

PROGRESSIVITY OF PENSION ENTITLEMENTS

Pension systems around the world differ in their generosity and the way pension benefits are related to the income history of pensioners. The former characteristic refers to the size of the social security budget relative to the GDP of a country and is informative as to how important pension benefits are on average for financing old-age consumption. The latter characteristic describes how pension benefits are linked to pre-retirement income. Theoretically, when pensions are a fixed amount, independent of income history, the pension system is referred to as a pure flat-rate pension system. The polar system is one in which pension payments are proportional to the pre-retirement income. Such a system is called a pure earnings-related system. The latter system exists when pension contributions are proportional to income and the pension payment is proportional to contributions collected during the working career. The earnings-relatedness of a pension system has important implications for the size of the disincentive effects the pension system exerts on labour supply behaviour; an issue which has received attention in recent policy discussions. The reason is that the tighter pensions are linked to pre-retirement income the smaller the tax component of the social security contribution rate. As such, it is informative for policy discussion to quantify how strongly income history is tied to pension payments through existing pension formulas.

One approach to measure the earnings-relatedness of the pension system is to compute a Progressivity Index as suggested by the OECD. The index is constructed as follows: in a first step the Gini coefficient of pension income and of general earnings is computed. In the OECD calculations, pension income only includes the public pension system. Private occupational systems and personal pension provisions are excluded. In a second step, the Progressivity Index is calculated as 100 minus the ratio of the Gini coefficient of pension income divided by the Gini coefficient of earnings. The index is constructed so that a pure flat-rate system scores 100 percent and a pure earnings-related system scores 0 percent.

The Table shows the Pension Gini coefficient and the Progressivity Index for OECD countries. For countries with a pure flat-rate system such as New

Zealand and Ireland the Progressivity Index is 100 percent. Countries with a pronounced flat-rate component include Canada, United Kingdom and Australia. Countries with a highly earnings-related pension system are, e.g., Finland, Italy, Netherlands, and Hungary. Their Progressivity Index is below 10 percent.

Although the index is helpful in gauging the disincentive effects which are generated by the public pension system, it does not fully capture differences in the earnings-relatedness of the pension system for different income groups. For instance, a pension formula may well entail that at the bottom of the income distribution the system is highly income related, but is a pure flat-rate system for high income earners. As such, labour supply disincentives vary significantly across the income distribution. A more in-depth analysis along this line is provided in

Gini coefficients on pension entitlements and earnings
OECD average distribution data

	Pension Gini	Progressive index
Australia	7.3	73.1
Austria	18.9	30.4
Belgium	11.2	58.8
Canada	3.7	86.6
Czech Republic	8.7	68.0
Denmark	11.1	59.3
Finland	25.1	7.6
France	20.5	24.6
Germany	20.0	26.7
Greece	26.5	2.6
Hungary	26.9	1.3
Iceland	18.0	33.9
Ireland	0.0	100.0
Italy	26.4	3.1
Japan	14.4	46.9
Korea	12.3	54.8
Luxembourg	22.2	18.6
Mexico	19.0	30.3
Netherlands	26.9	0.0
New Zealand	0.0	100.0
Norway	17.1	37.4
Poland	25.4	6.5
Portugal	22.1	18.8
Slovak Republic	26.5	2.7
Spain	22.1	18.8
Sweden	23.7	12.9
Switzerland	12.7	53.3
Turkey	25.1	7.8
United Kingdom	5.1	81.1
United States	16.1	40.9
OECD average	17.2	36.9
OECD 18	17.0	37.5

Note: OECD 18 refers to the 18 countries for which national earnings-distribution data are available.

Source: OECD.

OECD (2007). Also, the data in the Table does not include other public welfare programmes. Even in a pure earnings-related system, low income earners may receive a complementary transfer income which is financed out of general tax revenues. Including these welfare programmes would yield an even more comprehensive measure of how progressive old-age social security policies are.

M.K.

Reference

OECD (2007), *Pensions at a Glance*, Paris, 44–45.