The Pension Penalty Associated With Changing Employers

Walt Woerheide[1] and Rich Fortner[2]

There are various costs associated with changing jobs. One potentially significant cost is the reduction or loss of pension benefits associated with the old job. Even if one is fully vested, a large reduction in pension benefits may occur. Amounts of increases in salary from a new job necessary to make up for pension losses are calculated for combinations of years and other factors. A rule of thumb is calculated for the portion of the salary increase that needs to be tax-sheltered in order to leave a worker economically unaffected by a job change.
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When one changes employers, whether voluntarily or involuntarily, there are various costs. The investment value of human capital specific to one's employer becomes potentially worthless. If one must also move, some or all of the moving expenses may not be covered by the next employer. An intangible cost is the disruption to one's personal and family lives. One potentially significant cost is the reduction or loss of pension benefits associated with the old job.[1] Pension benefits are lost if one is not vested or is only partially vested at the time of a job change. If one is fully vested, then a large reduction in pension benefits may occur for either of two reasons. First, to the extent that the number of years one is employed and to the extent that one's final salary upon leaving a firm are factors in determining the pension benefit, the changing of employers will result in a pension that is a smaller percentage of a smaller number than what would have been received if one had not changed jobs. Second, the application of what is known as the "fractional rule" (Simon, 1988) which will be described and illustrated later, also reduces the pension payment.

The purpose of this paper is to empirically estimate the magnitude of the loss of pension income associated with changing employers.[2] Because we will assume full, immediate vesting, the analysis will focus strictly on the loss of pension income due to the fact that the number of

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[1]*WALT WOERHEIDE, PROFESSOR OF FINANCE, ROCHESTER INSTITUTE OF TECHNOLOGY, COB-RIT, 108 LOMB MEMORIAL DRIVE, ROCHESTER, NY 14623. PHONE: (716) 475-5268. INTERNET: WOERHEIDE.WJ A1.RIT.EDU*

[2]*RICH FORTNER, PROFESSOR OF ACCOUNTING, COLLEGE OF BUSINESS, UNIVERSITY OF MICHIGAN-FLINT.*

years employed at the job being left will not be increasing.[3] As the number of years of employment at a firm is a factor in determining the final pension only under defined benefit (DB) plans, this study focuses only on the cost of leaving a DB plan. To simplify the discussion, it will be assumed that the pension plan of the next job is also a DB plan.

The Pension Benefit Cost of Changing Jobs Once in a 40-Year Career

A DB pension is one in which the annual pension is defined as a percentage of the employee's "final salary." There are various ways in which "final salary" could be computed, but for simplicity of exposition, let us assume that the "final salary" is the individual's annual salary for his last year of employment.[4] Thus, the annual pension benefit under a typical DB plan would be defined as[5]

$$PB(DB) = c' * S * (1 + g)^{n-1} \qquad (1)$$

where

PB(DB) = the annual pension benefit under a DB program,
c' = the percentage of the final annual salary that the employee is promised,
S = the starting annual salary of the employee,
g = the geometric mean growth rate in salary, and
n = the number of years the employee expects to work.

Because the salary term represents the current salary, and because it is assumed that salary increases come in annual increments, the first salary increase occurs on the first day of the second year. Hence, if one worked exactly two years and quit, then one's salary on the last day of work (the last day of the second year) would be $S \times (1 + g)$. Thus, the exponent term is *n-1*, and not *n* as one might intuitively assume.

In many instances, the percentage of final salary that is paid (c') is a simple function of the number of years of employment at that employer. That is

$$c' = n * c, \qquad (2)$$

where c = the percentage of final annual salary paid per year worked.

As an example of the DB pension, consider an individual who starts to work at age 25 with a salary of $20,000 (S = $20,000), works for 40 years (N = 40) and receives a 5 percent salary increase after each year (g = .05). If her pension benefit is 2% per year employed (c = .02), then her salary in the final year of employment would be $134,095 (= $20,000 × (1 + .05) × 39) and her pension would be $107,276 (= $134,095 × 40 × .02). To demonstrate the approximate loss in pension benefits, we have constructed Table 1A to show the ratio of the sum of the pensions from the two employers for a person who changes jobs to the pension she would have had had she not changed jobs. It is constructed under the assumptions that:

1) The employee changes jobs only once during her career.
2) Her one job change does not result in a change in salary from what she otherwise would have had had she not changed jobs.
3) Her salary growth rate is not affected by the change in jobs.
4) Her pensions on both jobs are DB plans which pay the same per cent of the final salary on the job for each year of employment.
5) Her entire working career is 40 years[6].
6) She has full, immediate vesting on both jobs.

The equation used to compute each number in Table 1A is:

PBR = the ratio of the actual pension benefit received to the pension received with no job changes (i.e.,pension benefit retention ratio),

m = the number of years worked at the first job, and

N = number of years in the working career (= 40).

Table 1A
Ratio of New Pension Benefit to Old Pension Benefit for a Person Who Changes Jobs Once in 40 Years

End of the Year in Which Job Switch Occurs	Salary Growth Rate 3%	5%	7%
4	93.45%	91.73%	90.88%
8	87.77	84.20	82.29
12	83.11	77.65	74.51
16	79.68	72.40	67.89
20	77.68	68.84	62.92
22	77.31	67.85	61.27
24	77.39	67.49	60.32
26	77.97	67.83	60.21
28	79.10	68.98	61.08
30	80.81	71.04	63.13
34	86.19	78.43	71.64
38	94.55	91.17	87.98
40	100.00	100.00	100.00

Fortunately, for generality of results, the terms c and S cancel out and provide the simpler equation:

$$BR = \frac{M((1+G)^{N-1} - 1) + (N-M)((1+G)^{N-1} - 1)}{N((1+G)^{N-1} - 1)} \qquad (3.$$

Thus, our empirical estimates are independent of the pension benefit per year worked and independent of the starting salary!

To cite an example from Table 1A, consider again the worker who anticipates salary growth at the rate of 5% per year over the next 40 years. If he or she changes jobs once after 16 years, the final pension will be 72.4% of the pension there would have been if he or she had remained in the first job. In other words, the job change has cost the worker 27.6% (i.e., 100% - 72.4%) of what the pension would have been.[7]

Table 1A has three noteworthy features. The first is that the pension benefit retention ratios are highest when the job change is made at the beginning or at the end of the 40-year work life. The second is that the

greatest reduction in pension benefits occurs at a point about 60% of the way through a person's career. This is based on observation that when the salary growth rates are 3, 5, and 7%, the maximum loss in pension benefits occurs when the worker changes jobs in years 23 (not shown in the table), 24, and 26. The third is that the loss in pension is higher the larger the annual salary growth rate. If the primary determinant in salary growth rates is inflation, then inflation penalizes the job changer through the loss of pension benefits.

The Definition and Impact of the Fractional Rule

The loss in pension benefits noted in Table 1A could in fact be greater. This would occur if the first employer uses what is known as the fractional rule. The fractional rule says that after computing an employee's pension as was done in the previous section, the payment is prorated based on when the employee started and completed their job and when they expect to retire. For example, if an employee starts a job at age 25, and leaves at age 41, their pension benefit would be prorated to 40% of the amount previously computed based on having worked in the job for 16 of the remaining 40 years of their working career.[8] For a person changing jobs once, this means the PBR ratio would be computed as

$$PBR = \frac{\left(\frac{M}{N}\right)\left(M\left((1+G)^{M-1}\right.\right. + \left(N-M\right)\left((1+G)^{N-1}\right.}{N\left((1+G)^{N-1}\right.} \qquad (4$$

Table 1B shows the pension benefit retention ratio for various combinations of salary growth rate and switch date with incorporation of a fractional rule. As a example, consider again the worker who starts with a salary of $20,000, receives annual 5% salary increases, and switches jobs once after 16 years. The fractional rule reduces the pension from his first job to $5,322.06 (= $13,305.14 × .40), and reduces the final combined pension to $69,687.66, which is 64.96% of what would have been received had he not switched jobs.

When the numbers in Table 1B are compared to those in Table 1A and depending on the annual salary growth rate, the fractional rule reduces the final pension by anywhere from 9 to 15% for the worst cases. Although people with higher salary growth rates are still penalized

more in percentage terms than those with lower salary growth rates, the fractional rule reduces the disparity of the penalty.

Table 1B
Ratio of New Pension Benefit to Old Pension Benefit for a Person Who Changes Jobs Once in 40 Years With Incorporation of the Fractional Rule

End of Year In Which Job Switch Occurs	Salary Growth Rate			
	3%	5%	7%	
4	90.35%		90.17%	90.09%
8	81.55	80.84	80.46	
12	73.93	72.30	71.35	
16	67.87	64.96	63.15	
20	63.84	59.42	56.46	
22	62.77	57.57	53.95	
24	62.43	56.49	52.19	
26	62.93	56.34	51.39	
28	64.37	57.29	51.76	
30	66.86	59.53	53.59	
34	75.51	68.91	63.14	
38	90.07	86.86	83.83	
40	100.00	100.00	100.00	

The Pension Benefit Cost of Changing Employers Multiple Times

Most people do not change employers just once. They change employers multiple times.[9] As there are many combinations of job longevity for each job one might hold in a 40 year working career, all possible combinations could not be modeled. Nonetheless, to identify the likely impact of multiple job changes, an additional assumption was added that each job is held an equal amount of time. Thus, for example, a person changing jobs two times is assumed to hold each job for 13 and 1/3 years (i.e., two job changes imply three different jobs). The formula for computing the PBR ratio becomes more complicated when multiple job changes are introduced, but is stated as

$$PBR' \frac{\sum_{j=1}^{v+1} \left(\frac{N_j}{N}\right)((1+G)^{\left(\frac{N_j}{N}-1\right)}}{N((1+G)^{N-1}} \qquad (5)$$

where **v** = the number of times a person changes jobs.

The ratios of actual pensions to maximum pensions are shown in Table 2A for various salary growth rates and job durations.[10] To continue the previous example, if a person who starts with a $20,000 salary and receives 5% salary increases, and changes jobs twice, then the PBR ratio is 59.80%.

Table 2A
Ratio of New Pension Benefit to Old Pension Benefit for a Person Who Changes Jobs Many Times in 40 Years

Number of Job Changes	Salary Growth Rate		
	3%	5%	7%
1	77.68%	68.84%	62.92%
2	70.96	59.80	52.34
3	67.74	55.55	47.45
4	65.86	53.10	44.65
5	64.62	51.50	42.84
6	63.74	50.37	41.58
7	63.09	49.54	40.64
39	57.79	42.90	33.33

The first row in Table 2A, for one job change, contains the same numbers as the row in Table 1A showing the pension ratios for a person changing jobs after 20 years. What is interesting is that after one has changed jobs three or four times, there is little additional pension penalty to incremental job changes (assuming one is fully vested in each job change). Higher salary growth rates do create

slightly more of an incremental penalty than lower salary growth rates. For example, going from 4 job changes to 5 job changes if your salary growth rate is 3% reduces the pension an additional 1.24%. If your salary growth rate is 7%, the additional move reduces your pension an additional 1.81%.

Table 2A, understandably, is the best case scenario because it does not incorporate the fractional rule. Let us assume that every job incorporates the fractional rule. The formula for computing the pension retention ratio under these circumstances becomes

$$PBR = \frac{\sum_{I=1}^{N} \left(\frac{1}{N}\right)\left((1+G)^{I\left(\frac{N}{N}-1\right)}\right)}{N\left((1+G)^{N-1}\right)} \qquad (2)$$

This worse case scenario is shown in Table 2B. Consider again the person who changes jobs twice and has a 5% salary growth rate. Without the fractional rule, the PBR ratio was 59.80%. With the fractional rule, it becomes 45.05%. For a person changing jobs four or five times or more, the fractional rule can reduce the benefit to approximately one-half or less of what it otherwise would have been without the fractional rule.

Table 2B
Ratio of New Pension Benefit to Old Benefit for a Person Who Changes Jobs Many Times in 40 Years With Incorporation of Fractional Rule

Number of Job Changes	Salary Growth Rate		
	3%	5%	7%
1	56.46%	63.84%	59.42%
2	49.62	45.05	41.92
3	41.49	37.26	34.33
4	36.06	32.21	29.52
5	32.11	28.61	26.15
6	29.08	25.88	23.61
7	26.67	23.71	21.62

39	6.02	1.07	0.92

The Benefit Necessary to Offset the Pension Cost

The pension cost to changing employers can be offset in one of several ways. The most obvious is to obtain a salary increase as part of the job change.[11] Others are to have the second job have a higher prospective salary growth rate, and to have the pension plan in the second job pay a larger pension benefit per year worked.[12] In this section, we focus on how much of a salary increase one would have to obtain in order not to suffer a loss in the pension benefit. In other words, all assumptions used in constructing Tables 1A to 2B remain, except assumption number two that there is no change in the salary at the time of the job switch. Table 3 presents the one-time, lump-sum percentage increase in salary at the time of the job change necessary to maintain the same final pension, assuming the person changes jobs only once.[13] To continue the previous example, the person with an annual salary growth rate of 5% who changes jobs after 16 years needs a salary increase of 46.0% to maintain the same level of pension he would have had had he not changed jobs.

Table 3
Salary Increase Necessary to Maintain Identical Pensions with One Job Change

Number of Job Changes	Salary Growth Rate			
	3%	5%	7%	
4	7.28%	9.19%	10.14%	
8	15.29	19.75	22.13	
12	24.13	31.93	36.41	
16	33.87	46.00	53.52	
20	44.63	62.31	74.16	
End of Year 24	56.53	81.28	99.19	
in Which Job 28		69.68	103.40	129.73
Switch Occurs 32		84.24	129.26	167.20
36	100.36	159.57	213.39	
39	113.59	185.71	255.14	

As one looks down any column in Table 3, the necessary salary increases become phenomenal. This pattern may seem incongruous with Tables 1A and 1B, which are also based on only one job change but show U-shaped PBR ratios over a person's working career. This oxymoron can be clarified by looking at the numbers for a person who changes jobs once, after 39 years. Recall that the person with a starting salary of $20,000, annual salary increases of 5%, a pension benefit per year worked of 2%, and a 40-year career, had a final salary and pension of $134,095 and $107,276. If this person switches jobs at the end of 39 years, then his salary at the end of, and his pension from, his first job would be $127,710 (=$20,000×(1.05)^{38}) and $99,613 (= $127,710 × 38 × .02). Similarly, his salary and pension from the second job would be $134,095 and $2,682 (= $134,095 × 1 × .02). Thus, his PBR ratio would be 95.36% (= ($99,613 + $2,682)/ $107,726). But, as we see from Table 3, if this person receives a one-time salary increase at the time of the job change of 185.71%, then his salary and pension from the second job would be $383,129 (= $134,095 × (1 + 1.8571)) and $7,663 (= $383,129 × 1 × .02). The point here is that the necessary salary increase to achieve equivalency of pension is high, even though the PBR ratio is high, because the contribution factor (i.e., the product of the number of years worked and the pension per year worked) for the second job is so small.

It should be apparent to the reader that the implied comparison in Table 3 is incomplete. It is incomplete because the comparison is based on the premise that only the pension is unaltered by the job change. Even if an employee attains a salary increase less than the one identified in Table 3, he may still be better off by changing jobs. The improvement comes about when the employee puts part of the salary increase into the purchase of a tax-deferred, defined contribution (DC) type pension (e.g., a 401-K or a 403-B plan). To correct this bias, Table 4A presents the salary increases necessary to maintain equal final pensions and equal taxable salaries. The assumptions in Table 4A are the same as Table 3, plus an assumption that 100% of the salary increase is tax deferred and the entire amount is invested to earn a 10% rate of return.[14,15]

Table 4A
Salary Increase Necessary to Maintain Identical Pensions and Salary with
One Job Change (Assumes a 10% investment yield and that the entire salary increase is fully tax-sheltered)

Number of Job Changes	Salary Growth Rate			
	3%	5%	7%	
4	1%	1%	1%	
8	1	1	2	
12	1	2	2	
16	2	3	3	
20	2	4	5	
End of Year 24	3	5	7	
in Which Job 28		4	7	9
Switch Occurs 32		6	9	12
36	7	12	16	

The numbers in Table 4A are substantially lower than the numbers in Table 3.[16] Keep in mind that the salary increase numbers in Table 4A represent the increase necessary to avoid any loss in economic well-being. That is, the employee would have the same net salary and the same projected pension. An improvement in economic well-being occurs when the actual salary increase is greater than the numbers shown in Table 4A. Also, the numbers in Table 4A apply only if the increase shown can be completely tax sheltered. If such tax sheltering is not possible, then the necessary increase to achieve economic equivalency would be larger and dependent on the worker's tax bracket.

If we continue our example of the employee who switches jobs once after 16 years, and receives 5% salary increases, then this person only needs a 3% lump-sum increase in salary at the time of change to be economically unaffected. This assumes the entire 3% is tax sheltered and earns a 10% rate of return. If this person receives a 20% one-time jump in salary at the time of the job change, then, as long as they put the first 3% of this increase into a tax-deferred plan they are economically better off because their pension benefit will be unaffected and their take-home pay will be substantially higher. Thus, we are not

saying that a person needs to tax-shelter 100% of their salary increase. We are saying that only the portion of the salary increase indicated in Table 4A needs to be tax-sheltered.

Table 4B repeats the analysis presented in 4A, except that a 6% investment yield is assumed. The lower investment yield clearly raises the necessary salary increase to achieve equivalency. The lower investment yield means that more money must be set aside to achieve the necessary principal at retirement to produce the pension supplement necessary to replace the pension benefits lost by the job change.

A Regression Estimate of Tables 4A and 4B

The information in Tables 4A and 4B could be extremely useful to a person considering switching jobs. The authors sought to develop a rule of thumb for estimating the percentage salary increase that must be tax sheltered in a (DC) type pension in order to maintain economic equivalency. To create the necessary values for this regression, the following variables were used:

1) a person whose working career is 40 years,
2) salary growth rates ranging from 3% to 7%,
3) investment yields ranging from 6% to 10%,
4) job changes taking place anywhere from the first year to the 39th year, and
5) no cases where the salary growth rate would have exceeded the investment yield.

The values for the variables used in the regression are shown in Table 5A, and the regression estimates along with the appropriate statistics are shown in Table 5B. For simplicity, we have rounded the coefficients for the regression estimate to produce the following equation: [17]

$$\text{Increase} = .8 - .66\,(r - g) + .3\,(a) \qquad (7)$$

where Increase = the salary increase necessary to maintain one's economic well-being,
r = the investment yield,
g = salary growth rate, and
a = the number of years at the first job.

Table 4B
Salary Increase Necessary to Maintain Identical Pensions and Salary with
One Job Change (Assumes a 6% investment yield and that the entire salary increase is fully tax-sheltered)

Number of Job Changes	Salary Growth Rate			
	3%	5%	7%	
4	1%	1%	2%	
8	1	2	3	
12	2	3	4	
16	3	5	6	
20	4	6	8	
End of Year 24	5	8	11	
in Which Job 28	6	10	14	
Switch Occurs 32	8	13	17	
36	10	16	21	

For example, suppose a worker were considering a job change after 20 years (a = 20), his salary growth rate is 7% (g = 7) and the investment yield he could achieve is 10% (r = 10). Then, equation (5) predicts that the salary increase necessary just to maintain one's economic well-being would be 4.8% (.8 -.67 × (10 - 7) + .3 × 20). The actual necessary salary increase is shown in Table 4A as 5%.

Table 5A
Description of Variables Used In Salary Increase Equivalency Regression

Variable	Maximum	Minimum	Mean	Standard Deviation	Interval
Salary Growth Rate(g)	7	3	4.92	1.38	1
Year Switch Occurs	39	1	20	11.25	1
Investment Yield (r)	10	6	8.08	1.38	1

Summary and Conclusions

This papers makes two points. The first is that people with defined benefit plans will incur a "pension cost" when they change jobs. This "pension cost" is the lower pension benefit they will receive when they retire, compared to what they would have received unless they obtain a substantial salary increase when they change jobs. Implementation of the fractional rule will increase the size of this cost. The second point is that this "cost" can be offset if some of the salary increase obtained upon changing jobs can be placed into tax-sheltered investment programs. A rule of thumb is provided to ascertain the portion of the salary increase that needs to be tax-sheltered in order to leave the worker economically unaffected by the move. The portion of the salary increase received that is greater than this amount, regardless of whether or not it is tax-sheltered, provides an increase in wealth.

Does all of this necessarily mean that we need legislation to protect workers from the "pension cost" of changing jobs. After all, many employees may prefer DB pensions because they appear safer (i.e., presumably devoid of investment risk). We think not. Remember, probably most voluntary job changes and some involuntary job changes result in higher salaries or higher salary growth rates. Either may be sufficient to produce higher pension benefits, and both will produce higher take-home pay. The net result is only that people may not increase their wealth through a job change by as much as they think they are.

We suggest that the "pension cost" should be dealt with by further educating companies and employees to the benefits of DC pensions over DB pensions.[18] The "pension cost" of changing jobs is not the only drawback associated with DB pensions. Other drawbacks include that employees may suffer pension benefit losses if their companies terminate their DB pension, that DC pensions are more rewarding the longer a person works before retiring, that DC pensions are more rewarding during periods of high rates of inflation, and that if a company goes bankrupt with an underfunded pension fund, then the payments guaranteed by the Pension Benefit Guarantee Corporation may be less than the pension promised under the company's plan.[19] As the national trend is toward the phasing out of DB pension plans and the growth in DC pension plans, further education should only enhance this trend.[20]

Table 5B
Regression Statistics for the Salary Increase Equivalency Number

Independent Variable	Coefficient	t-statistic	p-value
Intercept	.79	5.79	.000
Spread (r - g)	-.67	-24.31	.000
Switch	.32	69.10	.000

Number of Cases= 936 Adjusted R^2=0.85
Standard Error=1.57 F-Statistic=2,682.96

Endnotes

1. *The pension cost of changing jobs is certainly not a new topic. See, e.g., Morris (1986), Getz (1986) and Sampson&Kee (1991). We find the previous literature of limited value for several reasons. We believe this paper addresses many of these deficiencies.*
2. *In July 1988 the Labor Department released a study conducted by Philadelphia-based benefits consultant Hay/Huggins Co. Inc. that looked at the pension cost of changing jobs, and the concept of establishing a pension portability mandate. This study (a copy of which to date has eluded the authors) purportedly reports reductions in pension income of 10 to 25% as a result of job changes. Our results suggest much higher losses, especially when the fractional rule is incorporated.*
3. *A more limited analysis of the "pension cost" of moving, Samson and Kee (1991), assumes full vesting only after five years. Not all companies set vesting at the maximum allowed by law.*
4. *Mitchell (1992) documents a national trend away from career average plans and towards final average pay plans. However, the "final average pay" is based on five years of compensation for approximately 80% of participants, and for 65% of the participants, it is the highest five consecutive years. Approximately 15% of participants have their pensions based on three years of income.*
5. *This formula, of necessity, must ignore the variety of special features that would alter the amount or value of a pension payout. Such alterations include social security offsets, withdrawal features, etc.*

6. *Mitchell (1992) notes that about 40% of all plans impose a maximum limit on benefits. The most common limit is a limit on the number of years of service that may be counted. The modal choice for plans with such a restriction is currently between 30 and 39 years, although the trend is toward allowing more years (pp. 188-89).*
7. *Specifically, the worker's salary during the last year of employment on the first job would be $41,578.56 (= $20,000 × (1 + .05)^{15}). His pension from the first job would be $13,305.14 (= $41,578.56 × .02 × 16), his pension from the second job would be $64,365.61 (= $134,095 × .02 × 24), and the sum of the two ($77,670.75) would be 72.4% of what his pension would have been had he not switched.*
8. A *retirement age of 65 is frequently assumed in application of the fractional rule, and is the assumed retirement age throughout this paper.*
9. *The authors are a prime example. Each has already had at least three different employers.*
10. *If all jobs had 100% vesting after five years, then the maximum number of job changes would be 7 if we continue to assume equal time in each job, a 40-year career, and full vesting. Thus, the row shown in Table 2A for 39 job changes is solely for comparison purposes.*
11. *Proposals to alleviate the pension penalty to moving include discussions by Congress to create pension portability, and new types of pensions such as a cash-balance plan (Tokerud, 1986).*
12. *If the job change is voluntary, then one might reasonably assume at least one of these conditions is met.*
13. *This one-time, lump-sum increase assumes the reoccurring annual salary increase is unaffected by the job change. The numbers reported in this section do <u>not</u> include the fractional rule.*
14. *As with Table 3, the numbers in Table 4A represent a one-time, lump-sum increase, and ignores the fractional rule. It is assumed in this discussion that there is no significant transaction fee to set up a DC pension plan, or to convert the plan into an annuity at retirement.*
15. *As noted by an outside referee, there are limits on deferred compensation contributions. If a person were already at or near the limit on deferred contributions, then the contributions discussed*

here may not be possible. If a person is not at or near the limit, then the resultant salary increase are sufficiently small that they are unlikely to encounter the limitations.

16. *Substantially lower is clearly an understatement. The dramatic reductions are a tribute to the power of compounding combined with the benefit of tax deferral.*
17. *The rounding of coefficients has a negligible impact on the accuracy of the model. The standard error of estimate for the regression is 1.935, and the mean square error of the rounded coefficients model is 1.99.*
18. *A call for more education effort seems like an appropriate conclusion for two academics to reach!*
19. *For documentation of some of these deficiencies, the reader is referred to Woerheide (1991).*
20. *For a wealth of statistics on the growth in DC pensions and the decline in DB pensions, see Turner and Beller (1992).*

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