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Differentiating the workforce: The performance effects of using contingent labor in a context of high-performance work systems

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Abstract

In this study we focus on the impact of contingent labor on the outcomes of high-performance work systems (HPWS). Building on the emerging research on the social mechanisms linking HRM to organizational effectiveness, we argue that a higher incidence of contingent labor diminishes the productivity payoff associated with the use of HPWS for managing standard employees. We test these arguments using a sample of 229 British firms of different industries. The results support our arguments and help develop a more holistic and critical viewpoint in the analysis of workforce differentiation.

1. Introduction

One of the most common ways to differentiate the workforce is by distinguishing between “standard” and “contingent” employees (Broschak & Davis-Blake, 2006). The differences between the two types of employees reside in two fundamental criteria: the duration of their employment relationship and the quantity of HR investments the firm directs to them (Kalleberg, 2001). While standard employees have an ongoing employment relationship and receive a number of HR investments (e.g., economic incentives, training, empowerment opportunities), contingent ones have employment relationships of limited duration and generally receive only minor HR investments from the employer. The most common types of contingent labor are fixed-term, temporary, and agency workers (Polivka & Nardone, 1989); these are the types we focus on in this paper.

Both standard and contingent employees deliver benefits to the firm. Through the use of standard employment arrangements and HR investments, firms may boost firm productivity and profitability by fostering the commitment, skill level and flexibility of the employees in these arrangements (Lepak & Snell, 1999). Contingent employment, on the other hand, provides more numerical flexibility (Kalleberg, 2001) and access to new knowledge (Vogus & Welbourne, 2003), at the same time as it helps to achieve a range of labor cost savings (Cappelli & Neumark, 2004).

That being said, the advantages associated with these two employee groups should not be analyzed solely in isolation. Rather, it is also essential to analyze whether these groups may be mixed, as well as the extent to which their mixing is beneficial for firms (Cappelli & Neumark, 2004). Following this direction of analysis and focusing on the simultaneous use of standard and contingent employees, it has been shown that such a combination is not without costs. On the contrary, it may reduce trust (Pearce, 1993), loyalty (Davis-Blake, Broschak, & George, 2003), commitment (George, 2003), and helping behaviors (Broschak & Davis-Blake, 2006) among the standard workforce. Moreover, some authors found that the combination of standard and contingent labor is not necessarily beneficial for firms’ final performance (Roca-Puig, Beltrán-Martín, Bou-Llusar, & Escrig-Tena, 2008).

In the present study we aim at expanding on this research to explore the impact of contingent labor on the effectiveness of the HR practices used to manage standard employees. Specifically, based on the abundant literature considering so-called high-performance work systems (HPWS) as the most effective initiative for managing the standard workforce (e.g., Huselid, 1995), we pose the following research question: Are HPWS more effective when used in contexts where a contingent workforce is also deployed, or in contexts of a uniform culture where the entire workforce consists of standard employees?

To date, empirical research has not sufficiently addressed this question. Yet, for organizations wishing to improve their productivity, such a question is certainly relevant. Indeed, by exploring this question one can assess the extent to which the highly acclaimed tendency to differentiate the workforce (e.g., Becker, Huselid, & Beatty, 2009; Lepak, Takeuchi, & Snell, 2003) may have downsides and counterweights. Based on emerging research on the social mediators of the HRM–organizational effectiveness relationship (e.g., Collins & Smith, 2006; Evans & Davis,
In this study we adopt the definition of contingent employment given by Polivka and Nardone (1989) and focus on agency, temporary, and fixed-term workers. These workers are nowadays more pervasive than ever and no longer restricted to specific sectors or occupations (Broschak & Davis-Blake, 2006).

The differences between standard and contingent employees reside not only in the length of their employment relationships, but also in the kind of HR practices used to manage them. Standard employees tend to receive HR investments from the employer such as monetary incentives, empowerment, training and other "high-road" initiatives, whereas employees in contingent work arrangements, because of their weak bonds with the company, are usually managed through "low-road" HR practices, characterized by narrow employer commitment and fewer investments (Cappelli & Neumark, 2004; Kalleberg, 2001; Lepak & Snell, 1999).

The simultaneous deployment of standard and non-standard labor is generally justified by the parallel benefits it may deliver. Via standard employment arrangements and "high road" HR practices, a firm may promote employees' functional flexibility, develop their skills and abilities, and further their commitment to organizational goals, fostering in turn productivity, growth, and profitability (Kalleberg, 2001; Lepak & Snell, 1999). Contingent employment use, on the other hand, may improve firm performance by achieving a range of labor cost savings such as lower recruitment, selection and training costs, as well as lower salaries and benefits (Lepak et al., 2003). In addition, it may allow a firm to manage its capacity more efficiently by exercising flexibility in managing the number and occupational mix of employees (Kalleberg, 2001). Moreover, because contingent employees may come with a variety of backgrounds and experience, their use may even enable a firm to access and accumulate valuable "outside" knowledge (Vogus & Welbourne, 2003).

Yet, researchers have also warned that mixing employees in standard and contingent work arrangements may have downsides, especially when it comes to standard employees' attitudes and behaviors towards the employer and co-workers. For example, Pearce (1993) and Chattopadhyay and George (2001) found that the deployment of contingent workers is associated with a decrease in both trust and extra-role behaviors among standard employees. Davis-Blake et al. (2003), in their turn, found that the use of contingent employment was inversely related to company loyalty among permanent employees, and directly correlated to their departure intentions. Similarly, George (2003) found that contingent labor use was associated with reduced commitment on the part of standard employees. She also found that standard workers may perceive the use of contingent labor as a violation of the psychological contract between employees and the organization. More recently, Broschak and Davis-Blake (2006) showed that the presence of contingent employees was related to poorer relations, not only among workers and their colleagues, but also between subordinates and their supervisors. Altuzarra and Serrano (2010) also found that the presence of contingent employees may reduce a firm's level of innovativeness. Other authors have raised doubts about the fairness of using contingent employees beside standard ones (Bonache, 2004). And, finally, others found the existence of a substitute effect between internal (i.e., through the development of standard employees' skills) and external (i.e., through the use of temporary contacts) flexibility (Roca-Puig et al., 2008).

As mentioned in the Introduction, our goal in this paper is to expand this line of research. Drawing from evidence on standard employees' attitudinal and behavioral responses to contingent labor deployment, below we look at the consequences of such deployment for the effectiveness of the HR practices directed to the standard workforce, especially when firms implement a HPWS.

**2.2. Managing the standard workforce through HPWS**

Focusing on the management of standard employees, in the past two decades a great deal of attention has been paid to HPWS. These are HR practice “bundles”—also referred to as “high-investment human resource systems”—designed to maximize the contribution of human talent to business outcomes via the improvement of workforce competence, attitudes, and motivation (Huselid, 1995).

The precise definition of these systems as well as the definitive list of the practices they comprise is subject to continuous debate (Werner, 2011). However, previous research has suggested that HPWS involve such practices as selective staffing, training, multi-skilling, performance appraisal, incentives, flexible job assignments, quality circles and disclosure of company information (Combs, Liu, Hall, & Ketchen, 2006; Subramony, 2009). An important point of the HPWS paradigm is that the value of these practices is thought to increase when they are used as a coordinated system, since they are considered to have additive and synergistic effects on performance (Subramony, 2009). Additive effects appear, for example, when two different selection instruments detect unique job skills, whereas synergies occur when one practice...
reinforces another, leading to positive interaction effects on performance. For example, training programs can strengthen participation programs such as quality circles because employees are trained to make decisions that participation programs empower them to make (Combs et al., 2006).

The use of these systems is endorsed by plentiful empirical literature showing their positive impact on several performance outcomes. Specifically, HPWS have been found to be positively associated with HR outcomes such as employee retention and attendance (Guest, Michie, Conway, & Sheehan, 2003; Guthrie, Flood, Liu, & MacCurtain, 2009), organizational outcomes such as productivity (Datta, Guthrie, & Wright, 2005), and economic outcomes such as profitability and firm market value (Huselid, 1995; Sung & Ashton, 2005). Although some studies find mixed results about the effects of HPWS on employees' well-being (Wood & de Menezes, 2011) and others provided doubtful evidence for the value of HPWS (Cappelli & Neumark, 2001), two recent meta-analyses strongly support the conclusion that HPWS positively affect firm outcomes (Combs et al., 2006; Subramony, 2009).

These positive outcomes have been explained from different theoretical perspectives. Some SHRM researchers make arguments consistent with the Ability, Motivation, and Opportunity (AMO) model (e.g., Appelbaum et al., 2000), according to which HPWS help maximize the human contribution to business because they are composed of workable policies in these three broad areas, which are all essential for high performance. Others make arguments derived from the resource-based view of the firm (RBV), suggesting that HPWS are an effective means to develop firm-specific employee capabilities difficult for other firms to imitate or transfer (e.g., Huselid, 1995; Zatzick & Iverson, 2006).

Recent theoretical developments have complemented AMO model and RBV arguments. Building on socio-psychological perspectives (e.g., social exchange theory) and on research on work environments within organizations, various social processes have been highlighted as mechanisms mediating between HPWS and their proposed outcomes (Chuang, Chen, & Chuang, 2013; Collins & Smith, 2006; Evans & Davis, 2005; Paré & Tremblay, 2007; Shih, Chiang, & Hsu, 2013; Takeuchi et al., 2007).

In particular, this stream of studies has shown that HPWS generate a context fostering three key intermediate employee-level outcomes. The first of these is organizational citizenship behaviors (OCBs), that is, productive behaviors not included in formal job descriptions (Evans & Davis, 2005; Takeuchi et al., 2007). These behaviors are triggered by the fact that employees tend to interpret HPWS as signaling high appreciation, investment, and recognition by the employer, as well as the employer’s intention to establish a long-term exchange relationship with the workforce. Perceptions of employer goodwill motivate employees to enter into a social exchange (as opposed to a purely mercantile relationship) with the employer, which in turn motivates them to reciprocate by remaining with the organization and performing at a high level (Paré & Tremblay, 2007; Shih et al., 2013; Takeuchi et al., 2007). Several practices contribute to nurturing such an interpretation. For example, careful selection may indicate to employees that the firm values them very much (Takeuchi et al., 2007). Employees may interpret participation in decision-making through quality circles, information disclosure, and teamwork as recognition of their importance (Evans & Davis, 2005). In addition, training and multi-skilling signal organizational investment in, as well as commitment to, the employees (Paré & Tremblay, 2007).

A second employee-level outcome encouraged by HPWS is increased cooperation. This is reflected not only in higher levels of flows of knowledge, information, and other resources within the firm (Chuang et al., 2013; Collins & Smith, 2006; Evans & Davis, 2005), but also in such behaviors as helping colleagues learn new tasks, assisting them with their work, and spontaneously doing things that benefit others (Mossholder et al., 2011; Paré & Tremblay, 2007). Practices such as teamwork, collective incentives, and quality circles certainly help foster cooperative behaviors among employees (Collins & Smith, 2006).

According to Evans and Davis (2005), HPWS also improve cooperation because they help to engender generalized norms of reciprocity within organizations. Reciprocity is a social norm according to which current exchange will lead to later reciprocation, thus motivating people to enter exchange relationships (Collins & Smith, 2006). This norm is developed over time through prolonged social interaction that allows people to prove themselves trustworthy when it comes to meeting exchange obligations. HPWS give the employees frequent opportunities for interpersonal interaction through such practices as teamwork, job rotation, and quality circles, and in so doing promote reciprocity norms and thus cooperation (Evans & Davis, 2005). Cooperative behaviors are likely to lead to positive synergies among employees and, by this means, improved labor productivity and firm performance (Takeuchi et al., 2007).

A third employee outcome promoted by HPWS is the sharing of mental models and languages among the workforce (Collins & Smith, 2006; Evans & Davis, 2005). These are similar and often tacit sets of knowledge, terms and symbols, as well as attitudes and beliefs, which facilitate communication and decision making, and even the coordination of behaviors without the need to communicate (Cannon-Bowers & Salas, 2001). This in turn drives higher levels of productivity and firm efficiency (Evans & Davis, 2005). Stable interpersonal interaction among employees is critical to fostering these shared mental models and languages (Cannon-Bowers & Salas, 2001; Levesque, Wilson, & Wholey, 2001). Through such practices as job rotation, multi-skilling, quality circles and teamwork, as well as information disclosure and training, HPWS promote interpersonal relationships and help foster, maintain and enhance shared mental models and languages (Collins & Smith, 2006; Evans & Davis, 2005).

2.3. Contingent labor and HPWS

If HPWS affect performance by creating a context fostering OCBs, cooperation, and shared mental models and languages among the workforce, then one may argue that they might be less effective if other factors exist that discourage the activation of such mechanisms. The use of contingent employment may well be one of these factors. As to the first mechanism (i.e., OCB), while HPWS send consistent, visible signals to employees about their importance to the employer, thereby fostering OCBs, the empirical evidence suggests that the use of contingent workers may send the opposite message and undermine the relationship between firms and their standard employees. Specifically, it may remind employees “that they are in a market, rather than a familial, relationship with the organization, and market actors are expected to exploit their opportunities, not take care of one another” (Pearce, 1993: 1086). Moreover, standard employees may perceive such use as a signal that they can be easily replaced if they limit their effort, thus reducing their actual or perceived job security and increasing their propensity to unionize (Davis-Blake et al., 2003). Similarly, they may view the use of contingent labor as a way to identify qualified candidates for future full-time employment (Bauer & Truxillo, 2000). In this sense, contingent employees may be seen as potential competitors for the same work rather than as (temporary) co-workers. Indeed, there is evidence that using contingent employees may slow the upward mobility of standard employees (Barnett & Miner, 1992). There is also evidence that the use of contingent employment to perform a particular function may be seen as a prelude to the outsourcing of that function, particularly in the presence of long-term and greater-magnitude use of contingent workers (George, 2003). Finally, George’s (2003) study also suggests that the presence of contingent workers may lead standard employees to question organization integrity and trust it less. In sum, the literature shows that the deployment of contingent labor may be perceived as contradicting an “organization’s established aim of being a ‘good employer’” (Allan, 2000: 198). Such perceptions may well moderate the positive message conveyed by HPWS and reduce
their capacity to foster OCBs, thereby lowering their performance payoffs.

The use of contingent labor may also deter the activation of the second mentioned HPWS mechanism, that is, the capacity of HPWS to promote cooperation in the workforce subjected to them. Prior research has in fact shown that the greater the degree of blending of contingent and standard workers, the worse standard workers’ relationship with their colleagues in terms of reciprocal assistance in case of absence, work-related problems or heavy workloads (Broschak & Davis-Blake, 2006). Chattopadhyay and George (2001) also reported lower levels of trust in peers by standard employees as the number of contingent workers increases. Lower levels of cooperation are to be understood as a consequence of the aforementioned threats that contingent workers pose to standard employees’ jobs (Bauer & Truxillo, 2000; George, 2003). If such perceptions arise, employees will be more prone to demonstrate their value to the firm by emphasizing personal effort toward individual outcomes, as opposed to group outcomes, with the aim of protecting their jobs. By the same logic, in order to preserve the criticality of their positions within the firm, employees will tend to guard their knowledge and information more jealously instead of sharing it with co-workers, either contingent or standard. In other words, while through HPWS a firm may obtain higher degrees of cooperation, the parallel use of contingent labor may have the opposite outcome on the workforce subjected to them, thus weakening the effectiveness of HPWS.

Finally, contingent employment use may also attenuate the capacity of HPWS to improve the third mechanism, internal communication and decision-making processes through shared mental models and languages. This is because, as mentioned, shared mental models and languages are the result of prolonged interpersonal interaction and their meaning may be fully perceived only if one has participated in their construction or after a learning period (Cannon-Bowers & Salas, 2001; Levesque et al., 2001). Therefore, because of their limited engagement in the company, contingent employees may find it difficult to grasp internal shared mental models and languages. Precisely this fact may discourage employees subjected to HPWS to use or even develop shared mental models and languages to communicate if the firm hires contingent workers. Indeed, in such circumstances the use of these shared models and languages would encumber communication instead of facilitating it. Further, because contingent employees tend to develop a merely mercantile relationship with their employers (Mossholder et al., 2011), one may suppose that they might be less motivated to absorb internal shared models and languages, as this certainly implies an extra effort that is not contemplated in contract specifications. Moreover, it is documented that contingent employees tend to disrupt work routines as they introduce within the organization divergent ideas, work habits and patterns, and broad repertoires of action (Vogus & Welbourne, 2003), and this might further hinder the promotion of shared mental models and languages through HPWS.

The above data suggests that while HPWS operate through the structuring of a work environment that is supportive of OCBs, cooperation, and shared mental models and languages, the use of contingent labor may well hamper the activation of all these mechanisms, thereby making HPWS less effective. Thus, we propose the following hypothesis:

**Hypothesis 1.** Contingent employment moderates the relationship between HPWS and firm performance such that the higher the incidence of contingent employees, the lower the performance payoff of HPWS.

3. Methodology

3.1. Data

This study uses data from the Workplace Employment Relations Survey 2004 (WERS2004), a government-funded national survey whose objective is to provide representative data about a wide range of employment practices in all sectors of the UK economy. (For an exhaustive description of the survey, see Forth et al., 2006.)

The unit of analysis employed in WERS2004 is the workplace, defined as the activities of an employer in one location; for example, a bank branch, a factory, or a head office. The WERS2004 Cross Section Management Questionnaire, completed through face-to-face interviews with the manager responsible for HR at the workplace, made available data on the HPWS practices and characteristics (e.g., size, age, industry) of the workplaces surveyed. A separate WERS2004 questionnaire self-completed by the workplace manager who was better placed to report on financial matters made available figures on the performance of each workplace. Linking these two questionnaires, WERS2004 provided the data necessary to test our hypotheses. After the exclusion of outliers, the linking process resulted in productivity measures being available for 570 trading workplaces. However, we restricted our analysis to those with 100 or more employees because it is in these organizations that formal HR systems are more often implemented (Huselid, 1995). This resulted in a subsample of 270 firms. Finally, we had to exclude observations with missing data for any of the independent or control variables, resulting in a final sample of 229 firms.

3.2. Measures

3.2.1. HPWS

Given the lack of agreement about which practices to include in a HPWS measure, Becker and Huselid (1998) argued that one should be guided by previous studies. Following this advice and in accordance with previous works, we took only those practices considered in at least five previous works (see Combs et al., 2006). Table 1 provides more detailed information on the 15 practices chosen.

Following the argument of Becker and Huselid (1998) about the need to measure the overall HR system, we used an additive index based on these practices to measure the degree to which HPWS is used ($\alpha = 0.72$). In order to ensure the comparability of the scales, we standardized the items before adding them up. Finally, because the values of the resulting additive index had no substantive interpretation, we further standardized the index for an easier interpretation of the results. Therefore, we measured the use of HPWS in terms of standard deviations above or below the sample mean.

3.2.2. Contingent employment

Consistent with the definition of contingent employment given by Polivka and Nardone (1989) and similarly to other studies (e.g., George, 2003; Van Dyne & Ang, 1998), we measured this variable as the ratio of agency, temporary, and fixed-term workers (not including employees who are working through a probationary period that might lead to a permanent employment contract) to standard workers.

3.2.3. Performance

We chose to use productivity as an indicator of firm performance. For the sake of robustness, we employed two different indicators of productivity. The first one was measured as the natural logarithm of sales (expressed in British pounds) per employee. This indicator has in fact shown that the greater the degree of blending of contingent labor may also vary across industries. We also controlled for age of firm, measured as the number of years of operation, to allow for the impact of experience and learning curve
advantages (Guthrie, 2001), as well as for workplace size, measured as the logarithm of the number of employees. Because an increase in the number of employees might be associated both with labor productivity and the propensity to resort to contingent work (Cappelli & Neumark, 2004), we included a dummy variable taking the value 1 if the number of employees had increased over the last year, and 0 otherwise. Additionally, we controlled for unionization because unions can affect productivity levels as well as the adoption of HPWS (1 = unions are recognized for collective bargaining; 0 = otherwise) (Guest et al., 2003). Finally, we controlled for whether the workplace was part of a larger organization through a dummy variable taking the value 1 if so, and 0 otherwise.

### 4. Results

Table 2 presents descriptive statistics for the variables in the study.

The workplaces in our sample had an average size of 361 employees and an average age of 30 years. Most of them belonged to larger organizations and were unionized. The average ratio of contingent over standard employees was 0.092, with nearly one fifth of workplaces not employing contingent workers at the time of the survey. As for productivity, we found an average of £ 99,484 sales per employee and £ 43,948 value added per employee.

The results of the OLS regressions testing our research hypothesis are presented in Table 3. To avoid a problem of multicollinearity with the introduction of the interaction between HPWS and contingent employment for testing our hypothesis, both variables were mean-centered.

Models 1 and 3 in Table 3 refer to the direct effect of HPWS on sales per employee and value added per employee, respectively. As shown, we found that HPWS was positively and significantly related to both measures of productivity. This is in line with previous research (e.g., Guthrie et al., 2009; Huselid, 1995). The size of the effect was substantial, if slightly smaller for sales than for value added (0.19 and 0.21, respectively). On average, increasing the use of HPWS by the equivalent to one standard deviation leads to expected productivity gains of 20.9% advantages (Guthrie, 2001), as well as for workplace size, measured as the logarithm of the number of employees. Because an increase in the number of employees might be associated both with labor productivity and the propensity to resort to contingent work (Cappelli & Neumark, 2004), we included a dummy variable taking the value 1 if the number of employees had increased over the last year, and 0 otherwise. Additionally, we controlled for unionization because unions can affect productivity levels as well as the adoption of HPWS (1 = unions are recognized for collective bargaining; 0 = otherwise) (Guest et al., 2003). Finally, we controlled for whether the workplace was part of a larger organization through a dummy variable taking the value 1 if so, and 0 otherwise.

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in terms of sales per employee and 23.2% in terms of value added per employee.

To test our Hypothesis, in Models 2 and 4 we introduced the interaction between HPWS and contingent employment. As shown, we found a negative and significant relationship between both measures of productivity and such an interaction. This finding strongly supports our Hypothesis, according to which the performance payoff associated with the use of HPWS diminishes as the incidence of contingent employment increases.

Fig. 1 provides a graphic representation of this effect. As shown, the expected productivity pay-off of HPWS changes rather substantially as a function of the level of use of contingent employment. What is most interesting is the fact that the slope for HPWS becomes negative for those workplaces that make an extensive use of contingent employment. This means that HPWS may turn out to be not just ineffective, but even counterproductive if used in contexts with a high incidence of contingent work.

Fig. 2 further illustrates how contingent employment moderates the effects of HPWS on productivity. The threshold in terms of contingent workers as a percentage of the total workforce at which the effect of HPWS turns negative ranges from 16.45% to 16.84%, depending on the measure of productivity. Thus, firms investing in HPWS for standard employees should be cautious about using a large proportion of contingent labor, as this may reduce the positive effect of HPWS on productivity or even invert such an effect. It is worth noting, however, that only 27 firms in our sample (11.8% of the observations) reported a proportion of contingent employment higher than 16.84%. Accordingly, this was a relatively rare occurrence in our research setting.

In light of our findings, it would be expected that firms employing contingent workers would be more reluctant to invest in “high-road” people management practices. However, this is at odds with the evidence presented in Fig. 3, which shows no obvious association between contingent labor and HPWS. Moreover, 17 out of the 27 firms employing a larger proportion of contingent workers (i.e., more than 16.84%) showed a level of use of HPWS above the sample mean. These

Table 3
Results of regression analysis.

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<th>Variables</th>
<th>Ln(sales/employee)</th>
<th>Ln(value added/employee)</th>
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<td>Firm age (Ln)</td>
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</tbody>
</table>

+ p < .10.
* p < .05.
** p < .01.
*** p < .001.
counterintuitive results suggest either that at least some firms do not take into consideration the potential counterindications that we have put forward in this article, or that there are some other factors driving HR decisions regarding HPWS and contingent employment that escape our analysis. In either case, the findings presented in Fig. 3 may deserve further study in the future.

5. Discussion and conclusions

Contingent employment is a “low-cost” HR strategy that enables a firm to rapidly access a cheaper workforce, reduce its fixed costs, and manage its capacity more efficiently. In this work we have shown that such a strategy is not without downsides. More concretely, we have analyzed the impact that the deployment of contingent labor has on the effectiveness of HPWS for standard employees. We posited that the presence of contingent workers may hinder the deployment of important mechanisms through which HPWS operate, namely OCBs, cooperation, and shared mental models and languages. Our findings indicate that the effect of HPWS on productivity is lower—if not negative—in workplaces that use higher levels of contingent labor, thus providing empirical support for our arguments. These results are consistent for both of the productivity measures considered. The study thus adds to previous research that explored other potential downsides of contingent labor deployment.

Overall, our findings call into question the arguments of those that advocate for mixed work arrangements as a way to improve firm efficiency (e.g., Kalleberg, 2001; Lepak et al., 2003). More generally, our findings suggest that the so-called “high-road” HR practices, which emphasize continual investment in the (standard) workforce and of which HPWS are the quintessential expression, may be jeopardized if used in conjunction with “low-road” HR practices such as the use of contingent employment.

The study contributes in parallel also to the literature which aims to model the link between HPWS and their intended outcomes. Thus far two main views, a universal approach and a contingency approach, have been developed in this regard (Datta et al., 2005). The universal perspective implies a direct relationship between HPWS and performance, whereas the contingency perspective posits that an organization’s context moderates the effect of such systems on performance. Our results provide support for the contingency perspective by suggesting that the proportion of contingent workers in the company significantly influences the degree of HPWS impact on labor productivity.

Our results also shed light on the effects of contingent employment on productivity. Overall, previous research has been inconclusive regarding the performance effects of contingent labor, since it has highlighted its potential risks along with its benefits (Blyton & Morris, 1991; Cardon, 2003). Some authors have suggested that the performance effects of contingent employment may be non-linear, so that there is an optimum temporality level (Broschak & Davis-Blake, 2006; Cardon, 2003). Consistent with these findings, our results show no significant linear effects (models 1 and 2). We also extend previous research by showing that the productivity effects of contingent workers are contingent on the level of HPWS. Applying the simple slope tests proposed by Dawson and Richter (2006) as a post hoc analysis, we found that the average effect of temporary work agreements on value added per employee (model 4) was positive and significant when HPWS < −0.1, non-significant when −0.1 < HPWS < 1.4 and negative and significant when HPWS > 1.4. In other words, contingent employment contributes positively to productivity for under-average levels of high-performance work practices, and negatively just for very high levels of HPWS (nearly one and a half standard deviations over the sample mean).

Although our findings highlight a counterweight of a workforce differentiation strategy, we can point to two reasons why they do not delegitimize this strategy. First, our analysis shows that the positive association between HPWS and productivity still holds, if to a lesser extent, in the presence of a moderate incidence of contingent employment; it is at high levels of contingent labor that the effect becomes negative. Second, HPWS and contingent labor may positively interact to improve other outcomes not considered in our study. For example, as both HPWS and contingent employment may help reduce labor expense (Guthrie et al., 2009), it is possible that when they are used in conjunction this outcome will further improve. Moreover, although our findings suggest that fully reaping the productivity pay-off of HPWS may be difficult if contingent employment is present, they do not exclude that at least some firms may be able to do so. Arguably, this depends on several issues: What kind of positions do contingent workers have? How does the firm manage the relationships between contingent and standard employees? How do internal and external contextual factors influence such relationships? The exploration of such questions, however, lies well beyond the scope of our paper.

Nonetheless, the implications for managers of our findings seem clear: Even in the presence of sound reasons for deploying contingent labor, its deployment must be considered in relation to the potential negative impact it may have on the effectiveness of HPWS for standard employees. We have shown that such a negative impact appears to be ignored by a number of firms in our sample.

The study is not without limitations, most of which arise from the data set used for the empirical analysis. First, the cross-sectional nature of the data calls for a word of caution when interpreting empirical evidence in causal terms, although the relations we tested were based on prior theorizing. In this regard, the main issues are potential simultaneity and reverse causality between HPWS and workplace performance (Huselid, 1995; Takeuchi et al., 2007). In order to test for possible simultaneity bias, we re-estimated our empirical models by 2SLS and conducted a Hausman–Wu test of endogeneity of the HPWS variable. We could not reject the null hypothesis of exogeneity ($\chi^2 (1) = 0.987$, p-value = 0.32). In other terms, we found no conclusive evidence showing that HPWS is endogenous with respect to labor productivity. As Huselid noted, simultaneity bias “is less probable in the case of turnover and productivity, because these variables would be unlikely to widely influence the selection of High Performance Work Practices” (1995: 640). Thus, our conclusions remain valid, even more so since the 2SLS also produced significant evidence supporting the hypothesized relationships, with somewhat larger coefficients.

Second, although WERS2004 has the advantage of being validated by the important published works it gave rise to in the field of HRM and Industrial Relations, it has the disadvantage of not including specific measures of those mechanisms described in this study through which HPWS operate. It also does not provide specifics that would allow direct measurement of the effect of contingent labor on such mechanisms. As a result, we were limited in that we could not directly test some of the causal relationships that we addressed. It is worth noting, though, that prior research on which we built our study does provide strong theoretical and empirical support to the arguments we proposed, attenuating the non-measurement issues that may arise. Finally, WERS2004 is limited to the United Kingdom. As the effectiveness of HR practices may depend upon the socio-institutional context in which they are used (Werner, 2011), it may not be appropriate to generalize the present research beyond British workplaces.

All of these issues may certainly inspire future research. Future investigations may also extend our study by including other performance indicators, such as quality or innovation. Furthermore, we included fixed-term, temporary and agency workers in our measure of contingent employment, but other forms of contingent labor also exist (e.g., outsourcing arrangements), and their effects on HPWS effectiveness may be different. Accordingly, it may be informative to extend our analysis to them. Moreover, contingent employment may have different impacts on HPWS effectiveness depending on whether the aim of using it is (a) to improve standard employee employment stability or (b) to reduce labor costs. It is possible that these different uses may also change the impact of contingent employment on HPWS
effectiveness as productivity enhancement devices; this may be a worthwhile issue to be analyzed in the future. Finally, it may be informative to investigate whether specific HPWS can be designed to cater to the needs of organizations that make use of contingent employees.

Clearly much work remains to arrive at a full understanding of how HPWS and contingent employment interact and affect firm performance. Nevertheless, we hope that our study contributes to a better comprehension of the relationships between these variables, as well as suggesting ways in which firms might deploy workforce differentiation strategies more successfully.

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