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.

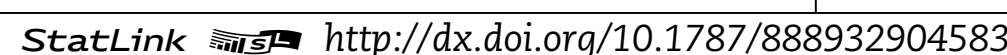
Pensions in Asia/Pacific

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	●		

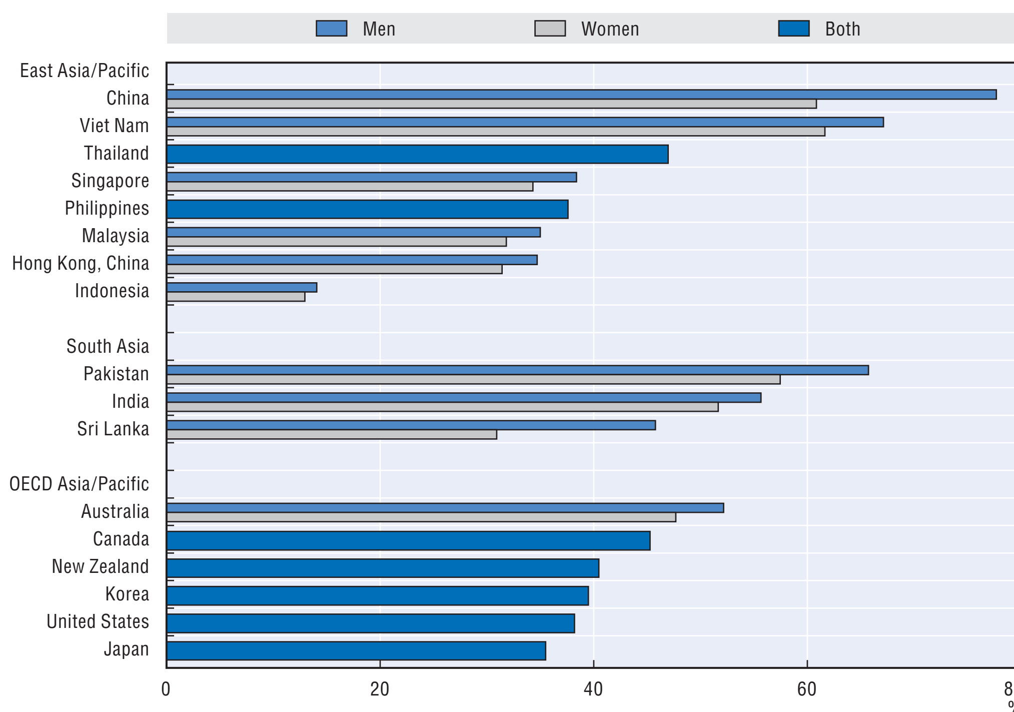
StatLink  http://dx.doi.org/10.1787/888932904583

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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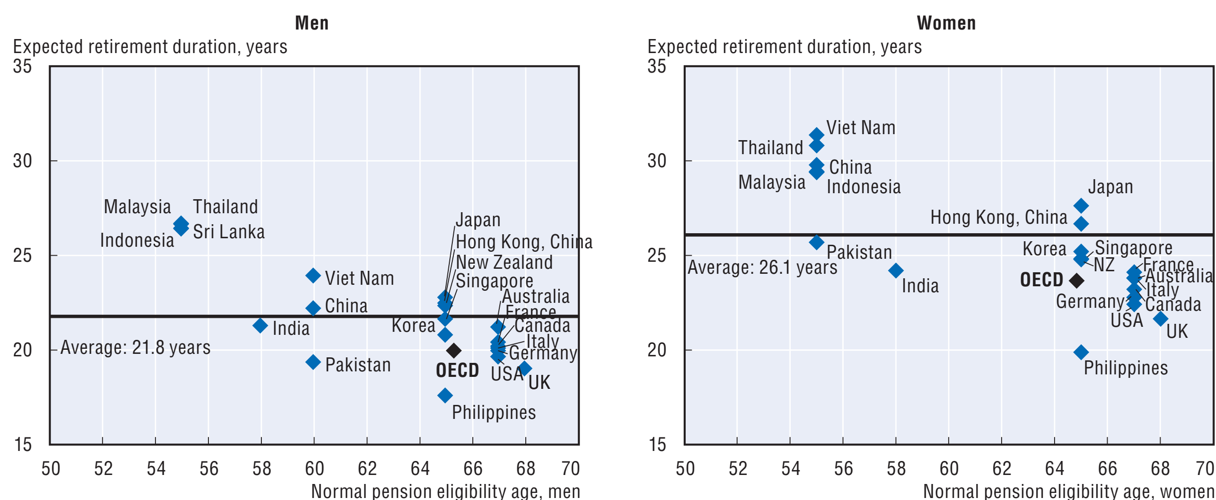
Pension ages and retirement

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.

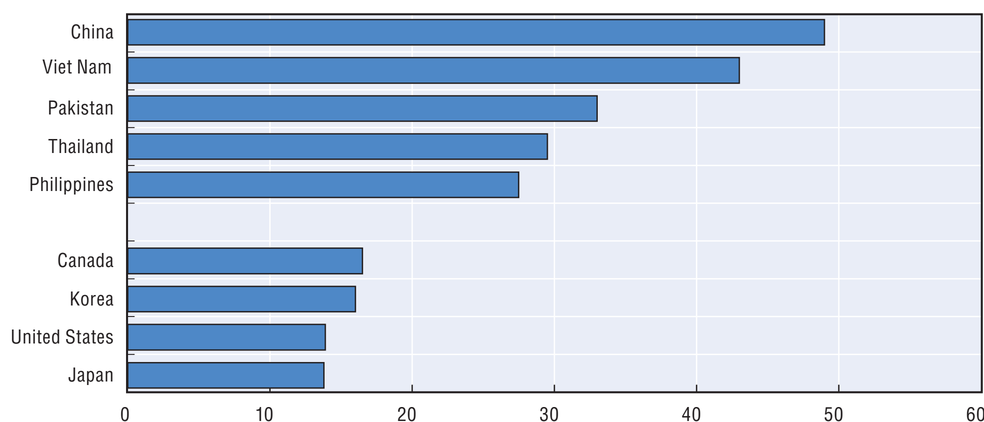
The results in Figure 2 are based on population mortality data. This is not a problem when analysing OECD countries that have near-universal coverage. However typically, the groups that are covered by the pension system outside the OECD are a minority, and a privileged one. They are able to afford to 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

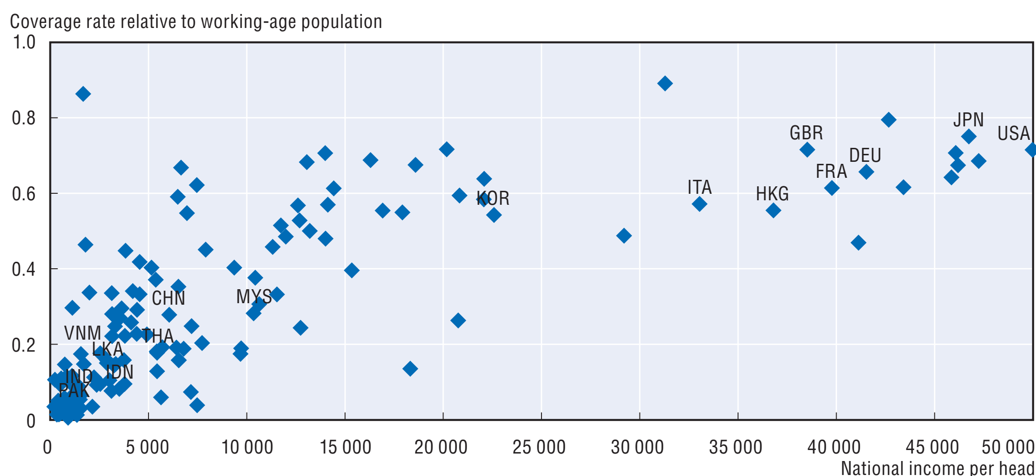
Indexation refers to the automatic adjustment of pensions in payment to reflect changes in costs of living or standards of living. Without adjustment, the purchasing power of the pension can decline quickly and, over a period of retirement of 20 years or more, by a large amount. Few economies around 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.*

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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.

From:
Pensions at a Glance Asia/Pacific 2013

Access the complete publication at:
https://doi.org/10.1787/pension_asia-2013-en

Please cite this chapter as:

OECD (2013), “Introduction”, in *Pensions at a Glance Asia/Pacific 2013*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/pension_asia-2013-3-en

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