Economic, Psychological, and Sociological Determinants of Voluntary Turnover

CHARLES W. MUELLER* AND JAMES L. PRICE
University of Iowa

ABSTRACT: Economists, psychologists, and sociologists have all contributed to the understanding of voluntary labor turnover. We argue for an integrated explanatory model which incorporates variables from each perspective. Such a model is presented and then estimated. Data from a cohort of 135 recently hired registered nurses employed by a university hospital are analyzed to assess the effects of the various explanatory variables on turnover during one year of employment. Turnover is measured by organization records for 12 months following the administration of the questionnaire designed to measure the independent variables. The integrated model portrays the work conditions, environmental conditions, and employee characteristics as primarily affecting turnover by impacting on the intervening variables of job satisfaction, organizational commitment and intent to stay. Ordinary least square (OLS) regression and logistic regression are used in the analysis. The data indicate support for sociological, economic, and psychological determinants of voluntary turnover. These findings are discussed from the perspective of Etzioni's claims about the importance of the moral dimension for explaining economic behavior such as turnover.

INTRODUCTION

Voluntary turnover, the movement across the membership boundary of an organization that is initiated by the employee[27] has for some time been a topic of considerable theoretical and empirical concern to economists.

*Direct all correspondence to Charles W. Mueller, Department of Sociology, University of Iowa, Iowa City, IA 52242.

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More recently, organizational and industrial psychologists have challenged the strict economic explanation by developing models that key more on employee orientations and the decision making processes that lead to turnover. The late comers to this enterprise have been the sociologists, who utilize most of the explanatory concepts of the economists and psychologists, but who also add and emphasize structural variables associated with the work setting and environment. The most recent addition to this growing body of literature comes not so much from a particular discipline, but from a different perspective on what underlies economic behavior. This perspective is proposed by Etzioni,[7] who questions the validity of the rational model of economic behavior and argues that morality, emotions, and social bonds must be included as causal factors in explaining economic behavior.

As sociologists, our primary objective in this paper is to suggest and put to test a model of voluntary turnover that is a synthesis of economic, psychological, and sociological perspectives. Our secondary objective is to examine and interpret our findings from the perspective Etzioni proposes.

We begin by presenting the rudiments of the economic, psychological, and sociological models of voluntary turnover. Our integrated model is then presented and is followed by a review of Etzioni's argument as related to our turnover model. Following the presentation of the findings, we will discuss them in light of Etzioni's claims about the moral dimension.

THE DOMINANT THEORETICAL PERSPECTIVES

The Economic Model

For the economist, the employee's decision about leaving or staying is the result of a rational cost-benefit assessment.[5,13,21,22,30,33] If the benefits to costs ratio of staying with an organization outweigh the same ratio at another place of employment, the employee will not leave the current organization.

Critical to this model are the concepts of pay, job market, and training. Although the major component of pay is cash income, fringe benefits are a part of the decision-making calculus. The dominant proposition underlying the economic model is that high pay (a benefit) in the current place of employment will reduce turnover. For the employee, the job market, which is created by the interaction of supply and demand forces in the economy, refers to the availability, attractiveness, and attainability of employment in other organizations. The availability refers mainly to the number of external opportunities, whereas the attractiveness is defined primarily by the pay levels of such opportunities and attainability refers to whether the employee has the skills required on the job. Thus, from the perspective of the employee, a "good" job market is one where there are numerous higher paying jobs for which the employee is qualified. Such conditions should

produce greater turnover. The importance of training is related to both the pay and job market components. Training is thought of in terms of a specific to general continuum. If the employee has knowledge and skills specific to a particular organization, then the productivity of that organization will be increased by retaining that employee. Since the costs of this organization-specific training is often borne by the employer, this investment will more likely be protected by paying the employee well, which in turn, will reduce the turnover likelihood. General training, on the other hand, usually not paid for by the employer, makes the employee more easily replaceable, but also more attractive to other employers who assume the general training makes them adaptable to new work situations. In short, the generally trained employee should experience greater turnover.

This neoclassical model, although still the dominant paradigm in economics, has not been left unchallenged. The idea of internal labor markets is especially notable with respect to turnover.[6,14,32] Internal labor markets exist when there are promotion hierarchies, entry limited to lower level ports, and advancement based on increased knowledge and responsibilities.[1] Such markets, it is argued, are created rationally by employers to reduce employee turnover. This literature, unlike that representing the neoclassical model, has not produced comprehensive causal models to explain turnover, however.[11]

The Psychological Model

Organizational and industrial psychologists stress employee orientations.[16,18,19,23,31] Employees enter organizations with expectations (orientations) about how the organization should be operated and how the organization should treat them. When these expectations are not met, the employee's job satisfaction and organizational commitment levels will be lowered and the employee will leave. (Henceforth, job satisfaction and organizational commitment will be termed satisfaction and commitment, respectively.)

The cost-benefit perspective of the economists appears in the psychological model, but is usually conceptualized in terms of rewards and punishments.[18] For example, while economists assume that all employees expect good pay, psychologists stress individual variations in expectations about pay. Thus, depending on expectations, the same level of pay may be viewed as highly rewarding to one employee but not to another. Psychological models also consider job markets and to a limited degree, training, but they are not the cornerstone of this tradition.

Another way of conceptualizing turnover psychologically has its origins in a particular version of the commitment literature.[15,17,28] With the emphasis on explaining behavioral commitment, the binding of the person to behav-

ioral acts, these scholars identify factors that are supposed to make the behavioral act more binding. Stated in terms of turnover, the argument is that the commitment to the act (decision to accept the job) will be greater and less likely to result in turnover when the act is more explicit, more important, irrevocable, made public to friends and relatives and based on a decision when there were large numbers of options. In the remainder of the paper we will refer to behavioral commitment as intent to stay.

The Sociological Model

Although the classic tradition in sociology is the study of social mobility (see Blau and Duncan[2] for a review), which often involves changing employers, this tradition has its origin in the study of stratification and has not resulted in theories or research to explain why individuals leave particular places of employment for others. Such an interest has come only recently by organization scholars.[4,24,25,26] This tradition draws from the literatures of economists and psychologists but is unique in emphasizing the structural conditions of the work setting, such as the nature of work and the distribution of power (see also Granovetter's[9] discussion of embeddedness).

The economists' variables of pay, labor market, and training are all a part of sociologists' model. Pay is viewed as part of the sanction system used by the organization to motivate compliance with its rules and regulations. Examples of other motivating work conditions are nonroutinized work, the sharing of power, membership in cohesive work groups and so forth. The job market is viewed by sociologists as a structural condition created by other work organizations and as such, is an important environmental determinant of turnover. Sociologists' interest in organization promotion ladders is consistent with the study of internal labor markets, while training is important from a social mobility perspective as an investment people make to further their careers.

Based on the social psychological specialty within the sociological tradition, satisfaction and commitment are viewed as important variables that intervene between the structural conditions and the decision to leave. Sociologists usually do not treat met expectations directly, however. As with economists, it is assumed that all employees expect reasonably higher rewards for their work.

AN INTEGRATED MODEL

The model we estimate comes primarily from the sociological tradition, but as indicated, includes determinants from the economic and psychological traditions. From the economists we consider pay, objective supply/demand features of the local labor market, the employee's perception of the external opportunity structure and general training. From the psychologists we

include a number of variables we refer to as "pre-entry variables"; these are the determinants of intent to stay referred to in the above review and all take the initial employment decision as the referent. These pre-entry variables are the explicitness of the decision, the publicity of the decision with respect to friends, the range of volition (choice) available when the decision was made, and the extent to which external constraints affected the choice. As another pre-entry variable we include the employee's statement about whether they will be in the community for only a limited time. The employee orientations of satisfaction, commitment, and intent to stay are also included. Whereas the economic variables and pre-entry variables are considered to be exogenous factors, satisfaction, commitment and intent to stay are expected to intervene between the exogenous variables and turnover.

Exogenous determinants that come more from the sociological tradition may be categorized as structural features of the work setting, employee characteristics, and environmental constraints. The structural variables capture the employee's relationship to the work setting as well as the patterns of social interaction. These include routinization, autonomy, feedback, work group cohesion, work load, and task identity. Employee characteristics include work motivation and professionalism, both of which are assumed to be relatively stable value orientations. Environmental determinants capture the variables outside the place of employment that impinge on the turnover decision. In addition to the external opportunity structure, we include kinship responsibility and community participation, both of which are expected to reduce the likelihood of turnover.

THE MORAL DIMENSION

Etzioni[7] argues that the neoclassical paradigm of rationally based economic behavior should be challenged and replaced by a more realistic and valid mode of thinking. This new image should result in theories that make morality, emotions, and social bonds important explanatory variables. He argues that employees make normative commitments and undertake affective involvements that cannot be accounted for by the imposition of means-ends schema. Our task is not to argue for or against this position at this time, but instead it is to reflect on the integrated turnover model just presented and argue that it does include a number of variables that are consistent with Etzioni's claims, thus allowing for an empirical assessment, albeit limited, of his claims.

Commitment, which we define as loyalty, clearly captures more than a view that the organization is a means to meeting a need for gainful employment and steady income. The items used to measure this concept illustrate that loyalty and attachment to the organization are what is being captured. Three similar concepts also reveal more than a simple means-ends logic. These are work motivation, task identity, and professionalism. The first is a

work ethic concept and captures the employee's dedication to work. Task identity reflects the employee's total involvement in the production process and taps part of what Marxists refer to as alienation. Finally, professionalism captures the employee's dedication to his or her occupational professional. The measures of these variables reveal that terms such as involvement, emotional attachment, commitment, right and wrong, rather than rational, expedient, and calculating best describe the content of these concepts.

The pre-entry variables also represent the kinds of factors Etzioni has in mind. At the time the decision to take the current job is made, factors such as the importance and degree of effort put into making the decision to take the job (explicitness), the degree to which friends knew about taking the job (publicity), the range of other opportunities to choose from and the external constraints associated with taking the job, all represent factors that can be expected to influence intent to stay, which in turn affects how long the employee will voluntarily maintain employment. In sum, those variables, measured at the time of employment, capture the degree to which the employee feels the decision is important, feels he or she has control of the decision making, and makes the decision known to friends.

Finally, there are three variables in the integrated model that capture the degree to which the employee has established social bonds that will affect the chances of voluntarily leaving. These are the degree of community participation, kinship responsibility, and work group cohesion. Community participation should reduce the likelihood of leaving the community and thus reduce turnover. Kinship responsibility within the community of employment will also place constraints on the employees and, thus, operate to decrease the likelihood to turnover. Since we can expect positive social interaction among members of a work group to increase job satisfaction, we expect group cohesion to indirectly reduce turnover. Consistent with Etzioni's claims, these variables capture the normative constraints produced by the social bonds one forms in the community, family, and work place. His argument suggests that when such bonds exist, the rational calculus of weighing other opportunities on the basis of pay differences, skill qualifications, and competition for the jobs may not be operative.

DATA AND METHODS

Data

The data come from a study[17] of all registered nurses who began working for a large midwestern hospital between the months of June 1983 and October 1984. Each month the entering cohort of new nurses was brought into the study. Three hundred fifty nurses were asked to participate and 273

completed both parts of a survey administered at the time of entry. Surveys were administered again at six and twelve months. These surveys included measures to capture the explanatory variables, while the hospital recorded turnovers as voluntary or involuntary.

The analysis reported here attempts an explanation of the turnover of nurses during the sixth to eighteenth-month period following their entry to the hospital. The pre-entry variables are measured at the time of employment while all others are measured at six months after employment, and thus are measured just before the twelve-month period during which turnover behavior is recorded. By six months, these employees will have adjusted to the work environment and their responses to questions about satisfaction, commitment, task identity, and so on, should more validly and reliably represent the variables of interest to us.

We have 135 cases after eliminating respondents with missing data and limiting our sample to full-time female staff (nonsupervisory) nurses who responded to all questions at the six-month survey time and to questions measuring the pre-entry variables at the time of entry.

While this particular sample and design has the limitation of restricted variance on most variables—there is only one occupation and all cases represent an entering cohort with the same length of tenure—it is this feature that allows us to rule out several competing hypotheses. First, studying one occupation in the same local labor market controls for the supply-demand factors that would produce differential turnover for employees with different occupations. In short, since these nurses face similar labor market conditions, within-occupation variables that explain why some nurses stay and others leave can be better isolated. Second, studying just recently hired employees removes the known impact of tenure.

Measures

Turnover, the dependent variable in the study, is measured by hospital records and is coded as one for voluntary leaver and zero for stayer and refers to the twelve-month period of employment described above.

In many instances established scales are used to measure the variables from the various perspectives. Routinization, autonomy, feedback, and task identity are measured by the Job Characteristics Inventory.[29] Satisfaction is measured by the Brayfield-Rothe satisfaction scale,[27] and commitment is measured by the Porter Scale[20]. Work motivation is measured by the Hackman and Oldham[10] internal work motivation scale.

Pay is current annual salary. Both perceptual and objective measures of the external opportunity structure are included. Perceived external opportunity is measured by three items about how easy it would be to find another job, whereas the objective measure is the mean number of nurses on the

"wait list" over the period during which turnover can occur. Although only newly entered nurses are studied, they actually began employment at different times from June 1983 through October 1984 and thus experienced somewhat different labor market conditions.

Kinship responsibility is measured as suggested by Blegan, Mueller, and Price,[3] and is a composite that includes data about marital status, number of children, and contact with relatives in the local area. Community participation is measured by summing responses to a number of questions about the degree of participation in voluntary associations such as church, bridge club, rotary, and parent teacher association.

General training is measured by the type of nursing degree; diploma is coded as 1, associate as 2, baccalaureate as 3, and masters as 4. Professionalism is measured by ten Likert-type items designed specifically for this study to capture the employee's dedication to the profession of nursing. Intent to stay also is measured by items created specifically for this study. These are five Likert-type items measuring the nurse's beliefs about how long they plan to stay with the hospital. Work group cohesion is measured by a seven-item Likert-type scale developed for this study. It includes items about the degree of friendship that exists, level of enjoyment found in working with others, and the degree to which one can turn to others for help.

The pre-entry variables are unique to this study and are measured by a series of Likert-type items. Explicitness is measured by three items about how important the decision was and how certain about the decision the nurse felt. Publicity regarding friends is measured by two items about the degree to which friends knew about the decision. Volition regarding external constraints is measured by three items capturing the extent to which external constraints, such as the economy, affected job acceptance. Volition with respect to range of choice is measured by six items about number of jobs considered, applied for, interviewed for, seriously considered, and turned down. Finally, the person's expectations about length of employment at the time of entry is measured by a single item asking if the person and spouse are in the community for only a limited time. It is coded as one for yes and zero for no and is labeled as "leaving plans" in the tables.

Descriptive data about the measures are presented in Table 1. When scales are based on three or more components, Cronback alphas are given.

Analysis Strategy

Consistent with the integrated model, we examine each intervening variable as a dependent variable, until we reach turnover as the variable of primary interest. Since satisfaction, commitment, and intent to stay are all continuous variables, ordinary least squares (OLS) multiple regression is used to

Table 1: Descriptive Data for Variables Used in the Analysis

	No. of Items	*Range*	*Alpha*[b]	*Mean*	*Std Dev*
Structural characteristics of the work setting					
pay	1	Actual	—	19368	1091
routinization	5	1–5	.80	2.69	.54
autonomy	6	1–5	.84	2.98	.48
feedback	5	1–5	.94	2.98	.48
work group cohesion	7	1–5	.86	3.86	.59
workload	3	1–5	.59	3.36	.66
task identity	4	1–5	.90	3.28	.82
Environmental constraints					
job opportunities (perceived)	3	[a]	.49	.03	.70
nurses' wait list	1	Actual	—	118	27
kinship responsibility	3	0-4	—	1.11	1.02
community participation	10	10–21	—	12.23	2.11
Employee characteristics					
human capital					
general training	1	1–4	—	2.53	.75
pre-entry variables					
work motivation	3	1–7	.72	6.42	.60
professionalism	10	1–5	.82	3.91	.51
leaving plans	1	1–5	—	.14	.34
publicity-friends	2	[a]	—	.18	.74
volition-range	6	[a]	.80	.18	.70
volition-external	3	1–5	.49	3.14	.69
explicitness	3	1–5	.48	3.73	.64
orientations					
job satisfaction	18	1–5	.88	3.71	.45
organizational commitment	15	1–7	.92	4.57	.88
intent to stay	5	1–5	.82	2.75	.74
Turnover	1	0–1	—	.07	.26

Notes: [a]Z-scores are used in the scale construction.
[b]Reliabilities are not reported for 1- or 2- item scales, or scales which add the number of occurrences, for example, kinship responsibility.

estimate the effects of causally prior variables. OLS regression is inappropriate for the dichotomous variable of turnover, however. Here we use a logistic regression model.

As a final comment, it is important to stress that the longitudinal nature of the research design facilitates testing many of the causal influence claims of the model. Turnover is measured during a time period following the measurement of all explanatory variables. This is essential if one is to avoid the numerous biases associated with identifying those who have left and asking them why they left. In addition, the pre-entry variables are measured at the time of employment, thus ensuring that they have not been contaminated by experiences associated with the work itself.

RESULTS

Table 2 presents the OLS and logistic regression results when the model is estimated. Each of the intervening variables is regressed on the exogenous variables and the intervening variable(s) that precede it. As expected, satisfaction is positively affected by work group cohesion, task identity, and work motivation (see Table 2, Eq. 1). We also observe that job satisfaction is reduced when the nurse perceives a favorable external labor market and when pay is high. Only the negative effect of pay poses interpretation problems, as will be discussed in a later section.

Two equations for commitment are estimated (Eqs. 2 and 3). The first is the reduced form equation that excludes the intervening variable satisfaction. It shows that feedback, work group cohesion, and the explicitness of the entry decision all have the expected positive effects on commitment. As with satisfaction, outside job opportunities and pay have negative effects, with only the former being expected. Once satisfaction is included in the equation (Eq. 3), this negative pay effect is reduced substantially, as is the positive effect of work group cohesion. Satisfaction now dominates this equation, as the model would suggest.

Intent to stay is also regressed on the exogenous variables, with and without satisfaction and commitment as intervening variables (see Eqs. 4 to 6). We find rather strong support for the economist's variables of external opportunity structure and general training; those who perceive the greatest opportunities and those who have had the most general training are less likely to intend to stay. These two effects remain, even after controls for satisfaction and commitment. Work group cohesion and work motivation have the expected positive effect on intent to stay (Eq. 4) but are mediated by satisfaction (Eq. 5). Finally, we find that the explicitness of the employment decision has the expected positive effect on intent to stay but is mediated by commitment.

The logistic regression equation (unstandardized coefficients) which regresses turnover on all causally prior variables (Eq. 7), shows that when the supply of nurses is high (number on the wait list), turnover declines, but also that those who previously indicated an intent to stay are those who actually are more likely to stay.

DISCUSSION AND CONCLUSIONS

There are at least two meaningful strategies we could take in interpreting these results. One involves drawing conclusions about the relative importance of economic, psychological, and sociological explanatory variables. The other involves interpreting the results from Etzioni's moral dimension perspective that stresses the nonrational components. We do both.

Table 2: OLS Regression and Logistic Regression Results[a]

	Dependent Variable						
	Satisfaction	*Commitment*		*Intent to Stay*			*Turnover*
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Structural characteristics of the work setting							
pay[c]	−.30[b]	−.26[b]	−.14[b]	−.15[b]	−.08	−.03	.28
routinization	−.07	−.13	−.10	.12	.14	.17[b]	−.12
autonomy	.06	−.02	−.04	.02	.00	.01	−.13
feedback	.08	.22**	.19*	.10	.08	.02	−.43
work group cohesion	.29***	.15*	.03	.17*	.09	.09	.05
workload	.04	.01	−.00	.13	.12	.12	.25
task identity	.16*	.06	−.00	.11	.07	.07	−.28
Environmental Constraints							
job opportunities (perceived)	−.15*	−.24***	−.18*	−.28***	−.24**	−.18*	−.21
nurses' wait list	.00	.08	.08	.04	.04	.00	−.02*
kinship responsibility	.03	.03	.02	.08	.07	.07	.19
community participation	−.05	−.04	−.02	−.09	−.08	−.07	.11
Employee characteristics							
human capital							
general training	−.00	−.05	−.05	−.20*	−.20*	−.19*	.31
pre-entry variables							
work motivation	.34***	−.01	−.15[b]	.18*	.10	.14	.28
professionalism	.03	.05	.04	.07	.06	.05	.13
leaving plans	.01	−.02	−.03	−.04	−.05	−.04	−.45
publicity-friends	−.00	−.04	−.04	−.14[b]	−.14[b]	−.12	−.28
volition-range	.05	.06	.04	.05	.04	.03	−.10
volition-external	.10	.08	.04	.05	.03	.01	−.03
explicitness	−.05	.16*	.18*	.17*	.18*	.12	−.12
orientations							
job satisfaction	—	—	.40***	—	.24*	.12	.01
organizational commitment	—	—	—	—	—	.30**	.38
intent to stay	—	—	—	—	—	—	−.32**
$R^2/\bar{R}^2$	.54/.46	.43/.33	.50/.41	.36/.25	.38/.27	.43/.32	—

Notes: [a]When satisfaction, commitment, and intent to stay are the dependent variables, the coefficients are standardized regression coefficients. When turnover is the dependent variable, the coefficients are metric logistic regression coefficients. All tests are one-tailed.

[b]The coefficient is significant, but in the wrong direction.

[c]The logistic regression coefficient is multiplied by 1000.

*$p < .05$ **$p < .01$ ***$p < .001$

The findings suggest that any model of turnover that does not include explanatory variables from economic, psychological, and sociological traditions will be misspecified. The importance of the two economist-derived variables of external opportunity structure and training is clearly shown. Perceptions of the opportunity structure operates through satisfaction, commitment, and intent to stay, while general training increases the likelihood of turnover, but indirectly through intent to stay. In addition, the supply of nurses in the local labor market also negatively affects turnover, as would be expected. The more sociologically based variables of work group cohesion and task identify have positive effects on turnover by first increasing satisfaction. As implied by the above, the psychological variables of satisfaction, commitment, and intent to stay are critical as mediating variables. The data are consistent with the assumed causal process of satisfaction affecting commitment, which in turn affects intent to stay. Finally, two of the pre-entry variables operate as expected. The explicitness of the decision to take the job indirectly affects turnover through commitment and intent to stay. Also, the most motivated nurses are the most satisfied and this is translated into an intent to stay, which in turn reduces turnover.

This summary of findings suggests support for Etzioni's claims about nonrational and noneconomic determinants of economic behavior. First, finding that the social bonding a person develops on the job (work group cohesion) indirectly reduces turnover is consistent with the importance Etzioni claims for social bonds. Second, the binding of the person to the behavioral act of joining this particular organization has an impact on the decision to leave—the more explicit this decision was the more likely the person is to stay. Third, the fact that the dominant direct determinant of turnover, intent to stay, is directly and indirectly influenced by noneconomic variables, is supportive of Etzioni's claims.

The major anomaly in our findings, the negative impact of pay on satisfaction, commitment, and intent to stay, requires some comment. First, a review of 16 years of research on turnover at the University of Iowa[12] finds that pay commonly is related to satisfaction in an unexpected manner. Second, the interaction checks suggested by proponents of the met expectations tradition could not be made, thus not allowing us to determine if pay has the expected effect only when it is considered important to the employee. Third, several persons associated with the hospital being studied suggested that this negative relationship really represents differences in experience. The argument is that the more experienced nurses (thus, with the highest pay) have gone through the era of low pay and little respect for nursing and they are the ones who are the least satisfied with their jobs; thus pay is negatively correlated with satisfaction. We were able to introduce a crude control for experience (data not shown) and found the negative effect

of pay was slightly reduced. However, a more appropriate control would be for the nurse's belief about distributive justice. Price and Mueller[26] argue that employees who see themselves as not being fairly paid are the ones most likely to leave. A check of this logic was not possible, however, since distributive justice was not measured in this study.

A final comment of the data used in this analysis is necessary. There are clearly two reasons for the relatively small number of variables from the integrated model having significant effects. First, the sample size is small, thus resulting in low statistical power. Second, by restricting the analysis to one occupational group in one hospital, the variance of many of the variables, especially the structural variables is greatly reduced. Therefore, we argue that the results reported here should not be used as the basis for eliminating variables in future turnover studies. Our objective was to demonstrate that explanatory variables from the economic, psychological, and sociological traditions are all important in explaining turnover. We believe we have demonstrated this. In addition, however, this research has demonstrated that it is fruitful to think of a number of these variables as representing what Etzioni has called the moral dimension. By recognizing this nonrational dimension and conceptualizing the explanation of turnover with it in mind, we should produce a more complete understanding of turnover.

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