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PART I Chapter 7

Key Indicators

Building on the results for replacement rates and pension levels across the range of individual earnings, it is possible to develop indicators to address further policy questions in pensions. How much will today's pension promises cost in the future? How much of that cost will be met by the public and private sectors? Answers to these questions require composite indicators of pension systems that aggregate the results for workers at different earnings levels that were presented in Chapters 4 to 6.

1. Weighted averages and the earnings distribution

The technique used to aggregate individual-level results is that of weighted averages. The indicators build on the calculations of pension entitlements for people earning between 0.3 and 3 times the economy-wide average. Each level of individual earnings is given a weight based on its importance in the distribution of earnings. Since there are many people with low earnings, and much fewer with high earnings, low earnings are given a larger weight in the calculation of the indicator than high earnings.

The calculations use the average distribution of earnings based on data¹ for 16 OECD countries, which is shown in Figure 7.1. The chart shows the proportion of employees in these countries whose earnings are a particular proportion of the country-specific average. The earnings distribution is skewed. The mode (or peak) of the distribution is at around two-thirds of mean earnings (referred to as "average" elsewhere in this report). The median (the earnings level both below and above which half of employees are situated) is between 80 and 85% of mean earnings. Two-thirds of people earn less than mean earnings.

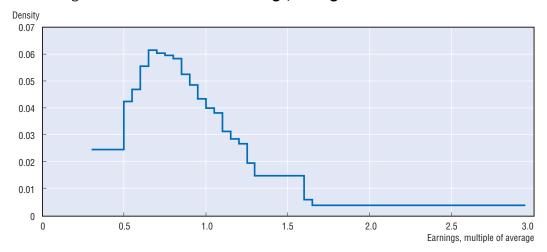


Figure 7.1. Distribution of earnings, average of 16 OECD countries

Source: OECD earnings-distribution data.

2. Weighted average pension levels and pension wealth

The measure of weighted average relative pension level combines the earnings distribution (Figure 7.1) with the projections of pension entitlements (Chapter 5). The relative pension level is averaged over individuals earning across the range from 0.3 to three times average economywide earnings using the earnings-distribution weights. The result is the weighted average of the pension entitlement expressed as a percentage of economy-wide average earnings. This provides a useful indicator of the scale of the pension promise made to today's workers.

This indicator is presented in the first column of Table 7.1. Again, there are vast differences between countries. Nine countries' mandatory systems aim to deliver an average pension of less than 40% of average earnings. These are Australia, Belgium, Canada, Ireland, Korea, Mexico, New Zealand, the United Kingdom and the United States.

Table 7.1. **Weighted average pension level and pension wealth**Pension level as percentage of economy-wide average earnings, pension wealth as multiple of economy-wide average earnings and in US dollars

	Dension level	Pension wealth		Pension wealth (USD)	
	Pension level	Men Women			
Australia	39.1	6.6	7.7	189 000	
Austria	72.5	11.0	13.3	273 000	
Belgium	36.3	6.5	7.5	214 000	
Canada	39.9	6.1	7.1	163 000	
Czech Republic	41.7	6.9	8.1	47 000	
Denmark	43.2	7.3	8.4	304 000	
Finland	71.2	11.2	13.3	320 000	
France	52.7	9.5	10.9	221 000	
Germany	42.6	7.7	9.2	262 000	
Greece	83.1	12.4	14.4	144 000	
Hungary	72.2	11.7	14.4	55 000	
Iceland	53.8	8.6	9.7	256 000	
Ireland	30.6	5.4	6.5	143 000	
Italy	77.2	11.1	13.1	244 000	
Japan	47.9	7.9	8.9	285 000	
Korea	39.3	6.5	7.6	129 000	
Luxembourg	99.2	17.8	21.9	587 000	
Mexico	35.7	4.7	4.5	28 000	
Netherlands	67.7	10.2	11.7	316 000	
New Zealand	37.6	5.7	6.5	113 000	
Norway	49.5	7.7	9.0	306 000	
Poland	55.5	7.7	8.1	51 000	
Portugal	70.4	10.8	12.6	93 000	
Slovak Republic	47.9	7.9	9.6	27 000	
Spain	75.4	11.3	13.2	192 000	
Sweden	68.5	10.9	12.0	280 000	
Switzerland	49.9	8.7	10.7	400 000	
Turkey	81.3	10.3	12.2	74 000	
United Kingdom	37.1	5.5	6.3	172 000	
United States	36.5	5.2	6.1	183 000	
OECD average	55.4	8.7	10.2	202 367	

Note: Weighted averages for the relative pension value and pension wealth use the OECD average earnings distribution. Weighted average pension level is shown for men. Pension wealth in value terms is the simple average of the results for men and women. The conversion to US dollars is performed using 2002 average market exchange rates.

Source: OECD pension models.

At the other extreme, Luxembourg is again an outlier. The weighted average pension there is just slightly less than average earnings. A further three countries have an average relative pension level above 75%: Italy, Spain and Turkey. Next, with pension levels in the low seventies, are Finland, Austria and Hungary.

The same type of weighting can also be applied to the pension wealth measure. The second and third columns of Table 7.1 show the weighted average of pension wealth, separately for men and women. This is the most comprehensive measure of the scale of the pension promise made to today's workers. This is because it takes account of differences in life expectancy, pension eligibility ages and indexation of pensions in payment. The final column of the table also gives these figures in US dollars.

Luxembourg, not surprisingly, has the highest pension wealth, which averages almost 18 times average earnings for men and 22 times for women. This is worth an average of USD 587 000, nearly treble the average for OECD countries. Austria, Finland, Greece, Hungary, Italy and Spain are closely clustered with pension wealth of 11-12 times average earnings. In today's money, average pension wealth is over USD 300 000 in Denmark, Finland, Netherlands, Norway and Switzerland. These numbers represent the present value of the transfers that societies are promising on average to future retirees under the current pension system rules and any reforms that are being phased in over time.

On this comprehensive measure, the most modest pension systems are those of Ireland, Mexico, New Zealand, the United Kingdom and the United States where pension wealth is less than six times average earnings. This is around two-thirds of the average for OECD countries.

The systems of countries with short life expectancies – such as Poland and Turkey – have more modest values for pension wealth compared with other countries. Pension wealth is increased in countries such as France and Hungary because of earlier retirement than is the norm for OECD countries. In France, for example, the weighted average pension level is a little lower than the OECD average while pension wealth is nearly 15% above the average.

3. Structure of the potential resource transfer to pensioners

Table 7.2 shows the contribution that each system component makes to the potential resource transfer to pensioners. These are calculated as the weighted average pension wealth from each source as a percentage of the total.

Eleven countries have basic pension schemes, but their importance in terms of the resource transfer to older people varies substantially. In Ireland and New Zealand, there is only a basic pension; thus, the share is 100%. In Korea, the Netherlands and the United Kingdom, the basic pension makes up around one half of the total resource transfer to pensioners. The earnings-related schemes in Korea and the United Kingdom and occupational plans in the Netherlands make up the other half. Basic pensions in Denmark, Japan and Norway make up around 40% of the transfer.

The resource-tested programmes – social assistance, separate, targeted pension schemes and minimum pensions – also vary hugely in importance. Australia and Denmark rely mostly on these types of schemes, with over 40% of the transfer going on these benefits. In Iceland, the total for the two resource-tested pensions is nearly 40%. Targeted schemes play a modest though significant role in the Sweden and Turkey with a similar degree of reliance on the minimum credits in the Belgian scheme.

Table 7.2. Contribution of different components of pension systems to total pension promise

Percentage of total weighted average pension wealth

Tier: function	First	t tier: universal co	verage, redistrib	utive	Second t	Second tier: mandatory, insurance		
Provision Type	Public					Priv	ivate	
	Social assistance	Targeted	Basic	Minimum	Public	DB	DC	
Australia		45.0					55.0	
Austria		1.0			99.0			
Belgium				11.1 ¹	88.9			
Canada		15.8	34.3		49.8			
Czech Republic			18.3		81.7			
Denmark		41.4	41.1		9.2		8.3	
Finland		1.6			98.4			
France		6.5			93.6 ²			
Germany	1.9				98.1			
Greece								
Hungary					66.4		33.6	
Iceland		37.8 ³				62.2		
Ireland			100.0					
Italy					100.0			
Japan			39.5		60.5			
Korea			51.6 ⁴		48.4			
Luxembourg			13.6 ⁵	0.2	86.2			
Mexico		1.1					98.9 ⁶	
Netherlands			50.7			49.3		
New Zealand			100.0					
Norway		1.3	41.4		57.4			
Poland		0.6			47.3		52.1	
Portugal				4.2	95.8			
Slovak Republic				0.7	99.3			
Spain				0.5	99.5			
Sweden		8.6			49.1	23.3	18.9 ⁷	
Switzerland		0.4			66.6	33.1		
Turkey		10.2			89.8			
United Kingdom			54.4	35.1 ⁸	10.5			
United States					100.0			

DB: Defined benefit.

DC: Defined contribution.

- 1. Belgium: the minimum pension also includes minimum credits.
- 2. France: public, second-tier pension is made up of the state pension (63.5%) plus the ARRCO occupational scheme (30.1%).
- 3. Iceland: there are two targeted schemes: the basic pension and the supplement (18.1% and 19.7% respectively).
- ${\bf 4.} \ \ \, {\bf Korea: the \ basic \ column \ shows \ the \ benefit \ related \ to \ average \ rather \ than \ individual \ earnings.}$
- 5. Luxembourg: the basic figure also includes the small end-of-year allowance.
- 6. Mexico: DC flat-rate contribution provides 8.9% and the variable contribution 90.0%.
- 7. Sweden: the two DC schemes are the state-mandated contribution (10.6%) and the DC part of the occupational pension (8.3%).
- 8. United Kingdom: minimum pension refers to minimum credits in state second pension.

Source: OECD pension models.

Elsewhere, first-tier schemes play little or no role in providing pensions for full-career workers (although they tend to be important for workers with partial careers). All or practically all of the resource transfer is in public, earnings-related provision in Austria, Finland, Germany, Italy, the Slovak Republic, Spain and the United States.

Notes

- 1. The data are decile points of the earnings distribution and mean earnings. They are gross earnings of full-time workers, including men and women. This definition was chosen to approximate as closely as possible the earnings of the average production worker used in models of both pension entitlements and worker and pensioner taxation.
- 2. There is a third means-tested scheme in Iceland but this is not relevant for a full-career worker.

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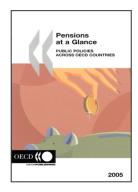
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