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Introduction

The 1980's takeover wave has led to significant corporate restructuring. Often this restructuring has involved changes such as layoffs and wage reductions that are detrimental to workers (e.g. Continental Airlines, TWA, Baxter Travenol Labs, etc.)[1] The purpose of this paper is to consider whether workers perceive these changes as a breach of an implicit contract or simply as an alteration of the terms of an ongoing non-contractual relationship.

Previous empirical studies that have tried to measure the effects of takeovers on the labor market have focused mainly on whether changes harmful to workers are more likely following a takeover. Their results differ. Brown and Medoff (1988) find little evidence that acquisitions lead to lower wages and employment. However, Shleifer and Summers (1988) cite case study evidence which suggests that hostile acquisitions can lead to substantial wealth transfers from employees to shareholders. Also, Lichtenberg and Siegel (1989) find that central office employment declines following a takeover. Finally, Pontiff, Shleifer, and Weisbach (1989) find that reversions of excess pension assets rise significantly after hostile takeovers.[2]

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[1] See "Continental Air's Bankruptcy-Law Filing is Challenged as Attempt to Break Unions" Wall St. J. Dec. 5, 1982; "TWA Attendants End 10-week Strike Without Labor Pact" Wall St. J. Dec. 5, 1982; "Baxter Travenol Labs Will Cut 5000 Jobs" Wall St. J. Dec 4, 1986.

[2] However, Mitchell and Mulherin (1989) do not find this result.

Under certain conditions these reversions are harmful to employees.[3]

Because these studies have not addressed whether these changes breach implicit contracts,[4] we would have trouble evaluating the welfare effects of takeovers even if we knew that these changes are more likely following takeovers. For instance, suppose that we find that some takeovers are profitable because the acquirer reduces employee wages. We can view this finding in one of two ways. We could assume that employees had entered into implicit contracts with firms in which they agreed to work for a lower wage in return for a more secure income. In this case we would view wage reductions with disfavor. Moreover, since the primary motivation for these takeovers was this opportunistic wealth transfer, we would also view these takeovers with disfavor. Alternatively, we could assume that employees had not contracted for greater job security. Here, a firm that reduces wages is not behaving opportunistically. It is simply trying to obtain inputs at the lowest available price. In this case, even takeovers that are profitable solely because they transfer wealth from employees to shareholders should not be discouraged. In summary, unless we know whether or not wage reductions breach implicit contracts, we can not reach any normative conclusions from observed transfers from employees to stockholders.

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[3] See Ippolito (1986) Chap. 13.

[4] Pontiff, Shleifer, and Weisbach (1989) and Shleifer and Summers (1988) are exceptions.

Unfortunately, any attempt to assess whether layoffs and wage reductions breach implicit contracts is hampered by the fact that the terms of an implicit contract are difficult for a third party to observe. If an outside party could easily observe whether a particular action breached an implicit contract, then this action could be prevented by writing an explicit contract. We can avoid this problem by treating an implicit contract as a self-enforcing unwritten understanding. An important part of the self-enforcement mechanism is transactor reluctance to enter into future implicit contracts with a firm that has broken implicit contracts in the past. Therefore, one source of information on whether layoffs and wage reductions breach implicit contracts is worker behavior towards firms that have made these changes. If workers view these actions as a breach of an implicit contract, then they would be unwilling to accept future implicit contracts from these firms.

By observing worker behavior, we can also examine one explanation of why acquirers may be better able to take actions that are harmful to employees. An acquiring management may be better able to take these actions because it can break implicit contracts without suffering as great a loss to its reputation for honoring implicit contracts. In cases where workers conclude that an acquiring management broke the acquired firm's implicit contracts, workers may disregard this behavior if the acquiring management honors its own implicit contracts. Alternatively, workers may be unable to distinguish between actions that are

opportunistic and actions that correct past mismanagement. An incumbent management making these changes is likely to be censured in either case. In contrast, an acquiring management is censured only when these actions are perceived as opportunistic. An acquiring management will not be censured for making changes needed to correct the previous management's mismanagement. If acquirers can take actions harmful to workers and escape worker censure, then acquirers that have taken these actions will be less likely to switch away from the use of implicit contracts.

This study is organized in the following manner. The first section argues that defined benefit pension plans represent an implicit contract. Thus worker reluctance to accept these pension plans suggests that they do not trust the firm. The second section discusses the data. Section three examines whether the replacement of defined benefit pension plans with defined contribution pension plans is correlated with layoffs and wage reductions. Finally, concluding comments are offered in section four.

1. Defined Pension Plans as Implicit Contracts

There are two types of pension plans: defined contribution (DC) and defined benefit (DB) plans. A defined contribution plan is essentially a tax-deferred savings account funded by employer (and sometimes employee) contributions. These contributions usually are some fraction of the worker's compensation, are tax-deductible, and can accumulate tax-free. Vesting of workers in defined contribution plans occurs rapidly. Once vested, workers

own the value of their account whether or not they remain with the firm.

Defined benefit plans also represent a tax-free savings vehicle. However, at retirement, DB plans offer workers an annuity rather than a lump-sum payment. The amount of this annuity is generally based on a worker's tenure with a firm and his average wage during the last years of this tenure. Therefore, unlike defined contribution plans, defined benefit plans offer workers insurance against the risk of outliving their savings.

Because DB plans offer this type of insurance, good risks (i.e. people who expect to die early) will not want to participate in the plan. Let us assume that information on life expectancy becomes available before a worker retires. If the good risk is not tied to the plan, he exits the plan when he receives this information. This leaves the firm providing annuities for the bad risks. Therefore, to force a pooling equilibrium, the firm must tie plan participants to the firm. The firm can do this by forcing workers to undertake firm-specific investments. Alternatively, the firm can pay workers less than their value of marginal product when they are young and more than their value of marginal product when they are old.[5] In either case, the offer of a DB plan requires some type of

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[5] Becker and Stigler (1972) and Lazear (1979) argue that these contracts also bond workers not to shirk.

implicit contract between employees and the firm.[6]

Given an implicit pension contract, a firm can act opportunistically either by firing its workers midway through their careers or by terminating their defined benefit pension plan. By doing this, a firm benefits from the lower wage costs of younger workers without accruing costly pension liabilities. For this reason, if workers distrusted a firm, they would be unwilling to accept defined benefit plans from this firm.

There are three other reasons why we might expect to see DB-DC switches correlated with layoffs and wage reductions. First, layoffs and wage reductions may signal that a firm is financially troubled. Since the full payment to workers of implicitly contracted pension wealth requires the firm's continued survival, workers may be reluctant to continue to accept defined benefit plans from financially troubled firms. Thus DB-DC switches would be more likely at firms that have become financially troubled than at other firms.

Second, wage reductions increase the probability that an employee will be able to find a better job. Thus, employees will be less likely to stay with a firm until retirement. Since defined benefit pension plans impose a loss on workers who exit

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[6] Kotlikoff and Wise (1983), Ippolito (1985,1986), Pontiff, Shleifer and Weisbach (1989) and Peterson (1989) all conclude that defined benefit pension plans represent implicit contracts. Bulow (1982) argues that DB plans do not necessarily represent an implicit contract.

the plan before retirement,[7] employees will be less likely to prefer defined benefit over defined contribution plans. For this reason we might expect that DB-DC switches would be more likely at firms that have reduced wages.

Third, the insurance and accounting costs for defined benefit plans have increased during the 1980's. In 1986, the premium the PBGC charges DB plan sponsors to insure against the risk of firm bankruptcy more than tripled to $8.50 per participant per year. Although this increase is large in relative terms it is small in absolute terms. Thus, we would expect it to have limited influence in explaining DB-DC switches. The Financial Accounting Standards Board Statement # 87 issued in December 1985 increased the accounting cost of DB pension plans. Since this additional accounting expense is spread over the participants in a plan, this extra expense may explain DB-DC switches in smaller plans at smaller firms. However, it is unlikely to explain DB-DC switches in larger plans at larger firms. The data set used in this study is comprised of larger (Compustat) firms.

Finally, a defined benefit plan sponsor can reduce pension benefits and gain access to excess pension assets by replacing a terminated DB plan with another DB plan. Therefore, DB-DC switches cannot be explained as an attempt by the sponsor to retrieve excess funds or to reduce pension benefits.

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[7] The loss from exiting the plan arises because an employee's annuity from the firm he leaves is based on his nominal salary when he leaves that firm rather than his salary at retirement.

2. The Data

The following data are needed to test whether layoffs and wage cuts increase the probability of DB-DC and DB-no plan switches: 1) a list of firms that had sponsored defined benefit pension plans as of 1980; 2) income statement data for these firms; and 3) a list of firms that have switched from a DB plan to a DC plan or from a DB plan to no plan. To see whether this relationship differs among acquiring and non-acquiring firms, a list of acquiring firms is also needed. These data have been assembled from several sources.

U.S. corporations are required to file a report (Form 5500) with both the Internal Revenue Service and the Department of Labor for each pension benefit plan they sponsor. The Department of Labor maintains this information on computer tapes. Because this information includes the type of plan, the number of employees covered, and the date the plan was established, the 1980 5500 operational tapes can be used to construct a list of firms that had sponsored defined benefit plans in 1980.

Income statement data for larger firms is listed on the Compustat database. By using the 1980 Directory of Corporate Affiliations, many of the DB pension plan sponsors were matched to parent firms listed on Compustat. By deleting those parent firms not included on Compustat, a list of Compustat firms that had sponsored DB plans in 1980 was obtained.

Two sources were used to obtain a list of DB to DC and DB to no plan switches. The Pension Benefit Guaranty Corporation

(PBGC) maintains a list of defined benefit terminations involving a reversion of at least one million dollars from 1980 until the present. After 1985, this list indicates whether the sponsor intends to not replace the DB plan, replace it with a DC plan, or replace it with another DB plan.

Prior to 1986, the PBGC does not indicate the type of replacement plan. However, the Labor Department's 1986 5500 operational tapes list the starting date, type, and number of participants for each of the pension plans sponsored in 1986. These data show that some firms that terminated a DB plan started a DC plan comparable in size to the terminated DB plan. These firms are treated as switching from a DB plan to a DC plan. These data also show that some firms terminated a DB plan without starting either a DB or a DC replacement plan of comparable size. In some of these cases it is clear that the participants in the terminated plan could not have been placed in already existing plans. For instance, the terminated plan might have had 4000 participants and as of 1986 the firm maintained one DB plan with 1000 participants. In these cases the terminated DB plan is considered to have not been replaced.

Since we are interested only in terminations caused by worker censure, those terminations that involved less than five percent of a firm's workforce were deleted. These smaller terminations may represent an attempt to reduce paperwork costs rather than a move away from implicit contracts. For example, Del Monte (which is owned by RJR-Nabisco) terminated a DB plan

with 272 participants. To treat RJR-Nabisco as a censured firm based on this one termination would be inappropriate.

Finally, a list of Compustat firms that were acquired by other Compustat firms was constructed from several sources. These sources include Grimm's Mergerstat, Mergers and Acquisitions, and Announcements of Mergers and Acquisitions (1979-1983). Since these publications report acquisitions of significant blocks of stock as well as acquisitions of entire firms, the Directory of Corporate Affiliations and the Wall Street Journal Index were used to confirm that the firm's ownership had in fact changed hands.

In these tests an acquiring firm is a Compustat firm that acquired another Compustat firm at least one-fifth its size (in annual sales). Changes in employment or wages at an acquiring firm represent changes in both the firm's acquired and initial operations. It is assumed that if an acquiring firm reduces employment the reduction occurs mainly in the acquired operations. It seems plausible that the acquiring firm would at least eliminate redundant central office staff in the acquired operations. Lichtenberg and Siegel offer some evidence that this is the case.[8] It is also assumed that an acquirer would reduce wages primarily in the acquired operations. This is consistent with theories that takeovers are disciplinary. Presumably, an acquirer would bring labor costs down in his own operations

[8] F. Lichtenberg and D. Siegel, The Effect of Takeovers on Employment and Wages of Central-Office and Other Personal, NBER Working Paper No. 2895, (1989).

before acquiring another firm for the purpose of bringing labor costs down in it.

3. Empirical Results

For the data set described above, three sets of alternative probit specifications are estimated.[9] The three equations in the first set measure the relationship between changes in employment and the probability of a DB-DC switch.

$$1)\quad TERM_{i,t}^{*} = \alpha_1 + \alpha_2 D_1 + \beta_1 EMPL_{i,t-1} + \beta_2 D_1 EMPL_{i,t-1} + \beta_3 D_2 EMPL_{i,t-1} + \beta_4 D_1 D_2 EMPL_{i,t-1} + \beta_9 CHHNGRAT_{i,t} + \epsilon_{i,t}$$

$$2)\quad TERM_{i,t}^{*} = \alpha_1 + \alpha_2 D_1 + \beta_5 EMPL_{i,t-2} + \beta_6 D_1 EMPL_{i,t-2} + \beta_7 D_2 EMPL_{i,t-2} + \beta_8 D_1 D_2 EMPL_{i,t-2} + \beta_9 CHHNGRAT_{i,t} + \epsilon_{i,t}$$

$$3)\quad TERM_{i,t}^{*} = \alpha_1 + \alpha_2 D_1 + \beta_1 EMPL_{i,t-1} + \beta_2 D_1 EMPL_{i,t-1} + \beta_3 D_2 EMPL_{i,t-1} + \beta_4 D_1 D_2 EMPL_{i,t-1} + \beta_5 EMPL_{i,t-2} + \beta_6 D_1 EMPL_{i,t-2} + \beta_7 D_2 EMPL_{i,t-2} + \beta_8 D_1 D_2 EMPL_{i,t-2} + \beta_9 CHHNGRAT_{i,t} + \epsilon_{i,t}$$

where:

$TERM_{i,t}^{*}$ - a latent variable measuring the propensity for a DB-DC switch at firm i in year t. To the degree this implies a move away from implicit contracts, it proxies for market censure. ($TERM_{i,t}^{*}$ is unobservable. What we observe is a dummy variable $TERM_{i,t}$ defined as $TERM_{i,t}$ = 1 if $TERM_{i,t}^{*} > 0$, $TERM_{i,t} = 0$ otherwise.)

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[9] I assume that all coefficients are constant and that the disturbance term captures any differences over time and across firms.

D_1 - 0,1 dummy variable for acquiring firms (1 if a firm is an acquirer, 0 otherwise). Basically this allows separate models to be estimated for the sample of acquiring firms and the sample of non-acquiring firms.

$EMPL_{i,t-1}$ - the percentage change in employment during year t-1 (also EMPL1)

$EMPL_{i,t-2}$ - the percentage change in employment during year t-2 (also EMPL2)

D_2 - 0,1 dummy variable indicating if employment increased or decreased. The reasoning for this is that a decrease in employment should be censured proportionally to the decrease. In contrast an increase in employment should not be censured at all.

$CHNGRAT_{i,t}$ - a measure of the change in a firm's debt/equity ratio. This is a proxy for worker concern that their defined benefit plan might be discontinued because the firm goes bankrupt.

The coefficients should have the following signs.

1) β_1 (EMPL1) and β_5 (EMPL2) should be negative. A decrease in employment should increase the probability that a firm is forced to shift away from the use of implicit contracts such as DB pension plans.

2) β_2 (D_1EMPL1) and β_6 (D_1EMPL2) should be positive and large enough to offset β_1 or β_5. $\beta_1 + \beta_2$ (and $\beta_5 + \beta_6$) would be roughly equal to zero if an acquiring firm can escape market censure when

it takes actions harmful to workers.

3) β_3 (D_1D_2EMPL1) and β_7 (D_1D_2EMPL2) should be positive and large enough to offset β_1 or β_5. $\beta_1 + \beta_3$ (and $\beta_5 + \beta_7$) measures the relationship between increases in employment and the probability of a switch away from DB pension plans.

4) β_4 (D_1D_2EMPL1) and β_8 (D_1D_2EMPL2) should be roughly equal to zero since $\beta_1 + \beta_2 + \beta_4 = 0$ and $\beta_1 + \beta_2 = 0$ ($\beta_5 + \beta_6 + \beta_8 = 0$ and $\beta_5 + \beta_6 = 0$).

5) β_9 (CHNGRAT) should be positive. An increase in the debt/equity ratio would increase worker concern over the threat of bankruptcy. Since the fulfillment of implicit contracts requires the firm's continued survival, an increased probability of bankruptcy should lead to a higher probability of DB-DC switches.

The descriptive statistics for the sample used to estimate these equations are presented in TABLE 1. The results are listed in TABLE 2.[10]

Both model 1, which measures the effect of changes in employment lagged one year, and model 2 which measures the effect of changes in employment lagged two years, are nested in model 3. The X^2 value of the incremental contribution of EMPL1, D_1EMPL1, D_2EMPL1, and D_1D_2EMPL1 is 3.2 (41.7 - 38.5) with four degrees of freedom. This is not significant at conventional levels. The X^2

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[10] The size of the sample was determined in large part by the availability of Compustat data. Missing observations for the debt/equity variable reduced the sample from 11156 firm-years to 3554 firm-years.

value of the incremental contribution of EMPL2, D_1EMPL2, D_2EMPL2, and D_1D_2EMPL2 is 30.7 (41.7 - 11.0) with four degrees of freedom. This is significant at the 0.05 level.

EMPL1 (β_1), D_1EMPL1 (β_2), D_2EMPL1 (β_3), and D_1D_2EMPL1 (β_4) are not statistically significant in either equation 1 or 3. These results suggest that a decrease in employment by either an acquiring or a non-acquiring firm does not significantly increase the probability of a DB-DC switch in the following year.

EMPL2 (β_5) is negative and significant in equation 2 and 3. D_2EMPL2 (β_7) is positive and significant in equations 2 and 3. This implies that a decrease in employment by a non-acquiring firm significantly increases the probability of a DB-DC switch two years later. This supports the view that workers regard layoffs as opportunistic. The two year lag between the reduction in employment and the higher probability of switching plans may occur because employees initially do not know if the reduction in employment is permanent. Thus they initially are reluctant to censure the firm.

The marginal effect of a decrease in employment can be calculated by using the point estimates of the regression coefficients and evaluating the derivative of the normal distribution at the mean values of the independent variables. An additional 10 % decrease in employment among those non-acquiring firms that had decreased employment, increases the probability of a DB-DC switch by 0.40 percent. This increase is fairly large in relative terms.

Equations 1-3 were also estimated using both DB-DC and DB-no plan switches as a measure of worker censure. The results (Table 3) are similar to the results using only DB-DC switches as a measure of worker censure. The X^2 values of the likelihood tests suggest that changes in employment lagged two years affect DB-DC and DB-no plan switches. However, changes in employment lagged one year have little affect.

There is some multicollinearity among the variables in equations 1-6. This multicollinearity stems largely from the inclusion of the slope dummy variables which indicate whether a change in employment was positive. The presence of this multicollinearity biases the tests of significance downward.

The third set of probit specifications consists of two equations which measure the impact of a decrease in wages on the probability of a DB-DC or DB-no plan switch.

1) $TERM_{i,t} = \alpha_1 + \alpha_2 D_1 + \beta_1 WAGES_{i,t-1} + \beta_2 D_1 WAGES_{i,t-1} + \epsilon_{i,t}$

2) $TERM_{i,t} = \alpha_1 + \alpha_2 D_1 + \beta_1 WAGES_{i,t-1} + \beta_2 D_1 WAGES_{i,t-1} + \beta_3 WAGES_{i,t-2} + \beta_4 D_1 WAGES_{i,t-2} + \epsilon_{i,t}$

where:

$WAGES_{i,t-1}$ - measures the percentage change in per employee compensation at firm i during year t-1 (also WAGES1)

$WAGES_{i,t-2}$ - measures the percentage change in per employee compensation at firm i during year t-2 (also WAGES2)

The descriptive statistics for the sample used to estimate these equations are presented in TABLE 4.[11]

WAGES1 (β_1) and WAGES2 (β_3) should be negative if workers perceive a decrease in compensation as a breach of an implicit contract. D_1WAGES1 (β_2) and D_1WAGES2 (β_4) should be positive if acquirers can better escape this worker censure. The results (TABLE 5) show that WAGES1 (β_1) is negative and significant in both equations 7 and 8. An additional 10 % decrease in compensation (WAGES1) among non-acquiring firms increases the probability of a DB-DC switch by 0.39 percent. This is consistent with the theory that workers regard wage reductions as opportunistic. This is also consistent with the theory that wage reductions increase the probability that a worker will find a better job and thus decrease the worker's expected tenure. As the worker's expected tenure falls, defined benefit pension plans become less attractive. The other coefficients are not significant in either equation 7 or 8. Moreover, the addition of WAGES2 and D_1WAGES2 does not significantly increase the explanatory power of the model. The X^2 value of the incremental contribution of these variables is 0.4 with 2 degrees of freedom. This is not significant at any conventional level.

4. Conclusion

This study examines two questions. First, do workers regard wage reductions and layoffs as a breach of an implicit contract.

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[11] The sample is small because Compustat contains many missing observations for the variable measuring compensation paid to employees.

Second, if wage reductions and layoffs breach an implicit contract, do workers censure acquiring managers who take these actions less severely than they censure incumbent managers who take these actions. To answer these questions, I examine whether workers are less willing to accept defined benefit pension plans from firms that have reduced wages or employment.

I find that a reduction in wages significantly increases the probability of a DB-DC or DB-no plan switch in the following year. I also find that a reduction in employment significantly increases the probability of a DB-DC switch after two years. These results are consistent with the view that layoffs and wage reductions breach implicit contracts. I find no evidence that acquiring firm managers, as compared to incumbent managers, are better able to escape a loss to their reputation for honesty when they reduce wages or employment. This suggests that if an acquirer has an advantage in breaching implicit labor contracts then either his preferences are better suited to taking these actions or his organizational structure is less dependent on the use of implicit contracts.[12]

[12] For example, the acquirer could have a legal staff that is highly skilled in writing detailed explicit contracts.

TABLE 1

Descriptive statistics for models (1-6) where reductions in employment proxy for opportunistic behavior by a firm.

(n=3554)

VARIABLE	DEFINITION	MEAN	STD. DEV.
CHNG1	- the percentage change in employment in the previous year	0.00244	0.187
D_1CHNG1	- a slope dummy variable for CHNG1 by an acquiring firm	-0.00148	0.0289
D_2CHNG1	- a slope dummy variable indicating if CHNG1 > 0	0.0504	0.148
D_1D_2CHNG1	- a slope dummy variable indicating if D_1CHNG1 > 0	0.00120	0.0182
CHNG2	- the percentage change in employment two years before	0.0124	0.197
D_1CHNG2	- a slope dummy variable for CHNG2 by an acquiring firm	-0.00118	0.0261
D_2CHNG2	- a slope dummy variable indicating if CHNG2 > 0	0.0557	0.164
D_1D_2CHNG2	- a slope dummy variable indicating if D_1CHNG2 > 0	0.00114	0.0155
CHNGRAT	- the change in (book value of debt/market value of common stock)	0.0289	0.4821

Table 2

PROBIT ESTIMATES OF THE IMPACT OF REDUCTIONS IN EMPLOYMENT ON THE PROBABILITY OF A DB-DC SWITCH

MODEL NO.	1	2	3
Intercept (α_1)	-2.48 (-27.9)*	-2.63 (-27.6)*	-2.61 (-25.7)*
D_1 (α_2)	-0.09 (-0.16)	0.42 (0.91)	-0.10 (0.13)
EMPL (β_1)	-0.14 (-0.17)		0.53 (0.59)
D_1 EMPL (β_2)	-1.19 (-0.40)		-4.01 (-0.92)
D_2 EMPL (β_3)	0.32 (0.33)		-0.53 (-0.49)
D_1D_2 EMPL (β_4)	-18.9 (-0.44)		-11.87 (-0.27)
EMPL2 (β_5)		-2.17 (-4.02)*	-2.25 (-4.06)*
D_1 EMPL2 (β_6)		34.11 (0.83)	35.37 (0.91)
D_2 EMPL2 (β_7)		2.51 (3.73)*	2.61 (3.66)*
D_1D_2EMPL2 (β_8)		-36.92 (-0.85)	-37.31 (-0.91)
CHNGRAT (β_9)	0.19 (2.16)*	0.21 (2.42)*	0.21 (2.39)*
X^2 value	11.0	38.5 *	41.7 *
degrees of freedom	6	6	10

observations

TERM = 0: 3528
TERM = 1: 26
total: 3554

t-statistics are in parentheses

* significant at 0.05

Table 3

PROBIT ESTIMATES OF THE IMPACT OF REDUCTIONS IN EMPLOYMENT ON THE PROBABILITY OF A DB-DC OR A DB-NO PLAN SWITCH

MODEL NO.	4	5	6
Intercept (α_1)	-2.35 (-30.1)*	-2.50 (-30.2)*	-2.48 (-28.1)*
D_1 (α_2)	0.29 (0.71)	0.31 (0.67)	-0.02 (-0.03)
EMPL1 (β_1)	0.24 (0.30)		0.98 (1.08)
D_1 EMPL1 (β_2)	0.44 (0.14)		-4.54 (-1.05)
D_2 EMPL1 (β_3)	0.08 (0.09)		-0.86 (-0.84)
D_1D_2 EMPL1 (β_4)	-34.78 (-0.79)		-11.40 (-0.27)
EMPL2 (β_5)		-2.07 (-4.11)*	-2.20 (-4.26)*
D_1 EMPL2 (β_6)		33.06 (0.84)	34.82 (0.95)
D_2 EMPL2 (β_7)		2.53 (4.23)*	2.66 (4.15)*
D_1D_2 EMPL2 (β_8)		-36.07 (-0.87)	-37.09 (-0.95)
CHNGRAT (β_9)	0.13 (1.44)	0.13 (1.47)	0.13 (1.44)
X^2 value	10.2	37.3 *	43.4 *
degrees of freedom	6	6	10

observations

TERM = 0: 3519
TERM = 1: 35
total: 3554

t-statistics are in parentheses

* significant at the 0.05 level

TABLE 4

Descriptive statistics for models where a decreases in wages proxy for opportunistic behavior by the firm.

(n=2833)

VARIABLES	DEFINITIONS	MEAN	STD. DEV.
CHNG1	- the percentage change in per employee compensation in the previous year	0.0764	0.0999
DCHNG1	- a slope dummy variable for acquiring firms. (CHNG1 by an acquiring firm)	-0.00002	0.0210
CHNG2	- the percentage change in per employee compensation two years before	0.0833	0.0972
DCHNG2	- a slope dummy variable for acquiring firms. (CHNG2 by an acquiring firm)	-0.0003	0.0198

Table 5

PROBIT ESTIMATES OF THE IMPACT OF CHANGES IN PER EMPLOYEE WAGES ON THE PROBABILITY OF A DB-DC OR A DB-NO PLAN SWITCH

MODEL NO.	7	8
Intercept (α_1)	-2.35 (-26.7)*	-2.32 (-20.1)*
D_1 (α_2)	-1.83 (-0.32)	-1.86 (-0.32)
WAGES1 (β_1)	-2.15 (-2.68)*	-2.20 (-2.71)*
D_1 WAGES1 (β_2)	2.15 (0.06)	2.18 (0.06)
WAGES2 (β_3)		-0.40 (-0.47)
D_1 WAGES2 (β_4)		0.41 (0.01)
X^2 value of likelihood ratio test with degrees of freedom	15.0 * 3	15.4 * 5

observations

TERM = 0:	2814
TERM = 1:	19
total:	2833

t-statistics are in parentheses

* significant at the 0.05 level

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