

I. Introduction

When assessing proposals for restructuring Social Security it is necessary to examine the impact of reform on the other two main sources of retirement income: employer-provided pensions and personal savings. While there are myriad avenues through which Social Security, pensions, and savings are interrelated, many employer-provided pension plans are directly linked to Social Security in that they explicitly account for Social Security benefits when designing their pension benefit formulas, a practice known as pension integration.

Three recent papers discussing Social Security reform have called attention to the importance of pension integration in assessing the effect of Social Security reform on the pension industry.

Kelly Olsen, Jack VanDerhei, and Dallas Salisbury (1997) of the Employee Benefit Research Institute (EBRI) suggest that, at a minimum, pension providers will adjust integrated benefit formulas to reflect changes in Social Security benefits brought on by reform. Janice Gregory (1997, 1998) of the ERISA Industry Committee (ERIC) takes this idea a step further and argues that because the pension industry and Social Security essentially "grew up" together, all pension plans are implicitly integrated with Social Security.¹ This view implies that a major restructuring of Social Security will lead to a redesign of most if not all pension plans.

The common point made by both Olsen et al. and Gregory is that explicitly integrated plans will be affected by Social Security reform. The rationale for this theory is that integrated pension plans are designed to work in combination with Social Security to replace approximately the same fraction of final earnings of high-, middle-, and low-wage employees.² As a result, any changes in Social Security benefits would require a redesign of integrated formulas to maintain the desired rate of replacement of workers' earnings. Another reason that Social Security reform would affect integrated plans stems from likely changes in the regulatory environment in which integrated plans operate. Restrict-

Pension Integration and Social Security Reform

by Chuck Slusher*

Many employer-provided pension plans explicitly account for Social Security in their benefit formulas—a practice known as integration. Because integrated pensions are directly linked to Social Security, both the incidence and design of explicitly integrated plans are likely to be affected by changes in the current Social Security program. While integration has been mentioned as an important issue in discussions of Social Security reform, researchers have largely ignored the concept of pension integration. This article provides basic information about pension integration and addresses, in general terms, the relationship between Social Security reform and pension integration.

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tions on integrated plans have been adjusted several times in the past, often following adjustments to Social Security.³ It is likely that the rules covering integrated plans will change again in response to forthcoming Social Security reform.

As will be seen in section III, pension integration affects a substantial proportion of pension participants. Consequently, understanding how the prevalence and design of explicitly integrated pension plans will change in response to Social Security reform is an important issue on its own. If, as Gregory suggests, all pension plans are either explicitly or implicitly integrated, examining the effect of Social Security reform on explicitly integrated plans may also illuminate the effect of Social Security reform on the pension industry as a whole. This article provides some basic information about pension integration, gives evidence of the prevalence of integrated pension plans, and discusses the potential impacts of various Social Security reform proposals on pension integration.

II. Background and Definitions

Integration of pension plans first came into focus with the Revenue Act of 1942, which was designed, in part, to prevent tax-qualified private sector pension plans from discriminating in favor of supervisors and highly compensated employees. Nondiscrimination standards were developed to prevent employers from providing pensions only to "key" employees for tax-saving purposes. Just prior to this statute, a number of plans had responded to the introduction of Social Security in 1935 by redesigning their benefit formulas to explicitly supplement Social Security. These plans discriminated in favor of high earners by design, but, to appease the pension industry, lawmakers chose to establish separate nondiscrimination standards (called *permitted disparity*) for plans that were explicitly designed to supplement Social Security. Thus, the 1942 legislation set the standard for pension integration (although the term integration was not used) by asserting that a plan should not be disqualified as discriminatory "merely because" it excludes or gives lower benefits to employees with earnings below the Social Security taxable wage base.⁴ The Federal Government has continued to impose separate nondiscrimination standards on integrated and nonintegrated plans, although regulations on integration have become increasingly strict over the years, most recently with the 1986 Tax Reform Act (TRA).

All integrated plans discriminate in favor of employees with higher earnings, in effect counterbalancing the progressiveness of Social Security benefits, but there are several ways in which pension plans can be integrated. Integration of defined benefit (DB) plans typically occurs in one of two ways. First, pension plans using *offset* formulas reduce an employee's pension benefit by some amount—often a percentage of the employee's Social Security retired worker benefit. Because employers typically do not have each employee's actual Social Security benefit on hand, a common approach is for employers to approximate Social Security benefits for

pension participants.⁵ Second, some plans apply a more generous benefit formula to employee earnings above a specified level (called the *integration level*) such as the Social Security taxable wage base.⁶ This second method of integration is often referred to as the *excess rate* method.

Though rare, defined contribution (DC) pension plans can also be integrated with Social Security. Integrated DC plans are similar to excess rate plans in that contributions to an individual account are determined by applying one contribution rate to a participant's earnings below the integration level and a higher rate to the portion of earnings over the integration level. Under current law, one type of DC plan, an employee stock ownership plan, cannot be integrated. In addition, an employee cannot be covered by more than one integrated plan from the same employer (Allen et al. 1997).

Employers justify the coordination of pensions and Social Security as a means of limiting the extent to which they contribute twice to employees' retirement income—funding pension plans and paying taxes for Social Security. For offset plans, this process is a straightforward subtraction of some portion of Social Security benefits from the amount of the pension benefit. Excess rate plans and integrated DC plans apply less generous formulas or contribution rates to earnings below the integration level, which must be less than or equal to the Social Security taxable wage base.

The 1986 Tax Reform Act (effective in 1989) contains two notable changes in how employers are allowed to design integrated plans. First, pension providers can no longer use integrated formulas to completely eliminate the retiree pension benefits of low-wage employees.⁷ Prior to TRA, plan providers were able to reduce benefit awards to zero for some workers either by offsetting a worker's entire pension benefit or by calculating benefits only for workers with earnings above the integration level. Under current law, the amount subtracted from an offset plan pension cannot be greater than half the pension benefit before the offset, and the percentage applied to earnings above the integration level in excess rate plans cannot be more than twice the percentage applied to lower earnings.⁸ Second, the maximum allowable offset is now based on an individual's gross pension benefit, whereas under previous law the maximum offset was defined as 83 percent of an individual's Social Security benefit. The offset no longer needs to be even a close approximation to an individual's Social Security benefit. This gives providers more latitude in deciding how to calculate an offset and gives beneficiaries less recourse for claiming that their pension benefit was offset by too much relative to their Social Security benefit.

III. Evidence of Pension Integration

Pension integration is a relatively new area of study for researchers because reliable data on integration were not available until around 1980. As a result, there are wide gaps in our understanding of the history and development of pensions that coordinate with Social Security. The lack of

good data before the 1980s and its consequences for research on pension integration is evident in a 1983 survey of the topic by James Schulz and Thomas Leavitt:

Little evidence is available on how integration practices have developed over time... Due to a lack of reliable data on today's integration practices, it is difficult to evaluate integration's actual impact on American pension plan participants... [Available] surveys present a confusing and incomplete picture of pension integration methods... It is difficult to interpret [the] disparate results [from different surveys].

The amount and quality of information available on pension integration has increased in recent years. The primary source of data is the Bureau of Labor Statistics' (BLS) Employee Benefits Survey (EBS), which has tracked the incidence of pension integration since 1980. There are also four household surveys that contain enough pension provider information to examine pension integration: the 1983 and 1989 Surveys of Consumer Finances, the 1989 National Longitudinal Survey of Mature Women, and the 1992 Health and Retirement Survey (HRS).

In the following discussion, I use published BLS data and my preliminary calculations from the HRS to present information on the prevalence of pension integration, the characteristics of integrated plan participants, and the effect of integration on benefits. Note that there are several differences between the EBS and the HRS that complicate comparing the results from the two surveys. First, the EBS typically reports results separately for medium and large firms, small firms, and state and local governments, while

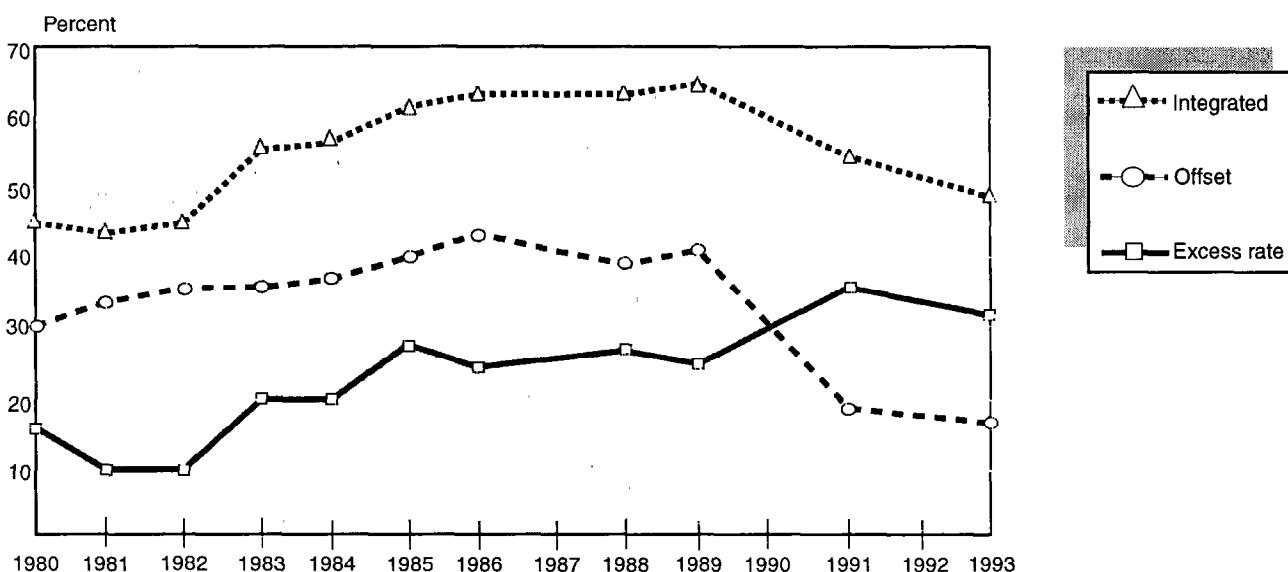
figures from the HRS data will typically combine workers from private firms, state and local governments, and the Federal Government. Second, the EBS data cover workers of all ages at one point in time. The HRS focuses on individuals aged 51-61, and provides information on pensions associated with current jobs and past jobs. Finally, the EBS documents integration only among defined benefit pension plans, while the HRS can be used to identify integrated DB and DC plans.

Prevalence

Approximately one-fifth of all full-time, private sector employees in the United States in 1992-93 participated in an integrated defined benefit pension plan.⁹ The incidence of participation in integrated defined contribution plans is much lower, with less than 2.0 percent of current workers aged 51-61 in 1992 having ever participated in an integrated DC plan.¹⁰

Recent trends suggest that pension integration is becoming less widespread. Chart 1 shows that the percentage of full-time defined benefit participants in medium and large private firms whose plans are integrated with Social Security increased from 45 percent in 1980 to 63 percent in 1989, but fell to 54 percent in 1991 and to 48 percent in 1993.¹¹ The increase in DB integration during the 1980s coincided with the movement away from DB plans in the pension industry. Pension providers may have been more likely to maintain integrated DB plans during this period because they cost less than nonintegrated plans. Trends in integration among DC plans cannot be established because the EBS does not document the prevalence of integration among defined

Chart 1.—Percentage of DB participants with integrated plans for full-time employees, in medium and large private establishments



Source: Compiled from issues of Employee Benefits in Medium and Large Private Establishments/Firms, Bureau of Labor Statistics (BLS), over the period 1980-93. The sampling frame used by BLS changed in 1988 to include more industries and smaller firms than before, so that the data before and after 1988 are not precisely comparable.

contribution plans. However, because DC integration is rare it is unlikely that any such trends would affect the recent overall rate of decline in integrated plans.

Chart 1 also shows that participation in excess rate plans has become more common than in offset plans in recent years. The timing of the decline of integrated plans and the switch from mostly offset plans to more excess rate formulas appears to coincide with the implementation of TRA.¹² Complying with the permitted disparity rules for integrated plans is simply one method of satisfying the current nondiscrimination standards for pension plans.¹³ Plan providers may have chosen to abandon integration in favor of different routes to nondiscrimination after the integration rules became stricter. Although TRA established more restrictive rules for both offset and excess rate plans, the forms of the rules for excess rate plans under TRA are essentially the same as in prior law; the 1986 legislation established dramatically different rules for offset plans than had been in place before 1986. The new offset rules created a stir in the pension industry and led to the adoption of amendments covering more traditional offsets and a delay of the full implementation of TRA (Kollman et al. 1994). The added complexity of the new offset rules is likely responsible for some of the shift from integrated plans being mostly offset to primarily excess rate after 1989.

Table 1.—Current or past workers aged 51-61 who participated in pension and integrated plans on their current or previous job, by respondent characteristics in the 1992 HRS

[Weighted data]

Respondents characteristic	Number of workers (in thousands)	Percent in a pension on current or past job	Percent of pension participants in any integrated pension plans		
			Total ¹	Offset	Excess rate or DC
Total.....	21,813	64.2	38.8	18.9	23.0
Gender:					
Men.....	11,118	73.3	39.2	19.7	23.2
Women.....	10,696	54.8	38.2	17.8	22.8
Race:					
Hispanic.....	1,191	43.2	26.5	18.0	11.0
Black.....	2,156	59.2	33.8	16.3	18.1
White.....	17,955	66.4	39.9	19.3	24.1
Other.....	512	56.8	36.5	15.9	23.0
Education:					
Less than high school graduate.....	8,284	55.1	38.9	18.7	23.8
High school graduate only.....	8,432	64.1	37.8	17.7	23.1
Bachelor or associate degree.....	3,253	74.5	48.7	26.0	26.8
Graduate or professional degree....	1,845	87.5	26.6	12.5	14.9

¹ The offset and excess rate columns will not necessarily sum to equal the total column because some respondents participated in more than one integrated plan during their career. In addition, there are a few observed DB plans that contain both offset and excess rate provisions. Respondents with these plans were counted as having both an offset and an excess rate plan.

Characteristics of Integrated Plan Participants

Table 1 displays the incidence of pension plan participation and participation in any integrated plan by gender, race, and education of individuals aged 51-61 in 1992.¹⁴ As other studies have shown, pension participation is higher among men and whites, and participation increases with education. Table 1 also shows that excess rate formulas are more common among the HRS respondents than offset integrated plans. There are some, typically small, differences in the percentage of pension participants with an integrated plan for varying individual characteristics.¹⁵ For example, whites are slightly more likely to participate in offset and excess rate plans, while people of Hispanic origin have the lowest incidence of participation in integrated plans. Individuals with a graduate or professional degree participate in integrated plans with less frequency than any other education group.

Table 2 presents the pension participation and integration rates for individuals' current or most recent job by job characteristics. Note that table 2 only includes information for respondents who participated in a pension in their current or most recent job, while table 1 includes participants in pensions from any job. Consistent with previous studies,

participation in a pension plan generally increases with wages. However, there is no clear relationship between wage level and the likelihood of integration. Pension participation is highest among workers employed in manufacturing, transportation, or the public sector, while jobs in retail trade, manufacturing, and financial industries have the highest incidence of both types of pension integration. Finally, employees of small firms (fewer than 100 employees) are less likely to participate in a pension plan or have an integrated plan than those with larger employers.

Effect of Integration on Benefits

While there are only small differences in the prevalence of integration by characteristics such as income, gender, and firm size, pension integration may have a strong

effect on the pension benefits of different groups. Unfortunately, there is currently little evidence on how pension benefits vary across integrated and nonintegrated plans.¹⁶ Only Graham (1994) uses empirical data to examine pension benefits under integrated plans. The study uses the EBS to calculate the average replacement rates across all integrated and nonintegrated defined benefit pension plans in medium and large private firms for a hypothetical worker with 30 years of experience who retires at age 65.¹⁷ The results are displayed in chart 2. Note that I present average replacement rates for pension benefits and for pensions combined with Social Security benefits.

Chart 2 also shows that, on average, integrated plans provide a slightly higher rate of replacement for high-wage workers than for low earners, while nonintegrated plans favor low-wage workers. For example, nonintegrated plans replace

nearly 50 percent of final earnings for a hypothetical worker with \$15,000 final pay. The same worker would have approximately 30 percent of his/her final earnings replaced, on average, under an integrated plan. When combined with Social Security benefits, a worker with \$15,000 final pay would have 100 percent of earnings replaced under a nonintegrated plan, or 80 percent of earnings replaced by an integrated plan. In contrast, a worker with a final salary of \$55,000 would have 33 percent of his/her final earnings replaced by an integrated plan, but only 24 percent replaced by a nonintegrated plan (or 56 percent and 43 percent, respectively, when combined with Social Security benefits).

While chart 2 provides some evidence as to the effect of integration on pension benefits, the use of hypothetical workers limits the value of this exercise. As shown in tables 1 and 2, participation in integrated plans varies somewhat by characteristics of workers and employers. It may also be the case that characteristics of integrated pension plans (for example, integration levels, contribution rates) also vary substantially across plans and participants so that averaging replacement rates or pension benefits across plans may distort the effect of integration on low and/or high earners.

Table 2.—Current or past workers aged 51-61 who participated in pension and integrated plans on their current or most recent job, by job characteristics in the 1992 HRS

[Weighted data]

Job characteristic	Number of workers (in thousands)	Percent in a pension on current or most recent job	Percent of pension participants in any integrated pension plans		
			Total	Offset	Excess rate or DC
Total.....	21,813	51.5	33.2	15.0	20.8
Hourly wage rate (in 1992 dollars):					
\$0-\$4.99.....	4,353	15.0	27.2	16.8	11.3
\$5-\$9.99.....	5,216	42.3	30.2	10.8	21.8
\$10-\$14.99.....	4,107	69.2	34.6	13.4	22.4
\$15-\$19.99.....	2,799	77.1	33.9	16.2	20.1
\$20-\$24.99.....	1,784	81.3	27.7	13.4	18.0
\$25 or more.....	2,730	67.7	40.3	21.2	24.3
Missing/unknown.....	825	8.5	29.6	20.5	9.1
Industry:					
Agriculture, forestry, fishing.....	638	11.8	(1)	(1)	(1)
Mining and construction.....	1,423	40.6	19.6	7.0	15.8
Manufacturing—nondurable.....	1,622	62.5	39.5	21.2	20.8
Manufacturing—durable.....	2,591	69.8	47.4	25.2	29.8
Transportation.....	1,652	70.5	34.3	16.4	20.8
Wholesale trade.....	820	42.8	24.9	11.9	18.0
Retail trade.....	2,655	26.7	41.3	20.0	21.9
Finance, insurance, real estate.....	1,376	49.7	57.9	19.9	43.4
Business and repair services.....	1,235	24.6	22.4	9.1	15.5
Personal services.....	958	9.8	(1)	(1)	(1)
Entertainment and recreation.....	319	36.5	(1)	(1)	(1)
Professional and related service.....	5,273	63.2	24.9	8.1	16.9
Public administration.....	1,049	85.9	21.7	11.6	10.3
Missing/unknown.....	202	46.1	(1)	(1)	(1)
Firm size:					
0-99 employees.....	10,409	47.0	24.5	9.1	16.5
100-499 employees.....	3,645	76.1	36.0	18.0	20.8
500 or more employees.....	3,266	87.4	46.8	22.2	29.7
Missing/unknown.....	4,494	15.7	27.2	14.5	14.9

¹Too few observations in the base category to make weighted frequency meaningful.

IV. Social Security Reform Proposals and Pension Integration

Even if one were armed with a complete history of pension integration, speculating on how integration will adapt to Social Security reform is a daunting task. Our understanding of pension integration is in its infancy, but it may be useful to discuss in general terms how post-reform pension integration might look.

There are currently several proposals for reforming Social Security, ranging from a complete overhaul of the system to adjustments to current benefit formulas. Actual changes in pension integration will likely depend on the specific details of whichever reform proposal is adopted. Because we still

know little about how Social Security reform will evolve, I will limit the following discussion to possible effects of two general types of reform on pension integration.

Privatization

The most dramatic proposal for restructuring Social Security is to replace the existing defined benefit system with private individual accounts. It is widely believed that privatization will increase the variability of benefits received, with some people doing much better than they would have under the current system and others doing substantially worse.

Because of this increase in benefit variability, a switch from the current system to individual accounts may increase workers' demand for employer-provided defined benefit plans in order to guarantee themselves a minimum level of retirement income. One would expect that some new DB plans would be integrated, so that *ceteris paribus* privatization would lead to an increase in the number of workers covered by integrated pension plans. The size of this effect may partially depend on how a particular reform proposal affects the distribution of Social Security benefits across wage groups. For example, if a reform proposal provides benefits that are not weighted in favor of low earners then the validity of providers' stated motivation for integration—to counterbalance the progressiveness of Social Security—would be diminished.

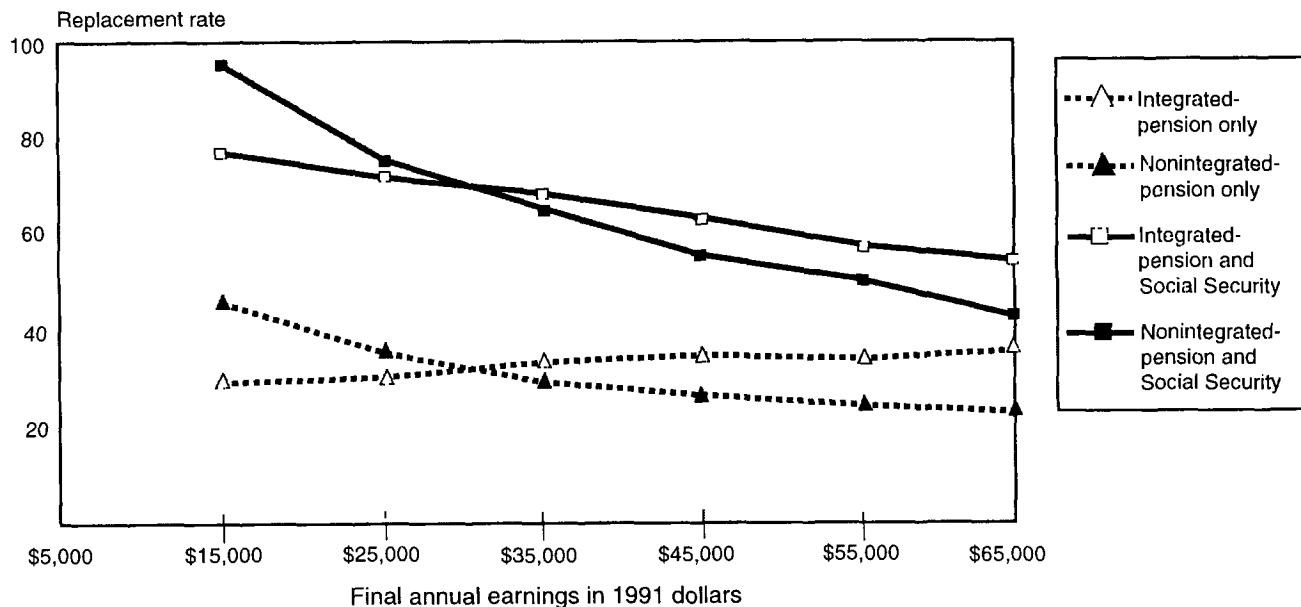
As was discussed in section II, most offset integrated pension plans currently estimate a participant's Social Security benefit and subtract some fraction of the estimated benefit from the individual's pension benefit. From an

actuarial standpoint, a system of private Social Security accounts would increase the difficulty of approximating individual Social Security benefit amounts used in offset formulas. If the objective of an integrated plan is to provide a pension benefit that, when added to Social Security, replaces some target percentage of employees' final wages, then it is necessary for offset plans to accurately calculate individual Social Security benefits. Under a privatized Social Security system, arriving at an appropriate offset for an employer-provided pension plan would become more costly and less reliable than under the current system. This could lead to a further shift from offset integrated plans to excess rate plans or simplified offset plans that do not attempt to approximate Social Security benefits.

Recall that under current law, offset benefit formulas only need to satisfy the rules governing permitted disparity, not accurately estimate Social Security benefits. Providers who currently approximate Social Security benefits could establish simpler formulas for calculating offsets that satisfy current law, yet bear little relationship to Social Security benefits. The ramifications of such a shift would depend on the distributive effects of changes in Social Security; nonetheless, they could be potentially serious particularly for low-wage workers. Shifting traditional offset plans to excess rate formulas or simplified offsets would be more desirable from a provider's point of view because the integrated component of a pension formula would use an easily determinable value rather than each individual's return from Social Security.

On the other hand, offset formulas that accurately reflect an individual's Social Security benefit would be preferred by pension participants because such formulas would insure

Chart 2.—Average replacement rates (percent of final earnings) under integrated and nonintegrated DB plans, medium and large private establishments, 1991



Source: Author calculations using information presented in Graham (1994). Data are for hypothetical workers with 30 years of experience who retire at age 65.

against unexpectedly low returns from a privatized Social Security account. Individual demand for this type of insurance could increase the pension industry's willingness to offer traditional offset plans.

Reducing Social Security Benefits

As an alternative to large-scale changes to Social Security such as privatization, some reform proposals make adjustments to the current Social Security benefit formula to reduce the average value of benefits paid. Examples of these adjustments include increasing the normal and/or early retirement age and increasing the period used for computing an individual's average wages, which are then used to calculate the Social Security benefit. Changes such as these would also appear to have their strongest effect on integrated plans that use traditional offset formulas. If Social Security benefits were reduced, current-day offset plans would automatically make up some of this reduction by providing greater pension benefits. Gregory (1998) suggests, however, that employers will be unable to "absorb changes in the Social Security program by increasing overall compensation costs." As a result, many providers using offset formulas may reduce the generosity of their benefits or move from offset to excess rate formulas.

Many pension experts believe that one of the primary reasons employers offer pension plans is to provide an incentive for older workers to retire. Reducing Social Security benefits, and increasing the retirement age in particular, may induce many workers to remain on the job longer than they otherwise would have; pension providers may in turn want to increase the generosity of their plans to entice older workers to retire. If employers are unable or unwilling to augment the cost of their pension plans, they may instead choose to increase benefits for a particular group of employees (for example, managers and/or supervisors), and compensate for this increase by reducing the benefits of other employees.

For example, recall that by design integrated plans favor high-wage employees over low earners. If an employer is concerned with replacing older workers who are at the upper end of the pay scale, he/she may consider integrating an existing plan to shift benefits from low-pay workers toward high-pay employees without increasing the cost of the plan. Alternatively, an employer who currently offers an integrated plan and wants to prevent low-wage workers from delaying retirement may move to a nonintegrated pension plan that would increase the benefits of low earners at the expense of high-wage employees.

Note that this discussion only refers to how currently observed types of integration could change with reform. The pension industry is not stagnant. Pension plans have continued to evolve to meet the changing economic environment and we should expect this evolution to continue. As an example of the dynamic nature of the pension industry, a small but growing number of pension providers are using "hybrid" plans—combining defined benefit and defined

contribution plans—to keep up with the varying demands of a heterogeneous labor force. Social Security reform could provide the impetus for innovations in integrated formulas that are beyond the horizon of even the best predictions.

V. Discussion

Three recent papers have acknowledged the relevance of pension integration in discussions of Social Security reform. While the rationale for discussing integration alongside Social Security reform is straightforward, we currently have a limited understanding of the mechanics of integrated pension plans and little evidence of how integration affects pension benefits. This article was designed to provide some basic information about the practice of pension integration. It is only a starting point, however. Information about the effect of pension integration on retirement income distribution, economic models of pension providers' motivation for implementing integrated plans, and a comprehensive examination of the link between employer-provided pensions and Social Security are necessary before we are able to make meaningful projections about how changes to Social Security will affect integrated pensions.

Appendix A: Description of the Health and Retirement Survey (HRS)

For reporting the individual and firm attributes associated with pension integration, I use the Health and Retirement Survey (HRS). The first wave of the HRS was collected in 1992 from individuals aged 51-61 and their spouses on a wide range of topics, including a series of questions on pensions. Followup interviews of the 1992 respondents were conducted in 1994 and 1996, but I use only the Wave 1 data because employer-provider pension information was collected only in 1992. The HRS is a valuable resource for examining pensions for three reasons. First, because pension information was collected for respondents' current and/or some past jobs, one can use the HRS to construct limited pension histories of the respondents. Second, the HRS is a nationally representative sample of individuals aged 51-61. This age group is appropriate for studying pensions because the respondents are at or approaching retirement so that work and pension histories will be nearly complete. Finally, for respondents who indicated pension coverage from either a current or previous job, the HRS staff attempted to retrieve pension plan information directly from their pension providers. Provider data give detailed characteristics of the pension plans, such as integration provisions and final average pay formulas, and allow for the calculation of individual benefit amounts.

Self-reported pension information was collected from all current or recent workers; however, the HRS staff was only able to collect pension provider information for about three-fifths of the pension participants. Because integration of a pension plan can only be established using the provider

information the incidence of pension integration must be based on the pool of participants with provider information. The amount of missing provider information causes some concerns about selectivity into the pool of participants with employer data. Simple comparisons of the characteristics of pension participants with and without provider information showed only small differences. Further work needs to be done on this issue, however.

Notes

¹ Evidence of this is found by noting that, in general, the pension plans of state and local government workers who are not covered by Social Security are more generous than the plans of workers who pay into Social Security.

² McGill et al. (1997) suggest that, alternatively, some employers attempt to make their combined contributions to Social Security and pensions approximately the same percentage of pay for all wage groups.

³ The Internal Revenue Service automatically changed the integration rules with each amendment to the Social Security Act until 1971. The most recent change to the integration rules came in 1986, shortly after the changes to Social Security in 1983. For a description of legislation covering pension integration through 1975 see Dyer (1977).

⁴ Ibid., pp. 123-124.

⁵ It is possible for employers to receive reports from the Social Security Administration indicating the actual Social Security benefit of an employee, but most providers do their own calculation.

⁶ Most plans use a fixed integration level rather than adjusting the level annually with the Social Security taxable wage base. The integration level cannot exceed the taxable wage base and different nondiscrimination rules apply to varying integration levels.

⁷ Employer-provided disability benefits that are integrated with Social Security can legally be reduced to zero.

⁸ McGill et al. (1997), pp. 322-333. Other rules also apply to both excess rate and offset plans, but the two mentioned prevent a low-income employee from receiving zero benefits.

⁹ Author's calculations using the 1993 EBS data for medium and large private firms and the 1992 EBS for small private firms.

¹⁰ Author's calculations using the 1992 HRS and the associated Summary Plan Descriptions.

¹¹ According to more limited data, the percentage of participants in small private establishments in defined benefit plans that are integrated also appears to have declined in recent years from 49 percent in 1990 to 46 percent in 1992.

¹² The effective date for TRA was originally set for December 31, 1988, but the Internal Revenue Service did not publish final rules for implementation until 1991. As a result, there was a gradual implementation of TRA from 1989 until the final effective date of January 1, 1994 (Kollman et al. 1994).

¹³ Nonintegrated plans must pass a ratio percentage test or an average benefit test. See Allen et al. 1997 for details.

¹⁴ For the HRS data, I define participation in a pension plan as follows: respondents who are covered by a pension plan on their current job, or who are receiving, have received, or are expecting pension benefits from their most recent job or a past job. I am able

to identify respondents covered by integrated plans only if employer-provided pension information is available for a respondent (about 60 percent of pension participants). I reweight the sample to account for missing plan information. See Appendix A for a description of the data.

¹⁵ When assessing the prevalence of pension integration it should be noted that participants can be in an integrated plan and yet not have their benefits amounts affected. Many providers calculate pension benefits in at least two ways and give the beneficiary the greater benefit. For example, formulas could be designed so high-wage employees are never subject to the integrated portion of the benefit formula. Although these employees would be classified as participating in integrated plans, their de facto pensions would be nonintegrated.

¹⁶ One important use of the HRS would be to compare actual pension benefits for workers covered by integrated and nonintegrated plans, an exercise beyond the scope of this article.

¹⁷ Individual plans were weighted by the number of active workers participating in each plan. See Wiatrowski (1991) for details on replacement rate calculations.

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