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Contingent employment and organizational outcome: Clear benefits versus latent costs

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Abstract

This study aims to test the hypotheses explaining the relationship between contingent employment and organizational performance in line with the ambivalence model, reviewing the theoretical link between organizational and individual level.

Workplace panel data from the Korea Labor Institute (KLI), including yearly data for 2005, 2007, 2009, and 2011, was analyzed. Contingent employment was classified into direct hiring and indirect hiring, and the organizational outcomes include sales per employee, operating profit per employee, turnover ratio (overall and voluntary), and industrial accidents. The data were analyzed using random effect panel models.

Findings indicated that the use of contingent work might provide the ambivalent outcomes, provide explicit benefits but invoke latent costs too. Integrative HR practices for contingent work might be beneficial to the organization. The differential impacts of direct and indirect hiring on the organization were emergent. Based on these findings, managerial implications were discussed.

Key Words: Directly hired contingent employees, indirectly hired contingent employees, sales per employee, operating profit, turnover, industrial accidents, integrative HR, ambivalence

I. Introduction

The extensive use of contingent work has raised concerns about its economic consequences (Lee, Na, and Lee, 2013). Although contingent work provides us the opportunity to study the relationship between individuals and organizations in multiple ways, there have been a few studies exploring the organizational level outcomes and contingent worker use (Stickney, 2008). This paper explores this topic, and examines the impact of contingent worker use on the organizational performance, tries to complement the theoretical link between the individual level and the organizational level researches.

Previous studies at the individual level have compared the attitude and behavior toward the organization according to employment status (De Gilder, 2003; Van Dyne & Ang, 1998) or addressed the importance of interactional quality between contingent workers and regular workers on knowledge sharing (Kang, Morris, & Snell, 2007; Matusik & Charles, 1998; O'Neill & Adya, 2007) Redpath et al., 2009. Other studies looked for the impacts that contingent workers may have on the attitude and behavior of regular workers, which may determine conflict level between employment types (Davis-Blake, Broschak, & George, 2003; George, 2003; PEARCE, 1993; Way, Lepak, Fay, & Thacker, 2010). But these individual level researches lack theoretical link with organizational level researches. This study aims to develop theoretical link between individual and organizational level and analyze organizational outcomes of contingent employment empirically at the workplace level by using workplace panel data provided by KLI (Korea Labor Institute).

Some prior researchers exploring the outcome of contingent employment have reported that contingent employment can provide explicit benefits coming from labor cost reduction and added flexibility(Foote & Folta, 2002; Houseman, 2001; Lepak, Takeuchi, & Snell, 2003) but at the same time, others reported that contingent employment invoked latent costs such as the deterioration of trust and commitment between employees and the organization or among the different work status of employees(Allan, 2000; Broschak & Davis-Blake, 2006; Davis-Blake et al., 2003; De Gilder, 2003; George, 2003; Kwon, 2004; Mayrhofer, 1997; PEARCE, 1993; Way et al., 2010). This study

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develops these ambivalent trends as an empirical model.

Up to now, the empirical study of contingent employment and organizational level outcomes has been subject to some fundamental methodological limitations stemming from cross-sectional data analysis. Cross sectional data analysis cannot control the omitted variable bias caused by model misspecification. However, panel data analysis provides the better estimates of statistical models rather than cross sectional data analysis, resolving the unobserved heterogeneity problems caused by model misspecification(Trivedi, Cameron Colin A Pravin K, 2010).

Reviewing the theoretical link between organizational and individual level, this study builds the hypotheses explaining the relationship between contingent employment and organizational performance in line with the ambivalence model. Finally, the ambivalence model is tested empirically.

II. Background and Hypotheses

1. Contingent employment and organizational level outcome

Prior organizational level researches have explored the direct relationship between different forms of contingent work and organizational performance without any clear remarks of these procedures. Valverde et al. (2000) found that temporary contracts significantly impacted firm performance. That is, the greater the proportions of temporary workers present in an organization's workforce, the more likely the organization was to report a profit. Lepak et al. (2003) found that a greater use of knowledge based employment and contract work was positively related with financial performance (return on equity, market to book). Reca-Puig et al. (2008) reported that temporary employment was not related with sales per employee and return on sales. Panayotopoulou et al. (2010) reported that contingent employment use was not related with productivity and innovation. Meanwhile, some Korean scholars reported that contingent

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employment use was negatively related with productivity (Kwon, 2004) and innovation (Lee et al., 2013). These organizational level studies reported the mixed results, but the procedure leading to each firm performance was not addressed clearly.

Why do these studies exploring the relationship between contingent work and firm performance show inconsistent results? To explain it, I suggest the ambivalence outcome model of contingent employment. The ambivalence model is based on the research background of Soon Sik Kwon (2004), Pedulla (2013), Mayrhofer (1998), and Allan (2000), drawing upon the rich literature on contingent work. The ambivalence model asserts that the use of contingent workers gives the organization some explicit benefits coming from cost efficiency and labor flexibility, but also invokes latent costs coming from organizational detachment.

The benefits coming from the use of contingent workers are tangible and explicit. It was reported that the main reasons for using contingent workers were the need to adjust workload fluctuations and savings on labor costs (Houseman, 2001). These benefits are tangible and are expected to be clearly transferred to prompt financial performance such as sales and operating profit visualized by headcount. However, latent costs stemming from the use of contingent workers are reflected in undesirable HR outcomes such as demoralization, turnover; these are latent and lurking. The final loss cannot be fully estimated and promptly visualized in financial statement of the firm because these are very potent effects on the financial statements.

For example, the use of contingent workers invokes a declining trust level within the organization, leading to demoralization and turnover of regular employees (Pedulla, 2013; Way et al., 2010; Davis-Blake et al., 2003; Pearce, 1993). Regular workers with contingent coworkers report less trust in their organizations than do employees in regular-employee-only work units, because the differential treatment of contingent employees leads regular employees to question the fairness of their own organizations (Pearce, 1993; George, 2003). The presence of contingent workers reminds employees that they may also find themselves in the market in the near future. The presence of contingent employees may suggest the organization is willing to take advantage

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of employees whenever possible and regards the workers as tangible costs rather than human resources (Bolten and Houlihan, 2012). This perception of unfairness and demoralization may lead to turnover and other shirking behavior (Pedulla, 2013; Way et al., 2010; Davis-Blake et al., 2003; George 2003).

Moreover, a work arrangement delegating less desirable and dangerous tasks to contingent workers may create psychological stress, raising the rate of industrial accidents and turnover of contingent workers. Most contingent workers are low skilled, less trained and controlled than regular employees, and not familiar with the workplace environment; they are more likely to be exposed to dangerous tasks, leading to industrial accidents (Mayhew et al, 1997; Nenonen, 2011; Underhill and Quinlan, 2011) .

Overall turnover and industrial accident rates increased by the use of contingent workers are latent costs in the organization. Managers cannot predict these latent costs explicitly, and they cannot be promptly reflected on the firm's balance sheet, they are not clearly transferred to the financial performance of the firm. Sometimes, these costs are lurking, may be transferred on the society or individual workers themselves than the firm (Bolton et al., 2012). Thus, managers pursuing the short-term and tangible performance are likely to underestimate these intangible results that can be represented by undesirable HR Outcome.

The ambivalence outcome model of contingent work indicates that the final organizational performance (outcome) is dependent on the net effect offsetting the latent costs against the explicit benefits. Thus, whether final firm performance is related with contingent employment or not is fluid and dependent on offsetting results between explicit benefit and latent cost. <Fig 1> shows the ambivalence outcome model of contingent work in a firm.

Insert <Fig 1> around here

According to the above discussion, I develop hypotheses 1 and 2 as follows.

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Hypothesis 1: The use of contingent workers provides the organization with explicit benefits reflected in sales and an operating profit generated by the headcount.

Hypothesis 2: The use of contingent workers invokes latent costs that are reflected in employee turnover and industrial accidents.

2. The procedure that use of contingent worker leads to firm performance.

According to this ambivalent outcome model of contingent work, both enhancing explicit benefits and reducing latent cost are very important to get good firm performance. To clarify it, we have to notice the individual level researches, exploring the procedure leading from employee attitude and behavior to firm performance.

Two procedures may be suggested from the rich literature of contingent work. First, developing and fostering positive attitudes and behaviors such as organizational commitment, loyalty and organizational citizenship behavior (OCB) contributes to firm performance. Especially, OCB has been regarded as key contribution behaviors (George, et al., 2010; Van Dyne and Ang, 1998; Coyle-Shapiro and Kessler, 2002; Kwon, 2006). Secondly, developing desirable social relations between contingent and regular workers is important to trust counterparts and share information to get knowledge accumulation and creation (Kang et al., 2007; Matusik & Charles, 1998)(Kang et al., 2007; Matusik and Hill, 1998; O'Neill and Adya, 2006; Leana. C. R., and Van Buren III, H. J., 1998).

This study suggests these procedures as the theoretical background improving the organizational level performance by using contingent employment, in line with the ambivalent outcome model.

2.1. The differential effects of attitude on contribution behavior according to work status

The attitudes and behaviors of contingent workers have been recognized as more negative than those of regular workers (Posthuma et al., 2005; Van Dyne and Ang, 1998; Ang and Slaughter, 2001; Chattopadhyay and George, 2001), which reflects contingent workers' low level of attachment to the organization. These attitudinal and behavioral tendencies of contingent workers are the main reasons for avoiding the use of contingent workers in core knowledge and technology-intensive jobs. Considering these tendencies, raising contingent workers' psychological attachment to their work and the organization and executing HR policy targeted at raising contingent workers' contribution to the organization are necessary to improve organizational performance (Zimmerman et al., 2013).

Although the low attachment of contingent workers may cause many problems, it is important to notice the prior research reporting that the interrelation between attitude and contribution behavior of contingent workers is stronger than that of regular workers. Van Dyne and Ang (1998) found that the relationship between two kinds of attitudes (commitment and psychological contracts) and OCB was stronger for contingent workers than it was for regular employees, indicating that when contingent workers have positive attitudes about their relationships with an organization, they are more apt to engage in OCB. Coyle-Shapiro and Kessler (2002) found that although contingent workers were less committed to the organization and engaged in OCB to a lesser degree than did their regular counterparts, the relationship between the inducements provided by the employer and contribution behaviors was stronger for contingent employees. Such findings indicate the implications of the treatment of contingent and regular employees.

Some Korean studies have examined the comparative relationship between the attitudes and contribution behaviors of contingent workers. These studies reported similar results: The relationship between the attitudes and contribution behaviors of contingent workers was stronger than that of regular workers. Kwon (2006), Kwon and Kim (2005) reported that the relationship

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between perceptual justice and OCB was stronger for contingent workers than it was for regular workers, although contingent workers' perception level of justice and OCB was lower than that of regular workers. Overall, the prior research reported that contingent workers have poorer attitudes and contribution behaviors toward the organization than do regular workers because of low attachment, but the relationship between attitudes and contribution behaviors toward the organization is stronger for contingent workers. Speaking briefly, it is reported that contingent workers are more likely than regular workers to respond promptly and well to the inducement provided by the organization.

Why are contingent workers more responsive to external signals such as inducements provided by the organization? I can speculate the reason as follows.

First, most contingent workers experience employment insecurity and instability because of their short employment periods, and thus psychological tension related to insecurity is embedded in their working lives. This psychological tension is likely to make them respond promptly and astutely to the signals coming from the organization or market. If an organization provides various inducements for contingent workers and treats them fairly, the contingent workers perceive this signal positively and respond to the organization promptly; they are likely to engage in more OCB.

Second, most contingent workers want to get full-time jobs and try to return to the regular job market. They are often clustered in jobs that require significantly less education and skill than regular employment positions; as a result, they find their jobs boring and unchallenging. They may feel stranded in dead-end, low-level jobs. Therefore, they have an intense desire to switch to stable and more desirable jobs; as a result, they promptly respond to positive signals provided by the organization or market, and are more involved in OCB.

If contingent workers respond astutely to inducements provided by the organization, then organizational fair treatment and inducement for contingent workers may be an efficient route to motivate contingent workers and contribute to organizational performance.

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2.2. The effects of social relations on knowledge sharing

Building desirable social relations between contingent and regular workers is another procedure leading to good organizational performance through Knowledge sharing and organizational learning (Kang et al, 2007; Matusik and Hill, 1988). Organizational social capital is broadly generated asset that inheres in social relations and networks among various employment arrangements within an organization (Kang et al., 2007; Leanna and Van Buren Ⅲ, 1999). It is defined as a resource reflecting the character of social relations within the firm (Leanna and Van Buren Ⅲ, 1999, p.538). I focus on the social relations generated by workers with various employment arrangements within the firm. Social relations are emergent as the results of the interactional contacts among workers.

Organizations vary substantially in terms of both the type and amount of contact they permit between regular and contingent workers. For example, to alleviate concerns about employment liability for contingent workers and minimize comparisons of work arrangements among individuals performing similar tasks, some managers can choose a segregation policy, attempt to limit contact between contingent and regular workers to work-related activities only, while others permit and even encourage social contact between the two groups in the workplace. Although firms may vary in HR policies that discourage or encourage social contacts between contingent workers and regular workers, I expect social contacts to facilitate the exchange of social information that reduce tensions between regular and contingent workers and help them see similarities as workers subordinate to the management.

2.3 Integration-oriented HR practices for contingent workers

I introduced two procedures leading to organizational performance through the use of contingent workers from the abundant literature of contingent work. The first is motivating

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contingent workers to involve in contribution behaviors by providing positive HR practices and benefits for contingent workers. The second is improving social relations to effect on knowledge sharing between contingent and regular workers. Integrative HR practices for contingent workers can be regarded as a pivotal tool to activate these procedures. These procedures can be closely intertwined by HR practices for the integrative or fair treatment between contingent and regular workers.

Although HR practices do not expand to all employee groups directly, HR management (HRM) plays a pivotal role in facilitating knowledge flows, organizational learning, and better organizational commitment by helping employees interact one another and build relationships with others (Zimmerman et al., 2013; Adler and Kwon, 2002; Kang et al., 2007).

Contingent workers are clearly not homogeneous and HR implementation can take varied practices, for example, segregation-oriented or integration-oriented HR practices (Lautsch, 2002; 2003; Kwon, 2004). A segregation approach would, for example, use locations, uniforms, badges, resting space, treatment, tasks and duties, or even agency employment, to separately manage contingent and regular workers. In contrast, integration approach would pursue the degree of equity in the treatment of these regular and contingent workers. Tighter integration of contingent and regular HR system implies greater levels of contact and interaction across workers and is likely to be associated with greater equity in the HR and benefit provision of members of two work groups (Lausch, 2003).

Accordingly, as long as workers mixed together, I argue that integration-oriented HR practices for contingent workers will promote the fairness perception among employees and help to build work motivations as well as good social relations necessary to facilitate organizational learning, better organizational commitment and more contribution behavior. Chambel and Sobral (2011) argued that when contingent workers are allowed to participate in training activities, they tend to perceive higher organizational support, leading to increased loyalty. Koene and van Riemsdijk (2005) argued that as a means of generating higher morale, and offsetting some of the

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negative outcomes of contingent work use, the devotion of special managerial and HR attention to all contingent workers were necessary.

According to the above discussion, I expect HR and benefit provision for contingent workers to do goods to the organization. In line with the ambivalent model, it will increase explicit benefits as well as reduce latent costs. The following hypotheses are made.

Hypothesis 3: Providing HR practices and benefits to contingent workers will have positive impacts on sales per employee and operational profit ratio generated by headcount.

Hypothesis 4: Providing HR practices and benefits to contingent workers will have negative impacts on employee turnover and industrial accidents.

2.4 Analytic model

<Fig 2> shows the analytic model exploring the ambivalence outcome of contingent work.

Insert <Fig 2> around here

In <Fig 2>, contingent workers are classified to the direct hired and the indirect hired. Independent variables in the model include both proportion (direct-hired, indirect-hired) and practice (Integrative HR practice for contingent worker) consistent with the hypotheses. The dependent variables include sales per headcount, operating profit per headcount, turnover, and industrial accident, reflecting the ambivalence outcome of contingent work.

III. Research Methods

1. Sample

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Workplace panel data from Korea Labor Institute (KLI) was used to test the ambivalence outcome model of contingent work and analyze the hypotheses. This data is the largest and most recent nationally representative workplace-level one in Korea. It contains detailed information of employment in contingent work arrangements as direct-hire and indirect-hire, etc..

The workplace panel data are composed of yearly data for 2005, 2007, 2009, and 2011. I combined all yearly data into an integrated panel dataset based on workplace identification, and finally generated an unbalanced panel dataset. The dataset includes 900 workplace cases with some missing values. All variables included in this analysis are based on the response of HR managers in the workplaces.

2. Dependent variables

Dependent variables include employee turnover ratio (overall turnover, voluntary turnover), sales per employee, operational profit per employee, industrial accidents (occurrence dummy, number of employees recognized by the government authority to have been in industrial accidents). The occurrence dummy is coded 1 when an industrial accident occurred in the previous year, and 0 otherwise. Recognition numbers are measured as the number of workers who were injured in the workplace as recognized by the government authority.

Sales per employee and operational profit ratio represent explicit benefits stemming from the use of contingent workers, and are measured as the construct per headcount to reflect the prompt payoff. Employee turnover and industrial accidents represent the latent costs of using contingent workers.

3. Control variables

Considering the parsimony of the model, I included prospector strategy, professional management system, union density, high-commitment HRM, nurturing HRM, employee Involvement, and industry dummy variables according to the ninth Korean regular industry classification as control variables.

Prospector strategy rests on the strategy typology of Miles and Snow (1978), meaning a strong orientation towards exploration of new commodities and markets. The professional management system variable indicates the extent to which a firm's management system approaches a professional management system based on a sharp division between shareholders and management agents. High-commitment HRM is defined as the extent to which the HRM goal of the firm is strongly oriented toward increasing workers' commitment and loyalty to the firm. Nurturing HR is defined as the extent to which the firm has a strong orientation to develop employees internally rather than supplement them externally. Employee involvement is defined as the amount of discretion employees have in decision making related to the performance of their tasks, and it is measured as the number of employee involvement practices adopted in a firm, such as suggestions, quality control (QC), six sigma, rotation, total quality management (TQM), and self-directed teams.

4. Independent variables

Independent variables include the ratio of direct contingent employees, the ratio of indirect contingent employees, and the provision of HR practices and benefits for direct contingent employees.

Although Classification of contingent workers was varied and dependent on each context (Connelly and Gallagher, 2004), most organizational studies regard contingent employees as a single group or have studied only a single subgroup, although different subgroups exist and the differences among them could be substantial (Liu, Wu and Hu, 2010; Walsh, 2007). In this analysis,

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directly hired contingent employees (organization-hired temporary workers and organization-hired part-timers) versus indirectly hired contingent workers (agency-hired contingent workers and subcontracted contingent workers directed by the subcontract employers, but working within the client company workplace) are compared. This is a generalized classification widespread across industries in Korea. Up to now, I did not find any prior researches differentiating the comparative effects of direct-hire and indirect-hire on firm performance, this is a new attempt.

The ratio of direct-hiring or indirect hiring was produced as the ratio over the workforce size in the organization. The provision of HR practices and benefits for direct contingent employees was measured as the extent to which education, promotion, advancement, severance pay, vacation, national pension, employment insurance, health insurance, and industrial insurance were provided for direct contingent employees, with each item coded using a four-point scale, with 1 = not at all and 4 = provided for all directly hired contingent employees, and summed together as an additive construct.

All the variables and how they were measured are shown in <Table 1>.

Insert <Table 1> around here

5. Analytic methods

The panel dataset was of the unbalanced type; for each regression equation, I tested whether the data was appropriate for fixed probability analysis or for random probability analysis using the Housman test (Cameron and Trivedi, 2010). As the p (probability) values of the Housman test for all equations were higher than 0.05, the panel dataset was confirmed to be appropriate for random probability analysis rather than fixed probability analysis. I analyzed all the regression equations in this study through the random probability model.

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IV. Results

1. Mean, standard deviation, correlation

The mean, standard deviation, and correlations based on the pooled sample are shown in <Table 2>. The average ratio of direct contingent employees is 8.7%, and that of indirect contingent employees is 8.0%. The provision of HR practices and benefits for direct contingent employees is positively related to sales per employee, high-commitment HRM, nurturing HRM, employee involvement, and the ratio of direct contingent employees. Sales per employee is positively related to union density, prospector strategy, professional management system, high-commitment HRM, nurturing HRM, employee involvement, and the ratio of indirect contingent employees, but negatively related to voluntary turnover ratio and the industrial accident occurrence dummy.

Insert <Table 2> around here

2. Regression results

<Table 3> shows the results of a panel analysis in which the dependent valuables are financial outcomes (sales per employee and operational profit ratio). As a control variable, high-commitment HRM has positive effects on both sales per employee and operational profit ratio. As independent variables, the ratio of indirect contingent employees has positive effects on both sales per employee ($p < .01$) and operational profit ratio ($p < .05$), but the effect of direct contingent employees is not significant. This result indicates that hypothesis 1 is partially supported. Meanwhile, the provision of HR practices and benefits for direct contingent employees has positive effects on both sales per employee ($p < 0.1$) and operational profit ratio ($p < 0.1$),

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although this significance level is marginal.

<Table 4> shows the results of a panel analysis in which the dependent variables are turnover ratio and voluntary turnover ratio. As a control variable, union density has negative effects on both turnover ($p < 0.001$) and voluntary turnover ($p < 0.001$). This result is consistent with the traditional theory that a union mediates the grievance resolution process and reduces employee turnover (Freeman and Medoff, 1984). Professional management system has negative effects on both turnover ($p < 0.01$) and voluntary turnover ($p < 0.05$). Prospector strategy has a negative effect on voluntary turnover ratio ($p < 0.05$). As independent variables, the ratio of direct contingent employees has positive effects on turnover ratio and voluntary turnover ratio, but the effects of indirect contingent employees are not significant. The provision of HR practices and benefits for direct contingent workers has a negative effect on the voluntary turnover, although the significance level is marginal ($p<0.1$).

<Table 5> shows the results of a panel analysis in which the dependent variables are an occurrence dummy for industrial accidents and the number of employees recognized to have been in industrial accidents. When the dependent variable is a dummy, logistic analysis is appropriate as an analytic method; therefore, panel logistic regression was used when the occurrence dummy for industrial accidents was the dependent variable. Meanwhile, when the number of employees recognized to have been in industrial accidents (the number of workers who were injured in the workplace as recognized by the industrial accident authority) was the dependent variable, left-censured tobit analysis was used, which reflected the features of data

distribution well. As a control variable, union density has positive effects on both occurrence and number of employees recognized to have been in industrial accidents (p < 0.001). High-commitment HRM has a negative effect on number of employees recognized to have been in industrial accidents (p < 0.05). Employee involvement has positive effects on both the occurrence dummy (p < 0.001) and the number of employees recognized to have been in industrial accidents (p < 0.01). As independent variables, the ratio of indirect contingent employees had positive effects on both the occurrence dummy (p < 0.05) and number of employees recognized to have been in industrial accidents (p < 0.01), but the effects of the ratio of direct contingent employees, and those of the provision of HR practices and benefits for direct contingent employees are not significant.

Insert <Table 5> around here

V. Conclusion

5.1 Discussion

Insert <Table 6> around here

The overall results of empirical analysis can be summarized in <Table 6>. The result shows that the effect of contingent worker use depends on the type of contingent employment. Directly hired contingent employees have positive effects on turnover and voluntary turnover, but the effects on the other dependent variables are not significant. Meanwhile, the use of indirect contingent employees has positive effects on both sales per employee and operational profit, which supports hypothesis 1. In addition, the use of indirect contingent employees increases both the occurrence of industrial accidents and the number of employees recognized to have been in

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industrial accidents, which are regarded as latent costs. This result partially supports hypothesis 2. These effects of indirect contingent employment are different from those of direct contingent employment and are more salient in the aspect of ambivalence caused by contingent employment.

The provision of HR practices and benefits for direct contingent workers has positive effects on both sales per employee and operational profit, but has a negative effect on the voluntary turnover ratio, although all the significance levels are marginal ($p < 0.1$). However, the effects of the provision of HR practices and benefits on industrial accidents are not significant. According to the above effects, the provision of HR practices and benefits for directly hired contingent workers increases the explicit benefits and somewhat reduces voluntary turnover ratio.

Considering the overall results, I found that the different types of contingent employment had different effects on the organizational outcome. Compared to the effect of the direct contingent employment, the effect of indirect contingent employment was more salient in the aspect of the ambivalent outcome of clear benefits and latent costs. As Broschak and Davis-Blake (2006), Connelly and Gallagher (2004), Kalleberg (2000) noted, contingent work is not a homogeneous category; this study shows contingent work arrangements vary in the effects on the organizational outcome. Although previous researches have shown that the use of each type of contingent worker has different effects on the loyalty and turnover of regular workers, in the individual level analysis, the main categories they compared include temporary agency worker, fixed term, independent contractor, part-timer, contractor, etc. (De Graaf-Zijl, 2012; Broschak and Davis-Blake, 2006: Davis et al., 2003; Pearce, 1993: Davis-Blake and Uzzi, 1993). But this study showed how the effects of the direct-hired and the indirect-hired on the multiple workplace-level outcomes varied comparatively. The comparison between the direct-hired and the indirect-hired is a new attempt and afterwards deserve to study more. I can speculate why the ambivalent effect of the indirectly-hired was more salient.

Directly hired contingent workers may be more easily comparable than indirectly hired contingent workers with regular workers doing similar jobs. Thus, social comparison may happen

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more frequently between them, leading them to recognize more often that they are treated unfairly. This causes negative attitudes and behaviors such as turnover, finally leading to insignificant financial outcomes. However, indirectly hired contingent workers are used for the purpose of externalization of control. To alleviate concerns about co-employment liability for workers and minimize comparisons of work arrangements among workers performing similar tasks, some managers prefer the indirect- hired to the directly-hired (Broschak and Davis-Blake, 2006). Indirectly hired contingent workers are quite distant from regular workers, social comparisons that may ignite antagonistic relations with the organization and between work groups may rarely occur. Moreover, they are used to externalize administration costs too. This may contribute to reducing the labor costs of the firm and increasing the visible benefits influenced by headcounts.

On the other hand, however, externalization of administration may lead to the failure in the supervision and control of workers, it caused by the ambiguity of the employment and control responsibility. Disorganization and control ambiguity can increase the number of industrial accidents from externalized work. Moreover, externalized workers lack sufficient education about workplace health and safety from the client organization and may have a difficulty in adapting themselves to workplace conditions, leading to an increase in industrial accidents. This result is consistent with most previous studies reporting that agency-hired temporary workers experience higher risks rather than do directly hired workers (Smith et al., 2010; Underhill and Quinlan, 2011; Nenonen, 2011). Considering the ambivalent outcome model, the use of indirect contingent employment than direct contingent employment has a more salient ambivalent outcome by increasing prompt benefits and industrial accidents.

The results for the provision of HR practices and benefits for direct contingent workers suggest that the integrative HR practices the contingent workers within the organization might have desirable effects on both financial performance and voluntary turnover, although the effect was somewhat marginal in this analysis. The result reports that the shift toward fair treatment and integrative HR strategies for contingent workers may be partially beneficial to the organization.

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Burgess and Connell (2006) examined how the differences in treatment between contingent and permanent workers could lead to tension within the firm. According to them, while integration strategies reduced flexibility, the quality of work produced by contingent workers increased. Zimmerman et al. (2013) asserted that a difference in treatment could act as a barrier to the sharing of knowledge between regular and contingent workers in the organization.

Whether the main arrangement is the direct-hired or indirect-hired, the use of contingent work invokes latent costs. These latent cost may be somewhat transferred from the organization to the individual or even the society. Thus, although the use of contingent workers is always a choice, these employment arrangements need some moral responsibility of the firm (Bolten and Houlihan, 2012). Providing integrative HR practices to the contingent workers may be a useful tool complementing this moral gap as well as doing goods for firm performance.

Overall, this study explored whether the use of contingent employment has positive effects on the firm, and whether HR and benefit provision for contingent workers improves organizational outcomes. The results, on the whole, support the ambivalent model of the overall outcomes, and give us the practical implications that one-sided effort to pursue employment flexibility need to be complemented by integrative HR effort to achieve better outcomes.

5.2 Limitation and future research direction

First, the effects of HR provision to the contingent worker were somewhat marginal, I cannot strongly assert the hypothesized effect of this construct. Thus, whether the shift toward HR integration may result in more desirable outcomes needs more researches in near future.

Secondly, various types of contingent employment have different effects on the organizational outcomes. This is a new finding, but the different effects according to employment types have to be explored more in near future. The differentiating effects of the direct-hired and indirect-hired on firm performance have to be explored consecutively. Understanding the heterogeneous effects

of each employment type can give managerial guideline to the firm using these types of workforces.

Thirdly, although this study provides the comprehensive map of the relationship between contingent employment and organizational outcome at the workplace level, the specific processes leading to each outcome were not explored. For example, the mediating or moderating processes leading to each outcome have to be explored in detail.

Finally, why indirect contingent employment increases the number of industrial accidents needs to be explored in detail, based on a more specific research model. Those are suggested as avenues for future research.

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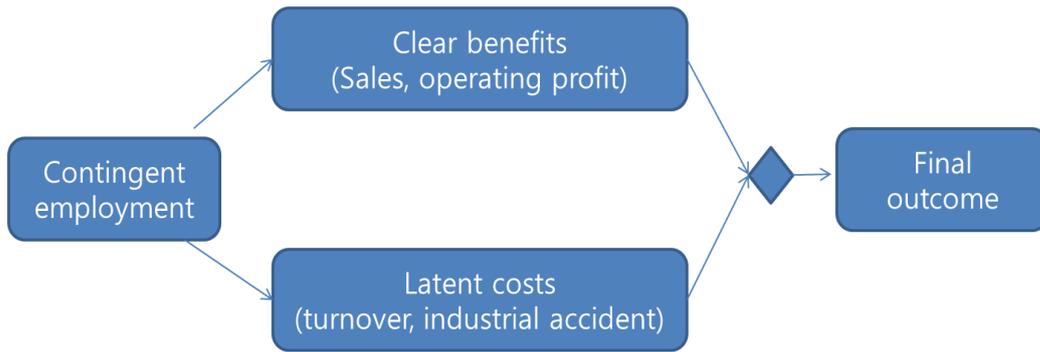Freeman, R. B. and Medoff, J. L. 1984. *What do unions do?* New York: Basic Books.

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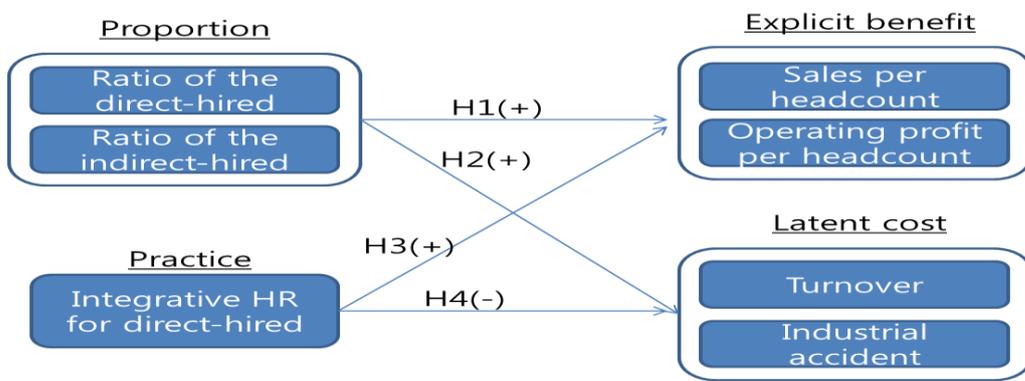
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<Fig 1> The ambivalent outcome model of contingent work

<Fig 2> Analytic model

< Table 1> Variables and measurement

Variables	Measurement

Workforce size	Total number of employees including regular workers and all other direct-hired workers. Overall employment by the organization.
Union density	Number of union members/workforce size
Ratio of direct contingent employees	(The number of organization-hired temporary workers + the number of organization-hired part-timers)/Workforce size
Ratio of indirect contingent employees	(The number of agency-hired contingent workers + the number of subcontract workers)/Workforce size
Provision of HR practices and benefits	Provision of HR practices and benefits was measured as the extent to which education, promotion, advancement, severance pay, vacation, national pension, employment insurance, health insurance, and industrial insurance were provided for direct contingent employees, with each item coded using a four-point scale, with 1 = not at all and 4 = provided for all direct contingent employees, and summed together as an additive measurement
Turnover ratio	Overall turnover in a year/Workforce
Voluntary turnover ratio	Voluntary turnover in a year/Workforce size
Sales per employee	Total output per year/Workforce size
Operating profit per employee	Operating profit per year/Workforce size
Industrial accident dummy	Occurrence of industrial accidents in a year, measured as 0 = no, 1 = yes
Number of employees recognized to have been involved in industrial accidents	Number of workers injured in the workplace per year as recognized by the industrial accident authority
Professional management system	The extent to which ownership and management are separated, measured using a four-point scale, with 1 = managed by corporate owners and 4 = managed by professional managers separated from the ownership
Prospector strategy	How likely the firm is to be first to market with new products and services, measured using a four-point scale, with 1 = not likely and 4 = very likely
High-commitment HRM	The extent to which the most important goal of HR management in the firm is employee loyalty and commitment, measured using a four-point scale, with 1 =

	reduction of labor costs and 4 = increasing employees' loyalty and commitment to the firm
Nurturing HRM	The extent to which the firm nurtures internal talent, measured using a four-point scale, with 1 = usually staffs necessary personnel from outside and 4 = usually nurtures necessary personnel from inside the firm
Employee involvement	Each of six sigma, QC, TQM, self-managed team, rotation, and multi-skill training was coded as 0 = not available or 1 = available and summed together as an additive measurement
Industry dummy	Dummy variable classified according to the ninth Korean industry standard classification

<Table 2> Mean, standard deviation (s.d.), and correlations analyzed on a pooled panel dataset

	mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. sales per employee	3169	16678														
2. Operating profit per employee	270.48	2132.5	.62**													
3. Turnover ratio	.22	.48	−.03	−.02												
4. Voluntary turnover ratio	.17	.33	−.04*	−.02	.70**											
5. Industrial accident dummy	.23	.42	−.04*	−.04*	.006	.005										
6. Number of employees recognized to have been involved in industrial accidents	0.91	5.54	−.002	−.002	−.007	−.016	.035**									
7. Union density	.207	.31	.055**	.051**	−.10**	−.12**	.19**	−.003								
8. Prospector strategy	2.45	.70	.062**	.048**	.0008	−.013	.003	−.010	.008							
9. Professional management	1.91	1.13	.083**	.07**	−.093**	−.12**	.042**	.028*	.15**	.046**						
10. High−commitment HRM	3.46	.90	.039**	.027	−.037**	−.05**	−.007	−.008	.028*	.08**	.15**					
11. Nurturing HRM	3.81	.84	.049**	.029*	−.029*	−.028*	.024	.019	.039**	.069**	.077**	.31**				
12. Employee involvement	2.68	1.89	.075**	.020	−.066**	−.099**	.14**	.092**	.10**	.091**	.30**	.17**	.17**			
13. Ratio of direct contingent employees	.087	.18	.029	.019	,052**	−.006	.006	.0064	−.09**	.0007	.097**	.0078	−.01	−.021		
14. Ratio of indirect contingent employees	.080	.30	.13**	.088**	−.018	−.030*	.015	.039**	.015	.023	.11**	.0035	.024	.11**	.042**	
15. Provision of HR practices and benefits	32.21	7.58	.059*	.044	−.013	−.017	−.041	.012	.034	.039	.12**	.088**	.059**	.14**	.14**	.026

*p < 0.05, **p < 0.01, two-tailed test

<Table 3> Regression results for financial benefits

		Dependent variables	
		Sales per employee	Operating profit per employee
(Intercept)		-5017(2798) †	-391.65(492.39)
Control variables	Union density	1054.98(1713.26)	256.87(453.88)
	Prospector strategy	-92.58(543.80)	-10.09(86.53)
	Professional management	316.92(366.32)	-52.08(64.35)
	High-commitment HRM	934.21(416.70)*	139.03(62.04)*
	Nurturing HRM	-1.78(447.70)	-37.66(62.83)
	Employee involvement	55.36(169.59)	-15.10(23.26)
Independent variables	Ratio of direct contingent employees	1909.09(2295.23)	-167.58(416.05)
	Ratio of indirect contingent employees	3106(899)**	244.58(132.72) †
	Provision of HR practices and benefits	90.21(52.30) †	15.67(9.31) †
R-squared		Within group = 0.028 Between groups = 0.142 Overall = 0.137	Within group = 0.041 Between groups = 0.037 Overall = 0.034
Number of observations and groups		No. of observations = 728 No. of groups = 562	No. of observations = 726 No. of groups = 561
Wald Chi square and significance level		93.37***	27.87

† $p < 0.1$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, two-tailed test, nonstandard coefficient (standard error) significance level is displayed. The effects of industry dummy variables are omitted and are not shown in the table.

<Table 4> Regression results for turnover

		Dependent variables	
		Turnover ratio	Voluntary turnover ratio
(Intercept)		.34(.06)***	.28(.05)***
Control variables	Union density	-.157(.033)***	-.171(.027)***
	Prospector strategy	-.011(.011)	-.020(.009)*
	Professional management	-.025(.007)**	-.022(.006)*
	High-commitment HRM	-.007(.008)	-.0016(.007)
	Nurturing HRM	.004(.010)	.012(.008)
	Employee involvement	-.006(.004)	-.005(.003)
Independent variables	Ratio of direct contingent employees	.21(.043)***	.098(.036)**
	Ratio of indirect contingent employees	-.004(.021)	-.0035(.0176)
	Provision of HR practices and benefits	-.0010(.0010)	-.0011(.0008) †
R-squared		Within group = 0.020 Between groups = 0.212 Overall = 0.211	Within group = 0.035 Between groups = 0.187 Overall = 0.178
Number of observations and groups		No. of observations = 900 No. of groups = 694	No. of observations = 900 No. of groups = 694
Wald Chi square and significance level		194.41***	163.91***

†p < 0.1, *p < 0.05, **p < 0.01, ***p < 0.001, two-tailed test, nonstandard coefficient (standard error) significance level is shown. The effects of industry dummy variables are omitted and are not shown in the table.

<Table 5> Regression results for industrial accidents

		Dependent variables	
		Industrial accident dummy (Logit analysis)	Employees recognized to have been in industrial accidents (Tobit analysis)
(Intercept)		-2.77(.81)**	-.286(.82)
Control variables	Union density	1.81(.41)***	8.19(1.52)***
	Prospector strategy	.19(.15)	.24(.58)
	Professional management	.022(.091)	-.051(.36)
	High-commitment HRM	-.17(.12)	-.93(.45)*
	Nurturing HRM	.16(.14)	.81(.52)
	Employee involvement	.21(.06)***.	.62(.21)**
Independent variables	Ratio of direct contingent employees	.35(.54)	.65(2.10)
	Ratio of indirect contingent employees	.41(.24)*	2.76(.91)**
	Provision of HR practices and benefits	-.0095(.0128)	.018(.051)
Log likelihood		-432.47	-920.84
Number of observations and groups		No. of observations = 900 No. of groups = 694	No. of observations = 900 No. of groups = 694
Wald Chi square and significance level		42.80**	72.22***

†$p < 0.1$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, two-tailed test, nonstandard coefficient (standard error) significance level is shown. The effects of industry dummy variables are omitted and are not shown in the table.

\<Table 6\> Summary of analytical results

	Analytical subjects	Results
1. Explicit benefits of contingent employment use	Contingent employment (direct hiring) -> sales per employee	n.s.
	Contingent employment (indirect hiring) -> sales per employee	+, p < 0.01
	Contingent employment (direct hiring) -> operational profit ratio	n.s.
	Contingent employment (indirect hiring) -> operational profit ratio	+, p < 0.1
2. Latent costs of contingent employment use	Contingent employment (direct hiring) -> turnover ratio	+, p < 0.001
	Contingent employment (indirect hiring) -> turnover ratio	n.s.
	Contingent employment (direct hiring) -> voluntary turnover ratio	+, p < 0.01
	Contingent employment (indirect hiring) -> voluntary turnover ratio	n.s.
	Contingent employment (direct hiring) -> occurrence of industrial accidents	n.s.
	Contingent employment (indirect hiring) -> occurrence of industrial accidents	+, p < 0.01
	Contingent employment (direct hiring) -> number of employees recognized to have been in industrial accidents	n.s.
	Contingent employment (indirect hiring) -> number of employees recognized to have been in industrial accidents	+, p < 0.001
3. Effects of the provision of HR practices and benefits	Provision of HR practices and benefits -> sales per employee	+, p < 0.1
	Provision of HR practices and benefits -> operational profit ratio	+, p < 0.1
	Provision of HR practices and benefits -> turnover ratio	n.s.
	Provision of HR practices and benefits -> voluntary turnover ratio	-, p < 0.1
	Provision of HR practices and benefits -> occurrence of industrial accidents	n.s.
	Provision of HR practices and benefits -> Number of employees recognized to have been in industrial accidents	n.s.

(n.s.: not significant)