# Voluntary Turnover, Job Performance, Salary Growth, and Labor Market Conditions

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**Salary Growth, and Labor Market Conditions**

The importance of employee turnover control depends on many

factors, including the relative supply of replacements in either the internal or

external labor market, the amount of training invested in the employee, and

the performance level of the employee. In reference to the last factor,

several authors have argued that turnover, especially of low performers,

should not necessarily be assumed to represent a problem (Dalton, Todor, &

Krackhardt, 1982; Boudreau & Berger, 1985; Hollenbeck & Williams, 1986).

Thus, research is needed that identifies the conditions under which high

performers are most likely to voluntarily leave the organization.

However, theoretical models of employee turnover often yield no clear

prediction concerning the link with employee performance. The March and

Simon (1958) model, for example, suggests that turnover is a function of

perceived ease of movement and perceived desirability of movement.

Performance would be expected to have a positive influence on ease of

movement (actual and perceived), resulting in a higher probability of turnover

among high performers (Jacofsky, 1984).

The expected impact of performance on perceived desirability of

movement is less clear. If the organization has a strong linkage between

performance and pay, high performers should feel equitably treated and

satisfied, contributing to low perceived desirability of movement and less

probability of turnover (i.e., a negative relation between turnover and

performance). In contrast, low performers might be more likely to leave

because they could do better financially in organizations where pay was not tied closely to performance. In the latter type of organization, low performers would be more likely to stay than high performers (i.e., a positive relation between turnover and performance). The implication then is that the nature of the organization reward system is likely to be an important contingency in determining whether high performers will have a low or high perceived desirability of movement (Porter & Lawler, 1968; Steers & Mowday, 1981; Dreher, 1982; Jacofsky, 1984).

Therefore, in combining the effects of perceived ease of movement and perceived desirability of movement, the net relation between turnover and performance would be expected to be (a) positive in cases where the pay--performance relation is weak, and (b) near zero in cases where the pay--performance relation is strong, if the perceived ease and perceived desirability of movement factors offset each other.

After considering these issues, Jacofsky (1984) suggested that there will often be a curvlinear relation between turnover and performance, such that turnover is most likely among both low performers and high performers. She argued that low performers may be "pushed out" because of "actual or perceived threat of administrative action" (p. 79). Based on the discussion above, we would also expect greater turnover of a more voluntary nature among low performers in cases where rewards (e.g., promotions, within-grade pay increases) are tied to performance. In any case, Jacofsky's model seems

to imply the assumption that (positive) effects of performance on ease of movement are unlikely to be counteracted by the (negative) effects of performance on perceived desirability of movement. This assumption seems reasonable to the extent that pay and performance are not closely linked.

Thus, a central question is "What is the typical relation between pay and performance?" A common response seems to be "small" (e.g., Lawler, 1981, 1989; Teel, 1986; Milkovich & Newman, 1990; see Heneman, 1990 for a review). For example, Lawler (1989, p. 151) comments that "All too often only a few percentage points separate the raises given good performers from those given poor performers." Similarly, he mentions the problem of "topping out," which refers to the fact that many organizations use merit increase guidelines that reduce the size of the merit increase for employees higher in salary range or grade as a means of controlling costs (Milkovich & Newman, 1990). Similarly, some merit increase guidelines also reduce the frequency of within-grade pay increases for employees near the top of the range (Milkovich & Newman, 1990), further reducing the pay--performance relation.

These types of factors may contribute to the perception of a weak relation between pay and performance. A survey by the Hay Group (1984), for example, found that less than one-half of middle managers and professionals thought that "better perfomers" received "higher pay increases than average or poor performers" (p. 14). Where the perception is of a weak

pay--performance link, pay satisfaction among high performers may be low. Dyer and Theriault (1976) did, in fact, report lower pay satisfaction among high performers, although they did not report information on the nature of the reward system in their study.

Of course, merit pay increases (i.e., within-grade increases) are only one factor contributing to overall salary growth over time. Promotions (i.e., between-grade increases) are another major determinant (Gerhart & Milkovich, 1989). In fact, promotions often have a twofold effect. First, there is typically a pay increase that goes with a promotion. Second, however, the employee usually moves to a new pay grade where s/he will most likely be in a lower relative position, thus having the opportunity to earn larger and perhaps more frequent within-grade increases. Thus, the impact of performance on promotions will have significant consequences for the magnitude of the relation between performance and total pay growth.

In some cases, promotions may be more closely related to performance than are within-grade pay increases (e.g., in union or civil service jobs where within-job pay differences can be small or nonexistent). In other cases (e.g., private sector managerial and professional jobs), however, promotion decisions may be less closely linked to current and past performance than to other factors such as potential, breadth of experience, or

area of expertise.[1]    Although these can be justified as legitimate factors in

promotion decisions, high performing employees who have been passed over

and find themselves at the top of the salary range with little opportunity for

salary growth may perceive pay inequity and entertain the possibility of

leaving.  In summary, pay (and pay growth) may not always be closely

related to performance levels.  The result may be an increased risk of losing

high performers.

In addition to the reward system, a second contingency factor that

may help explain the conditions under which turnover is more likely among

high versus low performers is the condition of the labor market.  Carsten and

Spector (1987) report that high unemployment rates reduce voluntary

turnover.  In addition, job dissatisfaction and intentions to leave appear less

likely to translate into turnover when unemployment rates are high (Gerhart,

forthcoming).  Neither of these studies, however, examined whether turnover

of low and high performers was equally influenced by labor market

conditions.  One hypothesis is that low performers may not have many

attractive alternative job opportunities unless there is a shortage of workers in

the labor market.  In contrast, it may be that companies are always in the

market for "star" performers, regardless of overall employment demand in the

market or in their organization (Keller, 1984; McEvoy & Cascio, 1987).  If

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[1]Gerhart and Milkovich (1989), for example, in a sample of managerial and professional employees, found that performance was less closely linked to promotions than to overall pay growth.

so, the linkage between labor market conditions and turnover might be strongest among low performers. In contrast, turnover among high performers would be less responsive to labor market conditions.

In their meta-analysis of the relation between employee turnover and employee job performance, McEvoy and Cascio (1987) found a weighted correlation across 24 studies of -.28, suggesting that high performers were less likely than low performers to leave. But, without access to data at the individual level, McEvoy and Cascio (1987) were unable to conduct direct tests of the curvlinearity hypothesis. However, since the McEvoy and Cascio (1987) review, two studies have examined the curvlinearity issue (Jacofsky, Ferris, & Breckenridge, 1986; Mossholder, Bedeian, Norris, Giles, & Feild, 1988). Both found support for a curvlinear relation such that low performers and high performers were more likely to leave than average performers, consistent with Jacofsky's (1984) model.

Neither of these two studies, however, reported on the extent to which the two possible contingency factors identified earlier, (a) the reward system and (b) the labor market, contributed to their finding of a curvlinear relation between performance and turnover. McEvoy and Cascio (1987) attempted to examine the effect of labor market conditions, but data limitations hindered their efforts, leading them to call for future research on that issue.

The present study asks the following questions. First, which performance groups are most likely to leave an organization? Based on the

literature reviewed above, I hypothesize that:

$H_1$. There is a curvlinear relation between performance and

turnover. Specifically, turnover will be highest among low and

high performers, lower among average performers.

Second, what factors might help explain whether it is low, average, or

high performers that are most likely to leave? Alternatively stated, is the

turnover of high performers determined in the same manner as the turnover

of low performers? Based on the earlier discussion, I hypothesize that:

$H_2$. Turnover will be more strongly negatively related to pay

growth among high performers than among low performers.

$H_3$. Turnover will be more strongly positively related to labor

demand among low performers than among high performers.

To test these hypotheses, I make use of a model used in an earlier

study (Gerhart, 1990) of a different organization. That model specifies total

salary growth to be largely a function of factors measured after the time of

hire such as average performance rating and length of service with the

organization. Factors such as education and other human capital factors are

most likely to influence starting pay level, rather than long-term pay growth.

## Method

### Sample

The sample was composed of all (N = 4,946) exempt employees hired

between 1983 and 1988 who were either (a) still employed in the

organization as of January 1, 1990 (N = 3,393) or (b) had voluntarily resigned prior to that date (N = 1,221). Employees separated involuntarily were not included (N = 332). Included employees were distributed across a number of different divisions and locations, but in each case, the product or service was tied to the petroleum industry.

**Measures**

Voluntary turnover was coded 1 if the employee had resigned voluntarily as of January 1, 1990. It was coded as 0 if the employee was still employeed with the organization as of that date.

Average annual salary growth was defined as the percentage change from the starting salary to the last observed salary, divided by the time interval between the two salaries. As such, it reflects salary growth stemming from both within- and between-grade (promotion) increases. The mean amount of time between the first and last salary observations was 2.97 years. The mean annual average salary increase was 9.8% (6.1% adjusted for cost of living changes). In 1989 dollars, the mean starting salary was $28,549 and the last observed salary was $37,918. I also experimented with adjusting salary growth for inflation using the consumer price index. However, this generally reduced the relation with other factors. The likely explanation is that inflation effects were already captured through inclusion of another set of variables, year of hire dummies. These were included in all models to adjust not only for inflation, but also for the nature of the

labor market at the time each cohort was hired. In addition, the year of hire dummies control for length of service (tenure) with the organization.

Average performance rating represents the average of all performance ratings received subsequent to the hire date. In several of the models, average performance level categories were created to capture any nonlinear relations or for examining possible interactions with other variables. The performance scale ranged from 1 (lowest) to 5 (highest).

Labor Demand was measured using information available in the annual Recruiting Trends report issued by Michigan State University Placement Services (e.g., Shingleton & Scheetz, 1983). Somewhere between 600 and 1,000 organizations respond to the survey each year regarding their college recruiting practices and plans. The key question used here for assessing labor demand is "This year, what change, if any, does your organization anticipate in the hiring of new college graduates?" The responses are summarized to yield an expected percentage change in hiring plans. Moreover, responses are reported separately for different categories of employers. The data used in the present study pertain to hiring plans among employers reporting themselves to be in the petroleum industry. The construct validity of the hiring plans measure is supported by the fact that it correlated .73 ($p < .05$, one-tailed test) over a 5-year period with actual hiring in the organization studied. The correlation with separations, although not statistically significant, was also in the expected direction, -.58.

**Analyses**

Data on tenure with the organization were treated as survival (or time failure) data (Kalbfleisch & Prentice, 1980). To estimate the influence of the independent variables on the survival probabilities, a proportional hazards (PH) rate model was used (Cox, 1972). Applications of the PH model to the study of employee turnover (Morita, Lee, & Mowday, 1989) and employee absenteeism (Fichman, 1989) are available. This model is partially parametric in the following sense. It does not impose any distributional assumptions on the data. However, it does assume that hazard functions (i.e., the probability of turnover, conditional on tenure) at different levels of an independent variable are proportional to some unknown baseline function. Its advantage is that it makes use of information on survival time (i.e., tenure), rather than using a simple dichotomous turnover dependent variable.

To test for an interaction between labor demand and average performance rating in influencing turnover, the following approach was used.[2] First, hazard rates were estimated based on an equation containing only year of hire dummy variables, separately for each performance category. Second, the hazard rate function (i.e., turnover probability at each tenure level) was estimated for each year of hire cohort. Third, the year corresponding to each tenure level was identified by adding the years of tenure to the hire year.

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[2]Data on employees hired in 1988 were excluded from these analyses because there was not sufficient time for labor market demand to vary.

Fourth, the labor demand data (described above) for each year were arrayed in a matrix with the corresponding hazard rate for that potential year of leaving. Thus, the matrix for each performance category would appear as follows:

| Hire Year | Tenure | Potential Year of Turnover | Hazard Rate | Labor Demand |
|---|---|---|---|---|
| 1983 | 1 | 1984 | $h_1$ | $LD_1$ |
| 1983 | 2 | 1985 | $h_2$ | $LD_2$ |
| 1983 | 3 | 1986 | $h_3$ | $LD_3$ |
| 1983 | 4 | 1987 | $h_4$ | $LD_4$ |
| 1983 | 5 | 1988 | $h_5$ | $LD_5$ |
| 1983 | 6 | 1989 | $h_6$ | $LD_6$ |
| 1984 | 1 | 1985 | $h_1$ | $LD_1$ |
| 1984 | 2 | 1986 | $h_2$ | $LD_2$ |
| 1984 | 3 | 1987 | $h_3$ | $LD_3$ |
| 1984 | 4 | 1988 | $h_4$ | $LD_4$ |
| 1984 | 5 | 1989 | $h_5$ | $LD_5$ |
| 1985 | 1 | 1986 | $h_1$ | $LD_1$ |
| 1985 | 2 | 1987 | $h_2$ | $LD_2$ |
| 1985 | 3 | 1988 | $h_3$ | $LD_3$ |
| 1985 | 4 | 1989 | $h_4$ | $LD_4$ |
| 1986 | 1 | 1987 | $h_1$ | $LD_1$ |
| 1986 | 2 | 1988 | $h_2$ | $LD_2$ |
| 1986 | 3 | 1989 | $h_3$ | $LD_3$ |
| 1987 | 1 | 1988 | $h_1$ | $LD_1$ |
| 1987 | 2 | 1989 | $h_2$ | $LD_2$ |

## Results

The first hypothesis, that the relation between turnover and performance is curvlinear, was examined by using average performance

categories in the PH model (see Table 1). As Figure 1 indicates, the relation

does indeed appear to be curvlinear. For comparison purposes, least squares

was used to fit a line to the mean predicted values that had been derived

from the PH model. The probability of remaining employed for at least four

years initially increases with performance, but then levels off. Further, in

the highest performance rating category, survival probabilities actually

decrease. The most dramatic difference from the linear function is at the

highest performance rating category. These findings suggest that the relation

between turnover and performance in this sample is not linear, but rather is

approximated better by a curvlinear function, thus providing support for $H_1$.

One possible explanation for this finding would be a weak relation

between performance and salary growth. Table 2 reports two sets of

estimates of this relation. The first equation treats the relation between

salary growth and performance as linear. The second equation uses

performance categories to allow for a possible nonlinear relation. The

predicted values obtained from each equation appear in Figure 2. It shows

that salary growth increases rapidly at lower performance levels, but levels of

near the middle of the performance range. The salary growth predictions for

the top performance categories do not differ noticeably between the two

equations.

However, it is interesting to note that using the equation with

performance categories, predicted salary growth essentially peaks at an

average performance rating of 2.5 and then levels off. Thus, for example, there is virtually no difference in salary growth between an employee with an average performance rating of 2.5 and an employee with an average performance rating of 5.0. To the extent that high performing employees are aware of this fact, they may not feel equitably treated. These diminishing returns to performance may help explain the corresponding diminishing survival probabilities depicted in Figure 1.

As a more formal test of the possible interaction between salary growth and performance, two equations were estimated. The first contained only main effects for performance, salary growth, and the year of hire dummy variables. The second equation added terms for the cross-products of the salary growth and performance categories. Comparison of the two equations revealed a statistically significant interaction between salary growth and performance (Chi-square = 74.19, degrees of freedom = 8, p < .001).

To examine the nature of the interaction, the relation between turnover and salary growth was estimated separately for each performance category. As Table 3 indicates, the relation between salary growth and turnover is much stronger at higher performance categories, providing support for $H_2$. In other words, turnover decisions of high performers depend more strongly on their salary growth experience than do turnover decisions of low performers. This suggests that organizations need to be especially concerned with equitable salary growth among its top performers.

The third hypothesis, that performance and labor market conditions interact to determine turnover, was tested by examining the relation between hazard rates and labor demand as a function of performance category. As Table 4 indicates, the highest correlations between labor demand and turnover occur among employees in the four lowest performance categories. The lowest correlations occur among employees in the two highest performance categories. In other words, labor demand influences turnvover of low performers more strongly than the turnover of high performers, supporting $H_3$.

## Discussion

The present findings suggest that the relation between employee performance and employee turnover is best examined in the context of factors such as the performance contingency of the reward system and labor market demand. I found evidence to suggest that in cases where there is little differentiation between high and average performers in salary growth, there may be an increased risk of losing the top performers. In addition, high performers, unlike low performers, may have alternative job opportunities even in times of relatively low labor market demand.

Moreover, the present findings may understate the potential effects of the reward system on turnover among high performers in other settings. The petroleum industry is known as a high pay level industry. For example, Hay Group (1986) reported that the petroleum industry paid its middle managers

18% above the all-industry average. Given this high pay level, it is possible that high performing employees placed less emphasis on internal comparisons than they might have in an organization where average pay was lower. In the latter organizations, high performers would perhaps be more likely to experience inequity, based on both internal comparisons and external comparisons across industries. The result in such cases could be even higher relative turnover among high performers.

The influence of labor market conditions may have also been related to factors somewhat specific to the petroleum industry. Based on Bureau of Labor Statistics data, total employment in the United States grew approximately 20% over the 1983 to 1989 period. In contrast, combined employment in the petroleum and chemicals industries decreased by approximately 28%. Thus, during the period studied, the general level of alternative job opportunities was small for those employees staying within the petroleum and chemicals industries.

It is difficult to know what effects the low labor market demand might have had on the results of the present study. For example, pressure on low performers to leave "voluntarily" may have been higher than usual. On the other hand, based on the finding that turnover among high performers is relatively independent of labor market conditions, there may have been little impact on the results for higher performers.

Future research using data from multiple organizations would permit an examination of whether differences in the performance contingency of pay corresponds to differences in the performance levels of leavers. Our research (Gerhart & Milkovich, forthcoming) clearly demonstrates that organization pay strategies differ significantly, particularly in terms of how pay is delivered (e.g., relative emphasis on base and bonus pay). Thus, it seems likely that pay-performance relations may similarly differ. It would be useful to see if the implication of the present study, that weaker pay for performance relations increase turnover among high performers, could be replicated using that type of multiple organization data set.

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TABLE 1. Voluntary Turnover and Average Performance Rating,
Proportional Hazard Rate Estimates

|  | Coeff. | SE |
| --- | --- | --- |
| Average Performance = 1.0 | 2.796** | .159 |
| Average Performance = 1.5 | 1.333** | .160 |
| Average Performance = 2.0 | 1.170** | .073 |
| Average Performance = 2.5 | -0.196* | .091 |
| Average Performance = 3.0 | —— | —— |
| Average Performance = 3.5 | -0.719** | .128 |
| Average Performance = 4.0 | -0.339* | .159 |
| Average Performance = 4.5 | -0.562 | .451 |
| Average Performance = 5.0 | 0.905* | .358 |
| Chi-square | 693 | |
| Degrees of Freedom | 13 | |

N = 4,946

Note: Equation also includes dummy variables for year of hire.

Performance ranges from 1 (lowest) to 5 (highest).

* p < .05    ** p < .01

TABLE 2.  Average Annual Salary Growth and Average Performance Rating, Regression Estimates

| | Equation 1 | | Equation 2 | |
|---|---|---|---|---|
| | Coeff. | SE | Coeff | SE |
| Average Performance | .0134** | .0011 | | |
| Average Performance = 1.0 | | | -.0547** | .0025 |
| Average Performance = 1.5 | | | -.0353** | .0057 |
| Average Performance = 2.0 | | | -.0175** | .0019 |
| Average Performance = 2.5 | | | .0046** | .0020 |
| Average Performance = 3.0 | | | ---- | ---- |
| Average Performance = 3.5 | | | .0070** | .0023 |
| Average Performance = 4.0 | | | .0059* | .0030 |
| Average Performance = 4.5 | | | .0115 | .0075 |
| Average Performance = 5.0 | | | .0211 | .0030 |
| Intercept | .0511 | .0038 | .0903 | .0025 |
| $R^2$ | .0678 | | .0860 | |

N = 4,946

Note:  Equation also includes dummy variables for year of hire. Performance ranges from 1 (lowest) to 5 (highest).

* $p < .05$    ** $p < .01$

TABLE 3. Voluntary Turnover and Average Annual Salary Growth, by Average Performance Rating, Proportional Hazard Rate Estimates

|  | Salary Growth Coefficient | Number of Observations |
|---|---|---|
| Average Performance = 1.0 | -10.38*** | 77 |
| Average Performance = 1.5 | -16.78** | 101 |
| Average Performance = 2.0 | -14.37*** | 1247 |
| Average Performance = 2.5 | -13.16*** | 1084 |
| Average Performance = 3.0 | -25.17*** | 1708 |
| Average Performance = 3.5 | -16.40*** | 666 |
| Average Performance = 4.0 | -38.69*** | 327 |
| Average Performance = 4.5 | -85.36* | 45 |
| Average Performance = 5.0 | -66.60* | 23 |

N = 5,278

Note: Equation also includes dummy variables for year of hire.
Performance ranges from 1 (lowest) to 5 (highest)
* p < .05    ** p < .01   *** p < .001

**TABLE 4.** Correlation between Hazard Rate and Labor Demand, by Average Performance Rating

|  | Correlation of Hazard Rate and Labor Demand |
|---|---|
| All Performance Categories | .433[t] |
| Average Performance = 1.0 | .503[t] |
| Average Performance = 1.5 | .494[t] |
| Average Performance = 2.0 | .474[t] |
| Average Performance = 2.5 | .469[t] |
| Average Performance = 3.0 | .378 |
| Average Performance = 3.5 | .316 |
| Average Performance = 4.0 | .433[t] |
| Average Performance = 4.5 | .234 |
| Average Performance = 5.0 | .298 |

Note: Statistical tests of correlations are based on sample sizes of either 17 or 18. The sample sizes for estimating the hazard rates within each performance category are based on samples ranging from 12 to 921 employees. Performance ranges from 1 (lowest) to 5 (highest)
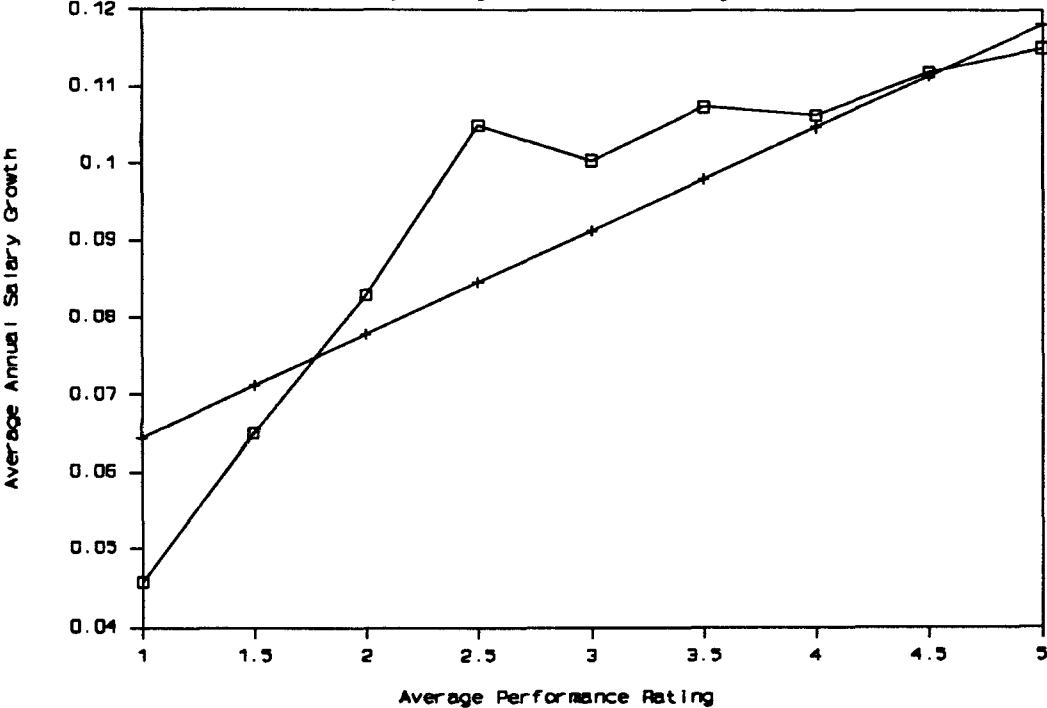
t $p < .05$, one-tailed

# Figure Captions

Figure 1. Probability of Remaining Employed for at Least Four Years as a Function of Average Performance Rating

Figure 2. Average Annual Salary Growth as a Function of Average Performance Rating

# Average Annual Salary Growth

By Average Performance Rating



Average Annual Salary Growth

Average Performance Rating

# Probability of Remaining Employed

## 4 Years from Hire



Average Performance Rating

Probability of Remaining