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Reciprocity and downward wage rigidity

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ABSTRACT

The employment relationship is to a large extent characterized by incomplete contracts, in which workers have a considerable degree of discretion over the choice of their work effort. This discretion at work kicks in the potential importance of "gift exchange" or reciprocity between workers and employers in their employment relationship. Built on the seminal work of Akerlof (1980), this paper adopts a social norm approach to model reciprocity in labor markets and theoretically derives two versions of downward wage rigidity. The first version explains why employers may adopt a high wage policy far above the competitive level. This version is not a novel finding in the existing literature and is mainly served as a benchmark for later comparison in the current paper. Our main contribution lies in the second version in which not only may employers adopt a high wage policy far above the competitive level, but one can also account for the asymmetric behavior of wages and explain why employers are hesitant about wage cuts in the presence of negative shocks. We argue that this second and stronger version of downward wage rigidity has moved the efficiency wage theory a step forward.

1. Introduction

Many people repay those who have been kind to them with gifts and behave in a reciprocal manner. This reciprocal behavior is different from altruism, which is a form of unconditional kindness. It is also different from responses in repeated interactions since reciprocal actions may be costly without there being any expectation of present or future tangible payoffs.

Akerlof (1982, 1984) noticed that reciprocal behavior might have important economic consequences when he observed the phenomenon of "gift exchange" between the worker and the firm. On the workers' side, the "gift" given is that they may be willing to do more than necessary to keep their jobs while, on the firms' side, the "gift" given is that they may be willing to pay wages in excess of the amount necessary to retain their workers. This "gift exchange" between the worker and the firm can give rise to a positive wage-effort relationship, which is the heart of the efficiency wage theory.[1] The possibility of "gift exchange" between the worker and the firm, Akerlof emphasized, is contrary to the prediction of the neoclassical model that firms will never pay more than the market-clearing wage. Because markets with gift-exchange need not clear, Akerlof argued that the presence of gift-exchange or reciprocity might explain the persistence of involuntary unemployment.

In the real world, people's kind or unkind behavior may arise from repeated interactions or may be simply due to unconditional altruism. It is thus difficult to discern with certainty the existence of reciprocity in real world interactions. This difficulty forces economists to search for clean experimental evidence. Recently, Fehr and his coauthors, and others conducted a

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[1] See Akerlof and Yellen (1986) and Katz (1986) for two introductions to the efficiency wage theory.

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series of tightly controlled laboratory experiments to study reciprocal behavior in labor markets.[2] Among their many findings, two are most relevant to the current paper.[3] First, the extent to which the workers' "gift" is given is strongly increasing in the "gift" given by employers (Fehr and Gächter, 1997; Fehr et al., 1997). Second, the presence of reciprocity gives rise to downward wage rigidity in the sense that employers adopt a high wage policy far above the competitive level and are reluctant to accept workers' underbidding of the prevailing wage (Fehr et al., 1993, 1998; Fehr and Falk, 1999). These two experimental findings nicely corroborate the gift-exchange efficiency wage hypothesis put forth by Akerlof (1982, 1984).

In the first part of this paper, we adopt a social norm approach to model reciprocity in labor markets and develop a basic model that is consistent with the environment in laboratory experiments to theoretically derive Fehr and his coauthors' two experimental findings above. Several recent papers, including Rabin (1993), Fehr and Schmidt (1999), Bolton and Ockenfels (2000), Dufwenberg and Kirchsteiger (2000, 2004), and Falk and Fischbacher (2006), have also developed models that are capable of explaining or deriving a positive wage-effort relationship on the basis of reciprocal behavior.[4] Thus the prediction of our basic model is not novel. Our novelty lies in the second part of the paper: we extend the basic model to derive a stronger version of downward wage rigidity, which is well documented empirically but cannot be explained by the standard efficiency wage theory.

In many laboratory experiments on reciprocity, the subjects who behave reciprocally and the subjects who exhibit selfish behavior and do not reciprocate are typically found to co-exist (Fehr and Gächter, 1998, 2000). According to Fehr and Schmidt's (2001) assessment, the heterogeneity of agents between reciprocal and selfish types is more important than their possible heterogeneity within reciprocity. Fehr and Fischbacher (2002) provide evidence indicating that the existence of reciprocal agents may lead to a world very different from the one that is exclusively populated by self-interested people. Whether or not a worker is of a reciprocal or a selfish type is determined endogenously in our basic model and the co-existence of reciprocal and selfish types typically shows up in equilibrium.

The co-existence of reciprocal and selfish types raises an interesting question: how differently would people behave if they knew there were different fractions of reciprocal or selfish types in the society? In the second part of this paper, we extend the basic model to address this social interaction among workers. It turns out that the extension gives rise to a stronger version of downward wage rigidity, in the sense that not only is there a positive wage-effort relationship so that employers may adopt a high wage policy far above the competitive level, but one can also account for the asymmetric behavior of wages and explain why employers are hesitant about wage cuts in the presence of negative shocks. We argue that this strong version of downward wage rigidity has moved the efficiency wage theory a step forward.[5]

The remainder of this paper consists of the following sections. Section 2 introduces the basic model. Section 3 extends the basic model to explicitly recognize the co-existence of reciprocal and selfish types of behavior. Section 4 concludes.

2. Basic model

A key feature common to the laboratory experiments conducted by Fehr and his coauthors is that wages paid by firms and effort supplied by workers are determined sequentially: wage payments are specified and committed in advance of effort supplied. This sequence is designed to capture the essence of incomplete labor contracts: workers have a considerable degree of discretion over the execution of the contract after the contract has been signed.[6] As long as (i) effort brings about disutility to workers, and (ii) effort above the minimum level is not enforceable by firms, it is standard to predict under this sequential setting that workers will choose to supply the minimum effort regardless of wage payments. Fehr and Gächter (1997) and Fehr et al. (1997) conducted experiments to test this prediction. They demonstrated that the standard prediction fails dramatically: workers will react reciprocally and the average effort put forward by workers will vary positively with the wage levels offered by firms.[7] In this section, we present a basic model to theoretically derive this reciprocity-elicit-effort result.

2.1. Model

Consider a one-period employment contract in which a firm specifies and commits to the wage payment in advance of work effort supplied.[8] After accepting the contract, workers in the workplace can choose to supply either high effort (which

[2] Some recent examples, see Fehr et al. (2008), Charness and Rabin (2002), Charness (2004) and Cox (2004).

[3] Fehr and Gächter (1998, 2000) review these experimental studies.

[4] It should be noted that these papers often intend to explain more than the gift-exchange efficiency wage hypothesis. See Fehr and Schmidt (2001) for a critical survey of this literature.

[5] It is worth noting that in an insider–outsider framework, Lindbeck and Snower (1985) demonstrated that wages and employment may behave asymmetrically in a business upswing and a downswing. They showed that a downswing is likely characterized by layoffs at stable insider wages, while an upswing may result in higher insider wages and only modest (if any) increases in employment. Their model is capable of explaining the phenomenon of downward wage rigidity.

[6] In the case of complete contracts where work effort requirement is specified in the contract, Fehr and Falk (1999) showed experimentally that employers will take full advantage of the low wage offers made by workers so that contract wages are close to the competitive level. This finding is intuitive. When work effort requirement is specified in the contract, there will be no role for reciprocity and there will be no incentive problem either. Recognizing this, a profit-maximizing firm obviously has no reason to offer wages in excess of the competitive level.

[7] Fehr and Gächter (1997) and Fehr et al. (1997) also perform experiments to show that if firms have the opportunity to respond reciprocally by rewarding or punishing workers after they observe the workers' effort choice, then the power of reciprocity will be reinforced.

[8] Similar to Fehr and Gächter (1997) and Fehr et al. (1997), the one-shot setting here is designed to rule out complications arising from repeated interactions.