Pension Corporation Research

Public sector pensions: Rationale and international experiences

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Executive Summary

This paper is about public sector pensions, an issue that has become increasingly contentious in a number of countries in recent years, including in the United Kingdom. In the UK the public debate has focussed on the perceived generosity of these pensions, which, it is often claimed, contrasts with the pension promises made in the private sector. This paper does not attempt to answer whether public sector pension promises are relatively generous in the UK or elsewhere but instead aims to provide the bigger picture against which a discussion of public sector pension provision could be held.

The origin of today's public sector pensions can be traced back at least to Ancient Rome, which offered pensions to its military personnel. Pensions to public sector workers can also be traced back several centuries even though their provision remained on an ad-hoc basis for longer, while universal pension provision for all is a creation of the modern welfare state. The issue of public sector pensions is intrinsically linked to the role of the state in society. Beyond the provision of pure public goods such as defence, the role of the state varies widely across countries, for example in the provision (and funding) of health or long-term care. The role of the state has also changed over time, for example in the telecommunications sector, reflecting technological progress and ideological changes.

In most countries working for the state comes with a number of privileges (e.g. job security) but also with certain responsibilities (e.g. relinquishing the right to strike). An international comparison reveals that in a number of countries the state is also a special employer in the sense that it offers more generous pensions than the private sector. This is, however, not the case in all countries. The paper argues that the government might pursue a number of objectives going beyond poverty alleviation by offering more generous pensions but also stresses that more generally the objectives of efficiency, equity and sustainability remain desirable even in the context of public sector pensions.

i. Introduction and structure

This paper is about public sector pensions, an issue that has become increasingly contentious in a number of countries in recent years, including in the United Kingdom. In the UK the public debate has focussed on the perceived generosity of these pensions, which, it is often claimed, contrasts with the pension promises made in the private sector. This paper does not attempt to answer whether public sector pension promises are relatively generous in the UK or elsewhere but instead aims to provide the bigger picture against which a discussion of public sector pension provision could be held.

To do so, the paper provides a very brief history of public sector pension provision (Section ii), before discussing the role of the state in the economy and society more generally (Section iii). This is important as the issue of public sector pensions only arises due to the state being an employer. The section also discusses why working for the state might be different to working in the private sector and provides a number of reasons why the state might offer pensions distinct to those offered in social security schemes. In addition, the section provides an international comparison of the share of public sector employment in total employment. Section iv discusses whether the state is a special employer in terms of providing occupational pensions. To do so, it studies public sector pension arrangements in a number of countries, which reveals significant cross-border differences. Finally, Section v argues that the three objectives of a pension system developed in the Pensions Tomorrow White Paper[1] – efficiency, equity and sustainability – remain valid criteria in the context of public sector pensions.

ii. A brief history of public sector pension provision

The origin of today's public sector pensions can be traced back at least to Ancient Rome, which offered pensions to its military personnel. Initially offered on an ad-hoc basis, Augustus formalised a pension plan for veteran legionnaires in 13BC, which promised a pension upon completion of 20 years in service. The pension plan, which offered a replacement rate of between two-thirds and three-quarters of a labourer's income, was initially financed out of general taxation but within a few years Augustus established a special fund, which was mainly financed through an explicit five per cent tax on inheritances.[2] The eventual decline of the Roman Empire also meant the demise of these arrangements.

Similar schemes only re-emerged with the creation of the nation state in Europe, which led to the establishment of professional standing armies. By the late 16th century, for example, the British Parliament established a pension system for its soldiers, with the aim of providing disability payments. The main continental European powers such as Austria, France or Prussia set up similar schemes soon afterwards, initially only covering the officer classes but later expanded to cover all personnel. Eventually, similar schemes were also set up for the navy.

Pensions to public sector workers can also be traced back several centuries even though their provision remained on an ad-hoc basis for longer. The first public sector pension in Britain was apparently paid out in 1684 to a senior official of the Port of London Authority.[3] He retired on a pension worth half his final salary, which was entirely financed out of his successor's income.[4] In 1712 the first formal superannuation fund was established for customs officials and nearly a century later (in 1810) British Parliament took the first steps towards establishing a civil service pension

[1] *Pensions Tomorrow A White Paper*, Frank Eich and Amarendra Swarup, 2008.
[2] *A History of Public Sector Pensions in the United States*, Robert L. Clark, Lee A. Craig and Jack W. Wilson, University of Pennsylvania Press, 2003 and eh.net/encyclopedia/article/craig.pensions.public.us
[3] *A world still inhabited by projects Prolonging the working life span: employment, leisure and health in old age*, Tony Salter, 2002.
[4] More specifically, the successor was appointed under the condition that he paid half of his annual salary as a pension to his predecessor.

scheme.[5] In 1834 Parliament passed the Superannuation Act 1834, which established non-contributory pensions for civil servants.[6] Larger private-sector companies started to introduce their own occupational pension schemes towards the end of the 19th century.[7]

Universal pension provision for all is a more recent phenomenon and is a creation of the modern welfare state, which is often associated with Bismarck. Influenced by the social-democratic movement in Germany, Bismarck introduced a range of insurance-based social security schemes, including on pensions, by 1889. These social-security pensions were contribution based and offered a defined-benefit pension independent of any potential occupational pension. Many countries copied the basic set up of the German insurance-based pension system. While an overarching objective of the Bismarckian system has been to assure standard of living in old age, the competing Beveridge system has aimed at guaranteeing a subsistence level.[8]

iii. The state as a special employer

The state as a provider of public goods and services

The issue of public sector pensions is intrinsically linked to the relative size of the public sector in a society (for example in terms of employment), which in turn depends on the role of the state. The issue of public sector pensions is therefore also linked to the question of what type of society one would like to live in.

A fundamental role of the state is to provide public goods and services, which could not be provided by the private sector. Providing national security is a classic example of such a public good. The state also generally ensures law and order within a country through its policy force;[9] as a result military personnel and members of the police force are generally employed by the state. The state also relies on a civil service to support the government of the day in its policy making and implementation, including through the judiciary.

Beyond these core competencies, the role of the state becomes less clear. For example, in most countries the state is the main provider of education, which it finances through general taxation. However, there is no intrinsic reason why the state should be the provider of education and the state’s role could be limited to paying private sector or third sector players such as charities to provide education services and to setting a national curriculum and examinations. In fact, private sector agents could seek their own revenue, with the role of the state then limited to setting a national curriculum and examinations. In practice, in most countries primary and secondary education are predominantly provided by the state to ensure that certain welfare objectives are met (though countries such as the UK also have a sizable private education sector), while there is more variety in the provision and funding of tertiary (higher) education services. This is because it is often considered that the benefits from attaining further qualifications mainly accrue to the individual rather than to society more generally.

The same rationale as in the education sector applies to the provision of many other goods and services, including local services such as refuse collection, formal childcare or health care. In all these instances the state could fund and provide the goods and services in question; however, it could also conclude that the private sector might be more efficient in providing (and in some instances funding) them, with the state’s role limited to regulation to ensure that certain welfare objectives are met.

[5] *Civil-service Pension Schemes Around the World*, Robert Palacios and Edward Whitehouse, 2006.
[6] *Pension schemes and pension funds in the United Kingdom*, David Blake, 1995.
[7] *Inventing retirement: the development of occupational pensions in Britain*, Leslie Hannah, 1986.
[8] *Bismarck versus Beveridge: A comparison of social insurance systems in Europe*, CESifo DICE Report 4/2008, pages 69 to 71.
[9] Some related functions such as controlling public transport can and are being performed by private security firms in a number of countries.

Different societies have defined the role of the state in these areas in different ways. In Sweden, for example, childcare or care for the elderly is generally provided in formal settings and is conducted and funded through taxation by the state. In other countries these activities are more often provided informally (with individuals looking after their own children or elderly parents) or formally by the private sector, which charges its customers directly. Another important area is that of health care provision. While most health care services in the United Kingdom are provided by the public National Health Service (NHS), which is overwhelmingly financed through general taxation,[10] in other countries these services are provided (and often funded) by the private sector, with the government playing a regulatory role. This means that most NHS staff are public sector employees and hence are entitled to a public sector pension, while in other countries the medical profession is part of the private sector. In Germany, for example, general practitioners and other *niedergelassene Ärzte* (registered practice-based doctors) are generally self-employed and get reimbursed for the services they provide by the statutory health insurers. By law German medical professionals have to be members of their respective *Ärztekammern* (guilds) and have to plan for their retirement by making contributions to the guild-based pension schemes, which the government accepts as a substitute to contributing to the statutory social insurance state pension scheme. As such German medical professionals are treated similarly to most other *Freiberufler*, a select group of self-employed professionals comprising legal, economic and tax consultants; technicians such as architects and engineers; and artists.[11] Most German medical professionals are therefore not eligible to a public sector pension.[12]

The United States is another country, in which the provision and funding of health care is organised in a very different way to that in the UK. The majority of Americans have private health insurance as part of their employment package, with the state's role limited to providing health care to those on low incomes (through Medicaid) and the elderly (through Medicare). Equally, the private sector is the main provider of health care services (e.g. non-profit hospitals) and most medical professionals can be found in the private sector as a result. As in the case of Germany, most US medical professionals will not be eligible to a public sector pension.

The above international comparison shows that the role of the state varies across countries. Equally, the role of the state has varied over time. Up to the 1980s it was common in most developed countries for the state to provide (and often at least partially fund) a wide range of goods and services, which would nowadays be associated with the private sector. This was particularly the case for industries with natural monopolies, in other words those with significant fixed costs (perhaps due to substantial infrastructure requirements) which made market entry difficult for potential competitors. These industries included the "utilities" such as water, electricity and telecommunications but also radio and television, and the railways. Technological progress and ideological changes have pushed back the role of state in all these areas to the point where it now merely regulates certain industries (e.g. water), maintains those parts that remain natural monopolies (e.g. Network Rail in the UK) or focuses on core functions (e.g. public service broadcasting in the UK). The changing role of the state as a provider of goods and services has affected the number of public sector employees eligible for a public sector pension over time. Last but not least, public sector employment will also depend on a country's military ambitions, with military personnel on the state's wage bill and accruing public sector pension entitlements.

The economic and financial crisis that erupted in 2007 has shifted these boundaries yet again and the role of government might be very different in the decades to come to that experienced over the last two or three decades.[13]

[10] Another source of revenue would be co-payments.

[11] See www.freie-berufe.de

[12] The situation is the reverse for university professors: while they are *Beamte* (civil servants) in Germany, they are not classified as public sector employees in the United Kingdom.

[13] In most countries the role of the state goes beyond funding and providing public goods and services or regulating the private sector to do so. Most developed countries have elaborate welfare systems. However,

Working for the state: a special relationship

Working for the government or the state more generally has always had a special status as military personnel or civil servants represented the will of the Crown or the government of the day. It has also been associated with certain privileges, whether this is in the United Kingdom or elsewhere. For example, in the UK civil servants work at "Her Majesty's pleasure" and enjoy special "privilege days", while being a *Beamter* or a *fonctionnaire* is a highly coveted status in Germany and France respectively. In many instances these privileges include a job for life; attractive working conditions in terms of hours worked or job flexibility; and a generous pension including attractive sickness pay.

As discussed in Section II, the first group of individuals to receive a pension were soldiers, with the state providing a care function for those who had served their country. These pensions were initially seen as disability payments rather than retirement payments. The state eventually widened the group eligible for a public sector pension to include civil servants and later still to other public sector workers. There were a number of reasons for doing this, including to:[14]

- secure the independence of public servants (minimise corruption and bribery);
- make a career in public service attractive (attract and retain skilled staff);
- shift the cost of remunerating public servants into the future; and
- retire older civil servants in a politically and socially acceptable way.

It is likely that political rulers also offered pensions to gain the goodwill of the staff they relied on to develop and implement their policies. In many countries civil servants and public sector employees more generally represent powerful lobby groups, and are often heavily unionised.

In return for the privileges they might enjoy, public sector workers and especially civil servants often also have to give up certain rights, which many people would consider to be non-negotiable in a democracy. For example, in Germany civil servants – unlike other public sector or private sector workers - are not allowed to strike as state representatives. In Britain, civil servants have to meet the Civil Service Code and are barred from standing for election as Members of Parliament or any other political office, while senior civil servants are not allowed to hold office in a political party or express their views on political or policy issues in public. More junior civil servants have to clear any similar activities with their line managers. For some members of society this would be an unacceptable curtailment of individual freedoms.

Historically, individuals decided at the outset of their career whether they wanted to work in the private or public sector, and both sectors generally offered mutually-exclusive career paths. Nowadays, the picture is less distinct in many countries, with individuals at all levels able to move between the two sectors if they wish to. This is particularly the case for those with transferable skills from nurses in the health system (e.g. in the NHS in the UK) to economists or IT specialists in the civil service. It is less likely to be the case for those with specific skills such as doctors. There are also industries in the private sector which do not as such exist in the public sector – be it retailing, catering or construction – and employees in these sectors are far less likely to move into public sector employment. Generally though, the two sectors have become more porous in terms of recruiting externally. In other words, it could be argued that in many countries the state has become a less "special" employer.

The size of the public sector in the economy

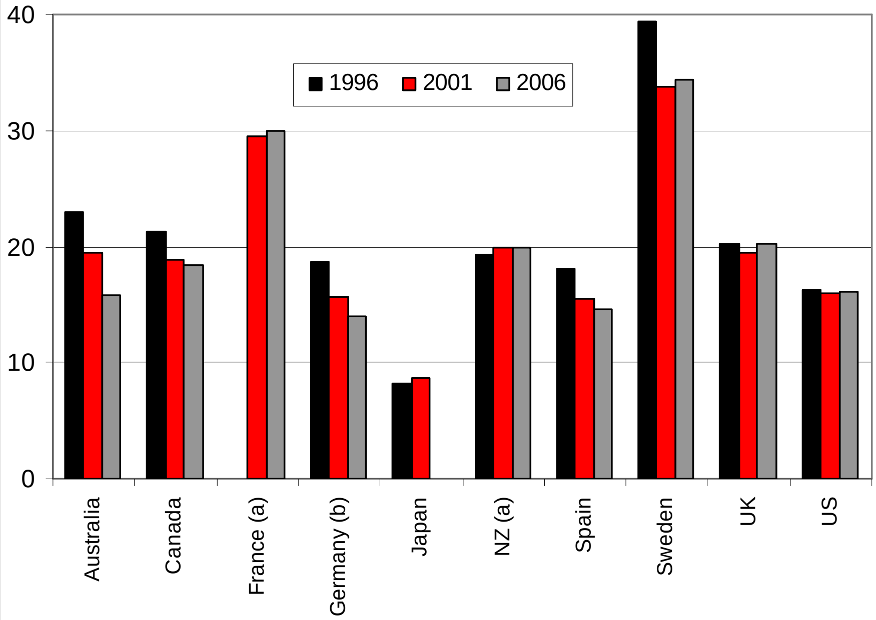
The above discussion suggests that the relative size of the public sector will vary across countries. Chart 1 shows that this is indeed the case, with the share of public

much of this is in the form of financial transfers (housing allowances, state pensions etc) and as such has little effect on public sector employment and hence public sector pensions.

[14] This list is taken from *Civil-service Pension Schemes Around the World*, Robert Palacios and Edward Whitehouse, 2006, page 7.

sector employment in total employment in 1996, 2001 and 2006 varying widely across the selected countries. Within that sample, the share of public sector employment in total employment was highest – by a wide margin – in Sweden, followed by France. It was lowest in Japan. The share of public sector employment in the UK has been around 20 per cent over those years, a value similar to that seen in Australia and New Zealand but higher than in Germany or the United States.

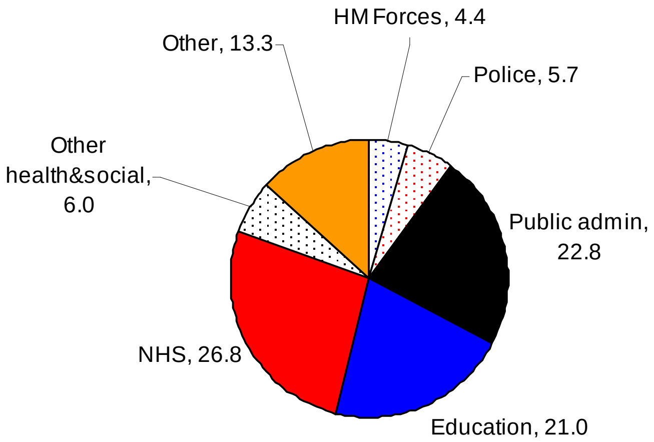
Chart 1: Public sector employment in total employment (Per cent)



(a) 2004, (b) 2005
Source: International Labour Organisation.

The differences reflect to a large extent how the provision of good and services is organised in these countries. The size of the UK's public sector is heavily influenced by the fact that health provision is provided by the public National Health Service, which accounts for more than a quarter of total public sector employment (see Chart 2).

Chart 2: Breakdown UK public sector employment (Per cent of total)



Source: Office for National Statistics.

iv. The state: a special employer in terms of providing occupational pensions?

As stated, working for the state has traditionally been associated with certain privileges and responsibilities. In many countries enjoying relative labour market security and receiving a relatively generous occupational pension – often meant to award a life-long commitment to public service delivery – have been some of the privileges. This could be in addition to any social security pension the government might offer its citizens.

An international comparison reveals that a wide range of arrangements exist for public sector or civil service pensions. Which arrangement is prevalent in a country very much depends on its history, suggesting that particular features of a system in one country – including attractive features - cannot necessarily easily be replicated in another country. These arrangements can be grouped into three broad categories, which are based on Palacios and Whitehouse (2006):[15,16]

First, there is no significant distinction between public sector and private sector pension provision in terms of contribution rates, funding arrangements or benefit structures, even though the administrative arrangements might vary between the public and private sectors.

Second, public sector workers could be part of the social security pension system and as such would pay national insurance contributions. In addition to that though, the public sector employer also offers occupational pensions to its employees. While private sector employers can offer similar occupational pensions to their own staff, there are no legal or any other requirements (for example through collective agreements) to do so.

[15] A more comprehensive survey of public sector pension schemes covering developed and developing countries can be found in *Civil-service Pension Schemes Around the World*, Robert Palacios and Edward Whitehouse, Social Protection Discussion Paper No. 0602, The World Bank, May 2006.
[16] See also *Sigma Policy Brief No. 2: Civil Service Pension Schemes* at www.sigmaweb.org. Sigma is a joint initiative by the European Union and the Organisation for Economic Cooperation and Development.

Third, public sector pension arrangements could be entirely separate from the social security scheme, with public sector workers (or a subset of them, say the civil servants) not paying any national insurance contributions. Instead they are members of their own closed scheme, which can follow different rules to those applicable in the general public's social security scheme.

Case studies: Finland & the Netherlands, the United Kingdom & Australia & the United States, Germany & France

The first type of arrangement can be found in **Finland**, where the government offers a statutory unfunded (in other words pay-as-you-go) minimum state pension and, in addition, a statutory earnings-related defined-benefit (DB) pension scheme open to all. One particular feature of the earnings-related pension scheme is that its administration is decentralised, with private sector companies including insurance companies or company pension funds handling the contributions and payouts of private-sector employees. The public sector has its own administration to perform these tasks. Crucially though, the funding arrangements and benefit structure are determined by the government and apply to all employees equally. The government is also the ultimate guarantor of these schemes.[17]

One feature of the Finnish pension system is that employees not only accrue the same entitlements regardless of whether they work in the public or private sector but that these entitlements remain intact even after a change of employer or a move between sectors. This is partly made possible by the fact that pension benefits are calculated on career-average earnings, which also – at least theoretically - fosters labour market flexibility as there are no explicit vesting periods. It also follows that the system treats equally those who change employers infrequently (or never) and those who change more often, thus providing a degree of fairness in this respect. The Finnish DB pension scheme is mainly on a pay-as-you-go basis; around a quarter though is funded, which allows the scheme to compensate for potential fluctuations in contributions over the economic cycle.

The Netherlands also falls into the first category. The provision of pensions is based on three pillars, with the first pillar providing a statutory flat-rate pension (Algemene Ouderdomswet, AOW) for all residents aged 65 years and over. There is no means-test for the eligibility of these benefits (and hence other forms of income have no effect on payout), which in principle guarantees 70 per cent of the net minimum wage in the Netherlands.

The second pillar is based on quasi-mandatory occupational pensions imposed by collective agreement by the social partners in the private and public sectors. While private and public sector employees might be members of different schemes, the same basic rules apply. Hence private and public sector employees can expect similar benefits in retirement. These pension schemes, which are considered to be supplementary to the AOW state pension, cover around 90 per cent of all employed and are legally required to be fully funded. Taking first and second pillar pensions together, contributions are calculated in such a way that the total pensions benefit amounts to around 70 per cent of final pay.

Of the slightly more than 900 pension funds in operation, by far the largest was the Dutch Civil Servants' Pension Fund (ABP),[18] whose assets represented around a third of the total invested capital of euro 450 billion in 2008; the next five largest funds accounted for close to 60 per cent of capital. All pension providers are being supervised

[17] For more information on the Finnish pension system, see www.etk.fi/Page.aspx?Section=44670 and in particular *The Finnish Pension System*, edited by Marjukka Hietaniemi and Suvi Ritola, Finnish Centre for Pensions, Handbook 2007:6.

[18] www.abp.nl/abp/abp/images/24.0015.09_WEB_tcm108-49085.pdf

by the Pensions and Insurance Supervisory Authority (Pensioen + Verzekeringskamer, PVK).[19]

The **United Kingdom** is representative of countries in the second category: public sector workers including HM Government's civil servants or employees of the National Health Service (NHS) make social security contributions to the National Insurance Fund (NIF) in the same way as employees in the private sector. The NIF complements general government tax revenue and is used to finance public expenditure. While its main purpose is to finance social security spending such as jobseeker's allowance or the basic state pension, it is also partly used to finance health care spending. As a result of their contributions, public sector workers are entitled to the basic state pension in the same way private sector worker are.

In addition to the basic state pension, there is also an earnings-related state pension (State Second Pension, S2P). However, employees can contract out of this scheme as long as their employers offer an occupational pension, which meets certain minimum criteria. Opting out of the S2P means that individuals are no longer entitled to the earnings-related state pension on retirement but in return they can pay lower national insurance contributions, which can be used to contribute to the occupational scheme instead.

Most public sector workers are entitled to an occupational public sector pension and as such are generally contracted out of the S2P. With the exception of public sector workers in local government, these pension promises are unfunded (and hence financed on a pay-as-you-go basis). They are generally of a defined-benefit nature based on length of service and final pay,[20] and represent legally-binding contracts between the employer and employee. Public sector pensions should therefore be interpreted as non-discretionary spending (legal obligations) in a similar vein to debt interest payments.

Private sector employees are not eligible to enrol in the public sector schemes but a large fraction of them are members of their particular company pension schemes (and as such also contracted out of the S2P). In the past many private sector employers – especially larger ones – offered defined-benefit schemes similar to those seen in the public sector. By law, the corporate sponsor of defined-benefit pension schemes is required to fully fund the accrued pension liabilities, with the Pensions Regulator setting the guidelines and monitoring compliance.[21] Over the last decade or so most private sector employers have closed their DB pension schemes to new entrants or even existing members and have offered defined-contribution pension schemes instead (see Chart 3).[22]

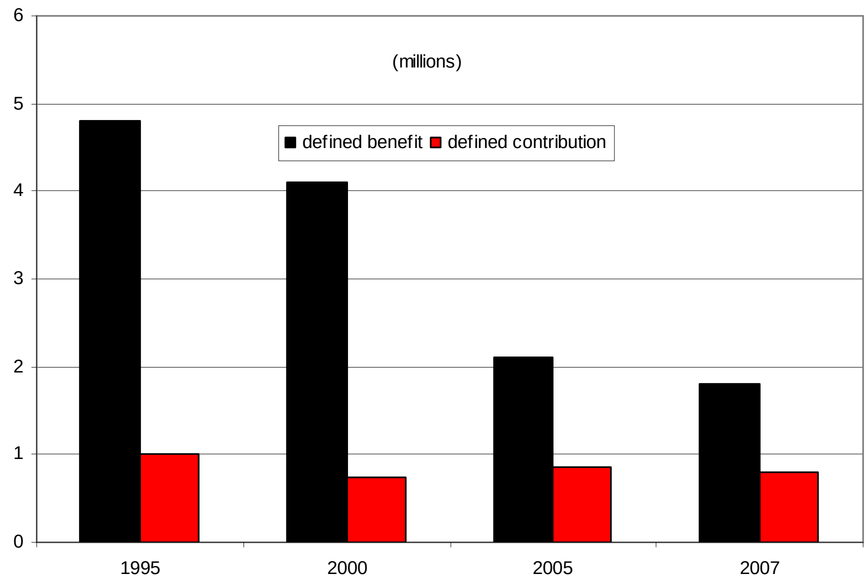
[19] More information can found on the webpage of the Dutch Ministry of Social Affairs and Employment: http://internationalezaken.szw.nl/index.cfm?fuseaction=dsp_rubriek&rubriek_id=13017#3092100

[20] In most cases the promise is based on final salary, though rules have been changed in some cases for new entrants.

[21] www.thepensionsregulator.gov.uk

[22] There are a number of reasons why corporate sponsors shifted away from defined-benefit to defined-contribution pension schemes. These include the unpredictability of future pension liabilities due to uncertain longevity trends, the requirement to fund fully future liabilities, changes in government tax law etc.

Chart 3: Number of active members of open private sector occupational pension schemes



Source: ONS Occupational Pension Schemes Annual Report 2007

The shift from DB to DC schemes was in many cases accompanied by a reduction in employer contributions, perhaps reflecting the fact that there is no legal requirement regarding the minimum employer contribution rate. As a consequence of these developments in the private sector, defined-benefit pension schemes can nowadays mainly be found in the public sector.[23]

The **United States** is another country falling into the second group. Federal employees are members of the Federal Employees Retirement System (FERS), which is a three-tier system comprising social security, and defined-benefit and defined-contribution elements. The social security part is the same as for private sector employees in the US, with employees contributing through payroll taxes. The federal employer matches this contribution.

In addition federal employees contribute to the Basic Benefit Plan, which provides a defined-benefit pension based on the general benefit formula of 1 per cent of the average of the three highest salaries times years of creditable service. Finally, the federal employer contributes 1 per cent of basic pay towards the Thrift Savings Plan, which is a defined-contribution scheme and the federal government equivalent to the private sector's 401K schemes.[24] As an additional benefit, FERS members are also covered by Medicare's Hospital Insurance Programme.

Public sector workers on the state level are not members of the FERS but of their state's particular pension schemes. One of the most prominent examples of such a scheme is the California Public Employees' Retirement System (CalPERS), which is an agency of the state's government. CalPERS has more than 1½ million members (civil servants, teachers, local government employees etc) and is the largest public pension fund in the United States with assets amounting to close to $180bn at the end of 2008. Both employees and employers contribute to the fund, with the scheme aiming to balance contributions and payments over the longer term. Most CalPERS members also contribute to social security and receive a social security pension in retirement. In

[23] It has been suggested that these diverging developments in the public and private sectors can at least partly be explained by the fact that the degree of unionisation is higher in the former than it is in the latter.
[24] More information can be found at *FERS An Overview of your benefits United States Office of Personnel Management*, 1998, at http://opm.gov/forms/pdfimage/RI90-1.pdf

addition to offering a defined-benefit pension based on years of service, age at retirement and earnings, CalPERS also offers healthcare insurance.[25]

Australia is another country, which broadly falls into the second category. The first pillar of pension provision is a means-tested flat-rate old-age pension (Age Pension, AP), which is offered to those above qualifying age and meeting certain residence requirements, regardless of whether they worked in the private or public sector. This pension is meant to ensure an adequate income in retirement and is financed out of general taxation.[26]

In addition, there is a mandatory requirement for private sector employees to save for their retirement by building up assets in superannuation funds. Australian law requires employers to contribute at least nine per cent of employees' ordinary earnings into a fund specified by the employees themselves so that the latter can build up a defined-contribution pension. These funds are regulated by the Australian Prudential Regulation Authority (APRA).

Since June 2005 new entrants into the public sector have been subject to a similar defined-contribution regime, usually joining the Public Sector Superannuation accumulation plan (PSSap).[27] While employees are not required to make any contributions, they are encouraged to do so to boost their potential retirement income; the public sector employer contributes at least 15.4 per cent of the superannuation salary. For individuals who joined the public sector before June 2005 different rules apply. Most of these continue to be members of the Public Sector Superannuation Scheme (PSS), which is financed on a pay-as-you-go basis and which promises a defined-benefit pension in retirement. Employee contributions vary between 2 and 10 per cent of superannuation salary, the employer contribution is generally 3 per cent.

In response to its first Intergenerational Report,[28] which highlighted the fiscal challenges arising from an ageing population, the Australian government decided to establish the Future Fund (Future Fund Act 2006) to: "…*assist future Australian governments meet the cost of public sector superannuation liabilities by delivering investment returns on contributions to the Fund*."[29] The Australian government intends to accumulate sufficient financial assets to offset its unfunded superannuation liability by 2020 and has made substantial transfers financed out of its general government budget into the fund since its inception.

Germany is representative of the third type of country in which public sector employees – in the case of Germany more specifically civil servants – do not participate in the country's social security pension system at all but are instead members of a separate scheme. This reflects the special status of being a *Beamter*, which is enshrined in the *Grundgesetz* (constitution). Civil service pay and pensions or working hours are laid down by law, which can be amended by parliament, and are hence not determined by competitive labour market negotiations.

Instead of paying into the country's statutory social security pension scheme (*gesetzliche Rentenversicherung*), civil servants accrue defined-benefit pension entitlements, which depend on years of service, seniority and pay. The value of these entitlements is laid down by law, which has been amended on numerous occasions over the years to reflect changing political or budgetary circumstances.[30] As such the value of the civil service pension promise is less of legally-binding commitment than in the UK.

[25] www.calpers.ca.gov
[26] www.aihw.gov.au/publications/age/oag/oag-c20.html
[27] www.pssap.gov.au. Public sector employees can also choose to join another fund though.
[28] *Intergenerational Report 2002-03*, Commonwealth of Australia, 2002, www.treasury.gov.au/contentitem.asp?NavId=&ContentID=378
[29] www.futurefund.gov.au
[30] Civil service pay and pensions are laid down by the *Besoldungsrecht*.

The government's scheme is on a tax-financed pay-as-you-go basis and the civil service pension is fully taxable.[31] The special status of *Beamte* does not extend to cover other employees in the public sector (*Angestellte im Öffentlichen Dienst*) who – having contributed to the statutory social security pension scheme – are entitled to the earnings-related social security pension and an occupational pension instead.

France also falls into this third category, with civil servants being members of their own specific pension plans. The value of civil service pensions is calculated using a number of criteria, from the nature of the job, age at retirement, marital status, quarters worked or the grade-related pay at the point of retirement (*traitement indiciaire de fin de carrière, TB)*. The maximum value of the pension is 75 per cent of the TB and could be achieved after 152 quarters (38 years) of work in 2004 and 160 quarters (40 years) in 2008. It is planned that the required quarters worked to qualify for the maximum pension will rise to 167 (41¾ years) by 2019. To achieve a constant maximum pension entitlement despite an increase in the number of quarters required to qualify, the value of every quarter worked will be proportionately decreased, from 1.974 per cent in 2004 (1.974 per cent * 38 = 75 per cent) to 1.8 per cent (1.8 per cent * 41¾ = 75 per cent) by 2019. While it is currently being planned that the maximum pension will remain a constant share of the grade-related pay at retirement, it is at least theoretically possible that future governments could decide to reduce the value of quarters worked. As such the value of the future pension entitlement is not based on a legal contract between employer and employee but what future governments will be prepared to pay. Civil servants could use collective rather than individual negotiations to influence a government's decisions.[32]

The above examples illustrate the wide variety of public sector pension schemes to be found across countries. While in some countries the arrangements for public sector employees are distinct from those in the private sector, in other countries employees in the public sector face very similar conditions with respect to pension provision to those in the private sector. Moreover, while in some countries defined-benefit pension promises dominate, in others the main vehicle for pension saving are defined-contribution pension schemes. Countries also differ in the sense that some finance their public sector pensions out of general taxation, while others rely on scheme-relevant contributions or funding more generally. Last but not least, it could be argued that in some countries the public sector pension promise could be classified as non-discretionary spending in a similar vein to debt interest payments whereas in other countries it is more akin to the social promise made with respect to social security pensions.

v. An evaluation of public sector pension schemes

As was argued in Section III, there are a number of very particular reasons why the state has offered pensions to its employees in the past, which go beyond those relating to poverty alleviation or ensuring a certain standard of living in retirement. These reasons *might* still exist today and *might* explain why public sector pension provision ought to be seen as distinct from state pension provision more generally. It is not the purpose of this note to investigate this further though.

In *Pensions Tomorrow A White Paper*,[33] Eich and Swarup argued that a pension system more generally should have at least the following three desirable objectives:

- Efficiency (static and dynamic)
- Equity (fairness)
- Affordability and sustainability (both financial and social)

[31] This is in contrast to the statutory social security pension, which is currently not taxable.
[32] For more information on civil service pension provision in France, see *Les retraites du secteur public : projections à l'horizon 2040 à l'aide du modèle de microsimulation DESTINIE*, José Bardaji, Béatrice Sedillot and Emmanuelle Walraet, 2004.
[33] *Pensions Tomorrow A White Paper*, Frank Eich and Amarendra Swarup, 2008.

In addition to any other objectives a government might pursue by offering public sector pensions to its employees, the above objectives remain desirable. The following sub-sections discuss these objectives in turn.

Efficiency

An economy is: "*…(statically) efficient if the available resources are allocated in such a way that productive capacity is maximised. Dynamic efficiency goes further and requires that the growth potential is maximised. In other words this concept goes beyond the mere allocation of existing resources today.*"[34]

The provision of public sector pensions could affect the static and dynamic efficiency of an economy by impacting on the allocation of resources across the public and private sectors, and within the public sector itself. In practice most societies will not aim to maximise the productive capacity or the growth potential in an unconstrained way but will instead aim to strike a socially-optimal compromise between economic efficiency and other desirable objectives. These could include fostering social cohesion, some other social objective or caring about the natural environment.[35]

The provision of public sector pensions should therefore avoid introducing distortions into the labour market, which could lead to a misallocation of (human) resources across the public and private sectors. The fact that in a number of countries the public sector can make pension promises, which it intends to honour through general taxation when they fall due in decades to come but which have no effect on public sector budgets and accounts today while private sector businesses are required to account explicitly for their pension obligations, could be interpreted as such a source of distortion in those countries. With pensions being part of the overall employment and pay package, being able to shift parts of the financial burden of employing someone today into the future, also arguably reduces the pressure on the employer to innovate and seek the most productive (efficient) ways of delivering its services.

At least in theory this budgeting and accounting asymmetry could lead economic activities to remain within the public sector when they could be more efficiently provided for by the private sector. In practice though, governments have found ways to deal with this so that the desired privatisation of formerly public-sector enterprises could be achieved. For example, when the French government privatised then state-owned telecommunication company France Telecom in 1997, it transferred France Telecom's pension liabilities into the public sector,[36] while the British government offered a "Crown guarantee" to British Telecom on all pension liabilities that had accrued up to the date of privatisation in 1984.[37] More recently, the pension entitlements accrued by Royal Mail's employees have been identified in the UK as a major obstacle to any potential privatisation of the state-owned postal service, which a government might wish to pursue,[38] while the Confederation of British Industry has argued that: "*…the form of benefits in the public sector…have significant effects where staff are transferred into or out of the public sector under TUPE [Transfers of*

[34] *Pensions Tomorrow A White Paper*, Frank Eich and Amarendra Swarup, 2008, page 7.

[35] Note though that fostering social cohesion (as a form of social capital) and a high-quality natural environment should not be necessarily interpreted as providing a constraint on economic growth. Instead social capital and the natural environment could be seen as factors of production, which differ from other production factors mainly in the sense that there are missing markets for them.

[36] *Transfers to the government of public corporation pension liabilities: The French case study*, Laurent Paul and Christophe Schalck, 2007.

[37] *BT Pension Scheme: Report to Members 2005*, BT Pension Scheme, 2005. In 2007 the European Commission launched an investigation into whether the guarantee constituted state aid and as such was breaching European competition legislation. In 2009 the European Commission concluded that BT had enjoyed an unfair competitive advantage over its competitors. See *State aid: Commission finds aid to BT partially unlawful and orders recovery,* European Commission Press Release IP/09/243.

[38] *Modernise or decline Policies to maintain the universal postal service in the United Kingdom An independent review of the UK postal services sector,* Richard Hooper, Deirdre Hutton and Ian Smith, 2008.

Undertakings] regulations…This unfair distortion of employment costs threatens competitive neutrality in public service markets…".[39]

A misallocation of resources could also arise if individuals with inappropriate skills get attracted to a particular sector because of the pension schemes available or if individuals remain within one particular sector even though they could be more productive elsewhere. More generally the provision of public sector pensions should keep the adverse impact on labour market mobility to a minimum, which will not only depend on the public sector pensions themselves but also on how these might compare with the provision of pensions in the private sector and how the different schemes might be integrated (portability).

The provision of public sector pensions should also foster efficiency within the public sector itself and should encourage employees to be as a productive as possible. For example, the promise of a defined-benefit final salary public sector pension could encourage individuals to intensify work effort and acquire new skills to get promoted. The downside of such schemes is that the incentives to stay also represent powerful disincentives to move, with the result that employees could feel "locked" into working for one employer even though they might be more productive elsewhere.[40] Depending on the scheme structure, the financial incentives to stay become stronger with length of tenure.

A public sector pension system should also, in a similar vein to a state pension system more generally, provide the appropriate incentives for employees to remain in employment as long as possible. Raising the employment rate of older workers – regardless of whether these are employed in the public or private sectors – constitutes an important part of any strategy to deal with the fiscal challenges arising from an ageing population as it would dampen the projected increase in the economic dependency ratio.[41,42] Keeping workers in employment for longer would have a double dividend in the sense that they would *everything else equal*:

- contribute to economic production and tax receipts for longer; and
- require a smaller absolute amount of pension income as their duration of retirement would be shorter.

Many governments have over the last decade implemented policies aimed at increasing the official and effective retirement ages of their workforce over the coming decades. Table 1 presents the official "normal" retirement ages for civil service and national (e.g. statutory social security) schemes in OECD countries in 2004.

[39] *Clearing the pensions fog: Achieving transparency on public sector pension costs*, Confederation of British Industry, 2008, page 4.
[40] Going beyond productivity, individuals might just enjoy working more for another employer but could be reluctant to move due to the potential repercussions on retirement income.
[41] The demographic dependency ratio is generally defined as the number of people aged 65 years and over, and 15 years and younger relative to the number of people aged between 16 and 64 years. The economic dependency ratio is generally defined as those not employed relative to those employed. Note that these ratios will also depend on the number of younger people.
[42] A three-pronged strategy to address the challenges of an ageing population was launched by the Stockholm European Summit in 2001. The three elements of the strategy are to increase employment rates, to reduce the public debt burden and to put social security systems, including pension systems, on a sound financial footing. See *Report from the Commission and the (ECOFIN) Council to the European Council* (Stockholm, 23/24 March 2001).

Table 1: Official "normal" retirement ages in OECD countries (2004)

	Civil service scheme	National scheme
Australia	55-60	65
Austria	60	60/65
Belgium	60	65
Canada	65	65
Denmark	67	67
Finland	63-65	67
France	60	60
Germany	65	65
Greece	60	65
Iceland	65	67
Ireland		66
Japan	65	65
Luxembourg		65
Netherlands	65	65
Norway	67	67
Portugal	60	67
Spain	60	67
Sweden	65	65
Switzerland	62	64/65
United Kingdom	60	60/65
United States		67

Note: Different ages in national schemes refer to female and male retirement ages.

Source: Palacios and Whitehouse, 2006.

The table shows that in most OECD countries the official "normal" retirement age of the civil-service pension scheme is lower than of the national scheme, though in many countries the national schemes also have minimum retirement ages below the official "normal" age. In practice, in most countries the effective retirement age is below the official "normal" age.

Equity (fairness)

Another desirable characteristic of a society's pension arrangement is that it should be fair – and seen to be fair - within and between generations. Fairness within a generation should be mainly about treating individuals with different career paths in a similar and predictable way. Career paths can differ in many ways, including in terms of:

- absolute career progression;
- shape, with individuals peaking at different points in their lives;
- full-time and part-time employment, the latter perhaps due to informal caring responsibilities;
- duration of employment at a given employer; or
- working in the public and private sectors.

The list illustrates that the issue of intra-generational fairness is pertinent even in the absence of any distinction between public and private sector (occupational) pension schemes. For example, in countries in which the statutory system provides the main source of retirement income, it matters relatively little whether individuals change employer frequently or infrequently as they remain members of the same (state) scheme. By contrast, in countries in which occupational pensions play a relatively more important role in providing retirement income the number of employers over a working life matters as long as the occupational pension is employer specific and of a defined-benefit nature. In such circumstances moving employers generally caries a financial cost in terms of lower overall pension entitlements. The UK falls into this group of countries. Equally, a final-salary defined benefit pension system is advantageous for those on a relatively high final salary as they will receive – everything else equal - a higher pension than someone who had the same career average earnings.

The above points hold regardless of whether the employer is in the private or public sectors. Additional issues of intra-generational equity could arise if pension arrangements for public sector employees were markedly different to those for private sector employees. Section IV showed that this is the case in a number of countries, including in the UK where the decline of private sector benefit-benefit pension schemes over the last decade has meant that this type of pension promise is nowadays mainly offered in the public sector. As a result, many commentators have argued that public sector pensions are overtly generous.[43] Whether this perception is a true reflection of reality will not only depend on the relative generosity of the pension promise itself but also on whether the pension might compensate for differentials in lifetime earnings across the public and private sectors. This is because the pension promise ought to be seen in the context of the overall pay package offered to the employee. There is significant evidence that public/private sector income differentials vary across the occupations and regions of the UK, suggesting that the issue is complex.[44]

More generally, at least the perception of fairness should be the higher, the smaller the differences between public and private sector pension provision. As was shown in Section IV, countries differ widely in this respect, with some governments requiring all employees to invest in defined contribution pension schemes, while in other countries public and private sector employees are members of the same defined benefit pension arrangements. Elsewhere, fairness and the perception of fairness could be enhanced by establishing a level playing field, which would allow public and private sector employers to offer similar pension arrangements. Whether such arrangements ultimately lead to fair outcomes though will also depend on the career and earnings potential in the public and private sectors before retirement, and hence labour market structures more generally.

Table 2 shows theoretical replacement rates in the EU member states in 2010 for a male on average earnings and an unbroken career spanning 40 years, based on policies in place and announced in 2006. The table shows huge variations in gross replacement rates of the first pillar (statutory) pension systems, ranging from 18 per cent in the UK to more than 100 per cent in Greece. Total net replacement rates cover a narrower range from around two-thirds to in excess of 100 per cent. The table also reveals the importance of the second pillar (occupational pensions) in providing retirement income in the UK, where three quarters of the total gross replacement rate is supposed to come from the second pillar. The Netherlands is the only other country, which relies more on the second than the first pillar to deliver income in retirement. However, in contrast to the UK, in the Netherlands the second pillar comprises mainly quasi-mandatory, defined-benefit occupational pensions (see Section IV).

[43] *The Pensions Apartheid: The problem, the cost and the tough choices that need to be made*, Corin Taylor, 2009.
[44] *Evaluating public and private sector pensions: The importance of sectoral pay differentials*, Frank Eich, 2009.

Table 2: Replacement rates[a]

	Gross replacement First pillar[b]	Gross replacment Second pillar[c]	Total net replacement
Austria	64.5		80.7
Belgium	41	5	72
Denmark	45.4	6.5	73.8
Finland	60.3		66.2
France	62.3		75.9
Germany	41	2	67
Greece	108		117
Ireland	34	33	78
Italy	78	1.5	88.5
Luxembourg	90.4		98.4
Netherlands	29.6	40.4	91.3
Portugal	75.6		92.7
Spain	90.6		97.2
Sweden	49.6	15.3	67.8
United Kingdom	18	50	83

[a] These are the replacement rates for 2010 based on policies in place or announced in 2006. In the meantime a number of EU member states have announced further pension reforms. [b] National/statutory scheme. Base case 100 per cent of average earnings, 2010. [c] Occupational and voluntary schemes.

Source: European Union Social Protection Committee, 2006.

A pension system should also be equitable across cohorts, for example by adjusting entitlements in light of changes in cohort life expectancy. As people live for longer, an equitable pension system would *inter alia* expect individuals to spend at least a fraction of the increase in life expectancy in work rather than all in retirement.[45] To this end, governments in most developed countries have recently announced to increase the retirement age in their social security schemes over the coming decades. The British government, for example, legislated in 2007 the increase of the state pension age from 65 years in 2020 in three steps to 68 years by the mid 2040s,[46] while the German government announced in 2006 to increase the retirement age to 67 years by the late 2020s.[47] While it could be argued that for parts of the public sector different rules should apply (the armed forces come to mind), an equitable system would generally ensure that the retirement age of civil servants and other public sector workers increases in line with announced changes in statutory schemes.

Sustainability (financial and social)

Finally, a country's pension system has to be financially and socially sustainable over the longer term to deliver what it is meant to achieve. While governments can and do run substantial deficits during economic downturns or as a result of war, ultimately governments will have to ensure that the public debt burden will remain under control. A failure to do so would lead to spiralling debt servicing costs, which in turn would require higher tax revenue (and hence reduce economic efficiency) and reduce the "fiscal space" available for discretionary fiscal policies (for example to stimulate the economy in a downturn).

In most countries the long-term sustainability of the public finances is unlikely to depend on the evolution of one particular spending or revenue item as these are generally not big enough in absolute terms. However, the ageing of the population has been identified as a key long-term trend, which will be big enough to impact on the aggregate of government spending and revenue. On the spending side, population ageing is likely to lead to significant increases in state spending on pensions (including public sector pensions), and health and long-term care. In addition, in many countries population ageing will also lead to a decline of the working-age population, which will put further pressure on the public finances as it will lead to a slowdown in trend economic and hence revenue growth.

[45] Alternatively, individuals could also accept a lower standard of living in retirement; however, it is not clear that this would be a socially sustainable arrangement.

[46] www.thepensionservice.gov.uk/state-pension/age-calculator.asp

[47] www.bundesregierung.de/Content/DE/Artikel/2007/03/2007-03-09-rente-mit-67.html

Since the beginning of this decade, international organisations and governments around the world have intensified their efforts to understand the nature and the fiscal magnitude of these challenges better. On the European level, the European Commission and Economic Policy Committee have published detailed projections of long-term spending trends,[48] which form the foundation for the European Commission's annual assessment of fiscal sustainability in EU member states, while the Organisation for Economic Coordination and Development (OECD) has produced a large number of detailed studies on this issue.[49] On the national level, the Congressional Budget Office in the United States regularly publishes long-term projections on social security, health or defence spending,[50] while the Australian, New Zealand and British governments among many others have all published detailed long-term fiscal studies.[51] One common feature of most of these studies is that they assess fiscal sustainability based on aggregate spending and revenue as it is these that make up a government's budget. In addition, these studies generally express future spending and revenue as a share of future GDP.[52,53]

To deal with these identified challenges, many countries have implemented reforms with the aim of dampening future increases in age-related state spending, with the biggest absolute challenge coming from health care, followed by state pensions. A number of governments have also radically reduced their net debt burden by either reducing gross debt or accumulating financial assets to create the fiscal space to deal with the projected spending increases (see Section IV for the example of the Australian government's Future Fund). Both approaches – the reduction of gross debt and the accumulation of funds – have their respective strengths and weaknesses,[54] and can help to ensure the long-term sustainability of the public finances.

When assessing the sustainability of public sector pensions, actuaries and accountants in the UK have generally taken a different approach to that chosen by economists in finance ministries and international organisations. Instead of expressing public sector pension spending as a share of future GDP and assessing sustainability in the context of other spending pressures, they calculate the present discounted value (PDV) of unfunded pension liabilities accrued today. As with all PDV calculations, this approach is very sensitive to the chosen discount rate and generally yields very large absolute numbers which capture flows taking place over several decades. Using this approach, non-government actuaries and accountants have calculated that the stock of unfunded public sector pension liability in the UK amounted to around £1000bn in 2007[55] and

[48] See for example *The 2009 Ageing Report: Economic and Budgetary Projections for the EU-27 Member States,* European Commission and Economic Policy Committee, 2009. More information on the European Commission's and Economic Policy Committee's work can be found at http://ec.europa.eu/economy_finance/epc/epc_sustainability_ageing_en.htm.

[49] See, for example, *OECD Economic Outlook No 69*, OECD, 2001.

[50] See for example *Updated Long-term Projections for Social Security*, Congressional Budget Office, 2008.

[51] *Australian Intergenerational Report 2007*, Commonwealth of Australia, 2007; *New Zealand's Long-term fiscal position*, New Zealand Treasury 2006 and 2008 *Long-term public finance report: an analysis of fiscal sustainability*, HM Treasury, 2008.

[52] In countries with self-contained contribution-based social security systems (e.g. statutory pensions or health care in Germany or social security in the United States), the long-term sustainability of the specific schemes could also be assessed. Such an assessment could yield important insights into whether the contribution rates will have to be adjusted to meet future spending needs or whether general taxation should be used to subsidise the scheme.

[53] These aggregate spending and revenue projections could be used to calculate future primary balances, which in turn could be used to calculate synthetic indicators such as the so-called intertemporal budget gap or fiscal gap. These indicators are well-established in the economic literature and have, for example, been used by the European Commission. See *Lectures on macroeconomics*, Oliver Blanchard and Stanley Fischer, 1990 and *The sustainability of fiscal policy: new answers to an old problem*, Oliver Blanchard et al., 1990.

[54] The two approaches differ, for example, in terms of corporate governance or political economy.

[55] *Sir Humphrey's Legacy: Facing up to the cost of public sector pensions*, Neil Record, 2007. See also *Public Sector Pensions The UK's Second National Debt*, Neil Record, 2009.

have suggested that this should be added to the government's national debt to give a clearer picture of the government's legal obligations.[56]

The British general public appears to have endorsed this latter approach as the appropriate way to assess the fiscal sustainability of public sector pension arrangements and has concluded that these are indeed unsustainable,[57] even though the projected *absolute* increase in public sector pension spending between 2007-08 and 2047-48 is smaller (at 0.3 per cent of GDP) than for education, long-term care, state pensions or health.[58] This suggests that the perception of fiscal (and not only social) sustainability is closely linked to the issue of (perceived) intra- and inter-generational equity.

[56] The British government follows international accounting standards when calculating gross or net debt, which excludes liabilities such as those arising from public sector pensions.
[57] See for example *Public sector pensions are unsustainable – and unfair*, James Mackenzie-Smith, 2009.
[58] 2008 *Long-term public finance report: an analysis of fiscal sustainability*, HM Treasury, 2008, page 36. Note that the projected absolute increase is arguably significantly smaller than the margin of error for the health projections, which are subject to a large degree of uncertainty. For a discussion of the potential drivers of health spending see *The 2005 EPC projection of age-related expenditure: Agreed underlying assumptions and projection methodologies,* European Union Economic Policy Committee, 2005.

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