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Centre for Market and Public Organisation
University of Bristol
Department of Economics
Mary Paley Building
12 Priory Road
Bristol BS8 1TN

Tel: (0117) 954 6943

Fax: (0117) 954 6997

E-mail: cmpo-office@bristol.ac.uk

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James Banks and Sarah Smith

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James Banks^{*}
and
Sarah Smith^{**}

^{}University College London and Institute for Fiscal Studies*

*^{**}CMPO, University of Bristol and IFS*

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Abstract

Like other OECD countries, the UK experienced more than two decades of declining labour market activity among older men in the 1970s, 1980s and early 1990s. A number of measures to reverse this trend that are currently under discussion, or have already been introduced, include, an increase in the state pension age, abolition of mandatory early retirement ages, tighter eligibility for disability benefits, and in-work benefits and training incentives for those aged 50+. This paper considers the nature and timing of retirement in the UK today and makes an assessment of the likely effect of these measures and likely future trends in retirement.

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Address for Correspondence

CMPO
Department of Economics
University of Bristol
12 Priory Road
Bristol
BS8 1TN
Sarah.smith@bristol.ac.uk
www.bris.ac.uk/Depts/CMPO/

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I. INTRODUCTION

Over the past few decades, while life expectancy has increased, there has been a near-universal trend across OECD countries towards earlier retirement (see Blöndal and Scarpetta, 1999). Among the explanations for falling activity rates among older workers are the disincentive effects created by social security and pension systems² and the relative disadvantage of older workers during a period of industrial restructuring and technological change,³ as well as rising levels of wealth which have afforded individuals a longer period in retirement.

The decline in the proportion of life spent working is even more pronounced when one considers that, as retirement ages have fallen, the age at which individuals finish full-time education has typically increased. This is shown in Table 1 for different cohorts in the UK. On average, the 1900 cohort spent 69% of their total life in the labour market, compared to 59% for the 1935 cohort.⁴ If retirement ages for subsequent cohorts stay at their current level then this proportion would fall to 53% for the cohort born in 1980.

The current policy debate in the UK, as in many other countries, is about how to raise the effective age of retirement (the age at which people leave the labour market) and whether to raise the age at which people become eligible for a pension from the state. In some countries, there is pressure for an increase in the state pension age in response to large projected increases in public spending on pensions.⁵ In the UK, state spending on pensions is projected to grow by much less than in other

² See Blöndal and Scarpetta (1999) and Gruber and Wise (2002)

³ Banks and Casanova (2004) present evidence on the decline of relative real wages of older workers (particularly the low-skilled) in the UK.

⁴ These calculations are crude for a number of reasons mainly to do with the need to aggregate different types of individual and population data to the cohort level in order to make the comparisons. Key issues are that they refer to the proportion of life in the labour market for those that actually living to retirement age (more of an issue for the earlier cohorts than the later ones) and that they do not strictly decompose due to the use of mean school leaving age and median retirement age.

⁵ Several countries (including the UK, Austria, Hungary and Switzerland) are introducing increases in the state pension age for women, to bring it in line with that of men. The pension age for men and women was raised from 60 to 65 in New Zealand between 1992-2001, having been reduced from 65 in 1977. Japan is raising its pension age from 60 to 65 between 2013 and 2025. The US is raising its standard pension age from 65 to 67 between 2000-2022. Italy is raising the number of years' pension coverage to 39 years in 2006 and to 40 years in 2009. Finland and Denmark are both reducing the minimum pension age, but tightening up eligibility for early retirement, with the overall aim of increasing the effective retirement age.

countries;⁶ but an increase in the state pension age has been suggested as one way of financing an increase in the state pension's generosity.

Table 1: Education, retirement and life expectancy by cohort in the UK

Cohort born in	Mean age left school	Median retirement age	Life expectancy if reach age 55	Proportion of life spent in labour market (p)	p if ret age stays at 61	Ret age required for p = 0.59
1900	14.1	65	73.5	0.69	-	-
1910	14.6	65	74.0	0.68	-	-
1920	14.8	63	74.5	0.65	-	-
1930	15.2	62	75.5	0.62	-	-
1935	15.9	61	76.7	0.59	-	-
1940	16.1	-	77.5	-	0.58	61.8
1950	16.8	-	79.5	-	0.56	63.7
1960	17.2	-	80.9	-	0.54	64.9
1970	17.7	-	81.7	-	0.53	65.9
1980	17.8	-	82.2	-	0.53	66.3

Source: Age left school and retirement age calculated using data from the Family Expenditure Survey. Data on life-expectancy from ONS Population Trends (2004).

Note: Cohorts are five-year cohorts beginning with listed year (so 1900 refers to the cohort 1900-1904 etc.)

A desire to raise the effective retirement age is motivated by a wider concern about the economic dependency ratio, ie the relative numbers of economically productive to economically dependent individuals.⁷ This, rather than population ageing *per se*, is what matters for the financial solvency of pensions and other welfare systems (as well as being a key determinant of economic growth⁸). With an increase in labour force participation among older workers, available labour resources will continue to grow, even with an ageing population.

⁶ The decision to link the basic state pension to prices not earnings from 1981 and successive reforms to the second-tier state pension have reduced the generosity of the state pension relative to earnings. Since 1999, there has been increased spending on means-tested benefits for pensioners.

⁷ or more precisely the total production of the active to the total costs of support of the inactive

⁸ The OECD recently concluded that unless there is a substantial increase in labour force participation, especially among older workers, available labour resources will remain broadly stagnant over the next 50 years, implying labour shortages and a pronounced slowdown in economic growth.

And, while raising the age at which people become eligible to receive a pension from the state is likely to have an impact on effective retirement ages, it may be neither necessary – if there are other barriers to economic activity of older workers – nor sufficient – if people rely on private pensions or other, non-pension, state benefits to finance their early retirement – for such a change to occur. Understanding retirement, and the nature and determinants of economic activity at older ages more broadly, will therefore be one of the keys to countries' transitions to their new socio-demographic and economic equilibria in the face of population ageing.

In this paper we consider the nature and timing of retirement in the UK and discuss how we might expect future trends to evolve. Like other OECD countries, the UK experienced more than two decades of declining labour market activity among older men in the 1970s, 1980s and early 1990s. While employment rates among older women remained fairly constant, this contrasted with an increase in participation at younger ages.⁹ Several measures have already been introduced in an attempt to reverse this trend including tighter eligibility for disability benefits (from 1995), in-work benefits and training incentives targeted at the 50+ unemployed (from 2002) and the abolition of mandatory early retirement and age discrimination (from October 2006). An increase in the state pension age from 65 to 68 has been recently proposed by the independent Pensions Commission.¹⁰ Recent evidence suggests that labour market activity rates are rising, perhaps in response to some of these measures, and/or reflecting the relatively strong performance of the economy.¹¹

Retirement decisions are the outcome of individual choice and institutional context. In the UK, the institutional context is characterized by a high level of private pension provision, compared to many other countries. For recent cohorts of retirees, this has typically meant employer-provided defined benefit schemes (occupational pensions), which have often facilitated and encouraged early retirement. Future cohorts of retirees will increasingly be reliant on individual defined contribution pensions (personal or stakeholder pensions) and, for them, the opportunities and incentives to retire early may be quite different. In the UK, most people with a private (DB or DC) pension choose to opt out of the second, earnings-related tier of the state pension system; for them, the state pension is a fairly minimal, flat rate pension and the incentives in their private pension are likely to matter far more for their retirement.

⁹ See Tanner (1996), and Disney (1999)

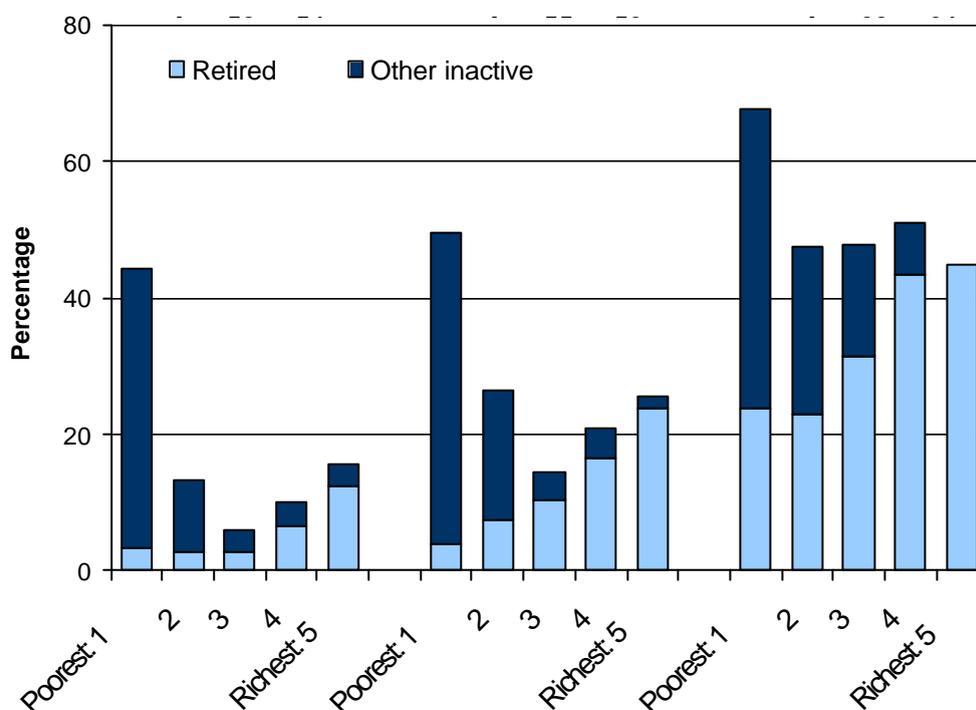
¹⁰ This was an independent body set up to review pensions arrangements in the UK.

¹¹ Banks and Blundell (2005)

The UK may therefore offer important insights into how labour market outcomes may turn out under systems with more private and individual pension provision.

What emerges from the analysis is that, among current retirees, there are distinct groups with very different retirement experiences (see Figure 1). At the top of the wealth distribution individuals retire early, typically drawing an income from an occupational pension before age 65; at the bottom of the wealth distribution individuals are even more likely to be not working in their 50s, yet typically do not define themselves as retired and are supported by income support, or more usually, disability benefits. Policy-makers keen to raise effective retirement ages will need to keep in mind the very different circumstances and needs of these groups.

Figure 1: Labour market inactivity of older men, by age band and quintile of financial wealth



Source: Banks and Casanova (2004) calculations from English Longitudinal Study of Ageing, Wave 1 (2002)

The plan of the paper is as follows. The next section discusses what retirement is, and looks at evidence on the nature of individuals' transitions into retirement, including when people typically retire, their employment prior to retirement and whether there is evidence of partial or gradual retirement. Section III focuses on the influence of pensions on retirement and section IV discusses mandatory retirement and ill-health. Section V concludes.

II. WHAT IS RETIREMENT?

Any discussion of retirement is complicated by the problem of defining when retirement occurs, and the prior problem of defining what retirement is. Broadly, the concept of retirement may embody a number of different elements, to differing degrees:¹²

- complete and permanent withdrawal from employment;
- receipt of income from a state or private pension; and
- a state of mind, i.e. the individual perceives themselves to be retired.

A purely subjective definition of retirement has the potential drawback that being retired may mean different things to different people and more importantly to different groups of the population. But, understanding an individual's expectations about their current and future employment status is likely to be important for understanding their life-cycle decisions, i.e. their current and future consumption and savings behaviour. From the perspective of the Life Cycle Model of consumption and leisure, individuals' expectations about their future labour market participation and future income will affect their current consumption behaviour, and individuals' preferences for future consumption will affect their desired future labour market participation (see Heckman (1974), for example).

The concept of retirement adopted by most economists modelling retirement¹³ typically has the following characteristics:

- it is synonymous with drawing a pension;
- it is a sudden, rather than a gradual, process and encompasses the decision whether to work at all, rather than the decision of how many hours to work;
- it is an absorbing (ie permanent) state;
- it is an individual decision rather than one made jointly with other household members; and
- it is a voluntary choice, albeit made subject to opportunities and constraints presented by employers and pension arrangements.

¹² For further discussion of what retirement is, see Fields and Mitchell (1984), Lazear (1986) and Lumsdaine and Mitchell (1999)

¹³ Of course, there are exceptions, including Rust and Phelan (1997) who model the labour force participation separately from the decision to draw a pension, Berkovec and Stern (1991) who allow retirement to be gradual and Gustman and Steinmeier (2004) who model joint retirement decisions. See Lumsdaine and Mitchell (1999) for a review.

In this section we examine the extent to which retirement conforms in reality to this stylized version of the models.¹⁴ In many cases, the three events (stopping work, beginning to draw a pension and considering yourself to have become retired) do not occur simultaneously. Some people consider themselves to be retired, but are still working, others have left work never to return, but do not yet consider themselves retired; some people are drawing a pension but still working, while others are retired, but yet to draw a pension.

Yet, despite the variety of options available, this section will show that the diversity in retirement behaviour, particularly for men, is not as great as it potentially might be. Broadly, there are two distinct groups. In one, individuals retire before age 65, typically drawing an income from an occupational pension; in the other, typically less well-qualified individuals are even more likely to be not working in their 50s, yet typically do not define themselves as retired on exit from the labour market and are supported by income support, or more usually, disability benefits. Within both groups, retirement appears to be fairly sudden rather than gradual and, for the overwhelming majority, an absorbing state. In later sections we consider how these dominant patterns reflect the institutional context

When do people retire?

Whichever definition is used - exit from employment, drawing a pension, or self-assessed retirement status – the majority of men, and many women, retire before the state pension age of 65 for men and 60 for women (Table 2). These are the most common retirement ages for men and women, but 66% of men and 55% of women stop working before this age, 62% of men consider themselves to be retired before they reach 65, and 65% of men have started drawing a pension by then.

¹⁴ The data are taken from the British Household Panel Survey – full details are given in the Annex.

Table 2: Average retirement ages

	Men		Women	
	Median	Mode (% retiring at that age)	Median	Mode (% retiring at that age)
Age of retirement	62	65 (20.3%)	60	60 (16.9%)
Age of stopping work	61	65 (13.0%)	58	60 (10.2%)
Age of drawing pension	61	65 (27.5%)	60	60 (43.3%)

Source: British Household Panel Survey, 1991-2003

For just over half of men and one-third of women, the three retirement ages coincide: The age at which they stop working is the same as the age at which they start drawing a pension and the age at which they consider themselves to be retired. In other cases, people stop working before they retire, moving into retirement via another non-working state; they also retire before they start to draw a pension, using other early retirement vehicles, particularly disability benefits. Below, we explore these cases further.

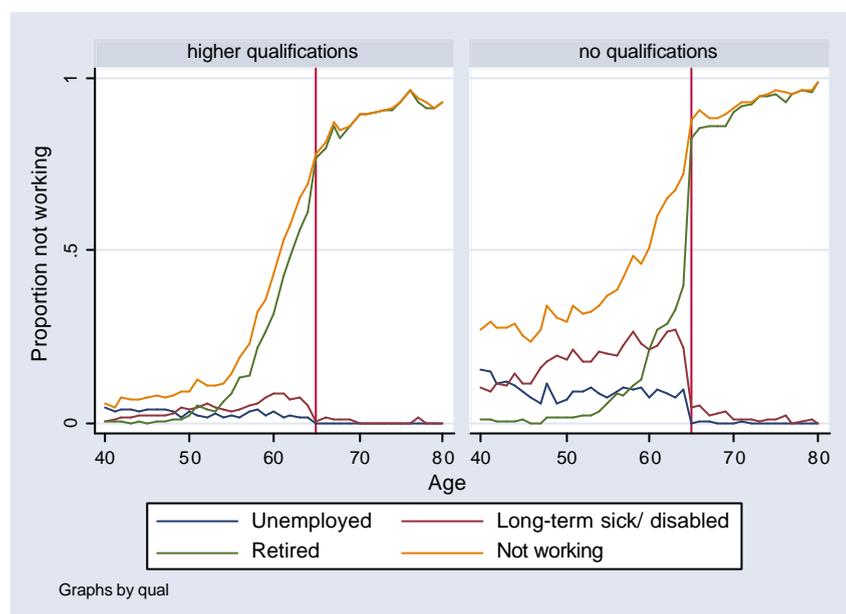
Is retirement synonymous with labour market exit?

While the majority of men retire from employment, around 40% of men move into self-assessed retirement from another non-working state, usually unemployment or long-term sick/disabled. This is particularly the case among those with low levels of qualifications, as shown in Figure 2 below. For those with higher qualifications (33% of the sample), leaving employment is much more likely to be synonymous with self-assessed retirement. For those with no qualifications (34% of the sample), levels of non-employment are quite high, even among people in their 40s. But early retirement is less usual. Instead, those in this group who leave employment are more likely to say that they are unemployed or long-term sick/ disabled. For those with no qualifications, there is a far greater transition to self-assessed retirement at age 65.¹⁵ Smith (2006) shows that moving into retirement from another non-employment state is not just a question of terminology, but may indicate earlier than anticipated retirement as a result of ill-health and/or redundancy, and is associated with a fall in

¹⁵ There is a third group with school qualification whose behaviour is intermediate between the higher and lower education groups.

spending at retirement that suggests a negative shock to wealth through lost earnings and/or additions to pension.

Figure 2: Employment status among male workers, by education level



Source: British Household Panel Survey, 1991-2003

Is retirement synonymous with drawing a pension?

Around one-quarter of men stop working before they start to draw a state or private pension. Instead, unemployment benefits, income support or, more commonly, disability benefits, form alternative early retirement vehicles. Again, there are interesting differences by education – the better qualified are much more likely to draw on a private pension if they retire before 65, while those with no qualifications are more likely to rely on disability benefits. Although around two-thirds of those with no qualifications do eventually receive some income from a private pension, they are much more likely than those with higher qualifications to start drawing it at age 65; the better-educated are more likely to start drawing their pension earlier (see Table 3).

**Table 3: Proportion receiving different income sources, by education
(non-working only)**

Age	Unemployment benefit/ Income support		Disability benefits		Private pension income	
	Qualifications		Qualifications		Qualifications	
	Higher	None	Higher	None	Higher	None
50-54	0.20	0.40	0.49	0.81	0.54	0.17
55-59	0.09	0.27	0.33	0.72	0.72	0.32
60-64	0.07	0.27	0.28	0.61	0.84	0.51
65-69	0.02	0.10	0.10	0.27	0.90	0.67

Note: Higher qualifications include degree, teaching, nursing or other higher qualification

Source: British Household Panel Survey, 1991-2003

So, stopping work is not synonymous with drawing a pension and it is certainly not synonymous with drawing a state pension. Only 7% of men stop working at 65 and draw only a state pension at this age. The direct effect of any increase in the state pension age on retirement is therefore likely to be fairly small. Of course, the impact may be bigger if there are indirect effects on the normal pension ages in occupational schemes and if the state pension age provides a social norm for people with individual DC pension plans. On the other hand, the continuing availability of alternative early retirement vehicles may reduce the direct impact of raising the state pension age if more people move onto disability benefit or income support.¹⁶

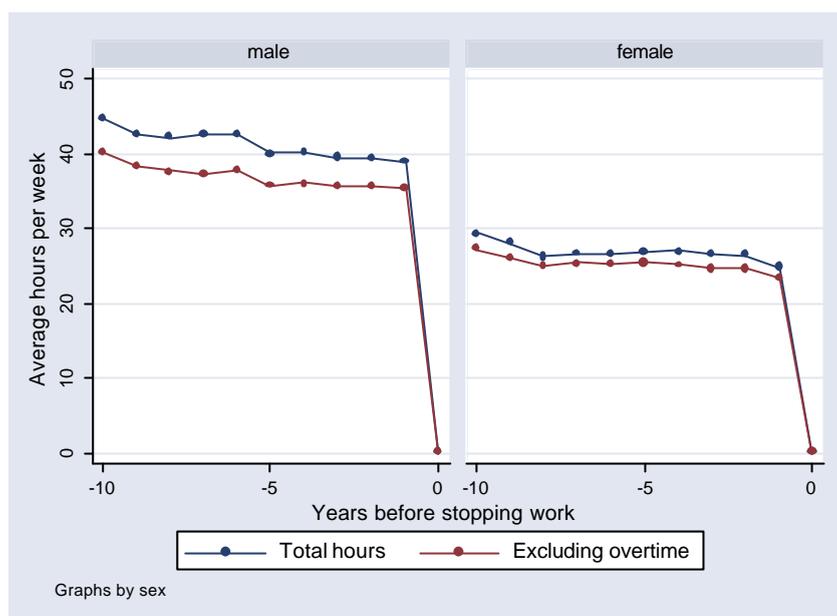
Is retirement gradual?

The evidence suggests that, for the great majority of people, retirement is not a gradual process of labour market withdrawal, but instead involves a fairly abrupt transition from full-time employment to zero hours. In the run-up to retirement, the proportion of men working part-time doubles (this increase is fairly concentrated between five – seven years from stopping work), but part-time workers still comprise no more than 10% of the total.¹⁷

¹⁶ If reforms maintained same expected value of state pension income, the effect of raising the age at which people become eligible to receive it would raise retirement age for those affected only if they are liquidity constrained, but this is likely to be true for most in the affected group.

¹⁷ This evidence is in contrast to the experience in the US where Ruhm (1990) suggests that partial retirement is common.

Figure 3: Average weekly hours prior to retirement



Source: British Household Panel Survey, 1991-2003

The cliff-edge nature of retirement is evident from Figure 3, which shows average hours worked per week, with and without overtime, in the run up to retirement.¹⁸ Over the decade before retirement, there is a seven-hour drop in average total weekly hours worked by men. A fall of around two hours is attributable to a reduction in overtime hours worked; around three hours is due to the increase in part-time work; while, among those who work full-time, the number of hours worked (excluding overtime) falls by a further two hours. But, this slight fall in average weekly hours is as nothing compared to the huge drop that occurs when people retire. It is a similar story for women, although the drop is slightly less steep because of the higher proportion who work part-time. There is very little increase in the proportion of women working part-time in the run-up to retirement.

If there are diminishing marginal returns to leisure, there is clearly an issue about whether such a discrete change is optimal from the individual's point of view. There are a number of possible reasons why individuals may not want to reduce their hours gradually, including fixed costs associated with working and/or economies of scale in converting time into utility-producing leisure. They may also face constraints in their choice of the number of hours to work as a result of the fixed costs of employment to

¹⁸ Note that this is not a balanced panel – the sample observed ten years before retirement is not the same as the sample observed nine years before retirement, and so on.

the employer – although the higher proportion of women who work part-time suggests that more men could work part-time if they wanted to, although possibly not in the same job or for the same employer. For people with a defined benefit occupational pension, the fact that pension depends on final salary and the current legal restrictions on drawing any pension income while still working for the same employer¹⁹ may also act as barriers to part-time working. We return to these issues in the next section.

Is retirement permanent?

The evidence suggests that for most people, retirement is an absorbing state. Looking at the four waves after someone first retires (according to their self-assessed retirement status), 11% of men and 7% of women return to work at some time during this period. This means that more than 90% of people who retire, appear to stay retired.²⁰

Is retirement an individual or household decision?

Retirement has most commonly been analysed as an individual rather than a joint household decision (for exceptions see Hurd, 1988, and Gustman and Steinmeier, 2004) although this is mainly for reasons of analytic and computational simplicity. There are several reasons for thinking that retirement might be determined jointly, however, including: complementarity of leisure, correlated preferences, caring responsibilities in the presence of health shocks, or common income/wealth effects. However, evidence from the BHPS suggests that the simultaneous retirement of husbands and wives is relatively uncommon.²¹ In the BHPS sample, for example, around 10% of people stop working at the same time as their partner, and a further 10% retire one year before/ after their partner. Looking at the reasons for retiring early (see Table 5 below), only 3% say that it was in order to retire at the same time as their partner, although 7% retired early because of other's ill-health and 8% retired early to spend more time with their family, suggesting that consideration may be given not just to leisure time or caring responsibilities with respect to a partner, but also children, grandchildren and possibly parents. These factors are much more

¹⁹ due to be abolished in April 2006

²⁰ Again, the US experience appears somewhat different to this. Ruhm (1990) suggests that 25% of people who retire re-enter the labour force.

²¹ Although, of course, retirement decisions may be made jointly even if retirements are not simultaneous.

important for women than for men²² – accounting for 30% of early retirements for women compared with 7% for men.

III. THE EFFECT OF PENSIONS ON RETIREMENT

A number of studies have shown that the timing and nature of retirement are influenced by state and private pension arrangements, and by the availability of other benefits as alternative early retirement vehicles.²³ Gruber and Wise (2004) bring together individual micro-econometric studies of retirement across a number of countries which, despite unique pension arrangements, cultures and labour market institutions, share the following common responses to pension incentives:

- A positive wealth effect – the higher someone’s total pension wealth (and other financial wealth), the more likely they are to retire;
- A negative accrual effect – the more that someone can increase their total pension wealth by delaying their retirement, the less likely they are to retire;
- The independent effect of eligibility ages – while pension accrual typically turns negative after someone becomes eligible for a pension, providing an incentive to retire, a common finding across a number of countries studies is that the pure economic incentive effects cannot explain the observed levels of retirement at these ages. One explanation is that eligibility ages may act as social norms, with people viewing them as appropriate or acceptable retirement ages. Another possible explanation is that people may be liquidity constrained and unable to retire before they become eligible to receive pension income, even if it is “optimal” for them to retire earlier.²⁴

In the UK, the majority of people have a private defined benefit (occupational) or defined contribution (personal or stakeholder) pension. As the table below shows, occupational pensions are more common among older workers; the closure of many employer defined benefit pensions, usually to new entrants, is gradually reducing coverage, particularly among younger workers. The UK, like the US, is experiencing a shift in private pension provision from DB to DC, although younger workers are also much more likely to have no private pension. Most of those with a private

²² This is consistent with evidence from the US showing that women’s retirement is affected by their husbands’ pension arrangements, but that the same is not true for men (see Coile, 2004).

²³ See for example, Fields and Mitchell (19884), Blöndal and Scarpetta (1998), Samwick (1998)

²⁴ People cannot typically borrow against future state pension income.

(occupational or personal) pension are likely to have contracted out of the second, earnings-related state pension scheme. In this case, their state pension is a fairly minimal, flat rate pension and the incentives in their private pension are likely to matter far more for their retirement. This section looks at the retirement incentive effects associated with occupational pension schemes and discusses the possible effect on retirement of a shift to private pension schemes.

Table 4: Private pension coverage, men and women

	Men born before 1960	Men born 1960+	Women born before 1960	Women born 1960+
Employer pension	67.9%	52.9%	45.3%	50.3%
Personal pension	40.9%	39.8%	25.1%	26.4%
Both	27.0%	24.2%	16.0%	18.5%
Neither	17.7%	31.5%	45.6%	41.8%

Note: Employer pension defined by whether someone is currently a member of their employer's pension scheme and/or is receiving a pension from a former employer. Personal pension is defined by whether someone is contributing to a personal pension and/or is receiving a private pension or annuity.²⁵

Source: British Household Panel Survey, 1991-2003

Retirement and defined benefit pensions

In the UK, DB occupational pensions plan typically 'guarantee'²⁶ a final pension that depends on length of service and final salary. By continuing to work, someone with a DB scheme can increase the value of their final pension and lump sum by increasing their years' service and increasing the final salary on which their pension is based.²⁷ This provides an incentive to stay in work. Beyond the normal retirement age, however, (and once they have a full service record, typically 40 years) someone will lose one year's pension for each year that they delay retirement. There may be an opportunity to increase the value of the pension by deferring, but deferral rates are typically not actuarially fair. By contrast, many schemes offer generous options for early retirement before the normal pension age, after which accrual is often negative.

²⁵ . In most cases, the employer's pension will be a DB occupational pension scheme, but some (particularly younger) workers, may have an employer DC pension or even a Group Personal Pension (a collection of individual DC private pensions organised at the employer level). The fairly high proportion who are observed to have both will include some people who, at some time, have been in an employer's pension and a personal pension, some people who belong to a GPP and some people who make free standing additional voluntary contributions to their occupational pension.

²⁶ There is employment risk and, until 2005 and the introduction of a Pension Protection Fund, prudential risk since there was no payout in the event of the employer going bankrupt.

²⁷ This second element matters more for workers with higher levels of education who experience more earnings' growth over their lifetimes and in later years.

Beyond the normal or early retirement age, therefore, there is a strong incentive to retire.

DB pensions have a strong effect on the timing of retirement since they provide an incentive for people to work in their 40s and 50s and retire once they have reached the normal or early retirement age in their scheme – see Blundell et al (2002) for evidence. DB pensions have a big role to play in explaining at least some of the fall in retirement ages in the UK. Not only did increased coverage of occupational pensions act as a positive wealth effect, but in the late 1980s and early 1990s, generous early retirement windows, funded by pension surpluses, were used by many employers to downsize workforces (see Disney, 1999).

In principle, DB pensions may also affect the gradual/ discrete nature of retirement. Because pension depends on final salary, there is a penalty for reducing the number of hours worked in the run-up to drawing your pension, at least if you want to stay in the same job. In fact, the incentive is to increase the number of hours worked in the run up to retirement in order to achieve the highest possible final salary. Also, until April 2006, there is a legal constraint on someone drawing a pension and continuing to work for the same employer, a further barrier to partial retirement.

In the BHPS data, those who *currently* belong to an employer's pension are less likely to shift into part-time work (for the reasons outlined above), but those who have a pension from a previous employer are actually three times *more* likely to work part-time before retirement than those who have never belonged to an employer's pension scheme. This suggests that earlier pension ages in employer pensions may actually facilitate part-time work, by providing an income to supplement earnings from part-time employment, compared to people who rely on the state pension. Those with no private pension income or other financial wealth are likely to be more constrained in their ability to work part-time before the state pension age since other (non-private) early retirement vehicles, income support and disability benefit, do not allow people to combine part-time work with drawing an income.²⁸

²⁸ The over-50s earnings tax credit, introduced in 2003, does provide in-work benefits to anyone working 16 hours a week or more, but is only available to those who have been out of work for more than 6 months.

Retirement and defined contribution pensions

Defined contribution schemes offer different incentives for retirement at different ages.²⁹ Compared to a DB scheme, there are less strongly defined incentives to retire at particular ages in a DC scheme – contracted out rebates cease at age 65 and annuity rates and mortality rates both vary by age, but none of these will generate such sharp kinks in accrual profiles as are typically found in DB schemes. The main incentive for someone to delay retirement in a DC scheme is the potential increase in the value of their pension fund – through another year’s return on the accumulated fund as well as additional contributions from the state (through contracting out) or their employer – and a higher annuity rate since the individual will be one year older when they annuitise. However, against this increase must be offset the loss of one year’s annuity income,³⁰ the loss from postponing the pension and lump sum³¹ and any risk in annuity rates and investment returns. With no early/ normal retirement ages in a DC scheme, someone can continue to increase the value of their pension, even at older ages – and this reduces the incentive to retire, compared to most DB schemes. But, DB schemes typically have a stronger incentive to delay retirement – and stay in work – *until* the early/ normal retirement age.

The profile of retirement ages is likely to be smoother under DC schemes than under DB schemes, but it is not obvious whether retirement will be earlier or later on average. Two recent US studies (Munnell et al, 2003, and Friedberg and Webb, 2005) have found that DC plans have seen people delaying retirement by one or two years compared to DB schemes. In the UK, a number of factors are likely to be critical, including the following:

- **Early retirement incentives in DB schemes.** Compared to DB schemes that offer very generous early retirement opportunities, DC schemes are likely to result in later retirement. But, the same demographic and financial factors that underlie the shift from DB to DC are likely to put pressure on early retirement incentives in DB schemes.

²⁹ See Friedberg and Webb (2005) and Smith (2005) for further discussion

³⁰ Annuity rates rise with age to compensate for the fact that someone will receive an annuity for one less year. But the value of the annuity (ie the expected present discounted value of the annuity stream) typically falls with age for the average annuitant because of selection in the annuity market (ie the fact that longer-lived individuals tend to annuitize later) – see Finkelstein and Poterba (2004). Thus, for the average annuitant, there is a penalty to delaying annuitization because the value of the annuity declines with age.

³¹ There is a loss because of mortality risk as well as discounting of future income.

- **Accumulation of funds in DC schemes.** Contribution rates into DC pensions are often lower than those in the DB schemes they replace;³² if final pension wealth is also lower then this is likely to mean later retirement. Again, this retirement effect may not be a direct result of the shift from DB to DC, but reflect the underlying demographic and financial factors that are putting pension schemes under pressure.
- **Investment portfolios within DC funds.** The incentive to delay retirement in a DC scheme comes from the fact that someone can continue to increase the value of their pension by getting another year's return on the accumulated fund. Shifting into safer assets in the run-up to retirement will reduce the size of the return – and the incentive to delay retirement. By remaining in equities, the average return is likely to be higher, but changes in the equity prices may have big positive or negative wealth effects on retirement (see Gardner and Orszag, 2003, and Coile and Levine, 2004).

As well as possible effects on the timing of retirement, there is also a potential impact on the nature of retirement. DC pensions are more flexible than traditional DB occupational schemes and better able to accommodate a more diverse range of retirement behaviour. Since the majority of accrual at older ages comes from the return on the fund, rather than additional contributions, there is potentially a greater separation between the decision to work and the decision to draw a pension. One implication of this is that there is no longer such a strong penalty for part-time working.

IV. OTHER FACTORS AFFECTING RETIREMENT

Mandatory retirement

Economic models typically treat retirement as a choice variable, albeit a choice that is made subject to the potential constraints of employment opportunities and pension arrangements. However, there is a range of factors that may force people into early retirement.

One of these is mandatory retirement, still legal in the UK, but due to be abolished before age 65 from October 2006 following a European Commission Directive. In addition, from this date, all employees will have the right to request working beyond age 65 and age discrimination in recruitment, promotion and training will be banned.

³² Contribution rates are not directly comparable because of the different way wealth builds up in the two schemes.

There is considerable evidence on the effect of banning mandatory retirement in the US where mandatory retirement was prohibited before age 65 from 1967, prohibited before age 70 from 1978 and abolished altogether in 1986. Individual states chose to raise or abolish mandatory retirement ages ahead of the federal government, and differences over time and across states have been used to identify the effect of abolition. A number of studies have found that abolishing mandatory retirement raised employment among older workers – Neumark and Stock (1999), for example, found that abolition raised employment rates among affected older workers by as much as seven percentage points.

According to Lazear (1979), mandatory retirement has an important role to play as part of a long-term employment contract between employers and employees; it ensures that workers leave the firm when they have been paid the value of their lifetime labour. In Lazear's model, younger workers are paid less than their productivity and part of their remuneration is delayed to encourage retention and effort. The flipside of this is that they are paid more than their marginal product when they are older and so, to ensure that workers leave the firm, the employer must be able to force retirement once the employee has been paid the full value of their lifetime productivity.³³ According to this argument, the abolition of mandatory retirement could weaken long-term labour contracts, and the efficiency of the firm. However, Neumark and Stock (1999) found that wage profiles were actually steeper following the abolition of mandatory retirement, rather than flatter. They suggested that the abolition of mandatory retirement actually strengthened long-term contracts, since workers would no longer fear being forced to retire before they had been paid their lifetime value.

The desirability of mandatory retirement in the Lazear model assumes two things. One is that employers and employees want long-term employment contracts, something that may be less the case today than it was twenty-five years ago when Lazear's article was first published. The other is that rising earnings among older workers do not reflect increased productivity.

The issue of the age-profile of productivity for older workers is therefore a key one, although it is an area where there is relatively little evidence to date. Meadows (2003) summarizes an interesting collection of findings indicating that:

³³ Plus a risk premium.

- There may be positive effects of experience, interpersonal skills and motivation that counteract the adverse effects of loss of speed, strength and memory.
- Where performance does decline, it is driven by rapid deterioration among a small number of individual rather than a general decline across the cohort (scores among older workers are more dispersed than those among younger workers).

It is not clear therefore, that employers require mandatory retirement to force out workers whose productivity is falling relative to their wages. There may, therefore, be little reason not to abolish early mandatory retirement, but the evidence from the UK suggests that the effect on employment is likely to be quite small. Firstly, employment rates among older workers are typically lower than they were in the US when mandatory retirement was abolished. Second, relatively few people appear to be genuinely constrained by mandatory early retirement ages.³⁴

A variety of data from the BHPS and ELSA can be used to produce rough estimates of the number of people who are likely to be affected when mandatory retirement ages below age 65 are abolished from October 2006. Looking backwards, around one-third of the BHPS sample say that they feel that retirement was something that they were forced into, rather than being voluntary, but mandatory early retirement ages do not appear to be the main factor behind forced retirements. Around half the BHPS sample (60% of men) report that they have a fixed retirement age in their job,³⁵ although for most men this age is 65 or greater and so will not be affected in October 2006. Only around 1.5% of retirements appear to be attributable to mandatory retirement ages below 65.³⁶

The second wave of ELSA, collected in 2004, contains questions about mandatory retirement in individuals' jobs, in addition to the data on normal retirement ages in pension schemes. Across the whole working population aged 52 and over in 2004, 40% were employed in jobs in which there was a mandatory retirement age, of which fewer than one in five faced a mandatory retirement age of less than 65. Employees are also asked whether they would like to retire later, were they to be given the opportunity by their employer. Only 22% reported that they would like to work past the mandatory retirement age if given the opportunity although this fraction is higher

³⁴ The abolition of the earnings test for receipt of state pension income was found to have a small positive effect on average hours worked (see Disney and Smith, 2002).

³⁵ These figures are also likely to overstate the extent to which there are mandatory retirement ages since people may just be referring to normal retirement ages in their occupational pension schemes.

³⁶ This evidence is in line with Meadows (2003) who also found a limited number of cases where early retirement could be directly attributable to mandatory early retirement.

(36%) if one excludes those whose mandatory retirement age is 65 or more. Taken together this suggests that around 2.6% of employees would have retirement constraints removed by the 2006 reform.

This evidence suggests that there may only be a small direct effect of abolishing mandatory early retirement on the employment of older workers. Even without mandatory retirement, employers will still be able to affect when workers leave the firm – most obviously where they offer a defined benefit pension scheme which can be structured to provide strong incentives to retire at a particular age, but also through greater flexibility in wages, linked perhaps to performance monitoring.³⁷ However, there may be a greater effect from the wider government initiatives aimed at promoting employment among older workers.³⁸

Ill-health

Ill-health appears to play a far greater role than mandatory early retirement in explaining why people feel forced into retirement. Table 6 shows that, overall, around one-quarter of the sample gave ill-health as the main reason for early retirement; when early retirement was forced, this proportion rose to over half. These numbers are very similar numbers to those found using ELSA data (see Banks and Casanova (2004) who instead distinguish the analysis by whether individuals retired before or at/after the SPA).

³⁷ Ashenfelter and Card (2002) show quite strong effects of the abolition of mandatory retirement among academics all of whom have a defined contribution pension scheme.

³⁸ For example, the Age Positive campaign, <http://www.agepositive.gov.uk/>.

Table 5: Main reason for early retirement, according to whether retirement was wanted or forced

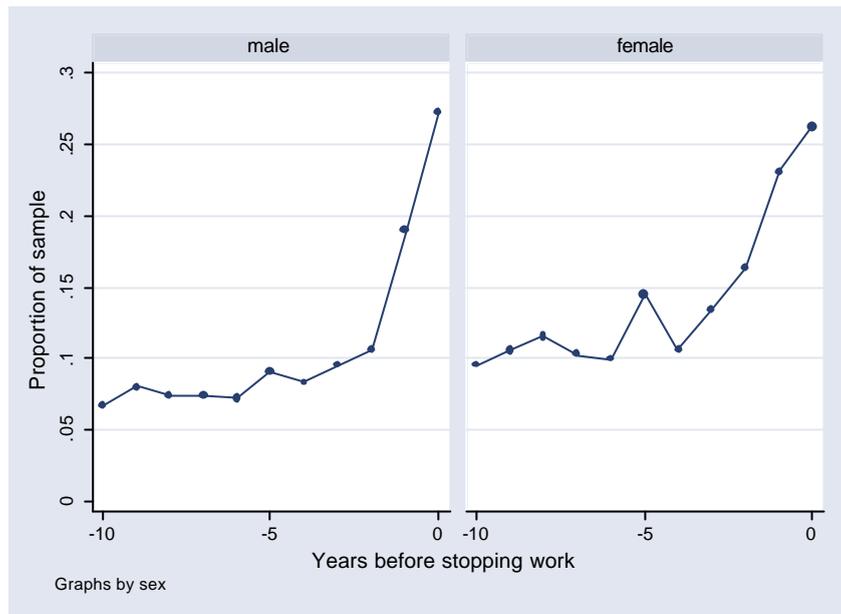
	Men			Women		
	All	Wanted	Forced	All	Wanted	Forced
Own ill-health	28.8%	9.2%	56.3%	24.8%	11.4%	45.5%
Others' ill-health	4.1%	2.3%	3.8%	10.2%	5.1%	17.6%
Redundancy/ compulsory	19.1%	10.0%	28.2%	12.1%	5.9%	20.6%
Financial deal	25.3%	42.3%	4.7%	7.3%	11.8%	1.2%
Spend more time with family	3.4%	5.8%	0.0%	13.2%	21.7%	1.8%
Enjoy life while young & fit	8.7%	16.5%	0.5%	9.7%	16.1%	1.8%
Same time as partner	0.2%	0.0%	0.5%	6.7%	11.0%	1.2%
Other	10.4%	13.9%	6.0%	16.0%	17.1%	10.3%

Source: British Household Panel Survey, 2001

Of course, there are a number of problems with these subjective data on reasons for retirement – there may be a degree of post-hoc rationalisation and reported ill-health may be linked to receipt of disability and other ill-health benefits. Nevertheless, other evidence supports a link between ill-health and retirement. Figure 4 below shows that the proportion of people reporting that their health limits their daily activities³⁹ increases sharply in the years immediately before people are observed stopping work. Interestingly, there is a slight increase in the proportion reporting problems with their health five years before stopping work, which coincides with the biggest reduction in average weekly hours and the increase in the proportion of people working part-time. Using BHPS data, Disney et al (2002) instrument the (endogenous and noisy) self-reported health variable by a constructed 'health stock' measure using a set of health indicator variables and personal characteristics. They show that adverse individual shocks to health stocks are a significant predictor of individual retirement behaviour among workers aged 50 and over.

³⁹ This variable is not present in wave 9 of the BHPS, but a value can be imputed on the basis of individuals' responses in waves 8 and 10. For individuals who report the same values in wave 8 and 10 this is fairly straightforward. Where there is a change between waves 8 and 10, the individual is assigned the value in wave 10 (where available), and otherwise the value in wave 8. It makes no difference to the results if, instead, the individual is assigned the value in wave 8 where available and wave 10 otherwise

Figure 4: Proportion reporting that health limits daily activities



Source: British Household Panel Survey, 1991-2003

V. CONCLUSIONS

This article has shown how the timing and nature of retirement in the UK have been influenced by the institutional context within which people make retirement decisions.

- The dominant pattern for men is one of voluntary, early retirement onto a private pension straight from (full-time) employment. But this pattern is more characteristic of those with higher qualifications and/or an occupational pension.
- Employer defined benefit schemes have encouraged people to stay in work until the normal/ early retirement age, and then to retire early across a fairly narrow range of ages that are typically before the State Pension Age. Increased coverage of occupational pensions and generous early retirement incentives undoubtedly contributed to the decline in economic activity among older workers. Today, coverage of occupational pensions is falling and with many schemes running deficits, there is far less scope for employers to offer generous early retirement opportunities.
- Occupational pensions have also imposed constraints on gradual retirement, while people continue to belong to their employers' scheme. The fact that pension depends on final salary, together with legal constraints on working

and drawing a pension from the same employer have restricted people's opportunity to reduce their hours. But, without a private pension (or other financial wealth), the possibility of gradual retirement and part-time work before the state pension age is even less likely.

- Among those with no qualifications and/or occupational pension, very few work until the state pension age and, before this age, use income support and, more commonly, disability benefits as alternative early retirement vehicles. Levels of non-work are high, even among those in their 40s and 50s, and 'retirement' is typically via another non-working state (unemployment or long-term illness/ disability).

The analysis has also yielded the following insights, which are likely to be relevant for the government as it considers possible ways of encouraging later retirement:

- 7% of men stop working at 65 and draw only a state pension at this age. Raising the state pension age may therefore have a limited direct effect on retirement, although there may be a wider impact through raising normal and early retirement ages in employer schemes (and changing social norms). On the other hand, there may be "leakage" through alternative early retirement vehicles, particularly disability benefits.
- There may be very little case for employers being allowed to set mandatory retirement ages, but abolishing mandatory retirement is also likely to have a limited direct effect on raising employment among older workers and delaying retirement. The evidence suggests that few workers retire early as a direct result of a mandatory retirement age. However, there may be a bigger impact through the government's wider initiative to encourage employment of older workers and the ban on age discrimination.
- The shift from DB to DC schemes will change individuals' retirement incentives. The age profile of retirements is likely to be smoother with DC pensions, but what is less clear is whether on average, retirement will be earlier or later: DC schemes have less strong incentives to retire after normal/early retirement ages, but less strong incentives to work up to those ages. Key factors affecting the timing of retirement in DC schemes compared to DB schemes include – what happens to opportunities for early retirement in DB schemes, the size of funds that people build up in DC schemes and their investment strategies (and asset returns) in the run-up to retirement.

- DC pensions will mean more flexibility (allowing more opportunity for gradual retirement and a greater separation of the work decision from the pension decision), but also possibly more uncertainty about pension value, and the timing of retirement.
- The complex and interdependent relationship between health and retirement is not yet fully understood, but health shocks undoubtedly play an important role in forcing people to retire early, possibly before they anticipated or wanted to. Ill-health will act as a constraint on raising effective retirement age and the government faces a challenge in providing support to those who genuinely need some form of disability insurance while restricting its use as an early retirement vehicle.⁴⁰
- Much of the debate in the media has been about raising the state pension age from 65 to 67, but the evidence suggests that the real challenge in extending working lives is to reduce non-employment among (particularly low-qualified) 40 to 60 year-olds. As the demographic trends continue, and the economy experiences a relative substitution of older (potential) workers for younger workers, understanding the labour demand for such older workers may prove to be as important as understanding the labour supply when it comes to forecasting the way in which economies around the world will adjust to population ageing.

⁴⁰ The 1995 reforms which replaced invalidity benefit with incapacity benefit reduced the number of claimants above state pension age. The number of total claimants in their 50s continued to grow, although for men the number of claimants remained fairly constant. (see Disney and Hawkes, 2003). Econometric analysis by Disney et al (2004) finds no evidence of a reduction in economic inactivity among older workers that can be attributable to the reforms.

Annex: Data from the British Household Panel Survey

The data used to analyze retirements are taken from waves 1-13 of the British Household Panel Survey. This panel dataset has been collecting information on the same sample of approximately 10,000 individuals each year since 1991. The analysis uses a selected sub-sample of men and women aged 40 – 80 in each wave. Since the BHPS covers all ages, it has a smaller number of individuals in the relevant age range for studying retirement than, for example, the US Health and Retirement Survey and the new English Longitudinal Survey of Ageing (ELSA). Nevertheless, there is a reasonable-sized sample of around 1,500 retirements over the entire period and a wide number of variables, including some summary information on spending, well-being and health as well as the detailed income information in each wave. One of the main strengths of the BHPS is that, with up to thirteen waves of information on each individual, it affords quite detailed analysis of dynamics of retirement transitions. Moreover, in wave 11, a special module collected information on ageing and retirement that was designed to be directly comparable with the questions collected in the more specialist ELSA questionnaire.

The definitions of “retirement” exploit the panel aspect of the BHPS data as follows:

- **Self-assessed retirement** is defined as the first time someone reports that their employment status is retired. In the BHPS someone cannot be simultaneously working and retired since these are mutually exclusive categories. In other British retirement surveys, such as the UK Retirement Survey (see Tanner, 1998) and ELSA (see Banks and Casanova, 2004) retirement status is asked independently of employment status, so that someone can be retired and working.
- **Stopping work** is defined as the last time that someone is observed to leave employment. Clearly, this definition potentially suffers from the fact that the data are right-censored.
- **Pension receipt** is defined as the first period in which someone is observed to receive an income from a pension (from a former employer, a private pension/ annuity, an NI pension, or a widow’s pension).

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