Productivity loss and reinstatement as a legal remedy for unjust dismissal

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There are two types of legal remedies for unjust dismissal, damages or reinstatement. Although workers’ motivation is negatively influenced by employment adjustments such as a wage cut or layoffs, fired workers can receive a remedy when they are protected by dismissal regulations. We consider which legal remedy policy is better, damages or reinstatement, from the viewpoint of workers’ motivation at workplaces. Under a reinstatement policy, firms are more likely to make an employment adjustment, and reinstatement is dominated by damages from the viewpoint of social welfare when the productivity loss caused by employment adjustment is minor. On the other hand, when the productivity loss is serious, employment adjustment is more likely made under the damages policy, and reinstatement can be desirable. J. Japanese Int. Economies 21 (1) (2007) 78–105. University of Tsukuba, Department of Social Systems and Management, Tennou-dai 1-1-1, Tsukuba, Ibaraki 305-8573, Japan.

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1. Introduction

In European countries and Japan, there are strict regulations on employment protection, making it difficult for firms to fire their employees indiscriminately. In many studies on employment protection legislation, for example, Bentolila and Bertola (1990), Bertola (1990), Bertola and Rogerson (1997), Lazear (1990), Hopenhayn and Rogerson (1993), Saint-Paul (1995, 2002a, 2002b), Nickell (1997), and Ljungqvist and Sargent (1998), researchers regard employment protection legislation as an increase of the firms’ dismissal cost, and then have theoretically and empirically provided mixed results on the effects of employment protection legislation on the economy. As Bertola et al. (2000) and Ljungqvist (2002) point out, one reason for the mixed results is that the effects of employment protection legislation depend on labor market institutions such as unemployment benefit schemes and wage setting institutions. The court also plays a crucial role in the implementation of employment protection legislation.

In the real world, fired workers may believe that their firms’ are not adhering to employment protection regulations, and in actuality, some firms are not. Some firms intentionally breach the regulations while others may do so unintentionally in the belief that they are following due process over dismissals. Additionally, fired workers may misunderstand their firms’ statements and actions. Conflicts between firms and workers over dismissals and disputes in court often occur, with firms insisting their dismissal policies are legal and reasonable and fired workers believing otherwise. In this situation, if a firm and an employee fail to settle out of court and the fired worker brings a lawsuit, the court decides on the legality of the firm’s dismissal policy. Without verification of a firm’s due process on dismissal of its employee, a worker’s statement could be accepted in court, the firm’s statement rejected and the worker receive legal remedies for unjust dismissal. One purpose of employment protection regulations is to provide legal remedies for fired workers, and a legal remedy for unjust dismissal is an essential factor of these regulations.

Reinstatement is an actual legal remedy for unjust dismissal in many countries. According to OECD (2004), in Austria, Czech Republic, Japan, and Korea, reinstatement is often the legal remedy chosen for unjust dismissal, while the governments of Greece, Hungary, Italy, Norway, Portugal, Poland, and Slovak Republic are likely to adopt reinstatement as one of the legal remedies for unjust dismissal. Although there are few dismissal regulations in the US, reinstatement can sometimes be the legal remedy for unjust dismissal. In 1991 in the US, the National Conference of Commissioners on Uniform State Law proposed the Model Employment Termination Act which requires “just cause” for dismissal and adopts reinstatement as the remedy for unjust dismissal.1

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1 In the US, the common law doctrine of employment at-will is dominant in many states. However, as Krueger (1991) and Grenig (1991) indicate, there have been recent modifications to the doctrine of employment at-will in the US Worker Adjustment and Retraining Notification Act (WARN) was passed as a federal law in 1988 and obliges firms employing over 100 full-time workers to give notice to employees at least sixty days before a plant
There is one significant problem with reinstatement: Is reinstatement effective as a legal remedy for unjust dismissal? Even if fired workers can return to their original workplaces, there may be bad feelings between the workers and their firm managers, which is a natural response if the dispute has made its way through the court system. Even if they agree to settle out-of-court, they often have non-negligible resentment, which makes smooth and timely communication within the workplace difficult. Resentment negatively affects the motivation and productivity of the workers who have returned to their workplaces, which makes reinstatement appear to be an ineffective remedy for unjust dismissal.

Another legal remedy for unjust dismissal is compensation for the loss the workers suffer, and OECD (2004) reports that in Belgium, Finland, France, Spain, and Switzerland, damages are paid when workers are dismissed illegally; the court system rarely orders reinstatement in these countries. Workers who have won lawsuits in these countries can receive monetary transfer from their firms but never return to their original workplaces. Since fired workers do not return to their firms, firm managers do not have the problem of bad feelings between the workers and managers.

When reinstatement is adopted as the legal remedy policy, job matches can be maintained, whereas, job matches are always dissolved under the damages policy. This is the crucial difference between these remedies. Hence, it appears that monetary transfer is better than reinstatement as a legal remedy for unjust dismissal when resentment between workers and firms during reinstatement generates significant negative effects on workers’ productivity or motivation. However, we show that reinstatement can be more effective than the damages policy as a legal remedy for unjust dismissal when the productivity loss caused by the conflict over employment adjustment is quite serious.

Bewley (1999) reports that numerous firm managers avoid lowering employees’ morale and motivation as a consequence of wage decline. They prefer layoffs to wage cuts because the misery for those workers that lose their jobs in the layoffs can be eliminated from the firms as the workers leave, and the fired employees are irrelevant to the incumbent firms after the layoff. Firm managers make the decision whether to fire some or to decrease wage for many while considering the negative impact on the employees’ motivation. If, as Bewley (1999) points out, a wage cut negatively impacts employees’ motivation, then the motivation of the fired workers can be seriously influenced even when they win the trial and return to their original workplaces.

Robinson and Rousseau (1994) asked the alumni of an MBA program whether they felt that their implicit promises and psychological contracts were violated by their employers, and found that over half of the respondents believed the promises and contracts had been violated, and their satisfaction, trust, and intentions to remain decreased. Dismissal is a unilateral termination of employment contracts by employers, and thus, dismissal is a type of violation for fired employees. Hence, employment adjustment hinders employees’ motivation and reduces their productivity. Two remedy options for unjust dismissal, damages and reinstatement, should be considered from the viewpoint of workers’ productivity loss caused by employment adjustment.

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closing and mass layoffs. In 1991, the National Conference of Commissioners on Uniform State Law proposed the Model Employment Termination Act, which requires “just cause” for dismissals.
We would show that damages are better when productivity loss caused by employment adjustment is minor, and that reinstatement can be desirable when the loss is serious. When the productivity loss is serious, reinstated workers do not contribute significantly to the incumbent firms. However, benefits of the reinstatement policy can still outweigh those of the damages policy in this situation. This is our main result in this paper.

We consider a simple employment contract between a firm and a worker in which only a basic wage is specified. If the firm’s state is severe, employment adjustment such as dismissal or wage cut is made. The employee is protected by dismissal regulations and can sue the firm for unjust dismissal. They have a negotiation stage before trial, where the firm and the worker perform Nash bargaining. When the firm and the worker do not agree in the negotiation stage, they go to trial, which does not occur at the equilibrium in the model because the firm and the worker must pay litigation costs in the trial stage. As Coase theorem shows, the two parties are willing to avoid a lawsuit and reach an agreement in the negotiation stage, and thus, the trial stage influences the result of the negotiation as threat points. Their threat points are influenced by the legal remedy policy for unjust dismissal: damages vs. reinstatement.

In this paper, we show that the reinstatement policy increases bargaining power of the worker during the negotiation stage in severe states, but decreases it in moderately severe states compared with a damages policy. Continuing employment is inefficient and lowers the firm’s profit in more severe states in which the job match should be dissolved from the viewpoint of social welfare. However, the reinstatement policy requires the firm to re-employ the fired worker if the worker brings a lawsuit and wins. The firm takes the reinstatement policy into account in the negotiation stage, and thus, it is willing to offer comparatively high severance pay to avoid re-employment in the reinstatement case. On the other hand, in moderately severe states, it is efficient to continue employment. If the firm and the worker fail to settle and go to trial, the worker always quits the firm under the damages policy whether the worker wins the trial or not. Since the continuation of employment is desirable for the firm, to keep the worker from quitting, the firm is willing to offer a milder wage cut in the damages case than in the reinstatement case. In the severe states, the possibility for reinstatement gives workers a stronger position in the negotiation stage than does the case of receiving damages, and vice versa in the moderately severe states.

Moreover, we consider the likelihood of employment adjustment. Firms are willing to fire employees or decrease their wage during recessions because their original wage is comparatively high. However, wage cuts have the negative effect of discouraging employees and leads to productivity loss, which firms take into account when deciding to make an employment adjustment. When the negative effect is minor, firms are less fearful of it, and thus, more likely to make an employment adjustment such as dismissal or wage cut. The reinstatement policy, as we mentioned, reduces the worker’s bargaining position in moderately severe states, and thus generates more wage cuts than does the damages policy. Hence, firms are more likely to make an employment adjustment in the reinstatement case than in the damages case. The productivity loss caused by employment adjustment is socially wasteful, and thereby, damages dominate reinstatement as a legal remedy for unjust dismissal from the viewpoint of social welfare.
In contrast, firms are unlikely to make an employment adjustment when the negative effect on productivity is serious. When employment adjustment is inevitable in severe recessions, firms always fire employees with severance pay, that is, the job match is dissolved. In this situation, the reinstatement policy increases fired workers’ bargaining position, and hence, firms are at a disadvantage in the negotiation stage and must pay a higher severance pay in the reinstatement case compared to the damages case. This effect deters firms from firing employees under the reinstatement policy. When the productivity loss is serious, employment adjustment in the reinstatement case is done less frequently than in the damages case, and therefore, reinstatement can be better than damages as a legal remedy.

There are some studies that focus on the court’s role in terminating the employment relationship. Galdon-Sanchez and Guell (2003) consider two kinds of dismissal: the redundancy case in which firms fire workers during a bad financial condition, and the disciplinary case in which workers are fired for their poor performance or a serious breach of rules. In the redundancy case, fired workers could receive severance pay from firms because they are involuntarily dismissed for managerial reasons. On the other hand, fired workers receive nothing when they are dismissed for disciplinary reasons. If a third party, the court, could not distinguish between the redundancy and disciplinary cases, firms would be unwilling to provide severance pay to fired workers even in the redundancy case, causing the fired workers to disagree. Additionally, even in the disciplinary case, workers may insist that they have no responsibility and that the firms should provide severance pay. Galdon-Sanchez and Guell analyze this double moral hazard case by the efficiency wage model.

In Galdon-Sanchez and Guell’s (2003) model, the court is assumed to be just a randomization device of judgment, however, the judgment may still be influenced by circumstances such as the state of the macro economy, unemployment rates, or the social groups of workers, such as race and sex. Ichino et al. (2003) have found that judgments on individual dismissals in Italy are likely to favor fired workers when the unemployment rate is high in their regions. They show that a 1% increase in the unemployment rate is estimated to significantly reduce a firm’s victory by 2.5%.

Oyer and Schaefer (2000) examined how the Civil Rights Act of 1991, which punishes employment discrimination more severely than previous statutes, has affected the dismissal of minorities in the US. They compared non-Hispanic white men and black men between the ages of 21 and 39 holding full time jobs and found that firms were likely to avoid individual firings of black men after passage of the Act in 1991. However, this did not hold true when workers were massively dismissed. Massive layoffs are less likely to be regarded as discriminatory dismissals than individual firings since many workers with various backgrounds and characteristics are fired at the same time. Hence, with massive layoffs, firms run little risk of being found discriminatory in dismissals even if some workers sue the firms. According to their study, this risk of judgment for discriminatory dismissals is crucial for firms in the US.

In this paper, we focus on the difference in employment protection regulations from the viewpoint of legal remedies for unjust dismissal. Although there are studies on reinstatement from the viewpoint of grievance and arbitration procedure (Bamberger and Donahue, 1999) and the viewpoint of permanent replacement during strike activities (Budd, 2000), there are few analyses studying the difference between legal remedies for unjust dismissal.
This paper is organized as follows. In Section 2, we explain the structure of the basic model. We consider the damages policy and the reinstatement policy in Sections 3 and 4. Section 5 analyzes the differences between both policies and considers bargaining power, likelihood of employment adjustment and welfare. Finally, in Section 6, there is a discussion where conclusions are drawn.

2. Structure of the model

We consider a simple model and focus on two remedies for unjust dismissal: damages and reinstatement. After a firm offers a wage level to a worker, the state of the firm is stochastically determined: \( \theta \in \Theta \equiv [0, \bar{\theta}] \). Then, the firm chooses to make an employment adjustment or not. The worker is preserved under employment protection regulations, and hence, if the worker is unilaterally dismissed, he can sue the firm for judgment and a legal remedy for “unjust” dismissal. The results of lawsuits are often difficult to foresee because even though the firm manager believes that she made the employment adjustment in compliance with the regulations and rules, the court may reject the statement of the firm. The fired worker also faces uncertainty on the outcome of the lawsuit, but if the worker wins in court, he can receive the remedy.

**Timing of actions**

Throughout the paper, timing of the firm’s and worker’s actions is as follows:

1. After a worker is employed with a wage \( w \), the state of the firm \( \theta \in \Theta \equiv [0, \bar{\theta}] \), which follows the distribution function \( F(\theta) \), is stochastically determined.
2. The firm makes a decision on employment adjustment. If the firm takes no action, the worker receives the original wage.
3. When the firm makes the employment adjustment, there is a negotiation stage between the firm and the worker before the worker brings a lawsuit. As a result of the negotiation, they may reach an agreement such that the worker goes back to the original workplace, however, the worker’s productivity is reduced by the employment adjustment dispute.
4. If the worker does not agree to the offer in the negotiation stage, the worker and the firm go to trial. For simplicity, litigation costs of the firm and the worker are equivalently \( L \). The worker can win and receive the legal remedy with probability \( P \), which is exogenously given.\(^2\) If he loses, he gets nothing from the firm and only the reservation wage in the labor market: \( \bar{w} \geq 0 \).

\(^2\) We assume that court is just a randomization device on judgment as Galdon-Sanchez and Guell (2003) did. In Section 6, we will elaborate on the workers’ winning probability in trial to a more realistic case, however, our main results are not influenced.
Contractual incompleteness

Although the firm and the worker can observe the state, they cannot make a contract contingent on the state since the firm’s state is unverifiable in court. The firm can only offer a basic wage. If contracts contingent on the state could be made, then a trial would not occur since they could just fulfill the contracts; there would be no problem in this ideal situation where complete contracts could be made. However, our world is not ideal, and we focus on the effects of legal remedies for unjust dismissal, and therefore, it is reasonable to consider the contractual incompleteness.

No asymmetric information

The firm and the worker are sufficiently rational to avoid an inefficient lawsuit with the litigation cost. Since any asymmetric information does not exist, the firm and the worker agree that it is desirable for both of them to avoid a lawsuit. This is the result of Coase theorem, which shows that they never fail to reach an agreement in the negotiation stage and no trial occurs at the equilibrium. The trial stage, off the equilibrium path, influences their threat points of the negotiation before the trial.

Wage gap

The wage gap, \( w > \overline{w} \), is crucial to our analysis. If there is no wage gap \( (w = \overline{w}) \), any trial and conflict between the firm and the worker disappear. If the fired worker can get a new job with the same market wage, he is unwilling to claim a remedy for unjust dismissal and oppose the incumbent firm’s dismissal policy. Wage gap is the crucial reason for the industrial dispute. We focus attention on remedies for unjust dismissal, and thus, it is reasonable to consider the existence of the wage gap and labor market friction.

Cases that are consistent with this model setting include the existence of job search friction in the labor market. When the fired worker quits the incumbent firm, he searches for a new job opportunity with the market wage \( w \). However, he does not always find a new job immediately because of labor market friction. The probability of getting a new job is denoted as \( q (0 \leq q < 1) \), and the reservation wage of the fired worker is given by \( \overline{w} \equiv q \overline{w} < w \).

Another case shows the effect of labor unions on increasing wages. When labor unions have bargaining power to increase wages for regular workers, and fired workers can only find job opportunities as part-time workers, a wage gap exists between the incumbent firm and the outside market. Moreover, we can also raise the case that regular workers must acquire the firm-specific skills. In this situation, firms must cover the training cost of new workers, and are likely to offer a higher wage than the wage in the outside market.

Jacobson et al. (1993) found that fired workers suffered long-term losses averaging 25% per year. Workers fired in mass layoffs were especially affected and could receive significantly lower earnings up to six years after their dismissals. Therefore, our setting is reasonable theoretically and empirically.
Productivity loss

A decline in productivity, which is denoted as \( \delta (0 \leq \delta \leq 1) \), is caused by the process of employment adjustment. As a consequence of employment adjustment, employment can continue, but with a wage cut. Also, when an agreement is not reached in the negotiation stage, the firm can lose in court and be ordered to re-employ the worker in the previous workplace. However, it is often reported that workers who have been fired or faced pay cuts cannot work as effectively as they could previously, in part, because, as Bewley (1999) points out, wage cuts and layoffs lead to a decline of workers’ productivity. Employment adjustment creates ill will and a breakdown in what may have been a previously good industrial relationship between firm managers and workers, which decreases workers’ motivation. Animosity and resentment do not allow for effective communication between firm managers and workers, and a deterioration of the industrial relationship yields loss of productivity. How much the process of employment adjustment reduces motivation and productivity of workers—whether serious or minor—may be controversial. We consider how the degree of the decline in productivity influences the economy in this paper.

Damages and reinstatement as legal remedies

If the firm and the worker fail to settle and go to trial, the court adjudicates the legality of the dismissal policy. When the worker wins the lawsuit, he receives a legal remedy that the court chooses: damages or reinstatement. Although no trial occurs on the equilibrium path, the existence of the trial off-the-equilibrium path influences the results of negotiation.

Here, we consider a basic difference between damages and reinstatement. Damages are a monetary transfer from the firm to the fired workers, and thus, the job match is dissolved regardless of the result of the lawsuit. In contrast, the worker can return to his original workplace if his statement is accepted and the reinstatement policy is adopted as a legal remedy by the court, and so the job match can continue.

Damages are just transfer, however, reinstatement has real effects. Hence, reinstatement is more likely to distort the real allocation in the labor market than would damages, which makes damages more desirable as a remedy than reinstatement. On the other hand, the reinstatement policy can be desirable if the court finds it difficult to measure the loss that the fired worker suffered. Under the reinstatement policy, the court can avoid the complex and difficult estimation of damages necessary under a damages policy, which can make reinstatement more advantageous as a legal remedy than damages.

In this paper, we are not concerned with the problem of measuring the loss that the fired worker suffers. Even without that problem, we show the circumstances that make reinstatement more desirable as a legal remedy policy than damages.

3. Damages

First, we consider a society in which payment of damages is the legal remedy policy for unjust dismissal, which we call the damages case. How are damages for unjust dismissal determined? Does a fired worker receive the original wage level \( w \) from his firm when he
wins in court? No, when the firm loses in court, the firm is required to pay compensation which yields the same level of utility that the worker would have received staying in the firm: \((w - \overline{w})\). Since the fired worker receives the reservation wage \(\overline{w}\), it is sufficient to pay the amount of compensation \((w - \overline{w})\). This implies that the amount of damages the fired worker receives is based on the principle of expectation damages.\(^3\)

First, the firm makes a decision on employment adjustment, second, there is the negotiation stage, and finally, there is a trial stage. As Coase theorem shows, no lawsuit is brought at the equilibrium, however, the trial stage’s off-the-equilibrium path influences the negotiation as the threat point. From the viewpoint of backward induction consideration, we begin to consider the trial stage. The expected payoff of the fired worker who brings a lawsuit is given by

\[
P(w - \overline{w}) + \overline{w} - L. \tag{1}
\]

Under employment protection legislation, “just cause” is often required on dismissals, and the court judges whether a firm’s dismissal policy is just and legal. Although the firm manager may follow due process on dismissal or believe she did, the worker may not agree, in which case the worker is likely to insist that there are problems with the firm’s treatment of dismissals. When disagreements arise between the worker and the firm over the dismissal policy, and these parties cannot work out an agreement, the court system must then decide. This is a type of uncertainty over the result of lawsuits.\(^4\) In this paper, the probability with which the worker’s opinions are accepted is \(P\).

Next, we consider the negotiation stage, which is a kind of settlement, prior to the trial stage. At the settlement stage, the worker’s expected payoff, Eq. (1), obtained by trial is his threat point. The threat point of the firm is given by \(\hat{\pi}_d = -P(w - \overline{w}) - L\). The firm and the worker take into account their expected payoff in the trial stage and perform Nash bargaining in the settlement stage.

In the settlement stage, the determinant of wage cut vs. dismissal is ex post efficient. Total payoff for the continuation of employment with a wage cut or dismissal is \(\delta \theta\) or \(\overline{w}\), respectively. Note that the continuation of employment with wage cut is accompanied by productivity loss. The critical state between continuing employment with a wage cut and the termination of employment is denoted as \(\hat{\theta}(\delta) \equiv \overline{w}/\delta\). Hence, under \(\theta \in [0, \hat{\theta}(\delta))\), the firm and the worker agree to terminate employment in the settlement stage. It is efficient for the worker to quit the firm under the state \(\theta < \hat{\theta}(\delta)\). On the other hand, under the state \(\theta \geq \hat{\theta}(\delta)\), an agreement on the continuation of employment is reached in the settlement stage.

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\(^3\) The expectation damage measure is defined as the amount of money that the victim of a contract breach, the worker, must receive in order to be compensated as well as if the contract were performed. This is a typical remedy for a breach of contract. See a textbook on law and economics, for instance, Cooter and Ulen (1997), Miceli (1997), or Shavell (2004).

\(^4\) Judgment uncertainty is crucial for firms and workers in the real world. Priest and Klein (1984) pointed out that plaintiffs and defendants are willing to avoid a lawsuit if they have similar expectations on the result of the lawsuit. As we mentioned in the Introduction, Oyer and Schaefer (2000) consider judgment uncertainty over employment discrimination, and Ichino et al. (2003) focus on the effect that unemployment rate in the labor market has on the likelihood of a judgment in favor of fired workers. Their empirical studies indicate that firms and workers face uncertainty over the judgment.
When the firm and the worker agree to continue employment with a wage cut, the new wage \( \tilde{w}_d \) is determined through Nash bargaining in the settlement stage:

\[
\tilde{w}_d = \arg \max \{ \tilde{w}_d - P(w - \bar{w}) - \bar{w} + L \} \left\{ \delta \theta - \tilde{w}_d + P(w - \bar{w}) + L \right\}.
\]

Hence, it holds that

\[
\tilde{w}_d(\theta) = P(w - \bar{w}) + \frac{\delta \theta + \bar{w}}{2}. \tag{2}
\]

This is the worker’s payoff when the worker accepts the wage cut in the settlement: \( u_d(\theta) = \tilde{w}_d(\theta) \). The new wage level \( \tilde{w}_d \) in the settlement stage depends on the firm’s state \( \theta \); it increases with respect to \( \theta \), and the firm’s profit is \( \pi_d(\theta) = \delta \theta - \tilde{w}_d(\theta) \). In this case, total welfare is given by \( \delta \theta \) because wage is a just transfer from the firm to the worker.

On the other hand, when continuing employment with a wage cut is inefficient under \( \theta \in [0, \hat{\theta}(\delta)] \), the worker is fired with severance pay \( D_d \) in the settlement stage. In this situation, severance pay \( D_d \) is given by

\[
D_d = \arg \max \{ D_d + \bar{w} - P(w - \bar{w}) - \bar{w} + L \} \left\{ -D_d + P(w - \bar{w}) + L \right\}.
\]

Hence, it is obtained that

\[
D_d = P(w - \bar{w}). \tag{3}
\]

In this situation, the worker’s payoff and the firm’s profit are \( u_d(\theta) = D_d + \bar{w} \) and \( \pi_d(\theta) = -D_d \), respectively. Total welfare is \( \bar{w} \).

As we show later, there is a critical point of employment adjustment \( \theta^*_d(\delta) \) dependent on the productivity loss caused by the process of employment adjustment: the firm makes the employment adjustment under \( \theta < \theta^*_d(\delta) \). There are two cases: (A) where \( \theta^*_d(\delta) > \hat{\theta}(\delta) \) and (B) where \( \theta^*_d(\delta) \leq \hat{\theta}(\delta) \). The worker in case (A) agrees on continued employment with a wage cut in the moderately severe states \( \theta \in [\hat{\theta}(\delta), \theta^*_d(\delta)] \), but is fired with severance pay in the severe states \( \theta \in [0, \hat{\theta}(\delta)) \). In case (B), the fired worker always quits the firm whenever the firm makes an employment adjustment. When the productivity loss caused by employment adjustment is serious, the continuation of employment will be inefficient once the firm makes the employment adjustment. Hence, continuing employment with a wage cut does not occur as a result of employment adjustment in case (B).

Whether case (A) or (B) holds is dependent on the degree to which productivity is lost, \( \delta \). There is also a critical point of productivity loss caused by employment adjustment: \( \delta = \tilde{\delta} \). As we show later, case (A), \( \theta^*_d(\delta) > \hat{\theta}(\delta) \), holds when \( \delta > \tilde{\delta} \). Otherwise, case (B), \( \theta^*_d(\delta) \leq \hat{\theta}(\delta) \), holds.

**Case (A)**

First, we begin by considering \( \delta > \tilde{\delta} \), or case (A). The worker’s expected payoff in the damages case \( U_d \) is given by
\[ U_d \equiv \int_0^{\hat{\delta}} u_d(\theta) f(\theta) \, d\theta = (1 - F(\theta_d^*)) w + \int_{\delta}^{\theta_d^*} \tilde{w}_d(\theta) f(\theta) \, d\theta + F(\hat{\theta}) \{ P(w - \overline{w}) + \overline{w} \}, \]  

where subscript \( d \) refers to the damages case and the density function of \( \theta \) is denoted as \( f(\theta) \). As we show later, the critical point of employment adjustment \( \theta_d^*(\delta) \) is endogenously determined. The worker agrees to continue employment with a wage cut under the states \( \theta \in [\hat{\delta}(\delta), \theta_d^*(\delta)) \), and the worker is dismissed under the states \( \theta \in [0, \hat{\theta}(\delta)) \).

The firm’s expected profit is given by

\[ \Pi_d \equiv \int_0^{\hat{\delta}} \pi_d(\theta) f(\theta) \, d\theta \]

\[ = \int_{\hat{\delta}}^{\theta_d^*} \theta f(\theta) \, d\theta - (1 - F(\theta_d^*)) w + \int_{\delta}^{\theta_d^*} (\delta \theta - \tilde{w}_d(\theta)) f(\theta) \, d\theta - F(\hat{\theta}) P(w - \overline{w}). \]

where \( \pi_d(\theta) \) is the firm’s profit in the damages case under the state \( \theta \).

The firm is willing to optimize \( \theta_d^* \) to maximize its profit. Using the first order condition and (2), in the case of \( \delta > \overline{\delta} \), the critical point of dismissal \( \theta_d^*(\delta) \) is determined as follows:

\[ \theta_d^*(\delta) = \frac{2(1 - P) w + (2P - 1) \overline{w}}{2 - \delta}. \]  

\( \theta_d^*(\delta) \) increases and \( \hat{\theta}(\delta) \) decreases with respect to \( \delta \), and thus, there is the uniquely critical point \( \overline{\delta} \) on productivity loss: \( \theta_d^*(\overline{\delta}) = \hat{\theta}(\overline{\delta}) \). Hence, using (5) and \( \hat{\theta}(\delta) \equiv \overline{w}/\delta \), it holds that

\[ \overline{\delta} = \frac{\overline{w}}{(1 - P) w + P \overline{w}}. \]  

The case (A), \( \theta_d^*(\delta) > \hat{\theta}(\delta) \), holds under \( \delta > \overline{\delta} \). We consider the relationship between the new wage \( \tilde{w}_d \) in the settlement and the critical point of employment adjustment \( \theta_d^*(\delta) \) (see Fig. 1). When the firm and the worker agree in the negotiation stage, the firm can decrease the wage level and produce outputs. Hence, the firm has no incentive to offer a wage that is higher than the original wage \( w \): \( \tilde{w}_d < w \).

The firm’s benefit from employment adjustment is a reduction of the original wage and the cost to the firm is a decline of productivity. When the benefit is greater than the cost, the firm is willing to make the employment adjustment. The critical point for the employment adjustment \( \theta_d^*(\delta) \) is given when the benefit is equivalent to the cost.

The worker is not fired and receives the original wage \( w \) under \( \theta \in [\theta_d^*(\delta), \hat{\delta}] \). Under \( \theta \in [\hat{\delta}(\delta), \theta_d^*(\delta)) \), the worker receives a wage cut in the settlement stage, and then receives the new wage \( \tilde{w}_d(\theta) \) given by (2). In the severe states \( \theta \in [0, \hat{\theta}(\delta)) \), the worker is fired with severance pay \( D_d \) given by (3) (Fig. 1).
The critical point for the employment adjustment given by (5) increases with respect to $\delta$. This indicates that the firm is unlikely to make the employment adjustment as the productivity loss increases. Through employment adjustment, the firm can reduce the wage, which benefits the firm, however, employment adjustment also reduces the worker’s productivity or motivation, which is a cost to the firm. As productivity loss increases, becoming more serious, the merits of making an employment adjustment decreases for the firm making it less likely the firm will go ahead with the employment adjustment.

Case (B)

From (5) and (6), case (B), $\theta_d^*(\delta) \leq \hat{\theta}(\delta)$, holds in the case of $\delta \leq \tilde{\delta}$. In case (B), the productivity loss caused by employment adjustment is serious, and thus, the firm is less likely to go ahead with the employment adjustment. Continuing employment with a wage cut never occurs in this case. Whenever the firm makes an employment adjustment, the worker is always fired with severance pay. In this case, the expected payoff for the worker is given by

$$U_d = (1 - F(\theta_d^*))w + F(\theta_d^*)\left\{ P(w - \bar{w}) + \bar{w} \right\}.$$
The firm’s expected profit is as follows:

$$\Pi_d = \int_{\theta_d^*}^{\hat{\theta}} \theta f(\theta) d\theta - \left(1 - F(\theta_d^*)\right) w - F(\theta_d^*) P(w - \bar{w}).$$

Hence, in the case of $\delta \leq \hat{\delta}$, the critical point of employment adjustment is given by

$$\theta_d^* = (1 - P)w + P\bar{w}. \quad \text{(7)}$$

The critical point of employment adjustment is independent of $\delta$ under $\delta \leq \hat{\delta}$, and it clearly holds that $\theta_d^* \leq \hat{\theta}(\delta)$ under $\delta \leq \hat{\delta}$. As Fig. 2 shows, the firm continues employing the worker and the worker receives the original wage under $\theta \in [\theta_d^*, \hat{\theta}]$. In the case of $\theta \in [0, \theta_d^*)$, the worker is fired with severance pay.

We summarize the critical point of employment adjustment in both cases (A) and (B) as follows:

$$\theta_d^*(\delta) = \begin{cases} \frac{2(1 - P)w + (2P - 1)\bar{w}}{2 - \delta} & \text{if } \delta > \hat{\delta}, \\ (1 - P)w + P\bar{w} & \text{if } \delta \leq \hat{\delta}. \end{cases}$$

We summarize these results as a proposition.
Proposition 1. In the damages case, the following results are obtained.

(1) In case (A) where
\[ \delta > \bar{\delta} \equiv \frac{w}{(1 - P)w + P\bar{w}}, \]
the critical point of employment adjustment is given by
\[ \theta^*_d(\delta) = \frac{2(1 - P)w + (2P - 1)\bar{w}}{2 - \delta} \]
and it holds that \( \theta^*_d(\delta) > \hat{\theta}(\delta) \equiv \bar{w}/\delta \). The firm’s and the worker’s payoffs are as follows:

(i) Under \( \theta \in [0, \hat{\theta}(\delta)) \), the worker is fired with severance pay \( D_d = P(w - \bar{w}) \). The worker’s payoff and the firm’s profit are given by
\[ u_d(\theta) = P(w - \bar{w}) + \bar{w} \]
and
\[ \pi_d(\theta) = -P(w - \bar{w}), \]
respectively.

(ii) Under \( \theta \in [\hat{\theta}(\delta), \theta^*_d(\delta)) \), the worker receives a wage cut, and then receives the new wage \( \tilde{w}_d(\theta) \) specified by (2). The payoff for the worker is given by
\[ u_d(\theta) = \tilde{w}_d(\theta), \]
and the firm’s profit is
\[ \pi_d(\theta) = \delta\theta - \tilde{w}_d(\theta). \]

(iii) Under \( \theta \in [\theta^*_d(\delta), \bar{\theta}] \), the firm continues employing the worker at the original wage \( w \), and its profit is \( \theta - w \).

(2) In case (B) where \( \delta \leq \bar{\delta} \), the critical point of employment adjustment is given by
\[ \theta^*_d = (1 - P)w + P\bar{w} \]
and it holds that \( \theta^*_d \leq \hat{\theta}(\delta) \). The firm’s and the worker’s payoffs are as follows:

(i) Under \( \theta \in [0, \theta^*_d] \), the worker is fired with severance pay \( D_d = P(w - \bar{w}) \). The worker’s payoff and the firm’s profit are given by
\[ u_d(\theta) = P(w - \bar{w}) + \bar{w} \]
and
\[ \pi_d(\theta) = -P(w - \bar{w}), \]
respectively.

(ii) Under \( \theta \in [\theta^*_d, \bar{\theta}] \), the firm continues employing the worker at the original wage \( w \), and its profit is \( \theta - w \).

Figure 3 shows the results of employment adjustment in the damages case. When the productivity loss is minor (\( \delta > \bar{\delta} \)), the result of the model shifts from ‘no employment adjustment’ to ‘wage cut’ and then ‘dismissal with severance pay’ as the state of the firm becomes more severe. In case (B) where \( \delta \leq \bar{\delta} \), the productivity loss is serious, so a wage cut is not instituted. As the bold curve shows, an employment adjustment is more likely when the productivity loss is minor; the critical point of employment adjustment, \( \theta^*_d(\delta) \), increases with respect to \( \delta \).

4. Reinstatement

Next, we consider the reinstatement case. Timing of the players’ actions and model setting are similar to the damages case. In the reinstatement case—the society has adopted reinstatement as the remedy policy for unjust dismissal—if a worker is fired, brings a law-
suit, and then wins, he can return to his previous workplace with the same wage specified in the contract. Subscript $r$ refers to the reinstatement case.

From the viewpoint of backward induction consideration, we begin by considering the trial stage after the worker is dismissed and rejects settlement. The expected payoff $\bar{u}_r$ of the fired worker who goes to trial is given by

$$\bar{u}_r = Pw + \frac{(1 - P)w + P\overline{w}}{2 - \delta} - \overline{w}.$$  

This is the same as in the damages case. On the other hand, the expected profit of the firm in the trial stage is given by $\bar{\pi}_r(\theta) = P(\delta\theta - w) - L$. In the reinstatement case, the firm is required to re-employ the fired employee when the firm loses in trial.

Next, we move backward and consider the negotiation stage before the trial stage. At the negotiation stage, the worker’s expected payoff obtained by going to trial is his threat point. The firm and the worker take into account their expected payoff in the trial stage and perform Nash bargaining in the negotiation stage. Similar to the damages case, the result of the negotiation depends on the firm’s state. Determinant on the continuation of employment is ex post efficient in the negotiation stage. As we show later, there is the same critical point $\bar{\delta}$: a wage cut does not occur under $\delta \leq \bar{\delta}$ (case (B)). In the case where $\delta > \bar{\delta}$ (case (A)), the worker is fired with severance pay $D_r(\theta)$ under $\theta \in [0, \hat{\theta}(\delta))$, and the worker receives a wage cut and gets the new wage $\tilde{w}_r(\theta)$ under $\theta \geq \hat{\theta}(\delta)$. 

Fig. 3. The relationship between $\delta$ and $\theta$ in the damages case.
If the firm and the worker agree to continue employment with a wage cut, a new wage \( \tilde{w}_r \) is determined through Nash bargaining: 
\[
\tilde{w}_r = \arg \max \{ \tilde{w}_r - \tilde{u}_r | \delta \theta - \tilde{w}_r - \tilde{\pi}_r(\theta) \}. 
\]
Hence, it holds that 
\[
\tilde{w}_r(\theta) = P w + \frac{(1 - P)(\delta \theta + \bar{w})}{2}. 
\]  
(9)

\( \tilde{w}_r(\theta) \) increases with respect to \( \theta \), and the firm’s profit is \( \pi_r(\theta) = \delta \theta - \tilde{w}_r(\theta) \). In this case, total welfare is given by \( \delta \theta \) because wage is a just transfer from the firm to the worker.

On the other hand, when the worker is fired with severance pay \( D_r \) under \( \theta \in [0, \hat{\theta}(\delta)) \), severance pay \( D_r \) is given by 
\[
D_r(\theta) = \arg \max \{ D_r + \bar{w} - \tilde{u}_r | - D_r - \tilde{\pi}_r(\theta) \}: 
\]
\[
D_r(\theta) = P w - \frac{P(\delta \theta + \bar{w})}{2}. 
\]  
(10)
The worker’s payoff and the firm’s profit are \( u_r(\theta) = D_r(\theta) + \bar{w} \) and \( \pi_r(\theta) = -D_r(\theta) \), respectively, and the total welfare is \( \bar{w} \).

As (10) shows, severance pay \( D_r(\theta) \) decreases with respect to \( \theta \). This implies that severance pay increases as the firm’s state becomes more severe. The reasoning for this is simple. Although continuing to employ the worker is inefficient under \( \theta \in [0, \hat{\theta}(\delta)) \), the firm has to re-employ the fired worker when the firm loses the trial in the reinstatement case. Re-employment decreases the firm’s profit as the state is more severe. Hence, in the settlement stage, the firm is willing to offer a higher severance pay to avoid trial under the more severe states.

Case (A)

First, we consider our case (A) where \( \delta > \bar{\delta} \). The worker’s expected payoff \( U_r \) in the reinstatement case is given by 
\[
U_r = (1 - F(\theta^*_r)) w + \int_{\hat{\theta}}^{\theta^*_r} \tilde{w}_r(\theta) f(\theta) \, d\theta + \int_0^{\hat{\theta}} (D_r(\theta) + \bar{w}) f(\theta) \, d\theta, 
\]  
(11)
where \( \theta^*_r \) is the critical point of employment adjustment in the reinstatement case. The firm’s expected profit is similarly given by 
\[
\Pi_r(w_r) = \int_0^{\hat{\theta}} \pi_r(\theta) f(\theta) \, d\theta 
\]
\[
= \int_{\hat{\theta}}^{\theta^*_r} \theta f(\theta) \, d\theta - (1 - F(\theta^*_r)) w + \int_{\hat{\theta}}^{\theta^*_r} (\delta \theta - \tilde{w}_r(\theta)) f(\theta) \, d\theta - \int_0^{\hat{\theta}} D_r(\theta) f(\theta) \, d\theta. 
\]
The firm is willing to optimize \( \theta^*_r \) to maximize its profit. Using (9), (10) and the first order condition, the critical point of employment adjustment \( \theta^*_r \) is determined in case (A) where \( \delta > \bar{\delta} \) as follows: 
\[
\theta^*_r(\delta) = \frac{(1 - P)(2w - \bar{w})}{2 - (1 + P)\delta}. 
\]  
(12)
Fig. 4. The bold lines represent the worker’s payoff in the reinstatement case under $\delta > \bar{\delta}$.

Clearly, $\theta^*_r$ increases with respect to $\delta$. There is the uniquely critical point $\bar{\delta}$ on the productivity loss: $\theta^*_r(\bar{\delta}) = \hat{\theta}(\bar{\delta})$. Hence, it holds that

$$\bar{\delta} = \frac{\overline{w}}{(1 - P)w + P\overline{w}}.$$ \hspace{1cm} (13)

From (6) and (13), the critical point $\bar{\delta}$ on the productivity loss is equivalent in both cases.

As Fig. 4 shows, the worker receives the original wage $w$ under $\theta \in [\theta^*_r(\delta), \hat{\theta}]$, and he receives a wage cut to the new wage of $\tilde{w}_r(\theta)$ specified by (9) under $\theta \in [\hat{\theta}(\delta), \theta^*_r(\delta))$. In the severe states $\theta \in [0, \hat{\theta}(\delta))$, he is fired with the severance pay $D_r(\theta)$ given by (10).

**Case (B)**

From (12) and (13), $\theta^*_r(\delta) \leq \hat{\theta}(\delta)$ holds in case (B) where $\delta \leq \bar{\delta}$. In case (B), the productivity loss caused by employment adjustment is serious, and thus, the firm is unlikely to make the employment adjustment. The continuation of employment with a wage cut is not conducted and the worker is always fired with severance pay when the firm makes an employment adjustment.

In this case, the expected payoff for the worker is given by

$$U_r = (1 - F(\theta^*_r))w + F(\theta^*_r)(D_r(\theta) + \overline{w}).$$
The firm’s expected profit is as follows:
\[
\Pi_r = \int_{\hat{\theta}}^{\theta^*_r} \theta f(\theta) \, d\theta - \int_{\theta^*_r}^0 \bar{D}_r(\theta) f(\theta) \, d\theta.
\]

Using (10), in case (B) where \( \delta \leq \bar{\delta} \), the critical point of employment adjustment is given by
\[
\theta^*_r(\delta) = \frac{2(1-P)w + P\bar{w}}{2 - \delta P}.
\]  

Figure 5 shows the worker’s payoff in the reinstatement case under \( \delta \leq \bar{\delta} \) (case (B)). Under \( \delta \leq \bar{\delta} \), it holds that
\[
\theta^*_r(\delta) = \frac{2(1-P)w + P\bar{w}}{2 - \delta P} \leq \hat{\theta}(\delta) \equiv \frac{\bar{w}}{\delta}.
\]

This means that continuing employment with a wage cut is not conducted in the settlement stage. In the case of \( \theta \in [\theta^*_r(\delta), \bar{\theta}] \), the worker is not fired and receives the original wage \( w \). In the severe states \( \theta \in (0, \theta^*_r(\delta)) \), the worker is fired with severance pay.

Using (12) and (14), the critical point on employment adjustment is as follows:
\[
\theta^*_r(\delta) = \begin{cases} 
\frac{(1-P)(2w - \bar{w})}{2 - (1+P)\delta} & \text{if } \delta > \bar{\delta}, \\
\frac{2(1-P)w + P\bar{w}}{2 - \delta P} & \text{if } \delta \leq \bar{\delta}.
\end{cases}
\]  

Fig. 5. The bold lines represent the worker’s payoff in the reinstatement case under \( \delta \leq \bar{\delta} \).
Figure 6 shows the critical point of employment adjustment in the reinstatement case. We summarize these results as a proposition.

**Proposition 2.** In the reinstatement case, the following results are obtained.

1. In case (A) where
   \[ \delta > \bar{\delta} \equiv \frac{\bar{w}}{(1 - P)w + P\bar{w}}, \]
   the critical point of employment adjustment is given by
   \[ \theta^*_r(\delta) = \frac{(1 - P)(2w - \bar{w})}{2 - (1 + P)\delta}, \]
   and it holds that \( \theta^*_r(\delta) > \hat{\theta}(\delta) \equiv \frac{\bar{w}}{\delta}. \) The firm’s and the worker’s payoffs are as follows:

   i. Under \( \theta \in [0, \hat{\theta}(\delta)) \), the worker is fired with severance pay
   \[ D_r(\theta) = Pw - \frac{P(\delta \theta + \bar{w})}{2}. \]
   The worker’s payoff and the firm’s profit are given by \( u_r(\theta) = D_r(\theta) + \bar{w} \) and \( \pi_r(\theta) = -D_r(\theta), \) respectively.
(ii) Under $\theta \in [\hat{\theta}(\delta), \theta^*_r(\delta))$, the worker accepts the wage cut and gets the new wage $\tilde{w}_r(\theta)$ specified by (9). The payoff for the worker is given by $u_r(\theta) = \tilde{w}_r(\theta)$. The firm’s profit is $\pi_r(\theta) = \delta \theta - \tilde{w}_r(\theta)$.

(iii) Under $\theta \in [\theta^*_r(\delta), \bar{\theta}]$, the firm continues employing the worker at the original wage $w$, and its profit is $\theta - w$.

(2) In case (B) where $\delta \leq \bar{\delta}$, the critical point of employment adjustment is given by

$$\theta^*_r(\delta) = \frac{2(1 - P)w + P\bar{w}}{2 - \delta P},$$

and it holds that $\theta^*_r(\delta) \leq \hat{\theta}(\delta)$. The firm’s and the worker’s payoffs are as follows:

(i) Under $\theta \in [0, \theta^*_r(\delta))$, the worker is fired with severance pay

$$D_r(\theta) = Pw - \frac{P(\delta \theta + \bar{w})}{2}.$$

The worker’s payoff and the firm’s profit are given by $u_r(\theta) = D_r(\theta) + \bar{w}$ and $\pi_r(\theta) = -D_r(\theta)$, respectively.

(ii) Under $\theta \in [\theta^*_r(\delta), \bar{\theta}]$, the firm continues employing the worker at the original wage $w$, and its profit is $\theta - w$.

5. Analysis

5.1. Bargaining power

We consider the difference between damages and reinstatement in this section. First, we show that in the severe state, when the worker is fired with severance pay, the reinstatement policy strengthens the worker’s bargaining position compared with the damages policy. On the other hand, in the moderately severe state, when the worker agrees to continue employment with a wage cut, the worker’s bargaining position is now stronger in the damages case.

**Proposition 3.** When the worker agrees to the continuation of employment with a wage cut during the negotiation stage, the worker’s real wage is greater in the damages case than in the reinstatement case: $\tilde{w}_d(\theta) > \tilde{w}_r(\theta)$. On the other hand, when the worker is fired in the severe state, severance pay is greater in the reinstatement case than in the damages case.

Proof is easy. The decline of wage in the reinstatement case is more than that in the damages case. Using (2) and (9), it holds under $\theta > \hat{\theta}(\delta)$ that

$$\tilde{w}_d(\theta) - \tilde{w}_r(\theta) = \frac{P(\delta \theta - \bar{w})}{2} > 0.$$  (16)

It is efficient to maintain the employment relationship in the case of $\delta > \bar{\delta}$ and $\theta \geq \hat{\theta}(\delta)$.

In the damages case, the worker quits after going to trial, whether the worker wins or not. However, in the reinstatement case, the worker returns to the firm with probability $P$
at the trial stage. Hence, in the settlement stage, the firm is more willing to avoid a lawsuit when damages may need to be paid than when reinstatement is the legal remedy, and thus, the new wage in the former case is higher than in the latter one: $\tilde{w}_d(\theta) > \tilde{w}_r(\theta)$. This means that the worker’s bargaining position in the reinstatement case is not as strong as in the damages case.

On the other hand, in a severe state, when the firm-worker matching is inefficient, the worker’s bargaining power is stronger with reinstatement than when damages payment is the policy. The worker quits in the case of $\delta > \bar{\delta}$ and $\theta \in [0, \hat{\theta}(\delta))$ or in the case of $\delta < \bar{\delta}$ and $\theta \in [0, \theta^*_i(\delta)) \ (i = d, r)$. Actually, from (3) and (10), it holds that

$$D_r(\theta) - D_d = \frac{P(\bar{w} - \delta \theta)}{2} > 0.$$  \hspace{1cm} (17)

Although re-employment is inefficient under $\theta \in [0, \hat{\theta}(\delta))$ and $\delta > \bar{\delta}$ or under $\theta \in [0, \theta^*_i(\delta))$ and $\delta < \bar{\delta}$ ($i = d, r$), the firm has to re-employ the fired worker when the firm loses the trial in the reinstatement case. Re-employment decreases the firm’s profit as the state becomes more severe. Hence, in the settlement stage, the firm is willing to offer a higher severance pay to avoid a trial under the more severe states.

5.2. Likelihood of employment adjustment

Next, we show that the firm is more likely to make an employment adjustment in the reinstatement case rather than in the damages case when the productivity loss caused by the process of employment adjustment is minor: $\delta > \bar{\delta}$. On the other hand, under $\delta \leq \bar{\delta}$, the opposite result is obtained.

Proposition 4. It holds that

$$\theta^*_d(\delta) \left\{ \begin{array}{lcl} < \quad \theta^*_r(\delta) \quad \text{under } \delta \leq \bar{\delta} \quad < \bar{\delta} \end{array} \right.$$  \hspace{1cm} (18)

Proof is in Appendix A, and the result is represented in Fig. 7. When the productivity loss caused by employment adjustment is minor, the firm is likely to make the employment adjustment because the firm can reduce the wage level at lower loss of productivity. In the case of $\delta > \bar{\delta}$, the worker gets the new wage specified by (2) in the damages case or (9) in the reinstatement case. As (16) shows, during the negotiation stage, there is a greater wage decline in the reinstatement case than in the damages case. The benefit of employment adjustment for the firm is to reduce wage. Hence, the firm is more likely to make employment adjustment in the reinstatement case than in the damages one, and it holds that $\theta^*_d(\delta) < \theta^*_r(\delta)$ under $\delta > \bar{\delta}$. The difference between the two remedy policies is represented as the space $X$ in Fig. 7.

On the other hand, when the productivity loss is serious, $\delta < \bar{\delta}$, the cost of employment adjustment is not negligible. Employment adjustment generates a severe decline in productivity, and the firm is unlikely to make the employment adjustment. As (17) shows, in the reinstatement case, the firm pays a higher severance pay than in the damages case.
Fig. 7. Likelihood of employment adjustment in both cases. In the space X, the firm does not make any employment adjustment in the damages case, but does reduce wage in the reinstatement case. The space Y shows that employment adjustment is made and the worker is fired with severance pay in the damages case, but there is no employment adjustment in the reinstatement case.

The firing cost with reinstatement is greater than with damages, and, as the space Y in Fig. 7 shows, the firm is less likely to fire the employee in the reinstatement case than in the damages one.

5.3. Welfare

Next, we consider welfare in both cases. In the case of $\delta \geq \hat{\delta}$, the worker gets the original wage under $\theta \in [\theta^*_i(\delta), \tilde{\theta}]$ ($i = d, r$) and receives a wage cut under $\theta \in [\hat{\theta}(\delta), \theta^*_i(\delta))$ ($i = d, r$). Therefore, the worker is employed and produces outputs under $\theta \in [\hat{\theta}(\delta), \tilde{\theta}]$, and the worker quits the firm under $\theta \in [0, \hat{\theta}(\delta))$ in both cases. Since wage and severance pay are both just transfers from the firm to the worker, they are ignored from the viewpoint of welfare. Hence, welfare is given by

$$W_i \equiv \int_{\theta^*_i(\delta)}^{\tilde{\theta}} \theta f(\theta) \, d\theta + \int_{\hat{\theta}(\delta)}^{\theta^*_i(\delta)} \delta \theta f(\theta) \, d\theta + F(\hat{\theta}(\delta)) \bar{w} \quad (i = d, r) \quad \text{under } \delta \geq \hat{\delta}.$$
Note that the critical point \( \hat{\theta}(\delta) \) between wage cut and dismissal is equivalent in both cases. From Proposition 4, it holds that \( W_d - W_r = \int_{\theta_d^*}^{\theta_r^*(\delta)} (1 - \delta) \theta f(\theta) \, d\theta > 0 \) under \( \delta > \bar{\delta} \). In the case of \( \delta = \bar{\delta} \), it is clear from \( \theta_d^*(\bar{\delta}) = \theta_r^*(\bar{\delta}) \) that \( W_d = W_r \). Hence, the following proposition holds:

**Proposition 5.** Welfare in the damages case is greater than in the reinstatement case for any \( \delta \in [\bar{\delta}, 1] \): \( W_d \geq W_r \). It holds that \( W_d = W_r \) under \( \delta = \bar{\delta} \), and this inequality strictly holds under \( \delta > \bar{\delta} \).

Next, we consider welfare under \( \delta < \bar{\delta} \). In contrast to the previous case of \( \delta \geq \bar{\delta} \), welfare in the damages case is not always greater than in the reinstatement case. In the case of \( \delta < \bar{\delta} \), from Propositions 1, 2, and 4, welfare is given by

\[
W_i \equiv \int_{\theta_r^*(\delta)}^{\theta_d^*} \theta f(\theta) \, d\theta + F(\theta_r^*(\delta)) \bar{w} \quad (i = d, r) \quad \text{under } \delta < \bar{\delta}.
\]

Hence, it holds that

\[
W_r - W_d = \int_{\theta_r^*(\delta)}^{\theta_d^*} (\theta - \bar{w}) f(\theta) \, d\theta. \tag{18}
\]

From (7) and Proposition 4, \( \theta_d^* > \theta_r^*(\delta) \) and \( \theta_d^* \geq \bar{w} \) holds under \( \delta < \bar{\delta} \). As Figs. 8 and 9 show, the difference in welfare between the two cases depends on the distance between \( \theta_r^*(\delta) \) and \( \bar{w} \).

---

**Fig. 8.** The difference in welfare between both cases under \( \delta < \bar{\delta} \) and \( \theta_d^* \geq \bar{w} \). The shadowed area is the difference in welfare: \( W_r - W_d = \int_{\theta_r^*(\delta)}^{\theta_d^*} (\theta - \bar{w}) f(\theta) \, d\theta > 0 \).
The difference in welfare between both cases under $\delta < \bar{\delta}$ and $\theta^*_r(\delta) < \bar{w}$. The difference in welfare shown by the shadow area is ambiguous: $W_r - W_d = \int_{\theta^*_r(\delta)}^{\theta^*_d(\delta)} (\theta - \bar{w}) f(\theta) d\theta$.

**Proposition 6.** If it holds that $\theta^*_r(\delta) \geq \bar{w}$, welfare in the reinstatement case is greater than in the damages case under $\delta < \bar{\delta}$.

Proof is easy. Under $\delta < \bar{\delta}$ and $\theta^*_r(\delta) \geq \bar{w}$, it is obvious that $W_r - W_d = \int_{\theta^*_r(\delta)}^{\theta^*_d(\delta)} (\theta - \bar{w}) f(\theta) d\theta \geq 0$ (Fig. 8). In this case of $\theta^*_d(\delta) \geq \theta^*_r(\delta) \geq \bar{w}$, the worker has more job security with reinstatement than with damages. Excess dismissal occurs in this situation, and thus, more job security in the reinstatement case generates higher welfare. Proposition 6 indicates the situation.

In the case of $\theta^*_d(\delta) \geq \bar{w} > \theta^*_r(\delta)$, the effect on welfare is ambiguous (Fig. 9). The first best point for terminating the employment relationship is $\bar{w}$. When damages are the legal remedy, excess dismissal can occur since $\theta^*_d(\delta) \geq \bar{w}$ holds. On the other hand, as $\bar{w} \geq \theta^*_r(\delta)$ shows, there can be excess job security in the reinstatement case. Excess dismissal in the damages case and excess job security in the reinstatement case can negatively affect welfare, and therefore, the difference in welfare between the damages case and the reinstatement case is ambiguous.

Finally, we will show several examples of exogenous variables to characterize this situation.

**Case 1.** In the case of $P = 1$, it holds that $W_d \geq W_r$. In the case of $P = 1$, using (6), $\bar{\delta} = 1$ holds. Hence, it always holds that $\delta \leq \bar{\delta}$. From (7) and (14), it is obtained that $\theta^*_d = \bar{w} \geq \bar{w}/(2 - \delta) = \theta^*_r(\delta)$. Dissolution of job matching is done at the efficient point in the damages case although excess job security is present in the reinstatement case. Hence, $W_d \geq W_r$ holds from (18), and equality holds under $\delta = \bar{\delta} = 1$.

**Case 2.** In the case of $\bar{w} = 0$, it holds that $W_d \geq W_r$. In the case of $\bar{w} = 0$, using (6), $\bar{\delta} = 0$ holds. Hence, this is the case of $\delta \geq \bar{\delta}$. From Proposition 5, $W_d \geq W_r$ holds.
Case 3. In the case of $\delta = 1$, it holds that $W_d \geq W_r$. Using (6), it is clear that $0 \leq \delta \leq 1$. Hence, $\delta = 1 \geq \bar{\delta}$ holds, and $W_d \geq W_r$ from Proposition 5.

From the previous three illustrations, we can conclude that

[1] When workers are sufficiently protected by dismissal regulations, or
[2] when the market wage is lower and the wage gap between the incumbent firm and the market is larger, or
[3] when employment adjustment does not seriously discourage workers, damages are more desirable than reinstatement as a legal remedy for unjust dismissal.

However, when employment adjustment discourages workers seriously, this result can be modified as follows:

Case 4. In the case of $\delta = 0$, the difference in the effect on social welfare is ambiguous. If the worker’s winning probability is not large, the reinstatement policy is better than the damages policy.

This case is $\delta = 0 \leq \bar{\delta}$. From (14), $\theta_r^*(0) = (1 - P)w + \frac{L}{2}\bar{w}$ holds. Since it holds that

$$\theta_r^*(0) - \bar{w} = w - \bar{w} - P\left( w - \frac{\bar{w}}{2} \right),$$

the sign of $\theta_r^*(0) - \bar{w}$ is ambiguous. If the worker faces a low probability of winning, the sign can be positive, and therefore, reinstatement is better than damages. If $\theta_r^*(0) \geq \bar{w}$ holds, as Proposition 6 indicates, reinstatement is better as a legal remedy than damages.

Case 5. In the case of $P = 0$, $W_d = W_r$ holds. This case is intuitive. In the case of $P = 0$, the worker never wins the trial, which implies that the worker is not protected by dismissal regulations. Hence, the difference between damages and reinstatement is irrelevant to the economy since the worker cannot receive any remedy.

6. Conclusion and discussion

We have considered a simple model for analyzing the difference between legal remedies for unjust dismissal. We have shown the following results:

[1] the reinstatement policy strengthens the worker’s bargaining position in severe states when the worker is fired at the equilibrium;
[2] the reinstatement policy weakens the worker’s bargaining position in the moderately severe states when the worker agrees on a wage cut at the equilibrium;
[3] when the productivity loss caused by employment adjustment is minor, employment adjustment will more likely be made in the reinstatement case, and thus, the reinstatement policy is dominated by the damages policy from the viewpoint of social welfare; and
when the productivity loss is serious, the effect that the difference in legal remedies for unjust dismissal has on social welfare is ambiguous.

There are two types of dismissal: the massive layoff vs. the individual layoff. The former is likely caused by managing conditions of the firm, but the latter is the result of a worker’s poor performance. We can apply this model to both of the cases since $\theta$ is interpreted as the firm’s states as well as the worker’s individual performance index. Therefore, our results are general.

Although we have assumed that workers’ winning probability is exogenously given in court, that is, the court is just a randomization device, we can extend the setting of our model into a more realistic situation. The more severe the firm’s state, or the poorer the worker’s performance, the more likely a firm’s dismissal policy will be accepted in court. This means that the worker’s winning probability increases with respect to the firm’s state or the worker’s performance: $P = P(\theta), P'(\theta) > 0$. In this situation, the worker’s bargaining position in severe states is not as strong as our analysis in the above sections indicates. However, our results are not influenced by this modification.

In this situation, using (2) and (9), it holds that $\tilde{w}_d(\theta) - \tilde{w}_r(\theta) = P(\theta)(\delta \theta - \bar{w})/2 \geq 0$ under $\theta \geq \hat{\theta}(\delta)$. This means that, in moderately severe states, the worker’s bargaining position in the damages case is stronger than in the reinstatement case. This is the same as the results in Section 5. Moreover, using (3) and (10), it holds that $D_r(\theta) - D_d = P(\theta)(\bar{w} - \delta \theta)/2 > 0$ under $\theta \in [0, \hat{\theta}(\delta))$. Similar to Section 5, reinstatement strengthens the worker’s bargaining power compared with damages in the severe states. As we have shown, determining employment adjustment depends on the degree of the wage cut and the amount of severance pay. The resulting difference between wage cut and severance pay in the damages and reinstatement cases is similar to the results in Section 5, and therefore, the likelihood of dismissal is not influenced by this modification.

In the reinstatement case of the previous section, severance pay for the worker increases as the firm’s state becomes more severe. However, since the worker’s claim is also more likely to be rejected as the firm’s state becomes more severe, his bargaining position is not necessarily strengthened in the severe states. The worker’s winning probability is the minimum level under $\theta = 0$. Hence, it is unlikely that a kind of paradoxical situation would occur whereby severance pay for the worker in the reinstatement case increases as the firm’s state becomes more severe. Severance pay does not always increase in the reinstatement case as the firm’s state becomes more severe, but the results on welfare are not influenced since severance pay is irrelevant to welfare.

We have considered the possibility of a wage cut in the negotiation stage, although it may appear that wage is not flexible enough. Actually, in the literature on employment protection regulations, wage rigidity is often assumed, and our analysis includes the case of wage rigidity. When the productivity loss caused by a wage cut is serious, as in the case of $\delta \leq \hat{\delta}$, the firm fails to adjust wage, as represented in Figs. 2 and 5. The degree of wage rigidity depends on the productivity loss caused by employment adjustment. Although it is controversial as to how flexible wage may be in the real world, we would conclude that the reinstatement policy is likely to dominate the damages policy as a legal remedy for unjust dismissal under wage rigidity.
As we already mentioned, the effect that damages or reinstatement has on welfare and the likelihood of employment adjustment depends on the productivity loss caused by employment adjustment. When the productivity loss is minor, reinstatement is dominated by damages as a legal remedy for unjust dismissal from the viewpoint of welfare, whereas, when the loss is serious, damages are not always better than reinstatement. Reinstatement may not seem desirable as a legal remedy for unjust dismissal when the productivity loss is serious because fired workers return to their original workplaces. However, the serious productivity loss caused by employment adjustment is likely to deter firms from firing workers. More job security is generated with a reinstatement rather than a damages policy, and thus, reinstatement can improve welfare, which is our main message in this paper. Needless to say, it is important to investigate to what degree employment adjustment decreases productivity, motivation, or morale of employees in the real world, and this is the subject of future work.

Appendix A. Proof of Proposition 4

First, we consider the case of \( \delta > \bar{\delta} \). From (5) and (12),

\[
\theta^r_r(\delta) - \theta^r_d(\delta) = \frac{2P(-\overline{w} + \delta((1 - P)w + P\overline{w}))}{2 - (1 + P)\delta(2 - \delta)}.
\]

Using

\[
\delta > \bar{\delta} \equiv \frac{\overline{w}}{(1 - P)w + P\overline{w}},
\]

it holds that \( \theta^r_r(\delta) - \theta^r_d(\delta) > 0 \).

Next, we consider the case of \( \delta \leq \bar{\delta} \). From (7) and (14),

\[
\theta^r_r(\delta) - \theta^r_d(\delta) = \frac{P[\overline{w} - \delta((1 - P)w + P\overline{w})]}{2 - \delta P}.
\]

Similarly, using \( \delta \leq \bar{\delta} \), it holds that \( \theta^r_r(\delta) \leq \theta^*_{d}(\delta) \). \( \square \)

References


\(^5\) Eguchi (2005) considers an incentive problem of workers and shows that damages are better as a legal remedy than reinstatement when the transaction cost of employment adjustment is sufficiently small. The existence of the productivity loss caused by employment adjustment, which we have focused in this paper, plays a crucial role to make the reinstatement policy more desirable.
OECD, 2004. OECD Employment Outlook. OECD.