
Changes in the Pension System: Lessons for Privatisation in the UK^{*}

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ABSTRACT

The present study makes a proposal for a pensions reform in the current retirement system in the United Kingdom. Taking into account the historical evolution of the pension system since the Second World War and the characteristics of the pay-as-you-go system (PAYG system) which was reinforced in the last ten years, we propose a new pension scheme based on voluntary private contributions made by each worker to provide her proper retirement and to complement the public pension.

Keywords: PAYG, Pensions Funds, Mutual, Definite Contribution, Savings.

Cambios en el sistema de pensiones: Lecciones para la privatización en el Reino Unido

RESUMEN

El presente estudio formula una propuesta de reforma en el actual sistema de pensiones del Reino Unido. Teniendo en cuenta la evolución histórica del sistema de jubilación desde la Segunda Guerra Mundial y las características del actual sistema de reparto (sistema PAYG), que ha sido ampliado en los últimos diez años, se propone un nuevo marco en el sistema de pensiones basado en contribuciones privadas voluntarias realizadas por cada trabajador para su propia jubilación y para complementar la pensión pública.

Palabras clave: Sistema de reparto, Fondos de pensiones, mutuas, contribución definida, ahorro.

JEL Classification: H55, H75, D14, E21

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1. INTRODUCCIÓN

During the post-war period, a thriving private pensions sector matured in the UK -a sector which had been developing from the late nineteenth century. Private pension provision was assisted by the particular design of the state pension scheme. Following Beveridge's advice, the state scheme did not seek to extinguish private endeavour but to provide a platform on which private pension provision could be built. Though many economic liberals would be opposed to any state pension system, even a relatively small one, this was nevertheless a system that facilitated private provision more effectively than those systems that existed in most of continental Europe.

As the UK state pension scheme evolved, the government allowed people to opt out of parts of the scheme if they made their own appropriate private provision. Those who 'contracted out', together with their employers, received a rebate of national insurance contributions or paid lower contributions. The opportunities to contract out of the state system were widened in the 1970s and 1980s.

Gradually, this system of allowing people to contract out of part of the state pension and make private provision was eroded. This happened partly due to the 1997 Labour government and its successors reducing the national insurance rebates. However, it was the coalition government of 2010 that hammered the final nails into the coffin of pension privatisation in the UK.

In this paper, a new model is proposed that could be implemented in the wake of the government's proposed reform of the state pension. This would lead to individuals building up large private pension assets and reduce future pension liabilities for the government.

2. POST-WAR STATE PENSIONS: HISTORICAL BACKGROUND

2.1. The first pensions reform

One of the principles enunciated by Beveridge (1942) in his report into social security in Britain was a desire to build on, rather than displace, private systems of social insurance provision. In this respect, the history of state pension provision in the post Second World War period is enlightening because it is one of the few areas where Beveridge's principles were actually followed in practice as the welfare state became embedded.

One key reform was introduced in 1961 when the government introduced a graduated social insurance tax, combined with a small earnings-related pension. It was also recognised that an earnings-related pension would undermine the Beveridge principle of building on, rather than displacing, private initiative. As

a result, companies with their own schemes were allowed to ‘contract out’ of the additional pension, and the additional national insurance contributions that were designed to finance the earnings-related pension were not paid if companies were contracted out.

In the mid-1970s, state earnings-related pension provision was extended much further, thus giving the UK state pension system more of a “Bismarckian” feel. The Social Security Act 1975, which came into effect in 1978, introduced a substantial earnings-related pension. But, still in the spirit of Beveridge, the system of contracting out was further developed to allow companies with their own occupational schemes -together with their employees- to pay reduced national insurance contributions and not contribute to the new earnings-related pension.

The national insurance contributions for the earnings-related part of the state pension scheme were based on the same earnings denominator as the pension calculation itself until the beginning of the twenty-first century and so the degree of income redistribution within the earnings-related part of the scheme has tended to be relatively small and this facilitated the system of contracting out. Allowing members of private sector schemes to not pay the contributions for the earnings-related part of the state scheme, if they were members of private schemes that provided similar benefits, was a straightforward form of voluntary privatisation that did not involve substantial degrees of income redistribution¹. As is discussed below, this mechanism facilitated the development of considerable private sector, funded pension provision in the UK. Indeed, arguably, the UK was the envy of Europe in this respect.

2.2. Compulsory private provision and state pension provision

In a sense, the earnings-related part of state pension provision during this period could have been thought of as a form of compulsory pension provision. If people could demonstrate that they had private pension provision up to the level provided by the state, they did not have to join the state scheme and they could avoid the special government tax designed to finance the state earnings-related pension. One way or another, individuals had to have a minimum amount of pension provision in addition to the basic, flat-rate state pension but they could choose a private alternative to state provision.

In many ways, the high point of this ‘contracting out’ system was reached with the passing of the 1986 Social Security Act which allowed people to have part of their national insurance contributions refunded if they were directed into

¹ Clearly the reduction in national insurance contributions could not be equal to the present value of the benefits foregone for every private pension scheme member in every circumstance but, on average, the rebates were broadly fair value, given what was understood by the term at the time.

a personal or company defined contribution pension scheme, thus allowing all employed people to contract out of the state pension even if their pension scheme did not provide them with a directly equivalent benefit².

One problem with this system was that the benefit forgone in the state scheme had a greater actuarial value for an older person than for a younger person. Realistically, this problem could not be addressed for members of defined benefit schemes and, as long as such people were members of schemes for a reasonable proportion of their working life, it would not matter. However, if the national insurance rebates were not age-dependent, members of defined benefit personal pension schemes could have decided to take the rebate when they were young (when rebates were good value) and switch back into the state earnings-related pension scheme when they were older. Because of this, a system of age-related rebates was created for members of defined benefit schemes and this was introduced between 1997 and 2001 (see HMRC, 2010). This meant that all employed people could contract out of a major part of the state pension system and receive a rebate of national insurance contributions that was broadly actuarial neutral³. In doing so, they could build up a fund of private sector assets with which they could buy a pension or they could be members of company pension schemes which provided them with an alternative to the state earnings-related pension. It will be seen below that this system progressed hand-in-hand with a growth of both company and personal pension fund membership and a growth in private pension fund assets. In summary, this policy achieved Beveridge's aim.

2.3. The growth of private pensions in the UK

For several decades, the pension system appeared to evolve more or less in accordance with Beveridge's original intentions: private pension provision continued to grow alongside the newly-created state provision. Especially in the 1960s, occupational pension schemes in the private sector witnessed a surge in membership. Between 1956 and 1967, the number of active contributors almost doubled from 4.3m to 8.1m (see Table 1). Membership began to grow again in the late 1980s, to reach another peak in the early 1990s. More recently, however, membership numbers have fallen back to 1950s' levels. In the first half of the 2000s alone, the number of contributors fell by almost a million.

² The self employed did not have to have earnings-related provision at all.

³ In fact, members of personal pension schemes received an additional refund of national insurance contributions over and above the actuarial value of the state pension benefit foregone for some years after the system of contracting out was extended. On the other hand, it is argued below that the actuarial basis for calculating refunds of contributions perhaps led to such refunds being lower than they should have been.

The figures from 2000 onwards still understate the extent of the decline in membership rolls. For pension purposes, a number of large public sector employers (for example, the Post Office, the BBC and the Bank of England) have been reclassified as 'private sector' employers in this period (GAD, 2006, p. 32).

From 2005 on, membership of defined benefit schemes fell especially rapidly (see Silver and Pant, 2012). The figures are not directly comparable with those quoted above and there are several reasons for the decline. But it is still worth noting that there were 3.7 million members of defined-benefit schemes in 2005 (there had been 5.4 million in 1994), 2.7 million in 2007 and 2.6 million in 2008.

Table 1

Active members of private sector occupational pension schemes, 1953-2005⁴

Year	Number of members
1953	3.1m
1956	4.3m
1963	7.2m
1967	8.1m
1971	6.8m
1975	6.0m
1983	5.8m
1987	5.8m
1991	6.5m
1995	6.2m
2000	5.6m
2004	4.8m
2005	4.7m

Source: Based on data from the GAD (2006), p. 33.

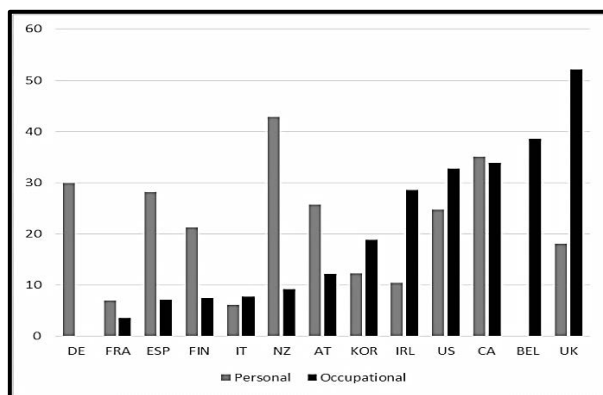
By international standards, though, despite the recent sharp decline, the UK still has a very high level of participation in voluntary private pension schemes. About half the working-age population has some form of relationship with an occupational arrangement, when in many other developed countries such schemes are only a niche phenomenon. Also, about a fifth of the working-age population have personal pension savings accounts, unrelated to their employer. The number of participants in personal and occupational pension arrangements cannot simply be added together, because the overlap between the two groups is not separately recorded. But even if this overlap turned out to be much higher in

⁴ Figures for pension scheme membership can be subject to double counting, but the trend is clear.

the UK than elsewhere, the UK would still have a higher rate of participation in private pension plans than most other developed countries (see Figure 1).

Figure 1

Proportion of the working-age population covered by voluntary private pension schemes, 2009 (per cent)



Source: Based on data from OECD (2011), pp. 172-174.

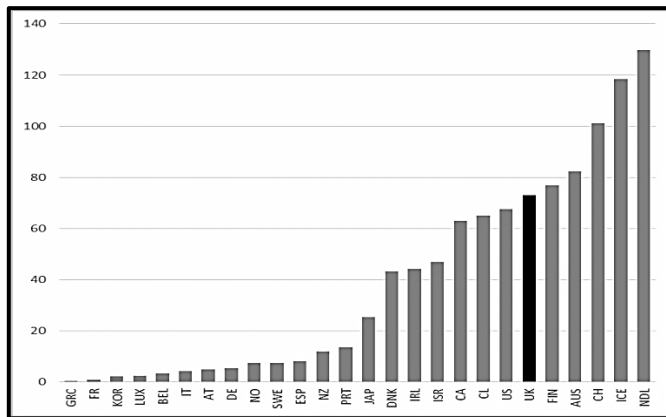
It is clear that the contracting-out system was a main driver of the development of personal pensions. A total of 3.2 million people -16 per cent of all workers- opted out of the State Earnings Related Pension Scheme (SERPS) in 1988 when they were first allowed to do so using personal pensions. By 1995, more than 5.5 million workers -nearly one-quarter of the workforce- had personal pension plans, while many more were members of occupational pension plans which would generally have been contracted out (see Towers Watson Research & Ideas, 2002). Overall, the number of people contracted out of SERPS rose from 8.6 million in 1986/87 to 13.8 million in 1994/95, with the big jump being in the late 1980s when contracting out through personal pension schemes was allowed. Disaggregating the figures, in 1994/95, 4.2 million people were contracted out through private sector defined benefit schemes, 3.8 million through public sector defined benefit schemes and 5.6 million through personal pension schemes. The ratio of people contracted out of SERPs to SERPs' members peaked at over 2:1 in 1992/93⁵. However, there was then a decline and, by 2011, only 1.6 million people were contracted out through private sector defined benefit schemes, a fall of 62 per cent, with 5.3 million being contracted out through public sector schemes.

Despite the recent decline, British pension funds still cover a substantial

⁵ These figures are from a Department of Social Security document published in the mid-late 1990s of which the author has a photocopy but cannot track down the source.

share of the population, and they also handle a large volume of assets. Figure 2 shows the value of total pension fund investments as a percentage of GDP. The British figure of 73 per cent is by no means exceptional but, in large parts of continental Europe, private pension fund assets are almost non-existent. In France, Italy Spain and Greece, as well as in Austria, Germany, Sweden and Norway, they account for less than 10 per cent of GDP.

Figure 2
Value of pension fund assets as per cent of GDP, 2009



Source: Based on data from OECD (2011), pp. 178-180.

A different way of highlighting the importance of private pension provision in the UK is to look at the composition of income among the retired population. This is necessarily a ‘lagged indicator’, which only reflects changes in the pension system with a substantial time delay.

Table 2
Private pensions in the UK: Coverage and median amount (in 2010 prices)

	1996	2007	2010
Proportion of pensioner households in receipt of a private pension	62%	67%	70%
Median monthly amount of private pension; single pensioners	£230	£312	£338
Median monthly amount of private pension; Pensioner couples	£472	£680	£698

Source: Based on data from DWP & ONS (2013) pp. 50-51.

The share of pensioner households in receipt of a pension from a private source -occupational, personal, or both- rose slowly but steadily until 2010, when it reached 70 per cent. This was a delayed reflection of the increased participation in occupational and personal pension schemes until the early

1990s. The median amount of private pension income has been about £340 a month for a single pensioner and £700 for a pensioner couple (see Table 2).⁶

While these are absolute amounts Table 3 shows the relative importance of private pension income in the broadest sense (i.e. its share in total gross pensioner income). The pensioner population is divided into quintiles by gross income. It shows that, while there is a clearly recognisable income gradient, over most of the distribution, income from occupational funds and personal investment accounts for between 30-40 per cent of the total. Private pension saving is far from being a preserve of high-earners and is an important earnings supplement at all income levels.

Table 3
Share of private income sources in pensioners' gross income,
by gross income quintile⁷ 2008

	Bottom	2 nd	3 rd	4 th	Top
Occupational pensions and annuities	14%	24%	27%	35%	55%
Investment incomes	3%	4%	4%	6%	12%

Source: Based on data from ONS (2010).

The British pension fund industry is not just larger than its counterparts in most comparable countries, it also performs reasonably well on indicators of competitiveness and quality. The industry's operating expenses are comparatively low and investment portfolios show a comparatively high degree of sophistication (OECD, 2011, pp. 180-185).

Thus, despite the recent decline, the UK is still an international leader in private pension provision. The UK is still home to one of the world's most well-developed and competitive pension fund industries, an industry which, in many other developed countries, is still in its infancy. However, it should be borne in mind that there are significant lags between pension policy being enacted and the effects being evident. The successful UK private sector pension provision results from the post-war policies which encouraged private pension provision as an alternative to or in addition to state provision. There has been a peaking and then falling off of pension fund membership and contributions in recent years which will manifest itself in lower private pension funds and incomes in years to come. The UK is now in the process of copying the post-war mistakes

⁶ For income data, the median is a better indicator of the situation of a 'typical' household than the mean, because while there is an obvious lower bound, there is no upper one. The mean can therefore be affected by a small number of very wealthy individuals, which is indeed the case for UK pensioners: the mean consistently exceeds the median by about two thirds.

⁷ This does not refer to the income distribution of the population as a whole, but that among retired households specifically.

of continental European countries that rejected private provision in favour of comprehensive state pension coverage.

3. THE ACCUMULATION OF PRIVATE SECTOR CAPITAL IN FUNDED PENSION SYSTEMS

The primary purpose of a pension system is to enable an adequate and secure living standard in old age. The question of how pension systems differ in their impacts on economic performance has been the subject of a long-standing academic debate, but this is ultimately a secondary issue. The pension system should not be a tool for stimulating the economy.

However, as long as pension arrangements can be justified according to whether they achieve their primary purpose, it is also legitimate to look at their broader economic implications. Investment-based pension systems can certainly be justified in terms of their primary purpose. For example, using historical data for broad-based US stock market indices, Murray (2006) shows average real rates of return for overlapping forty-five year periods between 1801 and 2001. The period which comes out the worst is the one from 1887 to 1932. A hypothetical investor who accumulated their pension assets over this period would have been affected by the various American financial crises of the late 19th and early 20th century, and would have felt the full blow of the Great Depression. Yet, even in this extreme case, the average real rate of return over the full period would have been 4.3 per cent. In contrast, Homburg (1988) argues that, in contemporary high-income countries (using the example of Germany), the implicit rate of return in public PAYGO systems can be expected to be at best between 1-2 per cent: high rates of return would require very high rates of population growth.

The traditional economic argument in favour of pre-funded systems is that they would raise domestic savings and investment, and therefore produce a larger domestic capital stock. Feldstein (1974, 1976 and 1980) argued that participants of a PAYGO system perceive their pension contributions as quasi-savings and the corresponding pension entitlements as a stock of quasi-wealth. Unlike 'real' savings, though, these virtual savings cannot be used to generate actual capital. From this perspective, a PAYGO system is essentially a system which substitutes the accumulation of virtual wealth for the accumulation of productive assets. Productive capital is crowded out by unproductive 'entitlements', i.e. abstract promises. If this virtual wealth could be at least partially replaced with real capital, the economy's capital stock would be immensely larger.⁸

⁸ Feldstein (1974, p. 85) estimated that the value of the US capital stock would be 60% higher if it was not for the crowding out caused by the US 'social security' programme.

But, while it may appear to be true almost by definition that a system based on capital accumulation does lead to greater capital accumulation, this perspective has been challenged by opponents of pension privatisation (Barr and Diamond, 2010; Orszag and Stiglitz, 2001). Critics raise two objections:

- Pension savings, especially when mandatory, can crowd out other forms of savings, or increase credit-financed consumption.
- A move from a PAYGO system to a funded one gives rise to a transitional deficit. The entitlements that have been accrued under the old system still have to be serviced, but they can no longer be financed through revenue from contributions. This deficit can cancel out pension savings, leaving the overall savings rate unchanged. This can happen in various ways, for example, the government might issue explicit debt to compensate for the loss of contribution revenue.

The critics make the important point that we should examine a pension system's net effect on savings. Crediting the pension system with the pension funds' investment without accounting for offsetting effects elsewhere would exaggerate the system's investment-stimulating effect. However, it does not follow from this that the method of financing pensions is not relevant, which is what the critics seem to imply. All that follows is that the inquiry needs to be broadened and that whenever there is an initial transition deficit to be paid off, positive effects on savings and investment may only occur after a time lag.

The net effect of pension privatisation on savings and investment has been most extensively researched in Chile. Bennett *et al.* (2001) model voluntary household savings as a function of mandatory (pension) savings, and a set of other potential determinants. Also, using the Chilean case study, Coronado (1997) looks at the difference-in-differences between the voluntary savings rate of individuals who joined the system of mandatory pension savings and individuals who did not - there were some groups of workers who were exempt from the new mandatory system. Bennett *et al.* (2001) can neither confirm nor definitely rule out an offsetting effect from mandatory savings on voluntary savings, but find that, if it occurs at all, the offsetting effect can only be of a moderate magnitude. Coronado (1997) finds no negative impact on voluntary savings by low- and middle-income earners, but potentially a modest impact among high-earners. Both studies agree that the better part of private pension savings really does represent a net increase in total household savings.

The transition deficit is a more serious issue. If the government pursues a programme of pension privatisation, or if people contract out, there is a loss of revenue for the government while its obligations to current pensioners remain unchanged. Young people will have to pay taxes to finance the pensions of older people whilst financing their own pensions through saving or rebates of social security taxes. Either the disposable income of individuals will be

reduced or government outgoings will increase. Privatisation does not solve the debt of existing obligations but simply stops new obligations being taken on. Indeed, it could be argued that if we have pension privatisation, the current generation, realising that the social security liabilities on future generations will be lower, will reduce general saving and leave smaller bequests to exactly cancel out the lower levels of government pension liabilities being bequeathed to the next generation. However, this would be an extreme form of Ricardian equivalence which it is unlikely that opponents of pension privatisation would accept in any other context.

In Poland and Hungary, where privatisation has been reversed and private pension funds partly nationalised, the transition deficit has been cited as a major reason for the reversal (Fultz, 2012). However, what is striking about these two cases is that, when contracting-out of the state pension system was allowed, no provisions were made for handling the transitional cash-flow deficit. In Hungary, “the size and duration of the transition costs were grossly underestimated or ignored” (Simonovits, 2011, p. 94). In Poland, privatisation revenues were ring-fenced for paying off the transition deficit during the first five years, but for the years beyond, this question was not addressed except in the form of vague statements of intent (Fultz, 2012, p. 6-7). In both Poland and Hungary, pension reformers left it to future governments to work out how to deal with the transition deficit, thus relying on their political will to do so. Even so, it should be noted that the ‘transition deficit’ is only illusory. If one individual contracts out of a state pension system and invests a £2,000 rebate of national insurance contributions in a private scheme, then government borrowing will rise by £2,000. However, implicit future government borrowing (or liabilities for future state pensions) will reduce by an equivalent value (see below). The so-called transition problem is a function of misleading approaches to government accounting. Equivalently, any gains from renationalising pension funds and replacing them with PAYGO promises are illusory.

It is notable that, in Chile, pension privatisation was followed by years of budget surpluses, achieved through privatisation revenues and cuts in general government spending. Corbo and Schmidt-Hebbel (2003) argue that the conversion of an implicit into explicit debt must, in itself, have spurred fiscal prudence because the explicit debt is more visible. By increasing fiscal transparency, the transition deficit has an in-built self-limiting mechanism which critics of pension privatisation do not acknowledge.

Overall, the magnitude of the effect of pension privatisation on investment cannot be quantified precisely, but Corbo and Schmidt-Hebbel specify various scenarios. Depending on which scenario is chosen, pension privatisation has raised the rate of domestic investment by at least 0.28 per cent of GDP and by up to 2.76 per cent in the most optimistic scenario.

In short, critics of pension privatisation are right to point out that investments made by private pension funds cannot simply be counted as a net increase in total investment. The effects of a pension reform have to be evaluated in a more holistic way. But the critics are wrong to imply that just because there are offsetting effects, positive and negative effects must necessarily cancel each other out - this would require extreme assumptions.

4. INTER-GENERATIONAL LIABILITIES⁹

At the current time, there is a great deal of concern about the development of implicit government debt liabilities. In a PAYGO pension system there is no attempt to build up a fund or to secure property rights on future investment returns. The holder of a PAYGO promise has no property rights over assets that could be used to meet the promise. This represents a fundamental reason for preferring private to state pension provision.

There are circumstances in which so-called PAYGO pensions could be regarded as funded because the income from contributions is effectively a substitute for issuing government debt (Minford, 1998). Some economists would therefore regard PAYGO pensions as funded by implicit government debt. Booth (1998) discusses this issue in much greater detail and concludes that such analogies are valid, but only up to a point and only in respect of certain types of unfunded schemes. In any case, even if future pensions are part of government debt, they are not transparently accounted for.

There are various measures of future pension obligations but, by all of these measures, the UK -and all other EU countries- faces an enormous fiscal challenge over the coming generation. For example, Gokhale (2014) estimates that if the UK is to meet all spending promises and be debt free by 2060, taxes will have to rise by about 13.5 per cent of national income. Alternatively, if taxes remain at their current rates, social protection spending would have to be cut by 50 per cent. These results are compatible with estimates of future fiscal burdens produced by bodies such as the Office for National Statistics and the Office for Budget Responsibility using different methods.

Significant unfunded state pension debts undermine economic freedom by imposing an implicit contractual burden on individuals who were not party to a free contract (see Booth, 1999, for a discussion of this in greater detail). Unfunded state pension schemes create a “fiscal commons” (see Wagner, 2012) whereby one generation can vote itself benefits to be paid for by future generations who cannot vote and may not even have been born.

Better government accounting might help address this problem. However, a system of private provision -including one based on voluntary contracting-out

⁹ See also Booth and Cooper (2005) from which parts of the next two sections are adapted.

from a state system- is even more powerful. Under a contracting-out system, those who have opted out of the state scheme receive a rebate of social security taxes. This means that the government has to pay (through loss of tax revenue), at the time a pension benefit is promised, a sum equal to the present value of that benefit for all those who contract out. The cost is explicitly incurred when the benefit is promised.

5. RISKS IN STATE PENSION SYSTEMS

State PAYGO pension schemes are subject to two types of risks. Firstly, there are the normal risks of providing pensions that can -in theory at least- be insured against in private markets, such as longevity risk. Some state pension schemes have been reformed to reduce this risk (see, for example, Palmer (2000) for a detailed description of the Swedish reform). The UK also intends to reform its state pension system so that the state pension age will be increased in line with longevity (see DWP, 2013; see also the proposal in Booth and Taylor, 2011).

Another risk, perhaps more fundamental, in state pension systems is that of low fertility rates¹⁰. In most European countries, fertility rates are now far below replacement levels. An increasing number of sociologists and economists are blaming this on public pension schemes (Ehrlich and Kim, 2007; Boldrin *et al.*, 2005; Cigno and Rosati, 1996). The reason why public pensions affect fertility is twofold. Firstly, in the absence of formal pension schemes, the main vehicle for old-age security is the extended family. This gives rise to the so-called old age security motive for fertility, which is strong in less-developed countries (Nugent, 1985). The establishment of public pensions removes this incentive to have children. But, what is more, public PAYGO pensions positively penalise childbearing (Ehrlich and Kim, 2007). This is because a compulsory pension scheme imposes the costs of retirement on all workers, regardless of how many children they have had (if any), so that families that raise more children carry a larger burden of the cost of PAYGO pensions. In effect, children become a “public good” in PAYGO pensions as the system relies on fertility to ensure stability, but the benefit of a particular family having children is spread across the whole working population.

The empirical evidence linking fertility decline to the growth of public pensions is striking. Ehrlich and Kim (2007) show, using data from 57 countries between 1960 and 1992, that higher pensions taxes have a negative and significant effect on total fertility rates in all plausible regression specifications. Puhakka and Viren (2006) report similar findings with data going further back and Cigno and Rosati (1996) reach the same conclusion with a different time

¹⁰ The next few paragraphs are partly based on Booth *et al.* (2008).

series regression method. Overall, the effect seems very strong indeed: simulations estimate that the growth of public PAYGO pensions can explain as much as 50 per cent of the decline in fertility rates in Europe and the USA between 1950 and 2000 (Boldrin *et al.*, 2005). Thus, PAYGO pension schemes rely on fertility for the maintenance of their solvency and yet contain no mechanism for promoting the required degree of fertility - indeed, quite the reverse.

If public PAYGO schemes really are so bad, one wonders why they were ever created. Public choice theory provides a simple answer: it paid off for the first generation of voters. A public PAYGO system transfers money from workers to retirees. Hence those who design the system, the first generation to retire, get a windfall. They reap the benefits of generous retirement income without having to contribute much or anything at all. This was how the system was publicised in Britain (Bartholomew, 2006). Public choice theory also demonstrates an inherent expansive dynamic in public PAYGO systems (see Browning, 1975, and Booth, 2013). The electorate has a strong incentive not to contract PAYGO pension schemes at the very time their financial position is weakest -when there is a large proportion of elderly people in the voting population. There is therefore an inbuilt tendency for PAYGO pension systems to over-expand. Many of the losers from expanding a PAYGO pension system cannot yet vote or have not even been born. This explains why it is so difficult for countries to change policy.

Allowing opting out of a state pension system improves these dynamics by bringing forward some of the costs of making pension promises to the time at which they are made. If rebates of social insurance contributions are calculated in an actuarially neutral way, any individual can opt out of the benefit on terms intended to be actuarially neutral. In effect, contracting out turns the state pension system into a compulsory pension system with two options - private compulsory contributions or membership of a state scheme with a similar actuarial value of benefit provided. Any effort to increase state pension benefits is, in effect, an attempt to increase compulsory contributions and those costs will be borne, on average, in terms of extra taxes, by the generation that votes for the benefits, at least insofar as the government is paying rebates of national insurance contributions to those who contract out¹¹. The political economy dynamics of the system would be improved further if social security taxes for those remaining in the system were equal to the actuarial value of the benefit that accrued and if this led to a surplus in the PAYGO accounts for the current generation.

¹¹ Of course, this is not the case insofar as the scheme involves redistribution within generations.

6. POLITICAL RISKS IN PRIVATE PENSION SYSTEMS

In the more successful international examples, the emergence of private savings-based systems has, to a large extent, taken the politics out of old-age provision. The previous Chilean pension system had been a hotbed of rent seeking (SAFP, 2003). But, in the current system, the important choices are individual choices, not collective ones. It is the individual pension saver who chooses their pension fund company, their investment strategy, their contribution rate (subject to a floor) and their retirement age (subject to a minimum asset level).

Yet the international experience also shows that the possibility to contract out of the state PAYGO system is a necessary, but by no means a sufficient condition for depoliticising pension provision. Especially in Latin America, governments have frequently treated the pension fund industry as a macro-economic policy tool, for example by directing investment towards domestic industries, and especially into government bonds (Auguste and Artana, 2006; Calderon-Colin, 2008; Roldos, 2007; Vasquez, 1997).

Three countries, Argentina, Poland and Hungary, have recently re-nationalised parts of their pension systems, with the government effectively expropriating part of the assets managed by the pension fund industry. Events in these countries deserve a closer look, because they mark the sudden end of a long expansion of privatisation systems, especially in “emerging economies”. All three countries, had introduced partial contracting-out style systems, whereby employees were given the option of diverting a share of their pension contribution from the PAYGO system to a personal pension savings account. Argentina introduced this option in 1994, allowing savings of 11 per cent of gross income. Hungary allowed pension savings initially of 6 per cent from 1998 onwards. In Argentina, contracting-out was abolished in late 2008. Those who had contracted out were obliged to pay their full pension contribution into the PAYGO system again and their previously accumulated assets -worth 13 per cent of Argentinean GDP at the time- were transferred to the government in exchange for PAYGO entitlements. In late 2010, the same happened in Hungary, though the coercion was slightly softer in this case. There was no literal ‘expropriation’ of pension savers, but the financial penalties imposed on those who wished to remain contracted out of the state system were so severe that 97 per cent of those who had contracted out switched back. This resulted in a transfer of 92 per cent of all pension fund assets, equivalent to 9 per cent of Hungarian GDP. The move was preceded by a weakening of the constitutional court, in order to prevent a legal challenge from the opposition or the pension fund industry (Iwasaki and Sato, 2005; Simonovits, 2011; Fultz, 2012).

In the cases of both Hungary and Argentina, there had been a previous history of attempts to undermine private pension savings. In Hungary, the

private pillar had been a political football from the start, and the division ran along party-political lines. The socialist party and its coalition partner promoted the system, while the national-conservatives opposed it. This led to frequent and contradictory changes to key variables of the system, creating a volatile business environment for the pension fund industry (Iwasaki and Sato, 2005; Simonovits, 2011; Fultz, 2012). In the Argentinean case, the expropriation of pension savers was not entirely without precedent. In 2001, pension funds had been forced to buy government bonds, on which the government then partially defaulted. Much more so than in the case of Hungary, pension fund nationalisation was not an isolated incident, but a policy that fitted seamlessly into the government's wider programme. The same government was also responsible for measures such as nationalising an energy company owned by the Spanish firm Repsol, banning the publication of alternative estimates of inflation rates, tightening currency exchange controls, undermining the independence of the central bank and the national statistics office, introducing export quotas, etc.

The temptation to interfere with contracting-out systems is always there because, from the government's perspective, each pound paid into a private savings account represents a current reduction in contribution revenue and the implicit debt from accumulating PAYGO liabilities remains hidden. We do not draw firm conclusions about the nature of the legal and regulatory framework surrounding private pensions from these examples. However, four points are worth noting. Firstly, it is important to have a sound institutional regime generally in a country if a private pensions system is to thrive. Secondly, expropriation of previous contributions might be more difficult if they are mixed with other forms of saving and pension provision rather than in earmarked accounts defined specially for the purpose of contracting out of a state pension regime. Thirdly, proper fiscal accounting whereby both implicit social security debts and explicit debts are included in a total debt figure would limit the benefits of expropriation. Finally, pension funds that are required by law to be invested in domestic assets and, especially, domestic government bonds are likely to be especially vulnerable.

7. OTHER RISKS IN PRIVATE PENSION SYSTEMS

There are, of course, other risks related to private pension provision. The three most obvious risks are longevity risk, investment risk and the risks of choosing a poor value private provider.

Longevity risk cannot be removed through private pension provision, though it can be insured against at least from retirement. However, in a private system, the individual has an incentive to react to price signals caused by changes in longevity. The natural reaction to increasing annuity prices caused by increased

longevity would be for people to save more or work longer. If the latter happens, the incentives faced by individuals help encourage behaviour that reduce the problem at a macro-economic level too. A higher number of retired people relative to working people is likely to raise the demand for labour and put upwards pressure on wages. Individuals can respond to this and to increased annuity prices by increasing labour supply in older age. In a PAYGO system on the other hand, increased longevity increases the relative proportion of voters who are in receipt of benefits and creates political pressure for higher levels of pension benefits (see Booth, 2013, for a full discussion of this and the exceptions to this general rule).

Investment risk is unavoidable with private pension provision. The authors would argue that this risk is intrinsic in any attempt to transfer consumption across generations. We would argue that the risks are more acceptable than the risks of PAYGO systems that involve inter-generational transfers and rely on sufficient children being born to sustain the system. Nevertheless, investment risk is a very real risk. Even the possibility of a wipe-out of much productive capital in an extreme event like a war, cannot be entirely ruled out¹².

It might be thought especially troubling if individuals believed that they had a “put option” on the government so that, if people chose risky investment portfolios, the individual would gain if the investments provided good returns but the government would provide them with means-tested benefits if the investments failed. This could be thought especially problematic if there were full pension privatisation and onerous regulation of investment might be thought necessary to deal with the potential problem. We discuss this below in a wider discussion.

8. THE CAUSES OF THE DECLINE IN CONTRACTING OUT OF STATE PENSIONS

One early problem with contracting out was that the regulatory costs of contracting-out grew for defined benefit schemes. Instead of merely ensuring that private sector schemes were providing a reasonable benefit in return for the rebate of national insurance contributions, a whole host of new requirements had to be satisfied by pension schemes from the late 1980s. Furthermore, the reform of the State Earnings Related Pension to create the State Second Pension (S2P) introduced further complexity.

A further problem, however - and perhaps the fatal one - was that the social insurance tax rebates became decoupled from the value of the benefit in the state scheme that those who contracted out gave up. Rather than rectify this

¹² Just as the possibility of a wipe out of part of a generation of taxpayers as a result of war or a virus cannot be ruled out.

problem, which was exacerbated between 1997 and 2010, the coalition government decided to abolish contracting out altogether.

There were two substantial problems with the calculation of the rebates that compounded each other. Firstly, there was a methodological flaw in the calculation of the social security tax rebates so that, arguably, they had always been somewhat inadequate. However, up to 1997 there was a genuine attempt to promote voluntary privatisation, or at least make the decision to contract out a neutral one - the methodological flaw in the calculation was one which was widespread in other areas of actuarial practice. However, after 1997, contracting-out rebates were further eroded in such a way that contracting out became very unattractive. Their erosion was a matter of deliberate policy.

For example, at the time of the 2007 review of social security tax rebates in 2006, the government decided to set the rebate for defined benefit schemes at 5.3 per cent of the relevant salary band instead of the 5.8 per cent recommended by the Government Actuary. Furthermore, the government capped the age-related rebate for defined contribution schemes at 7.4 per cent of the relevant earnings band, a reduction from 10.5 per cent. These decisions were ostensibly taken because of fiscal constraints, although, at the time, the economy was growing rapidly along with public spending. As such, the decision can be better interpreted as a reflection of government priorities. There was wide criticism of this decision despite the effective tax increase being very opaque (see Thurley, 2011). That decision followed earlier decisions not to up-rate certain of the rebate categories after taxes on equity investments were increased in 1997 and reflected a specific decision by the government to not change rebates in line with changing circumstances or according to the recommendations of those appointed to propose to the government the appropriate level of the social security tax rebates for those who opted out of the state pension.

The other problem deserves further consideration. Throughout the period when contracting out of the state pension was allowed, the Government Actuary effectively used a "best estimate" approach to calculating social security tax rebates. This was intended to ensure that rebates were equal to the amount an individual would have to invest in a typical pension investment portfolio in order to replicate the state pension foregone at the expected investment return on that typical investment portfolio. This reasoning is flawed. If the social security tax rebates were invested in a typical pension portfolio, the expected return would be higher than the return on risk-free securities but there would be risk involved for the investor. Because the government is assuming an expected return higher than the risk-free return, the rebates calculated will be reduced. However, the benefit the individual is giving up is a risk-free benefit (with some caveats discussed below) and the rebates should be calculated on this basis.

In the 2011 review of contracting out terms (to be implemented from 2012)

the Government Actuary put forward three possible approaches to the calculation of rebates (GAD & DWP, 2011). One approach was the best estimate approach described above. A second approach asked the question “how much should the rebates be in order to replicate the pension foregone if the rebate were invested in government securities?”. This would be the approach -perhaps with some adjustment as discussed below- that would be recommended by finance academics. The basis for calculating the rebate should not be the expected amount that an individual needs to replicate the pension if the rebate is invested in a typical risky investment portfolio, but it should be based on the value of the promise that the individual who contracts out of the state scheme foregoes. Although this may not be a risk-free promise for the reasons discussed below, this should be the starting point even if some explicit and approximate adjustment for the risk attached to the state pension is then made.

The difference between the rebates calculated using the “expected-value” and “risk-free” approaches recommended by the Government Actuary for 2012 onwards were very large. The former approach led to a suggested rebate of 4.8 per cent of the relevant earnings band and the latter 10.4 per cent. The government itself implemented the former recommendation. Given the developments in actuarial thinking and accounting techniques, it is very difficult to argue other than that the rebate should have been at the higher level, from the beginning of the twenty-first century.

As well as the decline of the financial incentives to contract out, there has been a strong reversal of the general policy stance towards private pensions by both the Labour and Conservative Parties. Contracting out of state pensions was rarely mentioned by the Labour party as a policy issue but it was not explicitly hostile to the concept until at least 2005, even if the rebates were squeezed. The Conservative Party proposed major extensions to pension privatisation in both the 1997 and 2001 general elections. In 1997, the Conservative Party (1997) proposed that all young people entering the workforce would have, in effect, an Australian-style pension system whereby they would receive a rebate of national insurance contributions equal to the value of the whole state pension which would be saved in a private defined contribution scheme. This would have privatised the whole state pension scheme over a generation. In 2001, the party proposed extending the principle of contracting out to allow people to contract out of the basic state pension as well as the earnings-related elements of the state pension (Conservative Party, 2001)¹³. However, within 11 years of this proposal (from 6th April, 2012) contracting out of the state pension using a personal pension was abolished by a Conservative-led coalition government which implemented the policy of the previous Labour government. After 55

¹³ One of the authors of this paper led the group that designed that policy.

years of cross-party support, contracting out will be abolished entirely in 2016, also with cross-party support.

9. CONTRACTING OUT: A PROPOSED NEW REGIME

The rationale for the post-war contracting-out regime was that all individuals should have the basic state pension as a minimum but that any additional pension that the state provided, could be replicated in the private sector with contributions to the state pension being reduced. As noted above, in a sense, the state pension plus SERPs (and then S2P) formed the minimum level of compulsory pension provision, but part of the compulsory provision could be obtained from private sources. The basic state pension was a little below subsistence level and the total compulsory provision took people to a little above subsistence level. For a variety of reasons, some individuals slipped through the net of compulsory provision and would be eligible for means-tested benefits¹⁴.

The UK government will be bringing in a new state pension regime from 2016. It is in this context that a revival of pension privatisation is proposed below. The transition rules between the old regime and the new regime will be complex, but the new system (see DWP, 2013) will have the following features:

- Every year in which an individual makes national insurance contributions or receives credits for caring responsibilities will earn that individual 1/35th of a full state pension.
- The full state pension will be £144 per week in today's prices.
- It is likely that ten qualifying years will be necessary to receive any state pension entitlement.
- After 35 years of contributions (or credits) no further pension can be accrued.
- The state pension age will rise from 65 to 68 and then, most likely, increase to ensure that the proportion of life for which a state pension is received remains the same as life expectancy improves¹⁵.

The purpose of the new pension regime is to provide a basic state pension that will take everybody above subsistence level as long as they have a reasonable contribution record.

¹⁴ For example, the self-employed, those without a reasonable number of working years and so on. In recent years, credits for state pension contributions were given to people in some of these categories.

¹⁵ It is not clear whether the government will implement previous plans to increase the state pension age to 68 before the link with life expectancy is introduced or whether the accelerated increases to 67 will take place and the link to life expectancy will be implemented immediately from that point.

The foundation of the proposal is that individuals are allowed to contract out of 50 per cent of the state pension and receive a rebate of social security taxes that is age-related (i.e. dependent upon the age at which they contracted out and equal to the actuarial value of the state pension forgone). The rebate would have to be invested in a personal pension or equivalent vehicle, with some minor restrictions on the nature of the investment policy.

Given that, in the initial stages, people would only be able to opt out of 50 per cent of the state pension, relatively benign investment regulation would be required, perhaps along the lines of requiring 80 per cent of the investments to be in long-only funds and half of that 80 per cent to be in a diversified portfolio of quoted investments. It is also important that regulation does not prevent access to cheaper forms of fund management based on indexed funds which might use derivatives.

In the 2014 Budget, the government announced that it would remove all requirements for pensioners to buy annuities with their defined contribution pension savings (HM Treasury, 2014). The reasoning for this was that the new state pension system would ensure that few people had to rely on means-tested benefits and thus there would be little moral hazard from allowing people to spend their pension money. However, if people contracted out, their remaining state pension would not take them above means-tested benefit levels. As such, those who contracted out would be required to buy an annuity which, when added to their state pension, would take them above the level of income at which means-tested benefits can be received before they can take other cash from their fund.

All existing defined contribution pensions vehicles could be used for the investment of the rebates of social security taxes. This would include the National Employment Savings Trust (NEST) which is a vehicle that has been set up by the government, though independently managed and with ambiguous ownership, for the purpose of investing pensions contributions through an auto-enrolment scheme for those with no other forms of private pension saving. NEST's charges are 0.9 per cent of all contributions plus 0.3 per cent of assets per year.

Because the government has decided on relatively generous qualification rules for the new state pension, with only 35 qualifying years being necessary for a full pension, this could lead to some complications in administering the system of contracting out. One practical way to administer the system would be to allow an individual to contract out for five years at a time up to the age at which a full state pension would have been accrued if the individual had remained in the state system. Those who accrue entitlement to a state pension because of, for example, caring responsibilities, could also contract out and receive a payment into a personal pension scheme even though no cash national

insurance contributions had been paid. This would allow carers (normally mothers with children) to accumulate substantial private pension assets in their own name for the first time. Anybody paying total social security taxes of less than the actuarial value of the state pension forgone from contracting out would still receive a rebate of the latter because the principle of this proposal is that, if individuals forgo the right to a state pension, they receive the value of the state pension they forgo to invest in a private scheme. This would mean that the low paid would also be able to accumulate private pension assets even if they were not paying national insurance contributions that were equal to the actuarial value of the state pension benefits to which they were entitled.

The rebates of national insurance contributions would have to be age-related to prevent gaming of the system. The rebates should be calculated on the basis that, if they were invested in index-linked government bonds, they would be expected to replace the pension foregone, with the caveats discussed below. The rebates would therefore depend on interest rates, mortality and age. Indicative rebates have been calculated on the following assumptions and are shown in Table 4:

- Mortality follows English life tables 16. Cohort tables have been used with mortality estimates from 2010.
- The level of the pension will rise by inflation plus the increase in average earnings both before and during receipt. It should be noted that the authors strongly disagree with the earnings indexation of pensions. However, this is an aspect of the proposed model of the state pension described in Department for Work and Pensions (2013)¹⁶.
- Real earnings growth is assumed to be 1.6 per cent, equal to the average level between 1970 and 2010 (see Towers Watson Research & Ideas, n.d.).
- There are no expenses saved by the government as a result of contracting out (this is realistic because it is assumed that individuals will still accrue 50 per cent of the state pension and thus there will still be a state pension to administer).
- There is no death benefit from the state pension scheme.
- Real rates of return on index-linked gilts of the appropriate term are minus 0.2 per cent¹⁷.

¹⁶ Remarkably, DWP (2013) also seems to hint that the “triple lock” may remain so that pensions will be uprated by the higher of 2.5 per cent, inflation and earnings increases. This would be a very dangerous policy indeed. The authors propose that state pension promises are linked to prices.

¹⁷ The appropriate term is, of course, very long though it would vary depending on the age of the individual involved. This level reflects index-linked bonds yields at the time of writing at the

- There is a risk premium of 1 per cent relevant to the political risks of the state pension (see below for further explanation).
- The value of the state pension forgone for every year of rebate received is 50 per cent of $1/35^{\text{th}}$ of £144 per week in today's earnings terms, i.e. £107 per annum.¹⁸
- Sample ages of 25, 40 and 55 will be used for individuals contracting out.
- Rebates will be calculated assuming a state pension paid from age 69 for an individual aged 25 at the time of contracting out, 68 for an individual aged 40 and 67 for an individual aged 55 at the time of contracting out.
- Because there are no appropriate life tables available on a whole-population basis, rebates have been calculated for males and females separately and the rebate level indicated is the average of the two¹⁹.

Table 4
Sample rebates of social security taxes for contracting out of
50 per cent of the state pension

Age	Theoretical male rebate £	Theoretical female rebate £	Population rebate estimate £	Theoretical male rebate for price-linked pension £	Theoretical female rebate for price-linked pension £	Population rebate for price-linked pension £
25	3224	3692	3458	1319	1496	1408
40	2783	3210	2997	1470	1677	1574
55	2436	2823	2630	1663	1903	1783

Source: Own elaboration.

The assumption relating to future state pension ages mirrors, as closely as is reasonably possible, the likely future path of state pension age given current announcements and qualifications that have been made regarding those announcements (see, for example DWP, 2013). Given the government's desire to raise state pension age in line with longevity, the time from which the pension is first received will depend on improvements in longevity, as will the average length of time for which the pension is received. Clearly, this variation

point at which they flatten out and become fairly constant over different terms to redemption.

¹⁸ We note in passing that the authors would prefer a system where more or less each year of a working life would qualify for the state pension so that, for example, only $1/48^{\text{th}}$ of the state pension were accrued each year. If this were the case, the rebates we propose would be reduced pro-rata as would the amount of state pension accrued each year.

¹⁹ This is a reasonably close approximation and better than ignoring mortality improvements altogether by using different forms of mortality table. Cohort life tables have been used to allow for improvements in life expectancy over time. See: <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Projected+Life+Expectancy#tab-data-tables>

will have to be modelled in more complex ways when rebates are calculated in practice.

The assumed risk premium is clearly arbitrary and better modelling of this would be desirable. However, it is intended to reflect two risks in relation to the state pension. The first is that the state pension could be reduced (for example through means testing, explicit reductions or further increases in state pension age above those assumed); the second is that there is a potential element of self-selection in the contracting out system. This arises because those who are in poor health may be more likely to contract out because they will benefit from their private pension fund when they die whereas they would lose all entitlement to the state pension had they remained fully in the system. A further risk of self-selection arises because men may be more likely to accept the rebate than women because better female life expectancy means that women are likely to find the state pension promise relatively better value than men.

The sample rebates shown in Table 4 might be regarded as being rather high, especially in the case of the rebate calculated for younger people using the assumption that state pensions will be linked to earnings. This is a reflection of the value of that promise given by the government to prospective state pensioners given that the rebates of national insurance contributions are designed to mirror precisely the benefit forgone by those who contract out. The rebates reflect the genuinely high -but currently hidden- cost of government earnings-linked pension promises. It is also worth noting that, if the state pension is earnings-linked, the rebates fall with age because current interest rates are lower than reasonable assumptions about future earnings growth.

As has, been noted, the return to using private pension provision in place of part of an individual's state pension is not without risk. The individual will have to bear investment and longevity risks and it is important that state guarantees do not promote moral hazard in this respect, for example through the provision of excessive means-tested benefits. There are also political risks, including the risk of expropriation discussed above and the risk that individual inertia leads people to continue with private provision despite the value of rebates being eroded as happened in the UK in the 1990s and 2000s. With regard to this issue, we propose that, in primary legislation, the Government Actuary has the responsibility to calculate rebates based on a fair actuarial value and that the calculations -or their implementation- can be legally challenged.

This proposal has the potential to increase current government spending significantly. For example, over 30 million people have accrued at least one qualifying year for the state pension either through contributions or credits (PPI, n.d.), although not all these people will be accruing pension in any particular year. For the purposes of illustration, assume that 10 million people decide to contract out. Average rebates could be about £3,000 if the pension were linked

to wage increases and £1,500 if the pension were linked to price increases. This would imply total rebates of £30bn and £15bn respectively. This compares with national insurance rebates of around £10.6bn in 2008-09 and a much reduced level of £6.3bn in 2012-13 (see HMRC, n.d.). However, it should be noted that such rebates should not be regarded -as the UK government currently regards them- as some form of tax relief. Individuals who contract out pay lower national insurance contributions because they are not receiving the benefit of part of the state pension: the social security tax should be regarded as the price of accruing the state pension. Secondly, it is important to note that the financial discipline arising from the possibility of contracting out ensures that the timing of the government's expenditures is brought closer to the time it is making commitments and reduces the government's ability to hide implicit intergenerational transfers such as earnings-linked pension promises. It would be reasonable for the government to borrow to finance the payment of rebates if necessary²⁰ given that future government liabilities are being reduced.

10. CONCLUSION

The UK pursued a successful programme of voluntary pension privatisation in the post-war period. This contrasted with the approach in many other areas of the welfare state, such as health provision, where the state was completely dominant. The system of contracting out had wide industry and political support.

In later years, especially from 1997, contracting out was undermined through regulation and as a result of reductions in the value of the rebates of national insurance contributions offered to those contracting out. At the current time, the concept is being abolished along with a reform to bring in an enhanced state pension.

A revamped system of contracting out of the state pension should be introduced which would provide rebates of national insurance contributions calculated on a fair actuarial basis for anybody who was accruing state pension. The rebates would be determined by the value of the state pension entitlement that an individual gave up and not by the actual level of national insurance contributions paid. The option would therefore be open to those on low earnings and to carers who currently receive credits in the state pension system. This would be a voluntary privatisation in the spirit of the post-war British welfare state.

The examples of reform in other countries raise the question of whether these proposals should go further. The proposals could be extended in two ways. The first would be to adopt a system whereby half the state pension was

²⁰ Or -ideally- have a lower budget surplus.

replaced by private provision for all individuals rather than using a system of voluntary contracting out. The second possibility would be to replace the whole state pension system with private provision. Both of these approaches have been on the political agenda in the UK in the last 15 years. We would, in principle, prefer either of these two approaches. However, privatising the whole system is likely to lead to a considerable problem in terms of the marketability of government debt, at least in the short run, because of the transition problem of moving towards funding in advance commitments that are currently made in the PAYGO system. Secondly, full privatisation leads to a greater problem of moral hazard which politicians may be tempted to address with intrusive regulation of investment policy. The authors would argue that our proposals above could be a stepping stone to further reform, but that the advantage of these specific proposals that they could be implemented immediately without ramifications for other areas of government policy.

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