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ROBUSTNESS OF THE DANISH PENSION SYSTEM¹

TORBEN M. ANDERSEN²

Introduction

Pension systems have multiple objectives. Firstly, the distributional objective of ensuring decent living standards for all elderly. Secondly, to provide pensions that stand in a reasonable relation to individuals' previous income when working to avoid sharp changes in living standards upon retirement (consumption smoothing). Thirdly, to provide insurance against various events, including a long life. Since the World Bank (1994) it has been generally accepted that a diversified or multi-pillar pension system is required to achieve this portfolio of objectives. The Danish pension system is a combination of public (pay-as-you-go, defined benefits) and labour market (funded, defined contributions) pensions. The system effectively prevents old age poverty and ensures reasonable replacement rates for most pensioners. The pension system is in transition in the sense that labour market pensions have been subject to rising coverage and contribution rates since the early 1990s. Gradually a growing number of people will have more pension savings at retirement.

The robustness of the pension system has various dimensions. One crucial dimension is whether the system implies an incentive structure supporting the underlying objectives. Another is whether the system is financially viable and resilient to changes in, for example, longevity or changes in financial markets (financial crisis or a low interest rate scenario). This paper takes stock of the Danish pension system. How is it structured? Is it prepared to cope with an ageing population? How has it been affected by the financial crisis?

The Danish pension system

The public pension includes a basic amount (flat-rate pension) and means-tested supplements³. Furthermore, there are a number of age-dependent supplements. These pension entitlements are of the defined benefit type, and tax financed⁴. Public pensions are indexed to wages.⁵ By law all wage earners and recipients of transfer income contribute to the supplementary labour market pension (ATP). It is a defined contribution scheme to which all contribute the same monthly amount (depending on working hours). The contribution rates are relatively small, and therefore this scheme cannot in itself ensure sufficiently high replacement rates. Labour-market pensions are agreed upon as part of an employment relationship or through collective agreements between the social partners. The development of labour market pensions took off in 1989–91, and the arrangements have subsequently been extended to a large part of the labour market, and contribution rates have been increasing until recently. Today contribution rates vary between 12 and 18 percent, with rates tending to be higher for high income groups. Private pension savings comprise other forms of savings (voluntary savings), as well as savings in pension savings schemes in banks and insurance companies (the return is taxed more leniently, but the funds are tied to retirement).

Statutory ages in the pension system (for public pensions, for early retirement, and age limits for payment of funds from pension schemes) are established by legislation and thus regulated at a political level. Recent reforms – the welfare reform of 2006 and the retirement reform of 2011 – will increase these ages considerably to cope with an ageing population. The first element of the reforms is discrete increases in the early retirement age from 60 to 62 years over the period 2014–17, shortening the early retirement period from five to three years over



¹ Comments from Peter Schultz-Møller are gratefully acknowledged.

² Aarhus University, CESifo, CEPR and IZA.

³ Eligibility for the public pension requires residence in 40 years within the age of 15 and 65, if this requirement is not fulfilled, the pension is reduced proportionally to the accumulated period of residence.

⁴ This section provides a summary, for a more detailed description see, for example, Money and Pension Panel Expert Group (2012).

⁵ This adjustment is carried out relative to increases in annual wages two years earlier, according to wage statistics from the Confederation of Danish Employers. If the rate of increase exceeds two percent, 0.3 percent is allocated to an adjustment pool used for activities directed at the recipients of transfers. According to a recent tax reform the indexation of transfers is changed for the period 2016 to 2023 such that, on average, they are only adjusted by changes to prices.

the years 2018–19 and 2022–23, implying an early retirement age of 64 in 2023, and increasing the pension age from 65 to 67 years over the period 2019–22. The second element is an indexation of the early retirement age and pension age to the development in life expectancy at the age of 60 in order to target the expected pension period to 14.5 years (17.5 including early retirement) in the long-run⁶ (currently about 18.5/23.5 years).

The overall taxation principle for pension savings follows an ETT-model, that is, contributions are tax exempt, returns are taxed, and pension payments are treated as personal income and thus taxable income. Due to progressive elements in the tax system, the value of the tax deduction for contributions may be higher than the tax paid on the pension payments. However, this should be seen relative to means testing of public pensions, cf. below. The current tax rate on the returns is 15.3 percent, which is low compared to most other savings possibilities, see also below.

Outcomes

The many elements of the Danish pension system serve several purposes. The public pension can be seen as the base of the system, i.e., it provides the minimum income that all pensioners are ensured independently of any labour-market pension or other private savings. Supplements depend on income and wealth targeting economically disadvantaged pensioners. This serves the distributional objective. Labour-market pensions depend on the extent of work and income during economically active years, as well as the return on accumulated funds. High employment rates and income result

in high contributions and, consequently, in high pension savings, and thus, by extension, in higher consumption opportunities as a pensioner. Labour-market pensions therefore play a decisive role in ensuring that the consumption opportunities of pensioners stand in relation to those prevailing prior to retirement (consumption smoothing). Finally, voluntary private pension savings give individuals the opportunity to ensure a higher pension for themselves than the amount due to them from compulsory public pensions and labour-market pensions.

The outcomes of the Danish pension system in terms of distribution and replacement rates are illustrated in Figures 1 and 2, respectively. The level of public pension is such that very few elderly people end up in the

Figure 1

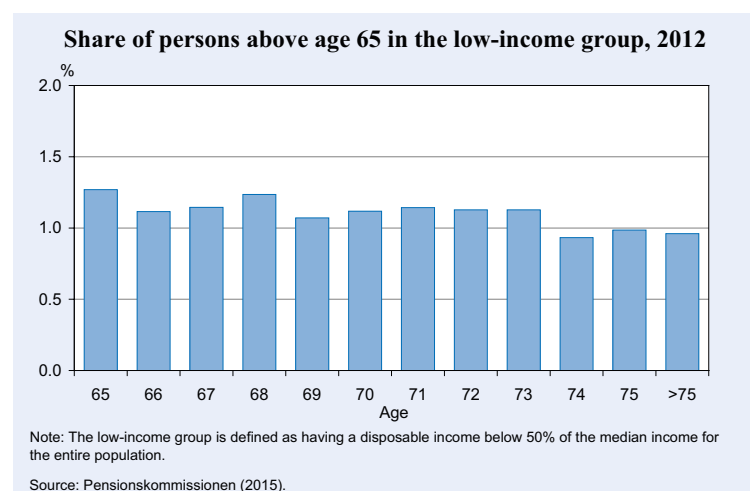
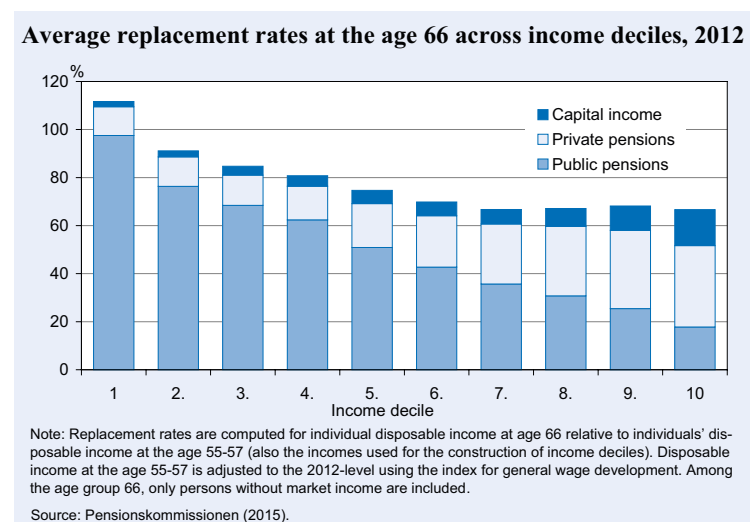


Figure 2



⁶ The system is semi-automatic, since a change has to be approved in parliament every fifth year. The changes are smoothened since the change in one year can never be below 6 months and above 12 months. Changes in the pension ages are announced with a lead of 15 years, implying that the first change will be implemented in 2030 (2027 for early retirement).

Figure 3

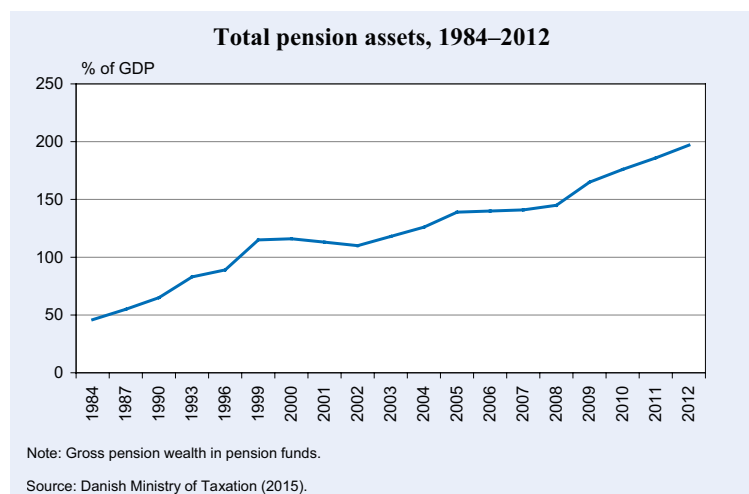
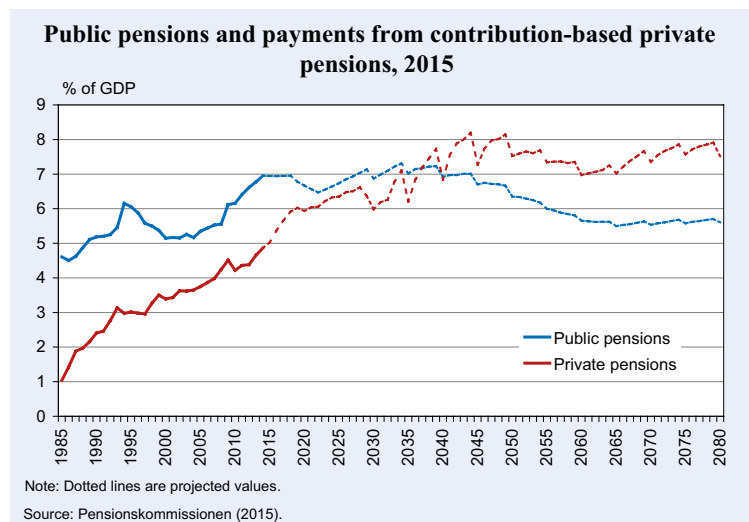


Figure 4



low-income group that has a disposable income below 50 percent of median income (see Figure 1). Those in the low-income groups are often immigrants who do not meet the full residence requirement for public pensions. Using the official poverty line, only 0.3 percent of those above the age of 64 fall below this threshold (see Økonomi- og Indenrigsministeriet (2014)).

The replacement rates and their composition are shown for different income groups in Figure 2. Several points are worth noting: Firstly, replacement rates close to 100 percent for low income groups (1st decile) reflect that social transfers for non-employed individuals of a working age are close to the full public pension (base pension plus supplements). Most people with an income in the 1st decile are out of work and receive a social

transfer. Hence the replacement rate is close to 100 percent. This is related to the finding above that poverty among the elderly is rare. Secondly, the replacement rate for high income groups (5th decile or above) is about 65 percent. This is relatively high compared to other OECD countries, see OECD (2014). Thirdly, in terms of the composition of the replacement ratio, the relative role of public pensions is declining and that of private pensions is increasing in the income level. This is a direct result of the means testing of supplements in the public pension system. Looking to the future, this will become even stronger, since private pensions are still in a transition phase, cf. below. Hence, replacement rates will increase, and private pensions will increase in importance, although public pensions remain of significant importance to most.

Pension system in transition

The Danish pension system is in transition. Contribution rates for labour market pensions have been increasing since the early 1990s, and they have only been steady at current levels for a few years.

Accordingly, there is a time horizon of several decades before the current system can be fully phased in such that pensioners can draw on labour market pensions created by contributing at this level through a full working career. As a result, pension funds are in a building-up phase with relatively steep increases in total pension assets. Figure 3 shows a rather significant development, whereby today's assets constitute about 200 percent of GDP. This is a gross amount since pensions are taxable income, but still of significant importance.

The building up of private pension funds relieves public finances due to the means testing (and even more so if the public system is to deliver the same replacement rates as the combined system). Public finances are sensitive to the age structure of the population. As noted, reform in-

initiatives have been launched to address the implications of ageing on public finances, primarily involving increasing retirement ages. Danish public finances thus meet the criterion for fiscal sustainability⁷ (see Ministry of Finance 2015, Danish Economic Council 2014). In that sense, the pension system is robustly funded.

An implication of the phasing in of private pensions and reforms of retirement ages is that private pensions will play an increasing role and public pensions a decreasing, but still significant role. This is illustrated in Figure 4, which shows both public pensions and annual pensions from funded schemes as a share of GDP.

Challenges

Despite a robust structure the Danish pension system faces some challenges. Some relate to inherent dilemmas in the structuring of pension systems, and others to specific features related to the Danish system.

(i) Effective tax rates on savings and retirement

Means testing of public pension (supplements) serves a targeting purpose of ensuring that all pensioners have a decent living standard. However, it also implies that increased private savings, and thus pensions, are not reflected one-to-one in total pensions, since public pensions are reduced. Means testing thus effectively implies a tax on private savings. In considering the incentives to save and retire, it is therefore not only important to consider formal taxes, but also the implicit taxes arising via means testing. Due to the complexity of the rules, this cannot easily be summarized, but Figure 5

⁷ The projected budget profile is nevertheless problematic since it has a sequence of structural deficits between 2025 and 2055 (peaking at about 1.5 percent of GDP in 2045, and in most years exceeding the 0.5 percent of GDP limit) to be followed by surpluses in the distant future. This profile is mainly the result of a slow phasing in of the increases in retirement ages and a strong effect of the indexation scheme in the long-run (decreasing the share of life spent as pensioner).

Figure 5

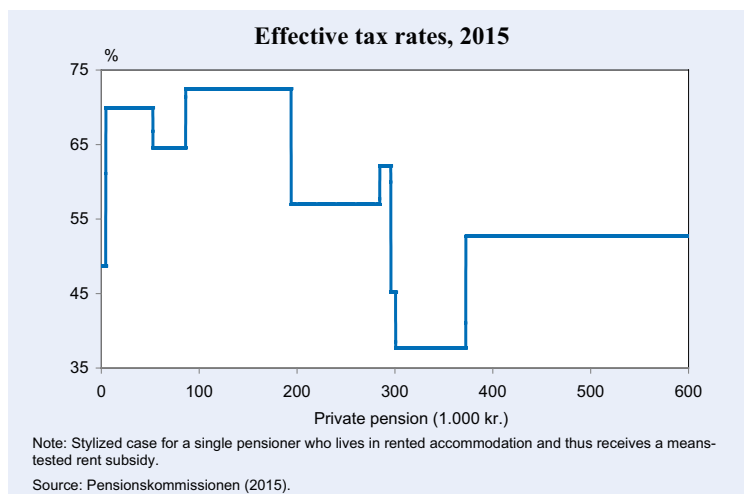
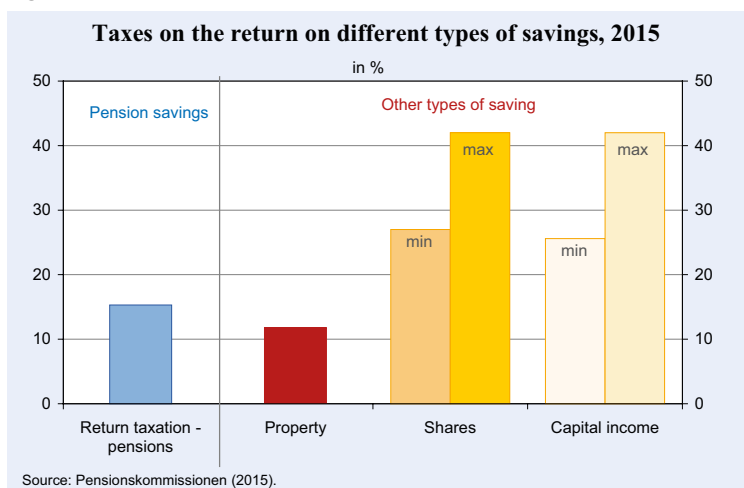
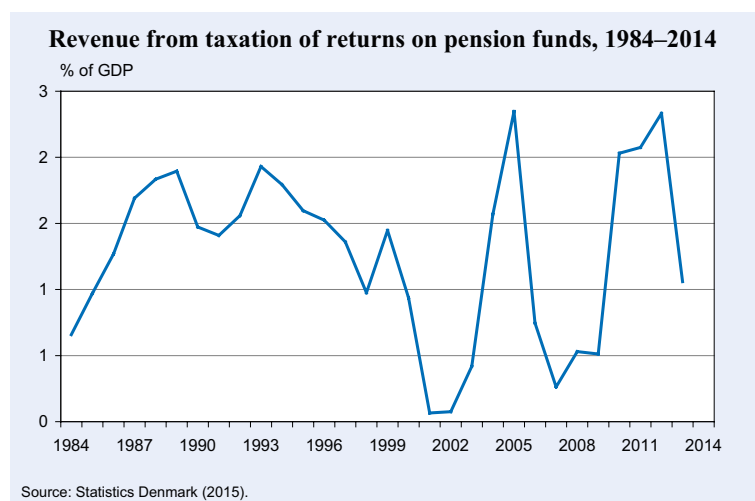


Figure 6



illustrates such implicit taxes for a single pensioner in rented accommodation. The figure shows the effective tax on the payment of a private pension. For low values of private pensions the effective tax rate can be close to 75 percent, while for high values of pensions it is about 53 percent. The reason why the effective tax rates become high for low private pensions (and thus typically low income groups) is means-testing, which targets public pensions for the least well-off pensioners. While serving a distributional purpose, means-testing creates an incentive problem, which may be detrimental to the overall objectives of strengthening private pension savings and inducing later retirement.

Figure 7



(ii) Different taxation of various types of pension savings

The current system has very different rates of taxation for the return on different types of savings, cf. Figure 6. This is problematic since it has a distorting effect on asset allocation. The lower taxation of the return on pension savings is motivated by these savings being tied for release only when retired. The favourable taxation of housing is partly related to a nominal freeze of property taxes since 2002.

A particular question is whether the tax structure provides incentives to so-called balance expansion for households. A person contributing to pension savings (with a return tax of 15.3 percent) and at the same time borrowing (with interest rates deductible at a rate of 25–33 percent) effectively receives a tax subsidy by expanding the balance. Denmark stands out as having households with high gross debt ratios, although the average household is a net-creditor.⁸ However, the liquidity of assets and liabilities is very different, and this may create a systemic risk factor with implications for macroeconomic stability. It is also questionable whether the Danish tax system should offer this kind of incentives.

(iii) Return variability and low interest rate scenario

The discussion above points to the possible adverse incentive effects of the interplay between public and private pensions via means testing of the latter (and tax-

ation in general). This, however, also has an insurance effect. All changes in private pensions beyond individual control, like involuntary unemployment or variation in the return on pension savings, are shared with public pensions. In the Money and Pension Panel Expert Group (2012) a number of cases are considered, showing that there is an implicit insurance effect. Since means testing applies to relatively low incomes/pensions, there is an asymmetry in the insurance mechanism. Households ending up with low private pensions receive more from the public system. In the case of a higher

private pension, means testing ceases at some point, implying that further increases in private pensions benefit the individual (low effective tax). The implicit insurance created via means testing and taxation is thus mainly an insurance against downside risks.

As noted, Denmark follows an ETT principle in the taxation of pensions overall. It is thus one of the few countries taxing the return on pension savings. The return taxation was introduced in 1984 since a disinflationary policy implied a high real return on nominal fixed bonds (constituting a significant share of pension fund portfolios at the time). The tax has been changed a number of times and is now a proportional tax of 15.3 percent on the pension fund return (a return calculated based on returns, including accrued capital gains and losses). This contributes a non-trivial amount of tax revenue (on average 1.25 percent of GDP), cf. Figure 7. The revenue from the tax is a mirror of capital market developments (and overall accumulated funds). The variation is rather large and introduces significant short-run volatility in public budgets.

A low interest rate scenario raises a number of questions for pension savings. One concern is whether pension funds, in the quest for a higher return, will take greater risks. The asymmetric risk sharing implied by the system may reinforce such a tendency. If lower real returns are caused by lower productivity growth, the implication is not only a lower return on private pensions, but also corresponding lower growth in wages, and thus in public pensions (presuming that wage indexation is maintained).

⁸ Further, a persistent surplus on the current account also indicates that Denmark does not have a general savings problem.

The effect of lower rates of return on fiscal sustainability is complicated. Lower returns on pension savings will imply less tax revenue, higher expenditure on public pensions, but also a lower interest rate on public debt (and thus discounting to assess fiscal sustainability). The net effect – given the underlying budget profile for Denmark – is that a lower interest rate marginally deteriorates fiscal sustainability (Ministry of Finance (2015)).

Concluding remarks

The foundation for the Danish pension system was laid in the late 1980s with a build-up of funded labour market pensions. This, in combination with later reforms of public pensions to address the ageing challenge (primarily via increased pension ages), ensures that the system is viable and is meeting its main objectives. This is reflected if the system satisfies the requirements of fiscal sustainability, offers relatively high replacement rates and avoids poverty among elderly citizens. Having been relatively quick to prepare for ageing, the system also implies that the financial crisis has not challenged the pension system or contributed to make the situation worse.

Despite this, a number of challenges remain with the structure of the Danish pension system. While the interplay between private and public pensions reflects a division of labour between concerns for distribution and consumption smoothing, it also implies a distorted incentive structure for pension savings and retirement.

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