Managerial Reward Allocations: a Test of Freedman and Montanari's Model.

Jeanne Michele Russell
Louisiana State University and Agricultural & Mechanical College

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Managerial reward allocations: A test of Freedman and Montanari's model

Russell, Jeanne Michele, Ph.D.
The Louisiana State University and Agricultural and Mechanical Col., 1987
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MANAGERIAL REWARD ALLOCATIONS:  
A TEST OF FREEDMAN AND MONTANARI'S MODEL

A Dissertation
Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
in
The Department of Psychology

by
Jeanne Michele Russell
B.S., University of Southern Indiana, 1982
M.A., Louisiana State University, 1984
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Abstract

A part of Freedman and Montanari's (1980) managerial reward allocation model was examined in the present study. The hypotheses focused on two categories of antecedent variables, organizational and managerial, and on the dependent variable of choice of mode of reward allocation. They were tested utilizing questionnaire data collected from 155 managers in eleven financial institutions. The only hypothesis that was confirmed related managerial pay increase goals to the choice of reward allocation mode. In order to test the relative importance of different managerial and organizational variables in determining the mode of reward allocation mode, stepwise regression analyses were performed for each reward allocation mode. The results of the stepwise regressions suggested that: (a) organizational variables and managerial variables interact to influence the choice of reward allocation mode, and (b) there was no consistent relationship between any two sets of predictors for any one mode. Overall, the results indicated that the relationships between single variables and reward allocation modes were less strong than in previous laboratory studies. However, when managerial and organizational variables were considered simultaneously, a number of significant relationships were found. The results also pointed to a strong need for refinement of measurement of reward allocation modes so that continued examination of the reward allocation process using Freedman and Montanari's (1980) model can be profitable.
Managerial Reward Allocations: A Test of Freedman and Montanari's Model

Managerial reward allocations are a major concern to organizations because of their impact on employee behavior and organizational effectiveness (Freedman & Montanari, 1980). Until recently there has been no integration of the disjointed research concerning managerial reward allocation behavior. Freedman and Montanari (1980) have attempted to fill this gap by proposing a comprehensive model of the process. No research efforts have been directed toward testing the numerous relationships hypothesized by their model to affect managerial reward allocation decisions. Therefore, the purpose of the present research is to provide a test of a portion of their model.

The Freedman and Montanari Managerial Reward Allocation Model

Freedman and Montanari's model is reasonably complex. Unfortunately, they do not provide a summary figure of the model. Such a figure, which should lead to a better understanding of their model, has been devised by this author (See Figure 1). This figure will now be used to explain their model in detail.

As Figure 1 indicates, the major components of the model are antecedent variables, choice of reward allocation mode, reward level decision, and decision outcomes. The focus of the present research will be two antecedent variables, organizational variables and managerial variables, and the choice of mode of reward allocation.
ANTICIPATORY VARIABLES

ENVIRONMENTAL
- Federal/state regulations
- General economic conditions
- Labor market
- Comparable wage rates
- Minimum wage requirements
- Outside job offers

ORGANIZATIONAL
- Reward policies
- Existing pay and reward structure
- Salary budget
- Organizational demographics

MANAGERIAL
- Managerial goals
- Managerial criteria (existing pay and reward structure)
- Beliefs about employee motivation
- Reward allocator characteristics

SUBORDINATE
- Inputs to the organization
- Individual characteristics

MODE OF REWARD ALLOCATION
- Equity
- Equality
- Need
- Winner-take-all
- Self-interest

REWARD LEVEL DECISION
- 1a
- 1b

DECISION OUTCOMES
- Employee satisfaction
- Employee performance
- Standard for the reward level
- Standard for the mode of allocation

Figure 1. Summary figure of Freedman and Montgomery's model of reward allocations.
An explanation of each component of the model and a summary of the literature relevant to the portions of the model which will be tested follows.

**Antecedent Variables**

Antecedent variables are classified into four categories: environmental, organizational, managerial, and subordinate.

**Environmental Variables**

Managerial reward allocation decisions occur within a broad dynamic environmental context. Several environmental factors are proposed to affect the decision process: general economic conditions, the labor market, comparable wage rates in other organizations, minimum wage requirements, and outside job offers. Since environmental variables will not be included in the present research, they will not be reviewed any further.

**Organizational Variables**

Freedman and Montanari include several organizational variables in their model: reward policies, existing pay and reward structure, salary budget, and organizational demographics. Since organizational variables will be investigated in this research, a comprehensive review of the literature concerning each of these variables follows.

**Reward policies.** Organizational goals of the reward allocation and pay secrecy are elements of organizational reward policies. The effects of stated organizational goals of the reward policies on allocation decisions have been investigated mainly in the context of equity theory. This research indicates that greater rewards are allocated to poor performers when allocators are given the goal of
motivating the workers to their highest performance than when they are told to reward employees as fairly as possible (Greenberg, 1978b; Greenberg & Leventhal, 1976; Leventhal & Whiteside, 1973). The tendency to refrain from allocating low rewards to poor performers has been found in other studies concerning organizational goals (Leventhal, Michaels, & Sanford, 1972; Leventhal, Weiss, & Long, 1969; Murdoch, 1967; Thibaut & Gruder, 1969). As indicated by these studies, this tendency may be due to allocators' fears of negative effects on employees, such as reduced motivation to improve performance, dissatisfaction and retaliation, or turnover.

Other organizational goals have been examined. For example, when the allocator's instructed goal is to keep high performers and weed out poor performers rather than to retain all employees, low performers receive lower rewards (Landau & Leventhal, 1976). Furthermore, when the stated goal is to avoid the possibility of conflict within the group, poorer performers are rewarded more highly, and at the higher performer's expense, than when the possibility of group conflict is not to be considered (Landau & Leventhal, 1976).

From the above research it is clear that stated organizational goals should influence the manager's reward allocation behavior. However, the literature involving organizational goals is deficient in several respects relative to the reward allocation process. First, having been conducted in laboratory settings, the above research may not be generalizable. In these studies, one organizational goal has been explicitly stated. Clearly, an
organization may have multiple goals toward which a manager must strive, such as retaining or eliminating certain employees, minimizing conflict, or improving employee performance. Extending the research to an organizational setting presents an opportunity to assess the manager's reactions to multiple organizational goals.

The effects of pay secrecy, a prevalent policy in organizations, on pay decisions have been discussed by Lawler (1976). He conceived of pay secrecy as allowing managers to make pay decisions with more freedom since they do not have to explain to employees why certain allocations were made. Lawler also notes that open pay policies may be counterproductive by leading the manager to make equal allocations so that the threat of having to explain an unequal pay decision is minimized. Laboratory research has generally shown that pay secrecy influences managerial reward allocation decisions. When only the experimenter or non co-worker was aware of the subject's allocation decisions, which is similar to conditions of a pay secrecy policy in an organization, equity was the preferred mode of allocation. Further indicated by this research was that when co-workers were aware of the subject's allocation decisions, similar to open pay policy in an organization, equality was preferred (Leventhal, et al., 1972; Reis & Gruzen, 1976).

The interpretation of the effects of pay secrecy policies on reward allocations is further complicated, however, when other variables are considered as moderators. Kidder, Bellettirrie, and Cohn (1977) found that for male and female allocators, allocation decisions vary when the decision is to be made public or to be kept
anonymous. Males allocated rewards based on inputs (equitably) when the decision is public, and divide rewards equally when the decision is anonymous. Females respond in the reverse direction. Equality is chosen by females in the public condition, and equity is chosen in the anonymous condition. Hence, norms consistent with sex roles are followed in public decisions, and violated in anonymous decisions. Freedman and Montanari (1980) infer from Kidder et al.'s findings that in organizations where pay secrecy is the policy, allocators will tend to violate organizational reward norms, while when an open pay policy exists, the allocator will adhere to organizational reward norms.

Existing pay and reward structure. Freedman and Montanari (1980) include reward norms of the pay system and the criteria which managers use in reward decisions as factors contributing to the existing pay and reward structure.

Reward allocations are guided to some degree by the normative structure of the organization's pay system (Wiggins, 1966). As equity theory researchers suggest, managers may refer to the salary levels and pay raises of some referent source for obtaining information on reward norms (Adams, 1963, 1965; Goodman, 1974). Various referent sources may be used for comparison. The employee's own pay level is one referent source. Research has indicated that employees whose performance or merit ratings are viewed as being disproportionately higher than their salaries are rewarded a higher raise than those employees whose performances or merit ratings are perceived as disproportionately lower than their salaries (Birnbaum,
The norms of others' pay levels may also be a referent source. For example, the manager's own reward level has been found to be used as a precedent for subordinate allocations (Goodman, 1975). Furthermore, employees may be compared with their peers in the organization. Birnbaum (1983) found that when comparing employees with equal merit but unequal salaries, allocators perceive the lower paid employee to be deserving of a higher raise. Based on the research involving reward norms, allocation decisions appear to be influenced by the recipient's current pay level, as well as others' current pay levels.

Organizational criteria for reward allocations are also considered to be part of the existing pay and reward structure. Some of the most commonly researched organizational criteria include length of service (seniority), education and experience, responsibility, level and quality of job performance, effort on the job, scarcity of skills in the labor market, the nature of the job, increases in pay levels inside and outside the organization, and cost of living (Dyer, Schwab, & Theriault, 1976; Lawler, 1966). Great fluctuations between and even within organizations in the types and rankings of criteria used in the reward allocation decision are expected (Freedman & Montanari, 1980). Therefore, it is first necessary to define which criteria the organization considers to be relevant to the reward allocation decision.

Salary budget. The salary budget of the organization is hypothesized by the model to influence a manager's reward allocation decisions. If the budget does not allow the manager sufficient funds
to allocate rewards appropriately based on performance on organizational criteria, then the manager may be faced with the ambiguous task of allocating rewards based on guidelines which are no longer applicable to the situation. Here, the question becomes one of determining the impact or salience of budgetary constraints in organizational reward allocations.

Even though Fossum and Fitch (1985) found budgetary constraints to be considered second only to performance when making reward allocations, research on insufficient reward funds, or scarcity, has been somewhat limited. Researchers found that in allocating insufficient monetary rewards, allocators considered and responded to the needs of the recipient (Greenberg, 1979; Leventhal & Weiss, 1975, cited in Greenberg, 1981). Other research involving allocation of insufficient rewards found that male and child allocators who divided monetary rewards between themselves and their co-workers for performance on a task tended to retain more rewards for themselves in the insufficient condition than they did in the sufficient condition (Coon, Lane, & Lichtman, 1974; Lane & Messe, 1972). Research considering abundant or oversufficient reward pools is practically as scant. In a laboratory setting, Lane and Messe (1972) found a tendency for males to keep more rewards for themselves in oversufficient conditions than in sufficient conditions.

Due to the nature of the task, however, the results of the studies concerning insufficient and oversufficient reward pools are generalizable to an organizational setting only in situations where managers must allocate rewards to themselves as well as their
subordinates out of the same pool. In order to better understand the use of scarce and abundant reward pools in organizations, it will be necessary to extend the research to situations in which rewards are to be allocated among subordinates only.

Organizational demographics. Only a small amount of research has considered organizational demographics. Size of the organization and industry type have been found to influence salary levels (Rock & Sym-Smith, 1977). With regard to size, employees of larger organizations have been found to have higher average salary levels than employees of smaller organizations (Rock & Sym-Smith, 1977). Furthermore, larger organizations will rely more heavily on rules and procedures than will smaller organizations due to their tendency toward bureaucratization (Hall, 1972; Pugh, Hickson, Hinings, & Turner, 1969).

In summary, organizational variables as presented in this model may mediate the reward allocation decision process.

Managerial Variables

Freedman and Montanari include several managerial variables in their model: personal goals and criteria, beliefs about employee motivation, and reward allocator characteristics. The research on these four managerial variables will now be presented.

Managerial goals and criteria. The possible managerial reward allocation goals are identical to those presented as possible organizational reward allocation goals. To reiterate, the goal of the reward allocation may be to reward employees as fairly as possible, to retain all employees or high performing employees, to
motivate employees to higher performance, to weed out poor
performers, or to minimize conflict within the work group. Each of
these goals when pursued by the manager will have different effects
than will organizational goals on the reward allocation decision.
The reward allocation decision will be further complicated when the
manager is striving to fulfill multiple personal goals in the reward
allocation.

There is some research exploring the criteria which managers
utilize in allocation decisions. One study found that managers tend
to use pay increase criteria for subordinates which are consistent
with the criteria used in making their own pay increase decisions
(Goodman, 1975). A later study indicated, however, that managers
evaluating subordinates weight performance-based criteria more
heavily than criteria which they perceive to be used in determining
their own pay (Dyer et al., 1976). It appears that some
clarification is needed of which criteria managers use in evaluating
their subordinates for reward allocations.

Beliefs about employee motivation. Freedman and Montanari
suggest that managers will most often try to tie rewards to
performance in such a way that employee motivation will be maximized.
However, the motivational strategy to which managers adhere may vary.
They note that when attempting to motivate employees, managers may
choose to adhere to different motivational strategies, for example
equity theory (Adams, 1965), expectancy theory (Vroom, 1964), or
reinforcement theory (Skinner, 1969). The bases of these theories
are different and, thus, will be briefly outlined.
In expectancy theory, people are presumed to prefer certain outcomes over others and expect satisfaction upon achievement of the preferred outcomes. Essentially, a person is motivated toward an action to the extent that the outcome of that action is desirable, or positively valent, and likely to be achieved. The manager's job, therefore, is to increase the subordinate's instrumentality to reach a goal (high performance), present positively valent outcomes (rewards), and raise the expectancy of achievement of the outcomes in such a way that the desired goal of high performance is attained (Vroom, 1964).

Reinforcement theory has been reformulated by Hamner (1974) for the organizational context. Essentially, the manager is responsible for reinforcing certain behaviors at a high frequency so that those behaviors (high performances) are strengthened and intensified, and eventually occur with greater frequency. The manager can make use of positive and negative reinforcers, punishment, and a variety of reinforcement schedules to increase the chances of occurrence of the desired performance (Hamner, 1974).

Equity theory (Adams, 1965) is based on a comparison of the ratio of an individual's inputs (e.g., performance) to outcomes (rewards) to some referent other's inputs to outcomes ratio. Equity is perceived when these ratios are equal or proportional. When the relationship between these ratios becomes unequal or disproportional, inequity is perceived. Since inequity may affect performance negatively (see Goodman & Freedman, 1971 for a review), the manager's
goal is to maintain equitable relationships so that inequity is avoided and performance is maximized.

In summary, since the bases of these three motivational theories are different, it is expected that a manager's adherence to a motivational belief will influence his or her reward allocation behavior. In light of the different behaviors which may result, Freedman and Montanari presume that the motivational theory to which the manager adheres will differentially influence the reward allocation decision.

**Reward allocator characteristics.** Various individual characteristics of the manager have been examined as moderating factors in the decision-making process. For example, sex of the allocator has been fairly extensively researched (Austin & McGinn, 1977; Callahan-Levy & Messe, 1979; Landau & Leventhal, 1976; Larwood & Moely, 1979; Leventhal & Lane, 1970). The most consistent finding was that female allocators allocate more generously and take less reward for themselves (Austin & McGinn, 1977; Lane & Messe, 1971; Leventhal & Lane, 1970). However, some factors have been found to moderate sex differences in reward allocations, such as public versus private allocation decisions (Kidder, et al., 1977), and the expectation of future interaction with the recipient (Austin & McGinn, 1977; Greenberg, 1978a; Leventhal, Weiss, & Buttrick, 1973; Leventhal & Whiteside, 1973). Therefore, the sex of the allocator appears to affect reward allocation decisions differently when considered in conjunction with other variables.
Freedman and Montanari note other characteristics of the manager, such as intelligence, achievement, and values (Bass, 1968), Protestant Ethic scores (Greenberg, 1979; MacDonald, 1972), and nationality (Gergen, Morse, & Gergen, 1980; Mikula, 1974; Moscovici, 1973), which may also moderate the reward allocation decision process. Further investigation is needed in a setting which allows consideration of the effects of reward allocator characteristics in conjunction with other variables on the reward allocation decision.

Subordinate Variables

Two major categories of subordinate variables are hypothesized to influence the reward allocation decision process: employee inputs to the organization, such as performance, length of service, education and experience, the amount of responsibility and pressure experienced on the job, and effort, (Dyer, et al., 1976; Lawler, 1966), and individual characteristics of the employee, such as sex (Terborg, 1977) and age (Rosen & Jerdee, 1976). Since subordinate variables will not be included in this research, they will not be reviewed further.

Mode of Reward Allocation

Managers will determine a distribution rule or principle to use for simplifying their reward allocation decisions. According to the model, equity, equality, need, winner-take-all, and self-interest are possible allocation rules or principles from which the manager may choose. A review of these allocation modes follows.
Equity

Equity is believed by some researchers to be the allocation principle most likely to be dominant in economic situations, such as organizational reward allocations (Deutsch, 1975; Leventhal, 1976a). As proposed by Adams (1965), equity theory is concerned with the perception of fairness in a social exchange between a person and some other. As discussed earlier in this paper, individuals, through a process of social comparison of one's input to outcome ratio to some referent other's input to outcome ratio, evaluate the fairness or equity of situations. In an organizational setting, inputs may include such variables as education, tenure, ability, skill, the degree of voluntary control one has over inputs, and performance quality (Larwood, Levine, Shaw, & Hurwitz, 1979). Quality of performance has been found to be most important in equity considerations (Dyer, et al., 1976; Fossum & Fitch, 1985).

Equitable allocations are intended to improve or at least maintain performance by matching rewards to input or performance levels (Bales, 1950; Porter & Lawler, 1976; Leventhal, 1976b). This strategy is based on the idea that unless high rewards are foreseeable, high inputs are unlikely (Deutsch, 1975). Laboratory tests of the equity norm are supportive in that individuals who report a preference for an allocation of rewards in proportion to inputs tend to allocate in a manner which is consistent with the equity norm (e.g., Lane, et al., 1971; Leventhal, et al., 1972), particularly when the differences between high and low performers are greater (Elliott & Meeker, 1982). However, the tendency toward
equitable allocations may wane if allocators foresee a high probability of anti-productive competition (e.g., Deutsch, 1953), if allocators need to immediately improve poor performers, or if allocators prefer not to risk that employees will react against a perceived inequity (e.g., Homans, 1961; Lawler, 1971). Therefore, while equity may be expected to be the most dominant allocation mode in organizational settings, there are obviously factors which arise that may cause the reward allocator to prefer an alternative mode of allocation.

Equality

Equality distributions are expected to be favored when harmonious relations and solidarity among group members are desired, or when enjoyable social relations are the goal (Bales, 1955; Deutsch, 1975; Morgan & Sawyer, 1967; Sampson, 1975). When decision making becomes increasingly problematic and difficult, such as when the allocator is trying to achieve several goals simultaneously, the ease of using the equality principle may often be the factor which determines the use of this rule (Leventhal, 1976b; Harris & Joyce, 1980). There is some evidence that when performance differences are quite noticeable, the difference in reward allocations between high and low performers is not proportional to the size of performance differences; however, allocators still refrain from complete equality (Leventhal, et al., 1972).

Need

Distributing rewards based on the legitimate needs of individuals will be the dominant allocation mode "in cooperative
relations in which the fostering of personal development and personal welfare is the primary goal" (Deutsch, 1975, p. 146). The tendency toward allocations based on need is intensified in situations where the recipient is legitimately dependent on the responsible allocator, or in a relationship characterized by a caring-orientation (Deutsch, 1975). Allocators who were involved in friendship relationships with the recipients allocated more rewards to the needier individuals (Lamm & Schwinger, 1980). In this study, however, females favored equitable allocations regardless of need when social relationships could be damaged by unequal allocations which favored the needier recipient.

**Winner-Take-All**

In the winner-take-all (WTA) exchange, only one person receives reward. Research results indicate that while equity and equality are preferred over WTA, WTA is more acceptable to recipients when part of their pay is through a WTA exchange, when others suggest that WTA is acceptable, or when the basis of pay is uncertain (Larwood & Blackmore, 1977; Larwood, Kavanaugh, & Levine, 1978; Larwood, et al., 1979). This allocation is most likely to occur under bonus or extra compensation conditions where no actual managerial decision making is involved. For example, a winner has successfully accomplished the stated conditions of performance, i.e., sold the most cars. Therefore, no managerial decision is involved in the reward allocation.
**Self-Interest**

Managers may also allocate rewards based on self-interest, that is, in such a way that maximizes their own pay. Research in the laboratory indicates that subjects allocate proportionally more rewards to themselves in insufficient and oversufficient reward conditions than in sufficient conditions (Lane & Messe, 1972). Reis and Gruzen (1976) suggest that in situations where reward allocations are completely confidential, and hence the motivation to allocate in a socially approved manner is absent, self-interest allocations are more likely to occur. Self-interest allocations, however, are only relevant to organizational reward allocations when managers are responsible for allocations to subordinates as well as themselves.

In summary, different allocation modes are utilized by managers with the expectation that decision making will be simplified. Regardless of which mode or allocation rule the manager employs, each is predicted to result in a different reward level decision for the same employee (Freedman & Montanari, 1980).

**Reward Level Decision**

The reward level decision involves a manager's decision concerning the specific amount of pay increase that will be allocated to an employee. The manager's decision about the reward allocation level is hypothesized by the model to be determined by both the antecedent variables and the reward allocation mode employed by the manager. Different reward level decisions may result from managers using different modes of reward allocation. The decision made by the manager will influence decision outcomes.
Decision Outcomes

The managerial reward allocation model predicts that several factors will be affected by the reward allocation decision. Freedman and Montanari include employee satisfaction, employee performance, and the standard for the reward level decision as being influenced by the reward level decision. The standard mode of reward allocation is influenced by the mode of reward allocation.

Satisfaction

The relationship of rewards to employee satisfaction has been extensively discussed (e.g., Dyer, Schwab, & Fossum, 1978; Lawler, 1971). In fact, research has indicated that pay level is a good predictor of pay satisfaction (Dyer & Theriault, 1976; Lawler & Porter, 1966; Schwab & Wallace, 1974).

Lawler (1981) has summarized the past pay satisfaction research into four conclusions that indicate factors which may moderate the reward-pay satisfaction relationship. First, people are satisfied with their pay when they receive the amount that they feel they deserve (Locke, 1976), rather than when they are underpaid or overpaid (Adams, 1965). A second conclusion is that people's pay satisfaction is influenced by a comparison of their rewards to others' rewards (Patchen, 1961). A third conclusion is that dissatisfaction with pay often results from misperceptions. This conclusion is based on evidence which shows that people tend to underestimate what others do in their jobs, and overestimate what others are paid (Lawler, 1972). Finally, overall job satisfaction will be determined by the balance of extrinsic to intrinsic rewards.
which the employee receives (Lawler, 1971; Quinn & Staines, 1979). Therefore, excessively high pay does not compensate for poor working conditions, and a favorable work environment does not compensate for very low pay.

In summary, rewards have been shown to be related to and to even predict satisfaction by a number of researchers. It appears that employees are satisfied when their pay is the deserved amount, is comparable to relevant others' pay, is accurately perceived with respect to others' pay, and is balanced with non-financial rewards.

Performance

A considerable amount of research relating rewards to subsequent performance has been done in the equity theory context. This research has generally involved manipulating overreward or underreward.

Several reviews have concluded that underrewarded subjects attempt to increase their outcomes in order to restore equity (Carrell & Dittrich, 1978; Goodman & Friedman, 1971). While the majority of laboratory studies support underreward predictions of equity theory, the results in the field are not conclusive (e.g., Keaveny & Allen, 1983; Lord & Hohenfeld, 1979).

The laboratory research on overreward is less supportive of equity theory (Carrell & Dittrich, 1978). Early overreward research has been criticized on methodological grounds (e.g., Pritchard, 1969). Recent research, however, has indicated that overreward may be effective in improving worker performance (Garland, 1973; Greenberg & Leventhal, 1976), or perhaps employee perceptions of what
is equitable are modified to incorporate a higher threshold, i.e., one that is closer to the employee's payment (Locke, 1976). As noted by Carrell and Dittrich (1978), the way individuals resolve overreward inequity has not been satisfactorily shown.

In summary, while a considerable amount of research has investigated the relationship of rewards to subsequent performance, these studies have been primarily based on equity theory. Researchers have pointed out that other factors besides equity are important in understanding the influence of rewards on subsequent performance (Mahoney, 1979), such as relating specific rewards to specific performance levels, and communicating this relationship to employees (Wallace & Fay, 1983). As Freedman and Montanari (1980) point out, by considering the effects of all the components of their model, a greater understanding of the relationship of rewards to subsequent performance should be achieved.

Standard for the Mode of Allocation and the Reward Level

The mode of reward allocation employed and the reward level decision are considered to be outcomes of the decision process in that these factors serve to set standards for future reward allocation decisions (Freedman, 1986). That is, the currently employed mode of reward allocation will serve as a standard for the allocation mode employed in future decisions. Likewise, the current reward level decision will serve as a standard for the reward level decision in future reward allocation decisions. The relationship of these standards to future decisions will be discussed in a later section of this paper which explains the model's feedback loops.
An Explanation of the Managerial Reward Allocation Model

The Reward Allocation Decision Process

At the first stage of the model, the four categories of antecedent variables are hypothesized to interact with each other, as represented by the bi-directional arrows between each category. Some configuration of antecedent variables is then predicted to influence the choice of the mode of reward allocation employed by the manager (1a). The mode of reward allocation is expected to have a direct effect (2) on the reward level decision. Furthermore, this configuration of antecedent variables should directly influence the reward level decision (1b).

The decision outcomes of employee satisfaction and performance are hypothesized to be directly influenced (3a) by the reward level decision. In addition, the standard for the mode of reward allocation and the standard set for the reward level decision are determined by the current mode of reward allocation and the current reward level decision (3a, 3b), respectively.

Feedback Loops

Decision outcomes will feedback into the reward allocation decision process, thus influencing future decision making. First, employee satisfaction, employee performance, and the standards set by the mode and level of reward allocation each feedback into future decision making by interacting with antecedent variables (4a). As Freedman and Montanari explain, several effects can occur in this interaction. For example, organization policy modifications may be a necessary response to decision outcomes such as employee
dissatisfaction or reduced performance. Furthermore, the norms of the existing pay and reward structure may be modified based on the standards set by the mode and level of reward allocation in the previous decision. Freedman and Montanari also suggest that environmental variables, such as inflation rates, may be affected by the reward allocation standards.

Decision outcomes are hypothesized to influence the manager's future choice of mode of reward allocation (4b), as well as influencing future reward level decisions made by the manager (4c). A complete understanding of the managerial reward allocation model, including the feedback loops, clarifies the importance of the circularity of the decision making process. The outcomes of past decisions interact with current conditions to influence the present decision and its outcomes. The cycle repeats as these outcomes serve as input to future managerial reward allocation decision making.

Present Research

Since a comprehensive test of this model is beyond the scope of any one study, the focus here is on selected portions of the model. Of the model's four antecedent variables, two of these, organizational variables and managerial variables will be examined.

Managerial variables are essential in that the manager is the focal decision making person in the reward allocation decision process. While the manager is likely to have some degree of independence and discretion in the allocation of rewards, he or she
is responsible for the implementation and enforcement of organizational reward policies and procedures. Thus, organizational variables are included in this study in an effort to understand how they moderate the effects of the managerial variables in the reward allocation decision process.

Environmental variables and subordinate variables will be excluded in this study. The broad range and the dynamic nature of environmental variables prohibits their inclusion in a study of limited magnitude. The individualistic nature of subordinate variables is prohibitive in that their inclusion would both exceed the scope and limit the generalizability of the results of this study.

Previous research on organizational and managerial variables has been deficient in that most studies have incorporated only one or a few categories of variables (e.g., Austin & McGinn, 1977; Bass, 1968; Fossum & Fitch, 1985). Therefore, the relative importance of a number of antecedent variables on the reward allocation decision has not been tested, and conclusions cannot be made. This study will extend the investigation of variables previously considered in the laboratory to an organizational setting. The primary purpose of the present research is to assess the relative importance of the organizational and managerial variables in the choice of reward allocation mode (see Figure 2). Included in this assessment will be several hypotheses concerned with the influence of specific organizational and managerial variables on this portion of the model.
Figure 2: Fraction of Freeman and Montanari's model which will be tested.
Organizational Variables

Several hypotheses have been generated with respect to organizational variables. These hypotheses along with their supporting literature will now be presented.

Hypothesis 1: The organizational goal of the reward allocation will influence the manager's choice of reward allocation mode.

Hypothesis 1A: Equity is expected to be the manager's choice of allocation mode when reward of performance is the main organizational goal.

This hypothesis is based primarily on laboratory research in which equity was the preferred mode of allocation. That is, lower performers received lower rewards, when the stated goal of the reward allocation was to keep high performers and to weed out low performers (Landau & Leventhal, 1976). The purpose of this hypothesis was to extend laboratory findings regarding equity to a field setting.

Hypothesis 1B: Equality will be the manager's choice of allocation mode when organizational effectiveness is dependent upon cooperative and harmonious work relationships.

Deutsch (1975) and Leventhal (1976) have suggested that equal reward allocations will be made in a unit where cooperation is necessary for high performance; however, no research exists to support this notion.

Hypothesis 1C: When multiple organizational goals become salient, a mode other than strict equity will be preferred. Laboratory studies in which modes of reward allocation other than equity were chosen when the goals were to motivate higher
performance (e.g., Greenberg, 1978b) or to minimize conflict (Landau & Leventhal, 1976) provide the rationale for this hypothesis. This hypothesis serves as a test of laboratory findings in a field setting.

Hypothesis 2: The fluctuation of the pay increase budget will influence the choice of mode of reward allocation.

This exploratory hypothesis extends earlier laboratory research involving oversufficiency, sufficiency, and undersufficiency of reward funds (e.g., Lane & Messe, 1972) by considering situations where allocators are not recipients of the allocated rewards, and by considering the effects of reward fund sufficiency on the choice of mode of reward allocation.

Managerial Variables

Several hypotheses have been generated with respect to managerial variables. These hypotheses along with their supporting literature will now be presented.

Hypothesis 3: The managerial goal of the reward allocation will influence the manager's choice of mode of reward allocation.

Freedman and Montanari (1980) predict that managerial goals for the reward allocation may differ from organizational goals for the reward allocation, yet will still influence the choice of mode of reward allocation.

Hypothesis 3A: Equity is expected to be the manager's choice of allocation mode when individual performance is the main managerial goal.
As in Hypothesis 1A, laboratory research in which equity was the preferred allocation mode when the stated goal of the reward allocation was to keep high performers and weed out low performers (Landau & Leventhal, 1976) provides the basis for this hypothesis.

**Hypothesis 3B**: Equality will be the chosen allocation mode when cooperative and harmonious work relationships are important to work group effectiveness.

Leventhal (1976) and Deutsch (1975), in a conceptual paper, have suggested that equal reward allocations will be made in a unit where cooperation is necessary for high performance; however, no research exists to support this notion.

**Hypothesis 3C**: When multiple goals become salient, a mode other than strict equity will be preferred.

Laboratory studies in which modes of reward allocation other than equity were chosen when the goals were to motivate higher performance (e.g., Greenberg, 1978b), or to minimize conflict (Landau & Leventhal, 1976) provide the rationale for this hypothesis.

**Hypothesis 4**: Managers who weight performance based criteria most heavily are hypothesized to choose equity as an allocation mode more frequently than equality or need.

The finding that performance is most important in equity decisions (Dyer et. al, 1976; Fossum & Fitch, 1985) is expected to be replicated in this study.
Interaction of Organizational and Managerial Variables

One comprehensive hypothesis has been generated with respect to the effect of the interaction of organizational and managerial variables.

Hypothesis 5: Managerial and organizational variables will influence the mode of reward allocation. Specifically, managerial and organizational variables will be differentially related to the manager's choice of the allocation modes of equity, equality, and need.

This exploratory hypothesis provides a comprehensive test of the portion of Freedman and Montanari's model which predicts that managerial and organizational variables will influence the reward allocation decision process. Specifically, it tests the relationship between managerial and organizational variables and the first step in the decision process, the choice of mode of reward allocation by determining the relative importance of each of the managerial variables and organizational variables in predicting the choice of reward allocation mode.
METHOD

Subjects

The sample consisted of 155 managers, ranging from president to branch manager from 11 financial institutions. Seven of these were located in the southeast (n= 12; n= 9; n= 35; n= 50; n= 7; n= 38; n= 35), two in the southwest (n= 14; n= 3), and two in the midwest (n= 50; n= 3) United States. The sample was approximately 46% female and 54% male. The average age of the managers was 38.6, and the average length of employment in their current position was 4.6 years. Of the managers, 9.3% completed high school, 6.0% completed an Associate/Technical degree, 32.2% completed some college, 23.4% completed a college degree, 15.4% completed some graduate training, 12% completed a Master's degree, and 0.6% completed a Ph.D. degree. In addition, 47.7% of the sample held some type of bank officer position, and 52.3% of the sample held nonofficer or branch manager positions. Pay increase decisions were made on the average every 12 months.

Procedure

The author contacted either the personnel director, human resources director, or president of each financial institution to obtain permission to conduct the study. Data were collected on company time, with the questionnaires being distributed to individual managers either directly by the researcher, or by the personnel/human
resource director of each institution if that was preferred by the contact person at the institution. Participation in the study was voluntary.

The purpose of the study, to determine the factors which managers consider when making pay increase decisions, was explained to all participants in the cover letter. In addition, confidentiality was ensured by asking participants not to place their name on the questionnaire, and to forward the questionnaire directly to the author in the provided envelope (See Appendix A). In two institutions, however, the personnel director or president preferred that the questionnaires be collected at a central point (the personnel office), and returned collectively to the author. Confidentiality was still ensured by having respondents return their questionnaires to the personnel office through inter-office mail, sealed in the envelope provided.

Of the 256 questionnaires distributed, 155 were returned, indicating a 60.1% response rate. Missing data for some items resulted in elimination of questionnaires from some correlations, while 15 questionnaires were excluded from stepwise regression analyses due to missing data.

Independent Variables

Two types of independent variables were measured, organizational variables and managerial variables. The organizational variables which were measured included organizational goals for pay increases, pay secrecy, organizational criteria for pay
increases, pay increase budget, and organizational demographics. Managerial variables which were measured included managerial goals for pay increases, beliefs about employee motivation, managerial criteria for pay increases, and managerial demographics. With the exception of the items used to measure organizational criteria for pay increases and managerial criteria for pay increases, all measures were constructed by the author. Items were pretested on a sample of 12 managers for understandability and applicability. Detailed descriptions of each of these variables follows.

Organizational goals for pay increases. (See Appendix B). In this three-item measure, the manager allocated a total of seven points among three statements indicating how well the statements described the organization's goals for the pay increase. The statements reflected a goal of rewarding high performance, a goal of rewarding cooperative and harmonious relationships, and other goals which the manager was to describe in his or her own words.

Table 1 presents the percent of total points allocated to each of three possible organizational goals for pay increases. Reward of performance was obviously the most frequent choice of organizational goal for pay increases, with approximately 52% of the managers weighting it with five or more of seven possible points. Conversely, approximately 95% of the managers weighted the goal of rewarding cooperative and harmonious work relationships with less than five of the possible seven points. Due to very low percentages of subjects who chose the goal categories of "rewarding cooperative and harmonious relationships" (5.3%) and "other goals" (6.6%),
Table 1

Percent of Total Points Allocated to Each of Three Possible Organizational Goals for Pay Increases

<table>
<thead>
<tr>
<th>Goal</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward high performance</td>
<td>9.2</td>
<td>9.3</td>
<td>3.9</td>
<td>9.2</td>
<td>22.4</td>
<td>30.9</td>
<td>5.9</td>
<td>15.1</td>
</tr>
<tr>
<td>Reward cooperative and harmonious</td>
<td>25.0</td>
<td>10.5</td>
<td>36.8</td>
<td>18.4</td>
<td>3.9</td>
<td>1.3</td>
<td>.7</td>
<td>3.3</td>
</tr>
<tr>
<td>relationships</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other goals</td>
<td>77.6</td>
<td>2.6</td>
<td>5.9</td>
<td>5.3</td>
<td>2.0</td>
<td>.7</td>
<td>.0</td>
<td>5.9</td>
</tr>
</tbody>
</table>
correlations using these two categories would not be meaningful. Therefore, in order to make interpretation of results more simple and meaningful, the data on this measure were collapsed into two categories. Subjects were placed in the first category, representing primary importance being placed on the goal of rewarding high performance, if five or more points were allocated to this goal. Subjects were placed in the second category if they allocated greater than four points to either the goal of rewarding cooperative and harmonious work relationships or other goals. This second category represented goals for the pay increase which were other than that of rewarding high performance.

**Pay Secrecy.** (See Appendix C). Two items were used to measure the extent to which employees were aware of the maximum pay for their positions and others' positions, when raises are expected, etc. Items asked about the policy for pay secrecy in the organization, and what is practiced regarding pay secrecy in the organization. Subjects rated these two items on a 1 to 7 scale with "1" defined as "Full Disclosure," "4" defined as "Individual Disclosure," and "7" defined as "Total Secrecy."

**Organizational criteria for pay increases.** (See Appendix D). Ten criteria were rated in terms of their importance according to organizational policy on a seven-point likert-type scale anchored by "1=Not Important," "4=Somewhat Important," and "7=Very Important." These items were a composite of items from Dyer et al. (1976) and Lawler (1966). A principal components analysis with a varimax rotation was performed on managers' ratings of the pay increase
criteria items. As can be seen in Table 2, nine of the 10 items loaded significantly on only one of the three factors. Item 2 was eliminated because it loaded significantly on two factors and was therefore uninterpretable. The first factor, (Items 1, 3, 4, and 10), indicated that primary importance was placed on employee inputs (e.g., performance, effort, training and experience, and responsibility). These items were summed to form the criterion "Employee Inputs - Organizational." Factor II (Items 5 and 6) indicated that importance was placed on others' pay levels, and were summed to form the criterion "Referent Others' Pay Levels - Organizational." The three items (7, 8, and 9) which loaded on Factor III indicated that importance was placed on non-performance related factors, (i.e., tenure, cost of living, and amount of last pay increase), which may determine that an employee deserves a certain amount of pay increase. These items were summed to form the criterion "Employee Deservingness - Organizational."

**Pay increase budget.** (See Appendix E). Using the figures which managers reported concerning the size of their pay increase budget for 1984, 1985 and 1986 (estimated), two measures were formed: pay increase budget change and pay increase budget variance. These measures were used because they both represent pay increase budget fluctuations. Figures for all three years were used to calculate the variance of the pay increase budget. However, figures for only the preceding year (1985) and the estimate for the current year (1986) were used for the budget change. This was done primarily because of
Table 2
Factor Analyses of the Organizational Criteria for Pay Increases

<table>
<thead>
<tr>
<th>Factor names and item numbers</th>
<th>Varimax factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Individual employee job performance</td>
<td>.733</td>
</tr>
<tr>
<td>2. Nature of the employee's job</td>
<td>.471</td>
</tr>
<tr>
<td>3. Amount of effort expended by the employee</td>
<td>.795</td>
</tr>
<tr>
<td>4. Employee's training and experience</td>
<td>.593</td>
</tr>
<tr>
<td>5. Pay level for comparable positions outside the organization</td>
<td>.067</td>
</tr>
<tr>
<td>6. Pay level for comparable positions inside the organization</td>
<td>.001</td>
</tr>
<tr>
<td>7. Amount of employee's last pay increase</td>
<td>.017</td>
</tr>
<tr>
<td>8. Cost of living</td>
<td>-.016</td>
</tr>
<tr>
<td>9. Length of service (Seniority)</td>
<td>.185</td>
</tr>
<tr>
<td>10. Level of employee's responsibility</td>
<td>.582</td>
</tr>
</tbody>
</table>

Percentage of variance explained

21.3  19.2  17.3

Note. Item loadings defining factors are underlined.
recent declining economic trends in the southeast and southwest samples which were not accurately reflected by the variance figure.

Organizational demographics. (See Appendix F). Questions concerning organizational demographics included the size of the organization, and frequency of pay increases.

Managerial goals for pay increases. (See Appendix G). In this three-item measure, the manager allocated a total of seven points among three statements indicating how they applied to the manager's goals for the pay increase. As in the "organizational goals for pay increases" section, the statements reflected a goal of rewarding high performance, a goal of rewarding cooperative and harmonious relationships, and other goals which the manager was to describe in his or her own words.

Table 3 presents the percent of total points allocated to each of three possible managerial goals for pay increases. As can be seen, the results of these analyses parallel those for the analyses on the organizational goals measures. Reward of performance was the most frequent choice of managerial goal, with approximately 47% of the managers weighting it with five or more of the seven possible points. Furthermore, approximately 96% of the managers weighted the goal of rewarding cooperative and harmonious relationships and other goals with less than five of the seven possible points. As with the measures of organizational goals, due to the very low percentage of subjects who chose the goal categories "rewarding cooperative and harmonious relationships" (3.8%) and "other goals" (4.5%), correlations using these two categories would not be meaningful.
Table 3

Percent of Total Points Allocated to Each of Three Possible Managerial Goals for Pay Increases

<table>
<thead>
<tr>
<th>Goal</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reward high performance</td>
<td>7.8</td>
<td>.6</td>
<td>3.9</td>
<td>7.1</td>
<td>33.1</td>
<td>25.3</td>
<td>9.7</td>
<td>12.3</td>
</tr>
<tr>
<td>Reward cooperative and harmonious relationships</td>
<td>20.8</td>
<td>13.0</td>
<td>32.5</td>
<td>26.0</td>
<td>3.9</td>
<td>1.3</td>
<td>.6</td>
<td>1.9</td>
</tr>
<tr>
<td>Other goals</td>
<td>79.2</td>
<td>3.2</td>
<td>7.1</td>
<td>5.2</td>
<td>.6</td>
<td>.6</td>
<td>.0</td>
<td>3.9</td>
</tr>
</tbody>
</table>
Therefore, in order to make interpretation of results more comprehensible, the data on this measure were collapsed into two categories, following the same procedures as for the organizational goals items. Subjects were placed in the first category, representing primary importance being placed on the goal of rewarding high performance, if five or more points were allocated to this goal. Subjects were placed in the second category if they allocated five or more points to either the goal of rewarding cooperative and harmonious relationships or other goals. This second category represented goals for the pay increase which were other than that of rewarding high performance.

Beliefs about employee motivation. (See Appendix H). Three possible motivational belief statements were presented to the managers. Managers chose the one statement representing a belief in either reinforcement, expectancy, or equity theory principles, which best described his or her beliefs about how to motivate employees with pay increases.

Managerial criteria for pay increases. (See Appendix I). In this section of the questionnaire, managers rated the importance of the same ten criteria which were included in the organizational criteria section, this time according to the importance the manager placed on them in pay increase decisions. A principal components analysis with a varimax rotation was performed on managers' responses to the pay increase criteria items. The initial rotation produced four factors, with Factor IV containing only one item (Item 1). Because this fourth factor accounted for only a small proportion of
the variance (1.06), the analysis was recalculated forcing a three-factor solution. As can be seen in Table 4, each of the 10 items loaded significantly on only one factor. The first factor contained items (1, 2, 3, 4, and 10) which indicated that a primary importance was placed on employee inputs (e.g., performance, effort, training and experience, and responsibility). These items were summed to form the criterion "Employee Inputs - Managerial." Factor II (Items 7, 8, and 9) indicated that importance was placed on non-performance related factors, (i.e., tenure, cost of living, and amount of last pay increase), which may determine that an employee deserves a certain amount of pay increase. These items were summed to form the criterion "Employee Deservingness - Managerial." The two items (5 and 6) which loaded on Factor III indicated that importance was placed on others' pay levels, and were summed to form the criterion "Referent Others' Pay Level - Managerial."

Managerial demographics. (See Appendix J). Questions concerning managerial demographics included age, sex, educational level, years employed in current position, position, and number of pay increase decisions in which the manager is involved.

Dependent Variables

The mode of reward allocation was assessed using five different measures: mode of reward allocation used in the last pay increase (three measures), and actual reward allocations (two measures). Since previous research has offered no method of measuring the mode of reward allocation in an organizational setting, the author
Table 4

Factor Analyses of the Managerial Criteria for Pay Increases

<table>
<thead>
<tr>
<th>Factor names and item numbers</th>
<th>Varimax factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. Individual employee job performance</td>
<td>.20</td>
</tr>
<tr>
<td>2. Nature of the employee's job</td>
<td>.69</td>
</tr>
<tr>
<td>3. Amount of effort expended by the employee</td>
<td>.74</td>
</tr>
<tr>
<td>4. Employee's training and experience</td>
<td>.67</td>
</tr>
<tr>
<td>5. Pay level for comparable positions outside the organization</td>
<td>.14</td>
</tr>
<tr>
<td>6. Pay level for comparable positions inside the organization</td>
<td>.17</td>
</tr>
<tr>
<td>7. Amount of employee's last pay increase</td>
<td>.08</td>
</tr>
<tr>
<td>8. Cost of living</td>
<td>-.02</td>
</tr>
<tr>
<td>9. Length of service (Seniority)</td>
<td>.13</td>
</tr>
<tr>
<td>10. Level of employee's responsibility</td>
<td>.71</td>
</tr>
<tr>
<td>Percentage of variance explained</td>
<td>76.7</td>
</tr>
</tbody>
</table>

Note. Item loadings defining factors are underlined.
constructed these measures. These items were pretested on a sample of 12 managers for understandability and applicability.

Mode of reward allocation used in the last pay increase. Three measures of the chosen mode of reward allocation required the manager to consider the last pay increase made for employees. First, the manager reported the greatest and least dollar amounts of pay increases which were allocated in the last pay increase (See Appendix K). From these figures a percentage was calculated (Least amount/Greatest amount). This percentage figure fell along a continuum ranging from 0.00 to 1.00. That is, as the differences between the least and greatest amount of pay increases which were allocated increased, the size of the percentage decreased. Equal allocations were indicated at the upper end of the continuum, while equitable allocations were indicated at the lower end of this continuum. Need as allocation mode was not identifiable using this continuum measure.

Second, the manager was instructed to list the criteria which were considered in the last pay increase decision and to rank the importance of the listed criteria (See Appendix L). To avoid potential problems with demand characteristics, these items were administered before any other measures of criteria for pay increases. Two graduate students independently rated the reported criteria on each of four scales representing the modes of reward allocation, equity, equality, and need, and other/combination, encompassing the criteria which did not distinctly fall into any one of the above modes (See Appendix M).
Reliability assessment of this coding involved checking the extent of rater agreement in categorization of criteria listed as important in pay increase decisions. According to Guttman (1979) the most commonly used measure of rater agreement is:

\[
\frac{\text{# of classification agreements}}{\text{# of agreements + disagreements}}
\]

However, this method has been criticized as yielding meaningless results because it does not correct for chance agreement (Hollenbeck, 1978). Thus, Cohen's (1960) Kappa statistic is used, which removes chance agreement from calculations:

\[
\text{Kappa} = \frac{(P_o - P_c)}{(1 - P_c)}
\]

where \(P_o\) is the observed proportion of agreement and \(P_c\) is the chance proportion of agreement. The Kappa statistics indicated a 92.5% agreement for the equity category, 89.5% agreement for the equality category, 92.5% agreement for the need category, and 88.0% agreement for the other/combination category. They provide evidence that the criteria were coded consistently enough to serve as the basis of further analyses in the study.

The third measure of the reward allocation mode referring to the last pay increase included a series of seven statements describing each of the three primary modes of reward allocation, three possible combinations of reward allocation modes (i.e., equity and equality, equity and need, and equality and need), and some other
situation which was not adequately described by the preceding six statements (See Appendix N). The manager chose one of the seven statements which most closely described how he or she felt that pay increases were allocated in the last pay increase. Table 5 presents the number and percent of subjects choosing each mode of reward allocation to describe the last pay increase. Responses fell predominantly in the "equity" category, with the remainder of the responses dispersed among the "combination" or "other" statements. As can be seen, an insufficient number of subjects chose each statement for independent analysis of all statements to be interpretable. Therefore, data on this measure were analyzed using only two items, the equity mode of reward allocation (Item 1) and a combination of equity and equality modes of reward allocation (Item 4).

In the final two measures of the reward allocation mode the manager assumed the role of supervisor over a set of four fictional employees among whom a total of $1000 were to be allocated as a pay increase (See Appendix 0). Personnel files which were constructed for each fictional employee provided the necessary information about the employees, including general information about the employee, the most recent performance appraisal, and the immediate supervisor's comments. Information presented in the files varied on the dimensions of need for the pay increase (high, low), and level of performance (high, low). Performance level was manipulated using the performance appraisal form and supervisory comments. Employee need was manipulated using supervisory comments about the employee's need for
Table 5

Number and Percent of Subjects Choosing Each Mode of Reward Allocation to Describe the Last Pay Increase

<table>
<thead>
<tr>
<th>Mode</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Equity</td>
<td>107</td>
<td>70.9</td>
</tr>
<tr>
<td>2. Equality</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>3. Need</td>
<td>1</td>
<td>0.7</td>
</tr>
<tr>
<td>4. Equity and Equality</td>
<td>35</td>
<td>23.2</td>
</tr>
<tr>
<td>5. Equity and Need</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>6. Equality and Need</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>7. Other</td>
<td>6</td>
<td>4.0</td>
</tr>
</tbody>
</table>
the pay increase. A manipulation check for these was performed on the pretest sample of managers. Results of t-tests performed on the manipulation checks using the pretest data, presented in Table 6, revealed that the poorly performing employee was rated as a poor performer, and high performing employees were rated as high performers. Furthermore, the employees who were in great need of a pay increase were rated as more needy, while the employees who were not in great need of a pay increase were rated as not needy. These findings indicate that both the employee's performance and need for the pay increase were effectively manipulated.

Managers completed this task twice, once according to organizational policy for pay increases, and once according to the manager's own preference for pay increases. These measures were included to obtain, as realistically as possible, an actual reward allocation decision. The allocations made according to managerial preference were included in addition to allocations made according to organizational policy in order to determine whether managers make decisions according to policy or allow their own biases or preferences to enter into the pay increase decision.

Analyses

Several main effects for variables in Freedman and Montanari's model were hypothesized. Specifically, Hypotheses 1, 2, 3, and 4 predicted that the organizational goal of the reward allocation, salary budget, managerial goals of the reward allocation, and managerial criteria would have main effects on the choice of mode of
Table 6
Results of t-tests for differences between manipulations of high and low performance and of high and low need

<table>
<thead>
<tr>
<th>Condition</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEED</strong></td>
<td></td>
</tr>
<tr>
<td>High1 vs Low1</td>
<td>6.07**</td>
</tr>
<tr>
<td>High1 vs Low2</td>
<td>4.50**</td>
</tr>
<tr>
<td>High2 vs Low1</td>
<td>6.21**</td>
</tr>
<tr>
<td>High2 vs Low2</td>
<td>4.43**</td>
</tr>
<tr>
<td>High1 vs High2</td>
<td>.35</td>
</tr>
<tr>
<td>Low1 vs Low2</td>
<td>1.04</td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>High1 vs Low1</td>
<td>8.18**</td>
</tr>
<tr>
<td>High2 vs Low2</td>
<td>8.18**</td>
</tr>
<tr>
<td>High1 vs Low2</td>
<td>8.18**</td>
</tr>
<tr>
<td>High2 vs Low1</td>
<td>8.18**</td>
</tr>
<tr>
<td>High1 vs High2</td>
<td>0.00</td>
</tr>
<tr>
<td>Low1 vs Low2</td>
<td>0.00</td>
</tr>
</tbody>
</table>

** p < .01

* Independent t-tests were performed between all possible combinations of each of two manipulations of high need and high performance and two manipulations of low need and low performance.
reward allocation. These predictions were tested by correlating each mode of reward allocation with these predictor variables.

Hypothesis 5 predicted main effects for the antecedent variables (managerial and organizational) on the mode of reward allocation (e.g., equity, equality, and need). This hypothesis was tested with stepwise regression analyses to determine the major predictors of each of the three modes of allocation.
RESULTS

Interrelationships Between Variables

To determine if there were significant interrelationships between classes of variables or a problem with multicollinearity, correlations among organizational variables and managerial variables were calculated. Means, standard deviations, and intercorrelations for managerial and organizational variables are reported in Table 7. Disregarding the sign of each correlation, and excluding the perfect or near perfect negative correlations between dichotomous measures (i.e., organizational goals and managerial goals), the average correlation among organizational variables and managerial variables was .24, and the highest intercorrelation was .68. Since the average intercorrelation among the variables was relatively low, and two variables shared no more than 46% of the variance, it was concluded that each of the measures had a substantial portion of unshared variance. Thus, multicollinearity was not a problem.

Intercorrelations among measures of each mode of reward allocation would be desirable, and would indicate that the different measures of each mode were assessing the same construct. Means, standard deviations, and intercorrelations among the dependent measures can be seen in Table 8.

There were five measures of the reward allocation mode of equity. These were the percentage of differences between least and greatest dollar amounts allocated (percentage), equity-related criteria listed/ranked as important in pay increase decisions, the
### Table 7
Means, Standard Deviations, and Intercorrelations for Organizational Variables and Managerial Variables

<table>
<thead>
<tr>
<th>Organizational Variables</th>
<th>Managerial Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ORGANIZATIONAL GOALS</td>
<td>1 MANAGERIAL GOALS</td>
</tr>
<tr>
<td>2 RELATION PERFORMANCE</td>
<td>2 LNS. PERFORMANCE</td>
</tr>
<tr>
<td>3 MULTIPLE GOALS</td>
<td>3 MULTIPLE GOALS</td>
</tr>
<tr>
<td>4 WORK SATISFACTION</td>
<td>4 WORK SATISFACTION</td>
</tr>
<tr>
<td>5 ORGANIZATIONAL CRITERIA</td>
<td>5 ORGANIZATIONAL CRITERIA</td>
</tr>
<tr>
<td>a EMPLOYEE JOB SATISFACTION</td>
<td>a EMPLOYEE JOB SATISFACTION</td>
</tr>
<tr>
<td>b DIFFERENT OTHERS FAT</td>
<td>b DIFFERENT OTHERS FAT</td>
</tr>
<tr>
<td>c EMPLOYEE RECOGNITION</td>
<td>c EMPLOYEE RECOGNITION</td>
</tr>
<tr>
<td>d PAY INCREASE</td>
<td>d PAY INCREASE</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>e ORGANIZATIONAL CRITERIA</td>
<td>6 ORGANIZATIONAL CRITERIA</td>
</tr>
<tr>
<td>f EMPLOYEE JOB SATISFACTION</td>
<td>f EMPLOYEE JOB SATISFACTION</td>
</tr>
<tr>
<td>g DIFFERENT OTHERS FAT</td>
<td>g DIFFERENT OTHERS FAT</td>
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<tr>
<td>h EMPLOYEE RECOGNITION</td>
<td>h EMPLOYEE RECOGNITION</td>
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<td>i PAY INCREASE</td>
<td>i PAY INCREASE</td>
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<tr>
<td>j MANAGERIAL VARIABLES</td>
<td></td>
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<tr>
<td>k MANAGERIAL GOALS</td>
<td></td>
</tr>
<tr>
<td>l LNS. PERFORMANCE</td>
<td></td>
</tr>
<tr>
<td>m MULTIPLE GOALS</td>
<td></td>
</tr>
<tr>
<td>n WORK SATISFACTION</td>
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</tr>
<tr>
<td>o ORGANIZATIONAL CRITERIA</td>
<td>ORGANIZATIONAL CRITERIA</td>
</tr>
<tr>
<td>p EMPLOYEE JOB SATISFACTION</td>
<td>EMPLOYEE JOB SATISFACTION</td>
</tr>
<tr>
<td>q DIFFERENT OTHERS FAT</td>
<td>DIFFERENT OTHERS FAT</td>
</tr>
<tr>
<td>r EMPLOYEE RECOGNITION</td>
<td>EMPLOYEE RECOGNITION</td>
</tr>
<tr>
<td>s PAY INCREASE</td>
<td>PAY INCREASE</td>
</tr>
<tr>
<td>t MANAGERIAL VARIABLES</td>
<td></td>
</tr>
</tbody>
</table>

*a p < .05  
** p < .01  
*** p < .001
Table 3

Means, Standard Deviations, and Intercorrelations for Measures of the Mode of Reward Allocation

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
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</thead>
<tbody>
<tr>
<td>Mean</td>
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<td>SD</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Intercorrelation</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05
** p < .01
*** p < .001
The manager's choice of the descriptive statement indicating equity as the mode used in the last pay increase decision, and the mode used in the vignette allocations made both according to organizational policy and according to managerial preferences for equitable pay increase decisions. The average intercorrelation among the different equity mode measures was .21, which is somewhat lower than desirable for measures of the same mode of reward allocation. The descriptive statement of equity as being used in the last pay increase decision correlated significantly with all other equity mode measures: criteria listed/ranked as equity-related ($r = .16, p < .05$), vignette allocations made equitably both according to organizational policy ($r = .20, p < .05$) and according to managerial preference ($r = .24, p < .01$), and with percentage ($r = -.28, p < .01$). Overall the descriptive statement representing equitable allocations was the measure of equity which correlated significantly with the greatest number of other measures of the equity mode. In addition, a strong correlation was found ($r = .72, p < .001$) among the two measures represented by the vignette allocations made equitably both according to organizational policy and according to managerial preferences. Two measures of the equity mode, however, percentage and equity-related criteria which the manager listed/ranked as important in pay increase decisions, correlated near zero with the other measures of the equity mode.

The four measures of the mode of equality were percentage, equality-related criteria listed/ranked as important in pay increase decisions and vignette allocations made equally according to both
organizational policy and to managerial preferences. The average correlation among these four measures was .21, which, again, is lower than would be anticipated for measures of the same mode of reward allocation. The vignette allocations made equally according to organizational policy and to managerial preference were highly correlated ($r = .67, p < .001$), however, both percentage and the criteria listed/ranked as equity-related correlated near zero with the remaining measures of the equality mode.

At this point it seems relevant to highlight several interesting intercorrelations. First, there are several significant correlations between some measures of the equity and equality modes. For example, the equity-related and equality-related criteria listed/ranked as important in the pay increase decision were significantly correlated ($r = .35, p < .001$). Furthermore, significant correlations were found among vignette allocations made equally and equitably. Specifically, allocations made equitably according to organizational policy correlated significantly with allocations made equally according to both organizational policy ($r = .91, p < .001$) and managerial preference ($r = .61, p < .001$). Also, allocations made equally according to organizational policy were significantly related to allocations made equitably according to managerial preference ($r = .60, p < .001$). Finally, equitable and equal allocations made according to managerial preference were also significantly correlated ($r = .87, p < .001$). As can be seen, the correlations between the measures of the equity and equality modes are much higher than the correlations within each of these modes.
Second, there were significant negative correlations between some of the measures of equality and equity modes and the need mode. For example, the vignette allocations made based on need according to managerial preference were related negatively to allocations made both equitably ($r = -.19$, $p < .05$) and equally ($r = -.20$, $p < .05$) according to organizational policy, and with allocations made equitably according to managerial preference ($r = -.28$, $p < .001$). However, there was a significant relationship between the vignette allocation made according to a managerial preference to consider employee need ($r = .26$, $p < .01$) and the descriptive statement of the last pay increase decision as equity-based.

Third, with respect to the measures of the need mode of reward allocation, there was a significant relationship found between the vignette allocations made based on organizational policy and those made based on managerial preferences to consider employee need ($r = .64$, $p < .001$).

Finally, the two measures of a combination or other mode of reward allocation did not correlate with each other. However, one combination/other mode measure, the descriptive statement of the last allocation as having been made according to a combination of modes, correlated negatively and significantly with allocations made equitably according to organizational policy ($r = -.22$, $p < .01$) and with those made according to managerial preference ($r = -.23$, $p < .01$), as may be anticipated.

In conclusion, there appeared to be significant correlations among a number of the equity, equality, need and other/combination
mode measures. While the most clear cut among these relationships were between the equity and equality mode measures, the remainder of the intercorrelations among the different modes were less consistent.

Organizational Variables

Table 9 displays the correlations obtained for the relationships between the organizational variables of interest and the measures of the mode of reward allocation. Thus, all necessary data for Hypotheses 1, 1A, 1B, 1C, and 2 are provided in Table 9. Measures of each mode of reward allocation have been defined in detail in the discussion of intercorrelations between measures of the modes of reward allocation earlier in the results section of this paper.

Organizational goals for the pay increase. Hypothesis 1 and its three subhypotheses predicted that the organizational goal for the pay increase will influence the manager's choice of reward allocation mode. Contrary to predictions of Hypothesis 1A, no relationship was found between the organizational goal of rewarding performance and any of the measures of the equity mode of reward allocation. For Hypothesis 1A it was expected that at least larger correlations would result between the organizational goal of rewarding performance and the measures of the equity mode than with other modes. As can be seen in Table 9, however, the relationships between this organizational goal and measures of each of the other modes were only once slightly greater than the relationship with the equity mode, and were near zero for the remaining relationships.
Table 1
Correlations between Organizational Variables and the Measures of the Mode of Reward Allocation

<table>
<thead>
<tr>
<th>Mode used in last pay increase</th>
<th>Organizational Goals</th>
<th>Pay Increase Budget</th>
<th>Budget Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reward Performance</td>
<td>Multiple Goals</td>
<td></td>
</tr>
<tr>
<td>1. Percentage</td>
<td>.001</td>
<td>.001</td>
<td>-.04</td>
</tr>
<tr>
<td>2. Criteria listed/ranked</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>-.06</td>
<td>.06</td>
<td>.07</td>
</tr>
<tr>
<td>B. Equality</td>
<td>-.10</td>
<td>.10</td>
<td>.06</td>
</tr>
<tr>
<td>C. Need</td>
<td>-.02</td>
<td>.02</td>
<td>-.03</td>
</tr>
<tr>
<td>D. Other/Combination</td>
<td>-.05</td>
<td>.05</td>
<td>-.004</td>
</tr>
<tr>
<td>3. Descriptive Statements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>.15</td>
<td>-.15</td>
<td>-.04</td>
</tr>
<tr>
<td>B. Combination</td>
<td>-.15</td>
<td>.15</td>
<td>.01</td>
</tr>
<tr>
<td>4. Organizational policy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>-.02</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>B. Equality</td>
<td>-.06</td>
<td>-.06</td>
<td>-.004</td>
</tr>
<tr>
<td>C. Need</td>
<td>-.02</td>
<td>-.02</td>
<td>-.15</td>
</tr>
<tr>
<td>5. Managerial preferences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>.08</td>
<td>.08</td>
<td>.07</td>
</tr>
<tr>
<td>B. Equality</td>
<td>.03</td>
<td>.03</td>
<td>.06</td>
</tr>
<tr>
<td>C. Need</td>
<td>.002</td>
<td>.002</td>
<td>-.03</td>
</tr>
</tbody>
</table>
Due to reasons explained in the method section of this paper, insufficient responses for the item measuring the organizational goal of rewarding cooperative and harmonious work relationships prohibited testing of Hypothesis 1B. Finally, as can be seen in Table 9, the relationships between multiple organizational goals and either of the two measures of combination modes of reward allocation were nonsignificant. In fact no relationship between this organizational goal and any of the measures of reward modes appeared different from zero.

In summary, no support has been found for Hypothesis 1. Pay increase budget. Neither the pay increase budget change nor the pay increase budget variance correlated with any of the measures of the mode of reward allocation. Thus, there was no support for Hypothesis 2, that pay increase budget fluctuations are related to the chosen mode of reward allocation.

Managerial Variables

Table 10 displays correlations obtained for the relationships between the managerial variables of interest and the measures of the mode of reward allocation. Thus, all necessary data for Hypotheses 3A, 3B, 3C, and 4 are provided in Table 10. Again, measures of each mode of reward allocation have been defined in detail earlier in the results section of this paper.

Managerial goals for pay increases. Hypothesis 3 and its three subhypotheses predicted that the managerial goal of the pay increase will influence the manager's choice of reward allocation mode. Hypothesis 3A, predicting that equity will be the manager's choice of
Table 10
Correlations of Managerial Variables and Measures of the Mode of Reward Allocation

<table>
<thead>
<tr>
<th></th>
<th>Managerial Goals</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reward Performance</td>
<td>Multiple Goals</td>
<td>Managerial Criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Employee Inputs</td>
</tr>
<tr>
<td><strong>1. Percentage</strong></td>
<td>.00</td>
<td>-.11</td>
<td>-.05</td>
</tr>
<tr>
<td><strong>2. Criteria listed/ranked</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>-.10</td>
<td>.10</td>
<td>-.05</td>
</tr>
<tr>
<td>B. Equality</td>
<td>-.23**</td>
<td>.23**</td>
<td>.08</td>
</tr>
<tr>
<td>C. Need</td>
<td>.03</td>
<td>-.03</td>
<td>.02</td>
</tr>
<tr>
<td>D. Other/Combination</td>
<td>-.07</td>
<td>.07</td>
<td>.10</td>
</tr>
<tr>
<td><strong>3. Descriptive statements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>.18*</td>
<td>-.18*</td>
<td>-.05</td>
</tr>
<tr>
<td>B. Combination</td>
<td>-.17*</td>
<td>.17*</td>
<td>.08</td>
</tr>
<tr>
<td><strong>4. Organizational mode</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. Equity</td>
<td>.00</td>
<td>.00</td>
<td>-.08</td>
</tr>
<tr>
<td>B. Equality</td>
<td>.04</td>
<td>-.04</td>
<td>-.01</td>
</tr>
<tr>
<td>C. Need</td>
<td>.09</td>
<td>-.09</td>
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<tr>
<td><strong>5. Managerial preferences</strong></td>
<td></td>
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</tr>
<tr>
<td>A. Equity</td>
<td>.08</td>
<td>-.08</td>
<td>-.15</td>
</tr>
<tr>
<td>B. Equality</td>
<td>.15</td>
<td>-.15</td>
<td>-.08</td>
</tr>
<tr>
<td>C. Need</td>
<td>.15</td>
<td>-.02</td>
<td>-.05</td>
</tr>
</tbody>
</table>

* p < .05
** p < .01
allocation mode when individual performance is the main goal, was supported with a significant correlation between the managerial goal of rewarding high performance and the descriptive statement of the last pay increase as equitable. However, relationships between this goal and other measures of the equity mode were all near zero. Additional support of Hypothesis 3A is provided by a significant negative correlation found between the managerial goal of rewarding performance and equality-based criteria which were listed/ranked as important to the manager in pay increase decisions ($r = -0.23, p < 0.01$).

Once again, as explained in the method section of this paper, insufficient responses for the item representing a managerial goal for the pay increase of rewarding cooperative and harmonious work relationships prohibited a meaningful test of Hypothesis 3B. Hypothesis 3C stated that multiple managerial goals would lead to a choice of allocation mode other than equity. Multiple managerial goals for the pay increase correlated significantly with the type of criteria, equality-related criteria, on which the manager placed the most importance ($r = 0.23$), as well as with the descriptive statement of the last pay increase decision being made using a combination of modes ($r = 0.17$), offering support for Hypothesis 3C. However, no other relationships between multiple managerial goals and other modes of reward allocation were far from zero.

In conclusion, the findings indicate that there appears to be some influence of the managerial goals for the reward allocation on
the manager's choice of reward allocation mode, thus partially supporting Hypothesis 3.²

Managerial criteria for pay increases. The importance which managers placed on the criteria related to employee job inputs was not significantly related to any measure of the equity mode of reward allocation. These findings do not offer support for Hypothesis 4, that managers who place importance on performance-related criteria in pay increase decisions tend to choose equity as their mode of reward allocation.

Interaction of Managerial and Organizational Variables

The results of the stepwise regression analyses to test the relative importance of the different managerial and organizational variables in determining the mode of reward allocation are presented in Tables 11 through 18. All models were tested with two combinations of variables. First, all independent variables were input into each model. Missing data for the variables age, sex, budget change, and budget variance, and the dependent measures of the self-report criteria considered to be important in reward allocation decisions were replaced with the mean score for each of these variables. Second, these models were retested without the corrected dependent variables. Results for all models except two, the equity mode as measured by the criteria listed/ranked by the managers and the other/combination mode as measured by criteria listed/ranked by the managers, were identical for these two types of analyses. For these equity and other/combination mode measures, the only models which were significant involved corrected dependent variables. The
results of these analyses will be discussed by mode of reward allocation.

**Equity mode of reward allocation.** There were five measures of the equity mode, as discussed earlier in the results section of this paper. Hence, five stepwise regression models were tested. Of these five models, two yielded significant results. The first significant model predicted the equity mode as measured using the self-reported listing/ranking of performance-related criteria important in pay increase decisions (See Table 11). When this measure was employed the two significant predictors were pay increase budget change and the sex of the manager ($R^2 = .10$). As previously noted this model involved corrected dependent variables. Because use of this procedure relies on the assumption of randomness of occurrence of missing values, the results must be interpreted with caution. The second significant model predicted the mode of equity as measured using the manager's description of the last pay increase decision as equity-based (See Table 12). When this measure was employed the two significant predictors were the manager's perception of the employee's deservingness of the pay increase and the manager's motivational beliefs consistent with reinforcement theory ($R^2 = .14$).

In conclusion, equitable reward allocations were best predicted by the importance which the manager places on how deserving the employee is of a pay increase, the manager's belief in motivating employees using reinforcement principles, pay increase budget changes and the sex of the manager.
<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Final regression weights $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pay increase budget change</td>
<td>0.06</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>2</td>
<td>Sex of manager</td>
<td>0.10</td>
<td>0.04</td>
<td>-0.27</td>
</tr>
</tbody>
</table>

$^a$ Equity is measured using the self-reported listing/ranking of performance-related criteria important in pay increase decisions.

$^b$ Reported regression weights are unstandardized.
Table 12
Stepwise Regression Results for Organizational and Managerial Variables and Equity\textsuperscript{a}

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Final regression weights \textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employee deservingness</td>
<td>.11</td>
<td>.11</td>
<td>-.04</td>
</tr>
<tr>
<td></td>
<td>Managerial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Motivational beliefs</td>
<td>.14</td>
<td>.03</td>
<td>.21</td>
</tr>
<tr>
<td></td>
<td>Reinforcement</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a} Equity is measured using the manager's description of the last pay increase decision as equity-based.

\textsuperscript{b} Reported regression weights are unstandardized.
Equality mode of reward allocation. There were four measures of the equality mode, as described earlier in this results section. Hence, four stepwise regression models were tested. Of these four models, two yielded significant results. The first significant model measured equality using the self-reported listing/ranking of equality-related criteria important in pay increase decisions (See Table 13). When this measure was employed, the only significant predictor of the mode of equity was the managerial goal of rewarding performance ($R^2 = .05$).

The second significant model measured equality using allocations made equally according to organizational policy (See Table 14). The two predictors when using this measure of equality were the importance which the organization places on employee inputs and the importance managers place on employee inputs (e.g., performance, effort, etc.) ($R^2 = .09$). In examining the variances accounted for by each of the two predictors in this model, it can be seen that the second variable which entered, managerial emphasis on employee inputs, accounts for slightly greater variance than the first variable entered ($R^2 = .05$), organizational emphasis on employee inputs ($R^2 = .04$). This finding is not consistent with the expected pattern of decreasing proportions of variance accounted for by succeeding variables added to the stepwise regression model. Cohen and Cohen (1975) have explained that while suppressor variables are uncommon in practice, they may occur when the independent variables are highly correlated. In such a case a variable which would not make a significant contribution to the $R^2$ may be
Table 13

Stepwise Regression Results for Organizational and Managerial Variables and Equality\textsuperscript{a}

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>( R^2 )</th>
<th>( \Delta R^2 )</th>
<th>Final regression weights\textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Managerial goals - Reward performance</td>
<td>.05</td>
<td>.05</td>
<td>-.93</td>
</tr>
</tbody>
</table>

\textsuperscript{a} Equality is measured using the self-reported listing/ranking of equality-related criteria important in pay increase decisions.

\textsuperscript{b} Reported regression weights are unstandardized.
Table 14

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Final regression weights $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employee inputs- Organizational</td>
<td>.04</td>
<td>.04</td>
<td>35.05</td>
</tr>
<tr>
<td>2</td>
<td>Employee inputs- Managerial</td>
<td>.09</td>
<td>.05</td>
<td>-24.12</td>
</tr>
</tbody>
</table>

$^a$ Equality is measured using allocations made equally according to organizational policy.

$^b$ Reported regression weights are unstandardized.
significant in conjunction with another variable. Therefore, in order to investigate the possibility of suppressor variable effects in this model, two points were examined. First, to determine the amount of variance accounted for by the second variable in predicting the equality mode, this independent variable, the manager's emphasis on employee inputs, was regressed onto the dependent measure of the equality mode as measured using allocations made equally according to organizational policy. The results of this analysis indicated that, alone, the variance accounted for by this independent variable in predicting the equality mode was near zero ($R^2 = .001$). This figure is exceedingly less than the proportion of variance accounted for by the first variable which entered in the stepwise regression model ($R^2 = .04$). This indicates that the two variables may be interacting to account for a greater proportion of variance than would the second variable alone. Second, examination of the correlations between the two independent variables revealed a significant correlation between the two independent variables in the stepwise regression model ($r = .68, p < .001$). This finding, coupled with the results of the regression performed using the managerial emphasis on employee inputs suggest the possibility that managerial emphasis on employee inputs, the second variable in the stepwise regression model, was acting as a suppressor variable.

In conclusion, the equality mode was predicted best by a managerial goal to reward high performance, and, when considered in conjunction, organizational and managerial emphasis on performance-related criteria in the pay increase decision.
Need mode of reward allocation. There were two measures of the need mode of reward allocation, as described earlier in the results section. Both of these measures yielded significant models. The first model employed the measure of the need mode as allocations made according to organizational policy to consider employee need in pay increase decisions. As can be seen in Table 15, using this measure only one predictor was significant, the manager's emphasis on referent others' pay levels ($R^2 = .03$).

The second significant model measured need using allocations made according to managerial preferences for considering employee need in pay increases. As can be seen in Table 16, the two best predictors in this model were an organizational emphasis on employee deservingness, and the manager's motivational belief corresponding to reinforcement theory ($R^2 = .07$). Interestingly, the findings of this stepwise regression are once again inconsistent with the expected pattern of decreasing proportions of variance accounted for as successive variables are added into the model. As in the similar situation for one of the equality mode models, the possibility of suppressor variable was investigated by considering two points. First, the second variable which entered into the model, managerial motivational beliefs in reinforcement theory, was regressed onto the dependent measure of the need mode as measured by allocations made according to managerial preference for considering employee need in pay increase decisions. The results of this analysis indicated that a smaller proportion of variance was accounted for by this variable ($R^2 = .029$) than that accounted for by the first variable which
Table 15

Stepwise Regression Results for Organizational and Managerial Variables and Need<sup>a</sup>

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>R²</th>
<th>ΔR²</th>
<th>Final regression weights&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Managerial criteria-</td>
<td>.03</td>
<td>.03</td>
<td>-3.15</td>
</tr>
<tr>
<td></td>
<td>Referent others' pay levels</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Need is measured by allocations made according to organizational policy to consider employee need in pay increase decisions.

<sup>b</sup> Reported regression weights are unstandardized.
Table 16

Stepwise Regression Results for Organizational and Managerial Variables and Need

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Final regression weights $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employee deservingness---Organizational</td>
<td>.03</td>
<td>.033</td>
<td>6.46</td>
</tr>
<tr>
<td>2</td>
<td>Motivational beliefs---Reinforcement</td>
<td>.07</td>
<td>.034</td>
<td>54.86</td>
</tr>
</tbody>
</table>

$^a$ Need was measured by allocations made according to managerial preference for considering employee need in pay increase decisions.

$^b$ Reported regression weights are unstandardized.
entered into the stepwise regression model ($R^2 = 0.034$). While the difference is not great, it indicates that the two variables may be acting together to account for a small proportion of variance in the stepwise regression model. Second, the correlations between the two independent variables was nonsignificant ($r = 0.10$), indicating that high intercorrelation between predictor variables is not a problem in this case. Nonetheless, while the difference here between these proportions of variance accounted for in the stepwise regression model is slight (.001), these findings suggest that the second variable which entered the stepwise regression model, managerial motivational beliefs consistent with reinforcement theory, may be acting as a suppressor variable. In conclusion, the need allocation mode was best predicted by an emphasis on referent others' pay levels, and, when considered together, the organization's emphasis on the employee's deservingness and the manager's motivational belief in reinforcement theory principles.

Other/Combination modes of reward allocation. There were two measures of other/combination modes of reward allocation, as discussed earlier in the results section. Both of these models yielded significant results. The first model measured the other/combination mode using the manager's description of the last pay increase as made according to a combination of equity and equality modes (See Table 17). Using this measure, the other/combination mode was predicted by the importance which the manager placed on the criterion of employee deservingness ($R^2 =$
Table 17

Stepwise Regression Results for Organizational and Managerial Variables and Other/Combination Modes\(^a\)

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>(R^2)</th>
<th>(\Delta R^2)</th>
<th>Final regression weights(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employee deservingness-</td>
<td>.09</td>
<td>.09</td>
<td>.04</td>
</tr>
<tr>
<td></td>
<td>Managerial</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Combination mode is measured using the manager's description of the last pay increase decision as having been made according to a combination of equity and equality modes.

\(^b\) Reported regression weights are unstandardized.
The second model measured a combination of modes using self-reported listing/rankings of criteria not solely related to equity, equality, or need which are considered important in pay increase decisions (See Table 18). As previously noted this model involved corrected dependent variables. Because use of this procedure relies on the assumption of randomness of occurrence of missing values, the results must be interpreted with caution. The single best predictor in this model was the number of years which a manager has been in his or her current position ($R^2 = .04$).

Additional findings of interest

A number of additional findings for which specific hypotheses have not been made may be of interest to the reader, and will be briefly highlighted. With respect to organizational variables, pay secrecy and organizational criteria for pay increases appear to be related (See Table 7). It appears that there is a greater tendency toward total pay secrecy in organizations where greater organizational emphasis is placed on employee inputs (e.g., performance, effort, etc.) ($r = .21, p < .05$), and on how deserving the employee is of the pay increase with respect to the amount of the employee's last pay increase and cost of living ($r = .22, p < .01$).

With regard to managerial variables the following findings resulted. It appears that the managers with pay increase goals of rewarding performance also held motivational beliefs consistent with equity theory ($r = .17, p < .05$). Furthermore, managers with multiple goals for pay increases were more likely to hold motivational beliefs consistent with reinforcement theory ($r = .21, p < .05$).
Table 18

Stepwise Regression Results for Organizational and Managerial Variables and Other/Combination Modes

<table>
<thead>
<tr>
<th>Step</th>
<th>Variables</th>
<th>$R^2$</th>
<th>$\Delta R^2$</th>
<th>Final Regression Weights $^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Years in current</td>
<td>.04</td>
<td>.04</td>
<td>-.03</td>
</tr>
<tr>
<td></td>
<td>position</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Other/Combination mode is measured using self-reported listing/ranking of criteria important in pay increase decisions which are considered to be not solely related to equity, equality, or need.

$^b$ Reported regression weights are unstandardized.
Discussion

Discussion of the findings of the present study will be presented as follows. First, the results of the tests of the hypothesized relationships between specific variables in the portion of the model which was examined will be discussed. This section will be divided into two subsections: (a) organizational variables, and (b) managerial variables. This will be followed by an overview of the findings of the stepwise regression analyses. Limitations of the study will then be discussed, followed by theoretical and practical implications of the findings. Finally, directions for future research will be suggested.

Tests of the Relationships Between Specific Variables in the Model

Organizational variables. Several hypotheses were tested with respect to two organizational variables: organizational goals for the pay increase and pay increase budget fluctuations. The findings for these hypotheses will now be discussed.

The first major hypothesis, that the organizational goal for the reward allocation will influence the manager's choice of allocation mode, was not supported. This hypothesis included three more specific subhypotheses. Subhypothesis 1A stated that equity is expected to be the manager's choice of allocation mode when reward of performance is the main organizational goal. The results of this study indicated that the organizational goal of rewarding performance did not lead managers to choose the equity mode of reward allocation any more often than the other modes. However, in a laboratory study
Landau and Leventhal (1976) found that rewards were distributed equitably when the goal of retaining high performers was clearly stated to allocators. One possible reason for these differences in results may be that the organizational goals were more clearly stated in the laboratory setting (Landau & Leventhal, 1976) than in the organizational setting used in this research. Furthermore, other differences between laboratory and field settings, (e.g., the personal importance of the allocation decision to allocators), may have influenced these differences in results.

Subhypothesis 1B stated that equality will be the manager's choice of allocation mode when organizational effectiveness is dependent upon cooperative and harmonious work relationships. Due to what appears to be a problem of range restriction in responses to the organizational goal item, Deutsch's (1975) and Leventhal's (1976b) suggested influence of an organizational goal for cooperative and harmonious work relationships on the manager's choice of the equality mode could not be tested. However, we still do not know why managers did not tend to perceive cooperative and harmonious work relationships as an organizational goal for pay increases. As discussed under Subhypothesis 1A, one possible reason for this may be that the organizational goals were stated more clearly in the laboratory setting (e.g., Landau & Leventhal, 1976), than in the organizational setting used in this research. Furthermore, other differences between laboratory and field settings (e.g., the personal importance of the allocation decision to the manager), may have influenced these differences in results. On the other hand, perhaps
the organizations examined in this study truly did not advocate rewarding positive work relationships, instead stressing reward of employee performance. Therefore, what appeared to be a problem of range restriction in responses to this item may simply have been a reflection of actual pay increase goals in these organizations.

Finally, Subhypothesis 1C stated that when multiple goals become salient, a mode other than strict equity will be preferred. However, when faced with multiple organizational goals for pay increases, managers did not appear to choose a reward allocation mode other than strict equity, which is inconsistent with the findings of previous research (e.g., Greenberg, 1978b). In fact, managers reporting multiple organizational goals for the pay increase did not favor any mode over others. Again, how clearly organizational goals are stated may influence how salient these goals are to managers and may, therefore, influence the effects of the goals on the choice of reward allocation mode. Particularly, when an organization has multiple pay increase goals which are not clearly stated, a manager may be even more confused about what the organization’s goals are really are.

In conclusion, the findings for these three subhypotheses indicate that the organizational goal for the pay increase did not influence the manager's choice of reward allocation mode. Alternatively, how clearly stated and how salient the organizational goals were may have determined their influence on choice of reward allocation mode. For example, in the laboratory studies, there was greater control over the emphasis on and subjects' understanding of
reward allocation goals. Perhaps the organizations used in this study had not made their pay increase goals clear enough or salient to the managers. This could account for the lack of influence of organizational pay increase goals on the reward allocation mode choice.

The second major hypothesis tested in this study stated that the fluctuation of the pay increase budget will influence the choice of mode of reward allocation. Effects of the pay increase budget fluctuations on the choice of reward allocation mode were not indicated, which is inconsistent with earlier research involving oversufficiency, sufficiency, and undersufficiency of reward funds (e.g., Lane & Messe, 1972). One major difference between the present study and previous research, however, was the reward allocation situation. In the present study managers divided rewards only among subordinates, while in laboratory studies the allocators included themselves in the allocation of rewards. However, in the organizations studied in the present research, no managers included themselves in the reward allocation. It appears from these findings that, due to the reward allocation situation in the laboratory study just described, the results cannot be generalized to a field setting in which the reward allocation situation is not the same. Another possible explanation for the lack of effects of pay increase budget fluctuations on choice of reward allocation mode lies in the limited time span considered in the study. Perhaps limiting the evaluation of pay increase budget fluctuations to only the two or three most recent years distorted the amount of variance which may have truly
existed. Therefore, the absence of effects of these fluctuations on the mode choice may be misleading.

**Managerial variables.** Several hypotheses were tested with respect to two managerial variables: managerial goals for the pay increase and managerial criteria for the pay increase. The findings for these hypotheses will now be discussed.

The third major hypothesis of this study, that the managerial goal of the reward allocation will influence the manager's choice of mode of reward allocation, was partially supported. This hypothesis included three more specific subhypotheses.

Subhypothesis 3A stated that equity is expected to be the manager's choice of allocation mode when reward of individual performance is the main managerial goal. Consistent with previous research (Landau & Leventhal, 1976), it appears that managers with a pay increase goal of rewarding high performance tended to describe their last pay increase decision as equity-based. This finding supports Subhypothesis 3A. However, it is interesting to note that this finding was not significant for all measures of the equity mode. For example, while managers with a goal of rewarding performance described their last pay increase decision as equity based, this goal did not influence their vignette allocations. The salience of managers' goals may play a part in determining this relationship. It is quite conceivable that managers, before completing the questionnaire used in this study, were not cognizant of a personal "goal," per se, for the pay increase. Consequently, when a choice concerning goals had to be made, they may have chosen the one which
they perceived to be the organization's goal, (e.g., reward high performance), regardless of how truly representative it was of their personal goals. Thus, managers may have, in retrospect, perceived their allocations to be based on equity, yet in actual vignette allocations used a mode other than equity.

Subhypothesis 3B stated that equality will be the chosen allocation mode when cooperative and harmonious work relationships are important to work group effectiveness. Due to what appears to be a problem of range restriction in responses to the managerial goal item, Deutsch's (1975) and Leventhal's (1976b) suggestion that a managerial goal for cooperative and harmonious work relationships will lead to a choice of the equality mode could not be tested. Very few managers perceived this to be their central goal in pay increases, resulting in range restriction on this item. As with the organizational goal for rewarding cooperative and harmonious work relationships, it is unclear why more managers did not choose equality as a central goal. However, significant correlations between organizational goals and managerial goals for pay increases suggest that managers agree with organizational goals for pay increases. This may explain why managers did not view reward of cooperative and harmonious work relationships as their central pay increase goal. On the other hand, it is also conceivable that managers truly do not perceive reward of cooperative and harmonious work relationships to be their central pay increase goal. In either case, what appears to be a problem of range restriction in responses
to this item may simply be a true reflection of pay increase goals among financial institution managers.

Subhypothesis 3C stated that when multiple goals become salient, a mode other than strict equity will be preferred. Consistent with prior research (e.g., Greenberg, 1978b), managers with multiple goals for the pay increase chose a reward allocation mode other than strict equity. Specifically, managers with multiple pay increase goals tended to list/rank equality-related criteria as important in pay increase decisions and/or describe their last pay increase decision as based on a combination of reward allocation modes. However, multiple goals for the pay increase had no effect on vignette allocations. Again the salience of a manager's goals may play a part in determining which mode is chosen. While a manager may be able to acknowledge multiple pay increase goals, for a given pay increase decision situational factors may cause one goal to be more salient than others. Past pay increase decisions may have, thus, been influenced by situational factors. The vignette allocations, which are less problematic with regard to demand characteristics, cannot, however, provide situational information which would normally be available in actual pay increase decisions.

In conclusion, the hypothesis that the managerial goal of the reward allocation will influence the manager's choice of mode of reward allocation was partially supported. It appears that for the allocation mode measures involving recall of past pay increase decisions or recall of criteria which would be considered important
in pay increase decisions, managerial pay increase goals did have an influence on reward mode choice. However, vignette allocations were not affected by these goals. The salience of managerial pay increase goals may be an influencing factor in this relationship between pay increase goals and reward mode choice.

The fourth major hypothesis stated that managers who weight performance based criteria most heavily will choose equity as an allocation mode more frequently than equality or need. Effects of managerial criteria for the pay increase on the choice of reward allocation mode were not found, which is inconsistent with other studies which have indicated equity as the chosen mode when the criteria are performance-related (e.g., Fossum & Fitch, 1985). Managers in this study who weighted employee inputs to the organization most heavily did not have a preference for equity or any other mode of reward allocation. One possible explanation for this finding lies in the strong positive correlation between managerial emphasis and organizational emphasis on employee job inputs ($r = .68$, $p < .001$). Managers may have reported a personal emphasis on these criteria because they felt the organization emphasized their importance. Therefore, it is possible that if the managers did not personally view these criteria as most important, the influence of these criteria on the choice of reward allocation mode would have been lessened. A second possible explanation lies in the influence of situational factors. That is, even though managers may generally consider employee job inputs to be the most important criteria in pay increase decisions, these criteria may have less influence on the
choice of reward allocation mode as different situational factors become salient.

**Stepwise Regressions Testing the Interaction of Organizational and Managerial Variables**

Since there were a number of measures for each mode of reward allocation, stepwise regressions were performed using each measure as a dependent variable. Ideally, the same or similar combinations of variables would predict the different measures of the same mode. However, this was not the case for any reward allocation mode.

First, use of the equity mode was predicted by two totally dissimilar sets of predictor variables. Since the two measures of the equity mode in question were significantly correlated ($r = .16, p < .01$), one would expect similar patterns of predictor variables. However, while the correlation is significant, it is still much lower than would be hoped, and may explain the nonsimilar patterns of predictor variables. Furthermore, one set of predictors must be interpreted with caution. The missing values for one set of independent variables were replaced with the mean scores for the variables, and may therefore overestimate their importance in the model. Conservatively, it may be wiser to place more emphasis on the model based on only uncorrected values, which indicated that the best predictors of the equity mode were managerial perceptions of employee deservingness of the pay increase and managerial beliefs which were consistent with reinforcement theory.
Second, two sets of predictors of the equality mode resulted which would theoretically be expected to predict use of the equity mode rather than the equality mode. Strong intercorrelations between measures of the equity and equality modes may partially explain this result. It may be that equal and equitable allocations were both preferred allocations, and some other variable which was not included in this analysis determined the manager's choice of the equality mode. Another possible explanation for this relationship may be that it was difficult for managers to distinguish between equity and equality modes.

Third, two totally different sets of variables predicted use of the need mode. The two measures of the need mode in question were significantly correlated ($r = .64$, $p < .001$), and would have been expected to have been predicted by a similar constellation of variables. However, the two sets of predictor variables were not correlated with each other. Apparently, the measures of the need mode, although significantly correlated, did not correlate highly enough. Furthermore, the low number of managers who chose the need mode may have limited the power of this analysis.

Fourth, and finally, two totally different sets of variables predicted use of the other/combination mode. However, the missing values for one set of predictor variables were replaced with the mean scores for the values and may, therefore, overestimate their importance in the model. Thus the results of this model must be interpreted with caution. Conservatively, it may be wiser to place more emphasis on the results of the model based only on uncorrected
values, which found that the best predictor of the other/combination mode was managerial perceptions of an employee's deservingness for a pay increase.

Limitations of the Present Research

The most important set of concerns involves measurement of the reward allocation modes. First, the intercorrelations within each reward mode were disappointingly low overall. Since all of the mode measures were developed by the researcher and, therefore, this was the first time the measures had been used in a field study, there is clearly room for methodological improvement in measurement of the modes. Furthermore, the correlations between the equity and equality mode measures were very high. The measure of the modes which involved listing/ranking criteria important in pay increase decisions was designed so that managers could place equal importance on criteria in both the equity and equality categories. Therefore, it is conceivable that managers could have relied fairly heavily on both modes when making pay increase decisions. Greater distinction between these modes would allow clearer understanding of the effects of predictor variables on each of these modes independently. Finally, the realism of the vignettes was limited. Managers made allocations with very little information about the four employees, and without having had any normal interactions with them. However, since access to actual pay increase figures is virtually impossible the vignette allocations are the closest approximation of how actual allocations are made.
Also, the present study relied solely upon self-report measures. Since the study was based on managers' perceptions and decision making processes, most parts of the questionnaire lacked objectivity and verifiability. It may have been useful to have objective measures of organizational variables for comparison with how managers perceived these organizational variables. This information may have helped to explain some of the findings.

Additionally, range restriction appeared to be a problem in a number of items. However, one can only speculate at this point as to what extent the range restriction problem or a reflection of reality in organizations. For example, did very few of the managers choose the equality mode because it was not perceived to be a realistic option in organizations, or was the sample used actually exclusive of organizations which may encourage or allow use of the equality mode? By increasing the sample size and adding a variety of different types of organizations the extent of the range restriction problem may be clarified.

Furthermore, the limitations of the use of stepwise regression must be acknowledged. The stepwise regression procedure allows for entry of a number of variables, allowing statistical criteria to determine the relative importance and, thus, the order of entry of each variable. Stepwise regression capitalizes on chance error and relies on overfitting of data. Also, when interpreting stepwise regressions one must be aware that while several variables considered together may increase the $R^2$, any one of these variables alone may not add a significant proportion of variance accounted for. One
advantage of stepwise regression, and the reason it was chosen for use in this study, is its capacity for model-building (Tabachnick & Fidell, 1983). The procedure allows for synthesis of an array of research findings. Thus, the results of the stepwise regression analyses are perhaps best viewed at providing a basis for future research using Freedman and Montanari's (1980) reward allocation model.

Finally, the generalizability of the results of the present study must be discussed. The geographic diversity of the sample adds to the generalizability of the study across financial institutions. However, responses were obtained only from managers in financial institutions, and may differ from those of managers in different types of organizations. This factor should be considered if present findings are applied to other groups.

Theoretical and Applied Significance of the Findings

Theoretical significance. The present findings provide preliminary support for the importance of organizational variables and managerial variables in Freedman and Montanari's (1980) managerial reward allocation model. Only one of the hypothesized relationships between a single variable and the choice of reward allocation mode was supported, that is, the relationship involving managerial pay increase goals. However, when considered simultaneously, managerial and organizational variables interacted to influenced the choice of reward allocation mode. A major part of Freedman and Montanari's (1980) model was the effects of the
interrelationships between the antecedent variables, i.e., managerial and organizational variables, on the choice of reward allocation mode. Therefore, while the relationships between single variables and the allocation modes were not strong in the present research, the finding that the variables interacted to influence the reward allocation mode choice support one major part of Freedman and Montanari's (1980) proposed model. However, of the array of antecedent variables which were possible predictors of reward allocation modes, never were there over two significant predictors in any one model.

The findings also indicated that, with regard to the measures of the reward allocation modes, theory is ahead of measurement technology. First, within the measures which were constructed for each mode, the correlations were disappointingly low, indicating a need to refine measurement of the modes. Second, the correlations were surprisingly high between measures of the modes of equity and equality. This strong relationship may indicate that the constructs of equity and equality, although theoretically distinct, may not be cognitively separable by subjects, or that the measurement of these constructs did not allow for sufficient distinction between the two. On the other hand, the two may be distinct, both theoretically and cognitively, yet each may be the preferred mode depending on the situation. If so, the need arises for greater theoretical understanding of situational constraints.

In summary, it appears from a theoretical standpoint that while, independently, managerial variables influence the mode choice,
and when combined, organizational and managerial variables influence the mode choice, these relationships cannot be confirmed until improvements are made on measurement of the allocation modes.

**Applied significance.** Several applications in the area of managerial reward allocation are suggested by the present findings. Because organizational goals for pay increases did not appear to have an influence on the choice of reward allocation mode, there may be a need for greater emphasis on or explanation of these goals. In laboratory studies where subjects were very aware of their goal, the effect on allocations was significant (Greenberg, 1978b, Landau & Leventhal, 1976). Thus, making organizational goals for pay increases more explicit may increase their effect on managers' pay increase decisions.

The weak association between managerial emphasis on performance based criteria and choice of the equity mode suggests that managers either may not be translating their employee evaluations into the appropriate reward allocation mode, or their current reward system may prohibit use of the appropriate reward allocation mode. In this sample, this weak relationship may be due to a recent organizational emphasis on performance-based pay increases. Thus, managers may have been aware of the performance-based criteria which their organization currently stressed as important, yet the previous reward system with which they were familiar did not reflect such an emphasis. The applied significance of this is that organizations must ensure that the currently employed reward system is reflective of the criteria emphasized as important, and is understood by managers. Furthermore,
once the performance evaluation and reward allocation system are linked, managers need to be trained to use the two together. This is particularly true if, as in a number of the financial institutions in this study, the system is new to managers. This training would also afford an opportunity to clarify organizational goals for pay increases.

Finally, the results of this study which involved the relative importance of different variables in the choice of reward allocation mode should allow managers to more fully understand what factors are influencing their decisions. Awareness of these influences would allow modifications in reward allocation behavior if necessary. Managers who have a clear understanding of the effects of their personal biases, values, and opinions on their reward allocation decisions will be better able to control these personal factors and, consequently, make fairer and more objective reward allocations.

Future Research

While this study provides some support for the contention that, when considered together, organizational variables and managerial variables affect the allocation mode choice, additional research is needed on Freedman and Montanari's (1980) managerial reward allocation model. First, since the reward allocation mode is the variable being predicted, measurement of this variable must be addressed. Before any sound conclusions can be made, we must be able to measure each mode more reliably and perhaps more validly. Seemingly a first step in this direction would be further investigations using the strongest
reward allocation measure in this study, the descriptive statement of the last reward allocation. Furthermore, use of vignettes may prove to be as useful as they have been in other studies, such as those involving evaluation of responses to employee performance (e.g., Green & Liden, 1980; Dobbins & Russell, 1986).

Second, replication of the present study including a greater number of respondents would allow further clarification of the relationships between the variables in the tested portion of the model, and would strengthen the methodology as well.

Third, once the soundness of the methodology and of the model itself has been improved, the present study should be replicated, first in financial institutions, then in other organizations to improve generalizability of the findings.

Finally, the possibility of additional variables which have not been included in this model should be considered. For example, there is a growing interest in how attributions affect leader-subordinate interactions, (e.g., Green & Liden, 1980; Dobbins, Pence, Orban, & Sgro, 1983). The effects of managers' attributions on managerial reward allocations may be a managerial variable worthy of inclusion in the model.

In conclusion, this study involved the test of a portion of Freedman and Montanari's (1980) integrative model of managerial reward allocations: the influence of managerial variables and organizational variables on the choice of reward allocation mode. Significant effects for hypothesized relationships between single variables and reward allocation modes were found only for managerial
pay increase goals. However, when managerial and organizational variables were considered simultaneously, a number of significant relationships resulted. The interactive effects of these sets of variables on the reward allocation mode choice require clarification. This can only be achieved if measurement of reward allocation modes is refined. Following this advance, additional portions of the model will be testable, and specific relationships between all the variables can be defined. The end result will be a greater understanding of the entire reward allocation process.
REFERENCES


APPENDIX A

Cover Letter
August, 1986

Dear Manager:

I am a graduate student completing my doctorate in Industrial/Organizational Psychology at Louisiana State University. Your bank has agreed to participate in a survey which I have developed concerning managers' pay increase decisions in the banking industry. As a manager involved in employee pay increases, you have been selected to voluntarily complete the enclosed survey.

This survey is concerned with the factors you consider when making pay increase decisions. Please take a few minutes to read through and complete the survey. Respond to all of the questions in the manner most appropriate to your situation. The instructions for each section of the survey are self-explanatory. In the final section of the survey you are asked to make pay increase decisions for a fictional group of employees using the information provided. Please note that in no part of the survey will you be asked to divulge confidential information concerning actual dollar figures for any of your employees.

Let me assure you that your responses will be completely anonymous. When you have completed the survey, please discard the four yellow pages and the cover letter and return only the pages numbered one through five to me at Louisiana State University in the provided envelope. Return of the survey within one week to ten days would be greatly appreciated.

If you have any questions, please feel free to contact me at L.S.U.

I would sincerely appreciate your participation in this study.

Very truly yours,

Jeanne M. Russell
APPENDIX B

Measures of Organizational Goals for Pay Increases
Organizational Goals for Pay Increases. Organizations may expect various goals to be attained through pay increases. Allocate the number of points which most appropriately describes the importance which your organization places on the following goals for pay increases. The total number of points allocated must total seven. It is not necessary to use all three items, so use only the items which apply to your organization.

1. High performance is the primary concern. Only the best performers are encouraged to stay with the organization. High performers are rewarded with high pay, and low performers with low pay.

2. Cooperation among employees is the primary concern. Harmonious relationships and a lack of conflict are encouraged so that all employees are motivated to stay with the organization.

3. My organization has other goals for pay increases which can better be described as: (please fill in your organization’s goal below if the two goals above inadequately describe your organization’s goals for pay increases).
APPENDIX C

Measures of Pay Secrecy
Pay Secrecy. Rate each of the following items using the scale provided. In total secrecy conditions, your subordinates have no idea what the maximum pay is for their position or for other positions, when to expect their next raise, etc. In individual disclosure conditions, your subordinates know their position in the pay range for their jobs. In full disclosure situations, your subordinates know the pay range for their positions, other positions and other employees, when to expect their next raise, etc.

<table>
<thead>
<tr>
<th>Total</th>
<th>Individual</th>
<th>Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secrecy</td>
<td>Disclosure</td>
<td>Disclosure</td>
</tr>
</tbody>
</table>

1. The policy in my organization regarding pay secrecy for my subordinates is:

2. Among their co-workers, my subordinates generally practice:
APPENDIX D

Measures of Organizational Criteria for Pay Increases
Organizational Criteria for Pay Increases. Use the 7-point scale to write the number which best describes the importance organizational policy places on each of the following 10 criteria in evaluating employees for pay increases.

7--------6--------5--------4--------3--------2--------1

Very Somewhat Not
Important Important Important

1. Individual employee job performance
2. Nature of the employee's job
3. Amount of effort expended by the employee
4. Employee's training and experience
5. Pay level for comparable positions outside the organization
6. Pay level for comparable positions inside the organization
7. Amount of employee's last pay increase
8. Cost of living
9. Length of service (seniority)
10. Level of employee's responsibility
APPENDIX E

Measures of Pay Increase Budget
Pay Increase Budget.

What was the size of your pay increase budget for 1984? _____
1985? _____

Please estimate for 1986 _____
APPENDIX F

Measures of Organizational Demographics
What was the date of the last pay increase? (Approximate) __________

How often do pay increases occur in your department?

___ 3 months  ___ 6 months  ___ 12 months  ___ Other (describe):

Approximately how many employees are in your organization? ____
APPENDIX G

Measures of Managerial Goals for Pay Increases
Managerial Goals. You as a manager may have your own ideas concerning what should be accomplished through pay increases. Allocate the number of points which most appropriately describes the importance which you as a manager place on each of the following goals for pay increases. The total number of points allocated must total seven. It is not necessary to use all three items, so use only the items which apply to you as a manager.

___1. High performance is the primary concern. Only the best performers are motivated to stay with the organization. High performers are rewarded with high pay, and low performers with low pay.

___2. Cooperation among employees is the primary concern. Harmonious relationships and a lack of conflict are encouraged so that all employees are motivated to stay with the organization.

___3. I have other goals for pay increases which I allocate, which are best described as: (please fill in your goal below if the two goals above inadequately describe your goals for pay increases).
APPENDIX H

Measures of Beliefs About Employee Motivation
Beliefs about employee motivation. Check only one of the following statements which most closely describes your beliefs about how you can best motivate your employees through pay increases.

I believe that in order to motivate my employees as much as possible, my job is to:

- Do what I can to enable my subordinates to attain high performance by offering them the salaries which they perceive to be sufficiently high. They must expect that they can reach the performance goal and that they will receive the expected salary upon attaining the goal.

- Reward high performing subordinates regularly, as quickly as possible, and in such a manner that will cause my subordinates to repeat high performances.

- Maintain pay equity for my subordinates. That is, my subordinates should feel that their pay is proportional to their job inputs (e.g., seniority, performance, education, etc.), and that other employees' pay is proportionate to their job inputs as well.
APPENDIX I

Measures of Managerial Criteria for
Pay Increases
**Managerial Criteria for Pay Increases.** Use the 7-point scale to write the number which best describes the importance you as a manager place on the following 10 criteria in evaluating employees for pay increases.

<table>
<thead>
<tr>
<th></th>
<th>Very Important</th>
<th>Somewhat Important</th>
<th>Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Individual employee job performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Nature of the employee's job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Amount of effort expended by the employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Employee's training and experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Pay levels for comparable positions outside the organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Pay levels for comparable positions inside the organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Amount of employee's last pay increase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Cost of living</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Length of service (seniority)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Level of employee's responsibility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX J

Measures of Managerial Demographics
<table>
<thead>
<tr>
<th>General Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
</tr>
<tr>
<td>M/F</td>
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<tr>
<td></td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>How many subordinates did you consider for a pay increase?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>How many years have you held your current position:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>What is your position in the organization:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>In how many employees' pay raise decisions are you involved?</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>I make pay increase decisions for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>officers</td>
</tr>
<tr>
<td>exempt employees</td>
</tr>
<tr>
<td>non-exempt employees</td>
</tr>
</tbody>
</table>
APPENDIX K

Measures of Dollar Amounts of Pay Increases
Please read each of the following questions and respond to them in the space provided in as much detail as necessary. Consider the latest pay increases which you made for your employees when responding to these questions.

What were the greatest and least dollar amounts of salary increases which you allocated? $_____ - greatest $_____ - least
APPENDIX L

Listings/Rankings of Criteria Considered Important in Pay Increases
Please list the criteria which you considered in allocating pay increases to your employees. Also, please rank the importance of the criteria which you list, the most important being ranked "1."
APPENDIX M

Rating Form for Independent Raters for Listings/Rankings of Criteria for Pay Increase Decisions
1. **EQUITY** will be the mode of allocation when the employee is compensated or valued most for his/her job inputs. Job inputs include most primarily job performance, as well as education, length of service to organization, ability, skill, and how much control the person has over job inputs (e.g., exerted effort).

The criteria listed by the manager to be important for consideration in an employee's pay/salary increase were related to equity:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>somewhat</td>
<td>very much</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

2. **EQUALITY** will be the mode of allocation when the manager wants to maintain harmonious relations and solidarity among group members. Across-the-board allocations will be preferred.

The criteria listed by the manager to be important for consideration in an employee's pay/salary increase were related to equality:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>somewhat</td>
<td>very much</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

3. **NEED** will be the preferred mode of allocation when the manager weighs information that would indicate that an employee is or is not in need of an increase in pay. The manager employing this mode is most interested in the personal welfare of the employee.

The criteria listed by the manager to be important for consideration in an employee's pay/salary increase were related to need:

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<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>somewhat</td>
<td>very much</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. **OTHER** or **COMBINATION** will be the mode of allocation when criteria are weighted which do not fall distinctly into one of the above categories, or involves some obvious combination of the above categories.

The criteria listed by the manager to be important for consideration in an employee's pay/salary increase were related to some other mode or some combination:

<table>
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<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>somewhat</td>
<td>very much</td>
<td></td>
<td></td>
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</tr>
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</table>
APPENDIX N

Statements Descriptive of Mode of Allocation

Used in Last Pay Increase
Check the one statement which most closely describes how you feel that you allocated the pay increases for your employees on the last pay increase:

1. **Equity** - That is, my highest performers receive the highest pay raises, and the lowest performers receive the lowest pay raises. (e.g., merit increases).

2. **Equality** - That is, all of my employees will receive equal, or across-the-board, pay raises.

3. **Need** - That is, I consider my employees with the greatest need for the pay raise first.

4. **Both Equity and Equality** - That is, equal or across-the-board pay raises are given, with the exception of outstandingly high or low performers.

5. **Both Equity and Need** - That is, my highest performers receive higher pay raises, and my lowest performers receive lower raises, with exceptions taken for employees in situations of great need or of little need for the pay increase.

6. **Both Equality and Need** - That is, my employees receive equal, or across-the-board, pay increases with exceptions taken for employees in situations of great need or of little need for the pay increase.

7. **Other**: situation has not been described adequately. (Please describe in the space provided):
APPENDIX O

Vignettes
Please read the four employees' personnel files. The files provide general information concerning the employee, the employee's most recent performance appraisal rating, and general comments which the supervisor has made concerning the employee. Assume that these four employees are your subordinates. Based on the information presented in their files, and following organizational policy for pay increases, please allocate $1,000 among the four employees.

$____ 1. Ken Franklin
$____ 2. Robert Harris
$____ 3. Joseph Brown
$____ 4. Stephen Hill

Once again, please read the four employees' personnel files, and assume that these four employees are your subordinates. This time, based on the information presented in their files, and following your preferences for pay increases, please allocate $1,000 among the four employees.

$____ 1. Ken Franklin
$____ 2. Robert Harris
$____ 3. Joseph Brown
$____ 4. Stephen Hill
AMERICAN DRILLING & OIL EXPLORATION COMPANY PERSONNEL FILE: Ken Franklin

SSN: 414-88-6453
ADDRESS: 7621 Greenscrest Dr
Baton Rouge, LA 70802
DATE OF BIRTH: 4-27-40
HEIGHT 6' 0"
MARITAL STATUS: Married

MOST RECENT PERFORMANCE RATING:

<table>
<thead>
<tr>
<th>Area of Performance</th>
<th>Rating</th>
<th>Comments on Abilities</th>
<th>Comments on Initiative</th>
<th>Comments on Quantity</th>
<th>Comments on Knowledge</th>
<th>Comments on Attitude</th>
<th>Comments on Urgent</th>
<th>Comments on Dependability</th>
<th>Comments on Leadership</th>
<th>Comments on Initiative</th>
<th>Comments on Knowledge</th>
<th>Comments on Attitude</th>
<th>Comments on Urgent</th>
<th>Comments on Dependability</th>
<th>Comments on Leadership</th>
<th>Comments on Initiative</th>
<th>Comments on Knowledge</th>
<th>Comments on Attitude</th>
<th>Comments on Urgent</th>
<th>Comments on Dependability</th>
<th>Comments on Leadership</th>
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</table>

TELEPHONE: 766-7026
SEX: M
WEIGHT: 175 lbs
DEPENDENTS: 5

GENERAL COMMENTS

Mr. Franklin's performance this year has been consistently sound. From his comments to you on numerous occasions, I gather that his illness has left him steeped with doubts that his endurance has not suffered. He has left his best, fulfilling great needs.
AMERICAN DRILLING & OIL EXPLORATION COMPANY PERSONNEL FILE: Robert Harris

**SCH:** 433-11-4456  
**ADDRESS:** 9666 Wilderness Dr., Baton Rouge, LA 70808  
**DATE OF BIRTH:** 6-16-43  
**HEIGHT:** 6'2"  
**MARITAL STATUS:** Married  
**ADDRESS:** 9066 Wilderness Dr.  
**WEIGHT:** 197 lbs.  
**DEPENDENTS:** 2

### Most Recent Performance Rating:

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Attitude and Initiative</td>
<td>Usually good quality, few absences</td>
</tr>
<tr>
<td>Work Reliability and Dependability</td>
<td>Usually good quality, few absences</td>
</tr>
<tr>
<td>Cooperation with Other Employees</td>
<td>Usually good quality, few absences</td>
</tr>
<tr>
<td>Overall Performance and Attitude</td>
<td>Usually good quality, few absences</td>
</tr>
</tbody>
</table>

### General Comments:

Mr. Harris' performance over the past year has been very high. He has recently complained to me that since his house has been paid off, he will have more money available to spend on his boat.
**AMERICAN DRILLING & OIL EXPLORATION COMPANY PERSONNEL FILE: Joseph Brown**

SSN: 454-67-8898  
ADDRESS: 8165 Rosewood Dr.  
Baton Rouge, LA 70801  
TELEPHONE: 925-8570  
DATE OF BIRTH: 3-5-46  
SEX: M  
WEIGHT: 175 lbs.  
MARITAL STATUS: Married  
DEPENDENTS: 2  
MOST RECENT PERFORMANCE RATING:

| bob | bob | bob | bob | bob | bob | bob
|-----|-----|-----|-----|-----|-----|-----|
| bob | bob | bob | bob | bob | bob | bob

**GENERAL COMMENTS:** Over the past two years, Mr. Brown has generally been dependable and helpful. He is mentally retarded and has recently been placed in a special school. This appears to have troubled him since he has mentioned on various occasions the financial burden which this has placed on his family.
AMERICAN DRILLING & OIL EXPLORATION COMPANY PERSONNEL FILE: Stephen Hill

SSN: 413-55-3421
ADDRESS: 9122 Seascape Lane
Baton Rouge, LA 70898
DATE OF BIRTH: 8-8-48
HEIGHT: 6'2"
MARITAL STATUS: Married

WEIGHT: 210 lbs.
DEPENDENTS: 2

SEX: M

GENERAL COMMENTS:

Mr. Hill's performance has been very low over the past year. Steve has recently commented to me that since his house has been paid off, he will have more money available to spend on his boat.
Footnote

1. The analyses for the organizational goals variable were also performed using continuous data, and the results were identical.

2. The analyses for the managerial goals variable were also performed using continuous data, and the results were identical.
Vita

Jeanne Michele Russell was born on April 27, 1961 in Evansville, Indiana, the daughter of Walter and Margaret Russell. She graduated from William Henry Harrison High School in 1978. Four years later she graduated from University of Southern Indiana with a B.S. in Psychology. She entered the Industrial/Organizational Psychology doctoral program at Louisiana State University in the Fall of 1982. In 1984, she received her M.A., and she will receive her Ph.D. degree in Industrial/Organizational Psychology from Louisiana State University, Baton Rouge, Louisiana in May, 1987.

Permanent Address: 1566 South Burkhardt Road

Evansville, Indiana 47715
Master's Examination and Thesis Report

Candidate: Jeanne M. Russell

Major Field: Psychology

Title of Thesis: Managerial Reward Allocations: A Test of Freedman and Montanari's Model.

Approved:

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Major Professor and Chairman

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Dean of the Graduate School

Examinining Committee:

[Signatures]

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