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Supplementary Pension Coverage in Britain

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Abstract

The 1986 Social Security Act introduced far-reaching changes to the supplementary pension environment in Britain, encouraging the growth of defined contribution pension plans and especially personal pensions. This paper examines the pattern of supplementary pension coverage of employees in Britain five years after the implementation of the Act, using cross-sectional data from the Family Resources Survey 1993–94. Two-thirds of employees in Britain are covered by private contracted-out pension schemes. Employer-provided defined benefit pension schemes remain the dominant type of supplementary pension scheme. The growth of personal pension plans is more marked among manual, less-skilled, workers in smaller establishments. The paper concludes that, in the absence of further pension reform, adverse labour market conditions will exert downward pressure on private pension coverage.

JEL classification: I38, J32, J38.

I. INTRODUCTION

The 1986 Social Security Act introduced far-reaching reforms to supplementary pension provision in Britain, precipitating important changes in the pattern of supplementary pension coverage. The Act aimed to scale down the state supplementary pension commitments and to encourage private pension provision. The reforms were expected to produce a ‘push’ and a ‘pull’ effect favouring private provision. The Act reduced the entitlements for members of the State Earnings-Related Pension Scheme (SERPS), pushing members towards private alternatives. At the same time, it enhanced the attractiveness of private

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alternatives by extending tax-privileged status to personal pensions (appropriate personal pensions, or APPs) and occupational defined contribution schemes (contracted-out money-purchase schemes, or COMPs). Prior to the Act, tax-privileged status was restricted to defined benefit occupational schemes (contracted-out salary-related schemes, or COSRs). Additional financial incentives and high-profile marketing facilitated transfers from SERPS to private pension schemes. The Act also altered the balance within private pension provision by making occupational pension membership voluntary. These measures were intended to create a level playing field for private provision, which was expected to encourage competition and product innovation and to lead to the expansion of supplementary pension coverage. What is the resulting pattern of supplementary pension coverage? Lack of relevant data has precluded a detailed examination of this question so far. This paper aims to fill this gap, by examining the pattern of supplementary pension coverage of employees in Britain five years after the implementation of the reforms using cross-sectional data from the 1993–94 Family Resources Survey.

Examination of the pattern of supplementary pension coverage is important because it helps to evaluate the effectiveness and limitations of the reforms. An important consideration in the reforms introduced by the 1986 Social Security Act had to do with the impact of pension arrangements on the labour market. Government and business organisations have, for some time now, stressed the need to improve the flexibility of the labour market, and the changes proposed were expected to contribute to this objective. In particular, the enhancement of defined contribution pension schemes, and especially personal pension plans, was premised on the view that these had design features that created fewer constraints for employers' manpower and pay policies, and for employees' pension preferences, than final salary occupational pension schemes. In addition, it was expected that APPs would prove especially attractive to employees in small firms, to those in non-standard employment and to the self-employed, all groups for whom final salary schemes are ill suited. COMPs and APPs could therefore be expected to enhance labour market flexibility while at the same time expanding supplementary pension coverage and reducing future state pension liabilities.

Whether supplementary pension coverage has moved in line with these expectations is important for the continuing debate over proposals for future reform of pension provision, especially as the future growth of private pension provision is a key element in this debate (Johnson, 1996; Retirement Income Inquiry, 1996; Department of Social Security, 1997). The rapid growth of APPs surpassed government expectations, exposing regulatory weaknesses and concerns about the adequacy of the benefits they will provide. There is concern over the impact of regulatory changes that will follow the implementation of the 1995 Pensions Act, and there is continued concern over the need to adjust supplementary pension provision to accommodate changes in labour market

conditions. Examining the determinants of supplementary pension provision will help identify the prospects for growth in private pension coverage.

The paper is organised as follows. The next section briefly reviews comparative properties of plan design features and identifies four main types of pension schemes in Britain. Section III provides descriptive statistics on pension scheme membership and reports on the results from the estimation of models of supplementary pension scheme take-up. Section IV discusses the prospects for growth in private pension coverage in Britain. The final section concludes.

II. MAIN TYPES OF SUPPLEMENTARY PENSION PLANS IN BRITAIN

There are a wide variety of supplementary pension plans in Britain (Daykin, 1994; Dilnot, Disney, Johnson and Whitehouse, 1994; Government Actuary, 1994; Blake, 1995), with different contribution, funding and benefit rules. The main types of pension plans can be identified with reference to the interplay of three key characteristics: whether provision is public or private; the contribution and entitlement structure; and the role of employers in organising pension plans.

1. Public vs. Private Supplementary Pension Plans: Contracting Out

In Britain's pension system, membership of SERPS is the default for all workers earning above the National Insurance (NI) lower earnings limit (LEL).¹ Workers can opt to belong to a private supplementary pension plan and, provided the plan satisfies minimum standards, a fraction of a worker's NI contributions are transferred to the private plan.² Workers in this situation are said to contract out of SERPS into a private plan. The 1986 Act extended this contracting-out facility to COMPs and APPs. In order to encourage SERPS members to transfer to a private pension plan, the NI contribution rebate was temporarily raised.³ There are a large number of private pension plans that are not contracted out of SERPS.⁴ These may be pension plans providing benefits additional to those provided by SERPS or the main private plans; or selective pension schemes for highly-paid workers.

2. Defined Benefit vs. Defined Contribution Pension Plans

For analytical purposes, a distinction can be made between defined contribution and defined benefit pension schemes. In defined benefit pension plans, the

¹The LEL is equivalent to 0.18 of national average earnings.

²The normal rebate is set by the Government Actuary every five years. Beginning from 1993–94, the rebate was set at 4.8 per cent of earnings between the lower earnings limit and the upper earnings limit.

³The extra rebate on offer until April 1993 was 2 per cent of earnings between the lower earnings limit and the upper earnings limit. Since this date, 1 per cent is offered to workers aged 30 and over.

⁴The Government Actuary (1994) reported that, in 1991, 1 million employees were in contracted-in pension schemes compared with 9.7 million in contracted-out pension schemes.

participant is assured of a benefit calculated using a measure of final salary and years of service, and the employee and/or employer contributions vary to achieve this level of benefit. In defined contribution pension schemes, the level of contributions is set, and the pension benefit depends solely on the contributions and returns accumulated at retirement.

There is an important body of literature that examines the generic properties of these two types of pension plans (Dorsey, 1987; Bodie, Marcus and Merton, 1988; Bodie, 1990; Brugiavini, Disney and Whitehouse, 1993). Defined benefit plans have design properties that can be shown to be useful as a productivity-enhancing device in the context of a firm's human resource policy (Ippolito, 1987; Gustman, Mitchell and Steinmeier, 1994). Defined benefit plans typically sort stayers from quitters, and help match stayers to long-tenure firms (Ippolito, 1994). They strengthen worker-firm attachment, enabling investment in firm-specific skills. They reward, through pay-backloading, high achievers at, *ceteris paribus*, zero net payroll cost to the firm (Lazear, 1985; Ippolito, 1991). They also help ensure productivity as workers near retirement (Lazear, 1981; Lazear, 1990). Defined benefit plans can have utility-enhancing properties for workers who are otherwise constrained in their efforts to smooth consumption over the life cycle or who have low intertemporal discount rates, are job-uncertainty averse or have preferences for rising age-earnings profiles (Loewenstein and Sicherman, 1991; Frank and Hutchens, 1993).

Defined benefit plans also introduce constraints for employers and employees. They require long-term contracts, which firms must fulfil in order to sustain their reputation. From the employer's perspective, they require fixed minimum hours, otherwise workers would wish to work longer hours late in their tenure and shorter hours earlier (Lazear, 1985). They require a normal retirement age, as otherwise workers would wish to (over)extend their tenure (Lazear, 1983). They also introduce constraints upon the demographic composition of a firm's work-force, in that they require, for funding purposes, a balance of contributors and beneficiaries (Gustman and Steinmeier, 1989). For employees, membership of a defined benefit plan restricts mobility as job transfers are subject to significant penalties (Dorsey, 1995), restricts hours flexibility and penalises inactivity spells.

Defined contribution plans, on the other hand, have few of the intrinsic productivity-enhancing properties of defined benefit plans. A generic defined contribution plan is fully portable, so that the productivity-enhancing properties connected to long, and certain, tenure are not present. At its most basic, a defined contribution pension plan is a tax-privileged savings plan.

Discussion of comparative properties of generic defined benefit vs. defined contribution pension plans is useful, but it can be overstated. First, it inevitably glosses over the complexity and detail of specific pension plans. As Disney (1995) points out, it is possible to design defined benefit plans and defined contribution plans that are largely indistinguishable in the structure of the

contributions and benefits they produce, and presumably in the pattern of incentives they generate. Second, it has not been easy to verify empirically the direction and strength of the differential incentives of defined contribution and defined benefit plans (Gustman and Steinmeier, 1993). Third, it is even harder to verify that the adoption of defined benefit plans formed part of a distinctive strategy by employers, or that, more recently, the adoption of defined contribution pension plans is a signal that employers are abandoning original human resource values (Green, 1982; Kruse, 1991; Ghilarducci, 1992).

3. Employer-Provided vs. Personal Pension Plans

Occupational pension plans were the dominant form of supplementary pension provision in Britain until the recent reform. Employer provision of pension plans can exploit economies of scale in pension plan costs and access to financial markets, and better information on employee risks (Gustman, Mitchell and Steinmeier, 1994). Recently, employers have become more reticent in taking up responsibility for employees' pension arrangements. Attitudinal surveys of employers as well as pension plan statistics have shown a significant retreat from defined benefit pension scheme provision (Association of Consulting Actuaries, 1996; Disney and Stears, 1996). There are a number of reasons explaining this change. These include the rising cost of defined benefit pension plans partly brought about by regulatory changes, changes in the labour market and changes in the employment relationship, and a possible shortening in the life of products and firms. In Britain, this retreat from defined benefit pension scheme provision has been facilitated by recent legislation reforming supplementary pension provision.

With COMPs, the employer typically selects a pension provider and a plan design, collects the NI contracted-out rebate together with any extra contributions from employees and deposits them into the scheme's fund. An individual employee's portion of the fund can be separately identified. At retirement, the worker uses the accumulated contributions and returns to purchase an annuity. The alternative is for employers to leave pension arrangements entirely to the employees themselves through a personal pension. An employer can organise a group personal pension plan, but this is simply a collection of individual APPs placed with one provider. APPs are, in the main, organised by employees independently of their employers. Employees select the pension provider and the plan design. Those with contracted-out personal pensions continue to pay the normal level of NI contributions and the Department of Social Security credits the contracted-out rebate annually in arrears to the pension provider of the employee's choice.

Distinguishing between pension plans along these three dimensions yields four broad categories of pension schemes: SERPS; contracted-out salary-related

schemes (COSRs); contracted-out money-purchase schemes (COMPs); and personal pension plans (APPs). SERPS is the only state-provided supplementary pension scheme and it is the default scheme for workers earning above the LEL who have not contracted out to a private supplementary pension. Of the private pension schemes, COMPs and APPs are of a defined contribution type, while both COMPs and COSRs are employer-provided. The next section analyses membership across pension plans in Britain.

III. DETERMINANTS OF PENSION SCHEME MEMBERSHIP

1. Pension Plan Membership Identification and Data

The data used are from the Family Resources Survey (FRS) 1993–94. The survey covers a representative sample of households in Great Britain and its primary aim is to assist the Department of Social Security's forecasting of benefit expenditure and policy design and evaluation. The 1993–94 FRS collected interviews from 26,253 households from April 1993 to March 1994.⁵ The FRS data have the advantage of providing information on affiliation to a wider range of pension schemes than alternative household surveys in Britain. In common with other pension data collected from individuals' responses, FRS data are affected by inaccuracies arising from respondents' imperfect knowledge of pension arrangements.

A working data file was constructed including respondents aged 15 to 65 and excluding those inactive, unemployed or self-employed. Of the broad pension plan types identified in the last section, members of COMPs, COSRs and APPs could be directly identified from the responses to dedicated questions. However, some adjustments were made where incomplete or inaccurate responses appeared likely. Those who reported having a personal pension *and* being in an employer scheme were assumed to have the latter as their main pension scheme. Those who did not report participating in an employer pension scheme but reported having payroll deductions for a pension scheme were assumed to belong to COSRs. The residual were allocated to either a SERPS group or a no-pension-scheme (Nopension) group according to whether they reported NI contributions above the LEL.

2. Descriptive Statistics of Pension Scheme Membership

Table 1 shows the sample means of the independent variables across the different pension scheme types. It shows the memberships of the pension plan types to be well differentiated along a number of characteristics. Just under two-

⁵The FRS sample is larger than those of the Family Expenditure Survey (which targets 10,000 households) and the General Household Survey (which targets 8,500 households).

thirds of the sample are covered by a private pension scheme. Employer-provided pension plans cover 42.6 per cent of employees.

TABLE 1
Sample Means of Variables across Pension Schemes

	<i>COSRs</i>	<i>COMPs</i>	<i>APPs</i>	<i>SERPS</i>	<i>Nopension</i>	<i>All</i>
Age	40.160 (10.40)	38.761 (11.14)	37.270 (10.62)	35.674 (12.57)	37.729 (12.36)	38.000 (11.47)
Female	0.391	0.398	0.385	0.578	0.873	0.487
Married	0.787	0.765	0.747	0.648	0.711	0.731
Number of children under age 16	0.694 (0.96)	0.623 (0.96)	0.652 (0.93)	0.589 (0.96)	0.945 (1.09)	0.674 (0.97)
Children aged 0–4	0.211 (0.50)	0.202 (0.49)	0.218 (0.51)	0.171 (0.46)	0.241 (0.53)	0.204 (0.50)
Children aged 5–10	0.248 (0.57)	0.217 (0.52)	0.229 (0.55)	0.225 (0.55)	0.397 (0.68)	0.249 (0.57)
Children aged 11–15	0.236 (0.54)	0.203 (0.50)	0.205 (0.52)	0.193 (0.50)	0.306 (0.60)	0.222 (0.53)
Children aged 16–18	0.084 (0.29)	0.067 (0.26)	0.065 (0.25)	0.062 (0.25)	0.081 (0.28)	0.073 (0.28)
Partner in private pension scheme	0.414	0.379	0.420	0.310	0.438	0.386
Partner in SERPS	0.124	0.142	0.112	0.144	0.107	0.127
Terminal age of education <= 15	0.239	0.311	0.247	0.284	0.396	0.272
Terminal age of education 16–17	0.408	0.458	0.490	0.495	0.467	0.458
Terminal age of education 18–20	0.164	0.125	0.141	0.135	0.090	0.142
Terminal age of education 21+	0.189	0.105	0.122	0.086	0.047	0.128
Years of part-time work	1.508 (28.39)	1.952 (26.52)	1.844 (15.78)	2.993 (88.60)	6.374 (226.54)	2.467 (5.07)
Years of full-time work	19.703 (32.89)	18.134 (28.95)	16.878 (24.34)	12.874 (90.04)	8.821 (228.41)	16.116 (11.59)

Note: Standard deviations are given in parentheses.

Continued overleaf.

TABLE 1 continued

	<i>COSRs</i>	<i>COMPs</i>	<i>APPs</i>	<i>SERPS</i>	<i>Nopension</i>	<i>All</i>
Professional	0.077	0.051	0.058	0.027	0.008	0.051
Managerial	0.378	0.300	0.309	0.194	0.070	0.279
Other non-manual	0.260	0.228	0.208	0.303	0.334	0.266
Skilled	0.165	0.245	0.259	0.204	0.107	0.195
Semi-skilled	0.088	0.144	0.129	0.202	0.281	0.150
Unskilled	0.019	0.028	0.034	0.061	0.196	0.051
Establishment size 1–24	0.173	0.249	0.368	0.388	0.589	0.316
Establishment size 25–99	0.243	0.254	0.256	0.265	0.202	0.248
Establishment size 100–499	0.275	0.274	0.200	0.194	0.087	0.220
Establishment size 500+	0.280	0.190	0.124	0.114	0.035	0.173
Part-time	0.009	0.020	0.035	0.047	0.578	0.078
Health insurance	0.099	0.114	0.079	0.037	0.005	0.070
Shares or share options	0.096	0.065	0.034	0.018	0.004	0.051
Weekly overtime hours	1.830 (5.07)	2.449 (5.52)	2.400 (5.51)	1.882 (4.92)	0.444 (2.24)	1.877 (4.99)
Weekly hours	37.659 (8.85)	37.687 (10.06)	37.236 (10.68)	33.967 (11.37)	15.251 (11.20)	34.496 (12.06)
Family credit	0.006	0.012	0.015	0.034	0.051	0.020
Gross weekly pay	340.913 (219.99)	286.755 (185.43)	278.453 (226.51)	186.601 (164.02)	46.397 (48.52)	254.430 (214.24)
Marginal income tax rate	26.310 (5.49)	25.031 (6.20)	24.347 (7.21)	22.469 (6.69)	2.046 (6.57)	22.532 (9.21)
Number in sample	7,600	1,476	4,340	5,956	1,948	21,320
(%)	35.7	6.9	20.4	27.9	9.1	100

Note: Standard deviations are given in parentheses.
Source: Family Resources Survey, 1993–94.

There are clear differences in the characteristics of the employees who are members of the pension scheme types identified. Not surprisingly, the employees in the Nopension group are predominantly female, low-skilled, early school-leavers and part-timers in small establishments. SERPS includes a high proportion of both younger and older workers, early school-leavers and people with lower levels of skill and experience than workers in the private pension schemes. The differences among private pension schemes are less marked than the differences existing between private pension scheme groups and the others. Members of the COSRs group tend to show greater education and experience, have higher levels of skill, work for large employers and receive higher pay. By comparison, the COMPs and APPs groups have a larger share of skilled manual workers than the COSRs group. Compared with COMPs group members, a higher proportion of APPs holders work in small establishments and in jobs without employee health or financial benefits.

3. Multivariate Analysis of Determinants of Pension Plan Membership

In this section, the influences of individual, household, occupation and job characteristics on pension scheme take-up are examined. This is done in two steps: in a first step, the influence of these factors on contracting out is examined by estimating a probit model, while, in a second step, the determinants of take-up of the different contracted-out pension schemes are explored by estimating a multinomial logit model. This approach can best accommodate the current pattern of options and constraints applying to pension affiliation choices. Workers who earn above the LEL are required to contribute to SERPS or, alternatively, to contract out to an approved private pension scheme. For workers who decide to contract out, the 1986 Social Security Act made all private pension schemes voluntary, by withdrawing the right that employers had to require workers to join their occupational scheme.

The Determinants of Contracting Out

What factors influence workers' decisions to contract out of SERPS?⁶ Some answers to this question are sought by estimating a probit model. The results, presented in Table 2, are largely as expected. Being female or having more children reduces the probability of contracting out. Having a partner with a private pension plan increases the probability of contracting out, but if the partner is in SERPS this probability is reduced. Higher levels of education, skill and experience all work to increase the probability of contracting out. Working

⁶It is important to keep in mind that SERPS is a default alternative, and may not constitute a 'choice' for workers who would otherwise prefer not to join a supplementary pension plan.

TABLE 2

Marginal Effects of Independent Variables on the Probability of Contracting Out of SERPs, Estimated from Probit Model

Dependent variable is whether employee has contracted out.

Sample includes only those with earnings above the LEL for NI contributions.

Control variables: terminal age of education 16–17; skilled; establishment size 100–499.

<i>Variable</i>	<i>Marginal effect</i>	<i>t statistic</i>	<i>Mean of X</i>
Constant	-0.819*	-16.228	
Age	0.037*	15.643	38.074
Age squared ($\times 100$)	-0.050*	-17.383	157869
Female	-0.052*	-5.591	0.448
Number of children	-0.016*	-3.879	0.649
Partner in private pension scheme	0.085*	10.636	0.382
Partner in SERPs	-0.060*	-5.760	0.129
Terminal age of education ≤ 15	-0.053*	-5.532	0.258
Terminal age of education 18–20	0.021*	1.988	0.147
Terminal age of education 21+	0.028*	2.147	0.136
Years of part-time work	0.003*	2.468	2.072
Years of full-time work	0.010*	12.464	16.859
Professional	0.038**	1.911	0.055
Managerial	0.050*	4.507	0.300
Other non-manual	0.030*	2.810	0.259
Semi-skilled	-0.047*	-4.091	0.136
Unskilled	-0.060*	-3.288	0.036
Establishment size 1–24	-0.095*	-10.583	0.288
Establishment size 25–99	-0.047*	-5.052	0.253
Establishment size 500+	0.057*	5.263	0.187
Part-time	0.030	1.309	0.027
Family credit	-0.078*	-3.189	0.017
Health insurance	-0.021	-1.365	0.077
Shares or share options	0.163*	8.488	0.056
Weekly overtime hours	-0.001	-1.532	2.022
Weekly hours	0.008*	7.167	36.448
Weekly hours squared ($\times 100$)	-0.0095*	-7.098	143433
Gross weekly pay	0.001*	21.234	275.769
Gross weekly pay squared ($\times 100$)	-0.000012*	-17.766	12158164
Marginal income tax rate	-0.005*	-6.215	24.613
$n = 19305$		Mean of LHS = 0.694	
LL = -9704.58		Predicted LHS = 0.589	
LL(0) = -11885.68		Pseudo $R^2 = 0.5107$	

* indicates significance at 5 per cent.

** indicates significance at 10 per cent.

in smaller establishments reduces the probability of contracting out, as does being in receipt of family credit. Receiving financial rewards as a part of compensation strongly raises the probability of contracting out.

Two of the reported marginal effects are out of line with expectations. First, it is puzzling that the estimate attached to the marginal income tax variable suggests that higher marginal income tax rates would reduce, albeit marginally, the probability of contracting out.⁷ Second, having worked further years in part-time employment increases the probability of contracting out.

The Determinants of Affiliation to the Different Contracted-Out Pension Schemes

A second step is to explore the determinants for contracted-out pension scheme take-up. These are examined by estimating a multinomial logit model with three options: COSRs, COMPs and APPs. This approach reflects the level-playing-field private pension environment established by the 1986 Social Security Act, but it raises a number of important issues. First, there is the issue of the length of the adjustment period. It is likely that the behaviour of employers and employees may show significant inertia in pension arrangements over a transitional period after the legislation was implemented. However, the strong marketing of personal pensions, and the stress given to choice over pension schemes in government advertising, imply this transitional period was probably completed by 1993.⁸ Second, and perhaps most important, membership of occupational pension schemes is mediated by employers' decisions over whether to offer pension plans. While employees working for employers offering pension plans could not be forced to join them, employees working for employers who do not offer pension plans have obviously no opportunity to join such plans. It is therefore necessary to make the rather strong assumption that workers had, by 1993, sorted themselves into jobs with their preferred pension scheme status. Third, there are issues related to accuracy of the survey responses regarding pension affiliation.^{9,10} In the light of these issues, the results presented in Table 3 should be taken as provisional.

⁷The marginal income tax variable indicates the highest rate of income tax applicable to gross earnings net of personal allowances plus one-half of the married couple's allowance if relevant. Measurement error or endogeneity may be responsible for the puzzling result on this variable.

⁸This is clear from attitudinal surveys (Williams and Field, 1993) showing that public perceptions over the advantages and disadvantages of supplementary pension schemes were fully formed, and essentially correct, by 1992.

⁹The Pension Law Review Committee in 1992 commissioned research on employees' knowledge of pension arrangements. A sample of employees were asked whether they belonged to a final-salary or a money-purchase occupational pension plan, and their responses were checked with employers' records. Seventy-six per cent of respondents accurately stated their pension scheme, but a further 12 per cent who reported belonging to a money-purchase pension plan did in fact belong to a final-salary pension plan (Pension Law Review Committee, 1993). The findings suggest that survey responses on pension plan affiliation are affected by the

The reported parameters from the multinomial logit enable an assessment of the qualitative impact of different variables on private pension scheme affiliation.¹¹ The salient points are discussed below.

As expected, age reduces the probability of affiliation to APPs or COMPs relative to COSRs, but also the probability of affiliation to COMPs relative to APPs. Being female reduces the probability of affiliation to a defined contribution pension scheme relative to COSRs, but has no significant effects on the choice of defined contribution pension scheme. Leaving full-time education at a later age reduces the probability of belonging to APPs or COMPs relative to COSRs.

Having spent longer in part-time work increases the probability of holding APPs relative to employer-provided pensions. This is echoed by the parameter associated with whether workers are currently working part-time. The occupational dummies suggest that working in manual occupations reduces the chances of belonging to a defined benefit pension scheme. The differential impact of occupational affiliation on the choice of defined contribution pension scheme is significant only for professional and unskilled workers, who are more likely to hold APPs than COMPs.

The size of establishment is important to whether or not workers are in employer-provided pension schemes, with workers in smaller establishments having a higher probability of holding APPs than employer-provided pensions. The differences in probability of affiliation within employer-provided pension schemes are significant only for large establishments, where COMPs affiliation is less likely. Receipts of financial rewards and state benefits are also associated with the probabilities of holding different types of pension.

respondents' deficient knowledge of pension arrangements, and confirm findings of similar studies for other countries (Mitchell, 1988).

¹⁰There is also an issue concerning the choice of statistical model. The multinomial logit model requires strong assumptions about the distribution of the error term, particularly that the errors are independent across categories. These are very restrictive and should be taken into account in the evaluation of the results below. Alternative models were tried and found to be much less informative. The selected nature of the subsample used for the estimation could be problematic for interpretation of results if unobserved influences on the contracting-out decision also affect choice of scheme.

¹¹The reported parameters show the log of the odds of a person with the relevant characteristics being found in the selected pension plan type as opposed to the base plan type. For example, the estimated parameter for a worker in a small establishment (size 1–24) being found in APPs instead of COSRs is 0.8837, which yields a value of 2.41 when exponentiated. This can be interpreted as indicating that the odds for a worker in a small establishment being found in APPs instead of COSRs is 2.4 times that of a worker in a medium-sized establishment (100–499).

TABLE 3
Estimated Parameters from Multinomial Logit Model of Private Pension Scheme Affiliation

Dependent variable is whether employee belongs to APPs, COMPs or COSRs.

Sample includes only contracted-out employees.

Control variables: terminal age of education 16–17; skilled; establishment size 100–499.

<i>Variable</i>	<i>APPs/ COSRs</i>	<i>COMPs/ COSRs</i>	<i>COMPs/ APPs</i>	<i>Mean</i>
Constant	1.9609*	0.6470	-1.3139*	
Age	-0.0399*	-0.0601*	-0.0203*	39.078
Age squared ($\times 100$)	0.0150	0.0725	0.0575	164033
Female	-0.2344*	-0.0820*	0.1524	0.390
Number of children	-0.1151*	-0.0760*	0.0391	0.673
Partner in private pension scheme	0.0525	-0.0807*	-0.1333*	0.412
Partner in SERPS	-0.0567	0.1404	0.1972	0.121
Terminal age of education ≤ 15	0.0504	0.2850	0.2345	0.249
Terminal age of education 18–20	-0.2274*	-0.3357*	-0.1083*	0.152
Terminal age of education 21+	-0.4166*	-0.6166*	-0.2000*	0.158
Years of part-time work	0.0246*	0.0100	-0.0146*	1.665
Years of full-time work	-0.0088**	-0.0264*	-0.0175*	18.615
Professional	-0.1084	-0.2009*	-0.0925*	0.067
Managerial	-0.3084*	-0.2674*	0.0411	0.346
Other non-manual	-0.6965*	-0.5243*	0.1723	0.239
Semi-skilled	-0.0174	0.0711	0.0885	0.107
Unskilled	0.0453	-0.1375*	-0.1828*	0.024
Establishment size 1–24	0.8837*	0.3292	-0.5546*	0.244
Establishment size 25–99	0.2669*	0.0713	-0.1956*	0.248
Establishment size 500+	-0.6050*	-0.3642*	0.2409	0.219
Health insurance	0.2735*	0.6328	0.3593	0.094
Shares or share options	-0.8396*	-0.3374*	0.5022	0.072
Weekly overtime hours	0.0155*	0.0155	-0.00001*	2.084
Weekly hours	-0.0113	-0.0074*	0.0039	37.527
Weekly hours squared ($\times 100$)	0.0236*	0.0022	-0.0007*	150078
Part-time	0.5137*	0.2443	-0.2694*	0.009
Family credit	0.8250*	0.5400	-0.2850*	0.018
Gross weekly pay	-0.0017*	-0.0016*	0.0001	314.868
Gross weekly pay squared ($\times 100$)	0.00005*	0.00004	-0.00001*	14785538
Marginal income tax rate	-0.0112*	0.0004**	0.0115	25.538
<i>n</i> = 13402	LL = -11500.79		LL(0) = -12462.95	

* indicates significance at 5 per cent.

** indicates significance at 10 per cent.

IV. PROSPECTS FOR GROWTH IN CONTRACTED-OUT PRIVATE PENSION COVERAGE

Extending private supplementary pension provision constituted a central objective in the reform of pension provision in Britain. The findings reported above on the determinants of contracting out and of private pension plan take-up could help evaluate whether this objective is likely to be met.

1. The Impact of Pension Reform on the Pattern of Supplementary Pension Affiliation

The pattern of private pension coverage that resulted from the reform is in line with the predictions flowing from the pension economics literature, suggesting that labour market, job and employment variables are paramount in explaining supplementary pension plan affiliation. It is difficult not to conclude that some shorthand measure of 'job and worker quality' could explain the largest part of current supplementary pension plan affiliation in Britain. Affiliation to contracted-out pension schemes is more likely for male, better-educated, experienced and skilled workers in larger establishments.

These variables are also central to explaining the pattern of affiliation to the different types of private pension schemes. The pension economics literature suggests that employers are more likely to introduce defined benefit pension plans for jobs in which longer tenure and skills acquisition are important, and in which worker motivation is more effective than worker monitoring in raising productivity. At the same time, risk-averse workers with a longer-term outlook and stronger preference for raising age-earnings profiles are more likely to be attracted to these jobs. Holders of defined contribution pension plans are more likely to have left full-time education earlier than members of defined benefit pension plans. They are also more likely to be found in small establishments and in manual occupations, and to receive lower earnings and work more overtime, than members of defined benefit pension plans.

A survey of pension provision among small firms indicates that a significant and growing portion of employers are terminating their COSRs and replacing them with COMPs, or are maintaining their COSRs for established workers and offering only COMPs to new employees (Association of Consulting Actuaries, 1996). It can be hypothesised that the emerging pattern of supplementary pension plan affiliation reflects strongly changes both in employment relations and in the labour market in Britain.¹²

¹²Other factors, such as the regulatory changes to COSRs, may also be at work. There is evidence that where new occupational pension plans are set up, employers of both small and large firms are increasingly favouring COMPs (Association of Consulting Actuaries, 1996; Disney and Stears, 1996).

2. Labour Market Conditions and the Scope for Expanding Private Pension Coverage

In this context, the 1986 Act's enhancement of APPs and COMPs has been partially successful in expanding private pension coverage among employees for whom COSRs are unavailable or unattractive. The rapid growth in personal pension take-up took many by surprise. The growth of COMPs has been less dramatic by comparison. This 'personal pension stampede' was the result of an important migration of workers from SERPs, and to a lesser extent from COSRs, and ensured an initial rise in private pension coverage.¹³ There are indications, however, that the growth in APPs affiliation peaked in 1990–92, and both personal pension and private pension coverage show a declining trend since.¹⁴

The estimated determinants of supplementary pension affiliation above suggest that structural changes in the labour market in Britain will continue to generate pressures on supplementary private pension scheme coverage. Longer-term labour market trends, such as the structural employment shift from industry to services, the expansion of part-time employment and the increased labour force participation of women, will exert downward pressure on private pension plan coverage. Current labour market trends that operate to reduce the incidence of stable, high-productivity, long-tenured jobs will further work to reduce private pension coverage, and especially employer-provided pension plan coverage (Disney and Stears, 1996).¹⁵ There has been a steady decline in membership of COSRs in Britain, and the introduction of stricter, and hence costlier, regulations by the 1995 Pensions Act is likely to reinforce this trend. Similar trends have been observed for the US (Parsons, 1991; Bloom and Freeman, 1992).

It has been suggested that the expansion of APPs and COMPs could potentially counteract these adverse pressures on private pension coverage. Although some measure of substitution of defined contribution pension plans for defined benefit pension plans has been noted (Association of Consulting Actuaries, 1996; Disney and Stears, 1996), the results of the multivariate analysis above suggest there are definite limits to the extent to which APPs can substitute for employer-provided pension plans. This is because of the differences observed in the profiles of APPs and COMPs affiliates on the one

¹³As the focus here is coverage, I am leaving to one side the issue of whether APPs or COMPs are likely to provide better or worse pension benefits than SERPs. Evaluating the overall impact of the reform would also need to take account of 'mis-selling' of personal pensions.

¹⁴General Household Survey self-reported pension affiliation data show a decline in private pension coverage from 71 per cent in 1992 to 66 per cent in 1996. Lifetime Labour Market Database records data show, for employees above the LEL, a decline in private pension coverage from 57 per cent in 1993 to 53 per cent in 1996.

¹⁵The extent to which stable, long-tenured jobs have declined in Britain is disputed. A study of job tenure by Burgess and Rees (1996) concludes that, although some reduction in tenure can be observed over the period, the changes are marginal, while Gregg and Wadsworth (1995) argue forcibly that these changes are significant for displaced workers or new entrants to the labour market.

hand and COSRs affiliates on the other. Assuming constant pension environment and worker and employer preferences, it is likely that APPs and COMPs could substitute for COSRs in industrial, skilled manual employment,¹⁶ but this is less likely in skilled and non-manual jobs. Presumably these are jobs requiring incentives to enhance worker attachment and productivity.

COMPs are perhaps a better substitute for COSRs than for APPs. At least as far as small firms are concerned, evidence suggests that APPs are a less-preferred alternative to COMPs (Association of Consulting Actuaries, 1996). The expansion of COMPs coverage has been marginal, and this is to a large extent explained by the differences in profile of their affiliates as compared with COSRs members. The profile of COMPs holders is much closer to that of APPs holders than to that of COSRs members. The rapid expansion of APPs coverage has been checked. The rapid initial growth in APPs may have been inflated in the late 1980s by inappropriate advice and by the opportunistic behaviour of over-annuitised workers moving to APPs in order to trade off current for future consumption (Disney and Stears, 1996).¹⁷ The findings suggest that, in the absence of further pension reform, the prospects for expansion of private pension coverage are limited and that adverse labour market conditions are likely to exert downward pressure on private pension coverage.

V. CONCLUSIONS

The 1986 Social Security Act introduced far-reaching changes to supplementary pension provision in Britain, with significant implications for supplementary pension coverage. By 1994, two-thirds of employees in Britain were covered by a contracted-out private supplementary pension scheme, with one-fifth in personal pension plans and the rest in employer-provided pension plans. Analysis of the pattern of supplementary pension coverage, and of the determinants of pension membership, shows there are clear differences existing across workers in different pension schemes. These differences fit in broadly with expectations of pension plan take-up suggested by the pension economics literature. There is also a strong male bias in contracted-out private pension coverage. The findings suggest that, in the absence of further pension reform, the prospects for further expansion of contracted-out private pension take-up are limited and that adverse labour market conditions will exert downward pressure on private pension coverage.

¹⁶A proposal for industry-wide COMPs could strengthen coverage in these sectors (Johnson, Disney and Stears, 1996).

¹⁷Workers who were required by their pension scheme to make contributions over and above NI contributions could reduce these to just NI contributions by transferring to APPs. Supposedly over-annuitised workers have been observed to exploit pension reform or changes in pension regulation in other countries (Barrientos, 1996; Samwick and Skinner, 1996).

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