contributions

The modelling assumes that tax systems and social security contributions remain unchanged in the future. This implicitly means that "value" parameters, such as tax allowances or contribution ceilings, are adjusted annually in line with average earnings, while "rate" parameters, such as the personal income tax schedule and social security contribution rates, remain unchanged.

Average earnings

The values for the OECD countries are based on the earnings of an "average worker" as used in the forthcoming *Pensions at a Glance 2013* publication. Estimates for China, India and Indonesia are also those contained in the next edition of *Pensions at a Glance* whilst those for the other non-OECD economies are based on average earnings provided from correspondents or based on national surveys (Table 2).

Key features of pension system design

The features of the pension systems of the economies covered in this report are summarised in Table 3. These follow the typology of the previous section, dividing the pension system into two tiers. The summary necessarily leaves out much of the institutional details. More complete descriptions are provided in the economy studies (Chapter 2).

First-tier, redistributive schemes

The level of benefits under first-tier, redistributive schemes is expressed as a percentage of average earnings in each economy (average earnings is covered in detail in the methodology section above).

In the cases of minimum pensions and basic schemes, the benefit entitlement is shown for a worker who enters at age 20 and works without interruption until normal retirement age. In most OECD countries, this is at least age 65, but for the non-OECD economies it is generally either 55 or 60, as shown in the last lines of the table below. The final row shows the total, first-tier benefit for a full-career worker. In some cases, workers can receive several different types of first-tier benefits, while in other cases they are only eligible for one programme.

Second-tier, insurance schemes

The information on the second tier, insurance based schemes, is shown separately for earnings-related and defined-contribution (DC) plans.

Table 2. **Average annual earnings**

Individual earnings (% average)	Average earnings			Exchange rates with USD	
	National currency	USD, market price	USD, PPP	Market price	PPPs
East Asia/Pacific					
China	46 800	7 500	11 000	6.23	4.24
Hong Kong, China	157 800	20 400	28 500	7.75	5.54
Indonesia	16 119 000	1 600	2 200	9 799.95	7 173.22
Malaysia	30 900	10 100	15 900	3.06	1.94
Philippines	127 500	3 100	5 000	41.04	25.49
Singapore	53 200	43 500	50 900	1.22	1.05
Thailand	136 000	4 400	7 600	30.59	17.80
Viet Nam	46 080 000	2 200	5 100	20 833.33	9 098.21
South Asia					
India	240 400	4 400	12 000	54.85	20.08
Pakistan	116 600	1 200	2 900	97.27	40.88
Sri Lanka	262 400	2 100	4 400	127.70	59.33
OECD Asia-Pacific					
Australia	73 500	76 400	48 100	0.96	1.53
Canada	46 900	47 000	38 300	1.00	1.22
Japan	4 788 300	55 300	45 300	86.58	106
Korea	38 500 000	36 100	47 800	1 065.31	805
New Zealand	51 300	42 400	31 600	1.21	1.62
United States	47 600	47 600	47 600	1.00	1.00
Other OECD					
France	36 700	48 400	40 500	0.76	0.906
Germany	44 800	59 100	53 200	0.76	0.842
Italy	28 900	38 100	32 800	0.76	0.882
United Kingdom	35 900	58 400	53 700	0.62	0.669

PPP = Purchasing power parity.
Source: OECD pension models.

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The information on earnings-related schemes begins with the scheme type: defined benefit (DB), points or notional accounts (NDC). The main differences within this type are due to the accrual rate per year of contribution, that is, the rate at which a worker earns benefit entitlements for each year of coverage. The accrual rate is expressed as a percentage of the earnings that are covered by the pension scheme.

For points systems, the effective accrual rate shown is the ratio to the cost of a pension point to the pension point value, expressed as a percentage of individual earnings. In notional-accounts schemes, the effective accrual rate is calculated in a similar way to obtain the annual pension entitlement as a proportion of earnings in a given year.

For the non-OECD economies four of the five with DB schemes use final year earnings in the determination of pension entitlement rather than lifetime earnings. In comparison, the OECD countries with DB schemes are either based on lifetime earnings or the best years, but none of them use final years. In a number of economies in Asia the accrual rates change depending on the contribution period or they can be different for men and women. For example, in Viet Nam the first 15 years have an accrual rate of 3%, but subsequent years have an accrual rate of 2% for men and 3% for women.

Table 3. **Summary of pension scheme parameters and rules**

	China	Hong Kong, China	Indonesia	Malaysia	Philippines	Singapore	Thailand	Viet Nam	India	Pakistan	Sri Lanka
First tier *(% average earnings)*											
Resource-tested	-	8.3	-	-	-	-	-	-	-	-	-
Basic	40	-	-	-	3.1	-	-	-	-	-	-
Minimum	-	-	-	-	24.5	-	-	-	-	37.1	-
Overall entitlement *(full-career worker)*	40	8.3	-	-	24.5	-	-	-	-	37.1	-
Second tier											
Earnings-related											
Type	None	None	None	None	DB	None	DB	DB	DB	DB	None
Accrual rate *(% indiv. earnings)*	-	-	-	-		-	1.33/1.5	3		2	-
Earnings measure	-	-	-	-	max. (f5,L)	-	f5	L	f1	f1	-
Valorisation	-	-	-	-	p	-	p	w	d	p	-
Indexation	-	-	-	-	p	-	p	w	d	p	-
Defined contribution											
Contribution rate *(% indiv. earnings)*	8	5-10	5.7	23-24	-	36	-		15.67	-	20
Ceilings *(% average earnings)*											
Public	-	117.9	-	-	-	112.8	-	546.9	32.4	82.3	-
Private/occupational	-	-	-	-	-	-	-	-	-	-	-
Pension age											
Normal (women)	60 (55)	65	55	55	65	65	55	60 (55)	55	60 (55)	55 (50)
Early (women)	55 (50)	60		50	60			55 (50)	50	55 (50)	

	Australia	Canada	Japan	Korea	New Zealand	United States	France	Germany[1]	Italy	United Kingdom[2]
First tier *(% average earnings)*										
Resource-tested	27.3	18.8	20.2	2.9	-	19.3	24.3	18.9	27.7	19.9
Basic	-	13.9	16.4	6.9	40.5	-	-	-	-	15.6
Minimum	-	-	-	-	-	-	22.2	-	61.6	10.2
Overall entitlement *(full-career worker)*	27.3	32.7	20.2	6.9	40.5	19.3	24.3	18.9	27.7	25.8
Second tier										
Earnings-related										
Type	None	DB	DB	DB	None	DB	DB/Points	Points	NDC	DB
Accrual rate *(% indiv. earnings)*	-	0.63	0.55	0.89	-	0.91 [w][3]	1.75 [w][4, 5]	1.00	1.51	0.89 [w]
Earnings measure	-	b34	L	L	-	b35	b25/L	L	L	L
Valorisation	-	w	w	w	-	w[6]	p/p	w [c]	GDP	w
Indexation	-	p [c]	p	p	-	p	p/p	w [c]	p[7]	p
Defined contribution										
Contribution rate *(% indiv. earnings)*	12	-	-	-	-	-	-	-	-	-
Ceilings *(% average earnings)*										
Public	-	107	155	121	-	231	99	150	332	112
Private/occupational	249	-	-	-	-	-	297	-	-	-
Pension age										
Normal (women)	67	67	65	65	65	67	67	67	67	68
Early (women)	60	60	60	60		62		63	60	

Notes: Parameters are for 2012 but include all legislated changes that take effect in the future. For example, some countries are increasing pension ages and extending the earnings measure for calculating benefits; pension ages for women are shown only if different from those for men. Early pension ages are shown only where relevant.

- = not relevant; [a] = varies with age; b = number of best years; d = discretionary indexation; DB = defined benefit; DC = defined contribution; f = number of final years; L = lifetime average; NDC = notional accounts; p = valorisation/indexation with prices; w = valorisation/indexation with average earnings; [w] = varies with earnings; [y] = varies with years of service.

1. Germany: Valorisation can be reduced by any increase in contribution rates and for the potential contribution to private pensions. Indexation can be reduced by any increase in contributions.
2. United Kingdom: Minimum benefit calculated from minimum credit.
3. United States: Higher accrual rates on lower earnings, lower accruals on higher earnings.
4. France: Data shown combines two different programmes.
5. France: Higher accrual rate on higher earnings.
6. United States: Earnings valorisation to age 60; no adjustment from 60 to 62; prices valorisation from 62 to 67.
7. Italy: Indexation is fully to prices for low pensions, 90% of prices or 75% of prices for higher pensions.

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Defined-contribution plans

The key parameter for DC plans is the proportion of earnings that must be paid into the individual account by employees, employers or the government. The contribution rates within Asia range from 5% for Hong Kong, China to 36% for Singapore, though the remainder are all between 5% and 24%. For the OECD countries only Australia has a DC scheme, with a contribution rate of 12%.

Valorisation

This is process whereby past earnings are adjusted to take account of changes in living standards between the time pension rights accrued and the time they are claimed. For DB schemes in India and Pakistan there is no need for valorisation as the benefit is based on the final year's salary. Most of the non-OECD economies do not have formal systems in place for this because their pension systems make a lump-sum payment. So for this report price valorisation has been used along with the assumption that payments are made over the full pension period.

Ceilings on pensionable earnings

Most OECD countries have an earnings limit for which no further contributions need to be made to the pension system, though only half of those non-OECD economies have ceilings.

Pension eligibility ages

The majority of the OECD countries have a retirement age of 65 for men, with some countries now starting to introduce higher retirement ages of 67 or even eventually 68, as in the case of the United Kingdom. For women the recent trend has been for the standardising of retirement ages irrespective of sex, though normally over a considerable time period. Outside the OECD countries the retirement ages are generally lower at 55 in five economies and 60 in three others. Only Hong Kong, the Philippines and Singapore currently have retirement ages of 65 for men. Furthermore in four of the non-OECD economies the retirement ages for women are five years below that for men, meaning that in Sri Lanka the standard retirement age is 50.

Indexation of pension system parameters

Linking pension systems to prices instead of earnings has led to a steady decline in their value relative to average earnings at today's prices, and this trend will only continue unless the indexation procedures are changed. As it is unlikely to be politically possible to continue to pay smaller amounts over time, relevant to earnings it is assumed here that these policies will not continue. Therefore for the purpose of this report it has been assumed that benefits and parameters are linked to average earnings rather than to prices, even if that is the current legislative system. Obviously this assumption has a big effect on the results when calculating the value of the pension promise.

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Chapter 1

Retirement-income indicators

The first two indicators of this chapter are both replacement rates; that is, the ratio of pension benefits to individual earnings. These are given in gross and net terms, taking account of taxes and contributions paid on earnings and on retirement incomes.

The next two indicators are based on pension wealth, again in gross and net terms. Pension wealth, unlike replacement rates, reflects differences in pension ages, indexation of pensions in payment and national life expectancy.

The remainder of Chapter 1 consists of at a glance analyses of coverage, life expectancy, demographics and pension spending, each of which play a key role in pension modelling.

Gross replacement rates, showing pension benefit as a share of individual lifetime average earnings, vary greatly across Asia, from 14.1% in Indonesia to 77.9% in China. These are the extremes for average earners but estimates are also given at 50% and 200% of average earnings. Replacement rates generally decline as earnings increase and are usually higher for men than for women.

Often, the replacement rate is expressed as the ratio of the pension over the final earnings before retirement. However, the indicator used here shows the pension benefit as a share of individual lifetime average earnings (re-valued in line with economy-wide earnings growth). Under the baseline assumptions, workers earn the same percentage of economy-wide average earnings throughout their career. In this case, lifetime average re-valued earnings and individual final earnings are identical.

For workers at average earnings, the average for the OECD countries of the gross replacement rate from mandatory pensions is 54.4% for men and 53.7% for women. There is little variation across Asia-Pacific OECD economies, with Australia at the top of the range, offering replacement rates of 52.3% and Japan at the bottom with only 35.6%. The rates for the non-OECD economies do have a wide range, going from 78% for China to 14% for Indonesia, though the next lowest are Hong Kong and Malaysia at 35%, meaning Indonesia is a clear outlier. Regional variation also exists with Pakistan having a replacement rate approximately one-half higher than Sri Lanka, whilst the majority of the remaining Asia-Pacific economies have replacement rates between 35% and 55%. The non-Asian OECD economies normally have lower replacement rates with Italy and, to a lesser degree, France being slight exceptions with replacement rates of 71% and 59% respectively.

Low earners – workers earning only half the mean – have higher replacement rates than mean earners: on average, 71% for the OECD. This reflects the fact that most economies attempt to protect low income workers from old-age poverty. The cross-economy variation of replacement rates at this earnings level is much higher than it is for pensions of those who earn twice the average. The highest gross replacement rates for low earners are found in China at 98%, which means that full-career workers with permanently low earnings have approximately the same income, upon retirement, as when they were working. The lowest rate is again observed in Indonesia, which has a replacement rate of 14% for low earners. Australia has the highest replacement rate amongst Asian OECD economies at 91%, more than twice that of Germany.

For high earners – working earning twice the mean – China again offers the highest pensions, with a replacement rate of 68%, closely followed by Viet Nam which has a steady replacement rate of 67% across all the earnings levels. The variation across economies in replacement rates for high earners is much smaller than it is for people on low or average pay. Indonesia is again at the bottom of the rankings though it is followed by the United Kingdom, New Zealand, Singapore and Korea all with replacement rates less than 22%. Again the majority of the non-OECD economies have higher replacement rates than their OECD counterparts, with the exception of Italy. Five of the eleven non-OECD economies have a higher replacement rate than the OECD average of 43.6%, compared to only one of the ten OECD countries listed. The replacement rates in Australia and Korea are approximately half the level for low earners for Australia and well below half in Korea. For Canada and the United Kingdom the replacement rates are at one-third of the level for low earners, while for New Zealand they are only at one-quarter of the level.

For women the replacement rates are below, or at best equal to, those for men, without exception. Whilst most OECD countries have the same replacement rates for men and women it is noticeable that all the non-OECD economies, apart from Thailand and the Philippines, have lower replacement rates for women than for men. The majority of non-OECD economies are now actually below the OECD average across all the earnings levels, which is the opposite of the findings for men. This is particularly the case for low earners where nine of the eleven non-OECD economies listed are below the OECD average, with the exceptions being China and India.

1.1. Gross replacement rates by earnings, men and women

	Men			Women		
Individual earnings (% average)	*50*	*100*	*200*	*50*	*100*	*200*
East Asia/Pacific						
China	97.9	77.9	67.9	78.5	61.0	52.2
Hong kong, China	34.4	34.8	29.5	32.2	31.5	29.5
Indonesia	14.1	14.1	14.1	13.0	13.0	13.0
Malaysia	35.1	35.1	35.1	31.9	31.9	31.9
Philippines	48.9	37.7	28.2	48.9	37.7	28.2
Singapore	38.5	38.5	21.7	34.4	34.4	19.4
Thailand	47.1	47.1	31.1	47.1	47.1	31.1
Viet Nam	67.3	67.3	67.3	61.8	61.8	61.8
South Asia						
India	75.6	55.8	45.9	71.2	51.8	42.1
Pakistan	80.0	65.9	32.9	74.1	57.6	28.8
Sri Lanka	45.9	45.9	45.9	31.0	31.0	31.0
OECD Asia-Pacific						
Australia	91.1	52.3	38.7	86.6	47.8	34.3
Canada	80.1	45.4	22.7	80.1	45.4	22.7
Japan	49.8	35.6	28.0	49.8	35.6	28.0
Korea	59.2	39.6	21.9	59.2	39.6	21.9
New Zealand	81.1	40.6	20.3	81.1	40.6	20.3
United States	49.5	38.3	28.2	49.5	38.3	28.2
Other G7						
France	64.8	58.8	41.8	64.8	58.8	41.8
Germany	42.0	42.0	31.5	42.0	42.0	31.5
Italy	71.2	71.2	71.2	71.2	71.2	71.2
United Kingdom	55.8	32.6	16.9	55.8	32.6	16.9
OECD34	**71.0**	**54.4**	**43.6**	**70.3**	**53.7**	**43.0**

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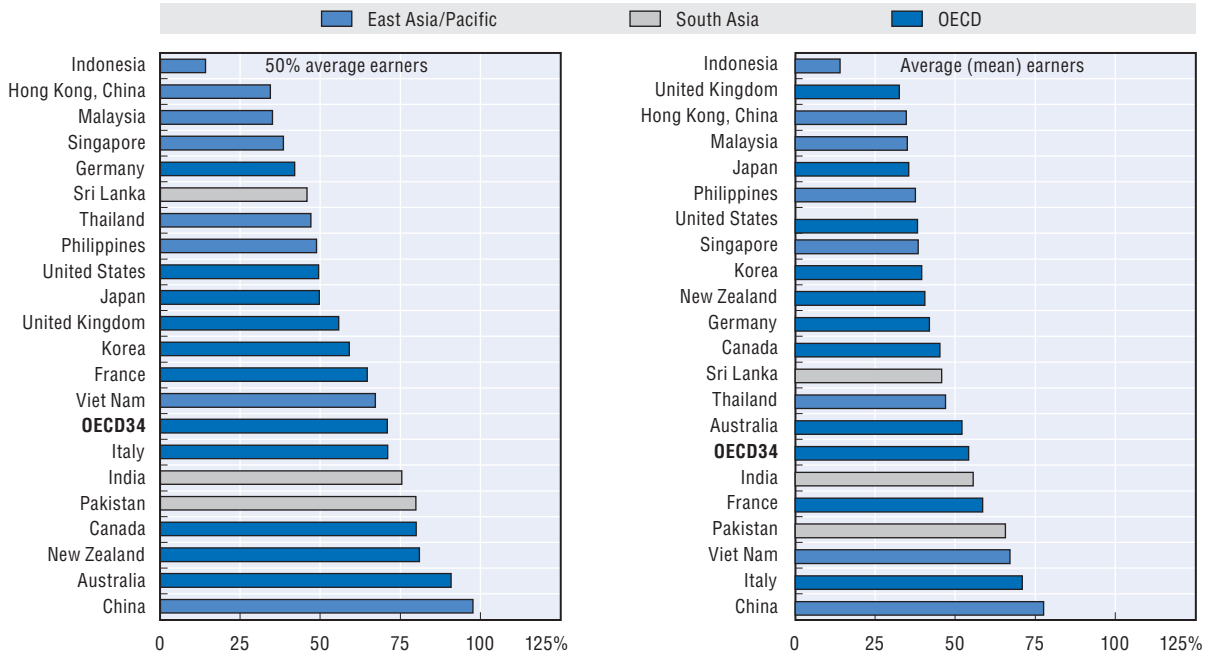
1.2. Gross replacement rates by earnings, low and average earners



Source: OECD pension models.

StatLink http://dx.doi.org/10.1787/888932904735

Net replacement rates show greater diversity than the gross replacement rates. They range from 14.4% in Indonesia to 84.7% in China. These are the extremes for average earners but findings are also given at 50% and 200% of average earnings. Replacement rates generally decline as earnings increase, though Malaysia, Viet Nam and Italy do not follow this premise, and are usually higher for men than for women. Results for China and Pakistan are amongst the highest especially for low and average earners. As with gross replacement rates Indonesia and is at the bottom of the rankings.

The net replacement rate is defined as the individual net pension entitlement divided by net pre-retirement earnings, taking account of personal income taxes and social security contributions paid by workers and pensioners. The personal tax system plays an important role in old-age support. Pensioners often do not pay social security contributions and, as personal income taxes are progressive and pension entitlements are usually lower than earnings before retirement, the average tax rate on pension income is typically less than the tax rate on earned income. In addition, most income tax systems give preferential treatment either to pension incomes or to pensioners, by giving additional allowances or credits to older people. Therefore, net replacement rates are usually higher than gross replacement rates.

For average earners, the net replacement rate across OECD countries is 65.8% for men and 65.0% for women, which is 11% higher than for gross replacement rates. Three of the non-OECD economies are higher than this average for men, whereas out of the OECD countries listed Australia, France and Italy all have values higher than the average. Replacement rates within Asia are similar across the different geographical regions and also between OECD and non-OECD economies. Only Australia and Canada have replacement rates that are greater than that of most of the non-OECD economies, with China, Viet Nam and Pakistan being the exceptions.

Low earners – workers earning only half the mean – have higher replacement rates than average earners: on average, 81.7% for the OECD. This reflects the fact that most countries attempt to protect low income workers from old-age poverty. The cross-economy variation of replacement rates at this earnings level is much lower within the OECD than for the Asian economies. The highest net replacement rate for low earners is found in China at 106.4%, which means that full-career workers with permanently low earnings have more money when they retire than when they were working. Australia also has a replacement rate at this earnings level that is just above full replacement, at 100.5%. The lowest rates are again observed in Indonesia where full-career workers on half average earnings have only a 14% replacement rate. The replacement rates in Hong Kong, Malaysia, Singapore and Thailand are marginally lower at this earnings level when compared to average earners.

For high earners – workers earning twice the mean – the OECD average drops to 54.6%, with all OECD countries, with the exception of Italy, having lower replacement rates at this earnings level than at average or 50% average earnings. For Asia the same trend applies with Malaysia and Sri Lanka being the exceptions, and in fact the replacement rate in Malaysia at this earnings level is the third highest for all the East Asia/Pacific economies, just behind China and Viet Nam. The lowest replacement rate is again found in Indonesia. The gap to the other economies has narrowed compared to other earnings levels, with Hong Kong now having a rate just over double that of Indonesia. On comparison with the 50% average earnings figure, the replacement rate for Singapore is just over half at 23.8% and that for New Zealand is less than one-third of its earlier level, with both Canada and the United Kingdom at just over one-third.

For women the net replacement rates are at best equal to those for men, but are generally lower, and this is the case for all the economies listed. The rates in the Philippines and Thailand are identical to those of men, whereas in Sri Lanka the replacement rates for women are less than two-thirds those for men across all the earnings levels. This lower level in Sri Lanka is mainly due to the lower retirement age for women than men.

1.3. Net replacement rates by earnings, men and women

	Men			Women		
Individual earnings (% average)	*50*	*100*	*200*	*50*	*100*	*200*
East Asia/Pacific						
China	106.4	84.7	75.5	85.3	66.3	58.7
Hong kong, China	36.2	36.8	33.0	33.9	33.3	33.0
Indonesia	14.4	14.4	14.6	13.2	13.2	13.5
Malaysia	40.3	41.0	42.8	36.6	37.2	38.8
Philippines	57.4	46.1	36.5	57.4	46.1	36.5
Singapore	41.6	42.1	23.8	37.2	37.7	21.3
Thailand	48.8	49.2	32.4	48.8	49.2	32.4
Viet Nam	72.6	69.9	69.7	66.7	64.2	64.0
South Asia						
India	85.9	64.1	55.2	80.9	59.2	50.5
Pakistan	80.8	66.5	33.3	74.9	58.2	29.1
Sri Lanka	49.9	49.9	51.0	33.7	33.7	34.4
OECD Asia-Pacific						
Australia	100.5	67.7	55.6	95.6	61.9	49.2
Canada	90.7	58.6	32.0	90.7	58.6	32.0
Japan	54.3	40.8	32.8	54.3	40.8	32.8
Korea	64.8	45.2	26.3	64.8	45.2	26.3
New Zealand	81.7	43.2	23.9	81.7	43.2	23.9
United States	58.7	47.3	37.1	58.7	47.3	37.1
Other G7						
France	75.9	71.4	55.1	75.9	71.4	55.1
Germany	55.2	57.1	42.6	55.2	57.1	42.6
Italy	83.9	81.5	82.6	83.9	81.5	82.6
United Kingdom	67.2	41.8	23.9	67.2	41.8	23.9
OECD34	**81.7**	**65.8**	**54.6**	**80.9**	**65.0**	**53.8**

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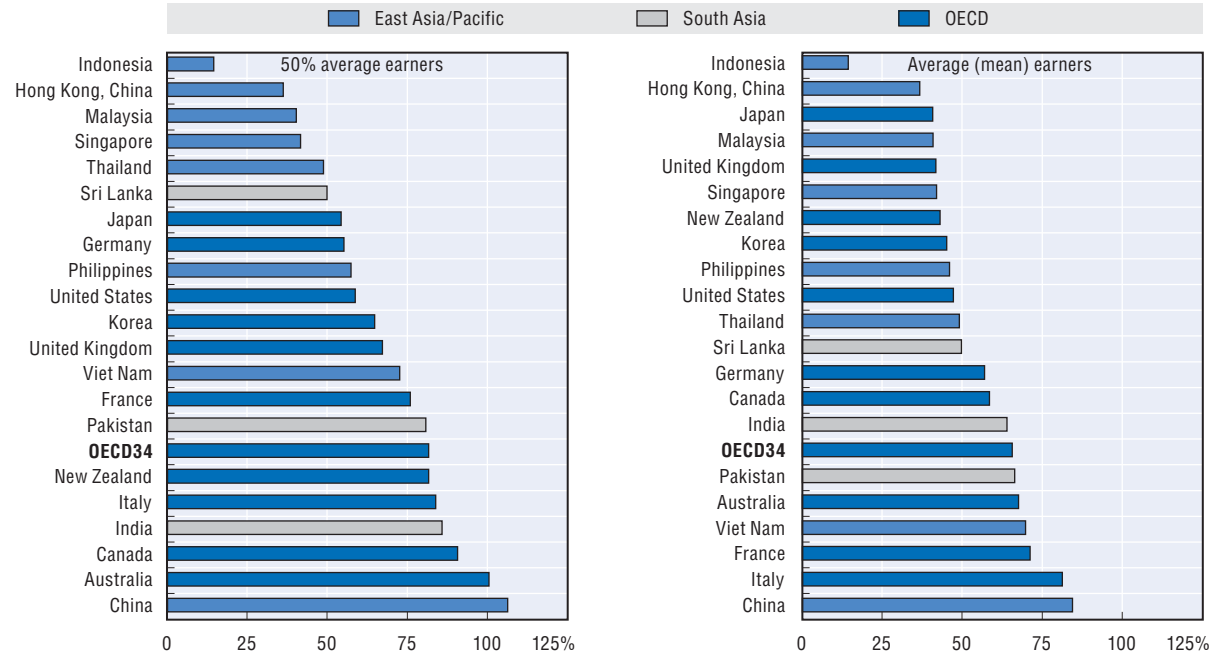
1.4. Net replacement rates by earnings, low and average earners



Source: OECD pension models.

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Gross replacement rates, for those starting their career at age 30 vary greatly across Asia, from 9.3% in Indonesia to 65.0% in Viet Nam. These are the extremes for average earners but findings are also given at 50% and 200% of average earnings. Replacement rates generally decline as earnings increase and are usually higher for men than for women.

Under the baseline assumptions used in this report, workers enter the labour market at age 20 and work until the standard retirement age. For the OECD countries this generally results in a career of at least 45 years. For the non-OECD economies this can lead to a career of between 30 and 45 years depending on sex and economy.

The reality though is that the career length is shorter than this baseline assumption: some workers start paid work later than age 20, and many spend time out of the labour market for various reasons. In addition, early retirement is common, particularly in the OECD economies. As a sensitivity analysis, therefore, gross replacement rates are presented here for a shorter career. The alternative assumption is that workers enter the labour market at age 30. This results in a career length of between 20 and 35 years again depending on sex and economy, though the career length is slightly longer in a few OECD countries with retirement ages beyond 65 years.

For workers at average earnings, the average gross replacement rate for the 34 OECD countries is 46.1% for men and 45.5% for women. There is very little variation across Asia-Pacific OECD economies, with Australia at the top of the range, offering replacement rates of 49% and Japan lowest with only 29%. It is noticeable though that all the economies in that region are well below the OECD average, with the exception of Australia, which is above the average, and Canada at just below the average. For South Asia the replacement rates in Pakistan are well above those of India and Sri Lanka, with Pakistan having the third highest replacement rate in Asia at 49.4%, with only Viet Nam and China with higher rates. In contrast the replacement rate in Indonesia is only 9.3%. In fact the replacement rates in East Asia/Pacific are below 30% in four of the eight economies and above 55% in another two, with Thailand at 33% and the Philippines at 38% being the exceptions.

For low earners the replacement rates are at least equal to those for average earners. The OECD average at this earnings level is 63.2% for men, though of the OECD countries listed, only Australia, New Zealand and Canada have higher replacement rates. Australia is the highest at 85.7% and it should be noted that the pensions in both Canada and New Zealand are based on residency and not earnings. Within South Asia, Pakistan has a replacement rate well above that in India and it is more than twice that of Sri Lanka, which has a constant replacement rate irrespective of earnings level. For East Asia/Pacific the trend is again similar to that for average earners with China having the highest, at 71.2%, followed by Viet Nam at 65.0%, and lowest in Indonesia at 9.3%. As with the average earners there is variation in the rates with four economies below 30% and two economies above 65%, with Thailand at 33% and the Philippines at 49%.

High earners have an average replacement rate of 36.1% for the 34 OECD countries, with Italy being the only country listed with a replacement rate significantly higher than this average, at 55.8%. For the Asia-Pacific OECD economies there is little variation in the replacement rates with less than 3% separating three of the economies with Australia and the United States higher at 29.3% and 28.2% respectively and Korea being lower at 17.0%. In South Asia Pakistan now has a replacement rate below that of both India and Sri Lanka, because of the ceiling to contributions. The replacement rate in Viet Nam is again higher than that in Pakistan, and is highest at this earnings level, at 65%. As before there are two economies in East Asia/Pacific with substantially higher replacement rates, namely Viet Nam and China, than the remaining six. The lowest replacement rate is in Indonesia at only 9.3% for twice average earners.

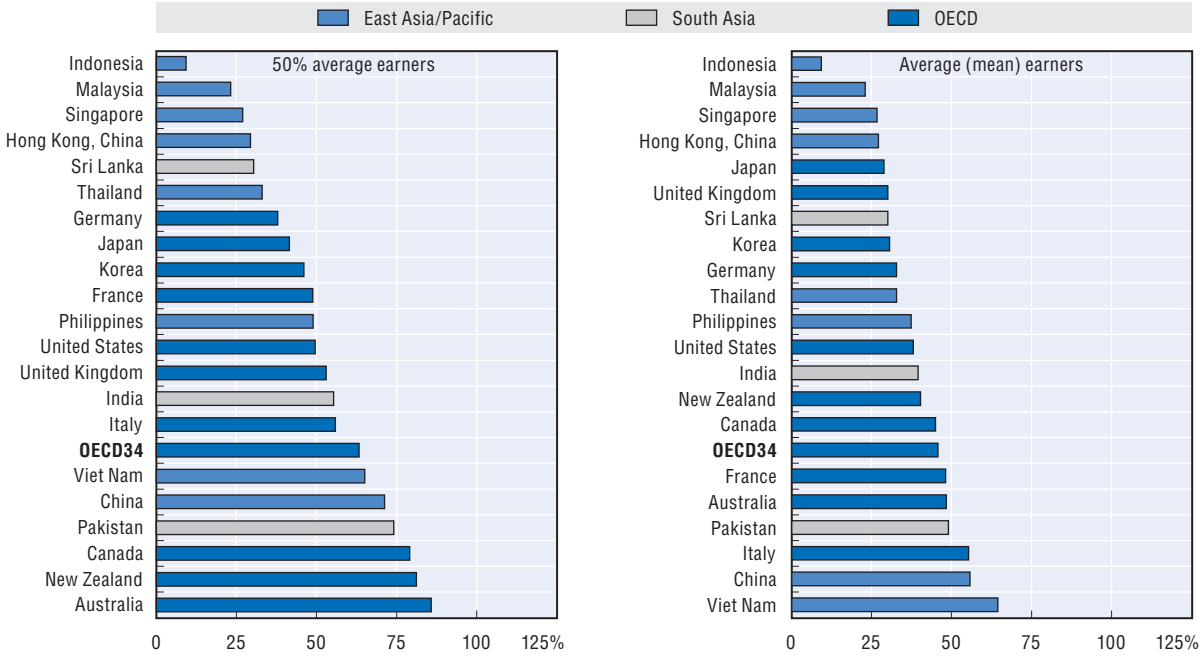
For women the replacement rates are below, or at best equal to, those for men, without exception. Whilst most OECD countries have the same replacement rates for men and women it is noticeable that all the non-OECD economies, apart from Thailand and the Philippines, have lower replacement rates for women than for men.

1.5. Gross replacement rates by earnings: entry at age 30, men and women

	Men			Women		
Individual earnings (% average)	*50*	*100*	*200*	*50*	*100*	*200*
East Asia/Pacific						
China	71.2	56.2	48.7	54.6	42.1	35.9
Hong kong, China	29.4	27.3	25.0	27.8	24.9	22.4
Indonesia	9.3	9.3	9.3	8.5	8.5	8.5
Malaysia	23.2	23.2	23.1	21.0	21.0	21.0
Philippines	48.9	37.7	28.2	48.9	37.7	28.2
Singapore	26.9	26.9	15.2	24.1	24.1	13.6
Thailand	33.0	33.0	21.8	33.0	33.0	21.8
Viet Nam	65.0	65.0	65.0	60.0	60.0	60.0
South Asia						
India	55.3	39.9	32.2	52.3	37.1	29.6
Pakistan	74.1	49.4	24.7	74.1	41.2	20.6
Sri Lanka	30.3	30.3	30.3	19.1	19.1	19.1
OECD Asia-Pacific						
Australia	85.7	48.7	29.3	82.4	45.5	26.1
Canada	79.0	45.4	22.7	79.0	45.4	22.7
Japan	41.5	29.1	22.5	41.5	29.1	22.5
Korea	46.0	30.8	17.0	46.0	30.8	17.0
New Zealand	81.1	40.6	20.3	81.1	40.6	20.3
United States	49.5	38.3	28.2	49.5	38.3	28.2
Other G7						
France	48.8	48.5	36.2	48.8	48.5	36.2
Germany	37.9	33.0	24.8	37.9	33.0	24.8
Italy	55.8	55.8	55.8	56.0	56.0	56.0
United Kingdom	53.0	30.3	15.7	53.0	30.3	15.7
OECD34	**63.2**	**46.1**	**36.1**	**62.6**	**45.5**	**35.7**

StatLink http://dx.doi.org/10.1787/888932904792

1.6. Gross replacement rates by earnings: entry at age 30, low and average earners



Source: OECD pension models.

StatLink http://dx.doi.org/10.1787/888932904811

Gross pension wealth, indicating the magnitude of the pension promise, ranges, for men, from a high of 19.1 in China for low earners to a low of 2.6 in Indonesia for high earners. The value for women in China is actually even higher at 19.7, meaning that someone on 50% average lifetime earnings has a mandatory pension worth 19.7 times their earnings level at retirement. China has considerably higher levels than for any other Asian economy, though the values for men in Viet Nam are still over 15 across all the earnings levels.

Pension wealth shows the size of the lump sum that would be needed to buy a flow of pension payments equivalent to that promised by the mandatory pension system in each economy. Pension wealth is measured and expressed as a multiple of gross annual individual earnings. It is shown here for workers with earnings of 50%, 100% and 200% of the average, separately for men and women. For a fuller picture though consideration needs to be given to both retirement ages and life expectancy variation across economies. For example, the general retirement age within OECD countries is 65, whereas for the non-OECD economies it is generally either 55 or 60 for men. Whilst it is shown later that the life expectancy levels in non-OECD economies are lower than for OECD countries the actual duration of retirement is longer in the non-OECD economies for those who reach retirement age.

The average pension wealth for the OECD is 9.3 for average earners, 12.3 for 50% average earners and 7.4 for 200% average earners. The other OECD economies are generally below these averages apart from Italy at the 100% and 200% earnings levels. For the Asian/Pacific OECD economies they are all lower than the OECD average at all earnings levels, with the exception of Australia and New Zealand at the low earners level. For the non-OECD economies China, India and Viet Nam are higher at all earnings levels, with Sri Lanka also having a higher pension wealth at 200% average earnings.

China has the highest pension wealth of all for each of the earnings levels, with the exception of the 200% level where Viet Nam is slightly higher. The lowest pension wealth figures are found in Indonesia, which has a constant rate of 2.6 for all earnings levels. The value for China is over seven times that of Indonesia for men with lifetime earnings equivalent to 50% average within their economy.

The level of pension wealth either remains steady or declines as the level of earnings increases in all the other economies. In China for 200% average earners the level of pension wealth is approximately two-thirds that for 50% average earners. The same applies in the Philippines, Singapore, Thailand, India, Japan, Korea and the United States, though in all cases the actual lump-sum value for 200% average earners is at least double. For example the lump sum in China for 50% average earners is 19.1 * 0.5 = 9.6 times average earnings, compared to 13.3 * 2.0 = 26.6 times average earnings for those at the 200% earnings level. For New Zealand the pension wealth at 200% average earnings is half that for average earnings, which in turn is half that for 50% average earnings. This is expected as the mandatory pension in New Zealand is not dependent on earnings and so for all earnings levels the pension wealth is worth 8.8 times individual earnings for men and 9.9 individual earnings for women. The difference between sexes is due to the difference in life expectancies.

There is limited regional variation with South Asia being relatively consistent with all three countries having virtually identical values at average earnings levels with India higher for low and Sri Lanka for high earners.

As mentioned earlier the levels of pension wealth for women are generally higher than those for men. Only Sri Lanka has higher levels for men than women, though the levels are identical for Indonesia, Malaysia and Singapore across all earnings levels. The variation for women is also greater than that for men, ranging from 20.0 in China for 50% average earnings to 2.6 in Indonesia for all earners. The rate of decline in pension wealth as earnings increase is virtually identical between the sexes for all the economies included.

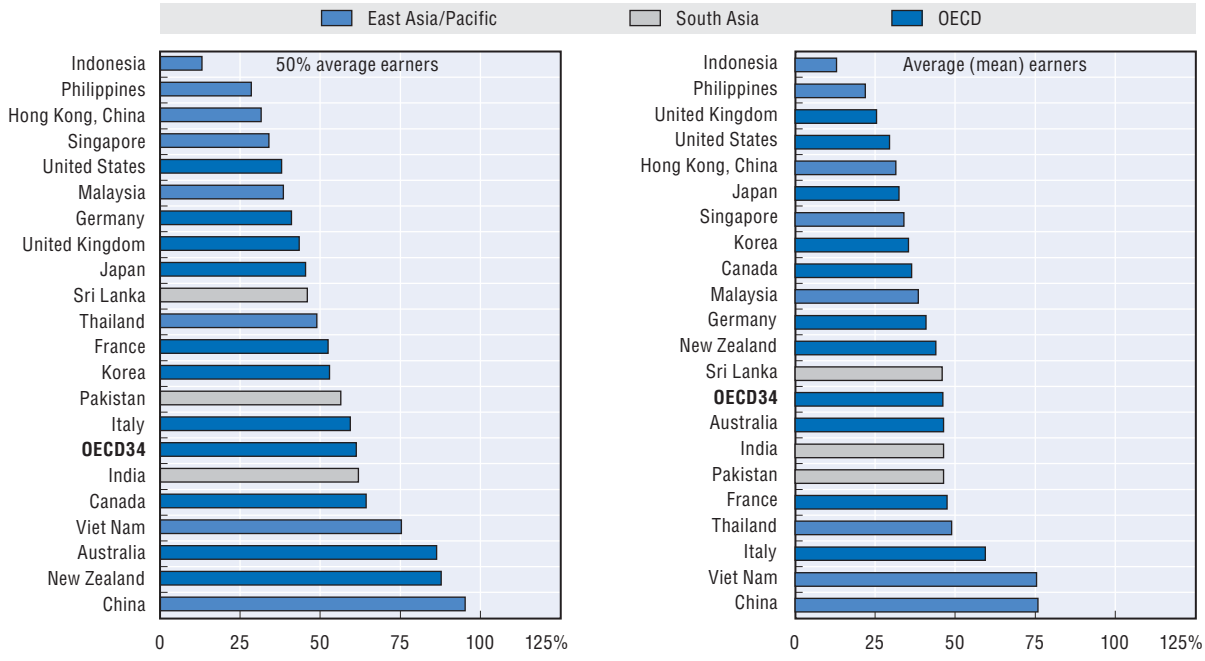
1.7. Gross pension wealth by earnings, men and women

Multiple of individual annual gross earnings

	Men			Women		
Individual earnings (% average)	*50*	*100*	*200*	*50*	*100*	*200*
East Asia/Pacific						
China	19.1	15.2	13.3	19.7	15.3	13.1
Hong kong, China	6.3	6.3	5.4	6.7	6.6	6.1
Indonesia	2.6	2.6	2.6	2.6	2.6	2.6
Malaysia	7.7	7.7	7.7	7.7	7.7	7.7
Philippines	5.7	4.4	3.3	6.8	5.3	3.9
Singapore	6.8	6.8	3.9	6.8	6.8	3.9
Thailand	9.8	9.8	6.5	10.7	10.7	7.1
Viet Nam	15.1	15.1	15.1	19.2	19.2	19.2
South Asia						
India	12.4	9.3	7.7	13.0	9.6	7.9
Pakistan	11.3	9.3	4.6	13.2	10.3	5.1
Sri Lanka	9.2	9.2	9.2	7.6	7.6	7.6
OECD Asia-Pacific						
Australia	17.3	9.3	6.5	19.0	9.7	6.5
Canada	12.9	7.3	3.7	14.6	8.3	4.1
Japan	9.1	6.5	5.1	10.5	7.5	5.9
Korea	10.6	7.1	3.9	12.4	8.3	4.6
New Zealand	17.6	8.8	4.4	19.8	9.9	4.9
United States	7.6	5.9	4.4	8.5	6.6	4.9
Other G7						
France	10.5	9.5	6.8	12.5	11.4	8.1
Germany	8.2	8.2	6.2	9.6	9.6	7.2
Italy	11.9	11.9	11.8	13.7	13.7	13.5
United Kingdom	8.7	5.1	2.6	9.5	5.6	2.9
OECD34	**12.3**	**9.3**	**7.4**	**14.1**	**10.6**	**8.4**

StatLink http://dx.doi.org/10.1787/888932904830

1.8. Gross pension wealth by earnings, low and average earners



Source: OECD pension models.

StatLink http://dx.doi.org/10.1787/888932904849

Net pension wealth, the present value of the flow of pension benefits, again varies by economy, ranging from 19.1 for men in China (19.7 for women) to 2.6 in Indonesia, for both men and women. As with gross pension wealth the values in China are well above every other economy and are now approximately double the OECD average at every earnings level. However Viet Nam is higher than China at the 200% earnings level, followed by Sri Lanka.

Net pension wealth shows the size of the lump sum that would be needed to buy the flow of pension payments, net of personal income taxes and social security contributions, promised by the mandatory pension system in each economy. It is measured and expressed as a multiple of gross annual individual earnings in the respective economy. Gross earnings are used as the comparator to isolate the effects of taxes and contributions paid in retirement from those paid when working. This means that gross and net pension wealth are the same where people are not liable for contributions and income taxes on their pensions. The charts compare gross and net pension wealth for men and women respectively. In economies that lie on the 45-degree line, gross and net pension wealth are the same because there are no taxes due on pension income.

For average earners net pension wealth is identical to that of gross pension wealth in only two OECD countries, namely Australia and Canada, which have identical values of pension wealth, net and gross, for each of the earnings levels. The same is not the case for the non-OECD economies as the majority here have identical pension wealth, net and gross. For average earners there are no economies with different values. In fact no matter which level of earnings is chosen, there is only one non-OECD economy that has a different value for net and gross pension wealth, namely China for high earners.

The average for the OECD countries is 11.4 for low earners, 8.7 for average earners and 6.6 for high earners. Australia and Italy have a higher value for average earners, with only Italy having a higher value at the 200% earnings level, and Australia, Canada and New Zealand have higher values at 50% average earnings. As with the gross pension wealth the values for New Zealand half on each doubling of earnings as the mandatory pension is not affected by earnings but rather residency rules.

For high earners the non-OECD Asian economies dominate with China, Malaysia, Viet Nam, India and Sri Lanka having values above the OECD average, with none of the Asian OECD countries having a higher value than the OECD average. The values in both China and Viet Nam are approximately twice that of the OECD average. Even the variation within the other OECD countries is apparent with Italy having a net pension wealth over three times that of the United Kingdom for high earners.

For low earners China, Viet Nam and India all have a net pension wealth higher than the OECD average. The value in China at 19.1 is over seven times the value in Indonesia. For the OECD it is only three of the six Asia-Pacific economies, namely Australia, Canada and New Zealand that have a net pension wealth above the OECD average. The remaining OECD countries all have similar values between 7.4 and 10.9, but all are below the 11.4 OECD average.

For women the same pattern is repeated as for the gross pension wealth, in that only Sri Lanka has higher net pension wealth figures for men than women, with Indonesia, Malaysia and Singapore again being identical for both sexes. The remaining economies, both OECD and non-OECD all have net pension wealth estimates that are higher for women than for men.

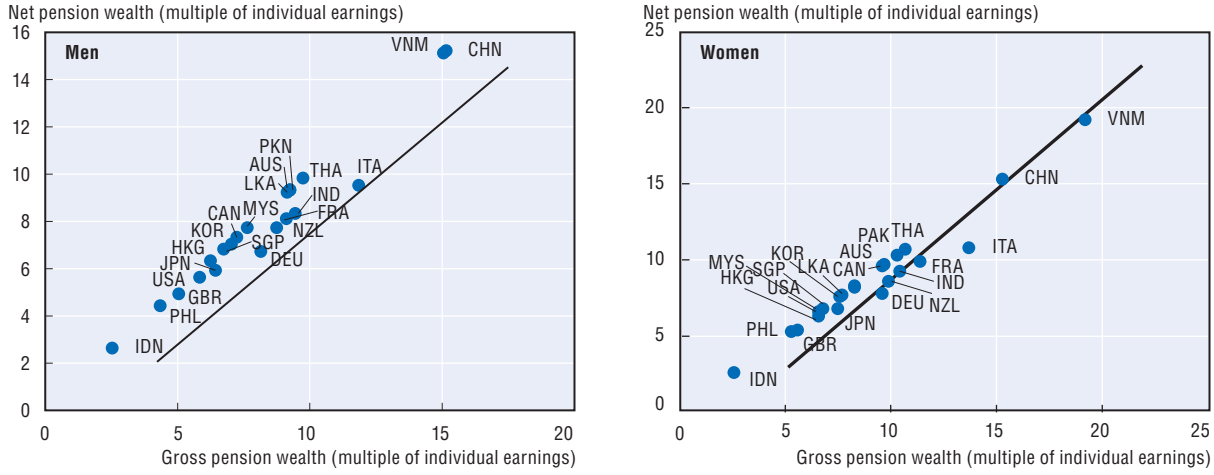
1.9. Net pension wealth by earnings, men and women

Multiple of individual annual gross earnings

	Men			Women		
Individual earnings (% average)	*50*	*100*	*200*	*50*	*100*	*200*
East Asia/Pacific						
China	19.1	15.2	13.1	19.7	15.3	13.0
Hong kong, China	6.3	6.3	5.4	6.7	6.6	6.1
Indonesia	2.6	2.6	2.6	2.6	2.6	2.6
Malaysia	7.7	7.7	7.7	7.7	7.7	7.7
Philippines	5.7	4.4	3.3	6.8	5.3	3.9
Singapore	6.8	6.8	3.9	6.8	6.8	3.9
Thailand	9.8	9.8	6.5	10.7	10.7	7.1
Viet Nam	15.1	15.1	15.0	19.2	19.2	19.2
South Asia						
India	12.4	9.3	7.7	13.0	9.6	7.9
Pakistan	11.3	9.3	4.6	13.2	10.3	5.1
Sri Lanka	9.2	9.2	9.2	7.6	7.6	7.6
OECD Asia-Pacific						
Australia	17.3	9.3	6.5	19.0	9.7	6.5
Canada	12.9	7.3	3.7	14.6	8.3	4.1
Japan	8.0	5.9	4.4	9.3	6.8	5.1
Korea	10.6	7.0	3.9	12.3	8.2	4.5
New Zealand	15.4	7.7	3.8	17.3	8.6	4.3
United States	7.5	5.6	4.0	8.4	6.3	4.5
Other G7						
France	9.7	8.3	5.8	11.6	9.9	6.9
Germany	7.4	6.7	4.6	8.6	7.8	5.4
Italy	10.9	9.5	8.2	12.5	10.8	9.4
United Kingdom	8.6	4.9	2.5	9.4	5.4	2.8
OECD34	**11.4**	**8.6**	**6.4**	**12.8**	**9.7**	**7.1**

StatLink http://dx.doi.org/10.1787/888932904868

1.10. Gross *versus* net pension wealth for average earner, men and women



Note: The scales of both charts have been capped at gross pension wealth of 15 times individual earnings, which excludes Luxembourg and the Netherlands from both charts and Greece, Hungary and Iceland from the chart for women.
Source: OECD pension models.

StatLink http://dx.doi.org/10.1787/888932904887

The pension earnings link, showing the link between pension entitlements and individual earnings, varies widely between economies. Levels in Indonesia, Hong Kong and particularly New Zealand show that there is virtually no link, whereas Viet Nam, China and Pakistan display a strong link between pension entitlements and individual earnings. The relative pension levels are used here to illustrate the link between individual pre-retirement earnings and pension benefits in each economy. They are shown for individual earnings from 0.5 to 2 times average earnings levels.

The strength of the link between pension entitlements and individual earnings is measured using the relative pension level, that is, the gross individual pension divided by average earnings (rather than by average earnings as in the replacement rate results). It is best seen as an indicator of pension adequacy, since it shows the benefit level that a pensioner will receive in relation to average earnings in the respective economy. Individual replacement rates may be quite high, but the pensioner may still receive only a small fraction of economy-wide average earnings. If, for example, a low-income worker has a replacement rate of 100%, the benefit will only amount to 50% of economy-wide average earnings. For an average earner, the replacement rate and the relative pension level will be the same.

The charts show relative pension levels in the economies on the vertical axis and individual pre-retirement earnings on the horizontal. Economies have been grouped by region and by membership of the OECD. As there are eight economies in East Asia/Pacific they have been divided into two groups on the basis of results.

In the first set of economies (Panel A), there is little or no link between pension entitlements and pre-retirement earnings for any of the four economies listed. The ranges are small for all of the economies in the chart, particularly for the Philippines and Singapore. The graphs for these economies reach a steady value between average and about 170% of average earnings. This is in contrast to the findings for the other four economies in the region (Panel B) which show a much stronger link between pension entitlements and pre-retirement earnings. In Viet Nam for example the range is 34% to 135% compared to only 7% to 28% for Indonesia and 18% to 42% for Singapore. For Viet Nam there is also no ceiling to pensionable earnings as it is paid in a lump sum which we have converted to an annual entitlement. Singapore has a different system in that the maximum contribution level applies for earnings not much above the average, which explains why the graph levels at just over 100% of average earnings. The same also happens for Thailand but at a much higher earnings level.

Panel C covers the economies in South Asia, all of which indicate a link between pension entitlements and pre-retirement earnings, but to different degrees. In both India and Sri Lanka there is a clearly linear relationship between earnings and pension entitlement, as for these results the ceiling in the pension system has not been modelled.

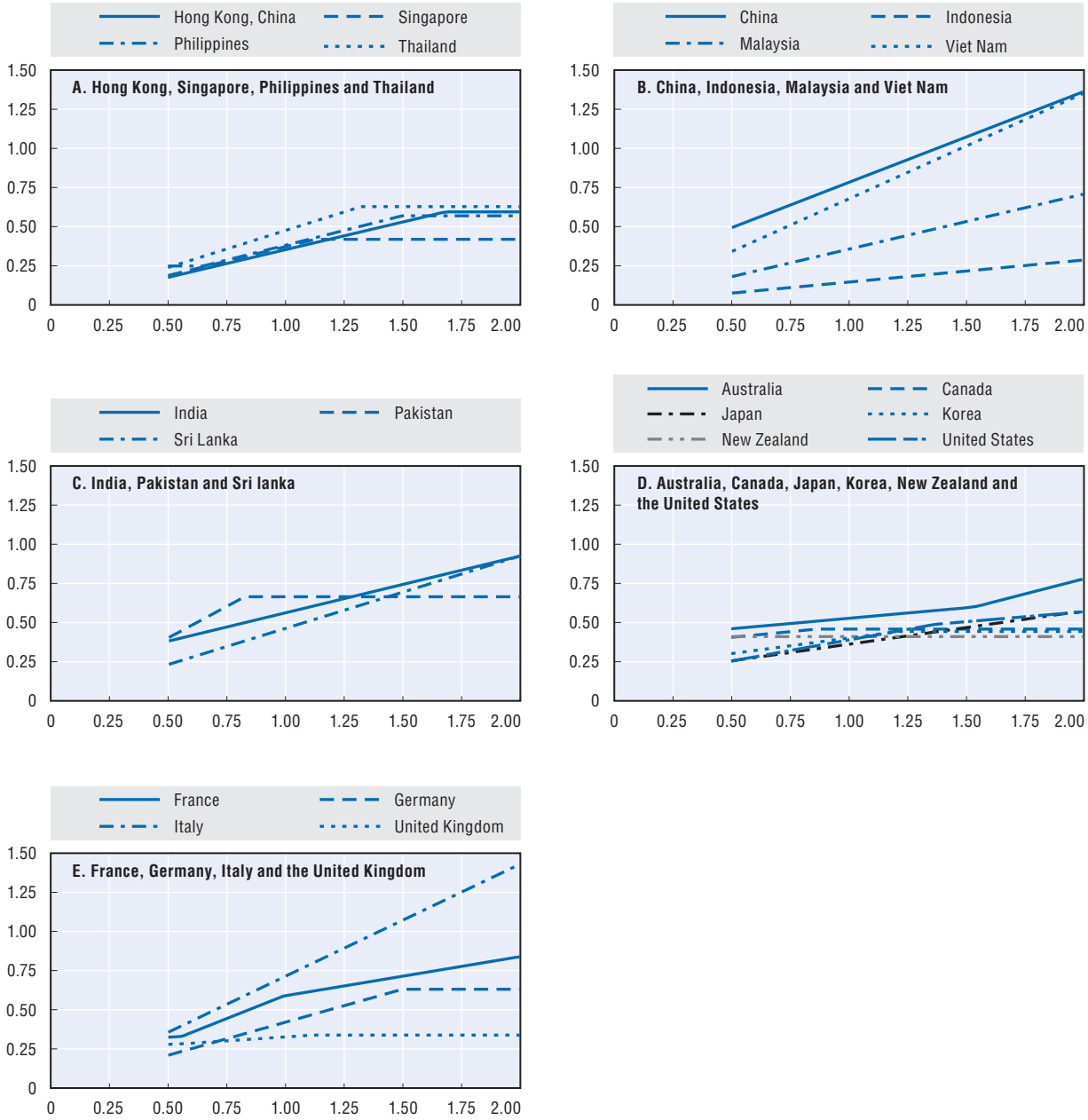
The remaining two charts, Panel D and Panel E, are for the OECD countries, with the first covering the Asia/Pacific economies and the second the other OECD countries. In Panel D it is clear that there is virtually no link between pension entitlement and pre-retirement earnings in Australia, Japan and New Zealand. In fact in New Zealand there is absolutely no link as the pension is paid at a flat rate based on residency and is not dependent on earnings at all. In Korea though there is a slight link but it levels off around 125% of average earnings because there is a ceiling to pensionable earnings in Korea, which comes into effect at that level.

For the other OECD countries there is very little link in Germany, and particularly in the United Kingdom. In France there is a slightly greater link as the range is 32% to 84%, but the country with the greatest link is Italy (In Italy as with other economies mentioned previously the ceiling on pensionable earnings is set above three times the average economy-wide earnings).

With some economies applying limits to pension incomes, and others to the levels of contributions, the link between pension entitlements and individual earnings will be broken at some earnings level, even though it evidently existed prior this level.

1.11. The link between pre-retirement earnings and pension entitlements

Gross pension entitlement as a proportion of economy-wide average earnings



Source: OECD pension models.

StatLink http://dx.doi.org/10.1787/888932904906

The level of coverage, the proportion covered by mandatory pension schemes, in non-OECD economies ranges from 55.4% in Hong Kong to only 3.1% in Pakistan, for the population aged 15 to 64. In contrast the OECD average is 64.7% and is as high as 75.0% in Japan. For the labour force the non-OECD economies range from 78.9% to 10.3%, whilst the OECD average increases to 85.6%, with Japan again highest at 95.4%.

Coverage is defined as the proportion of people that are covered by mandatory pension schemes. For the purposes of this report the measures used are *i)* the population aged 15 to 64, and *ii)* the active labour force. The coverage percentage is a measure of how effectively a pension system is being utilised by the pre-retirement population and can act as an indicator of future trends. The coverage value is expressed as the percentage of the population or labour force that is classified as active members of a mandatory pension system during the indicated year. For this purpose active members include those that have either contributed or accrued pension rights in any of the major mandatory pension schemes during the indicated year.

For OECD countries as a whole there is very little variation between countries using either the population or labour force measurement. The average coverage percentage within the OECD is 65% for the population measure and 86% using the labour force methodology. The exception within the listed OECD countries is Korea which has noticeably lower values compared to the OECD average, though it is still considerably higher than most of the other economies within the region, with the exception of Hong Kong and Singapore.

The remaining Asian, non-OECD, economies vary considerably in the levels of coverage using either measurement. Of these economies only Sri Lanka of the South Asian economies has more than 14% of the population aged 15 to 64 covered by a mandatory pension scheme, whereas its neighbours, India and Pakistan, have less than 7% covered by a scheme. The picture improves slightly for the East Asia/Pacific economies with Hong Kong and Singapore having 55% to 64% of their populations aged 15 to 64 covered by at least one mandatory pension scheme, with China and Malaysia close to 30%. When considering the size of the populations in this region of the world it becomes apparent that the lack of coverage is a global rather than regional issue.

The level of coverage does improve in Asia when looking at the labour force measure but non-OECD increases are generally less than those of the OECD countries listed, despite them starting from a higher base. Sri Lanka again for South Asia has the highest level of coverage, at 24%, with India having just over 10% coverage and no do being available for Pakistan. The position of the economies is generally unchanged between measures. The gap between the Asian economies and the OECD as a whole widens when looking at the labour force measure, 61.1%, as opposed to the population measure, 46.7%.

The average figures for Asia for both the population aged 15 to 64 and the labour force are heavily influenced by the low percentage values for India. Because of the high population within India if it was to be removed from the calculation of the Asia average, the value would increase by nearly 6% for both the population aged 15 to 64 and the labour force.

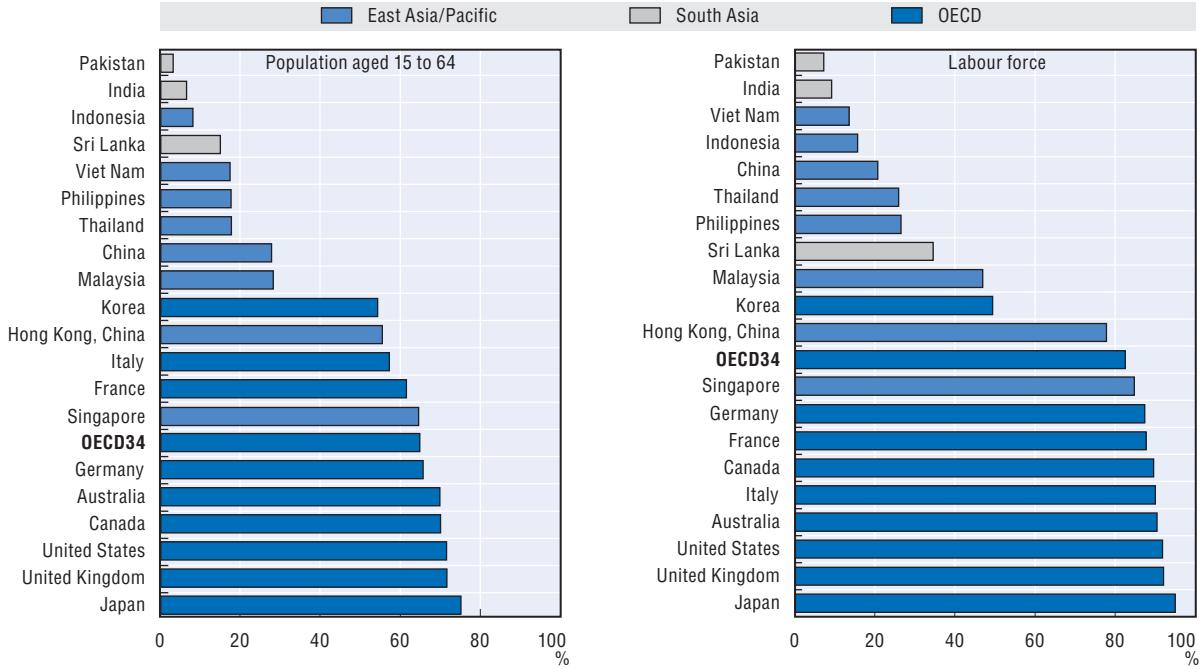
Coverage statistics are better analysed in conjunction with life expectancy and population projections, in order to estimate the numbers of people actually involved rather than percentage. Analysis of these characteristics will highlight the problems that may arise if nothing is done to combat the poor levels of coverage that exist within a number of economies across Asia.

1.12. Membership of mandatory pension schemes by population and labour force

	Year	Members	Percentage of population aged 15 to 65 (%)	Percentage of labour force (%)
East Asia/Pacific				
China	2010	268 200 000	27.7	33.5
Hong Kong, China	2009	2 921 815	55.4	78.9
Indonesia	2010	12 979 473	8.0	11.0
Malaysia	2010	6 400 000	28.1	53.5
Philippines	2011	10 163 000	17.5	26.3
Singapore	2012	1 790 000	64.0	84.0
Thailand	2009	8 537 000	17.7	22.5
Viet Nam	2010	10 585 492	17.3	20.7
South Asia				
India	2006	44 404 000	6.4	10.3
Pakistan	2009	0	3.1	0.0
Sri Lanka	2006	2 032 000	14.9	24.1
OECD Asia-Pacific				
Australia	2005	9 578 000	69.7	90.7
Canada	2009	16 417 000	70.0	87.4
Japan	2005	63 560 000	75.0	95.4
Korea	2011	19 885 900	54.2	79.9
New Zealand				
United States	2005	141 129 000	71.4	92.2
Other G7				
France	2005	24 319 400	61.4	87.3
Germany	2005	36 156 000	65.6	86.9
Italy	2005	22 146 000	57.1	90.1
United Kingdom	2005	28 402 200	71.5	93.2
OECD34			**64.7**	**85.6**

StatLink http://dx.doi.org/10.1787/888932904925

1.13. Coverage of mandatory pension schemes by population and labour force



Source: World Bank Pension Database.

StatLink http://dx.doi.org/10.1787/888932904944

Life expectancy at birth in virtually all non-OECD Asian economies is lower than for all the OECD countries covered. The exceptions are Hong Kong and Singapore which have life expectancies higher than Canada, Germany, New Zealand, the United Kingdom and the United States, and is also above the OECD average. In fact only Japan has a higher life expectancy than Hong Kong. Life expectancy for women in Pakistan is nearly 20 years less than in Japan but if survival to 65 is assumed then the difference drops to exactly ten years, which will impact greatly on future pension systems.

Information on life expectancy predictions is essential to pension modelling as a guide to the duration that pensions will be claimed. Recently, in many OECD countries life expectancy data has been used to determine future retirement ages and its consideration in any analysis is therefore worthwhile.

Information is available at 2010-15 for men and women separately and is calculated at two different points in time, namely, at birth and age 65. The latter is obviously conditional upon surviving to age 65 but gives a greater indication of the duration of pension receipt. In addition to this life expectancy estimates for 2060-65 are also provided, again dependent on survival to age 65 initially. These are particularly relevant when considering the ageing of the population which is covered at various points throughout this publication.

The graphs below for all three indicators show that the life expectancy in the non-OECD Asian economies is well below that of the OECD countries.

The first graph covering life expectancy at birth indicates that the average life expectancy for both men and women in India is below 65 years of age. Considering that the normal pension age in India is 55 years for the defined-contribution element then this shows that the average duration for pension receipt is actually only ten years for men and 13 for women. In contrast life expectancy in Sri Lanka is approximately seven years higher for men and nine years higher for women implying that the duration of pension receipt in Sri Lanka is much greater than that for India. However the general trend is that the non-OECD economies represented are all at the lower end of the scale with male life expectancy generally under 73 years, compared to the OECD average of 77 years, and it is as high as 80 years for Japan, though even this is below the value for Hong Kong at 80.3. It is also noticeable that there is quite a difference in the gender gaps of life expectancy, with women as expected always being higher. However women are only expected to live 1.8 years longer in Pakistan, whereas the difference in Viet Nam is 9.2 years. For the OECD as a whole the difference is 5.7 years with most countries having at least a four-year difference.

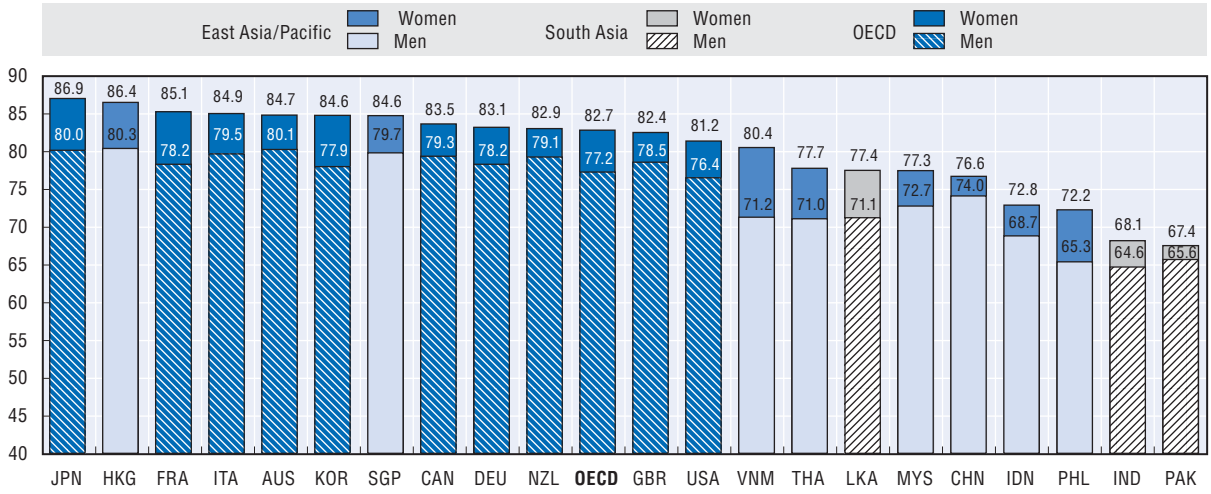
The second graph takes the analysis one step further as survival to age 65 is now assumed, which is the maximum normal retirement age for all but a handful of economies. Therefore the findings at this age level provide more accurate estimates of average duration for pension claimants than the previous indicators. Once again the difference in life expectancy estimates between the highest, Japan, and the lowest, Pakistan, has reduced further and is now five years for men and ten years for women. Although the non-OECD economies are again at the lower end the results for men are all within four years of the OECD average.

The second part of this graph is the forecast information based on 2060-65 estimates from the *United Nations population Database*. This clearly shows that the trend in the future will be for the life expectancy gap to decrease for all non-OECD economies in comparison to the OECD average. Whilst life expectancy for the OECD countries continues to increase, it is at a much slower rate than the Asian economies. With retirement ages currently being well below 65 in many of these economies the pressures on the pension system will only increase.

Although life expectancy results are a useful tool in pension analysis they have limited use when used alone. They can provide estimates of average duration of pension receipt for those that actually begin claiming a pension, but they do not assist with providing any information about the actual numbers involved. For this population projections are required and this will now be covered in the following section.

1.14. Life expectancy at birth, men and women, 2010-15

In years



StatLink http://dx.doi.org/10.1787/888932904963

1.15. Life expectancy at age 65, men and women, 2010-15 and 2060-65

In years

Source: United Nations, *World Population Prospects – 2012 Revision.*

StatLink http://dx.doi.org/10.1787/888932904982

Asia is predicted to have a higher rate of increase in the old-age support ratio than the OECD as a whole, though Korea is a notable exception. The percentage of the population aged 65 and over in Malaysia, Pakistan and the Philippines is projected in 2100 to be about five times the level in 2010. All of the remaining non-OECD economies have a projected increase of at least 180% over the 90 year period, compared to the OECD countries which predominantly have an estimated increase of less than 100%.

Age projections are obviously a key component of any pension modelling. They enable estimation of pension costs and recipient numbers as well as providing governments with baseline assumptions upon which future pension policy can be structured.

For the support ratio information is provided for 2012 and 2052 to clearly show the trend that is apparent across the region. The summary is that the number of pensioners relative to workers is going to change dramatically over the next 40 years. As can be clearly seen all the OECD countries are already at the bottom of the graph, with the exception of Korea which is just above Hong Kong. However Korea is a clear example of one of the world's most rapidly ageing societies and by 2052 only Japan will be lower representing a drop in the support ration from 6.2 in 2012 to 1.5 in 2052. Although this decline is extremely rapid there are other economies in the region with similar patterns emerging. For example, Viet Nam will decrease from 10.8 in 2012 to 2.5 in 2052 and given that the retirement age in Viet Nam is below 60 for women the proportion of pensioners to workers will be even lower. Generally the support ration values in the non-OECD economies in 2052 will be about one-third of their value in 2012.

Data for the population projections is available for 2010 to 2100 at five yearly intervals for those aged 65 and over. This therefore covers the eligible pensionable population in all but a few economies that have normal retirement beyond age 65. Unfortunately it obviously under-estimates the pension population for those economies that have pensions commencing at age 60, for example, though it is still an extremely useful tool in any modelling exercise.

The next two graphs show the age projection statistics, and to enable easier interpretation have been divided into OECD and Asia.

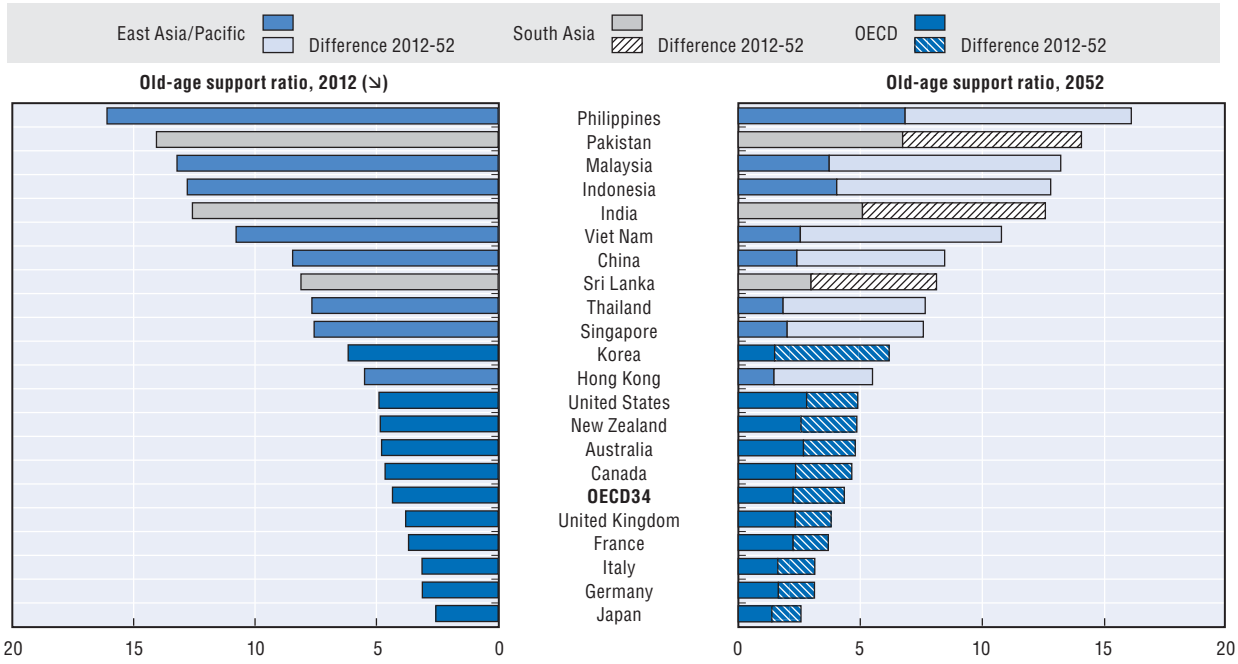
The second graph is for the OECD countries included in this report. Germany, Italy, Japan and Korea generally have the highest percentage across all the projected years, though after 2055 the proportion for these economies is in decline for the first three countries listed, from estimated highs of approximately 37%, for Japan and 33% for Germany and Italy, of the population being age 65 and over. In Korea the ageing process is rapid as highlighted above and Korea only ranks amongst the top OECD countries from around 2030 with the decline coming into effect after 2065. This is only to be expected because of the lower fertility rates that have been prevalent in these economies within the last few decades. All economies generally converge at approximately 30% of their population being aged at least 65 years in 2090, with the United States slightly lower at just below 27%.

The third graph covers the non-OECD economies. An increasing elderly population is the highlight of this picture, with the proportion in Pakistan increasing more than five-fold over the 90 year period. A similar pattern occurs across the other non-OECD Asian economies with the proportion of people aged 65 and over estimated to at least treble in virtually every economy between 2010 and 2100. After the projection period it is clear that estimates indicate at least 20% of the population will be aged 65 and over in all the Asian economies. In fact by 2100 over 40% of the population in Singapore are estimated to be aged over 65 making it by far the highest of any of the countries covered. This means that the majority of non-OECD economies will be directly comparable with most OECD countries. As the retirement ages in the non-OECD economies are currently generally lower than those within the OECD then the proportion of pensioners in Asia will be considerably higher than within the OECD if the current systems remain in place.

When these results are considered alongside the coverage material it becomes evident that unless the issue of coverage is addressed quickly, the scale of the problem is going to increase dramatically. As the percentage of the population of pensionable age continues to increase then the necessity to provide support for them also increases. This places further pressure on national governments to act sooner rather than later to increase the coverage of the mandatory pension schemes. If action is not taken in the short term it may spiral out of control and become unmanageable.

1.16. Old-age support ratio, 2012 and 2052

In years

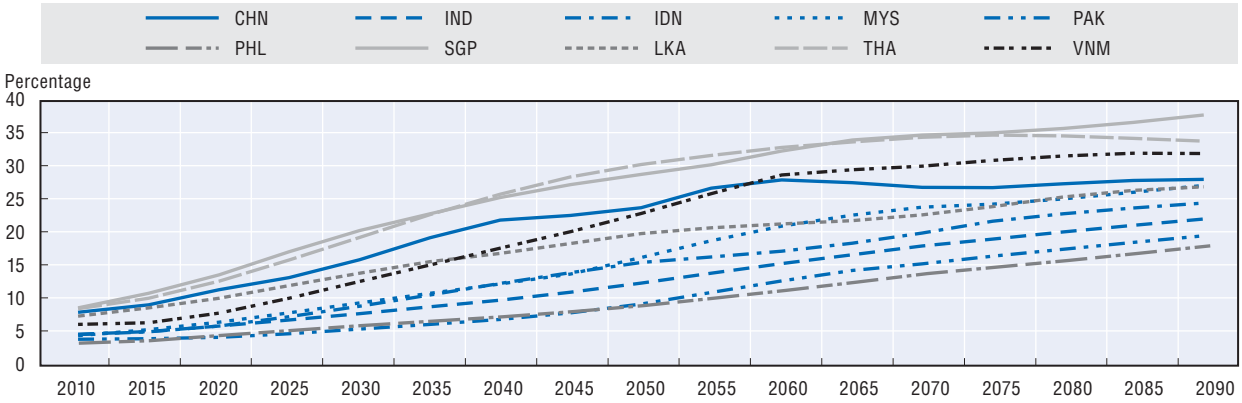


Note: The old-age support ratio is defined as the number of the population aged 15-64 per member of the population aged 65+.

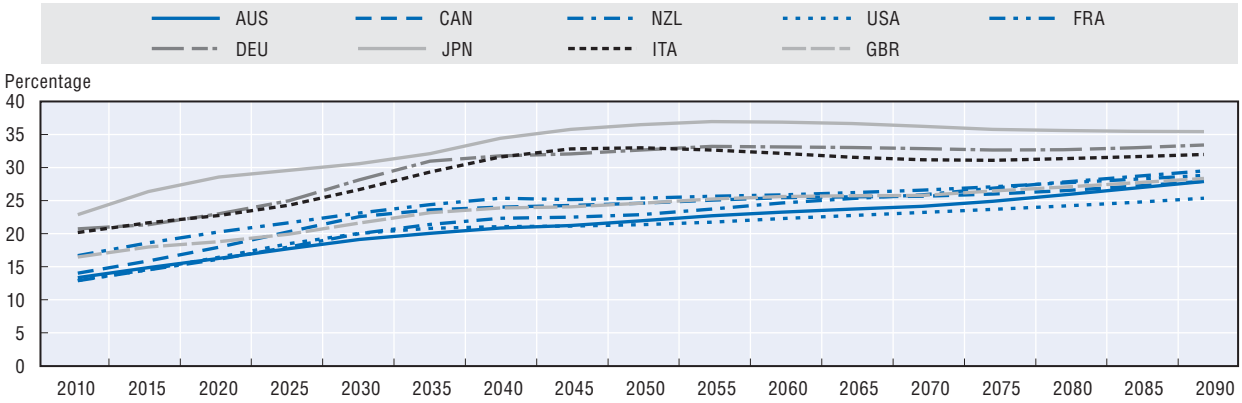
StatLink http://dx.doi.org/10.1787/888932905001

1.17. Pensioner population projections

Projected percentage of population aged 65 and over (Asian economies)



Projected percentage of population aged 65 and over (OECD countries)



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Chapter 2

Pensions at a glance Asia/Pacific: Economy studies

This chapter provides detailed background information on each of the 11 non-OECD economies' retirement-income arrangements. These include pension eligibility ages and other qualifying conditions; the rules for calculating benefit entitlements; the treatment of early and late retirees. The economy studies summarise the national results in standard charts and tables. The country chapters for the OECD countries included can be found in the latest Pensions at a Glance *report.*

Introduction

The economy studies follow a standard schema. First, there is a detailed description of the rules and parameters of the pension schemes:

- Qualifying conditions: pension eligibility (or "retirement") age and years of contributions required to receive a pension.
- Benefit calculation: the rules for each of the schemes making up the pension system, such as earnings-related schemes, mandatory private plans and resource-tested schemes.
- Early and late retirement: the rules and conditions under which workers can retire early or continue to work beyond the standard retirement age.
- Treatment of pensioners under the personal income tax and social security contributions, including any relief for pension income.

Values of all pension parameters and other relevant figures, such as minimum wages, are given in the national currencies as a proportion of average earnings.

A summary results table gives expected relative pension values, replacement rates and pension wealth at different individual levels of earnings for mandatory pension schemes. (See Chapter 1 of this report for the definition and measurement of the different indicators.) These are given in both gross and net terms (the latter taking account of taxes and contributions paid when working and when drawing the pension).

Summary charts show the breakdown of the gross relative pension value into the different components of the pension scheme (the first row of the charts). As far as possible, the same terminology is used to describe these schemes. The particular national scheme that is described can be found in the text of the economy study. Some standard abbreviations are used in the legends of the charts:

- SA: social assistance.
- Targeted: separate resource-tested schemes for older people.
- Minimum: a minimum pension within an earnings-related scheme.
- Basic: a pension based only on number of years of coverage or residency.
- Earnings-related: all public earnings-related programmes, including notional accounts and points schemes as well as traditional defined-benefit plans.
- DC: defined contribution, mandatory private plans.
- Occupational: mandatory pensions, which can be provided by employers, industry-wide schemes, profession-based schemes or publicly.

The second row of economy charts shows the effect of personal income taxes and social security contributions on relative pension values and replacement rates, giving the gross and net values. The final row of economy charts shows, for reference, the taxes and contributions paid by pensioners and workers. This illustrates the source of any

concessions to older people in these systems since the values are shown for workers and pensioners with the same income. The effect of taxes and contributions on net replacement rates is more complex than illustrated here. Since replacement rates are usually less than 100%, the normal progressivity of the tax system means that people tend to pay fewer taxes when retired regardless of any concessions.

The final row also shows the sources of the net replacement rate. In addition to the components of the pension system shown in the first two charts, this includes the effect of taxes and contributions. This is computed using results of the tax models on the amount of taxes paid on earnings of a particular level and the amount of taxes due on the pension entitlement calculated for someone earning at that level.

The charts use a standard scale to ease comparisons between economies: the scale for replacement rates runs to 125% while that for relative pension values runs to 2.5 times average earnings. In some cases, pension benefits exceed these maxima and so the measure has been capped at these levels.

Additional Asia specific information

Specifically for this regional version of the *Pensions at a Glance* series we have also added alternative career scenarios to try and be more realistic to the situation that actually occurs within the Asian economies. Where possible we have modelled career lengths of 30 and 40 years using the OECD economic assumptions in addition to the standard national retirement age table. In addition we have also modelled these different career lengths using economy specific assumptions were appropriate, or different pension structure for Singapore.

China

China: Pension system in 2012

China has a two-tier pension system, consisting of a basic pension and a mandatory employee contribution to a second-tier plan. This system, which was introduced in 1998, was significantly revised in 2006. It covers urban workers and many of the parameters depend on province-wide (rather than national) average earnings.

Key indicators

		China	OECD
Average earnings	CNY	46 800	266 100
	USD	7 500	42 700
Public pension spending	% of GDP	3.0	7.8
Life expectancy	At birth	75.3	79.9
	At age 65	15.6	19.1
Population over age 65	% of working-age population	11.8	23.0

StatLink http://dx.doi.org/10.1787/888932905039

Qualifying conditions

Normal pension age is 60 for men, 50 for women blue collar, and 55 for women white collar.

Benefit calculation

Basic

The basic pension pays 1% of the average of the indexed individual wage and the province-wide average earnings for each year of coverage, subject to a minimum of 15 years of contributions. The pension in payment is indexed to a mix of wages and prices, which may be between 40% and 60% of average earnings growth. The modelling assumes 50% indexation to wages.

Defined contribution (funded or notional accounts)

The second-tier system comprises individual accounts. In addition to the north-eastern provinces (Liaoning, Jilin and Heilongjiang), a further eight have funded individual account systems. In other cases, the accounts are largely notional and are credited with a notional interest rate.

Employees pay 8% of wages to the individual account system. The accumulated balance in the fund or the notional account is converted into a stream of pension payments at the time of retirement by dividing the balance by a government-determined annuity factor, depending on individual retirement age and average national life expectancy. In all provinces, these annuity factors for both males and females (for monthly benefits) are:

Age	40	45	50	55	60	65	70
Factor	233	216	195	170	139	101	56

Pensions in payment are indexed to a mix of wages and prices (see the description of the basic pension above).

Variant careers

Early retirement

It is possible to claim pensions at 55 for men and 50 for women if the individual engaged in physical work. If the individual is totally disabled, pensions will commence at 50 for men and 45 for women subject to 15 years of contributions.

Late retirement

It is possible to defer pension payments until after normal pension age, but the pension benefit is not valorised.

Personal income tax and social security contributions

Taxation of workers

There is a standard income-tax allowance of CNY 42 000. Employees are allowed to deduct social insurance contribution and housing fund contribution to calculate taxable income.

Taxation of worker's income

Individual income tax rates (applicable to income from wages and salaries)

Grade	Monthly taxable income	Tax rate (%)
1	Less than CNY 1 500	3
2	The portion of income in excess of CNY 1 500 to CNY 4 500	10
3	The portion of income in excess of CNY 4 500 to CNY 9 000	20
4	The portion of income in excess of CNY 9 000 to CNY 35 000	25
5	The portion of income in excess of CNY 35 000 to CNY 55 000	30
6	The portion of income in excess of CNY 55 000 to CNY 80 000	35
7	The portion of income in excess of CNY 80 000	45

Social security contributions payable by workers

Under the revised system, employers contribute a maximum of 20% of earnings to cover the basic pension. The second-tier pension is financed by an 8% contribution from employees. These contributions are capped at an earnings level of three times the local average wage. The social security contributions to individual accounts are exempt from income taxes.

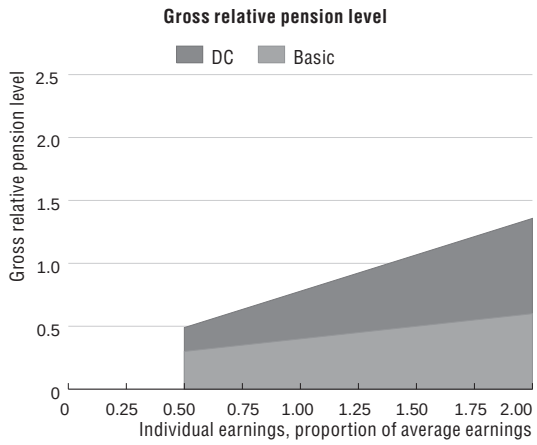
Taxation of pensioners

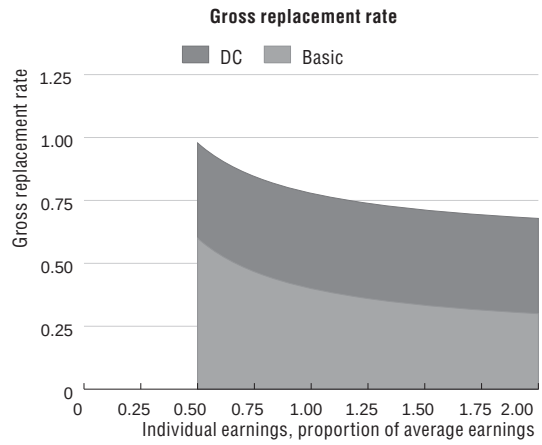
There is no additional tax relief for pensioners.

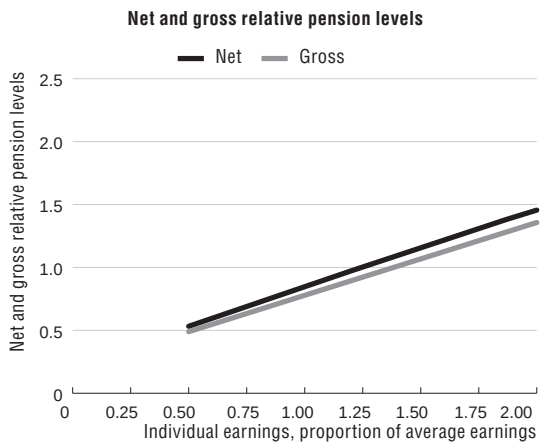
Social security contributions payable by pensioners

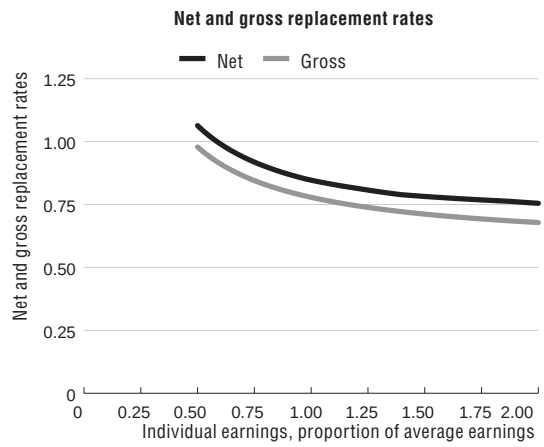
Pensioners do not pay any social security contributions.

Pension modelling results: China









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	66.9	48.9	63.4	77.9	106.8	135.7
(% average gross earnings)	52.7	39.2	50.1	61.0	82.7	104.5
Net relative pension level	72.7	53.2	69.0	84.7	115.6	145.5
(% net average earnings)	57.4	42.7	54.5	66.3	90.0	113.2
Gross replacement rate	82.5	97.9	84.5	77.9	71.2	67.9
(% individual gross earnings)	65.1	78.5	66.8	61.0	55.2	52.2
Net replacement rate	89.7	106.4	91.9	84.7	78.2	75.5
(% individual net earnings)	70.8	85.3	72.6	66.3	60.9	58.7
Gross pension wealth	16.1	19.1	16.5	15.2	13.9	13.3
(multiple of individual gross earnings)	16.3	19.7	16.8	15.3	13.8	13.1
Net pension wealth	16.1	19.1	16.5	15.2	13.9	13.1
(multiple of individual gross earnings)	16.3	19.7	16.8	15.3	13.8	13.0

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Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	66.9	48.9	63.4	77.9	106.8	135.7
(% average gross earnings)	61.3	45.5	58.2	71.0	96.4	121.9
Net relative pension level	72.7	53.2	69.0	84.7	115.6	145.5
(% net average earnings)	66.6	49.5	63.3	77.2	104.7	131.5
Gross replacement rate	82.5	97.9	84.5	77.9	71.2	67.9
(% individual gross earnings)	75.6	91.0	77.6	71.0	64.3	61.0
Net replacement rate	89.7	106.4	91.9	84.7	78.2	75.5
(% individual net earnings)	82.2	98.9	84.4	77.2	70.8	68.2
Gross pension wealth	16.1	19.1	16.5	15.2	13.9	13.3
(multiple of individual gross earnings)	19.0	22.8	19.5	17.8	16.1	15.3
Net pension wealth	16.1	19.1	16.5	15.2	13.9	13.1
(multiple of individual gross earnings)	19.0	22.8	19.5	17.8	16.1	15.2
30 year career under OECD economic assumptions						
Gross relative pension level	48.3	35.6	45.9	56.2	76.8	97.3
(% average gross earnings)	44.5	33.2	42.3	51.4	69.6	87.8
Net relative pension level	52.6	38.7	49.9	61.1	83.5	105.6
(% net average earnings)	48.4	36.1	46.0	55.9	75.7	95.5
Gross replacement rate	59.7	71.2	61.2	56.2	51.2	48.7
(% individual gross earnings)	54.9	66.4	56.4	51.4	46.4	43.9
Net replacement rate	64.9	77.4	66.5	61.1	56.5	54.8
(% individual net earnings)	59.7	72.2	61.3	55.9	51.2	49.5
Gross pension wealth	11.7	13.9	12.0	11.0	10.0	9.5
(multiple of individual gross earnings)	13.8	16.7	14.1	12.9	11.6	11.0
Net pension wealth	11.7	13.9	12.0	11.0	10.0	9.5
(multiple of individual gross earnings)	13.8	16.7	14.1	12.9	11.6	11.0

StatLink http://dx.doi.org/10.1787/888932905077

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	58.6	43.8	55.7	67.6	91.4	115.3
(% average gross earnings)	54.5	41.3	51.9	62.6	83.9	105.2
Net relative pension level	63.7	47.7	60.6	73.6	99.4	124.5
(% net average earnings)	59.3	44.9	56.5	68.1	91.2	113.9
Gross replacement rate	72.3	87.6	74.3	67.6	61.0	57.6
(% individual gross earnings)	67.3	82.6	69.3	62.6	55.9	52.6
Net replacement rate	78.6	95.2	80.8	73.6	67.3	64.6
(% individual net earnings)	73.1	89.8	75.3	68.1	61.7	59.1
Gross pension wealth	20.2	24.5	20.8	18.9	17.0	16.1
(multiple of individual gross earnings)	26.6	32.7	27.4	24.8	22.1	20.8
Net pension wealth	20.2	24.5	20.8	18.9	17.0	16.0
(multiple of individual gross earnings)	26.6	32.7	27.4	24.8	22.1	20.7
30 year career under economy specific assumptions						
Gross relative pension level	43.9	32.9	41.8	50.7	68.6	86.4
(% average gross earnings)	40.9	31.0	39.0	46.9	62.9	78.9
Net relative pension level	47.8	35.7	45.5	55.2	74.6	94.0
(% net average earnings)	44.5	33.7	42.4	51.1	68.4	85.8
Gross replacement rate	54.2	65.7	55.7	50.7	45.7	43.2
(% individual gross earnings)	50.5	61.9	51.9	46.9	41.9	39.4
Net replacement rate	59.0	71.4	60.6	55.2	50.5	48.8
(% individual net earnings)	54.8	67.3	56.5	51.1	46.3	44.5
Gross pension wealth	15.2	18.4	15.6	14.2	12.8	12.1
(multiple of individual gross earnings)	20.0	24.5	20.6	18.6	16.6	15.6
Net pension wealth	15.2	18.4	15.6	14.2	12.8	12.1
(multiple of individual gross earnings)	20.0	24.5	20.6	18.6	16.6	15.6

Notes: Real earnings: 12% per year converging steadily to 2%, giving an average of 7%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 10.5% per year converging steadily to 3.5%, giving an average of 7%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905096

Hong Kong, China

Hong Kong: Pension system in 2012

The Mandatory Provident Fund (MPF) system is an employment-based retirement protection system. Except for exempt persons, employees and self-employed persons who are at least 18 but under 65 years of age are required to join an MPF scheme. MPF schemes are, privately managed, fully funded defined-contribution schemes.

Key indicators

		Hong Kong, China	OECD
Average earnings	HKD	157 800	331 000
	USD	20 400	42 700
Public pension spending	% of GDP		7.0
Life expectancy	At birth	83.3	79.9
	At age 65	21.2	19.1
Population over age 65	% of working-age population	18.2	23.0

StatLink http://dx.doi.org/10.1787/888932905115

Qualifying conditions

Withdrawal of accrued benefits from the MPF System is allowed when scheme members reach the retirement age of 65.

Benefit calculation

Defined contribution

Employees and employers who are covered by the MPF System are each required to make regular mandatory contributions calculated at 5% of the employee's relevant income to an MPF scheme, subject to the minimum and maximum relevant income levels. For a monthly paid employee, the minimum and maximum relevant income levels are HKD 6 500 and HKD 25 000 respectively.

Monthly relevant income	Mandatory contributions	
	Employer portion	Employee portion
Less than HKD 6 500	Relevant income x 5%	No contributions required
HKD 6 500-HKD 25 000	Relevant income x 5%	Relevant income x 5%
More than HKD 25 000	HKD 1 250	HKD 1 250

Self-employed persons who are covered by the MPF System must make regular mandatory contributions calculated at 5% of their relevant income to an MPF scheme, subject to the minimum and maximum relevant income levels.

The current maximum relevant income level of HKD 25 000 per month applies to contribution periods commencing on or after 1 June 2012. The applicable maximum relevant income level and the amount of mandatory contributions payable were HKD 20 000 and HKD 1 000 per month respectively prior to 1 June 2012.

Accrued benefits in the MPF System are withdrawn in a lump sum when scheme members reach the retirement age of 65.

For comparison with other countries, for replacement rate purposes the pension is shown as a price-indexed annuity based on sex-specific mortality rates.

Targeted/Basic

The old-age allowance has two levels. Normal Old Age Allowance (NOAA) is means-tested and provided to those between 65 and 69. For a single person, the asset limit is HKD 186 000 and monthly income limit is HKD 6 660 (after which benefits are withdrawn). Limits for married couples are higher (HKD 281 000 and HKD 10 520, respectively). The full benefit is HKD 1 090 per month, which is about 8.3% of average earnings.

Higher older age allowance (HOAA) is for those aged 70 and above. It is a basic plan paying a flat amount of HKD 1 090 per month with no claw-back. Again, there is no formal indexation rule, so the modelling assumes price indexation.

Variant careers

Early retirement

For the MPF System, there are circumstances under which accrued benefits may be paid before members reach the age of 65, provided that specified conditions can be met. These circumstances are:

- early retirement at the age of 60;
- permanent departure from Hong Kong;
- total incapacity;
- a small balance account of HKD 5 000 or less, and no contributions have been made to an MPF scheme for 12 months and the member has no intention to become employed or self-employed within the foreseeable future; or
- death (the accrued benefits will be regarded as part of the member's estate to be claimed by the personal representative of the estate).

However, the targeted/basic programme does not provide benefits until 65.

Late retirement

It is possible to combine working and receiving pension. For the MPF System, upon reaching age 65, if an individual continues to work, no further mandatory contributions will be required and the individual may withdraw the benefits derived from mandatory contributions.

Personal income tax and social security contributions

Taxation of workers

Employees can claim tax deductions for their mandatory contributions made to an MPF scheme, subject to the maximum amount as follows:

- HKD 14 500 for the year of assessment 2012-13; and
- HKD 15 000 for the year of assessment 2013-14 and each subsequent year of assessment.

Any voluntary contributions made by employees are not tax deductible.

Taxation of worker's income

The lower of the following two tax rules are applied. The first rule is described in the following tax schedule. This is applied to taxable income (after deduction and allowance). The basic allowance for a single person in 2012 is HKD 120 000.

Annual taxable income (HKD)	Tax rate (%)
40 000	2
40 000-80 000	7
80 000-120 000	12
> 120 000	17

The second rule is a standard rate of 15% multiplied by assessable income after deductions but before allowances.

Social security contributions payable by workers

The information of mandatory contributions made by employees and self-employed persons to the MPF System are provided in the section "Defined contribution" above.

Taxation of pensioners

There is no additional tax relief for pensioners.

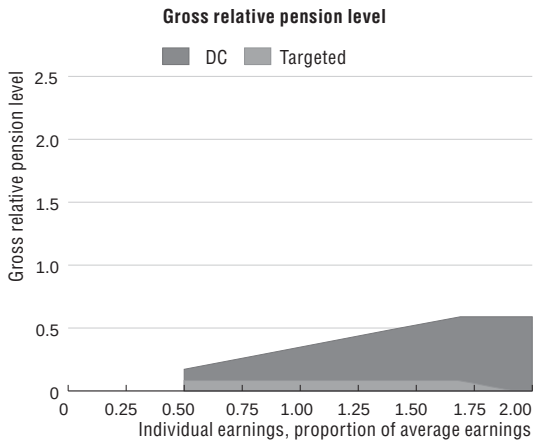
Taxation of pension income

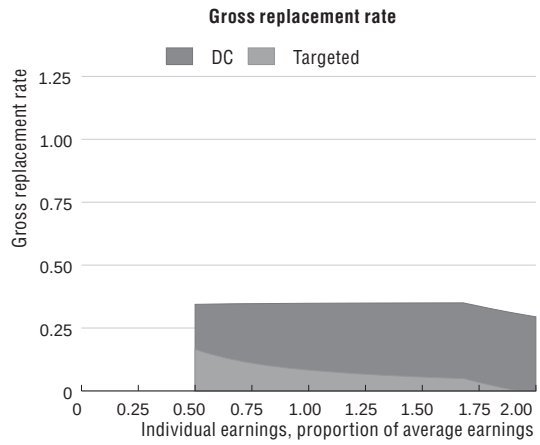
MPF benefits derived from mandatory contributions are not subject to tax on withdrawal (only lump-sum withdrawal is allowed).

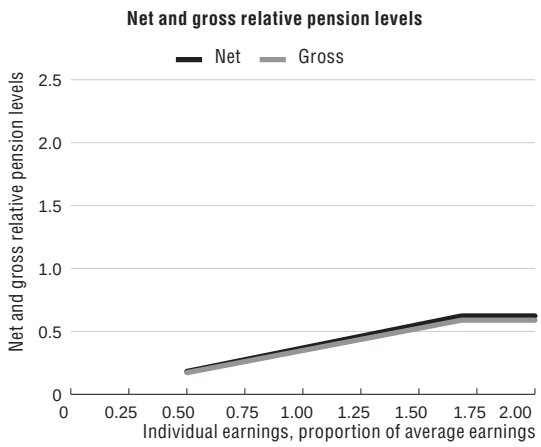
Social security contributions payable by pensioners

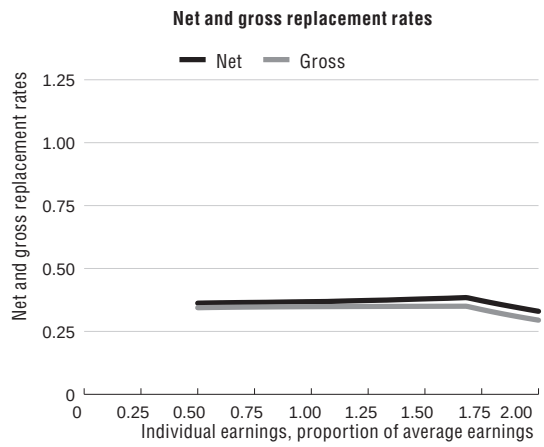
Employees and self-employed persons who are aged 65 or above are not required to join an MPF scheme.

Pension modelling results: Hong kong, China









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	28.1	17.2	26.0	34.8	52.5	58.9
(% average gross earnings)	25.7	16.1	23.8	31.5	47.0	
Net relative pension level	29.7	18.2	27.5	36.8	55.5	62.3
(% net average earnings)	27.1	17.0	25.2	33.3	49.7	
Gross replacement rate	34.7	34.4	34.7	34.8	35.0	29.5
(% individual gross earnings)	31.7	32.2	31.8	31.5	31.3	
Net replacement rate	36.6	36.2	36.5	36.8	37.9	33.0
(% individual net earnings)	33.4	33.9	33.4	33.3	34.0	
Gross pension wealth	6.3	6.3	6.3	6.3	6.4	5.4
(multiple of individual gross earnings)	6.6	6.7	6.6	6.6	6.5	6.1
Net pension wealth	6.3	6.3	6.3	6.3	6.4	5.4
(multiple of individual gross earnings)	6.6	6.7	6.6	6.6	6.5	6.1

StatLink http://dx.doi.org/10.1787/888932905134

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	25.2	15.9	23.4	30.9	46.0	58.0
(% average gross earnings)	23.1	15.0	21.5	28.1	41.3	51.9
Net relative pension level	26.6	16.8	24.7	32.7	48.6	61.3
(% net average earnings)	24.4	15.8	22.8	29.7	43.6	54.8
Gross replacement rate	31.1	31.8	31.2	30.9	30.6	29.0
(% individual gross earnings)	28.5	29.9	28.7	28.1	27.5	25.9
Net replacement rate	32.8	33.5	32.9	32.7	33.2	32.5
(% individual net earnings)	30.0	31.5	30.2	29.7	29.9	29.0
Gross pension wealth	5.7	5.8	5.7	5.6	5.6	5.3
(multiple of individual gross earnings)	5.9	6.2	6.0	5.9	5.7	5.4
Net pension wealth	5.7	5.8	5.7	5.6	5.6	5.3
(multiple of individual gross earnings)	5.9	6.2	6.0	5.9	5.7	5.4
30 year career under OECD economic assumptions						
Gross relative pension level	20.0	13.5	18.7	23.9	34.3	42.7
(% average gross earnings)	18.5	12.9	17.4	22.0	31.1	38.4
Net relative pension level	21.1	14.3	19.8	25.3	36.3	45.1
(% net average earnings)	19.6	13.6	18.4	23.3	32.9	40.6
Gross replacement rate	24.7	27.1	25.0	23.9	22.9	21.3
(% individual gross earnings)	22.9	25.8	23.3	22.0	20.7	19.2
Net replacement rate	26.0	28.5	26.3	25.3	24.8	23.9
(% individual net earnings)	24.1	27.1	24.5	23.3	22.5	21.5
Gross pension wealth	4.5	4.9	4.6	4.4	4.2	3.9
(multiple of individual gross earnings)	4.8	5.4	4.8	4.6	4.3	4.0
Net pension wealth	4.5	4.9	4.6	4.4	4.2	3.9
(multiple of individual gross earnings)	4.8	5.4	4.8	4.6	4.3	4.0

StatLink http://dx.doi.org/10.1787/888932905153

India

India: Pension system in 2012

Workers are covered under the earnings-related employee pension scheme and defined-contribution employee provident fund administered by the Employees Provident Fund Organization (EPFO) and other employer managed funds. Civil Employees of Central Government who have joined services on or after 1 January 2004 are covered under the Defined Contribution based New Pension System (NPS).

Key indicators

		India	OECD
Average earnings	INR	240 400	2 342 100
	USD	4 400	42 700
Public pension spending	% of GDP		7.8
Life expectancy	At birth	66.4	79.9
	At age 65	13.7	19.1
Population over age 65	% of working-age population	7.9	23.0

StatLink http://dx.doi.org/10.1787/888932905172

Qualifying conditions

Normal pension age for earnings-related pension scheme is 58 with minimum of ten years of contribution and for earnings-related provident fund schemes, it is 55 years.

Benefit calculation

Employees Provident Fund Scheme (EPF)

The employee contributes 12% of his monthly salary towards this fund and the employer matches this contribution. 3.67% of the employer's share goes towards the EPF. This combined 15.67% accumulates as a lump sum.

There is no annuity and full accumulations are paid on retirement from service after attaining 55 years of age. For comparison with other countries, for replacement rate purposes the pension is shown as a price-indexed annuity based on sex-specific mortality rates.

Employees Pension Scheme (EPS)

Of the 12% contribution payable by the employer as mentioned above, 8.33% is diverted to EPS and the Central Government contributes a subsidy of 1.17% of the salary into the EPS. This accumulation is used to pay various pension benefits on retirement or early termination. The kind of pension a member gets under the scheme depends upon the age at which they retire and the number of years of eligible service.

Monthly pension = (pensionable salary x pensionable service)/70

The maximum possible replacement rate is roughly 50%. To obtain the maximum benefit, a member would not only need to be in the scheme for 35 years, but would also need to opt for contributions at higher salary at the time of joining the scheme. This option cannot be exercised retrospectively. Otherwise, there is a ceiling to contributions of INR 6 500 per month.

Variant careers

Early retirement

The EPS can be claimed from age 50 with ten years of contribution and the benefits are reduced by 3% per year of early retirement. If a member leaves his job before rendering at least ten years of service, he is entitled to a withdrawal benefit. The amount he can withdraw is a proportion of his monthly salary at the date of exit from employment. This proportion depends on the number of years of eligible services he has rendered. No pension is payable in cases where there is a break in service before ten years.

In case of EPF, there are multiple scenarios which allow for early access to the accumulation. Partial withdrawals relate to marriage, housing advance, financing life insurance policy, illness of members/family members, withdrawals are also permitted one year before retirement etc. In addition to various permitted partial withdrawals, employees can close their account and withdraw the full corpus in case they move from one employer to another or decide to retire early.

No Gratuity can be claimed before five years of service.

Late retirement

It is not possible to delay claiming pension after normal pension age.

National Pension System (NPS)

In India, in the absence of a country-wide social security system (formal pension coverage being about 12% of the working population), while the ageing and social change are important considerations for introducing pension reform in the unorganised sector, fiscal stress of the defined-benefit pension system was the major factor driving pension reforms for employees in the organised public sector (government employees).

Introduction of the New Pension System

The government had introduced the New Pension System (NPS) from 1 January 2004 through a notification dated 22 December 2003 for new entrants to Central Government service, except to Armed Forces. The government has constituted an interim regulator, the Interim Pension Fund Regulatory and Development Authority (PFRDA) through a government resolution in October 2003. The design features of the New Pension System (NPS) are self-sustainability, scalability, individual choice, maximising outreach, low-cost yet efficient, and pension system based on sound regulation.

Establishment of Institutional Framework of NPS

The National Securities Depository Limited (NSDL) has been selected as the Central Record keeping and Accounting Agency (CRA) by PFRDA and has commenced operation. The contributions under NPS are now being sent to CRA. PFRDA has appointed three pension fund managers, a custodian and a trustee bank. The accumulation and contribution of subscribers of NPS, who are Central Government employees, are invested based on the investment guidelines prescribed for the non-government provident funds by the Ministry of Finance. However, the investment guidelines for NPS for all citizens have been prescribed by PFRDA and are available at *www.pfrda.org.in*.

Extension of NPS to State Governments, Autonomous Bodies and Un-organised Sector

NPS has also been extended to new segments (autonomous bodies, State Governments and unorganised sector). Twenty seven State Governments and Union Territories have notified adoption of NPS for their new employees. After receiving government's approval for extending the NPS to all citizens including the unorganised sector workers PFRDA has rolled out the NPS architecture for all citizens of the country on a voluntary basis from 1 May 2009.

In order to expand the reach of the NPS countrywide, Interim PFRDA invited the Department of Posts to join the NPS as a POP. The Department of Posts has been offering NPS at 807 branches as on 31 December 2011 but proposes to eventually extend its NPS network to all of its electronically connected branches. This will enable the Department of Posts to make NPS available within the easy reach of all citizens in the remotest corners of the country. Several new initiatives were started like:

1. Adding a second tier to the NPS that will serve as a savings account for the pension subscriber with effect from 1 December 2009;
2. Launch of Co-contributory Scheme NPS-Lite (Swavalamban*) – a low cost version of NPS meant to enrol people of lower economic strata like self help groups, affinity groups, etc.; and
3. Increasing the maximum entry age under the NPS to 60 years, as against the prevailing 55 years to enable more people to join the NPS.

Government's NPS Swavalamban initiative is an important initiative to test if co-contributions can motivate higher voluntary participation among low income unorganised workforce. Following the Central Government initiative, State Governments like Haryana and Karnataka have announced additional co-contributions over and above what Central Government has promised. Workers in these States can get up-to INR 2 200 annually as co-contribution.

National pension system status, March 2013

	Employer/sector	Number of subscribers	Corpus under NPS (in USD million)
1	Central Government	1 125 871	3 099
2	State Government	1 585 349	1 778
3	Private sector	202 679	228
4	NPS-Lite	1 579 690	75

* To encourage people from the unorganised sector to voluntarily save for their retirement and to lower the cost of operations of the New Pension System (NPS) for such subscribers, a co-contributory scheme called "Swavalamban", was launched on 1 April 2010 by the Central Government. The Scheme is to be administered by PFRDA. The Central Government contribute INR 1 000 per annum to members. Membership in the Swavalamban scheme is possible if the member is not a part of any statutory pension scheme of the government and if he or she contributes between INR 1 000 and INR 12 000 per annum. The Swavalamban Scheme is open until the financial year 2016-17. PFRDA expects that the Scheme will benefit about 7 million NPS subscribers of the unorganised sector during this period.

Personal income tax and social security contributions

Taxation of workers

Contribution to provident fund and pension scheme of EPFO and NPS are allowed as deduction from income while computing one's tax liability. Total deduction of up to INR 100 000 is applied to social security contribution. This limit also includes other contributions like life insurance premium, Public Provident Fund (Voluntary Scheme) among others.

Workers under NPS also get an additional tax deduction for their Employer's contribution into their account subject to a limit of 10% of their salary (Basic Salary + Dearness Allowance). This benefit, provided exclusively to NPS, is over and above the deduction of up to INR 100 000 mentioned above and is available from financial year 2011-12. However, this provision is more beneficial to workers in higher income group as they are likely to be better placed to lock additional savings into their NPS account and would save higher amount of tax at the maximum marginal rate of 30%.

Health insurance premium up to INR 15 000 is deductible (not included in the model). Transport allowance of INR 800 per month is exempted from taxation (included in the model).

Taxation of worker's income

India's financial years begins in April and below are the rates that apply for 2011.

Annual income from all sources (INR)	Income tax rates for:		Education cess (%)
	Male below 60 years (%)	Women below 60 years (%)	
Up to 180 000	Nil	Nil	Nil
180 001-190 000	10	Nil	3
190 001-500 000	10	10	3
500 001-800 000	20	20	3
800 001 and above	30	30	3

Taxation of pensioners

Health insurance premium of up to INR 20 000 is deductible for senior citizens over 65 years.

Taxation of pension income

Maturity benefits on account of provident fund and pension from EPFO are fully tax exempt. Lump-sum benefits and Periodic Annuity in case of NPS are taxable when the same is received. EPFO enjoys an EEE (exempt, exempt, exempt) regime where it is tax free during contribution, growth and withdrawal phase. NPS, on the other hand is under an EET (Exempt, Exempt and Tax) regime where maturity benefits are taxed. This is expected to change when the new proposed Direct Tax Code becomes effective. As NPS is still in infancy, the rule for taxation on withdrawal does not really have any impact as the withdrawal stage is still some years away even for the first set of subscribers. The following income tax rules apply to senior citizens over age 65. An education cess of 3% is charged on the total tax amount.

Annual income from all sources (INR)	Income tax rates for senior citizen		Education cess (%)
	Age between 60 years and 80 years (%)	Age above 80 years (%)	
Up to 250 000 (USD 4 545)	Nil	Nil	Nil
250 001-500 000 (USD 9 090)	10	Nil	3
500 001-800 000 (USD 14 545)	20	20	3
800 001 and above	30	30	3

Under the NPS, once a subscriber complete 60 years of age, he or she has to compulsorily purchase an annuity for an amount equal to minimum of 40% of the accumulated balance in the NPS account. One can also withdraw the money before completing 60 years of age, but in that case one will have to purchase an annuity utilising minimum of 80% of the accumulated corpus at the time of withdrawal.

In case of the untimely death of a NPS subscribe before completion of 60 years of age, the nominee may withdraw the corpus accumulated at the time of death of the account holder. The money received by the nominee or legal heirs is fully exempt.

Social security contributions payable by pensioners

Pensioners do not pay any social security contribution.

Taxation on Employers – with respect to their contribution to employee pension

Employers are allowed to deduct their contribution to scheme under the EPFO and the NPS as business expenditure, subject to the following conditions:

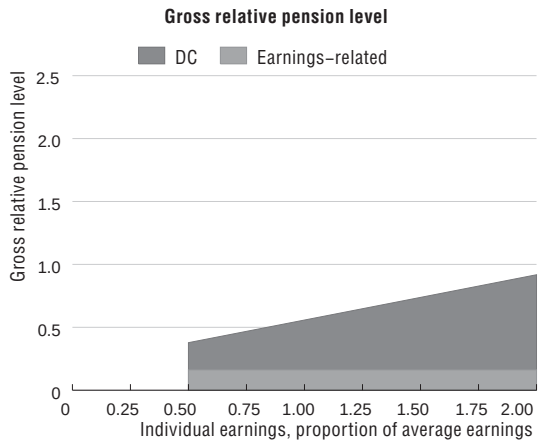
NPS

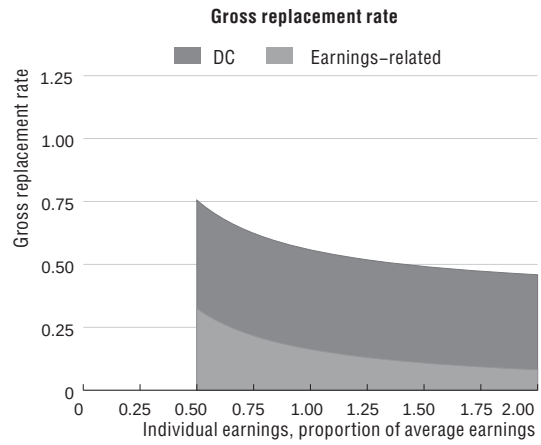
Employers have begun contribution towards their employees' NPS after the government allowed this is a deductible business expense from financial year 2011-12. Employer's contribution of up to 10% of Basic Salary and Dearness allowance is eligible for deduction. Most Employers ask for an annual contribution of at least INR 6 000 (once a year), or at least INR 500 a month. The Employer's contribution to NPS or EPF is not taxed in the hands of the employee.

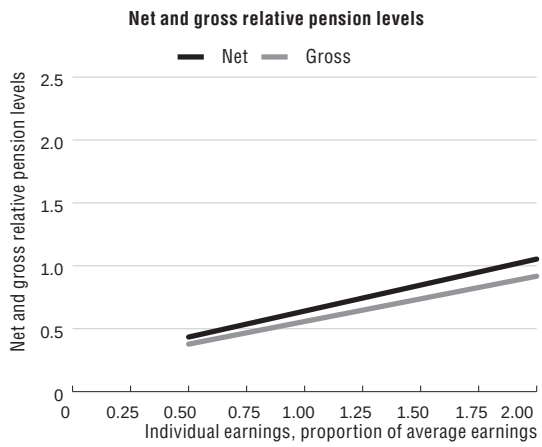
EPF and EPS

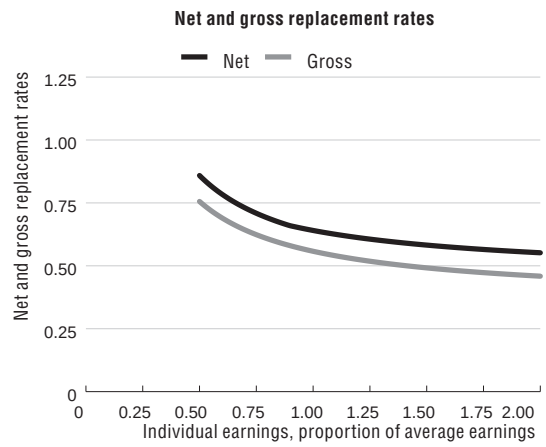
Employer contributions to EPF and EPS are exempt up-to 12% of Salary and allowed as business expenditure.

Pension modelling results: India









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	48.9	37.8	46.8	55.8	73.8	91.8
(% average gross earnings)	45.6	35.6	43.7	51.8	68.0	84.1
Net relative pension level	56.2	43.4	53.7	64.1	84.7	105.4
(% net average earnings)	52.2	40.7	49.9	59.2	77.7	96.2
Gross replacement rate	60.4	75.6	62.4	55.8	49.2	45.9
(% individual gross earnings)	56.3	71.2	58.3	51.8	45.3	42.1
Net replacement rate	68.7	85.9	70.9	64.1	58.2	55.2
(% individual net earnings)	64.0	80.9	66.2	59.2	53.5	50.5
Gross pension wealth	10.0	12.4	10.3	9.3	8.2	7.7
(multiple of individual gross earnings)	10.4	13.0	10.7	9.6	8.4	7.9
Net pension wealth	10.0	12.4	10.3	9.3	8.2	7.7
(multiple of individual gross earnings)	10.4	13.0	10.7	9.6	8.4	7.9

StatLink http://dx.doi.org/10.1787/888932905191

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	51.2	39.3	48.9	58.6	77.8	97.1
(% average gross earnings)	47.7	37.0	45.6	54.3	71.6	88.9
Net relative pension level	58.8	45.1	56.2	67.2	89.3	111.5
(% net average earnings)	54.5	42.2	52.1	62.0	81.8	101.6
Gross replacement rate	63.3	78.6	65.2	58.6	51.9	48.5
(% individual gross earnings)	58.9	73.9	60.8	54.3	47.7	44.4
Net replacement rate	71.9	89.3	74.1	67.2	61.4	58.4
(% individual net earnings)	66.9	84.0	69.1	62.0	56.3	53.3
Gross pension wealth	10.5	12.9	10.8	9.8	8.7	8.2
(multiple of individual gross earnings)	10.9	13.5	11.2	10.1	8.9	8.3
Net pension wealth	10.5	12.9	10.8	9.8	8.7	8.2
(multiple of individual gross earnings)	10.9	13.5	11.2	10.1	8.9	8.3
30 year career under OECD economic assumptions						
Gross relative pension level	38.1	29.9	36.5	43.2	56.5	69.8
(% average gross earnings)	35.7	28.2	34.2	40.2	52.2	64.1
Net relative pension level	43.8	34.3	41.9	49.6	64.9	80.1
(% net average earnings)	40.8	32.3	39.1	46.0	59.6	73.3
Gross replacement rate	47.1	59.7	48.7	43.2	37.7	34.9
(% individual gross earnings)	44.0	56.5	45.6	40.2	34.8	32.1
Net replacement rate	53.5	67.9	55.3	49.6	44.6	42.0
(% individual net earnings)	50.0	64.2	51.9	46.0	41.1	38.5
Gross pension wealth	7.8	9.8	8.0	7.2	6.3	5.9
(multiple of individual gross earnings)	8.1	10.3	8.4	7.4	6.5	6.0
Net pension wealth	7.8	9.8	8.0	7.2	6.3	5.9
(multiple of individual gross earnings)	8.1	10.3	8.4	7.4	6.5	6.0

StatLink http://dx.doi.org/10.1787/888932905210

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	46.3	36.1	44.4	52.6	69.2	85.8
(% average gross earnings)	43.3	34.1	41.5	49.0	63.8	78.7
Net relative pension level	53.2	41.4	50.9	60.4	79.5	98.5
(% net average earnings)	49.5	38.9	47.4	55.9	73.0	90.0
Gross replacement rate	57.2	72.1	59.1	52.6	46.1	42.9
(% individual gross earnings)	53.5	68.1	55.3	49.0	42.6	39.4
Net replacement rate	65.0	82.0	67.2	60.4	54.6	51.6
(% individual net earnings)	60.7	77.4	62.9	55.9	50.2	47.2
Gross pension wealth	9.5	11.8	9.8	8.7	7.7	7.2
(multiple of individual gross earnings)	9.8	12.4	10.2	9.0	7.9	7.3
Net pension wealth	9.5	11.8	9.8	8.7	7.7	7.2
(multiple of individual gross earnings)	9.8	12.4	10.2	9.0	7.9	7.3
30 year career under economy specific assumptions						
Gross relative pension level	35.6	28.2	34.1	40.1	52.0	63.9
(% average gross earnings)	33.4	26.7	32.1	37.4	48.2	58.9
Net relative pension level	40.8	32.4	39.2	46.0	59.7	73.4
(% net average earnings)	38.1	30.6	36.7	42.8	55.0	67.3
Gross replacement rate	43.9	56.4	45.5	40.1	34.7	32.0
(% individual gross earnings)	41.2	53.5	42.8	37.4	32.1	29.4
Net replacement rate	49.9	64.1	51.7	46.0	41.1	38.4
(% individual net earnings)	46.8	60.8	48.6	42.8	37.9	35.3
Gross pension wealth	7.2	9.2	7.5	6.6	5.8	5.4
(multiple of individual gross earnings)	7.6	9.7	7.8	6.9	6.0	5.5
Net pension wealth	7.2	9.2	7.5	6.6	5.8	5.4
(multiple of individual gross earnings)	7.6	9.7	7.8	6.9	6.0	5.5

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 4% per year going to 6% over 15 years before converging steadily to 3.5%, giving an average of 4.8%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905229

Indonesia

Indonesia: Pension system in 2012

Employees in private sectors are covered by defined-contribution plan.

Key indicators

		Indonesia	OECD
Average earnings	IDR (million)	16.1	418.5
	USD	1 600	42 700
Public pension spending	% of GDP		7.8
Life expectancy	At birth	70.8	79.9
	At age 65	14.1	19.1
Population over age 65	% of working-age population	7.8	23.0

StatLink http://dx.doi.org/10.1787/888932905248

Qualifying conditions

Normal pension age is 55. Retirement is not required. Any employees having reached age 55 with 15 years of contributions are qualified for a periodical pension benefit while those having less than 15 years qualify for a lump-sum payment.

Benefit calculation

Defined contribution

Employees in private sectors are covered by defined-contribution pension plans. In During 1993 to 2013 this refers to one of the Employees Social Security Programmes (*Jamsostek*) and in this case the *Jaminan Hari Tua* (JHT) or Old Age Security (OAS) based on Law No. 3 of 1992. The total contribution rate is 5.7% of wages. The JHT is a compulsory programme for all employees and the retired may opt for a partly lump sum, periodical until death and lump-sum payment. Employees contribute 2% of earnings and employers pay 3.7% of the payroll. Pension is paid in lump sum or payable monthly up to a maximum of five years if the balance is more than IDR 3 million. For comparison with other countries, for replacement rate purposes the pension is shown as a price-indexed annuity based on sex-specific mortality rates.

A new National Social Security System (NSSS) will be implemented on 1 July 2015 (Law No. 40: 2004). The new social security pension will be defined benefit and complement the defined-contribution scheme. The total contribution rate in the new defined-benefit scheme is proposed to be 8%. The benefit calculation is still undecided and therefore this benefit is not modelled.

NSSS Programme and contribution rates as of wages

No	Programmes	Shared contributions (%)			Remarks
		Employer	Employee	Total	
1	Health care	3	2.0	5.0	Proposed
2	Work accident	0.25-0.75	-	0.25-0.75	
3	Provident fund	3.7	2.0	5.7	Jamsostek
4	**Pension plan**	**5.0**	**3.0**	**8.0**	**Proposed**
5	Death benefit	0.3	-	0.3	Jamsostek
	Grand total	12.25-12.75	7.0	19.25-19.75	

Source: National Social Security Council (2012).

Variant careers

Early retirement

It is possible to start claiming pension at any age with a minimum of five years of contribution.

Late retirement

It is not possible to start claiming pension after normal pension age.

Personal income tax and social security contributions

Taxation of workers

There is a deduction of IDR 15 840 000 for a single individual. In addition, work-related expense is tax deductible and the amount is 5% of earnings up to a ceiling of IDR 6 000 000. There is also a tax deductible amount of 5% or up to IDR 2 400 000 for pension payments. Social security contribution is tax deductible.

Taxation of worker's income

Following table shows the tax rule applied to worker's income.

Annual income (IDR millions)	Tax rate (%)
Up to 50	5
Over 50 up to 250	15
Over 250 up to 500	25
Over 500	30

Social security contributions payable by workers

Employees contribute 2% of payroll to the pension plans.

Taxation of pensioners

There is no additional tax relief for pensioners.

Taxation of pension income

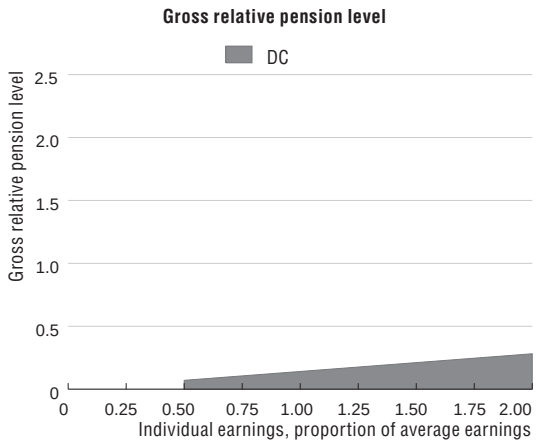
Following table shows the tax rule applied to pension income.

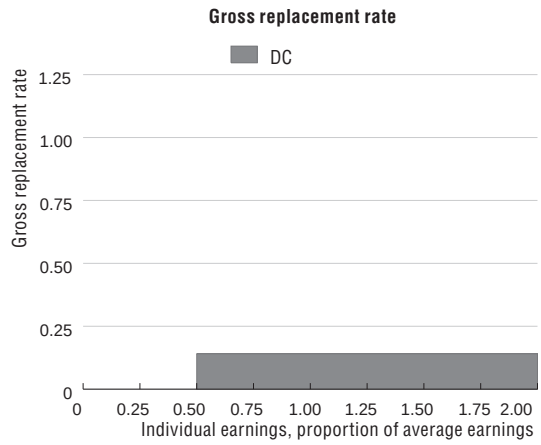
Annual income (IDR millions)	Tax rate (%)
Up to 25	Nil
Over 25 up to 50	5
Over 50 up to 100	10
Over 100 up to 200	15
Over 200	25

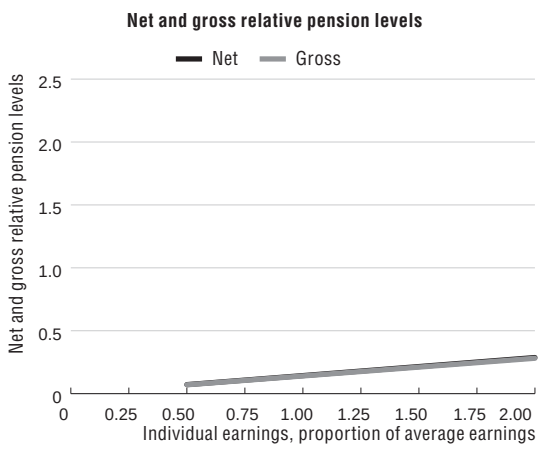
Social security contributions payable by pensioners

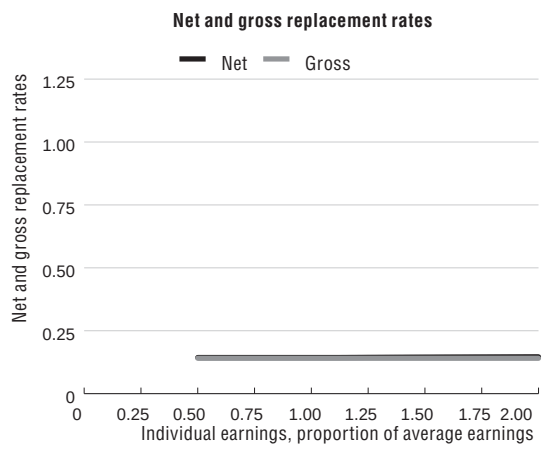
Pensioners do not pay any social security contributions.

Pension modelling results: Indonesia









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	11.4	7.0	10.6	14.1	21.1	28.1
(% average gross earnings)	10.5	6.5	9.7	13.0	19.4	25.9
Net relative pension level	11.6	7.2	10.8	14.4	21.5	28.7
(% net average earnings)	10.7	6.6	9.9	13.2	19.8	26.5
Gross replacement rate	14.1	14.1	14.1	14.1	14.1	14.1
(% individual gross earnings)	13.0	13.0	13.0	13.0	13.0	13.0
Net replacement rate	14.4	14.4	14.4	14.4	14.5	14.6
(% individual net earnings)	13.2	13.2	13.2	13.2	13.4	13.5
Gross pension wealth	2.6	2.6	2.6	2.6	2.6	2.6
(multiple of individual gross earnings)	2.6	2.6	2.6	2.6	2.6	2.6
Net pension wealth	2.6	2.6	2.6	2.6	2.6	2.6
(multiple of individual gross earnings)	2.6	2.6	2.6	2.6	2.6	2.6

StatLink http://dx.doi.org/10.1787/888932905267

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	13.6	8.4	12.6	16.8	25.1	33.5
(% average gross earnings)	12.5	7.7	11.6	15.4	23.2	30.9
Net relative pension level	13.8	8.5	12.8	17.1	25.6	34.2
(% net average earnings)	12.8	7.9	11.8	15.8	23.6	31.5
Gross replacement rate	16.8	16.8	16.8	16.8	16.8	16.8
(% individual gross earnings)	15.4	15.4	15.4	15.4	15.4	15.4
Net replacement rate	17.1	17.1	17.1	17.1	17.3	17.4
(% individual net earnings)	15.8	15.8	15.8	15.8	15.9	16.1
Gross pension wealth	3.1	3.1	3.1	3.1	3.1	3.1
(multiple of individual gross earnings)	3.1	3.1	3.1	3.1	3.1	3.1
Net pension wealth	3.1	3.1	3.1	3.1	3.1	3.1
(multiple of individual gross earnings)	3.1	3.1	3.1	3.1	3.1	3.1
30 year career under OECD economic assumptions						
Gross relative pension level	9.4	5.8	8.7	11.6	17.4	23.2
(% average gross earnings)	8.6	5.3	8.0	10.7	16.0	21.3
Net relative pension level	9.6	5.9	8.9	11.8	17.7	23.6
(% net average earnings)	8.8	5.4	8.2	10.9	16.3	21.8
Gross replacement rate	11.6	11.6	11.6	11.6	11.6	11.6
(% individual gross earnings)	10.7	10.7	10.7	10.7	10.7	10.7
Net replacement rate	11.8	11.8	11.8	11.8	12.0	12.1
(% individual net earnings)	10.9	10.9	10.9	10.9	11.0	11.1
Gross pension wealth	2.2	2.2	2.2	2.2	2.2	2.2
(multiple of individual gross earnings)	2.2	2.2	2.2	2.2	2.2	2.2
Net pension wealth	2.2	2.2	2.2	2.2	2.2	2.2
(multiple of individual gross earnings)	2.2	2.2	2.2	2.2	2.2	2.2

StatLink http://dx.doi.org/10.1787/888932905286

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	13.6	8.4	12.6	16.8	25.1	33.5
(% average gross earnings)	12.5	7.7	11.6	15.4	23.2	30.9
Net relative pension level	13.8	8.5	12.8	17.1	25.6	34.2
(% net average earnings)	12.8	7.9	11.8	15.8	23.6	31.5
Gross replacement rate	16.8	16.8	16.8	16.8	16.8	16.8
(% individual gross earnings)	15.4	15.4	15.4	15.4	15.4	15.4
Net replacement rate	17.1	17.1	17.1	17.1	17.3	17.4
(% individual net earnings)	15.8	15.8	15.8	15.8	15.9	16.1
Gross pension wealth	3.1	3.1	3.1	3.1	3.1	3.1
(multiple of individual gross earnings)	3.1	3.1	3.1	3.1	3.1	3.1
Net pension wealth	3.1	3.1	3.1	3.1	3.1	3.1
(multiple of individual gross earnings)	3.1	3.1	3.1	3.1	3.1	3.1
30 year career under economy specific assumptions						
Gross relative pension level	9.4	5.8	8.7	11.6	17.4	23.2
(% average gross earnings)	8.6	5.3	8.0	10.7	16.0	21.3
Net relative pension level	9.6	5.9	8.9	11.8	17.7	23.6
(% net average earnings)	8.8	5.4	8.2	10.9	16.3	21.8
Gross replacement rate	11.6	11.6	11.6	11.6	11.6	11.6
(% individual gross earnings)	10.7	10.7	10.7	10.7	10.7	10.7
Net replacement rate	11.8	11.8	11.8	11.8	12.0	12.1
(% individual net earnings)	10.9	10.9	10.9	10.9	11.0	11.1
Gross pension wealth	2.2	2.2	2.2	2.2	2.2	2.2
(multiple of individual gross earnings)	2.2	2.2	2.2	2.2	2.2	2.2
Net pension wealth	2.2	2.2	2.2	2.2	2.2	2.2
(multiple of individual gross earnings)	2.2	2.2	2.2	2.2	2.2	2.2

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905305

Malaysia

Malaysia: Pension system in 2012

Private sector employees and non-pensionable public sector employees contribute to the provident fund.

Key indicators

		Malaysia	OECD
Average earnings	MYR	30 900	130 600
	USD	10 100	42 700
Public pension spending	% of GDP		7.8
Life expectancy	At birth	75.0	78.9
	At age 65	15.3	19.1
Population over age 65	% of working-age population	7.6	23.0

StatLink http://dx.doi.org/10.1787/888932905324

Qualifying conditions

Normal pension age is 55.

Benefit calculation

Defined contribution

Employees pay 11% of monthly earnings to the provident fund according to wage classes, when aged up to age 55, and 5.5% between age 55 and 75. Employers pay 13% of monthly earnings according to wage classes, for employees up to 55 years of age and earning under RM 5 000 per month, and 12% for earnings above RM 5 000 per month. Employer contributions are 6.5% and 6% respectively, between ages 55 and 75, for those earning under and above RM 5 000 per month. Minimum monthly earnings for the contribution are MYR 10 and there is no ceiling for the contribution. Insured persons can make voluntary additional contributions. The contribution is made to two different accounts: 70% of contribution to Account 1 and 30% to Account 2. It is possible to receive pension in a lump sum, monthly instalments or a combination of both. The minimum total amount to be paid in monthly instalments is RM 250 with the minimum period being 12 months, with a minimum withdrawal at any time of at least MYR 2 000, or a combination of these options. For comparison with other countries, for replacement rate purposes the pension is shown as a price-indexed annuity based on sex-specific mortality rates.

Variant careers

Early retirement

It is possible to withdraw savings before age 55 from Account 2.

Late retirement

It is possible to defer retirement and continue to make contributions after normal pension age.

Personal income tax and social security contributions

Taxation of workers

The mandatory and voluntary provident fund contributions up to RM 5 000 a month are tax deductible. Employees below age 55 earning RM 2 000 or less a month and casual workers need to be covered by social insurance. The insurance does not cover old-age pension, but disability, survivor and other pensions and grants. The contribution rate is 0.5% of monthly earnings based on 24 wage classes. Social insurance contributions are tax deductible.

Taxation of worker's income

Individual income tax rate ranges from 1% to 26% with seven income brackets.

Chargeable income	MYR	Rate (%)	Tax (MYR)
On the first	2 500	0	0
On the next	2 500	1	25
On the next	15 000	3	450
On the next	15 000	7	1 050
On the next	15 000	12	1 800
On the next	20 000	19	3 800
On the next	30 000	24	7 200
Exceeding	100 000	26	-

Social security contributions payable by workers

Employees contribute 11% of monthly earnings to the pension scheme.

Taxation of pensioners

There is no additional tax relief for pensioners.

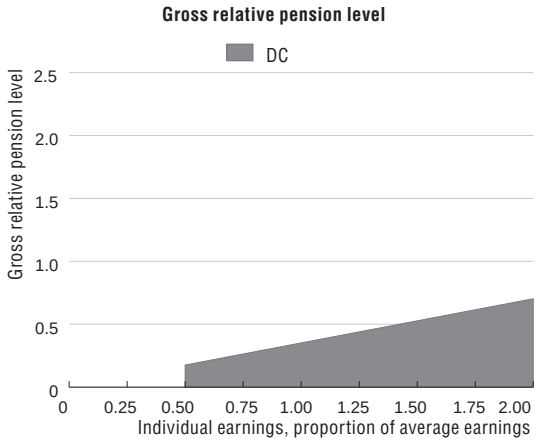
Taxation of pension income

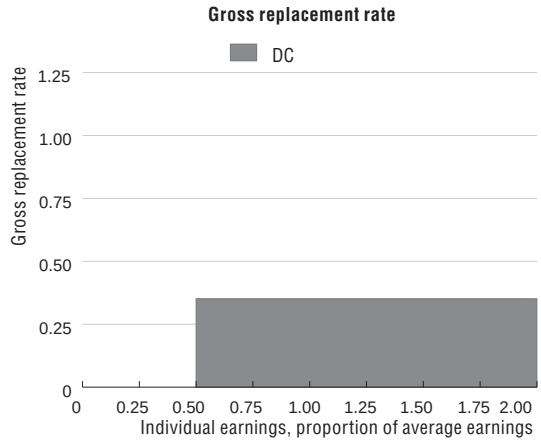
Pension income is tax exempted.

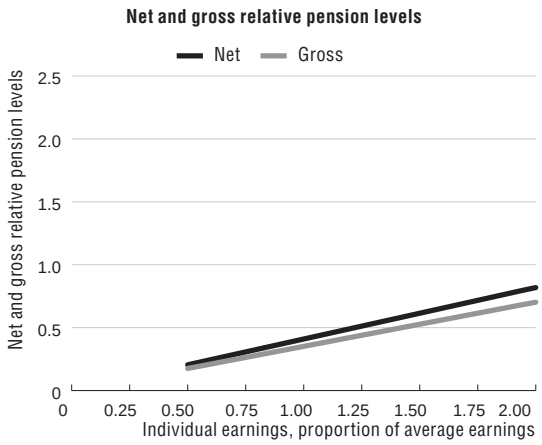
Social security contributions payable by pensioners

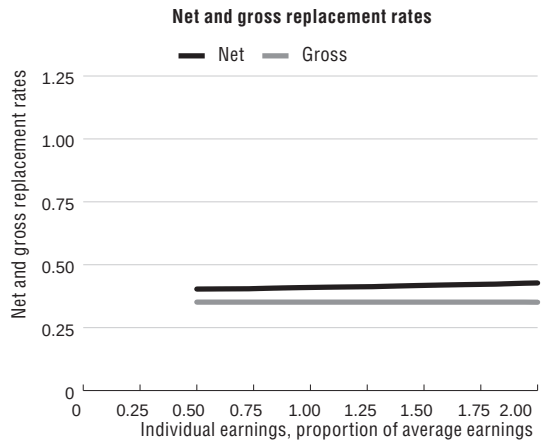
Pensioners do not pay any social security contributions.

Pension modelling results: Malaysia









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	28.5	17.6	26.4	35.1	52.7	70.2
(% average gross earnings)	25.8	16.0	23.9	31.9	47.9	63.7
Net relative pension level	33.2	20.5	30.7	41.0	61.5	81.9
(% net average earnings)	30.1	18.6	27.9	37.2	55.8	74.3
Gross replacement rate	35.1	35.1	35.1	35.1	35.1	35.1
(% individual gross earnings)	31.9	31.9	31.9	31.9	31.9	31.9
Net replacement rate	40.6	40.3	40.5	41.0	41.8	42.8
(% individual net earnings)	36.9	36.6	36.8	37.2	37.9	38.8
Gross pension wealth	7.7	7.7	7.7	7.7	7.7	7.7
(multiple of individual gross earnings)	7.7	7.7	7.7	7.7	7.7	7.7
Net pension wealth	7.7	7.7	7.7	7.7	7.7	7.7
(multiple of individual gross earnings)	7.7	7.7	7.7	7.7	7.7	7.7

StatLink http://dx.doi.org/10.1787/888932905343

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	33.9	20.9	31.4	41.8	62.8	83.6
(% average gross earnings)	30.8	19.0	28.5	38.0	57.0	75.9
Net relative pension level	39.5	24.4	36.6	48.8	73.2	97.5
(% net average earnings)	35.9	22.2	33.2	44.3	66.5	88.5
Gross replacement rate	41.8	41.8	41.8	41.8	41.8	41.8
(% individual gross earnings)	38.0	38.0	38.0	38.0	38.0	38.0
Net replacement rate	48.4	48.0	48.2	48.8	49.8	50.9
(% individual net earnings)	43.9	43.6	43.8	44.3	45.2	46.2
Gross pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	9.2	9.2	9.2	9.2	9.2	9.2
Net pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	9.2	9.2	9.2	9.2	9.2	9.2
30 year career under OECD economic assumptions						
Gross relative pension level	23.4	14.5	21.7	28.9	43.4	57.8
(% average gross earnings)	21.3	13.1	19.7	26.3	39.4	52.5
Net relative pension level	27.3	16.9	25.3	33.7	50.6	67.4
(% net average earnings)	24.8	15.3	23.0	30.6	45.9	61.2
Gross replacement rate	28.9	28.9	28.9	28.9	28.9	28.9
(% individual gross earnings)	26.3	26.3	26.3	26.3	26.3	26.2
Net replacement rate	33.5	33.2	33.3	33.7	34.4	35.2
(% individual net earnings)	30.4	30.1	30.3	30.6	31.2	32.0
Gross pension wealth	6.4	6.4	6.4	6.4	6.4	6.4
(multiple of individual gross earnings)	6.4	6.4	6.4	6.4	6.4	6.4
Net pension wealth	6.4	6.4	6.4	6.4	6.4	6.4
(multiple of individual gross earnings)	6.4	6.4	6.4	6.4	6.4	6.4

StatLink http://dx.doi.org/10.1787/888932905362

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	33.9	20.9	31.4	41.8	62.8	83.6
(% average gross earnings)	30.8	19.0	28.5	38.0	57.0	75.9
Net relative pension level	39.5	24.4	36.6	48.8	73.2	97.5
(% net average earnings)	35.9	22.2	33.2	44.3	66.5	88.5
Gross replacement rate	41.8	41.8	41.8	41.8	41.8	41.8
(% individual gross earnings)	38.0	38.0	38.0	38.0	38.0	38.0
Net replacement rate	48.4	48.0	48.2	48.8	49.8	50.9
(% individual net earnings)	43.9	43.6	43.8	44.3	45.2	46.2
Gross pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	9.2	9.2	9.2	9.2	9.2	9.2
Net pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	9.2	9.2	9.2	9.2	9.2	9.2
30 year career under economy specific assumptions						
Gross relative pension level	23.4	14.5	21.7	28.9	43.4	57.8
(% average gross earnings)	21.3	13.1	19.7	26.3	39.4	52.5
Net relative pension level	27.3	16.9	25.3	33.7	50.6	67.4
(% net average earnings)	24.8	15.3	23.0	30.6	45.9	61.2
Gross replacement rate	28.9	28.9	28.9	28.9	28.9	28.9
(% individual gross earnings)	26.3	26.3	26.3	26.3	26.3	26.2
Net replacement rate	33.5	33.2	33.3	33.7	34.4	35.2
(% individual net earnings)	30.4	30.1	30.3	30.6	31.2	32.0
Gross pension wealth	6.4	6.4	6.4	6.4	6.4	6.4
(multiple of individual gross earnings)	6.4	6.4	6.4	6.4	6.4	6.4
Net pension wealth	6.4	6.4	6.4	6.4	6.4	6.4
(multiple of individual gross earnings)	6.4	6.4	6.4	6.4	6.4	6.4

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905381

Pakistan

Pakistan: Pension system in 2012

Workers of an industry or establishment with 5 or more employees are required to be insured under earnings-related pension called employees' old-age benefit scheme.

The model assumes that workers are covered by earnings-related pension (EOBI).

Key indicators

		Pakistan	OECD
Average earnings	PKR	116 600	4 153 600
	USD	1 200	42 700
Public pension spending	% of GDP	1.0	7.0
Life expectancy	At birth	66.5	79.9
	At age 65	14.0	19.1
Population over age 65	% of working-age population	7.1	23.0

StatLink http://dx.doi.org/10.1787/888932905400

Qualifying conditions

Normal pension age for earnings-related private sector pension is age 60 for men and 55 for women with 15 years of contribution (relaxation is provided for those joining the scheme at older ages).

Normal pension age for public employees is 60 for both men and women. Civil servants can retire any time once minimum service period of 25 years is fulfilled.

Benefit calculation

Earnings-related

The pension is calculated as 2% of the insured's average monthly earnings in the last 12 months multiplied by the number of years of covered employment. Indexation rule for pension in payment is discretionary and the model assumes price indexation.

Minimum pension

Minimum pension is PKR 3 600 per month from January 2012. Indexation for pension in payment is discretionary and the model assumes price indexation.

The amount of (both maximum and minimum) insured monthly wage was PKR 7 000 during 2010-11 and increased to PKR 8 000 from July 2012.

Earnings-related pension for civil servants

Accrual rate is 7/300 for each year of service subject to a maximum of 70% (i.e. maximum 30 years service). Earning base is last drawn basic pay plus cost of living allowance. Various allowances that are part of the compensation package are not included in the earning base for pensions. The relevant earning measure is about 54% of the total wage. Indexation for pension in payment is discretionary and the model assumes price indexation. There is an unprecedented practice of giving some of the recent past indexation increases to new pension cases. The pensioners are entitled to commute 35% of their gross pension at retirement calculated based on defined-commutation factors.

Variant careers

Early retirement

For the private sector employees, the earliest age at which men can start claiming pension is 55 and this is 50 for women. In the civil service pension, individuals can start claiming pension after 25 years of service.

The reduction applied (for EOBI) is 0.5% for each completed month by which age at retirement falls short of 60 (55 years for women). This reduction is also applicable to the minimum pension. However, no reduction is applied to government workers. They are entitled to receive 100% of their accrued pension after 25 years service.

Late retirement

It is possible to start receiving pension after normal pension age.

Personal income tax and social security contributions

Taxation of worker's income

Taxable income in PKR	Tax rate
0-400 000	0%
400 000-750 000	5% of the amount exceeding 400 000
750 000-1 500 000	17 500 + 10% of the amount exceeding 750 000
1 500 000-2 000 000	95 000 + 15% of the amount exceeding 1 500 000
2 000 000-2 500 000	175 000 + 17.5% of the amount exceeding 2 000 000
2 500 000 and above	420 000 + 20% of the amount exceeding 2 500 000

Male and female workers are currently given equal tax treatment.

Social security contributions payable by workers

Employer pays 5% of the minimum wage (PKR 8 000) and employee pays contribution at the rate of 1% of minimum wage.

Public pensions are fully financed by government from annual budget expenditures. Some provincial governments and public enterprises have pension funds reflecting various degrees of prefunding.

Taxation of pensioners

The additional tax relief for older people is 50% for taxable income less than or equal to PKR 750 000.

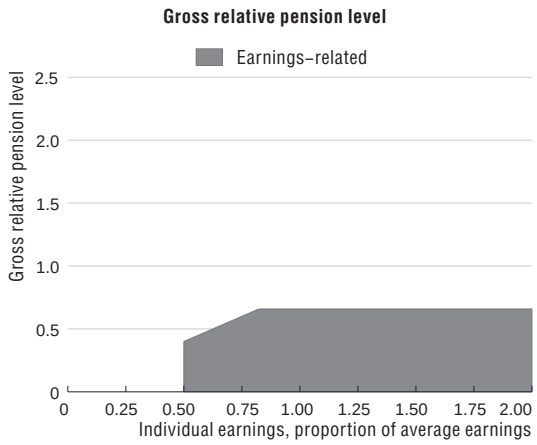
Taxation of pension income

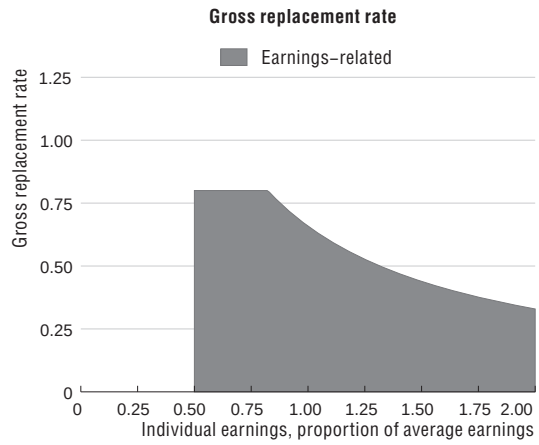
All benefits received from the government pension scheme, or from a registered private sector superannuation (Pension) scheme, or from Voluntary Pension System or from EOBI on retirement or death are not taxed.

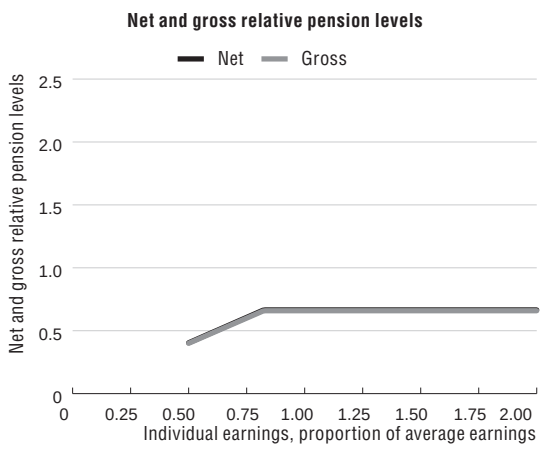
Social security contributions payable by pensioners

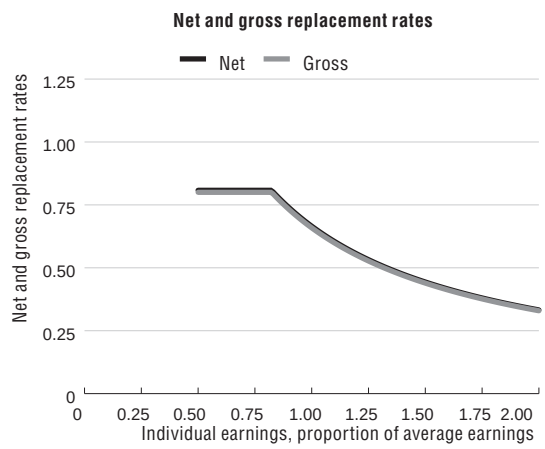
Pensioners do not pay any social security contribution.

Pension modelling results: Pakistan









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	64.8	40.0	60.0	65.9	65.9	65.9
(% average gross earnings)	56.7	37.1	52.5	57.6	57.6	57.6
Net relative pension level	65.5	40.4	60.6	66.5	66.5	66.5
(% net average earnings)	57.3	37.4	53.0	58.2	58.2	58.2
Gross replacement rate	80.0	80.0	80.0	65.9	43.9	32.9
(% individual gross earnings)	70.0	74.1	70.0	57.6	38.4	28.8
Net replacement rate	80.8	80.8	80.8	66.5	44.4	33.3
(% individual net earnings)	70.7	74.9	70.7	58.2	38.8	29.1
Gross pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	12.5	13.2	12.5	10.3	6.9	5.1
Net pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	12.5	13.2	12.5	10.3	6.9	5.1

StatLink http://dx.doi.org/10.1787/888932905419

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	64.8	40.0	60.0	65.9	65.9	65.9
(% average gross earnings)						
Net relative pension level	65.5	40.4	60.6	66.5	66.5	66.5
(% net average earnings)						
Gross replacement rate	80.0	80.0	80.0	65.9	43.9	32.9
(% individual gross earnings)						
Net replacement rate	80.8	80.8	80.8	66.5	44.4	33.3
(% individual net earnings)						
Gross pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	14.3	14.3	14.3	11.8	7.8	5.9
Net pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	14.3	14.3	14.3	11.8	7.8	5.9
30 year career under OECD economic assumptions						
Gross relative pension level	48.6	37.1	45.0	49.4	49.4	49.4
(% average gross earnings)						
Net relative pension level	49.1	37.4	45.5	49.9	49.9	49.9
(% net average earnings)						
Gross replacement rate	60.0	74.1	60.0	49.4	32.9	24.7
(% individual gross earnings)						
Net replacement rate	60.6	74.9	60.6	49.9	33.3	25.0
(% individual net earnings)						
Gross pension wealth	8.4	10.4	8.4	7.0	4.6	3.5
(multiple of individual gross earnings)	10.7	13.2	10.7	8.8	5.9	4.4
Net pension wealth	8.4	10.4	8.4	7.0	4.6	3.5
(multiple of individual gross earnings)	10.7	13.2	10.7	8.8	5.9	4.4

StatLink http://dx.doi.org/10.1787/888932905438

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	64.8	40.0	60.0	65.9	65.9	65.9
(% average gross earnings)						
Net relative pension level	65.5	40.4	60.6	66.5	66.5	66.5
(% net average earnings)						
Gross replacement rate	80.0	80.0	80.0	65.9	43.9	32.9
(% individual gross earnings)						
Net replacement rate	80.8	80.8	80.8	66.5	44.4	33.3
(% individual net earnings)						
Gross pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	14.3	14.3	14.3	11.8	7.8	5.9
Net pension wealth	11.3	11.3	11.3	9.3	6.2	4.6
(multiple of individual gross earnings)	14.3	14.3	14.3	11.8	7.8	5.9
30 year career under economy specific assumptions						
Gross relative pension level	48.6	37.1	45.0	49.4	49.4	49.4
(% average gross earnings)						
Net relative pension level	49.1	37.4	45.5	49.9	49.9	49.9
(% net average earnings)						
Gross replacement rate	60.0	74.1	60.0	49.4	32.9	24.7
(% individual gross earnings)						
Net replacement rate	60.6	74.9	60.6	49.9	33.3	25.0
(% individual net earnings)						
Gross pension wealth	8.4	10.4	8.4	7.0	4.6	3.5
(multiple of individual gross earnings)	10.7	13.2	10.7	8.8	5.9	4.4
Net pension wealth	8.4	10.4	8.4	7.0	4.6	3.5
(multiple of individual gross earnings)	10.7	13.2	10.7	8.8	5.9	4.4

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 10.5% per year converging steadily to 3.5%, giving an average of 7%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905457

Philippines

Philippines: Pension system in 2012

Employees up to age 60 earning more than PHP 1 000 a month are covered by the basic, earnings-related and minimum pensions. There are special systems for government employees and military personnel.

Key indicators

		Philippines	OECD
Average earnings	PHP	127 500	1 752 500
	USD	3 100	42 700
Public pension spending	% of GDP		7.0
Life expectancy	At birth	68.7	79.9
	At age 65	13.6	19.1
Population over age 65	% of working-age population	6.2	23.0

StatLink http://dx.doi.org/10.1787/888932905476

Qualifying conditions

Normal pension age is 65 with 120 months of contribution.

Benefit calculation

Basic

The monthly basic pension is PHP 300.

All pension payment is made 13 times per year in the Philippines. Indexation rule for all pension payment is decided periodically based on price inflation and wage growth and on the financial state of the fund. In a long run, it is assumed that this ad hoc adjustment will be in line with price inflation.

Earnings-related

Earnings-related pension benefit depends on the greater one between the following two average earnings: the average earnings over five years at six months prior to pension claim or the average earnings for the period in which contribution was paid. The benefit is the highest of the basic pension plus 20% of workers' average monthly earnings plus 2% of workers' average monthly earnings for each year of service exceeding ten years or 40% of the workers' average monthly earnings, whichever is greater.

Minimum

The minimum pension for both basic and earnings-related components is PHP 1 200 a month with a contribution period of between 10 years and 20 years and PHP 2 400 for more than 20 years of contribution.

Variant careers

Early retirement

People could start receiving pension as early as age 60 with 120 months of contributions at six months before retirement. The pension is suspended if an old-age pensioner resumes employment or self-employment before age 65.

Late retirement

People can start claiming pension later than normal pension age, but there is no increment for the delayed pension benefits.

Personal income tax and social security contributions

Taxation of worker's income

Over	But not over	Rate
	PHP 10 000	5%
PHP 10 000	PHP 30 000	PHP 500 + 10% of the excess over PHP 10 000
PHP 30 000	PHP 70 000	PHP 2 500 + 15% of the excess over PHP 30 000
PHP 70 000	PHP 140 000	PHP 8 500 + 20% of the excess over PHP 70 000
PHP 140 000	PHP 250 000	PHP 22 500 + 25% of the excess over PHP 140 000
PHP 250 000	PHP 500 000	PHP 50 000 + 30% of the excess over PHP 250 000
PHP 500 000		PHP 125 000 + 32% of the excess over PHP 500 000

Social security contributions payable by workers

Workers pay 3.33% of monthly gross insured earnings as social security contribution for pension, sickness and maternity and funeral benefits and the gross insured earnings are set based on 29 income classes. The maximum insured monthly earnings for contribution are PHP 15 000.

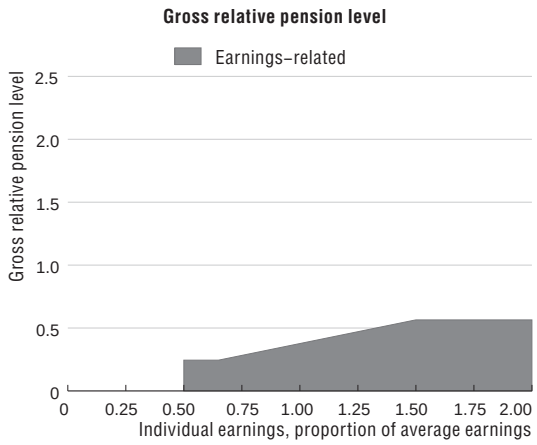
Taxation of pensioners

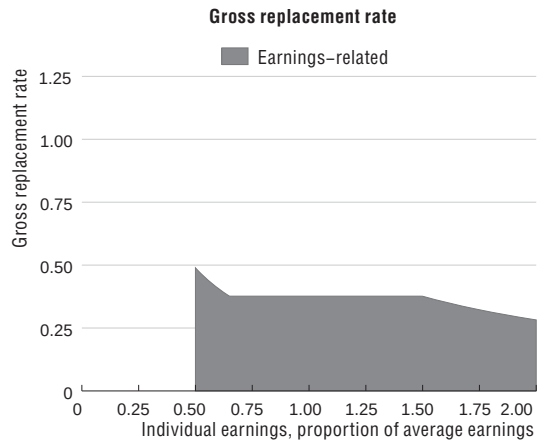
Under the Expanded Senior Citizens Act of 2003, senior citizens (resident citizens of the Philippines at least 60 years old) are exempted from paying individual income taxes provided their annual taxable income does not exceed the poverty level as determined by the National Economic and Development Authority (NEDA) for that year. They are also entitled to a 20% discount on the price of some services and products, including medical services and medicines. The 20% discount then becomes a tax credit for the establishment concerned.

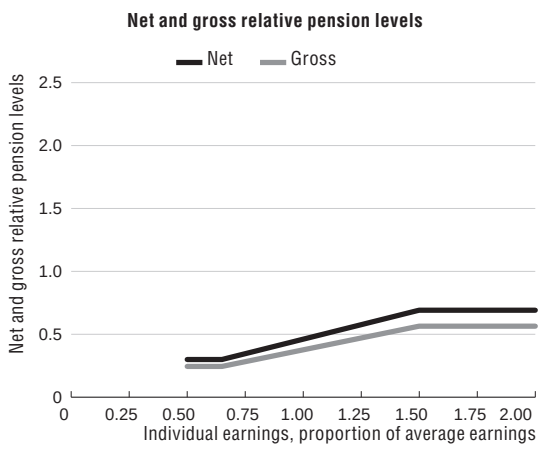
Taxation of pension income

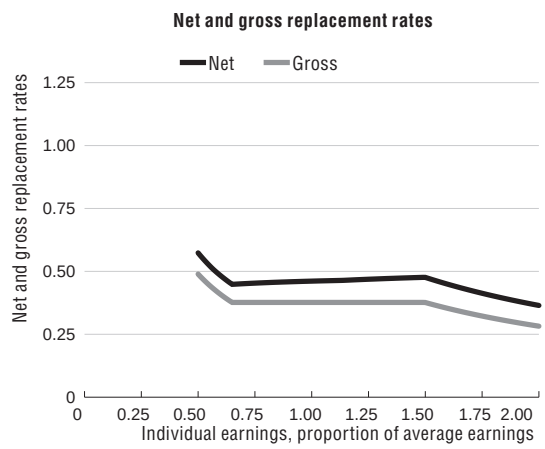
All pension incomes are exempt from taxation.

Pension modelling results: Philippines









Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	30.5	24.5	28.2	37.7	56.4	56.4
(% average gross earnings)						
Net relative pension level	37.4	30.0	34.6	46.1	69.1	69.1
(% net average earnings)						
Gross replacement rate	37.7	48.9	37.7	37.7	37.6	28.2
(% individual gross earnings)						
Net replacement rate	45.6	57.4	45.3	46.1	47.6	36.5
(% individual net earnings)						
Gross pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9
Net pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9

StatLink http://dx.doi.org/10.1787/888932905495

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	30.5	24.5	28.2	37.7	56.4	56.4
(% average gross earnings)						
Net relative pension level	37.4	30.0	34.6	46.1	69.1	69.1
(% net average earnings)						
Gross replacement rate	37.7	48.9	37.7	37.7	37.6	28.2
(% individual gross earnings)						
Net replacement rate	45.6	57.4	45.3	46.1	47.6	36.5
(% individual net earnings)						
Gross pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9
Net pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9
30 year career under OECD economic assumptions						
Gross relative pension level	30.5	24.5	28.2	37.7	56.4	56.4
(% average gross earnings)						
Net relative pension level	37.4	30.0	34.6	46.1	69.1	69.1
(% net average earnings)						
Gross replacement rate	37.7	48.9	37.7	37.7	37.6	28.2
(% individual gross earnings)						
Net replacement rate	45.6	57.4	45.3	46.1	47.6	36.5
(% individual net earnings)						
Gross pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9
Net pension wealth	4.4	5.7	4.4	4.4	4.4	3.3
(multiple of individual gross earnings)	5.3	6.8	5.3	5.3	5.3	3.9

StatLink http://dx.doi.org/10.1787/888932905514

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	28.7	24.5	26.6	35.4	53.2	56.4
(% average gross earnings)						
Net relative pension level	35.2	30.0	32.6	43.4	65.1	69.1
(% net average earnings)						
Gross replacement rate	35.4	48.9	35.4	35.4	35.4	28.2
(% individual gross earnings)						
Net replacement rate	42.9	57.4	42.7	43.4	44.9	36.5
(% individual net earnings)						
Gross pension wealth	4.1	5.7	4.1	4.1	4.1	3.3
(multiple of individual gross earnings)	5.0	6.8	5.0	5.0	5.0	3.9
Net pension wealth	4.1	5.7	4.1	4.1	4.1	3.3
(multiple of individual gross earnings)	5.0	6.8	5.0	5.0	5.0	3.9
30 year career under economy specific assumptions						
Gross relative pension level	28.7	24.5	26.6	35.4	53.2	56.4
(% average gross earnings)						
Net relative pension level	35.2	30.0	32.6	43.4	65.1	69.1
(% net average earnings)						
Gross replacement rate	35.4	48.9	35.4	35.4	35.4	28.2
(% individual gross earnings)						
Net replacement rate	42.9	57.4	42.7	43.4	44.9	36.5
(% individual net earnings)						
Gross pension wealth	4.1	5.7	4.1	4.1	4.1	3.3
(multiple of individual gross earnings)	5.0	6.8	5.0	5.0	5.0	3.9
Net pension wealth	4.1	5.7	4.1	4.1	4.1	3.3
(multiple of individual gross earnings)	5.0	6.8	5.0	5.0	5.0	3.9

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905533

Singapore

Singapore: Pension system in 2012

The Central Provident Fund (CPF) covers all workers earning a monthly wage of at least SGD 50. CPF is a defined-contribution scheme.

Key indicators

		Singapore	OECD
Average earnings	SGD	53 200	52 200
	USD	43 500	42 700
Public pension spending	% of GDP	0.0	7.0
Life expectancy	At birth	82.1	79.9
	At age 65	20.2	19.1
Population over age 65	% of working-age population	13.2	23.0

StatLink http://dx.doi.org/10.1787/888932905552

Qualifying conditions

Normal pension age is 65 for life annuity payouts.

Benefit calculation

Defined contribution

Maximum contribution is calculated based on a basic salary ceiling of SGD 5 000 per month for both the employer and the employee. The contribution rates vary depending on the age as indicated below. Contributions to the Ordinary Account and Special Account are for retirement, while contributions to the Medisave account are for medical expenses. Savings in the Ordinary Account can be used to buy a home but amounts withdrawn must be refunded with interest upon sale of the property. At age 55 and 65, savings in the Ordinary Account and Special Account are used to purchase a life annuity which pays benefits to the pensioner from age 65. As the extent to which an individual has used his Ordinary Account savings to buy a home would affect the total amount of savings used to purchase the life annuity and in turn the benefits he receives, we lay out two scenarios, where the Ordinary Account contributes 35% and 50% of retirement benefits respectively.

For the purposes of comparing replacement rates with other countries, this report uses a standardised set of macro assumptions and computes the pension payout as a price-indexed annuity based on sex-specific mortality rates. The results would thus differ from that of an earlier study by academics from the National University of Singapore,* which took into account institutional features that are unique** to Singapore. The study had found that a male entrant to the workforce earning the median income would have a net income replacement rate of 70% upon retirement at age 65. For the female entrant, the net income replacement rate is 64%.

* Chia, N.C and A. Tsui (2012), "Adequacy of Singapore's CPF Payouts: Income Replacement Rates of Entrant Workers", Department of Economics, National University of Singapore.

** The institutional features that are unique to Singapore include the Workfare Income Supplement Scheme, the extra interest of 1% that is paid on the first SGD 60 000 of CPF balances and the CPF Lifelong Income Scheme which is the national annuity scheme for drawing down the retirement savings.

Employee age (years)	Contribution rate (for monthly wages > SGD 1 500)			Credited to		
	Contribution by employer (% of wage)	Contribution by employee (% of wage)	Total contribution (% of wage)	Ordinary account (% of wage)	Special account (% of wage	Medisave account (% of wage)
35 and below	16	20	36	23	6	7
Above 35-45	16	20	36	21	7	8
Above 45-50	16	20	36	19	8	9
Above 50-55	14	18.5	32.5	13.5	9.5	9.5
Above 55-60	10.5	13	23.5	12	2	9.5
Above 60-65	7	7.5	14.5	3.5	1.5	9.5
Above 65	6.5	5	11.5	1	1	9.5

Variant careers

Early retirement

Pension savings in excess of a minimum sum may be withdrawn from age 55 in a lump sum. The minimum sum is SGD 148 000 in 2013.

Late retirement

It is not possible to defer the life annuity payouts. However, people can also combine pension receipt with continuing to work.

Personal income tax and social security contributions

Taxation of workers

Compulsory CPF contributions are fully tax-exempt. There is also tax relief for "cash top-up" of CPF special and retirement accounts up to a maximum of SGD 7 000 per year.

There is also tax deductible "earned income relief", and the relief amount (in 2013) depends on the worker's age as described below.

Age	Relief amount
Below 55 years old	SGD 1 000
55 to 59 years old	SGD 6 000
60 years old and above	SGD 8 000

Taxation of worker's income

For resident individuals income tax rates and bands (in 2013) are as follows:

Chargeable income	Rate (%)
Up to SGD 20 000	0
Over SGD 20 000 up to SGD 30 000	2
Over SGD 30 000 up to SGD 40 000	3.5
Over SGD 40 000 up to SGD 80 000	7
Over SGD 80 000 up to SGD 120 000	11.5
Over SGD 120 000 up to SGD 160 000	15
Over SGD 160 000 up to SGD 200 000	17
Over SGD 200 000 up to SGD 320 000	18
Over SGD 320 000	20

Social security contributions payable by workers

Workers make contribution to the CPF as described above.

Taxation of pensioners

There is no additional tax relief for pensioners.

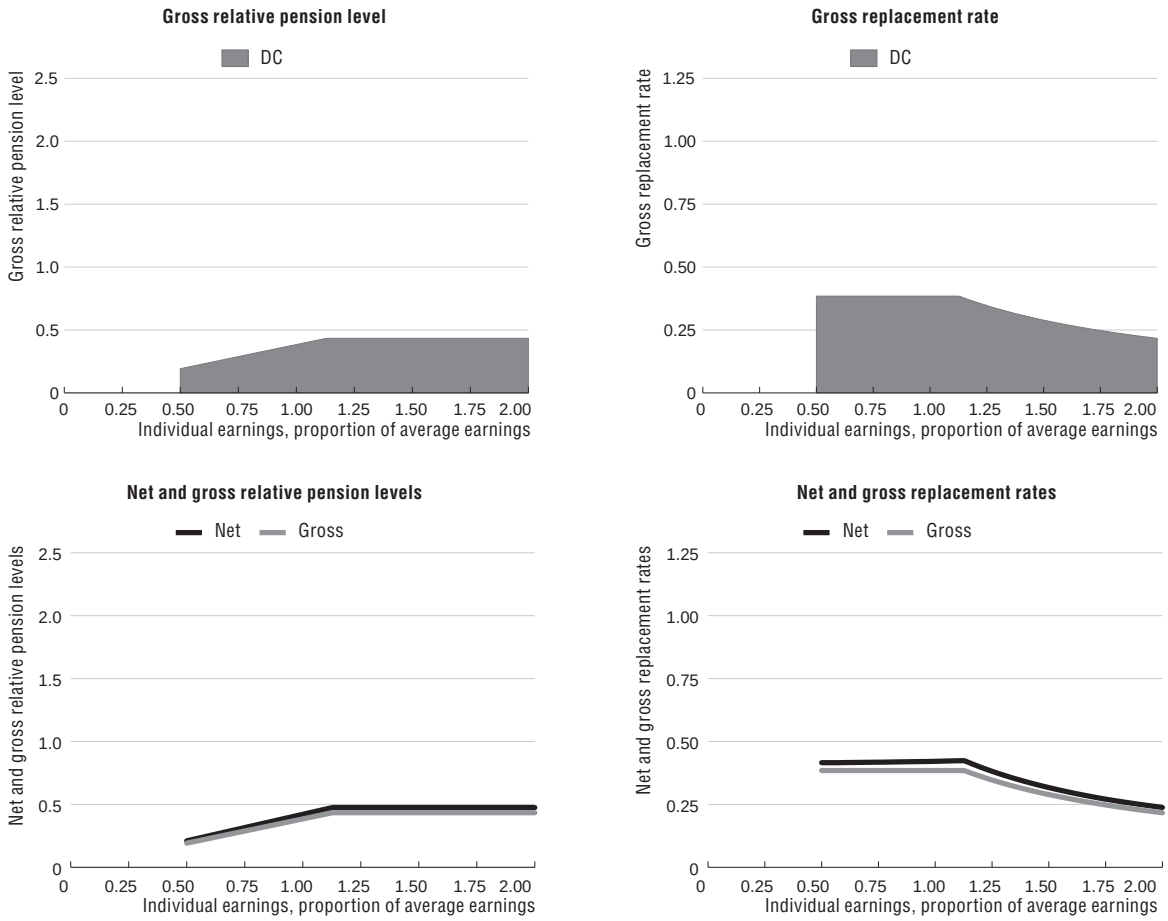
Taxation of pension income

Pension income from CPF is exempted from personal income tax.

Social security contributions payable by pensioners

Pensioners do not make any social security contributions, unless they continue to work and earn a monthly wage of at least SGD 50.

Pension modelling results: Singapore



Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	31.2	19.2	28.8	38.5	43.4	43.4
(% average gross earnings)	27.9	17.2	25.8	34.4	38.8	38.8
Net relative pension level	34.1	21.1	31.6	42.1	47.5	47.5
(% net average earnings)	30.5	18.9	28.3	37.7	42.5	42.5
Gross replacement rate	38.5	38.5	38.5	38.5	28.9	21.7
(% individual gross earnings)	34.4	34.4	34.4	34.4	25.9	19.4
Net replacement rate	41.9	41.6	41.8	42.1	31.7	23.8
(% individual net earnings)	37.5	37.2	37.4	37.7	28.4	21.3
Gross pension wealth	6.8	6.8	6.8	6.8	5.1	3.9
(multiple of individual gross earnings)	6.8	6.8	6.8	6.8	5.1	3.9
Net pension wealth	6.8	6.8	6.8	6.8	5.1	3.9
(multiple of individual gross earnings)	6.8	6.8	6.8	6.8	5.1	3.9

StatLink http://dx.doi.org/10.1787/888932905571

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	26.2	16.2	24.3	32.4	36.5	36.5
(% average gross earnings)	23.5	14.5	21.7	29.0	32.7	32.7
Net relative pension level	28.7	17.7	26.6	35.5	40.0	40.0
(% net average earnings)	25.7	15.9	23.8	31.7	35.8	35.8
Gross replacement rate	32.4	32.4	32.4	32.4	24.3	18.3
(% individual gross earnings)	29.0	29.0	29.0	29.0	21.8	16.3
Net replacement rate	35.2	35.0	35.2	35.5	26.7	20.0
(% individual net earnings)	31.5	31.3	31.5	31.7	23.9	17.9
Gross pension wealth	5.8	5.8	5.8	5.8	4.3	3.2
(multiple of individual gross earnings)	5.8	5.8	5.8	5.8	4.3	3.2
Net pension wealth	5.8	5.8	5.8	5.8	4.3	3.2
(multiple of individual gross earnings)	5.8	5.8	5.8	5.8	4.3	3.2
30 year career under OECD economic assumptions						
Gross relative pension level	17.7	10.9	16.4	21.9	24.7	24.7
(% average gross earnings)	15.9	9.8	14.7	19.6	22.1	22.1
Net relative pension level	19.4	12.0	18.0	24.0	27.1	27.1
(% net average earnings)	17.4	10.7	16.1	21.5	24.2	24.2
Gross replacement rate	21.9	21.9	21.9	21.9	16.5	12.4
(% individual gross earnings)	19.6	19.6	19.6	19.6	14.7	11.1
Net replacement rate	23.8	23.7	23.8	24.0	18.0	13.6
(% individual net earnings)	21.3	21.2	21.3	21.5	16.1	12.1
Gross pension wealth	3.9	3.9	3.9	3.9	2.9	2.2
(multiple of individual gross earnings)	3.9	3.9	3.9	3.9	2.9	2.2
Net pension wealth	3.9	3.9	3.9	3.9	2.9	2.2
(multiple of individual gross earnings)	3.9	3.9	3.9	3.9	2.9	2.2

StatLink http://dx.doi.org/10.1787/888932905590

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	34.1	21.0	31.6	42.1	47.5	47.5
(% average gross earnings)	30.5	18.8	28.3	37.7	42.5	42.5
Net relative pension level	37.3	23.0	34.6	46.1	52.0	52.0
(% net average earnings)	33.4	20.6	30.9	41.3	46.5	46.5
Gross replacement rate	42.1	42.1	42.1	42.1	31.7	23.7
(% individual gross earnings)	37.7	37.7	37.7	37.7	28.3	21.2
Net replacement rate	45.8	45.5	45.7	46.1	34.7	26.1
(% individual net earnings)	41.0	40.7	40.9	41.3	31.0	23.3
Gross pension wealth	7.5	7.5	7.5	7.5	5.6	4.2
(multiple of individual gross earnings)	7.5	7.5	7.5	7.5	5.6	4.2
Net pension wealth	7.5	7.5	7.5	7.5	5.6	4.2
(multiple of individual gross earnings)	7.5	7.5	7.5	7.5	5.6	4.2
30 year career under economy specific assumptions						
Gross relative pension level	23.1	14.2	21.4	28.5	32.1	32.1
(% average gross earnings)	20.6	12.7	19.1	25.5	28.7	28.7
Net relative pension level	25.3	15.6	23.4	31.2	35.2	35.2
(% net average earnings)	22.6	14.0	20.9	27.9	31.5	31.5
Gross replacement rate	28.5	28.5	28.5	28.5	21.4	16.1
(% individual gross earnings)	25.5	25.5	25.5	25.5	19.2	14.4
Net replacement rate	31.0	30.8	30.9	31.2	23.5	17.6
(% individual net earnings)	27.7	27.5	27.7	27.9	21.0	15.8
Gross pension wealth	5.1	5.1	5.1	5.1	3.8	2.9
(multiple of individual gross earnings)	5.1	5.1	5.1	5.1	3.8	2.9
Net pension wealth	5.1	5.1	5.1	5.1	3.8	2.9
(multiple of individual gross earnings)	5.1	5.1	5.1	5.1	3.8	2.9

Note: Ordinary account contributes 50% of retirement benefits.

StatLink http://dx.doi.org/10.1787/888932905609

Sri Lanka

Sri Lanka: Pension system in 2012

Employees in the formal private sector are covered by defined-contribution plans: employee private fund, which is used in the model, employee trust fund or approved private sector provident fund. Civil servants were formally covered by public sector pension scheme, but since 2003 they contribute to defined-benefit type social security scheme called contributory pension scheme.

Key indicators

		Sri Lanka	OECD
Average earnings	LKR	262 400	5 452 700
	USD	2 100	42 700
Public pension spending	% of GDP		7.0
Life expectancy	At birth	75.8	79.9
	At age 65	18.2	19.1
Population over age 65	% of working-age population	9.3	23.0

StatLink http://dx.doi.org/10.1787/888932905628

Qualifying conditions

Age 55 for men or 50 for women and retire from covered employment. At any age if the company is closed by the government or the employed women who get married.

Normal pension age for public sector workers is 60.

Benefit calculation

Defined contribution

Employee provident fund is a fully funded defined-contribution plan and employees contribute 8% of wage and employers pay 12%. The entire lump sum is paid at the time of exit. For comparison with other countries, for replacement rate purposes the pension is shown as a price-indexed annuity based on sex-specific mortality rates. It is possible to withdraw funds from the account every five years.

Variant careers

Early retirement

At any age if the government closes the place of employment, if emigrating permanently, or for employed women who marry.

Late retirement

It is not possible to start claiming pension after the normal pension age.

Personal income tax and social security contributions

Taxation of workers

There is no income tax relief and the deduction of work-related expenses.

Taxation of worker's income

There is a personal allowance of LKR 300 000 with additional income taxed as follows:

Annual income band	Tax rate (%)
Up to LKR 400 000	5
LKR 400 001-LKR 800 000	10
LKR 800 001-LKR 1 200 000	15
LKR 1 200 001-LKR 1 700 000	20
LKR 1 700 001-LKR 2 200 000	25
LKR 2 200 001-LKR 2 700 000	30
Over LKR 2 700 000	35

Social security contributions payable by workers

Employees' contributions are deductible up to a limit of LKR 25 000 per annum.

Taxation of pensioners

All purchased annuities of retirees are exempt.

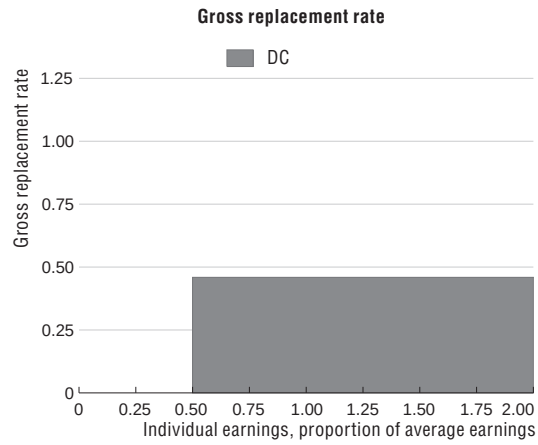
Taxation of pension income

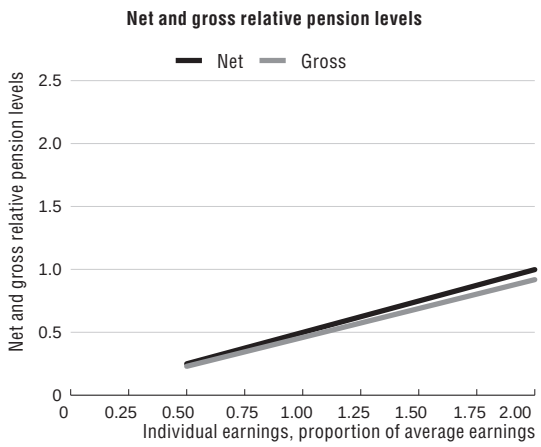
Annual income band	Tax rate (%)
Up to LKR 2 000 000	0
LKR 2 000 001-LKR 2 500 000	5
LKR 2 500 001-LKR 3 000 000	10
Over LKR 3 000 000	15

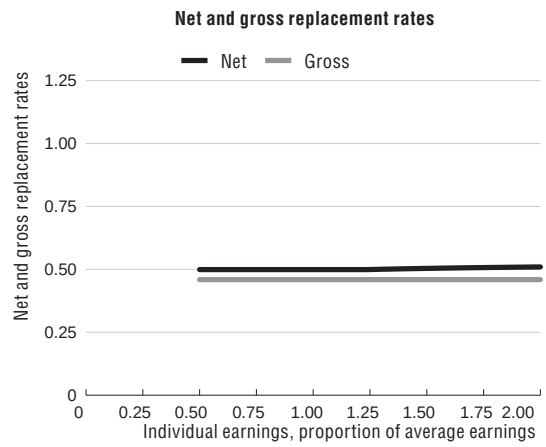
Social security contributions payable by pensioners

Pensioners do not pay any social security contribution.

Pension modelling results: Sri Lanka







Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	37.2	23.0	34.4	45.9	68.9	91.8
(% average gross earnings)	25.1	15.5	23.3	31.0	46.6	62.1
Net relative pension level	40.4	25.0	37.4	49.9	74.9	99.8
(% net average earnings)	27.3	16.9	25.3	33.7	50.6	67.5
Gross replacement rate	45.9	45.9	45.9	45.9	45.9	45.9
(% individual gross earnings)	31.0	31.0	31.0	31.0	31.0	31.0
Net replacement rate	49.9	49.9	49.9	49.9	50.4	51.0
(% individual net earnings)	33.7	33.7	33.7	33.7	34.1	34.4
Gross pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6
Net pension wealth	9.2	9.2	9.2	9.2	9.2	9.2
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6

StatLink http://dx.doi.org/10.1787/888932905647

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	44.3	27.3	41.0	54.7	82.0	109.4
(% average gross earnings)	. .	. .	. .	. .	. .	. .
Net relative pension level	48.1	29.7	44.6	59.4	89.2	118.9
(% net average earnings)	. .	. .	. .	. .	. .	. .
Gross replacement rate	54.7	54.7	54.7	54.7	54.7	54.7
(% individual gross earnings)	. .	. .	. .	. .	. .	. .
Net replacement rate	59.4	59.4	59.4	59.4	60.0	60.7
(% individual net earnings)	. .	. .	. .	. .	. .	. .
Gross pension wealth	11.0	11.0	11.0	11.0	11.0	11.0
(multiple of individual gross earnings)	. .	. .	. .	. .	. .	. .
Net pension wealth	11.0	11.0	11.0	11.0	11.0	11.0
(multiple of individual gross earnings)	. .	. .	. .	. .	. .	. .
30 year career under OECD economic assumptions						
Gross relative pension level	30.6	18.9	28.3	37.8	56.7	75.6
(% average gross earnings)	25.1	15.5	23.3	31.0	46.6	62.1
Net relative pension level	33.3	20.5	30.8	41.1	61.6	82.2
(% net average earnings)	27.3	16.9	25.3	33.7	50.6	67.5
Gross replacement rate	37.8	37.8	37.8	37.8	37.8	37.8
(% individual gross earnings)	31.0	31.0	31.0	31.0	31.0	31.0
Net replacement rate	41.1	41.1	41.1	41.1	41.5	42.0
(% individual net earnings)	33.7	33.7	33.7	33.7	34.1	34.4
Gross pension wealth	7.6	7.6	7.6	7.6	7.6	7.6
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6
Net pension wealth	7.6	7.6	7.6	7.6	7.6	7.6
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6

StatLink http://dx.doi.org/10.1787/888932905666

Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	44.3	27.3	41.0	54.7	82.0	109.4
(% average gross earnings)	. .	. .	. .	. .	. .	. .
Net relative pension level	48.1	29.7	44.6	59.4	89.2	118.9
(% net average earnings)	. .	. .	. .	. .	. .	. .
Gross replacement rate	54.7	54.7	54.7	54.7	54.7	54.7
(% individual gross earnings)	. .	. .	. .	. .	. .	. .
Net replacement rate	59.4	59.4	59.4	59.4	60.0	60.7
(% individual net earnings)	. .	. .	. .	. .	. .	. .
Gross pension wealth	11.0	11.0	11.0	11.0	11.0	11.0
(multiple of individual gross earnings)	. .	. .	. .	. .	. .	. .
Net pension wealth	11.0	11.0	11.0	11.0	11.0	11.0
(multiple of individual gross earnings)	. .	. .	. .	. .	. .	. .
30 year career under economy specific assumptions						
Gross relative pension level	30.6	18.9	28.3	37.8	56.7	75.6
(% average gross earnings)	25.1	15.5	23.3	31.0	46.6	62.1
Net relative pension level	33.3	20.5	30.8	41.1	61.6	82.2
(% net average earnings)	27.3	16.9	25.3	33.7	50.6	67.5
Gross replacement rate	37.8	37.8	37.8	37.8	37.8	37.8
(% individual gross earnings)	31.0	31.0	31.0	31.0	31.0	31.0
Net replacement rate	41.1	41.1	41.1	41.1	41.5	42.0
(% individual net earnings)	33.7	33.7	33.7	33.7	34.1	34.4
Gross pension wealth	7.6	7.6	7.6	7.6	7.6	7.6
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6
Net pension wealth	7.6	7.6	7.6	7.6	7.6	7.6
(multiple of individual gross earnings)	7.6	7.6	7.6	7.6	7.6	7.6

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905685

Thailand

Thailand: Pension system in 2012

Private sector employees in the formal sectors are covered under the Social Security Fund (SSF). The old-age pension scheme under SSF is a defined-benefit scheme.

Key indicators

		Thailand	OECD
Average earnings	THB	136 000	1 306 300
	USD	4 400	42 700
Public pension spending	% of GDP		7.0
Life expectancy	At birth	74.3	79.9
	At age 65	17.5	19.1
Population over age 65	% of working-age population	13.1	23.0

StatLink http://dx.doi.org/10.1787/888932905704

Qualifying conditions

The insured persons (both men and women) who have reached the age of 55 are qualified to get old-age benefit. At least 180 months (15 years) of contributions are required for monthly pension receipt and the pension benefit is adjusted for a longer contribution period. The insured persons with a contribution period less than 180 months (15 years), a lump-sum payment equivalent to the total contributions is made. In both cases employment must cease.

Benefit calculation

Earnings-related

Workers accrue 20% of their earnings for the first 15 years and then 1.5% for every year thereafter. The base wage used for benefit calculation is the average wage over the last five years prior to retirement. Indexation rules are discretionary and the modelling assumes price indexation of pensions in payment.

Variant careers

Early retirement

It is not possible to claim the earnings-related pension before the normal age of 55.

Late retirement

It is possible to retire later than the age of 55. Insured persons who continue to work beyond 55 will receive 20% of average wage of the last 60 months or 20% and 1.5% per additional 12 months of contributions above 180 months.

Personal income tax and social security contributions

Taxation of workers

There are various tax relief systems and the employed receive tax deduction of 40% of assessable income up to THB 60 000. Single insured persons receive a personal allowance of THB 30 000. Social security contributions are tax deductible.

Taxation of worker's income

The following tax schedule is applicable to taxable income (assessable income after deductions and allowances).

Annual taxable income	Tax rate (%)
0-THB 150 000	0
THB 150 001-THB 500 000	10
THB 500 001-THB 1 000 000	20
THB 1 000 001-THB 4 000 000	30
THB 4 000 001 and over	37

Social security contributions payable by insured persons

Insured persons pay social security contributions. For old-age pension, the contribution rate is 3% subject to the floor of THB 1 650 per month and the ceiling of THB 15 000 per month. They also pay 1.5% of earnings for sickness, maternity, invalidity and death benefits and 0.5% of earnings for unemployment insurance scheme.

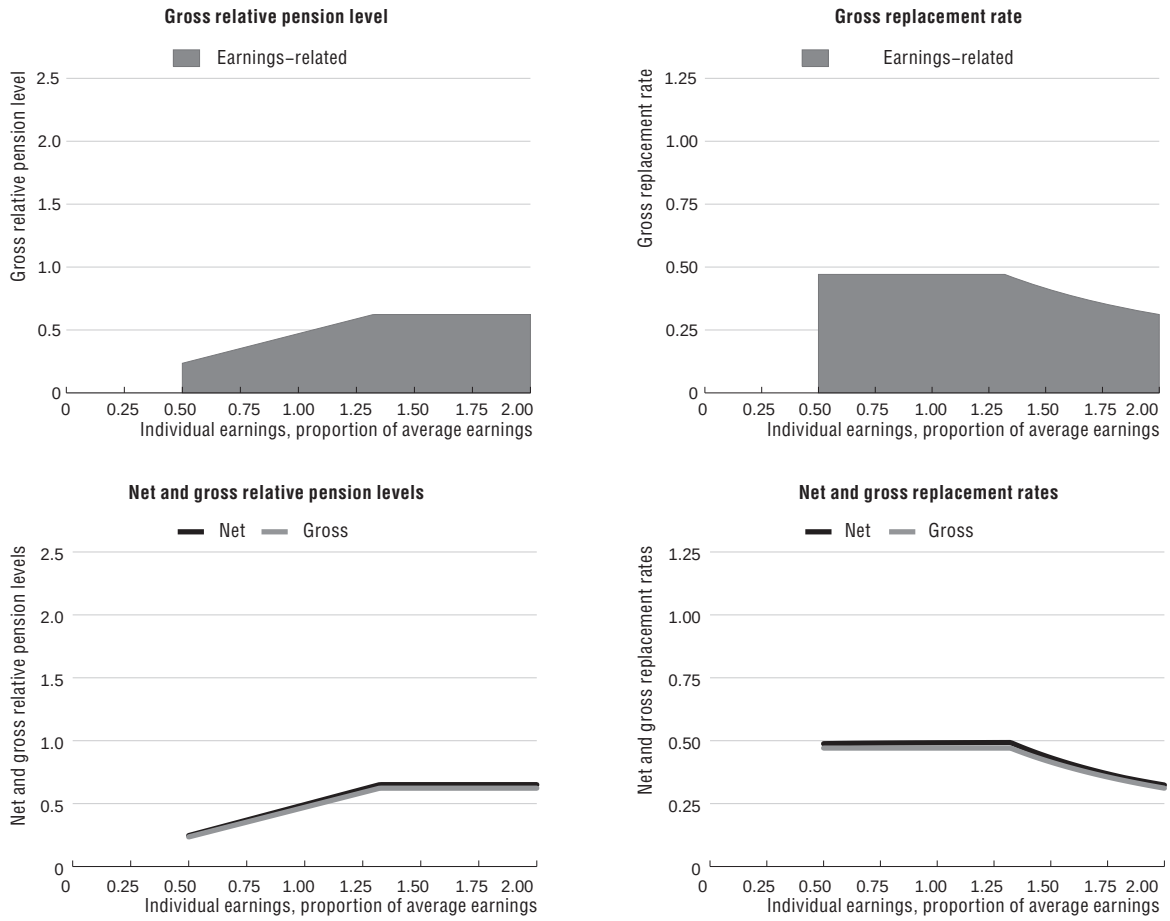
Taxation of pension income

All pension incomes are exempted from taxation. The elderly above 65 who continue working receive old-age allowance of THB 190 000 as a tax allowance.

Social security contributions payable by pensioners

Pensioners do not pay social security contributions.

Pension modelling results: Thailand



Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	38.1	23.5	35.3	47.1	62.3	62.3
(% average gross earnings)						
Net relative pension level	39.8	24.6	36.9	49.2	65.1	65.1
(% net average earnings)						
Gross replacement rate	47.1	47.1	47.1	47.1	41.5	31.1
(% individual gross earnings)						
Net replacement rate	49.1	48.8	49.1	49.2	43.2	32.4
(% individual net earnings)						
Gross pension wealth	9.8	9.8	9.8	9.8	8.7	6.5
(multiple of individual gross earnings)	10.7	10.7	10.7	10.7	9.4	7.1
Net pension wealth	9.8	9.8	9.8	9.8	8.7	6.5
(multiple of individual gross earnings)	10.7	10.7	10.7	10.7	9.4	7.1

StatLink http://dx.doi.org/10.1787/888932905723

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	43.9	27.1	40.6	54.1	71.6	71.6
(% average gross earnings)						
Net relative pension level	45.8	28.3	42.4	56.6	74.8	74.8
(% net average earnings)						
Gross replacement rate	54.1	54.1	54.1	54.1	47.8	35.8
(% individual gross earnings)						
Net replacement rate	56.5	56.1	56.4	56.6	49.7	37.2
(% individual net earnings)						
Gross pension wealth	11.3	11.3	11.3	11.3	10.0	7.5
(multiple of individual gross earnings)	12.3	12.3	12.3	12.3	10.8	8.1
Net pension wealth	11.3	11.3	11.3	11.3	10.0	7.5
(multiple of individual gross earnings)	12.3	12.3	12.3	12.3	10.8	8.1
30 year career under OECD economic assumptions						
Gross relative pension level	32.4	20.0	30.0	40.0	52.9	52.9
(% average gross earnings)						
Net relative pension level	33.9	20.9	31.4	41.8	55.3	55.3
(% net average earnings)						
Gross replacement rate	40.0	40.0	40.0	40.0	35.3	26.5
(% individual gross earnings)						
Net replacement rate	41.7	41.5	41.7	41.8	36.7	27.5
(% individual net earnings)						
Gross pension wealth	8.3	8.3	8.3	8.3	7.4	5.5
(multiple of individual gross earnings)	9.1	9.1	9.1	9.1	8.0	6.0
Net pension wealth	8.3	8.3	8.3	8.3	7.4	5.5
(multiple of individual gross earnings)	9.1	9.1	9.1	9.1	8.0	6.0

StatLink http://dx.doi.org/10.1787/888932905742

Economy specific assumptions

Men Women *(where different)*	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	41.3	25.5	38.2	51.0	67.4	67.4
(% average gross earnings)						
Net relative pension level	43.1	26.6	39.9	53.2	70.4	70.4
(% net average earnings)						
Gross replacement rate	51.0	51.0	51.0	51.0	44.9	33.7
(% individual gross earnings)						
Net replacement rate	53.1	52.8	53.1	53.2	46.8	35.1
(% individual net earnings)						
Gross pension wealth	10.6	10.6	10.6	10.6	9.4	7.0
(multiple of individual gross earnings)	11.5	11.5	11.5	11.5	10.2	7.6
Net pension wealth	10.6	10.6	10.6	10.6	9.4	7.0
(multiple of individual gross earnings)	11.5	11.5	11.5	11.5	10.2	7.6
30 year career under economy specific assumptions						
Gross relative pension level	30.5	18.8	28.2	37.7	49.8	49.8
(% average gross earnings)						
Net relative pension level	31.9	19.7	29.5	39.3	52.1	52.1
(% net average earnings)						
Gross replacement rate	37.7	37.7	37.7	37.7	33.2	24.9
(% individual gross earnings)						
Net replacement rate	39.3	39.0	39.2	39.3	34.6	25.9
(% individual net earnings)						
Gross pension wealth	7.9	7.9	7.9	7.9	6.9	5.2
(multiple of individual gross earnings)	8.5	8.5	8.5	8.5	7.5	5.6
Net pension wealth	7.9	7.9	7.9	7.9	6.9	5.2
(multiple of individual gross earnings)	8.5	8.5	8.5	8.5	7.5	5.6

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 5% per year converging steadily to 2.5%, giving an average of 3.75%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

StatLink http://dx.doi.org/10.1787/888932905761

Viet Nam

Viet Nam: Pension system in 2012

Viet Nam Social Security (VSS) manages and administers social security contributions and benefits (including pensions) for both private sector workers and government workers. The current pension scheme is a pay-as-you-go defined-benefit (PAYG DB) scheme.

Key indicators

		Viet Nam	OECD
Average earnings	VND (million)	46.1	889.6
	USD	2 200	42 700
Public pension spending	% of GDP		7.0
Life expectancy	At birth	75.8	79.9
	At age 65	18.2	19.1
Population over age 65	% of working-age population	9.3	23.0

StatLink http://dx.doi.org/10.1787/888932905780

Qualifying conditions

Normal pension age is 60 for men and 55 for women with a minimum of 20 years of contributions. A lump-sum payment is made for people with shorter contribution periods.

Benefit calculation

Earnings-related

Pension benefit formulae are different depending on total years of contribution. Up to the 15 years of contribution, the pension accrual rate is 3%, and is then 2% for males and 3% for females each additional year. For early retirement, replacement rate will be reduced by 1% for each year of early retirement. The maximum replacement rate is 75%; hence, insured persons with more than 30 years and 25 years of contributions for males and females, respectively, will receive a lump sum equal to 50% of their average monthly earnings. The average monthly earnings is calculated by the average wage in the last ten years before the pension for those who have lifetime working for public sector, and in the whole working period for those who have worked in both public and private sector.

The model assumes that this lump-sum amount is paid as monthly price-indexed pension for lifetime. The maximum pension is equal to 75% of the insured's average earnings in the last ten years before the pension is first paid. If total contribution years are less than 20, retirees can only receive a lump-sum payment of one month's average salary for each year of contribution payment. Pension in payment changes in line with minimum wage which is set to increase at 5% per annum in the long run but the model assumes that it is indexed to average wage growth. The minimum and maximum monthly earnings for contribution and benefit calculation purposes are VND 1 050 000 and VND 21 000 000, respectively.

Variant careers

Early retirement

It is possible to retire and to start claiming the pension at age 55 for men and 50 for women under specific requirements. The pension is reduced by 1% of the insured's average earnings in the last five years before the pension is first paid. This deduction is applied to every year the pension is taken before the insured's normal pensionable age.

Late retirement

It is not possible to start claiming pension after normal pension age. It is possible to combine working and receiving pension.

Personal income tax and social security contributions

Taxation of workers

There are various tax relief systems in Viet Nam but they are not relevant to the standard individual (single without a child) used for the model. The personal income tax regulations do not specify the deductibility of social security contributions.

Taxation of worker's income

Tax rates applicable to regular income are as follows:

Income tax per year	Tax rate (%)
VND 0-VND 60 000 000	5
VND 60 000 000-VND 120 000 000	10
VND 120 000 000-VND 216 000 000	15
VND 216 000 000-VND 384 000 000	20
VND 384 000 000-VND 624 000 000	25
VND 624 000 000-VND 960 000 000	30
Above VND 960 000 000	35

Social security contributions payable by workers

Employees in 2012 paid 7% of monthly salary/wage for retirement benefits and will increase to 8% from 2014. Moreover, if the monthly salary/wage, which is based for contribution, is greater than 20 times of the minimum wage, the contribution will be 20 times of the minimum wage.

Taxation of pensioners

There is no additional tax relief for pensioners.

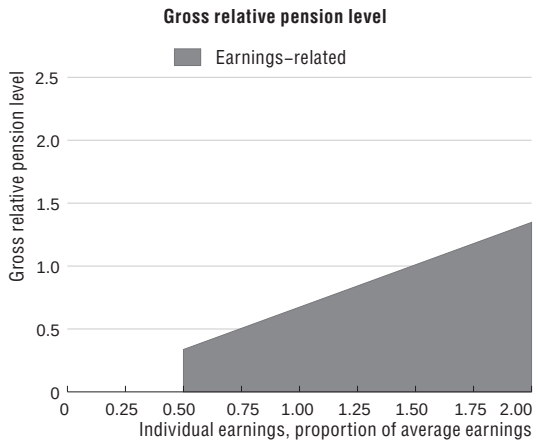
Taxation of pension income

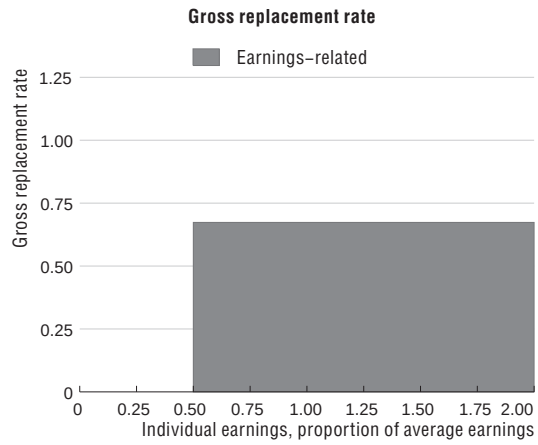
The same taxation rule is applied to pension benefits.

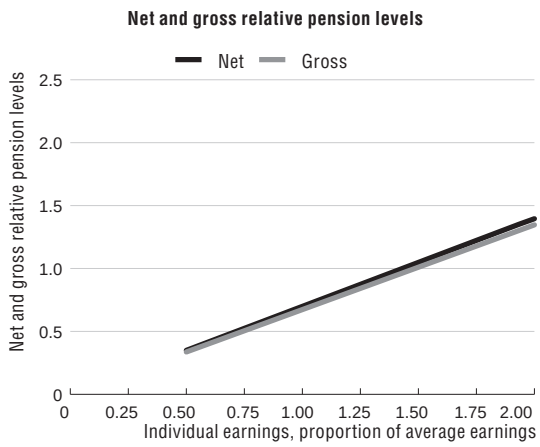
Social security contributions payable by pensioners

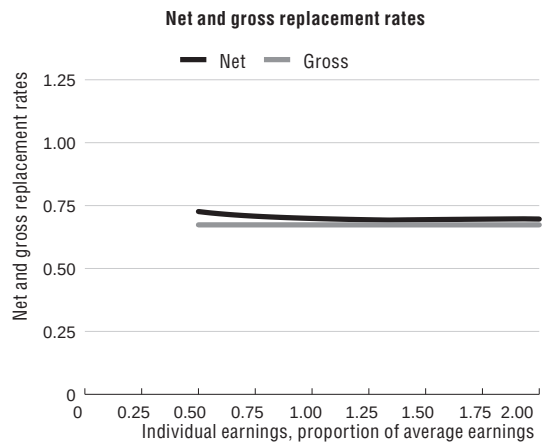
Pensioners do not pay any social security contribution.

Pension modelling results: Viet Nam









Men Women *(where different)*	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
Gross relative pension level	54.5	33.7	50.5	67.3	101.0	134.7
(% average gross earnings)	50.1	30.9	46.4	61.8	92.7	123.6
Net relative pension level	56.6	34.9	52.4	69.9	104.8	139.6
(% net average earnings)	52.0	32.1	48.1	64.2	96.2	128.3
Gross replacement rate	67.3	67.3	67.3	67.3	67.3	67.3
(% individual gross earnings)	61.8	61.8	61.8	61.8	61.8	61.8
Net replacement rate	70.5	72.6	70.8	69.9	69.4	69.7
(% individual net earnings)	64.7	66.7	65.0	64.2	63.7	64.0
Gross pension wealth	15.1	15.1	15.1	15.1	15.1	15.1
(multiple of individual gross earnings)	19.2	19.2	19.2	19.2	19.2	19.2
Net pension wealth	15.1	15.1	15.1	15.1	15.1	15.0
(multiple of individual gross earnings)	19.2	19.2	19.2	19.2	19.2	19.2

StatLink http://dx.doi.org/10.1787/888932905799

Alternative economic and career length assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under OECD economic assumptions						
Gross relative pension level	54.5	33.7	50.5	67.3	101.0	134.7
(% average gross earnings)	50.8	31.4	47.0	62.7	94.1	125.4
Net relative pension level	56.6	34.9	52.4	69.9	104.8	139.6
(% net average earnings)	52.7	32.5	48.8	65.1	97.6	130.2
Gross replacement rate	67.3	67.3	67.3	67.3	67.3	67.3
(% individual gross earnings)	62.7	62.7	62.7	62.7	62.7	62.7
Net replacement rate	70.5	72.6	70.8	69.9	69.4	69.7
(% individual net earnings)	65.7	67.7	65.9	65.1	64.6	65.0
Gross pension wealth	15.1	15.1	15.1	15.1	15.1	15.1
(multiple of individual gross earnings)	19.4	19.4	19.4	19.4	19.4	19.4
Net pension wealth	15.1	15.1	15.1	15.1	15.1	15.0
(multiple of individual gross earnings)	19.4	19.4	19.4	19.4	19.4	19.4
30 year career under OECD economic assumptions						
Gross relative pension level	52.6	32.5	48.8	65.0	97.5	130.0
(% average gross earnings)	49.3	30.5	45.7	60.9	91.4	121.8
Net relative pension level	54.6	33.7	50.6	67.5	101.2	134.9
(% net average earnings)	51.2	31.6	47.4	63.2	94.8	126.4
Gross replacement rate	65.0	65.0	65.0	65.0	65.0	65.0
(% individual gross earnings)	60.9	60.9	60.9	60.9	60.9	60.9
Net replacement rate	68.1	70.1	68.3	67.5	67.0	67.3
(% individual net earnings)	63.8	65.7	64.0	63.2	62.8	63.1
Gross pension wealth	14.6	14.6	14.6	14.6	14.6	14.6
(multiple of individual gross earnings)	18.9	18.9	18.9	18.9	18.9	18.9
Net pension wealth	14.6	14.6	14.6	14.6	14.6	14.6
(multiple of individual gross earnings)	18.9	18.9	18.9	18.9	18.9	18.9

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Economy specific assumptions

Men Women (where different)	Median earner	Individual earnings, multiple of average				
		0.5	0.75	1	1.5	2
40 year career under economy specific assumptions						
Gross relative pension level	54.5	33.7	50.5	67.3	101.0	134.7
(% average gross earnings)	50.8	31.4	47.0	62.7	94.1	125.4
Net relative pension level	56.6	34.9	52.4	69.9	104.8	139.6
(% net average earnings)	52.7	32.5	48.8	65.1	97.6	130.2
Gross replacement rate	67.3	67.3	67.3	67.3	67.3	67.3
(% individual gross earnings)	62.7	62.7	62.7	62.7	62.7	62.7
Net replacement rate	70.5	72.6	70.8	69.9	69.4	69.7
(% individual net earnings)	65.7	67.7	65.9	65.1	64.6	65.0
Gross pension wealth	19.5	19.5	19.5	19.5	19.5	19.5
(multiple of individual gross earnings)	27.2	27.2	27.2	27.2	27.2	27.2
Net pension wealth	19.5	19.5	19.5	19.5	19.5	19.4
(multiple of individual gross earnings)	27.2	27.2	27.2	27.2	27.2	27.2
30 year career under economy specific assumptions						
Gross relative pension level	52.6	32.5	48.8	65.0	97.5	130.0
(% average gross earnings)	49.3	30.5	45.7	60.9	91.4	121.8
Net relative pension level	54.6	33.7	50.6	67.5	101.2	134.9
(% net average earnings)	51.2	31.6	47.4	63.2	94.8	126.4
Gross replacement rate	65.0	65.0	65.0	65.0	65.0	65.0
(% individual gross earnings)	60.9	60.9	60.9	60.9	60.9	60.9
Net replacement rate	68.1	70.1	68.3	67.5	67.0	67.3
(% individual net earnings)	63.8	65.7	64.0	63.2	62.8	63.1
Gross pension wealth	19.0	19.0	19.0	19.0	19.0	19.0
(multiple of individual gross earnings)	26.7	26.7	26.7	26.7	26.7	26.7
Net pension wealth	19.0	19.0	19.0	19.0	19.0	19.0
(multiple of individual gross earnings)	26.7	26.7	26.7	26.7	26.7	26.7

Notes: Real earnings: 6% per year converging steadily to 2%, giving an average of 4%.
Price inflation: 8% per year converging steadily to 2.5%, giving an average of 5.25%.
Real rate of return: 7.5% per year converging steadily to 3.5%, giving an average of 5.5%.
Discount rate (for actuarial calculations): 2% per year.

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