Finnish Centre for Pensions, Reports 2010:3

EXECUTIVE SUMMARY

Juha Rantala and Ilpo Suoniemi

From employment to retirement – development of earnings and replacement ratios

In this study, we assessed what changes took place in people's earnings and income structure in connection with retirement. Special attention was paid to the replacement ratio of the pension, i.e. to what extent the pension replaced the earnings when a person retired from employment. The information we receive of the replacement ratio is interesting, because the objective of the earnings-related pension is to ensure that subsistence during employment remains at a reasonable level when a person retires. In addition to the replacement ratio, we also examined to what extent the gross income of people changed when they retired.

Our survey material consisted of unique panel data from the population data of Statistics Finland on approximately 500,000 persons from 1995 to 2004. The target group of the actual analysis were persons who retired from gainful employment between 1999 and 2003. Although the data is a few years old, it provided a reliable image of the phenomenon under investigation since replacement ratios change slowly.

We calculated the empirical equivalent of the replacement ratio by proportioning the retiree's pensions granted in his or her own right (statutory earnings-related, national and self-employment pensions, excluding survivors' pension) to the amount of his or her earned income and income transfers prior to retirement. In addition to earned income, income transfers were taken into account as part of the income prior to retirement since, prior to retirement, the retiree may have suffered from a temporary loss of income due to, for example, unemployment or illness. All pensions granted in a person's own right were calculated for the year following retirement. The income prior to retirement was the average income of the second, third and fourth years prior to retirement. The income during the year immediately prior to retirement was not taken into account, so that the sickness allowance usually paid for one year prior to retirement on a disability pension would not affect the results. When calculating the ratio of all pensions granted in a person's own right, the pension is thus compared to a stable earnings level of a few previous years.

Applying the same principle, the gross income ratio of the pension was defined, as the ratio of the retiree's gross income during and prior to retirement. Since the gross income contains all income received by the retiree, the gross income ratio indicates the total change in the income when retiring.

In the examination, special attention was paid to how all pensions granted in a person's own right and gross income ratios changed according to significant factors from the point of view of the earnings-related pension, e.g. the pension act valid during the employment prior to retirement, the pension type and age. The most detailed analysis was performed for those retiring in 2003. When the results were compared with persons who retired between 1999 and 2002, the results of the various years hardly deviated at all. Therefore, the results concerning 2003 presented below represent accurately all years included in the study.

According to the survey data, a total of 54,000 persons retired in 2003. Approximately 60 per cent of them were employed prior to retirement. Approximately 40 per cent were unemployed or for other reasons outside the work force. Since it is reasonable to assess the ratio of all pensions granted in a person's own right in connection with retirement from employment, those who were unemployed or for other reasons outside the work force were excluded from the survey. It is important to keep this focus in mind, especially in connection with the review of low-income people.

Another limitation relating to the ratio of all pensions granted in a person's own right is connected to retiree's on part-time pension who, according to general praxis, are persons in (part-time) employment. In this study, the part-time employed are included when making a general analysis of those retiring from employment. However, when doing a closer analysis of those retiring from employment, the part-time employed are not included. Of all those who have retired from employment, nearly every tenth retired from part-time employment.

Great accuracy is required in the interpretation of the ratio of all pensions granted in a person's own right. In theoretical calculations of the replacement ratio, retirement is usually understood as a change from employment into old-age pension. Therefore, no attention needs to be paid to the time span. However, in this study the pension is compared to the income of a few years prior to the retirement. This is necessary in order to be able to compare the stabilized earnings prior and after retirement in a consistent and sensible way.

Also, the ratio we were using is not equal to the ratio between the earnings-related pension and the annual wages serving as the basis for the calculation of a pension. We do not have data on a person's entire work history, all the various incomes for which pension has accrued, as well as the various regulations connected to the calculation of the annual wages that serve as the basis for the calculation of a pension.

The pension amounts to approximately 60 per cent of the wage earner's income during a few previous years

According to the research results, the median of the ratio of all pensions granted in a persons' own right in 2003 to a retiree was 60 per cent. However, the individual fluctuation was great, although there were few small ratios under 20 and few large ratios over 200. 80 per cent of the ratios were between 31 and 96 per cent.

In 2003, the median ratio of all pensions granted in a person's own right of the private-sector retirees covered by TEL was 57 per cent.[1] The equivalent median ratio of the public sector, municipal and state retirees was six percentage points higher. The results are logical in light of the fact that pensions accrued faster for employees in the public sector than for those in TEL employment.

The median ratio of all pensions granted in a person's own right was smaller for the self-employed and higher for farming entrepreneurs than for employees in TEL employment. However, what is of significance is the great fluctuation. The ratio of all pensions granted in a person's own right for every fourth self-employed person was at least 90 per cent, and for every farming entrepreneur at least 105 per cent. The self-employed and farming entrepreneurs are a clearly more heterogeneous population group. This is partly reflected by the great dispersion. The dispersion was great also among employees in LEL construction and harbour employment, where short employment contracts are common.

In 2003, the median of the ratio of all pensions granted in a person's own right of those who have retired on an old-age pension was 64 per cent, while it was 58 per cent for those who retired on an early old-age pension. Early old-age retirement reduces the pension permanently, which is evident in the ratio of all pensions granted in a person's own right. The median ratio of those retiring on a full disability pension was 60 per cent. The difference in comparison to the ratio of those retiring on an old-age pension is fairly small and is partly explained by the fact that the disability pension usually includes pension accrued for lost earnings, i.e. a pension component for projected pensionable wage.

Of the pension types, partial disability pension and special farmers' pensions formed exceptions. In the first-mentioned, the median of all pensions granted in a person's own right in 2003 amounted to only 28 per cent, and the difference between the smallest and highest decile was 17–40 per cent. In the letter case, the ratio of all pensions granted in a person's own right is low because the partial disability pension is half of the full disability pension. Among those retiring on special farmers' pensions, there were clearly more than average of both large and small ratios of all pensions granted in a person's own right. The large dispersion can be explained by the fact that special farmer's pensions consist of very many different types of pensions.

---

1 In addition to TEL branches, private-sector wage earners include persons insured under construction and harbour (LEL) acts and the Pensions Act for Performing Artists and Certain Groups of Employees (TaEL). In 2007, private-sector pension acts (TEL, LEL, TaEL) merged into TyEL.

The medians of the ratios of all pensions granted in a person's own right of the various age groups neared the average. However, the ratios of all pensions granted in a person's own right of those who retired under the age of 35 were clearly higher than average since, in practice, some of the young had been without income prior to retirement. The results are indicative because there are very few observations in the young age group. The differences in the ratios of all pensions granted in a person's own right were minor also in terms of gender and family position. The median of men, women, persons living alone and those with a family was approximately 60 per cent, and the fluctuation between the smallest and largest decile was between 30 and 100 per cent in all age groups. The result is natural since gender or family position does not affect the determining of the pension.

When retiring from employment, gross income is reduced by 25 per cent on average

In 2003, the gross income median of retirees from employment was 71 per cent. On average, the gross income was thus reduced by more than 25 per cent when the object of comparison was the stabilized gross income of a few years prior to retirement. However, the diversification of the gross income ratios is large. Of all retirees from employment, the ratio of all pensions granted in a person's own right was between 50 and 150 per cent in 80 per cent of the cases. On average, the gross income ratios were approximately 20 per cent higher than the ratio of all pensions granted in a person's own right. According to a rough estimate, this is how much the ratios of all pensions granted in a person's own right "overestimated" the average drop in the income level of those retiring from work. In addition to the pension and the preceding earnings, the retirees also had other income, and this income evened out the change in income at retirement.

For wage earners, the difference between the gross income and the ratio of all pensions granted in a person's own right was smaller than average. The gross income ratio of the self-employed and farming entrepreneurs, on the other hand, was nearly twice as high as the ratios of all pensions paid in a person's own right. Other income, such as capital income and earnings during retirement, raises, in particular, the gross income ratios of the self-employed and farming entrepreneurs. On the other hand, the diversification was considerable in these groups.

The gross income ratio medians of those retiring on old-age pension and full disability pension were 70 per cent in 2003. However, the gross income ratio median of those retiring on a partial disability pension was 86 per cent. The significance of employment during part-time disability pension retirement is obvious since the ratio of all pensions granted in one's own right of this group was only 28 per cent. However, it must be recalled that all those who have retired on a part-time disability pension do not work during retirement.

The median of the gross income ratio of 74 per cent of those who have retired on an early old-age pension is higher than the old-age pension. Regarding the ratio of all pensions granted in a person's own right, the situation was the opposite. Although retiring on an early old-age pension reduces the pension amount and hence the ratio of all pensions granted in a person's own right, those retiring on an early old-age pension have a higher income on average. As a result, the gross income is lowered to a lesser degree than that of the average pension when retiring.

Per age group, the gross income ratios were higher than average among the young, but also among the group of persons who have turned 65. As previously stated, the smallness of the earnings prior to retirement affected the young people's gross income ratios. The high gross income of the older age group largely explains why the share of the self-employed and farming entrepreneurs in the older age group was larger than average. In these groups, the gross income ratios are usually high.

Examining the gross income ratios of those retiring from employment based on gender or family position does not change the situation compared to what has been observed before. The differences between the gross income ratios of these groups were minor, and on average, the gross income ratios were approximately 11 percentage points higher than the ratios of all pensions granted in a person's own right.

The ratios of all pensions granted in a person's own right and of gross income of low-income employees are high

High ratios of all pensions granted in a person's own right are typical for low-income people. In 2003, the median ratio of all pensions granted in a person's own right of those retiring from the lowest income decile was 128 per cent, while it was 73 per cent of those retiring from the second-lowest income decile. As of the third decile and higher, it was stable, at approximately 58 per cent. The significance of the earnings level prior to retirement was similar also when examining gross income ratios. In the lowest income decile, the median gross earnings ratio was approximately 170 per cent, while it was as high as 70 per cent, on average, for the third decile. There were low-income people in all groups of retirees, but they were proportionally most frequent among the self-employed and the farming entrepreneurs.

A low earnings level prior to retirement may be caused by several reasons. Stabilized income prior to retirement has been calculated in this study for a period of three years. Part of this time, the person may have been unemployed, sick, studying, on alternation leave or, for some other reason, outside gainful employment. The small earnings can also be explained by part-time work. A completely separate group is formed by the self-employed and the farming entrepreneurs. For them, the last years prior to retirement may have been financially unprofitable. Common for persons of low income was that a fairly large part of the gross income prior to retirement stemmed from other sources than earnings.

In summary

One of the objectives of the earnings-related pension scheme is to ensure that the income level prior to retirement will remain reasonable when retiring. The results from the early 2000s of the ratios of all pensions granted in a person's own right provide a positive notion of reaching the set objectives during the first few years of retirement. The ratio of all pensions granted in a person's own right to retirees is approximately 60 per cent, and it is hardly ever less than 50 per cent. The gross earnings ratios were at an even higher level than this.

The ratios of all pensions granted in a person's own right have not fluctuated significantly according to various background factors. In this sense, the pension scheme, despite its complexity, has treated all insured in a relatively equal manner. When earnings prior to retirement were taken into account, the ratios of all pensions granted in a person's own right were of fairly equal level based on pension act, pension type, age, gender and family position. An exception was formed of the most low-income employees, whose ratios of pensions granted in a person's own right were higher than average. When retiring, their earnings level either dropped less than on average or rose.

Of course, the ratios do not describe the level of subsistence or the differences in income between retirees. The study clearly shows how the level of subsistence is largely defined on the basis of the earnings level prior to retirement. In this way, the differences in subsistence between the various groups usually remain similar also after retirement.

The Publication is available only in Finnish:
Työstä eläkkeelle – tulokehitys ja korvaussuhteet. Eläketurvakeskuksen raportteja 2010:3.

More information:
Juha Rantala
Finnish Centre for Pensions
E-mail: juha.rantala@etk.fi
Telephone: +358 10 751 2251

Ilpo Suoniemi
Labour Institute for Economic Research
E-mail: ilpo.suoniemi@labour.fi
Telephone: +358 9 2535 7342

Ordering of publications:
aineistotilaukset@etk.fi

ISBN 978-951-691-126-0 (printed)
ISBN 978-951-691-127-7 (PDF)

ISSN-L 1238-5948
ISSN 1238-5948 (printed)
ISSN 1798-7490 (online)

Labour Institute for Economic Research,
Reports 18
ISSN 1795-2832

Finnish Centre for Pensions
ELÄKETURVAKESKUS

Finnish Centre for Pensions
FI-00065 ELÄKETURVAKESKUS, FINLAND
Tel. +358 10 7511
Fax +358 9 148 1172

Eläketurvakeskus
00065 ELÄKETURVAKESKUS
Puhelin 010 7511
Faksi (09) 148 1172

Pensionsskyddscentralen
00065 PENSIONSSKYDDSCENTRALEN
Tfn 010 7511
Fax (09) 148 1172

www.etk.fi
> Publications