

## PSYCHOLOGICAL AND SOCIOLOGICAL FOUNDATIONS OF ECONOMIC BEHAVIOR

### Gift Exchange and Efficiency-Wage Theory: Four Views

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My earlier paper (1982) viewed the labor contract as a "partial gift exchange." According to this view some firms willingly pay workers in excess of the market-clearing wage; in return they expect workers to supply more effort than they would if equivalent jobs could be readily obtained (as is the case if wages are just at market clearing). This partial gift exchange hypothesis is one of several efficiency-wage theories which explain why wages exceed market clearing, or alternatively stated, why there is involuntary unemployment. This paper gives some further commentary on partial gift exchange. A complementary paper in this issue (Janet Yellen, 1984) reviews these efficiency-wage models in general.

If there is involuntary unemployment in an equilibrium situation, it must be that firms, for some reason or other, wish to pay more than the market-clearing wage. And that is the heart of any efficiency-wage theory. Yet there is a natural reason why economists have hitherto resisted the application of efficiency-wage theories to unemployment in developed countries. A view that any buyer should willingly pay more than necessary to any seller seems highly counterintuitive in the paradigm of standard economics, which is that of supply and demand. The purpose of this paper is to show that in the context of four other paradigms of the labor market, such wage-setting behavior is in fact natural. Furthermore, the literature in each of these

paradigms marshalls considerable empirical evidence supporting the hypothesis that some firms may pay more than market-clearing wages.

The four paradigms to which I refer are those of dual labor markets, the theory of bureaucracy, the theory of work groups, and equity theory.

#### I. Dual Labor Market Hypothesis: The First Paradigm

Because of its familiarity to economists, my comments on the dual labor market hypothesis of Doeringer and Piore will be brief. According to this theory there are two types of jobs—those in the primary sector and those in the secondary sector. Primary sector jobs have stability, low quit rates, good working conditions, promotions according to a promotion ladder, acquisition of skills, and good pay. In contrast, secondary sector jobs have high quit rates, harsh discipline, little chance of promotion, low acquisition of skills, and poor pay. The difference between good pay and poor pay between primary and secondary sector jobs can be seen as the difference between wages in excess of market clearing and wages at market clearing. Provided primary sector firms set the wages they "prefer," the dual labor market hypothesis is itself an efficiency-wage theory of the labor market. If the dual labor market hypothesis is not counterintuitive, then neither are efficiency-wage theories of unemployment. Furthermore, all the empirical studies supporting the dual labor market hypothesis also *ipso facto* support efficiency wage theories of unemployment—since primary sector firms are paying wages in excess of market clearing.

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I should also mention that the theory of internal labor markets follows closely the basis for the sociological theory of organizations: the primary sector organization described by Doeringer and Piore fits closely the classic description of the bureaucratic organization by Weber.

## II. Weberian Theory of Organization: The Second Paradigm

The Doeringer-Piore model is based, in most respects, on Weber's description of bureaucracies. According to Weber, a bureaucracy is a hierarchical organization in which officials follow career paths according to the organization's promotion ladder. There is a well-specified division of labor; and the officials of those organizations exercise an impersonal discipline in the discretionary conduct of their own offices as well as in the exercise of commands from higher offices. This impersonal discipline is the by-product of the personal loyalty of the employees to the goals of the bureaucracy. The most essential feature of the gift exchange model is the importance of employee loyalty to the operation of the firm. Thus the abundant evidence which shows the accuracy of Weber's description of bureaucratic organizations serves as evidence for the empirical importance of this essential feature of the gift exchange model as well.

In recent years empirical sociologists have, however, modified the Weberian theory of bureaucracy through their studies of work groups. These studies (in contrast to Weber's emphasis on hierarchical control) suggest that in the typical organization superiors have only limited control over the work activity of their subordinates. The Doeringer-Piore description of internal labor markets also incorporates this modification due to the study of work groups.

## III. Work Groups: The Third Paradigm

Detailed sociological studies (beginning with the examination of the Hawthorne works by Roethlisberger and Dickson) have shown considerable discrepancy between *formal* and *actual* authority in many different work

situations. In the work situations examined, workers have, with varying degrees of openness, set their own informal work rules which are often at variance with the official work rules. The ability of management to make workers conform to their authority is far from complete; instead, most studies have shown a complex equilibrium in which official work rules are partially enforced, existing side by side with a set of customs in the work place which are at partial variance with the work rules, and some individual deviance from both the official work rules and the informal work norms. This incompleteness of authority in the work place should not be a surprise. The occasional spectacular jail breaks from even the most closely guarded prisons suggest that authority over subordinates in even the most total institutions is less than complete.

Within this framework where adherence to authority is by nature less than complete, the loyalty of employees is one contributor to high productivity. According to the basic idea of the "labor market as partial gift exchange," the loyalty of workers is exchanged for high wages, and this loyalty can be translated via effective management into high productivity. This is an abstract concept which may be more convincing if it is discussed in the context of a real work situation.

A recent sociological study by Michael Burawoy (1979) repeats a classic study by Donald Roy (1952) of the operation of a piecework machine shop. (At the time of Burawoy's restudy, this machine shop produced parts for truck engines.) The workers in this shop were rewarded for their efforts by an incentive system. According to this payment system, each job was rated for normal production. Workers who produced less than this normal production were awarded their base pay, and workers who produced in excess of this base were awarded proportionately higher wages. Workers used this incentive system to relieve the boredom of their jobs by turning their work into a game. Those who found that they could produce more than the base production engaged in "making out at the game." This making out at the game involved attempting to produce

as much as 140 percent of normal production. (Production beyond this level on any day was not recorded because of fear that the rates would be consequently revised.)

As described by Burawoy, this game was played intensely. Workers' conversations at lunch were dominated by discussions of their difficulties or successes in making out. The social exchange of the machine shop was dominated by it. Operators played the game, while various auxiliary workers played a role in either helping or hindering the operators at their making out—playing a role not unlike that of the Chance and Community Chest cards in Monopoly. I will describe these interactions with auxiliaries in a bit of detail, because they indicate the character of the game. These interactions indicate as well that conflict in the work place may as naturally involve workers on the same hierarchical level as superiors and subordinates.

Before starting a new job, typically at the beginning of a working day, an operator had to be assigned by the scheduling man, whose discretion in making easy or difficult assignments had considerable influence on the operator's subsequent success at making out. Before beginning the job he then, typically, had to engage the aid of the crib attendant, whose job included handing out blueprints and tools, some of which might be scattered about the shop floor; the truckers, whose job was to bring stock from the aisles; the setup man, whose job was to help workers set up their machines; and the inspector, whose approval of the first piece was necessary before the operator could engage in subsequent production. In each case the auxiliary worker had considerable discretion as to which worker he might be helping at a given time, and the amount of aid he was going to give. Failure to engage the crib attendant, for example, in grinding tools might cause considerable delay, as could failure to engage a trucker to bring the raw material. The setup man could help the operator make a rapid start. Inspectors could use discretion to accept or reject pieces which were at the margin of the blueprint specifications. In the cases of the scheduling man and the inspector, workers had direct methods of retaliation for unfair treatment: low production

would reflect badly on the scheduling man who was responsible for the shop's production, and workers could retaliate against too severe inspection by turning out scrap after the first piece was OK'd, which would look bad for the inspector. Workers did not have direct implicit threats, however, which would enforce equitable treatment from the crib attendant, truckers, or setup men.

Having described this game and the context in which it is played, the question arises whether the concept of wage-induced loyalty can play a role in this machine shop. The operators play the game, which "eliminates much of the drudgery and boredom of industrial work" (Burawoy, p. 89). Workers have converted their job into a type of pinball, with their eye on the score—only the job is dirtier, heavier, more dangerous and more enduring, and the output has value for other persons. Burawoy (p. 89) also assures the reader that workers' desire to make out (i.e., to reach 140) is not due to the added monetary rewards, but rather due to the same type of pleasure as comes from breaking a record in pinball. In such an environment, why would it pay a firm to give more than the minimum wage necessary to attract workers to the plant?

As we have seen, Burawoy's workers have considerable freedom in the operation of their machines and in their complex interactions with other workers. If they choose to produce less, they can do so; in fact Burawoy has described in detail instances in which workers broke the administrative rules to increase their own output (and make out at the game). Thus workers would have no difficulty in *decreasing* their output if they so desired while still abiding by the rules. But why should the wage have any effect on this desire?

"If wages are sufficiently low, workers will feel unfairly treated. Such unfair treatment will take the fun out of playing a game whose results benefit the firm. This reduction in fun will have the immediate effect of less willingness by workers to make out. As Burawoy writes a bit abstractly: "The day-to-day experience [of making out at the game] emerges out of the organization of work and defines the interests of the various agents of

production *once their basic survival—which, as far as workers are concerned is an acceptable wage—is assured*” (p. 85, emphasis added). Given that the term “acceptable” is a fuzzy concept, so that higher wages have higher probability of being seen as acceptable, this suggests that higher wages will result in increased productivity. Nor should it be forgotten that employees who feel they are unfairly treated will not only fail to indulge in the game, but may also actively participate in changing the rules so that its outcome is less advantageous to the firm.

This picture of gaming and equity yields a more sophisticated version of gift exchange than in my earlier article. It also yields a more sophisticated view of the bureaucratic firm’s reaction to incomplete control over work than in the economic articles on shirking. According to this view, in the case where workers have animosity toward their employer, higher wages will cause workers to feel less badly about relieving their boredom by playing a game which yields a surplus to the firm. Or, alternatively, if workers have loyalty to their employer, low wages will cause workers to feel less badly about playing a game which fails to benefit the firm.

In either case, the model in which high wages legitimize the workers’ positive feelings for outcomes which benefit the firm can be summarized by an individual utility function

$$(1) \quad U = U(\omega, e; \bar{\omega}, u).$$

The utility of the worker depends on his real wage  $\omega$ , his effort  $e$ , the wage paid to other workers  $\bar{\omega}$ , and the unemployment rate  $u$ . The worker at a given firm who maximizes this function will let his effort expended be a function of the real wage paid, the wage others are paid, and the unemployment rate

$$(2) \quad e = e(\omega; \bar{\omega}, u).$$

This last equation (2) is, of course, the key ingredient in an efficiency wage model of unemployment.

The gaming in the Roy-Burawoy studies is special. But a general point emerges from this situation which applies to all jobs in

which the worker has some degree of freedom. Workers in such jobs can use this freedom to make their workday more pleasant. In most jobs keeping busy makes the time go faster. (Psychological experiments show that subjects who are kept busy estimate a shorter elapse of calendar time than subjects who are idle.) Payment of a fair wage legitimizes for the worker the use of this busyness for the advantage of the firm. Not only may workers keep themselves busy in technical operations (as the operators at the machine shop) but they may be socially busy. For example, George Homans’ “Cash Posters” (1954) describes a group of clerical workers who spend their time working quickly, and also engaging in considerable social interaction in the process.

#### IV. Equity Theory: The Fourth Paradigm

The discussion of wages as contributing to job satisfaction which enhances worker willingness to engage in productive busyness on the job brings up an empirical question. *All things being equal*, do workers with greater pay produce greater output? Social psychologists in equity theory have conducted experiments to establish the empirical validity of such a connection. The classic study is by J. Stacy Adams (1965). (For a recent review of this literature, see Richard Mowday, 1979.)

Adams conducted an experiment in which students were hired for proofreading. One group was told that they were not qualified, but would be paid the usual rate. Another group was told that they were qualified and were also paid the usual rate. Those who were led to believe they were overpaid produced fewer errors when paid on a piece rate basis, and more output per hour when paid on an hourly basis than those who were told they were qualified and received the market rate. Many variants of this experiment have been conducted, some aimed at removing the reduction in self-esteem caused by telling some students they were not well-qualified. Not all of these studies reproduce the result that “overpaid” workers will produce more, but, as might be expected, the evidence appears strongest for the withdrawal of services by workers who are led to believe they are underpaid.

### V. Conclusion

Although to an economist the payment to a seller of factor services of more than the market-clearing price seems counterintuitive, at least four paradigms suggest either the empirical existence of such payments or why they will frequently occur in the labor market. In these paradigms efficiency-wage theories of unemployment are natural.

Finally, lest it be thought that these theories involve only *real* variables and thus only describe a *natural* rate of involuntary unemployment, I should add that in such models behavior which will result in small losses to agents will allow large changes in unemployment due to changes in real demand. And thus demand-generated cycles will result if there is near-rationality. (See Yellen, and my paper with Yellen, 1983.)

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