
Public pension provision: A comparison of the British and Japanese systems, based on their university arrangements

Received (in revised form): 22nd February, 2008

Ali M. El-Agraa

is Professor of Economics, International Economics, International Economic Integration and EU Studies in the Faculty of Commerce and its Graduate School, Fukuoka University, Japan. He holds both a doctorate (PhD) and higher doctorate (DSc) from, respectively, the University of Leeds, UK and Kyushu National University, Japan. His general academic field is *International Economics*, with more than 20 books and numerous articles in international professional journals. He is entered in the first edition of *Who's Who in European Integration Studies* and was Senior International Consultant for the United Nations on regional integration during 2001 and General Consultative Advisor to the Anglo-Japanese Economic Institute in London until 2002.

Abstract A leading Japanese expert claims that Japan has a generous pensions programme and the OECD, in a just published major report, finds that the Japanese and British pension systems perform fairly close to each other, with Britain offering a relatively better net replacement rate while Japan affords better net pensions wealth. Having been part of the British and then the Japanese university pension systems for two decades, the author's experiences show these revelations cannot be taken at face value. This paper therefore offers a straightforward comparison of what is being provided for British and Japanese academics, but its conclusions can be generalised to the two nations' entire public pension provision systems since what academics are afforded are commensurate with those for the respective civil servants, including the national pensions to which every one is entitled; truly personal pensions obviously fall outside our remit. This paper finds that Japanese academics fare less well relative to their British counterparts in practically every aspect of the provisions for their retirement: they pay higher premiums and receive no tax-deductions on them; their employers do not contribute as much towards their pension arrangements; they receive lower annual national pensions and much lower employer-provided ones; they receive slightly lower lump sums; their dependents fare less well; they have to cover 30 per cent of their medical costs while the British are not charged at all and they are denied the right to make their own arrangements.

Pensions (2008) **13**, 25–48. doi:10.1057/pm.2008.5

Keywords: *pension provisions, international comparisons, OECD, Japan, UK, USS, PMAC*

Setting the scene

Having been part of the British and then the Japanese university pensions systems for two decades, I have naturally been interested in the pension provisions for academics in both systems. The interest is however not purely personal.

I have been amazed by how oblivious my Japanese colleagues are to their own system; oblivion due mainly to their deeming financial considerations to be beneath their dignity especially when they take it for granted that their employers and government truly look after them. Even if that were so, especially in the cases of those in the economic, business and finance fields, to be in the dark on such a vital subject is beyond comprehension: a condescending attitude to concern with money is no justification for ignorance! Moreover, the oblivion of other

Correspondence: Ali M. El-Agraa, Faculty of Commerce, Fukuoka University, Nanakuma, Jonan-ku, Fukuoka 814-0180, Japan.
Tel: +81 92 871 6631;
Fax: +81 92 864 2938;
E-mail: elagraa@fukuoka-u.ac.jp
URL: <http://www.fukuoka-u.ac.jp/ali/index.html>

specialists, even of the public at large, is also beyond belief since the nation has for a very long time been worrying about the detrimental implications of the rapid ageing of its population on the future viability of its pension provisions^{1,2} and has recently been gripped and left aghast by the scandal regarding the Social Insurance Agency's mishandling of the documentation on the payment of national pension premiums; indeed, the elections on 29th July, 2007, for the Diet Upper House and some vacant seats in the Lower House, were fought on precisely this very issue. Furthermore, and even more disturbing is the astonishment of all Japanese that I have been in contact with, including a leading public economics specialist, when they learnt that I have been enquiring about my pension estimate, believing that I was not entitled to one, that is, they considered a pension for myself, a foreigner, to be a gratuitous act on the part of the Japanese, not one earned through the payment of my contributions particularly when I, like every one else, am not allowed to opt out of the system. It makes one wonder if Japanese nationals working in UK universities, or practically anywhere else in the world for that matter, feel that their British pensions, to which they are eligible even if employed there for a few months (see below) are the gratuitous generosity of the British!

The oblivion is compounded to by the general perception that the Japanese system offers a generous deal not only generally but also relative to other nations, especially Britain. A perception which is not purely the figment of their imagination: a leading Japanese expert in the field states that Japan 'has built a *generous* social security pensions program...[which has] been reduced step-by-step...[but] *remain[s] generous*...The *current replacement rate* (including basic benefits) *for take-home pay or net income is about 60[%] for a "model" male retiree* (with an average salary earned during 40 years of coverage) *and his dependent wife*' (Takayama³, pp. 639–640, italics added, see also Takayama^{4–8}). Technically, he is correct, but unless the same model is applied for all nations, this statement is misleading: the replacement is for *one* person, while the pension is for *two*.⁹ Yet for the casual reader, 60 per cent is what will capture the

imagination. Indeed, my understanding of the Japanese system has led me to believe that just under a third is about the right figure (see below for a precise scrutiny of this percentage). In other words, Takayama has opted for an expression which although technically correct, gives a misleadingly favourable picture of the Japanese system. The purpose of this paper is therefore to offer evidence in support of my position. Hence the paper is not about the standard issues concerning the nature of pension arrangements,^{3,5–8,10–20} the problems relating to their financing, mainly due to the rapidly aging population in most countries and especially so among the advanced nations, and recommendations on how to deal with them so as to ensure their future viability; there is a voluminous literature on these matters.^{14,21,22}

The paper is confined to a straightforward comparison of what is being offered to British academics and their Japanese counterparts. One may object to using only these groups in a comparison of the employer-provided pension systems in the two countries, but both claim to offer pensions commensurate with those offered to the respective civil servants (see their websites); the paper also deals with the national pensions to which every one is entitled, but truly private/personal pensions, that is, those undertaken by individuals with insurance companies or purely provided by companies to their employees, are not only difficult to deal with, but also naturally fall outside our remit. Thus the combined national and employment-related pension provisions for academics are hardly atypical, hence can justifiably be used as proxies for the totality of the two systems.

The next Section of the paper provides an overall picture of 'public pensions', the term employed by most analysts, including the OECD^{23,17}. But 'public' does not mean 'state' or 'government' since even what the OECD calls 'private' is government-sponsored. 'Public' simply means 'not personal'; thus public pensions comprise 'national' and 'employer-provided' pensions. The subsequent section covers the former and the following section the latter. The final section sets out the main conclusions.

As mentioned, truly private/personal pensions are not our concern.

Before embarking on this task, it is however both useful and space-saving to define three somewhat recurring items. DB refers to 'defined-benefit' pension plans where the entitlement is conditional on some measure of individual earnings and number of service years. DC plans, which have almost completely replaced DBs, rely on contributions by both individuals and their employers, the investment returns from the earnings of these contributions and the terms on which accumulated retirement-income capital can be converted into a flow of pensions benefits. PAYG means the system is financed on the basis of pay-as-you-go. Note for general information that the World Bank²⁴ also uses NDCs (non-financial or notional defined contribution schemes), which address the fiscal, political, social and economic needs of pension reforms while keeping their fiscal burden low.

It is also vital to add a disclaimer. Pension provision is not my area of expertise. I have however been involved in research on various aspects of the European Union (EU) in which the subject matter is either of direct or indirect relevance. An example of such is the need for harmonisation in the treatment of labour across the EU in order to enhance its mobility within the context of the Single European Market where pensions are obviously one of the most important considerations (see El-Agraa,²⁵ El-Agraa and Ardy,^{26,27} Mayes and Kilponen²⁸ in El-Agraa²⁵). I therefore offer no apology for venturing into the subject in this direct fashion since, as mentioned above, this is an area which should be of concern not only to all economists, social scientists and the informed layperson but to even the average citizen as well, especially when I shall not delve into the technical issues which are the true concern of the experts.

Public pensions: An OECD-wide comparison

The comparison of the British and Japanese systems in terms of the overall public pension provision is not only relatively straightforward but can be also provided within the general context

of the OECD as a whole. In its comprehensive examination of 'public policies' (see above qualification) across its 30 member countries, the OECD¹⁷ provides indicators which it utilises for a comparative look at the state of play. This publication is the second edition of *Pensions at a Glance* (OECD²³), using data reflecting the situation in 2004, the latest year for which full data are available. It adopts a generally microeconomic approach, examining individual entitlements. Although the indicators are estimated on the assumption that a person works for a full career, roughly 40 years (see Table 1 which also includes other major findings considered below), and that present pension rules remain unchanged for future projection, some analysis is also applied to the case of those starting their careers at the later age of 25.

One of the main findings of the report is that the 'average gross replacement rate', that is, the ratio of pension benefits to pre-retirement earnings, from mandatory pensions for all the OECD nations is 59 per cent. However, because pensioners are usually taxed less than the average citizens,²⁹ the *net* replacement rate rises to 70 per cent when differential treatment is factored in. The report draws attention to interesting variations. For example, the net average for 'low earners' is 83 per cent; the Nordic countries afford 95 per cent to those on half average earnings and the Anglophone OECD countries pay 76 per cent of previous net earnings.

The report stresses that replacement rates give only a first indication of the magnitude of the 'pension promise', which is due to their not being encompassing 'since they measure only the flow of pension benefits at the time of retirement'. Hence, to have a proper and fuller perspective of the situation, it is essential 'to take into account life expectancy, retirement ages and the indexation of pension benefits, which together determine for how long the pension benefit must be paid and how its value evolves over time'.¹⁷ For this purpose, the OECD believes that 'pension wealth', a measure of the 'stock of future flows of pension benefits', would be the appropriate measure. It is calculated using a uniform discount rate of 2 per cent,

Table 1: OECD average earnings, pensions replacement rates and exchange rates, 2004

| Member country | OECD measure of average earnings (US\$) | | | Exchange rates (US\$) | | | Pension age years | Replacement rates for men by earnings | | | Life expectancy at age 65, 2040 projected mortality rates | | Gross pension wealth | | Net pension wealth | | |
|------------------|---|--------|---------|-----------------------|---------|---------|-------------------|---------------------------------------|-------|------|---|------|----------------------|------|--------------------|-----|-------|
| | Market price | PPP | PPP | Market price | PPP | PPP | | Gross | Net | Men | Women | Men | Women | Men | Women | Men | Women |
| | | | | price | | | | | | | | | | | | | |
| Australia | 35,992 | 35,917 | 1.360 | 1.36 | 1.360 | 1.360 | 65 | 47.9 | 61.7 | 84.0 | 87.4 | 7.3 | 8.4 | 7.3 | 8.4 | | |
| Austria | 40,842 | 37,872 | 0.868 | 0.80 | 0.868 | 0.868 | 65 | 80.1 | 90.6 | 83.7 | 87.3 | 11.7 | 13.5 | 9.0 | 10.4 | | |
| Belgium | 44,205 | 41,151 | 0.865 | 0.80 | 0.865 | 0.865 | 65 | 40.7 | 64.4 | 83.8 | 87.3 | 6.2 | 7.2 | 5.6 | 6.5 | | |
| Canada | 29,933 | 31,269 | 1.250 | 1.30 | 1.250 | 1.250 | 65 | 49.5 | 62.8 | 83.8 | 87.4 | 6.7 | 7.8 | 6.6 | 7.7 | | |
| Czech Republic | 8,153 | 14,936 | 14.030 | 25.69 | 14.030 | 14.030 | 63 | 54.3 | 70.3 | 82.5 | 86.0 | 8.1 | 9.5 | 8.1 | 9.5 | | |
| Denmark | 52,860 | 37,684 | 8.400 | 5.99 | 8.400 | 8.400 | 65 | 83.6 | 94.1 | 83.1 | 86.0 | 11.9 | 13.6 | 8.0 | 9.2 | | |
| Finland | 39,186 | 32,372 | 0.974 | 0.80 | 0.974 | 0.974 | 65 | 63.4 | 68.0 | 83.6 | 87.5 | 10.0 | 11.8 | 7.4 | 8.8 | | |
| France | 36,713 | 32,199 | 0.918 | 0.80 | 0.918 | 0.918 | 60 | 51.2 | 62.8 | 83.9 | 87.6 | 9.2 | 10.6 | 8.1 | 9.3 | | |
| Germany | 50,998 | 45,898 | 0.894 | 0.80 | 0.894 | 0.894 | 65 | 39.9 | 57.3 | 83.2 | 86.6 | 7.2 | 8.6 | 6.3 | 7.0 | | |
| Greece | 21,569 | 24,996 | 0.695 | 0.80 | 0.695 | 0.695 | 65 | 95.7 | 111.1 | 83.3 | 86.6 | 14.3 | 16.6 | 13.0 | 15.1 | | |
| Hungary | 8,377 | 13,682 | 124.050 | 202.61 | 124.050 | 124.050 | 62 | 76.9 | 96.5 | 80.8 | 85.0 | 12.4 | 15.4 | 10.8 | 13.4 | | |
| Iceland | 39,463 | 29,461 | 94.020 | 70.19 | 94.020 | 94.020 | 67 | 80.1 | 86.9 | 84.8 | 87.5 | 11.8 | 13.3 | 9.1 | 10.2 | | |
| Ireland | 37,485 | 30,321 | 1.000 | 0.80 | 1.000 | 1.000 | 66 | 38.2 | 44.4 | 82.8 | 86.2 | 5.8 | 6.9 | 5.8 | 6.9 | | |
| Italy | 27,400 | 25,628 | 0.861 | 0.80 | 0.861 | 0.861 | 65 | 67.9 | 77.9 | 83.0 | 87.0 | 10.0 | 10.7 | 8.4 | 9.4 | | |
| Japan | 45,708 | 37,139 | 133.000 | 108.15 | 133.000 | 133.000 | 65 | 36.8 | 41.5 | 85.8 | 88.7 | 5.7 | 6.4 | 5.3 | 5.9 | | |
| Korea, South | 23,888 | 34,974 | 782.000 | 1145.20 | 782.000 | 782.000 | 65 | 72.7 | 77.8 | 81.8 | 85.6 | 9.3 | 11.1 | 9.1 | 10.8 | | |
| Luxembourg | 48,668 | 42,649 | 0.918 | 0.80 | 0.918 | 0.918 | 65 | 90.3 | 98.0 | 83.0 | 87.2 | 19.3 | 23.5 | 15.6 | 19.1 | | |
| Mexico | 6,767 | 10,446 | 7.310 | 11.28 | 7.310 | 7.310 | 65 | 36.6 | 37.9 | 80.9 | 84.8 | 4.8 | 4.8 | 4.8 | 4.8 | | |
| Netherlands, The | 46,003 | 41,300 | 0.897 | 0.80 | 0.897 | 0.897 | 65 | 81.7 | 105.3 | 83.5 | 86.7 | 15.1 | 17.7 | 12.3 | 14.3 | | |
| New Zealand | 26,129 | 26,793 | 1.470 | 1.51 | 1.470 | 1.470 | 65 | 46.8 | 48.6 | 83.6 | 86.8 | 7.4 | 8.6 | 6.1 | 7.1 | | |
| Norway | 54,332 | 41,005 | 8.930 | 6.74 | 8.930 | 8.930 | 67 | 60.0 | 70.0 | 84.2 | 87.5 | 10.2 | 11.3 | 8.3 | 9.7 | | |
| Poland | 8,015 | 15,858 | 1.850 | 3.65 | 1.850 | 1.850 | 65 | 61.2 | 74.8 | 81.5 | 85.6 | 8.4 | 8.6 | 7.0 | 7.3 | | |
| Portugal | 16,113 | 18,344 | 0.707 | 0.80 | 0.707 | 0.707 | 65 | 54.3 | 67.4 | 82.8 | 86.2 | 7.9 | 9.2 | 7.9 | 9.2 | | |
| Slovak Republic | 6,228 | 11,679 | 17.190 | 32.23 | 17.190 | 17.190 | 62 | 56.7 | 71.9 | 81.8 | 85.1 | 8.8 | 10.7 | 8.8 | 10.7 | | |
| Spain | 24,635 | 26,215 | 0.756 | 0.80 | 0.756 | 0.756 | 65 | 81.2 | 84.2 | 83.4 | 87.0 | 12.2 | 14.3 | 10.1 | 11.9 | | |
| Sweden | 40,949 | 32,773 | 9.180 | 7.35 | 9.180 | 9.180 | 65 | 63.7 | 66.2 | 84.3 | 87.5 | 10.0 | 11.4 | 7.2 | 8.2 | | |
| Switzerland | 56,849 | 40,900 | 1.730 | 1.24 | 1.730 | 1.730 | 65 | 62.0 | 68.8 | 84.5 | 88.2 | 9.8 | 12.0 | 8.1 | 9.9 | | |
| Turkey | 9,789 | 16,788 | 0.831 | 1.43 | 0.831 | 0.831 | 65 | 72.5 | 103.4 | 80.0 | 83.0 | 9.2 | 10.7 | 9.2 | 10.7 | | |
| United Kingdom | 49,747 | 43,881 | 0.619 | 0.55 | 0.619 | 0.619 | 65 | 34.4 | 45.4 | 83.3 | 86.4 | 4.6 | 5.3 | 4.5 | 5.2 | | |
| United States | 30,355 | 30,355 | 1.000 | 1.00 | 1.000 | 1.000 | 67 | 43.6 | 55.3 | 83.8 | 87.3 | 5.9 | 6.8 | 5.7 | 6.6 | | |

Source: 'Pensions at a glance: public policies across OECD countries', OECD.¹⁷ The table is a combination of: the last two columns of Table 0.1 (OECD measures of average earnings, 2004, p. 15); the entire Table 0.2 (Total life expectancy at age 65, 2040 projected mortality rates, p. 16); two columns from (Gross replacement rates by earnings, p. 33) and one column from (Net replacement rates by earnings, p. 35); another column from (Gross pension wealth by sex and earnings, p. 41) and one column from (Net pension wealth by sex and earnings, p. 43).

country-specific life-expectancy tables and mortality projections to the year 2040. It is expressed as a multiple of gross annual individual earnings and provided for those whose earnings are 0.5, 1 and 2 times the average, but Table 1 gives only those for the straight average since we are here concerned with only the general picture. It is also given in net terms by taking into account the taxes and social security contributions that retirees have to pay on their pensions.

A glance at the table reveals that the OECD believes that Britain and Japan perform fairly close to each other with respect to the above-mentioned indicators, but Britain offers a better net replacement rate (45.4 versus 41.5) while Japan does so on net pension wealth (5.9 as against 5.2). Before accepting or rejecting this finding, it is vital to look closely at what each country offers in this respect since the devil is always in the detail. We begin with the national then proceed to the employer-provided pensions. Note however the glaring difference between what the OECD declares about the Japanese pensions in terms of both the gross and net replacements and Takayama's 60 (he does not use the net ratio) stated in the quotations given in the second opening paragraph and fully discussed in note 7: taken even at face value, the OECD figure is much closer to mine!

National pensions

The United Kingdom

The national pension in Britain is called the 'state pension'. It consists of a flat-rate basic state pension, getting the full amount of which requires 44 qualifying years for males and 39 for females if aged 60 before the year 2010, rising to parity with men by 2020. Qualification is through the payment of premiums termed 'national insurance (NI) contributions' or by being credited for them by the Inland Revenue when one is unable to undertake paid employment. Its value for the financial year 2003/4 was £77.45 per week, £4,207.40 per annum, which was equivalent to about 15 per cent of average earnings.¹⁷ For the financial year 2006/7, it is £84.25 per week, £4,381.00 per annum.

The second part is an earnings-related 'additional state pension', an amended version of what was called SERPS,³⁰ geared for persons on low to moderate income, specific careers and those with long-term disabilities or illnesses; thus it applies as per individual case. Recently, another income-related benefit has been introduced, the 'pension credit', which is a special entitlement for those over 60 years of age, guaranteeing them a minimum income of £109.45 per week for single persons or £167.05 for those married or are in civil partnership, with the partner's age being of no consequence. The government also rewards those of retirement age for personal savings made prior to retirement, £16.44 and £21.51 per week for the respective categories, but in the past these used to be rewarded to both savers and non-savers. No more needs to be said about this second part^{17,31} because it does not apply in the case of the British university pension system and all similar employer-provided arrangements, comprising about 48 per cent of total employees since they 'contract-out' (see below).³²

Note that one cannot opt for early receipt of the state pension, but one can choose to defer. Until April 2005 deferral was up to the age of 70, attracting an earnings increment of 7.4 per cent per annum, but from that date the age limit was removed and the increment increased to 10.4 per cent per year. Moreover, it is possible to opt for a lump sum instead of the pension at the end of deferral, with the amount being equal to the unclaimed pension during deferral plus interest guaranteed to be at least two percentage points above the 'repo' rate, the base rate set by the Bank of England.

Japan

The Japanese equivalent to the British state pension is a flat rate 'Old-age Basic Pension' (OBP), paid from age 65 and requiring a minimum of 25 years of contributions for those born after 1st April, 1956; those born earlier need less years (see the section on retirement age). To get the full amount, one has to contribute for 40 years. The full amount was ¥794,000 in 2004, equivalent to 16 per cent of average

earnings and is ¥792,100 in the current 2007/8 financial year; the reduction is due to its being price indexed and the fact that the Japanese economy was in deflation between the two periods.

Comparing Japan and the United Kingdom

The British state pension for 2003/4 was £4,207.40 per annum, which at then prevailing market price exchange rates (see Table 1) was equal to \$7,649.82, \$6,797.10 using PPP rates. For Japan, with ¥794,000, the equivalents were \$7,341.66 and \$5,969.92, respectively. Thus the British basic pension exceeded that of Japan by 4.2 and 13.86 per cent, depending on the measure. However, it is the latter percentage that is vital for comparison purposes, given the relatively higher cost of living in Japan; no economist in his/her right mind would settle for international comparisons based on market price exchange rates. Although a difference of about 14 per cent is not something to be scoffed at, it is only part of the story. This is because most Japanese pensioners not only have to meet 30 per cent of the cost of any medical treatment and the prescribed medicines, but they also have to pay separate contributions for them (see the section on Contributions); the British receive them free of charge from the National Health Service. To be precise, with regard to Japan, there are exceptions. For example, anyone who is 70 years or older pays 10 per cent of the medical cost if his/her 'standard' income, not pension, is not in excess of ¥280,000 per month and so does one with a dependent who is over 70 years old or who has a dependent wife and/or children and the total family income³³ is less than ¥520,000 per month. But these do not alter the general picture especially since these charges are set to rise from next year so we need not waste valuable space on them. What is important however is the notable frequency with which the Japanese pensioners visit hospitals, mostly unnecessarily, hence the charges raise the costs for them and deflate the value of their basic pensions. *The upshot of this is that adding this dimension means that the value of the British state pension exceeds that of Japan by more than 14 per cent.*

Employer-provided pensions

OECD-wide background

The OECD¹⁷ rightly points out that a cross-country analysis of retirement-income provisions should incorporate the important and rising role that private pension schemes play in the provision for old age. This is especially so since: (a) in 11 OECD countries (Australia, Denmark, Hungary, Iceland, Mexico, Norway, Poland, the Slovak Republic, Sweden, Switzerland and the United Kingdom) they actually deliver part of the *mandatory* provision for old age; and (b) in nine others 40 per cent or more of the workforce is covered by voluntary private pension schemes.

Table 2 offers a general picture of the OECD situation in this respect, giving information on the proportion of persons covered and the average or typical contribution rates. Note that 'voluntary' means that the employer is not obliged to provide an occupational plan or the individual employee does not have to have a personal plan. In the United Kingdom, and three other countries, coverage of voluntary private pensions is extended to more than 50 per cent of the workforce, *mainly* by employer provided schemes; in Japan and two others, about 45 per cent.

It is however important to be aware of the qualifications stated in the notes to the table as well as those carefully examined in the original source. Indeed, the OECD is quick to warn that unfortunately data on coverage 'can be extremely difficult to obtain and is often difficult to compare [due to] institutional differences in the markets for long-term savings'.¹⁷ That is why the information in Table 2, is drawn from various sources, and why the OECD stresses that the estimates should be considered preliminary. What is important for our purposes is that the OECD describes both the Japanese and British systems as voluntary employer provided in terms of the largest and second largest schemes, but we will see in the next section that that is far from being a true reflection of the real situation.

Comparing Japan and the United Kingdom

In this section, I will consider the two systems item by item so as to facilitate easy comparison.

Table 2: Types of employer-provided pensions, coverage and average contribution rates

| Member country | Largest scheme | | | Second largest scheme | | |
|-----------------------------|---------------------|--------------|-------------------------------|-----------------------|--------------|-------------------------------|
| | Scheme ^a | Coverage (%) | Contribution ^b (%) | Scheme ^a | Coverage (%) | Contribution ^b (%) |
| Australia | MO/P | >90 | 9 | | | |
| Austria | VO | 35 | 1.5–2 | VP | 10 | — |
| Belgium | VO | 40–50 | 1–5 | | | |
| Canada | VO | 39 | 8.5 | VP | 50 | — |
| Czech Republic | VO/P | 40 | 2.8 | | | |
| Denmark | MP | >90 | 1 | QMO | >80 | 10.8–17 |
| Finland | VP | 15 | 3 | VO | 7 | 2 |
| France | VO | 10 | | VP | 8 | |
| Germany | VO | 57 | 2–4 | VP | 13 | 2–4 |
| Greece | VO/P | negligible | — | | | |
| Hungary | MP ^c | 58 | 8 | VO/P | 31 | 5 |
| Iceland | MO | >90 | 10 | | | |
| Ireland | VO/P | 52 | c. 10 | | | |
| Italy ^d | VO | 8 | | | | |
| Japan ^e | VO | 45 | 2.35 | VP | 2 | — |
| Korea, South | VO | negligible | — | | | |
| Luxembourg | VO | 20 | — | VP | 5 | 4 |
| Mexico | MP | 31 | 6.275 | | | |
| Netherlands, The | QMO | >90 | — | | | |
| New Zealand | VO | 20 | — | | | |
| Norway | MO | >90 | 2 | VO | 45 | — |
| Poland | MP ³ | 49 | 7.3 | VO/P | negligible | — |
| Portugal | VO | 4 | 3 | VP | 1.5 | — |
| Slovak Republic | MP ³ | 45 | 9 | VP | 27 | 5.4 |
| Spain | VP | 40 | — | VO | 10 | — |
| Sweden | MP | >90 | 2.5 | QMO | >90 | 2 |
| Switzerland | MO | >90 | 7–18 | | | |
| Turkey | VO/P | negligible | — | | | |
| United Kingdom ^f | VO | 43 | c. 9 | VP | 16 | — |
| United States | VO | 47 | c. 9 | VP | 17 | — |

^aM=mandatory; O=occupational (employer-based); P=personal (individual-based); QM=quasi-mandatory (covered through collective agreements); V=voluntary.

^bThe contribution rates shown are for DCs in countries where there are also DB occupational schemes (Canada, Ireland, Sweden, the United Kingdom and United States).

^cMembership is compulsory for new labour-market entrants, and sometimes for younger workers, in these countries, but optional for existing workers. Coverage would therefore tend towards 100% over time.

^dThe severance pay scheme, known as TFR, can be converted into a retirement-savings plan. Contributions are 6.91% for new workers and 2.41% for existing workers. Severance pay schemes, which may be used to finance retirement, are also important in Japan and Korea.

^eThis shows the total covered by tax-qualified pension plans, employees' pensions for both.

^fThe schemes shown are those that are contracted-out of the state second pension. Thus part of the benefits from these schemes is a component of mandatory retirement-income provision.

Source: 'Pensions at a glance: public policies across OECD countries' OECD,¹⁷ Table 2.2.1, p. 77, which relies heavily on EU,^{34,35} Copeland,³⁶ Schembari,³⁷ Palacios and Pallares-Miralles,³⁸ Government Actuary's Department, UK^{39,40} and national authorities.

Before doing so however I shall provide some background information on the organisations running the two systems.

General background to the two systems

USS

The major pension scheme for those working in British universities and other higher education

and research institutions is the *Universities Superannuation Scheme (USS)*,⁴¹ which in April 1975 succeeded the *Federated Superannuation System for Universities (FSSU)*⁴². The corporate trustee of USS is the *Universities Superannuation Scheme Limited (USS Ltd)*, which is one of the largest British private sector pension schemes with more than 390 participating institutions, about 200,000 individual members and assets

(on 30th June, 2006) totalling £26.1bn (¥5.2tn or \$52.1bn, using 17th June, 2007 market exchange rates), making it the second largest British pension fund. USS Ltd. assets are managed by its Investment Office in the City, London, but the administrative offices are located in Liverpool in the north of England.

PMAC

The Japanese scheme is officially known as the *Private School Mutual Aid System* and is run by the *Promotion and Mutual Aid Corporation for Private Schools of Japan* (abbreviated simply PMAC). Its individual membership in the category concerned was 200,991⁴³ in 2006, hence is on par with that of USS. PMAC is a 'social welfare insurance system' established in 1953.⁴⁴ Social welfare system, because PMAC offers staff of private schools and similar associations three types of benefit: (a) short-term benefits, which are a package in the nature of health insurance; (b) long-term benefits, which basically caters for pensions; and (c) a host of welfare services such as extending loans and providing lodging facilities. And its mission goes beyond that since it includes the aim to 'help enhance and improve education at private schools'. PMAC finances its short-term benefits on the basis of the general rule that the annual budget must be balanced, with the income coming from premiums and 'operational income'; thus it is essentially a PAYG system. It applies the same general rule to the financing of the long-term benefits except that the income comes also from subsidies from the national and prefectural governments as well as from 'accumulated premiums'. However, PMAC but does not explain how this income is generated, but if it is interest from a 'fund' of the accumulated premiums, then PMAC is essentially similar to USS since it is a private fund, run essentially on private terms, but of course subject to government legislation. The welfare services are financed by the premiums (see the section on Contributions) and the revenues generated by the various facilities. PMAC has a Board of Review to ensure that it is run properly and for members to lodge their complaints, subject to certain restrictions, that is, PMAC has the right to dismiss embarrassing complaints!

Unlike USS, the Japanese system is not only extremely complex, it has undergone major changes in 2000 and 2004 and is currently is a state of flux. Moreover, apart from being compulsory, as just mentioned, it also covers health insurance, but for our pension comparative purposes, this does not pose any problems since the premiums charged for the two are separate; for the short-term benefits, these are presently equal to 6.72 per cent of salary, including 0.0886 per cent for nursing care and 0.08 per cent for administrative costs. One has to reiterate however what was stated at the end of the comparison of national pensions: while a British pensioner, like everyone else domiciled in Britain, has free access to medical treatment by the National Health Service, the Japanese counterpart has to meet 30 per cent of the costs (see the section comparing Japan and the UK above).

Eligibility to join

USS

Eligibility extends to both full- and part-time staff under age 60 (unless USS Ltd agrees to make an exception) whose employer participates in the scheme and whose post is, according to their contract of employment, pensionable. Also eligible are employees on variable time contracts. All USS members are contracted out of the state second pension (SSP; see above), as a consequence of which both employees and employers have paid lower rates of national insurance contributions (see below).

PMAC

All full-time employees who receive salaries from schools or institutions that are members of PMAC are required by law to become members, that is, they are automatically enrolled, cannot withdraw from membership and cannot choose between short- and long-term benefits⁴⁵ (see below). Part-time and temporary staff and those 'whose responsibilities are limited in other ways'⁴⁶ are ineligible, unless they work more than three-quarters of their full-time equivalents per day, week or working days per month.

These differences have to be borne in mind since their significance will not become apparent until other

facets of the two systems have been taken into consideration.

Retirement age

USS

The normal retirement age is 65, but before equalisation on 1st April, 1995, it was 60 for women. Starting on 6th April, 2010, there will be a minimum retirement age of 55.⁴⁷

PMAC

The retirement age depends on each university and institution. In some, it is age 70, but 65 in most except that some national universities go for 63; for Tokyo University it used to be 60 but is now 65. There is a twist however in that to qualify for pensions, those born after 1st April, 1956 have to work a minimum of 25 years;⁴⁸ those born on or before that date need less years, depending on their birth date, with those born before 1st April, 1952, needing 20 years, and those born on or before 1st April, 1926, between 10 and 20 years.

Therefore, due to its not imposing minimum qualification years for pensions, USS offers a better and straightforward deal relative to PMAC.

Pensionable salary

USS

The pensionable salary is calculated at the date of ceasing employment (or age 65 if earlier) in the following way. Take the salary a member has earned while enrolled in the USS for each of the 13 years prior to the date on which the pensionable salary is to be calculated. Then index each year's amount to the date of ceasing employment (or age 65 if earlier) in accordance with the movement in the Index of Retail Prices (RPI) over the period. The pensionable salary is then the higher of: (a) the highest yearly indexed amount received in any one year out of the last three years; and (b) the highest yearly indexed amount averaged over any three consecutive years out of the last 13 years. Those who joined the scheme on or after 1st June, 1989 are subject to the Finance Act 1989, which imposes a ceiling on

the amount of salary that may be taken into account in this calculation, but the value increases yearly in line with the RPI. This earnings cap was removed on 6th April, 2006, but the USS rules afford employers the option of retaining a scheme specific cap with the consent of the employee, with this cap calculated in accordance with the mechanism used to calculate the statutory earnings cap as per the Income and Corporation Tax Act 1988 590c.^{49,50}

PMAC

It is calculated on the basis of the 'standard average salary' (SAS) which is the average of the 'standard monthly salary' (SMS) throughout the member's working life. The SMS is, however, not straightforward due to the participating institutions not having a uniform salary system. For example, my own university has a 'basic salary', an 'additional salary', an 'adjusted salary', various allowances (for family, housing and travel), nominal payments for graduate school and extra teaching, bonuses (which amount to one-third of total annual income) and so on, with the basic salary being less than a half of total annual income. PMAC has therefore been annually devising an adjusted⁵¹ 'standard salary schedule' to locate each member on an income scale in order to establish the SMS, which it then uses to determine both premiums and benefits. Note however that for most of the senior staff, read 'older' staff since seniority is strictly by age, the adjustments have no bearing since for most of them and for long periods of time their basic salary would have been above the limit set by the government for pension purposes; thus any further adjustments by PMAC have to be cast in a cloud of suspicion (see below).

The SAS is, however, a completely different animal from that of the USS and for several reasons. Until 2003, bonuses were not taken into account, and as just mentioned, they amounted to one-third of total income; yet, strangely enough, small contributions were collected on them by PMAC, the reasons for which are a mystery to me. Although bonuses have since 2003 been taken into account, with the 'standard bonus' (SB) being 'the total amount of bonuses received by the

member within the same month rounded down to the 1,000th yen', they are capped at ¥2m for the short-term benefits and ¥1.5m for the pension, both amounts being far removed from the average. The SB is used for determining the premiums as per above for both the short- and long-term benefits. What is even more intriguing is that PMAC deflates both the SAS and SB by 8.3 per cent before starting to calculate the pensions; a calculation which *further* deflates each item (see below) by an index of 0.985. This has to be borne in mind since it is vital for comparative purposes.

Therefore, USS calculates its pensions on a higher and more straightforward salary base relative to PMAC.

Contributions

USS

Members' contributions, on which they get full tax relief, amount to 6.35 per cent⁵² of their salary. Contributions are paid until age 65 or when 40 years of pensionable service have been achieved, whichever is the earlier. At that juncture the member and employer can choose whether to continue making contributions to the scheme. Employee contributions can be paid without the employer's, which are equal to 14 per cent⁵³ of the member's salary, but the latter's contributions can only be paid if the employee's also continue. The employee-only contributions provide a 25 per cent service credit. A member can pay up to 15 per cent of salary as 'additional voluntary contributions' (AVCs⁵⁴) to purchase additional

service and can pay 100 per cent of the balance of earnings to the Prudential money purchase AVC scheme, or any other suitable pension arrangement. Accumulated AVC funds can be used by a member at the time of retirement to purchase service in USS that adds to pension and, as of 6th April, 2006, to the lump sum as well⁵⁵ (see the section on Lump sum on retirement).

PMAC

For a very long period, an individual member's contributions towards the pension amounted to 5.861 per cent of the SMS, but the SMS has been capped by the government for pension calculation purposes since October 2000 at ¥620,000 per month⁵⁶ (equivalent to 150 per cent of average earnings), that is at a monthly premium of ¥36,338. Recently, however, contributions have been raised to 11.168 per cent, on top of which members have to contribute another 0.12 per cent for welfare benefits and 0.08 per cent for administrative costs; hence in all they amount to 11.368 per cent. Also, the same percentages have been applied to bonuses since their incorporation in 2003.^{14,22,57} In both cases, employers contribute equal amounts. Table 3 provides information on the contributions for the pensions (long term) as well as for the short-term benefits, that is, for healthcare and the like.

Therefore, USS charges lower premiums and receives higher employer contributions such that its financial base is much deeper and far healthier than that of PMAC. By charging its members less, USS offers them a better deal relative to PMAC.

Table 3: Individual member premium rates^a

| Year | Standard salary | | | | Bonus | | | |
|------|-------------------------|------------------------|---------|---------------------------|------------|-----------|---------|---------------------------|
| | Short-term ^b | Long-term ^b | Total | Nursing care ^c | Short-term | Long-term | Total | Nursing care ^c |
| 1998 | 0.04276 | 0.06775 | 0.11050 | | 0.04276 | 0.06775 | 0.11050 | |
| 2001 | 0.04055 | 0.06775 | 0.10830 | 0.00390 | 0.04055 | 0.06775 | 0.10830 | 0.00390 |
| 2005 | 0.03360 | 0.05684 | 0.09044 | 0.00443 | 0.03360 | 0.05684 | 0.09044 | 0.00443 |
| 2007 | 0.03360 | 0.05861 | 0.09221 | 0.00879 | 0.03360 | 0.05861 | 0.09221 | 0.00879 |

^aThe employer contributes equal amounts.

^bThe rate applies until the standard salary reaches ¥634,999 per month after which the absolute sum (¥36,338) remains unchanged, that is the rate declines with income after that threshold.

^cFor those who are 40 years old and over, but less than 65.

Source: Adapted from The Private School Mutual Aid System^{58,59}(<http://www.shigakukyosai.jp>).

Guaranteed minimum pension

USS

It has a *Guaranteed Minimum Pension* (GMP). It allows for GMPs^{60–62} to be revalued at the full rate in accordance with Section 148 orders (see Office of Public Sector Information^{50,63}).

PMAC

It does not have such an arrangement.

Therefore, by offering this arrangement USS provides a better deal to its members relative to PMAC.

Pension on normal retirement

USS

The normal pension is equal to 1/80th of pensionable salary for each year of pensionable service, that is half the pensionable salary (above) for working the full 40 years. Hence, a hypothetical Professor Brown, retiring on a pensionable salary of £55,000⁶⁴ should get an annual pension of £27,500, which is equivalent to \$50,000 at market exchange rate prices and \$44,427 at PPP rates, using the rates in Table 1. Note that one has the options of having a lump sum *instead* of the pension and a deferral of the pension for later years, with each deferred year adding 10 per cent to the annual pension when claimed.

PMAC

In the case of PMAC, this is rather complex, indeed, mind-boggling. For those retiring by the end of this fiscal year (ending on 31st March, 2008), six elements are taken into consideration when calculating the pension: a ‘Fixed Portion’ (FP), an ‘Earnings-related Portion’ (ERP), an ‘Occupation-related Portion’ (ORP), an ‘Additional Portion’ (AP), a ‘Specially Provided Additional Pension’ (SPAP) and a ‘Transitional Addition’ (TA).^{46,65} Here is how they are arrived at:

The **FP** is equal to $¥1,676 \times \text{birth date multiplicand (BDM}^{22,66}; \text{ see Table 4)} \times \text{pensionable period (PP; maximum 480 months)} \times \text{index rate (IR, now equal to 0.0985)}$, where \times stands for multiplication.

The **ERP** is the sum of two parts: (i)

Average Standard Monthly Salary (AMSS; see above) \times BDM (before March 2003) \times PP (before March 2003, ie 420 months) \times 1.031 \times IR; and (ii) Average Standard Salary (ASS; see above) \times BDM (starting April 2003) \times PP (starting April 2003, ie 60 months) \times 1.031 \times IR.

The **ORP** is also the sum of the two equivalent parts to those for the ERP, so we need not repeat them, but the multiplicands are different (see Table 4).

The **AP** is simply ¥227,900 for spouse + ¥227,900 for each of the first 2 children + ¥75,900 for the third child.

The **SPAP** is also simply ¥168,100 for those born since 2nd April, 1943. It drops by ¥33,500 for those born in the previous fiscal year, by another ¥33,600 for those of the year prior to that, by another ¥33,700 likewise and settles at ¥33,600 for those born during 2nd April, 1934 and 1st April, 1940.

The **TA** is found by subtracting from the value of the FP (as calculated above) the national basic pension (Old-age Basic Pension, OBP, presently ¥792,100, corresponding to 16 per cent of average earnings; see above) multiplied by the ratio of ‘the enrolment period after April 1961 between the ages of 20 and 60 years’ by the ‘number of months when eligible for the National Pension Plan’. There is a maximum of 480 months for those born since 2nd April, 1946, with the number dropping in a similar fashion to that for the SPAP: 468, 456, 444, and 432 for the previous fiscal years. Those born before 1st April, 1929 and special benefits recipients are limited to 420 months.

It will not only prove helpful for full understanding to use an example, but it is vital to do so in order to appreciate the size of the pension relative to one’s income and for comparison with the British counterpart. Consider the hypothetical case of PMAC member Professor Tanaka, who was born on 1st April, 1941, joined university staff on 1st April, 1968 and is contemplating retirement on 31st March, 2008 at age 67; his university’s retirement age is 70, but the maximum number of months for calculating the pension is 480 months so he has

Table 4: Fixed portions and earnings- and occupation-related multipliers

| | | <i>Retired mutual aid pension</i> | | | | | | | |
|---------------------------------|----------------------|--------------------------------------|-------------------------|--------------------------------------|-------------------------|--|-------------------------|------------------------|-------------------------|
| | | Survivor's mutual aid pension | | | | | | | |
| <i>Date of birth</i> | <i>Fixed portion</i> | <i>Earnings-related multiplier</i> | | <i>Occupation-related multiplier</i> | | | | | |
| | | <i>Before March-03</i> | <i>April-03 onwards</i> | <i>Enrolment less than 20 years</i> | | <i>Enrolment in excess of 20 years</i> | | <i>Job-based</i> | |
| | | <i>Before March-03</i> | <i>April-03 onwards</i> | <i>Before March-03</i> | <i>April-03 onwards</i> | <i>Before March-03</i> | <i>April-03 onwards</i> | <i>Before March-03</i> | <i>April-03 onwards</i> |
| On and before 1st April, 1926 | ¥3,143 | 0.00100 | 0.007692 | 0.00025 | 0.000192 | 0.00050 | 0.000385 | 0.0030000 | 0.00230800 |
| 2nd April, 1926-1st April, 1927 | ¥1,676X1.875 | 0.00100 | 0.007692 | 0.00025 | 0.000192 | 0.00050 | 0.000385 | 0.0030000 | 0.00230800 |
| 2nd April, 1927-1st April, 1928 | ¥1,676X1.817 | 0.00986 | 0.007585 | 0.00029 | 0.000223 | 0.00058 | 0.000446 | 0.0030450 | 0.00234225 |
| 2nd April, 1928-1st April, 1929 | ¥1,676X1.761 | 0.00972 | 0.007477 | 0.00033 | 0.000254 | 0.00066 | 0.000508 | 0.0030900 | 0.00237725 |
| 2nd April, 1929-1st April, 1930 | ¥1,676X1.707 | 0.00958 | 0.007369 | 0.00037 | 0.000285 | 0.00073 | 0.000562 | 0.0031250 | 0.00240425 |
| 2nd April, 1930-1st April, 1931 | ¥1,676X1.654 | 0.00944 | 0.007262 | 0.00040 | 0.000308 | 0.00080 | 0.000615 | 0.0031600 | 0.00243050 |
| 2nd April, 1931-1st April, 1932 | ¥1,676X1.603 | 0.00931 | 0.007162 | 0.00043 | 0.000331 | 0.00086 | 0.000662 | 0.0031875 | 0.00245250 |
| 2nd April, 1932-1st April, 1933 | ¥1,676X1.553 | 0.00917 | 0.007054 | 0.00046 | 0.000354 | 0.00092 | 0.000708 | 0.0032125 | 0.00247150 |
| 2nd April, 1933-1st April, 1934 | ¥1,676X1.505 | 0.00904 | 0.006954 | 0.00049 | 0.000377 | 0.00098 | 0.000754 | 0.0032400 | 0.00249250 |
| 2nd April, 1934-1st April, 1935 | ¥1,676X1.458 | 0.00891 | 0.006854 | 0.00052 | 0.000400 | 0.00103 | 0.000792 | 0.0032575 | 0.00250550 |
| 2nd April, 1935-1st April, 1936 | ¥1,676X1.413 | 0.00879 | 0.006762 | 0.00055 | 0.000423 | 0.00109 | 0.000838 | 0.0032875 | 0.00252850 |
| 2nd April, 1936-1st April, 1937 | ¥1,676X1.369 | 0.00866 | 0.006662 | 0.00057 | 0.000438 | 0.00113 | 0.000869 | 0.0032950 | 0.00253450 |
| 2nd April, 1937-1st April, 1938 | ¥1,676X1.327 | 0.00854 | 0.006569 | 0.00059 | 0.000454 | 0.00118 | 0.000908 | 0.0033150 | 0.00255025 |
| 2nd April, 1938-1st April, 1939 | ¥1,676X1.268 | 0.00841 | 0.006469 | 0.00061 | 0.000469 | 0.00122 | 0.000938 | 0.0033225 | 0.00255525 |
| 2nd April, 1939-1st April, 1940 | ¥1,676X1.246 | 0.00829 | 0.006377 | 0.00064 | 0.000492 | 0.00127 | 0.000977 | 0.0033425 | 0.00257125 |
| 2nd April, 1940-1st April, 1941 | ¥1,676X1.208 | 0.00818 | 0.006292 | 0.00065 | 0.000500 | 0.00130 | 0.001000 | 0.0033450 | 0.00257300 |
| 2nd April, 1941-1st April, 1942 | ¥1,676X1.170 | 0.00806 | 0.006200 | 0.00067 | 0.000515 | 0.00134 | 0.001031 | 0.0033550 | 0.00258100 |
| 2nd April, 1942-1st April, 1943 | ¥1,676X1.134 | 0.00794 | 0.006108 | 0.00069 | 0.000531 | 0.00138 | 0.001062 | 0.0033650 | 0.00258900 |
| 2nd April, 1943-1st April, 1944 | ¥1,676X1.099 | 0.00783 | 0.006023 | 0.00071 | 0.000546 | 0.00141 | 0.001085 | 0.0033875 | 0.00259075 |
| 2nd April, 1944-1st April, 1945 | ¥1,676X1.065 | 0.00772 | 0.005938 | 0.00072 | 0.000554 | 0.00144 | 0.001108 | 0.0033700 | 0.00259250 |
| 2nd April, 1945-1st April, 1946 | ¥1,676X1.032 | 0.00761 | 0.005854 | 0.00074 | 0.000569 | 0.00147 | 0.001131 | 0.0033725 | 0.00259450 |
| 2nd April, 1946 and after | ¥1,676 | 0.00750 | 0.005769 | 0.00075 | 0.000577 | 0.00150 | 0.001154 | 0.0033750 | 0.00259600 |

Source: Calculated from the PMAC⁴⁶ table 'Fixed portions amount corresponding to the date of birth and multiplying factors for Earnings-related and Occupation-related Portions', http://www.shigakukyosai.jp/en/_term/_term04_01.htm

decided to ask for an estimate to help him reach a decision. Presently, his annual income is ¥15,000,000, including ¥4,500,000 in bonuses. Given how the salaries for pensions are calculated (above), his SMS would be ¥450,000 for the period before March 2003 and ¥750,000 thereafter. Then the values of the various components would be:

$$\mathbf{FP} = \text{¥}1,676 \times 1.208 \times 480 \times 0.985 = \text{¥}957,235$$

$$\mathbf{ER} \quad (\text{i}) = \text{¥}456,000 \times 0.00818 \times 420 \times 1.031 \times 0.985 = \text{¥}1,570,037$$

$$(\text{ii}) = \text{¥}750,000 \times 0.006292 \times 60 \times 1.031 \times 0.985 = \text{¥}287,539$$

$$\mathbf{ORP} \quad (\text{i}) = \text{¥}450,000 \times 0.0013 \times 420 \times 1.031 \times 0.985 = \text{¥}277,241$$

$$(\text{ii}) = 750,000 \times 0.001 \times 60 \times 1.031 \times 0.985 = \text{¥}45,699$$

$$\mathbf{TA} = \text{¥}957,235 - \text{¥}792,100 \times (360 \div 444) = \text{¥}957,235 - \text{¥}648,490 = \text{¥}308,745$$

Hence the total annual pension would be equal to ¥3,418,700 (the figure is rounded off to ¥100), which would be equal to 22.79 per cent of his present income, and is equivalent to \$31,611 at market price exchange rates and \$25,705 at PPP rates. He will therefore have to settle for about a quarter of his present income: 28.07 per cent when adding the national pension! *What is vital is that these represent values relative to Britain's of 63.22 and 57.86 per cent, respectively, with the latter being the more important since it is in PPP terms.*

The younger generations will receive only the ER and OC components, with both being enhanced due to their second elements becoming more prominent, given the continued inclusion of (part of) the bonuses.

Note that members born before 1st April, 1953 are eligible for 'Retirement Mutual Aid Pensions' when they reach the age of 60 and to OBP payment from the National Pension Plan plus their PMAC pensions from age 65. To qualify for the former, they would need to have contributed to the system for 25 years, but there are reductions similar to those stated for the pension qualification years. Thus our hypothetical Professor Tanaka would have qualified for the former on 31st March, 2001 and for the PMAC

Table 5: Early claiming and deferring of the pension

| Age for receipt of benefits | Born before 1st April, 1941 (% p.a.) | Born since 2nd April, 1941 (% p.a.) |
|----------------------------------|--------------------------------------|-------------------------------------|
| <i>(a) Early pension claim</i> | | |
| 60 | 58 | 70 |
| 61 | 65 | 76 |
| 62 | 72 | 82 |
| 63 | 80 | 88 |
| 64 | 89 | 94 |
| <i>(b) Deferring the pension</i> | | |
| 66 | 112 | 108.4 |
| 67 | 126 | 116.8 |
| 68 | 143 | 125.2 |
| 69 | 164 | 133.6 |
| 70 | 188 | 142.0 |

pension on 31st March, 2006, but, in reality no member receives the PMAC pension while still working⁶⁷ since his/her annual income should not exceed ¥480,000 (recall that our Professor Tanaka would be earning in excess of ¥620,000) in order to qualify for it and the former, depending on the precise age of the member, is too minuscule an amount to deserve our attention.

It should furthermore be noted that members would lose their rights to their pensions if they do not make their claims within five years of their eligibility. Also, a member has the option of claiming the pension before age 65 anytime between ages 60 and 64, but at reduced rates (see Table 5 which also contains information on pension deferral).

Therefore, USS offers a better and much simpler to calculate pensions to its members relative to PMAC.

Lump sum on retirement

It is important to stress that the lump sum under consideration here is in *addition to the pension*; it is *not an alternative* to the annual pension, an option mentioned in the case of USS (see the section on Pension on normal retirement).

USS

This is tax-free and is equal to 3/80th of pensionable salary (above) for each year of pensionable service, that is, it amounts to three-times of the pension; hence our Professor Brown should on retirement get £82,500 (£27,500×3)

or \$150,000 at market price exchange rates or \$133,280 at PPP rates. Note that one has the option of an increase in the lump sum but this must be traded off for a reduction in the annual pension.

PMAC

PMAC does not pay any lump sum on retirement. It is the employers who do, but the lump sum is not the same animal as that in the case of USS since one receives it upon leaving the university, not when one retires from the profession (see below). The universities provide the lump sum through a common fund, called *Zaidan Hozin, Shiritsudaigaku Taishokukin Zaidan* (the *Private University Lump Sum (Grant) Foundation*); to which each employer contributes an own-determined 'instalment' and the government provides a subsidy, now substantial.⁶⁸ Since the instalments are not universally determined, each employer has its own criteria or formula. The amount is not tax-free, but the average tax rate is miniscule for those who stay the full course with the system: after a specified amount is deducted from the total as per Table 6a,

it is then halved, taxed at the appropriate rate and a further reduction made as per in Table 6b. In most of the universities that I have been able to solicit information from, it is a maximum of 60 months of the final basic salary for each year of pensionable service *provided one stayed with the same employer for 40 years*. Changing employer or entering the system late⁶⁹ is severely punished since the curve is both flat and near the bottom until very close to 40 years of service when it becomes almost vertical. This is of course consistent with the concept of 'life-time employment' which in the past was largely prevalent in the case of private universities (see conclusions) but has recently been changing. Hence our Professor Tanaka would be crossing his fingers for about ¥35m before tax or ¥34,127,500 net.⁷⁰ This is equivalent to \$315,557 at market price exchange rates or \$256,598 at PPP rates. Had he been heavily involved in university management throughout most of his career, particularly so at the time of retirement, such as being President or Vice-President of his university or Dean of Faculty, the amount would rise,

Table 6: (a) Tax deductions from lump sum payments (b) Taxing the net lump sum [=0.5 (lump sum minus above deduction)]

| <i>Number of working years</i> | <i>Deduction from lump sum (¥m)^a</i> | <i>Number of working years</i> | <i>Deduction from lump sum (¥m)^a</i> | <i>Number of working years</i> | <i>Deduction from lump sum (¥m)^a</i> | <i>Number of working years</i> | <i>Deduction from lump sum (¥m)^a</i> |
|--------------------------------|---|--------------------------------|---|--------------------------------|---|--------------------------------|---|
| <i>(a)</i> | | | | | | | |
| 2 and over | 0.8 | 12 | 4.8 | 22 | 9.4 | 32 | 16.4 |
| 3 | 1.2 | 13 | 5.2 | 23 | 10.1 | 33 | 17.1 |
| 4 | 1.6 | 14 | 5.6 | 24 | 10.8 | 34 | 17.8 |
| 5 | 2.0 | 15 | 6.0 | 25 | 11.5 | 35 | 18.5 |
| 6 | 2.4 | 16 | 6.4 | 26 | 12.2 | 36 | 19.2 |
| 7 | 2.8 | 17 | 6.8 | 27 | 12.9 | 37 | 19.9 |
| 8 | 3.2 | 18 | 7.2 | 28 | 13.6 | 38 | 20.6 |
| 9 | 3.6 | 19 | 7.6 | 29 | 14.3 | 39 | 21.3 |
| 10 | 4.0 | 20 | 8.0 | 30 | 15.0 | 40 | 22.0 |
| 11 | 4.4 | 21 | 8.7 | 31 | 15.7 | 41 and over | 22.0+0.7 ^b |
| <i>Net lump sum</i> | <i>Tax minus further deduction</i> | | | | | | |
| <i>(b)</i> | | | | | | | |
| Up to ¥1,949,999 | 5% | | | | | | |
| ¥1,950,000 to ¥3,299,999 | 10% minus ¥97,500 | | | | | | |
| ¥3,300,000 to ¥6,949,999 | 20% minus ¥427,500 | | | | | | |
| ¥6,950,000 to ¥8,999,999 | 23% minus ¥636,000 | | | | | | |
| ¥9,000,000 to ¥17,999,999 | 33% minus ¥1,536,000 | | | | | | |
| ¥18,000,000 and over | 40% minus ¥2,796,000 | | | | | | |

^aAdd, in each case, an extra ¥1m for a handicapped person.

^b¥0.7m for each extra year.

Source: Adapted from Table 6 of Japan's Income Tax Law.

substantially in the case of retiring while being the incumbent President, but we need not dwell on the fortunes of such a fringe group of individuals. What we do need to stress is that ¥35m is on the higher side given the proviso of 40 years service with the same university. To clarify this, consider some real examples. The first is the case of a professor who left his first university after 14 years, receiving ¥8m and left his second one after seven years, getting ¥3m. When he retires from his present university he would get about ¥10m. Thus his total would be about ¥21m gross. Another professor left his first university after seven years and received ¥5m gross so he would not fare much better even if he stays with his present university until retirement.

Our Professor Tanaka will be getting in lump sum payment about 210 per cent of his British counterpart, using market price exchange rates or 193 per cent using PPP rates. Even if Tanaka's lump sum is that of an average retiring professor, that would however not be the end of the story since a true comparison must take into account a vital Japanese reality. Uppermost in the mind of practically every retiring Japanese especially those in the category under consideration here is the cost of rebuilding his/her house or completely refurbishing it. This is because the average Japanese house lasts about 20 years⁷¹ due to the nature of the materials used. The average house costs about ¥20m or \$184,928 at market price exchange rates or \$150,000 at PPP rates. A modern house built with better materials may need only complete refurbishing, which would halve the cost. In complete contrast to the Japanese case, the average British house gains value with age. Also, because it is decorated regularly, the cost falls within recurring household budgetary expenditure; hence it has no special claim on our Professor Brown's lump sum. Thus, Professor Tanaka would net an amount that is 110.37 per cent that of Professor Brown if one uses market price exchange rates or 95.53 per cent, using PPP rates. Since we are stressing PPP rate comparisons, Professor Tanaka fares less well in terms of the retirement lump sum than Professor Brown.

One could counter by arguing that using PPP comparisons and then allowing for the cost of rebuilding a house or refurbishing it is double discounting. That would however be a

misinformed position: PPP rates simply do not cater for such considerations.

One could further counter by stating that not every Japanese owns a house; rather a flat (apartment). However, if the flat is in an average complex, the complex too would be subject to the same conditions as a house, that is, our Professor Tanaka would be looking for one in a new complex. If the complex is modern and can withstand the wear and tear of Japanese earthquakes, then refurbishing would be the need, but it would cost as mentioned. Thus my conclusion is valid no matter what.

Therefore, in real terms, USS members get equal if not slightly better lump sums relative to their Japanese counterpart.

Recall however that PMAC is not involved since the lump sums come from a different source: the Private University Lump Sum (Grant) Foundation.

Lifetime allowance (LTA)

USS

HM Revenue & Customs introduced the LTA with effect from 6th April, 2006. The LTA sets 'allowances' for the maximum pension benefits that a member can accrue in a tax preferential way, with the allowances being for life (LTA) or annual (AA). These, however, currently affect only a small number of USS members.⁷² A member's excess benefits from all sources over the LTA are subject to a recovery charge at 55 per cent on lump sums and 25 per cent on pensions. For USS benefits it is calculated by multiplying the annual pension by a factor of 20 and adding the cash lump sum, but for pensions already in payment, it is the pension multiplied by 25.

PMAC

Since the main point about LTA is the preferential tax treatment, in the light of what has been stated about the pensions, it follows that this item does not apply in the case of PMAC.

Annual allowable limit (AAL)

USS

The annual allowable limit is a ceiling on the tax approved benefits which an individual may accrue

in any one year; any growth in benefits in excess of the AAL is subject to a recovery charge on the excess. The AAL input period is set by the scheme and in its first year ran from 6th April, 2006 to 31st March, 2007. It does not apply for the year of retirement or death.

PMAC

Again, since the main point about AAL is the preferential tax treatment, in the light of what has been stated about the pensions, it follows that this item does not apply in the case of PMAC.

Commutation options on retirement

USS

One can opt for a reduction in the tax-free cash lump sum on retirement in order to enhance one's pension. Alternatively, one can opt for a reduction in the pension to maximise the tax-free cash lump sum.

PMAC

As we have seen, the Japanese lump sum payment is a different animal from that offered by the British. Since it does not fall under the remit of PMAC, it cannot be traded off for or against the pension. Unlike USS however PMAC has a deferral arrangement similar to that offered by both systems for national pensions. A PMAC member has the option of deferring, with increased rates, beyond age 65 to anytime until age 70. The bottom section of Table 5 provides the percentage reductions and increments involved. As with the pension itself, it should be noted that members would lose their rights to their pensions if they do not make their claims within five years of eligibility.

Therefore, because USS provides its members with options regarding what form their pensions should take, it offers them a better deal relative to PMAC.

Long-term illness cover

USS

After two years of membership in aggregate, a member who is unable to continue working due to a long-term illness is entitled to an inflation-proofed pension for life and to a tax-free lump

sum provided the member cannot carry on working due to long-term illness.

PMAC

This item comes under their 'disability' heading. Disability is classified as first grade, second grade, etc with the grading done using 'the same criteria as all the other public pension systems' which 'does not correspond to the disability grading used on the physical disability certificate'. A member diagnosed as disabled 'on an "assessment day of disability"' due to illness or injury and graded first or second qualifies for both a Disability Mutual Aid Pension (DMAP) from PMAC and a Disability Basic Pension (DBP) from the National Pension Plan. Those on grade three qualify for only DMAP. A member will also qualify for DMAP if not so diagnosed on the assessment day, but whose condition worsens afterwards to qualify as such before age 65. The amount of DMAP is calculated as in the case of the pension (see the section on Pension on normal retirement) but for only the sum of ER, ORP and AD and the enrolment period is that up to the 'assessment day of disability' with a minimum of 300 months allotted even if not achieved. The amount of DBP, for which a member under age 20 can qualify if disabled, is ¥990,100 per annum for first grade, ¥792,100 for second grade and additional ¥227,900 is given for each of the first two children⁷³ and ¥75,900 for the third. Qualification for DBP requires that pension premiums should have been paid for a minimum of two-thirds of the insured period, including PMAC membership, two months previous to the month of the 'first date of diagnosis'.

Therefore, on all counts USS offers a better and more straightforward deal relative to PMAC.

Benefits payable on death-in-service

USS

The benefits due on death-in-service are a lump sum three times the annual salary, but without a refund of contributions. They are paid *in addition*

to the spouse's or civil partner's pension, which is 1/160th of pensionable salary for each year of pensionable service up to age 65, subject to a maximum of 40 years.

PMAC

Eligible family members are entitled to a Survivor's Mutual Aid Pension (SMAP) from PMAC and may also be eligible for a Survivor's Basic Pension (SBP). An eligible family member is one whose support was the responsibility of the deceased at the time of death and whose total yearly income is less than ¥8.5m,⁷⁴ if from salary, but ¥6.555m if self-employed. Raising eye brows may be justified here since being responsible for someone's support is tantamount to that person being your 'dependent', but the PMAC general section on 'designation of dependents' states that a 'dependent' yearly income should not be in excess of ¥1.3m (¥1.8m for one receiving a disability pension or aged 60 and older for one who has a public pension)!

Of the family members, the wife with a child and a child alone are ranked at the top since they are entitled to both benefits. They are followed by the parents, grandchild and grandparents, who, together with a solitary wife, qualify for only the PMAC benefit. A child/grandchild must be unmarried, under the age of 18 (has not reached the first 31st March after 18th birthday) or has a first- or second-grade disability (ditto).

The SBP is given to the family members when the deceased is a member of the National Pension Plan at the time of death, provided the period requirements of the SBP are met. A child as per above, but must be under 20 years old if with disability, and a wife who shares a livelihood with such a child, are also eligible. All these are on the proviso that the deceased has paid the premiums for SBP for at least two-thirds of the insured period, including membership of PMAC and similar associations, during a period of two months prior to the month of death or if continuously for at least one year before then. The amount paid to either the surviving wife or child is the National Pension (¥792,100), but if the wife has a child, she gets an extra ¥227,900, ¥455,800 for two, ¥531,700 for three and an

additional ¥75,900 for every child thereafter. In the case of only children surviving, the second adds ¥227,900, then an extra ¥75,900 for any children beyond that.

With regard to the SMAP, given the by now familiar provisos, a distinction is made between the short- and long-term benefits. For the survivors to qualify for the former the deceased should be in employment at the time of death or retired but dies of a disease diagnosed while still employed and the death is within five years of that diagnosis or the deceased had been in receipt of a first- or second-grade DMAP or disability pensions, that is, DMAP plus DBP (see the section on Long-term illness cover). To qualify for the latter the deceased should have been in receipt of a Retirement Mutual Aid Pension (RMAP), Retirement Pension, Reduced Retirement Pension or Portable Pension⁷⁵ at the time of death and, oddly enough, satisfied the required eligibility period for RMAP: how can one be in receipt of RMAP without having met the qualifying period? As a rule, SMAP is equal to 75 per cent of the sum of the ER and ORP portions (see the section on Pension on normal retirement) of the RMAP together with any amounts paid as AP for middle- and advanced-age widows.⁷⁶

Note that if a member who passes away without having received an OBP (see the section on Pension on normal retirement) or DBP and had contributed for more than three years to the National Pension Plan as a first insured citizen his survivors will be entitled to a Lump-sum Death Payment (LDP), but not if they are eligible for DBP. If DBP paid to a surviving child is withdrawn due to 'the presence of a father or mother', LDP will go to the deceased widow.

Therefore, USS offers a better and much simpler deal relative to PMAC.

Benefits payable on death-in-deferment

USS

Three times the annual pension at the time of death, but without a refund of contributions. The spouse/civil partner's pension is 1/160th of pensionable salary for each year of pensionable

service up to date the member left the scheme, plus indexation from the date of leaving to date of death.

PMAC

It is silent on these, but one has to presume that the treatment is an equivalent adaptation of that mentioned for death-in-service (see the section on Benefits payable on death-in-service).

Therefore, USS offers a better and much simpler deal relative to PMAC.

Benefits payable on death-in-retirement

USS

It offers possible lump sum benefits, in addition to what was paid to the member upon retirement, should death occur within five years of retirement. The spouse's or civil partner's pension is 1/160th of pensionable salary for each year of pensionable service up to date of the member's retirement, plus indexation from the date of retirement to date of death.

PMAC

SMAP (see the section on Benefits payable on death-in-service) will 'as a rule' be equal to 75 per cent of the sum of the ER and ORP portions (see the section on Pension on normal retirement) of the RMAP together with any amounts paid as AP for middle- and advanced-age widows. In essence, there is major difference between what happens in the case of death-in-retirement and death-in-service (see the section on Benefits payable on death-in-service).

Therefore, USS offers a better and much simpler deal relative to PMAC.

Eligible child annuities

USS

These are payable as of right if the child is under the age of 17 or until the child attains the age of 23 years if undergoing full-time education approved by the trustee company. It is payable beyond age 23 if the child is physically or mentally incapable of being self-supporting. Annuities can be paid to any number of eligible

children up to a maximum equivalent in total to either three-quarters of the pension the member would have received, based on service to age 65 (death-in-service) or three-quarters of the pension the member was in receipt of on the date of death (death-in-retirement/death-in-deferment). If only one child is eligible, the amount payable is equivalent to three-eighths of pension. If there is no spouse, civil partner or dependent the pension is increased to the equivalent of 100 per cent.

PMAC

These have already been covered under death-in-service (see the section on Benefits payable on death-in-service).

Therefore, USS offers a better and much simpler deal relative to PMAC.

Dependent's benefits

USS

A dependent is defined as someone who, in the opinion of the trustee company, was either financially dependent on the member at the time of death or dependent because of any physical or mental disability. Benefits may be payable if a member is not married or has not entered into a civil partnership at the date of death, whether in service, during deferment or after retirement. The amount of pension payable to a dependent cannot exceed that which would have been payable to a spouse. The amount payable to a dependent can be divided among more than one dependent.

PMAC

These have already been covered under death-in-service.

Therefore, USS offers a better and much simpler deal relative to PMAC.

Readmission and reinstatement

USS

The scheme agrees in principle to admit/readmit current eligible employees for future service. USS agrees to reinstate past service in the case of current active members of the scheme; reinstatement may be for the whole or part of

the missing service. USS does not agree in principle to reinstate past service in the case of: current employees who are opt-outs or non-joiners; ex-employees who opted-out before leaving service and ex-employees who transferred out deferred benefits.

PMAC

It is silent on this issue but as mentioned above (see the section on the General background to the two systems) members are not allowed to withdraw from PMAC. One has therefore to assume that if a member has somehow dropped out, rejoining would mean starting anew, that is, previous service years will not be taken into account for pension purposes.⁷⁷

Therefore, in being flexible, USS offers a better deal relative to PMAC.

Pension increases

USS

USS rules provide for all pensions to be increased in the same manner and subject to the same conditions as are official pensions under the Pensions (Increase) Act 1971 and subsequent amendments. The increases are currently in line with changes in the RPI.

PMAC

Regular pensions are adjusted not only in accordance with changes in prices, but also 'in order to enable the plan to respond more flexibly to changes in socioeconomic conditions, such as the declining birth rate and the aging of society, a system for the automatic adjustment of benefits, called the macroeconomic slide' has been adopted. This may sound good, but all such adjustments have been negative in terms of pension values.

Therefore, in being transparent USS offers a more secure deal relative to PMAC.

Conclusions

The necessarily detailed information provided in the paper clearly indicates that Japanese academics fare less well relative to their British counterparts in practically every aspect of the provisions for their retirement. They pay higher premiums and

receive no tax-deductions on them. Their employers do not contribute as much towards their pension arrangements. They receive lower annual national pensions and much lower employer-provided ones. In terms of true value, they receive slightly lower lump sums. Their dependents fare less well. They have to cover 30 per cent of their medical costs while the British are not charged at all. And they are not allowed to make their own arrangements, but if they had such an option, they would not under existing conditions get their employers' contributions.

One may be quick to counter by pointing out that the paper did not strictly compare like with like since before the inclusion of bonuses into the pension scheme, Japanese academics should have taken out personal pension policies with the contributions that were not being charged. As the findings make clear, they should indeed have done so, but they would not have been afforded tax relief on the premiums and would not have been granted their employers' equal contribution. So they would still have fared less well than their British counterpart. What is interesting is that given the previously cited ignorance on matters concerning their financial security, one can surmise that not many would have acted accordingly.

It should be stressed that these findings are not confined to only academics. This is because both the USS and PMAC systems closely match those of their respective civil servants, which in the case of Japan includes national universities. Hence, academics are not an atypical category of society. One can therefore categorically state that the comparison can be generalised to the two countries' entire public systems.

The detail also reveals that the OECD appears to be spot on with regard to the net replacement rates since its figure for Japan (41.5) is less than for Britain (45.5). They of course contradict the OECD's figure for the gross replacement rate, but we need not dwell on this since the net figure is what really matters. However, the detail paints a different picture when it comes to comparing net wealth since for the OECD Japan fares better relative to Britain (5.9 *vis-à-vis* 5.2) while our findings suggest otherwise; Japan may be wealthier

than Britain, but our concern here is with only what Japanese individuals get through pension provision; in this context one should recall the Japanese adage 'Rich Japan, poor Japanese'. Therefore one cannot rest completely assured by their results. It is indeed revealing when the OECD states that the Italian authorities refused to confirm the results for their country: 'Italy has expressed serious doubts about the adequacy of data used in the report, and consequently about the comparability of results. In particular, baseline assumptions about labour market entry ages and career length...are different from those agreed in a comparable exercise undertaken at the EU level, and differ from current Italian labour market norms. Italy thinks interpretations based on these data may be misleading'.¹⁷ All this shows that the devil is in the detail, yet the OECD study, although it has a large section on each member country's system, the information is not only not as detailed as in this paper, but is also not strictly comparative, given its microeconomic foundations.

A final conclusion is that the Japanese pension system still truly reflects two characteristics of what the Japanese conceive as pertaining to their society. The first is what is generally, but mistakenly, perceived to be the core of the Japanese employment tradition: 'life employment'. Mistakenly, simply because never in Japan's modern history has life-employment really prevailed except in the large world-renowned firms and the civil service, which together account for less than a quarter of total employment; indeed, I challenged the very concept over two decades ago (see El-Agraa⁷⁸). The majority work for small- and medium-sized enterprises, the bankruptcy among which is beyond belief;⁷⁸ hence life-employment for the majority of Japanese is no more than a figment of imagination since only the most naïve of workers should expect it under the circumstances. But to the point: the fact that changing employment even within the same sector as private universities entails a huge loss in the retirement lump sum, the most significant of their provisions for retirement, is a clear manifestation of employees being expected to stay put with the same employer until working-life's end. The second is

Japanese aversion to foreigners. Although no one qualifies for a pension unless he/she has met the 25 years of continuous premium payments, this condition is of no particular detriment to Japanese nationals since there are various escape clauses. It is however particularly so for foreigners working in Japan since practically all of them are hired on the basis of maximum three-year stays and as clearly documented in the paper (see the section on Pensionable salary), any foreigner who fails to meet the 25-year requirement not only loses entitlement to a pension but also is afforded only a lump sum reimbursement of a maximum of three times the average monthly standard salary and provided he/she leaves the country and apply for it within two years of departure.

Acknowledgments

I am greatly indebted to my friend Professor Dr Akira Nishimura: as Dean of the Faculty of Economics and its Graduate School and having been involved at the highest level in various capacities with Kyushu University, one of Japan's so-called seven Imperial Universities, he has vast experience with matters concerning Japanese national universities; as Vice-President of Kyushu Sangyo University, which he joined upon retirement from Kyushu University, and as the incumbent President of Beppu University, he has become equally well versed with private universities. I am equally grateful to Brian Ardy, Director of the European Institute, London South Bank University for helpful comments and suggestions and to Professor Charles Yuji Horioka of the Institute of Social and Economic Research, Osaka University, for his insightful directions, extensive comments and suggestions.

References and Notes

- 1 Okamoto, A. (2003) 'Tax and social security reforms in an aging Japan', University Economic Research Series No. 29, Faculty of Economics, Okayama University, Okayama.
- 2 Social Insurance Agency (2006) *Overview of the Social Insurance Systems*, <http://www.sia.go.jp/index.html>.
- 3 Takayama, N. (2006) 'Reforming social security in Japan: Is NDC the answer?', in Holzmann, R. and Palmer, E. (eds.) 'Pension Reform: Issues and Prospects for Non-Financial Defined Contribution (NDC) Schemes', Chapter 24, The World Bank, Washington, DC.
- 4 See also Takayama.⁵⁻⁸
- 5 Takayama, N. (1998) 'The Morning After in Japan: Its Declining Population, Too Generous Pensions and a Weakened Economy', Maruzen Co. Ltd, Tokyo.
- 6 Takayama, N., (ed.) (2003a) 'Taste of Pie: Searching for Better Pension Provisions in Developed Countries', Maruzen Co. Ltd, Tokyo.
- 7 Takayama, N. (2003b) 'Pension arrangements in the oldest country: The Japanese case', in Takayama, N. (ed.) 'Taste of Pie: Searching for Better Pension Provisions in Developed Countries', Maruzen Co. Ltd, Tokyo.
- 8 Takayama, N. (2004) 'Changes in the pensions system. Japan', *Echo*, Vol. 31, No. 5, pp. 9-12.

- 9 Sticking to this format, the replacement rate for a 'model' couple with a husband who earns the average wage and a non-working spouse is ¥233,000/393,000 or 59.3 per cent, while that for a single man who has never married and earns the average wage is about ¥167,000/393,000 or 42.5 per cent. The reason why it is not 30 per cent for the latter is that a working person receives the basic pension as well as an earnings-related component whereas a non-working spouse receives only the basic pension. Thus, the absence of a non-working spouse will not cut the pension benefit in half; rather reduce the monthly pension from ¥233,000 to about ¥167,000 yen, a reduction of 28.3 per cent, not 50 percent. 42.5 per cent is far removed from Takayama's 60 per cent, and it is close to the OECD's 41.5 per cent for the 'net' figure (see my Table 1) but is at variance with their 'gross' figure of 36.8 per cent. I am most grateful to Charles Horioka for putting my mind to rest on this point.
- 10 For example, (a) the merits and demerits of the pay-as-you-go, funded and tax-provided systems; (b) the concerns about catering for 'redistribution' (ensuring the pensioners receive some absolute minimum level of living standard) and 'insurance' (targeting a standard of living for the retired comparable to what they previously had); (c) the efficiency versus equity issues; (d) how to incorporate Sen's 'capability' into the analysis since it relates to the welfare of the disabled-aged;^{19,20} etc. On these, see, *inter alia*, Clark *et al.*,¹¹ Ebbinghaus,¹² Holzmann and Palmer,¹³ Horioka,¹⁴ Ihori and Tachibanaki,¹⁵ Kortleve *et al.*,¹⁶ OECD²³, OECD,¹⁷ Tachibanaki¹⁸ and Takayama^{3,5-8}.
- 11 Clark, G. L., Munnell, A. H. and Orszag, J. M., (eds.) (2006) 'The Oxford Handbook of Pensions and Retirement Income', Oxford University Press, Oxford and New York.
- 12 Ebbinghaus, B. (2006) 'Reforming Early Retirement in Europe, Japan and the USA', Oxford University Press, Oxford and New York.
- 13 Holzmann, R. and Palmer, E., (eds.) (2006) 'Pension Reform: Issues and Prospects for Non-Financial Defined Contribution (NDC) Schemes', The World Bank, Washington, DC.
- 14 Horioka, C.Y. (2001) 'Japan's public pension system in the twenty-first century', in Blomström, M., Gangnes, B. and La Croix, S. (eds.) 'Japan's New Economy: Continuity and Change in the Twenty-First Century', Oxford University Press, New York.
- 15 Ihori, T. and Tachibanaki, T., (eds.) (2002) 'Social Security Reform in Advanced Countries: Evaluating Pension Finance', Routledge, London and New York.
- 16 Kortleve, N., Nijman, T. and Ponds, E., (eds.) (2006) 'Fair Value and Pension Fund Management', Elsevier, Amsterdam.
- 17 OECD (2007) 'Pensions at a Glance: Public Policies across OECD Countries', OECD, Paris.
- 18 Tachibanaki, T., (ed.) (2004) 'The Economics of Social Security in Japan', Edward Elgar, Cheltenham, UK; Northampton, MA, USA.
- 19 Sen, A. (1985) 'Commodities and Capabilities', North-Holland, Amsterdam.
- 20 Sen, A. (1997) 'From income inequality to economic inequality', *Southern Economic Journal*, Vol. 64, No. 2, pp. 384–401.
- 21 See, *inter alia*, Horioka¹⁴ and Horioka *et al.*²²
- 22 Horioka, C.Y., Suzuki, W. and Hatta, T. (2007) 'Aging, saving and public pensions in Japan', *Asian Economic Policy Review*, Vol. 2, No. 2, pp. 303–319.
- 23 OECD (2005) 'Pensions at a Glance: Public Policies across OECD Countries', OECD, Paris.
- 24 The World Bank (2006) 'Pension Reform: Issues and Prospects for Non-Financial Defined Contribution (NDC) Schemes', The World Bank, Washington, DC.
- 25 El-Agraa, A. M., (ed.) (2007) 'The European Union: Economics and Policies', Cambridge University Press, Cambridge, New York and other places. This is the 8th edition of *The Economics of the European Community*, first published in 1980.
- 26 El-Agraa, A. M. and Ardy, B. (2007a) 'EU tax harmonisation', in El-Agraa, A. M. (ed.) 'The European Union: Economics and Policies', Chapter 15 Cambridge University Press, Cambridge, New York and other places.
- 27 El-Agraa, A. M. and Ardy, B. (2007b) 'The general budget', in El-Agraa, A. M. (ed.) 'The European Union: Economics and Policies', Chapter 19 Cambridge University Press, Cambridge, New York and other places.
- 28 Mayes, D. G. and Kilponen, J. (2007) 'Factor mobility', in El-Agraa, A. M. (ed.) 'The European Union: Economics and Policies', Chapter 8 Cambridge University Press, Cambridge, New York and other places.
- 29 This is because pensioners often do not have to make social security contributions and personal income taxes are progressive when pension entitlements are usually lower than their earnings prior to retirement.
- 30 This stands for State Earnings Related Pension Scheme, which was adopted in 1978 and substantially reformed in 1988 before it became the second part in 2002/3. The basic difference between the two is that SERPS had a single accrual rate while the second part has a differential replacement rate over different bands of earnings. Any SERPS entitlement already built up is protected both for those who have already retired and those who have not yet reached state pension age.
- 31 But here is some equivalent information on the second part. The 'replacement rate' for earnings between the lower earnings floor (£4,108 and £4,004 for 2004/5 and 2003/4, respectively) and the first threshold (£11,600; £11,200) was 40 per cent of the difference; the former amounted to 15 per cent of average earnings while the first threshold to 42 per cent. This also applied to those covered by credits, which is equivalent to treating those with earnings below the first threshold as if they had earned at that level. Over the next range (ending at £26,600; £25,600), the replacement rate was 10 per cent. Between that threshold and the ceiling (£31,720; £30,940), the replacement rate was 20 per cent. The upper threshold was worth about 96 per cent of average earnings and the ceiling 115 per cent. See OECD¹⁷ for details. Note that the benefit value is calculated on average lifetime salary, with pay for the earlier years raised in lieu of average economy-wide earnings. The benefit is then price-indexed post retirement.
- 32 Those who contract-out will have employer-provided occupational plans or financial services companies' personal pensions and/or stakeholder plans. Occupational plans are mainly DB, but there has been fast growth, starting from a low base, in DCs since the mid-1980s. The other two are DCs. Contracted-out employees forgo some or all of this part of the public pension. Those contracting-out through DB occupational plans pay lower social security contributions. For DC plans both employers and employees pay the full rate although there is a small reduction for those on DC occupational plans, but the government contributes according to age. DB plans must meet minimum benefit standards. Note that on the advice of the Government Actuary, the government sets the social security rebates, which are reviewed every five years, designed to reflect

- the value of the state pension rights forgone due to contracting-out.
- 33 The dependents can earn income up to a certain limit without losing their status.
 - 34 European Union Economic Policy Committee (2005) 'The 2005 projections of age-related expenditure (2004–2050) for the EU-25 member states: underlying assumptions and projection methodologies', European Economy, Special Report No. 4/2005.
 - 35 European Union, Social Protection Committee (2005) 'Privately Managed Pension Provision', EU, Brussels.
 - 36 Copeland, C. (2006) 'Retirement plan participation and retirees' perception of their standard of living', Issues Brief No. 289. Employee Benefits Research Institute, Washington, DC.
 - 37 Schembari, P. (2004) 'Pension plans in Canada', Pension and Wealth Research Paper No. 1, Statistics Canada, Ottawa.
 - 38 Palacios, R. J. and Pallares-Miralles, M. (2000) 'International patterns of pension provision. Pension Reform Prime Series, Social Protection', Discussion Paper 0009, The World Bank, Washington, DC.
 - 39 Government Actuary's Department, UK (2005) 'Occupational Pension Schemes 2004: Twelfth Survey by the Government Actuary', Government Actuary, London.
 - 40 Government Actuary's Department, UK (2006) 'Occupational Pension Schemes 2004: Thirteenth Survey by the Government Actuary', Government Actuary, London.
 - 41 The USS scheme only applies to pre-1992 universities. Since 1992 a number of former polytechnics and educational colleges which were originally local government organisations have become universities, but the pensions for these institutions continue to be provided by the Teachers Pension Scheme; hence are really part of the public sector (local government) pension provision.
 - 42 The USS is the successor to the *Federated Superannuation System for Universities* (FSSU), which became compulsory for all new university appointees post 1st October, 1913. FSSU came about as a result of the approval by the Board of Education of research carried out by an *Advisory Committee on University Grants*, which its President established in 1911. It had five basic characteristics: (a) its members' benefits, derived from individual insurance policies maturing at age 60, were of annuities or cash payments; (b) its members had the choice of opting for benefits to their dependents on death while still in service; (c) its members' insurance policies were held in trust by their institutions and were transferable to new institutions if required or to individuals on leaving university service; (d) its members contributed 5 per cent of salary and their employers matched this until 1920 when the employers' contribution was doubled to 10 per cent; and (e) administrative staff on salaries comparable to those of the academic staff was also eligible to join. Although FSSU was generally welcomed, it had some problems: (a) there was no linkage to final salary; (b) entering the scheme was conditional on a medical examination; (c) there was no guarantee of safeguard for dependents; (d) the scheme was not economical in terms of risk benefits and (e) there was no indexation of benefits. These problems, together with other inflexibilities of FSSU and the fact that a DB scheme was already in place for school teachers in the form of the School Teachers (Superannuation) Act 1918 led to pressure for change. During the period 1958–1969 several committees were established to review the existing arrangements. The recommendations for a DB scheme were initially rejected by the universities in 1960 and again by a committee in 1964, who concluded that it was '...unable to make a clear recommendation in favour of either system'. The Joint Consultative Committee (JCC), established in 1969, commissioned a report from G. Heywood (FSSU Consulting Actuary) that included a proposed outline for USS. It was to be a one-eightieth scheme with three times annuity lump sum, available to new entrants only with no medical examination being required and pensions would not be increased. A meeting to discuss the structure of USS was convened in Liverpool on 28th December, 1970. The proposal for an independent company was approved by the JCC in November 1971 and endorsed by the CVCP in the following month. The FSSU Executive Committee was however 'unenthusiastic'. Drafting the rules began in 1971, with the 7th draft being agreed in August 1973; it was circulated to the universities together with an explanatory booklet. The scheme was finally introduced on 1 April 1975. Contributions were 12 per cent of salary, with members paying 6.25 per cent plus a 2 per cent surcharge for back service.
 - 43 PMAC's total membership is 490,505 in 2007, but the difference between this and the 200,991 for universities consists of junior colleges, schools and even kindergartens.
 - 44 It was created by the Private School Staffs Mutual Benefit Association Act, based on Para 2 of Section 6 of the Fundamentals of Education Act (Law No. 245).
 - 45 Some of the member institutions are designated as 'Type B', which are entitled to only the short-term benefits and other as 'Type C', which receive only the long-term benefits. However, one does not choose which type to belong to since belonging is mandatory.
 - 46 Promotion and Mutual Aid Corporation for Private Schools of Japan (PMAC) (2007) *The Private School Mutual Aid System*, <http://www.shigakukyosai.jp> and http://www.shigakukyosai.jp/en/1_term/1_term05.html.
 - 47 The earliest age(s) at which a member can retire on an unreduced pension without employer consent, for benefits in respect of service before 17th May, 1990, since equalisation and in the interim period are that: (a) active members can do so at age 65, unless, having reached age 60, it is within the terms of their contracts; and deferred members can do so at age 65 for men and 60 for women for service before 17th May, 1990, 60 for both men and women in the interim period and 63½ for both since equalisation. A reduction in benefits may be waived if a member's contract of employment from their last period of USS membership states that they are able to retire at age 60 or more, but less than 65.
 - 48 This has very severe implications for foreigners, especially those on fixed term contracts, which comprise the majority of them since those on tenure are an insignificant percentage of the total. There are of course no problems for those on fixed term contracts who continue renewing them for 25 consecutive years, and there are some ways around the system for Japanese nationals. But any foreigner who becomes unemployed before achieving the qualifying number of years is entitled to only a lump sum reimbursement of a maximum of three times their average monthly standard salary (for those who work for 6–12 months, the rate is 0.5, then it increases by 0.5 for every six months until it reaches 3 at 36 months or more) provided they leave the country and apply within two years of departure, that is, it is not an automatically guaranteed right. Moreover, once the lump sum payment has been accepted, the person is struck out of the membership for good, that is, if the member returned to Japan, the time worked in Japan before will

- not be included for the 25 years needed for qualifying for a pension.
- 49 See Office of Public Sector Information,⁵⁰ United Kingdom for this item and their general website for related tax laws.
- 50 Office of Public Sector Information (2007) Income and Corporation Tax Act 1988 (c. 1): http://www.opsi.gov.uk/acts/acts1988/Ukpga_19880001_en_70.htm.
- 51 The member institutions submit their staff salaries to PMAC and these are then adjusted for the SMS. To ensure that members' earnings truly reflect their incomes, the earnings, which are established when members join, are revised annually, based on their 'average' incomes for April, May and June. The SMS then serves as the basis for the premiums and benefits for the period from September of that year to August of the next and if members' earnings undergo any 'significant changes' during the period, the SMS are revised as needed.
- 52 Since 1982; when the scheme started in 1975, the member's contribution was 6.25 per cent (see note 25) and the increase in 1982 has been the only change since 1975.
- 53 The employer's contribution was 12 per cent when the scheme started in 1975, but it went up to 14 per cent in 1980 and to 18.55 per cent in 1983 before returning to 14 per cent in 1997.
- 54 USS Ltd offers two types of AVCs. One is for acquiring 'added years': members purchase additional years of service with USS with extra contributions. The other is to buy from an insurance company, the Prudential, 'money purchase AVCs' by using extra contributions.
- 55 The service purchase is subject to the 40-year maximum; any excess must be used to purchase an annuity from another provider (Prudential or open market option).
- 56 The cap was ¥470,000 from April 1986 and until November 1989. It was increased to ¥530,000 from December 1989 to October 1994 and to ¥590,000 from November 1994 until September 2000.
- 57 The reasons for the inclusion of bonuses and the increases in contributions are to cater for the future viability of the pension system. See Horioka¹⁴ and Horioka *et al.*²² for a full explanation and discussion.
- 58 Promotion of Mutual Aid Corporation for Private Schools of Japan (PMAC) (1998) 'A Guide to the Mutual Aid Corporation of Private School Personnel, 5th edn.
- 59 Promotion of Mutual Aid Corporation for Private Schools of Japan (PMAC) (2001) 'A Guide to the Mutual Aid Corporation for private School Personnel, 6th edn.
- 60 As mentioned in the first paragraph of column 2 on page 29, USS is contracted out of the 'state second pension' (formerly SERPS) as a consequence of which both employees and employers have paid lower rates of national insurance contributions. For services prior to 6th April, 1997, USS guarantees to pay a pension of at least the amount a pensioner would have received if the member had participated in SERPS. This amount is known as the *Guaranteed Minimum Pension* (GMP). No GMP applies for USS service after 5th April, 1997 because from that date on the USS has been certified as providing benefits at least as good as the 'reference scheme test' requirement. For more on this and related items, see the USS^{61,62} (p. 4).
- 61 Universities Superannuation Scheme Limited (USS) (2007a) *Payment of Retirement Benefits*, http://www.ushq.co.uk/downloads/pdf/all_sections/publications/payment_of_retirement_benefits.pdf.
- 62 Universities Superannuation Scheme Limited (USS) (2007b) *Main Features of the Universities Superannuation Scheme*, <http://www.ushq.co.uk>.
- 63 Office of Public Sector Information (various years) Issues concerning United Kingdom tax law can be accessed at: <http://www.opsi.gov.uk>.
- 64 This figure may appear to be a bit on the high side since presently it is about the average for 'Professors, Readers and Senior Lecturers' who, together, account for about 50 per cent of all academic staff. By actual retirement time, however, the figure is closer to the mark.
- 65 'The Retirement Mutual Aid Pension is structured [such] that the [FP] of the [SPAP] is transferred to the Old-age Basic Pension [OBP]. However, since the [FP] has a transitional measure attached to it, and that the part of the eligibility period [for] an individual under 20 years and over 60 years, as well as the eligibility period before March 1961, [are] not taken into consideration in calculating the [OBP], in some cases the amount of the [OBP] will be lower than the amount of the [FP]. To make up the difference, the member is paid the...[TA] from the Retirement Mutual Aid Pension'. See the PMAC⁴⁶.
- 66 It is implicit from the text, but should be emphasised all the same, that this is paid to those between ages 62 and 64 and will be phased out by 2013. Note also that the size of the BDM favours the older generations, hence a redistribution of resources from the younger cohorts to the older is taking place. This is deliberate policy because it was felt that the younger cohorts have higher lifetime incomes and indeed Horioka *et al.*²² (p. 311 and their Figure 2) vividly show that the system has led to a situation where for older cohorts born before circa 1965 their benefits exceeded their contributions while the opposite has been happening to the younger cohorts born after 1965.
- 67 Since 2006 combining work and pension after age 65 has become possible *provided* one's total monthly income from both earnings and pension is not in excess of the mentioned ¥480,000, but 'work' in this case refers to part-time employment, not to the pre-retirement employment. Beyond this limit, half of the excess is subtracted from the full ER payment, but the basic pension is paid in full. Starting in April 2007, the reduction has been applied to those working beyond age 70, but they need not pay contributions.
- 68 Although private university corporations have for a long time been petitioning the government for the enactment of a law permitting the incorporation of lump sum payments into the PMAC pension arrangements, their efforts have been to no avail. Presently, in line with the *Accounting Rules of School Corporation*, each private university corporation annually sets aside an amount as a reserve for lump sum payments and deposits it with Zaidan Hozin, Shiritsudaigaku Taishokukin Zaidan (the *Private University Lump Sum Foundation*). The foundation came about when, following discussions between them, five private university bodies (see below) decided to establish it with the aim of promoting the stability and improving the treatment of their staffs. The foundation collects the mentioned amounts, called 'instalments', from each university and grants the lump sum payments through each university's official corporation. *The aim of the foundation is to offer full-time staffs of private universities retirement lump sums almost on par with those granted to national university officials*, in line with the principle of mutual assistance and commitment to the promotion of private universities. The establishment of the foundation was legally enacted by the Ministry of Education on 28th August, 1981, and it started the registration of staffs and the collection of their installments in April 1982. At the

- beginning, the government assumed responsibility for 10 per cent of the total fund, but this subsidy was increased by 5 percentage points annually to reach 50 per cent in 1990. The five bodies are: the Japan Association of Private Colleges and Universities (Shadan Hozin, Nihon Shiritsudaigaku Renmei); Association of Private Universities of Japan (Nihon Shiritsudaigaku Kyokai); Private University Gathering (Shiritsudaigaku Konwakai); Japanese College Association (Nihon Shiristu Tankidaigaku Kyokai) and Japanese Association of Private Colleges of Technology (Nihon Shiritsu Kôtô Senmon Gakko Kyokai).
- 69 These days many private company employees are recruited as professors by universities that value practical experience.
- 70 Use the data in Table 6. First deduct ¥22m from the ¥30m (Table 6a) since he has worked for 40 years, which leaves ¥8m. This is then halved to ¥4m and taxed at 20 per cent (Table 6b), yielding ¥800,000. Then ¥427,500 is taken off this (Table 6b) resulting in a total tax amount of ¥372,500. Thus the total tax payment is equal to 1.24 per cent.
- 71 Most outsiders do not know that owning a house in Japan consists of two ownerships. One is the land on which the house is built; the other is the house itself. Land is on whole durable, not entirely so because of earthquakes and they cannot be insured against or if so then at a prohibitive cost. The house loses value every year due to the materials; hence is treated just like a car. Indeed, if one wanted to sell the house in both its capacities, then the house itself is valued at zero after 17 years, which is a speedier loss, but it is inevitable given Japanese aversion to buying something that had been used by someone else: the Japanese do not like second-hand things.
- 72 The LTA was set at £1.5m for 2006/7, rising to £1.6, £1.65, £1.75 and £1.8 over the following fiscal years; further figures are to be provided later. Thus the pension of our hypothetical Professor Brown is clearly well inside these limits. Those for AA start at £215,000 and increase by £10,000 annually. Recall, however, that members can purchase up to an extra 15 per cent of salary into added AVCs and up to a total of 100 per cent of available salary into another pension savings option, subject to the maximum that can attract tax relief; the AA.
- 73 Children under 18 years of age or who have not reached their first 31 March thereafter and disabled under age 20.
- 74 This amount may be exceeded 'if it can be proved in writing that the income would be subject to drastic reduction as a result of an upcoming mandatory retirement, etc in the near future as a rule within 5 years' (p. 1 of the relevant PMAC section).
- 75 This is usually a company pension which one can transfer from one company to another when changing jobs, thus ensuring one a continuous pension.
- 76 A widow between ages 40 and 65 who does not qualify for SBP due to her not having a child under 18 years of age or a child older than 18 is entitled to ¥594,200, provided her eligibility relates to the short-term condition or the deceased a member of PMAC for at least 20 years. When such a widow turns 65 and was born before 1st April, 1956, she will receive an additional ¥18,200 – ¥594,200, depending on her age; this is because her OBP would be small.
- 77 Which is categorically the case for foreigners who left Japan before qualifying for pensions; see note 41.
- 78 El-Agraa, A. M. (1988) 'Japan's Trade Frictions: Realities or Misconceptions', Macmillan, London; St. Martin's Press, New York.